

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

[Austria](#)

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

[Federal Ministry of Agriculture, Forestry, Environment and Water Management](#)

**3. What organisation has filled out this survey?**

[Environment Agency Austria; Federal Ministry of Agriculture, Forestry, Environment and Water Management](#)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2012	
Title (including an English translation) and web link(s). Österreichische Strategie zur Anpassung an den Klimawandel The Austrian Strategy for Adaptation to Climate Change <a href="https://www.bmlfuw.gv.at/umwelt/klimaschutz/klimapolitik_national/anpassungsstrategie/strategie-kontext.html">https://www.bmlfuw.gv.at/umwelt/klimaschutz/klimapolitik_national/anpassungsstrategie/strategie-kontext.html</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input checked="" type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2012

Title (including an English translation) and web link(s).

Teil 2 – Aktionsplan; Handlungsempfehlungen für die Umsetzung

Part 2 - Austrian Action Plan

[https://www.bmlfuw.gv.at/umwelt/klimaschutz/klimapolitik\\_national/anpassungsstrategie/strategie-kontext.html](https://www.bmlfuw.gv.at/umwelt/klimaschutz/klimapolitik_national/anpassungsstrategie/strategie-kontext.html)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

First comprehensive assessment published in 1992 („Bestandsaufnahme - Anthropogene Klimaänderungen; Mögliche Auswirkungen auf Österreich, mögliche Maßnahmen in Österreich;) carried out by the Austrian Academy of Sciences, financed by the Ministries for the Environment and for Science

First specific research projects regarding climate change impacts starting in 2003 (StartClim programme) and further activity under the Austria Climate Research Programme starting in 2008.

As input for the NAS/NAP, a consortium has prepared sectoral vulnerability assessments (qualitative assessment, based on available literature and expert workshops).

Haas et al. 2008: Identifikation von Handlungsempfehlungen zur Anpassung an den Klimawandel in Österreich: 1. Phase, 2008

Haas et al. 2010: Handlungsempfehlungen zur Anpassung an den Klimawandel in Österreich. Aktivitätsfeld Bauen und Wohnen und Schutz vor Naturgefahren.

Haas et al. 2010: Handlungsempfehlungen zur Anpassung an den Klimawandel in Österreich. Aktivitätsfelder Gesundheit, Natürliche Ökosysteme/Biodiversität und Verkehrsinfrastruktur.

Schöner, W., Böhm, R., Haslinger, K., Blöschl, G., Merz, R., Blaschke, A. P., Viglione, A., Parajka, J., Kroiß, H., Kreuzinger, N., Hörhan, T. (2010): Anpassungsstrategien an den Klimawandel für Österreichs Wasserwirtschaft. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Wien.

Kranzl, L.; Haas, R.; Kalt, G.; Müller, A.; Nakicenovic, N.; Redl, C.; Formayer, H.; Haas, P.; Lexer, M.J.; Seidl, R.; Schorghuber, S.; Nachtnebel, H.P. & Stanzel, P. (2010): KlimAdapt - Ableitung von prioritären Maßnahmen zur Adaption des Energiesystems an den Klimawandel. Endbericht. Gefördert durch den Klima- und Energiefonds (Energie der Zukunft).

Based on these assessments, adaptation measures have been proposed and further developed by an intensive participation process from 2009 till 2011 to include all kinds of stakeholder suggestions and opinions in the Strategy and action plan, which includes diverse CCIV information

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a*

decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i>  Diverse research projects on the national and transnational level	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[IPCC like assessment report for Austria – Austrian Assessment Report 2014 \(AAR14\)](#)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries

<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains <a href="#">Disaster Risk Preparedness and Reduction</a>
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input checked="" type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any). <a href="#">Currently an Assessment Report for Health is being developed and will be available in 2018. It is followed by a Special Report on Tourism.</a>	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

AT-1-2014

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Austrian Assessment Report 2014 (AAR14)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Austrian Panel on Climate Change (APCC, 2014): Österreichischer Sachstandsbericht Klimawandel 2014. ISBN-13: 978-3-7001-7699-2 ISBN-13 Online: 978-3-7001-7723-4 (in German)

English summary available under:

APCC (2014): Summary for Policymakers (SPM), revised edition. In: Austrian Assessment Report Climate Change 2014 (AAR14), Austrian Panel on Climate Change (APCC), Austrian Academy of Sciences Press, Vienna, Austria.

[https://www.ccca.ac.at/fileadmin/00\\_DokumenteHauptmenue/03\\_Aktivitaeten/APCC/summaries/SPM.pdf](https://www.ccca.ac.at/fileadmin/00_DokumenteHauptmenue/03_Aktivitaeten/APCC/summaries/SPM.pdf)

### 14. When was the assessment published?

2014

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Austria (with some exceptions depending on available literature)

### 16. Which organisation or authority initiated or requested the assessment?

Scientific community via the Austrian Panel on Climate Change (APCC) and the Climate Change Center Austria (CCCA)

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Lead authors from the Technical University of Vienna, University of Life Sciences and University of Graz

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

More than 240 scientists from more than 50 institutions depicted the state of knowledge on climate change in Austria and the impacts, mitigation and adaptation strategies, as well as the associated known political, economic and social issues



## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input checked="" type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
<a href="#">First effort to compile all the relevant scientific information regarding climate change in Austria</a>	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input checked="" type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

[Three years](#)

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment	Approx.. 350.000 €	Austrian Climate Research Programme
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)	around 6k€ for lead authors which covered partly the time for meetings, but excluded staff time from around 50 institutions	In-kind contribution

<b>Other resources (please explain)</b>		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains <a href="#">Ecosystems, Production and Buildings</a>
<input type="checkbox"/>	t. Cross-sectoral impact domains <a href="#">Transformation Paths</a>

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
	Please provide further details if relevant. <a href="#">2085 for many topics</a> <a href="#">2035 for some topics</a>

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>  <ol style="list-style-type: none"> <li>1. Scoping Process</li> <li>2. Funding for Coordination from the Austrian Climate Research Programme (ACRP)</li> <li>3. Outline (co-chairs)</li> <li>4. Peer-reviewed scientific technical literature</li> <li>5. Stakeholder workshop 1 and 2</li> <li>6. 1st order draft - Informal review</li> <li>7. 2nd order draft - autonomous review</li> <li>8. Final draft</li> <li>9. Publication</li> <li>10. Dissemination</li> </ol>

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]

Please provide further details on the assessment methods, including when different methods were used for different sectors.

[Please provide further details]

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

[Additional information on stakeholder involvement]

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

First joint effort of the whole scientific community in the research field of Climate Change. The AAR14 was the first joint product of the Climate Change Centre Austria (CCCA). It reached a broad media coverage and is still being used in a simplified way to raise awareness on the issue of climate change in Austria.

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
[Please provide further details]	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
This assessment is based on a literature review, thus the consideration of non-climatic changes varies across the assessment, depending on the underlying literature.	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input checked="" type="checkbox"/>	d. Other level or does not apply
Please provide further details. Partly individual impacts are being covered depending on the underlying assessed literature and available maps and images (often gridded maps)	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
Nine different sectors were assessed in more details, namely Agriculture, Forestry, Water, Ecosystems and Biodiversity, Energy, Transport, Health, Tourism Production and Buildings	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions aggregated across all sectors were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions for individual sectors were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions for individual impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input checked="" type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment



Please provide further details.

[Further details on uncertainty communication]

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input checked="" type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input checked="" type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input checked="" type="checkbox"/>	m. Other dissemination channels (please explain) <a href="#">Literature database, online slides and graphs, synopsis</a>
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

[AAR14 served as a background document for the revision of the Austrian Strategy for Adaptation to Climate Change and the Action Plan in 2016/2017](#)

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

Presenting heterogeneous information from many different sources in a consistent format and a certain bias based on the lead- and contributing authors from chapters

Ensuring timely and consistent input from a large number and diverse range of contributors (240 contributors from 50 institutions)

### **42. What challenges were encountered during the development and use of this assessment?**

Challenge to integrate grey literature which is mostly not peer-reviewed

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Parts of the report are too scientific and too far away from policy makers, other decision makers and practitioners which hampers its applicability and needs further translation to different target groups

### **44. What would possibly be done differently in a future assessment, and why?**

An update of the current ARR14 is envisaged on a regular basis

## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part II: Detailed information about a specific multi-sectoral national CCIV assessment

### D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

#### 11. Assessment code

AT-2-2015

#### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Cost of Inaction: Assessing the costs of climate change for Austria (COIN)

#### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W., Prettenthaler, F. (eds.), Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria, Springer 2015. <http://coin.ccca.at/node/3>

#### 14. When was the assessment published?

2015

#### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Austria (assessment based on the sectoral structure of the Austrian Adaptation Strategy)

#### 16. Which organisation or authority initiated or requested the assessment?

Scientific community via the Austrian Climate Research Programme from the Climate and Energy Fund

#### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Lead partner from the University of Graz/Wegener Center for Climate and Global Change

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

42 researchers in 18 Austrian and European research groups

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input checked="" type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

Three years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment	Approx. 300.000 €	Austrian Climate Research Programme
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)	Experts writing chapters, factsheets, springer book	In-kind contribution
Other resources (please explain)		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	manufacturing and trade; cities and spatial planning
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
[Further details on time horizon]	



## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>  <ol style="list-style-type: none"> <li>1. looking jointly into all impact fields for Austria, regardless of whether they are a priori regarded as most vulnerable or not</li> <li>2. using consistent climate and socioeconomic scenario assumptions within sector-specific (bio)physical impact models</li> <li>3. evaluating these impacts with a consistent economic costing methodology which is then fed into a national-scale computable general equilibrium (CGE) model and an uncertainty (i.e. range-of-impacts) assessment</li> </ol>

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

[Additional information on stakeholder involvement]

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

First comprehensive consistent economic assessment across all relevant sectors

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
<a href="#">Emission scenario A1B till 2050</a>	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input checked="" type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> <a href="#">Decomposition of annual GDP and welfare effects of climate change</a>
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
Different sectors were assessed in more details, namely agriculture, forestry, water management, tourism, energy management, heating and cooling (of buildings), human health, ecosystems and biodiversity, transport, infrastructure, manufacturing and trade, cities and spatial planning, as well as natural hazards and natural disaster management – Relevant impact chains –in economic terms– for each field were identified and a quantitative evaluation (i.e., in Euros) conducted of those impact chains where quantitative models are already available.	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions aggregated across all sectors were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions for individual sectors were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions for individual impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input checked="" type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were identified
<input type="radio"/>	c. Specific adaptation measures were evaluated and/or prioritised
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)



g. Communication of uncertainties varies across the assessment

Please provide further details.

[Further details on uncertainty communication]

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

COIN served as a background document for the revision of the Austrian Strategy for Adaptation to Climate Change and the Action Plan in 2016/2017

## **K. Experiences**

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

Strong contribution to raising awareness among politicians, the administration, media, stakeholders...

**42. What challenges were encountered during the development and use of this assessment?**

Pilot study, consistent assessment covering and integrating all relevant sectors

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

**44. What would possibly be done differently in a future assessment, and why?**

[Please describe possible changes in a future assessment]



## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Belgium

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

National Climate Commission (NCC) ; <http://www.cnc-nkc.be/en>

**3. What organisation has filled out this survey?**

Working group adaptation (under the auspice of NCC)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

/

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2010	
Title (including an English translation) and web link(s). Belgian National Climate Change Adaptation Strategy <a href="http://www.climat.be/files/1513/8269/7947/NASpublicatiedruk.pdf">http://www.climat.be/files/1513/8269/7947/NASpublicatiedruk.pdf</a> and also available on the NCC website: <a href="http://www.cnc-nkc.be/sites/default/files/report/file/be_nas_2010.pdf">http://www.cnc-nkc.be/sites/default/files/report/file/be_nas_2010.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. NAS lead to the development of 5 Adaptation Plans: Flemish Adaptation Plan, 2013; Brussels Integrated Air-Climate-Energy Plan, 2016; Walloon Air-Climate-Energy Plan, 2016; Federal Contribution to the National Adaptation Plan, 2016 and National Adaptation plan, 2017.	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input checked="" type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

National Adaptation plan (2017-2020) , April 2017

Title (including an English translation) and web link(s).

National Adaptation plan (2017-2020) ; [http://www.cnc-nkc.be/sites/default/files/report/file/nap\\_en.pdf](http://www.cnc-nkc.be/sites/default/files/report/file/nap_en.pdf)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

The NAP identifies specific adaptation measures that need to be taken at national level in order to strengthen cooperation and develop synergies between the different entities on adaptation. The Plan addresses 6 sectors and transversal issues: biodiversity, crisis management, energy, health, research and international cooperation. [Separate adaptation plans have been developed at regional \(Flanders, Wallonia, Brussels\) and federal level.](#)

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

2004 : report 'Impacts des changements climatiques en Belgique', Greenpeace, 44 p. (Marbaix, P. et van Ypersele, J.-P. (sous la direction de), 2004 - [www.greenpeace.be](http://www.greenpeace.be) ) : lead i.a. to the development of NAS.

2010 : Flemish study : IMDC, 2010. 'Bouwstenen om te komen tot een coherent en efficiënt adaptatieplan voor Vlaanderen' : lead to the Flemish regional plan.

2011 : Walloon CCIV assessment : ECORES, TEC, May 2011. 'L'adaptation au changement climatique en région wallonne' (<http://www.awac.be/index.php/mediatheque/nosetudes/item/78-etude-regionale>) : was the base for the elaboration of the Walloon regional plan.

2012 : Brussels CCIV assessment : FACTOR-X, ECORES, TEC, July 2012. 'L'adaptation au changement climatique en Région de Bruxelles-Capitale : élaboration d'une étude préalable à la rédaction d'un plan régional d'adaptation' ([http://document.environnement.brussels/opac\\_css/elecfile/Airclimat%20Etude%20ChgtClimatiqueRBC](http://document.environnement.brussels/opac_css/elecfile/Airclimat%20Etude%20ChgtClimatiqueRBC)) : was the base for the elaboration of the Brussels regional plan.

2012 : Walloon study: ECORES, TEC, July 2012. 'Outil d'aide à l'évaluation de la vulnérabilité au changement climatique à l'échelle de la commune' (<http://www.awac.be/index.php/mediatheque/nosetudes/item/79-outil-d-aide-a-l-evaluation>) : provided a tool to the municipalities to help to assess the vulnerability at local scale.

2012 : Flemish study: Couderé K et al (2012) Adaptatie aan de klimaatverandering, Globale kosten en praktische voorbeelden, Technum in opdracht van departement Leefmilieu, Natuur en Energie.

2012 : Flemish study: LNE (2012) 'LNE adapteert, effectenrapport, studie uitgevoerd door Royal Haskoning in opdracht van departement Leefmilieu, Natuur en Energie' (<https://www.lne.be/sites/default/files/atoms/files/Studie%20LNE%20Adapteert%20%282011%29.pdf>)

2013: Federal study : Technum, CLIMACT, IMDC (2013) 'Verkenning van de federale bijdrage aan een coherent beleid inzake klimaatadaptatie' ([http://www.climat.be/files/2013/8253/2115/Federale\\_bijdrage\\_adaptatiebeleid\\_Eindrapport\\_juli\\_2013.pdf](http://www.climat.be/files/2013/8253/2115/Federale_bijdrage_adaptatiebeleid_Eindrapport_juli_2013.pdf)) : lead to the federal contribution to the National Adaptation Plan (2016) and National Adaptation Plan (2017).

2014 : Walloon study : Icedd, March 2014. 'L'identification et l'évaluation des coûts de l'inaction face au changement climatique en Wallonie' (<http://www.awac.be/index.php/mediatheque/nosetudes/item/110-identification-evaluation-des-couts-de-l-inaction-face-au-changement-climatique-en-wallonie>) : provided a first costs evaluation of inaction and impacts of climate change for Wallonia.

2017 : Walloon study to be finalised in summer 2017 : ECORES, Icedd, Wageningen University & Research. 'La démarche Adapte ta commune' : it's the following of the 2012 tool and the aim is to help municipalities to develop an adaptation plan after the CCIV assessment.

Flanders: <http://www.milieurapport.be/nl/feitencijfers/MIRA-T/milieuthemas/klimaatverandering/>

See also the references cited in the CIRCLE 2 infobase <http://infobase.circle-era.eu/search.jsp>

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

2011 : Walloon CCIV assessment : ECORES, TEC, May 2011. 'L'adaptation au changement climatique en région wallonne'

2012 : Flemish study : LNE adapteert, effectenrapport, studie uitgevoerd door Royal Haskoning in opdracht van departement Leefmilieu, Natuur en Energie ('LNE adapt, impacts report')

2012 : Brussels CCIV assessment : FACTOR-X, ECORES, TEC, July 2012. 'L'adaptation au changement climatique en Région de Bruxelles-Capitale : élaboration d'une étude préalable à la rédaction d'un plan régional d'adaptation'

2013: Federal study : Technum, CLIMACT, IMDC, 2013. 'Verkenning van de federale bijdrage aan een coherent beleid inzake klimaatadaptatie'

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input checked="" type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input checked="" type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input checked="" type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

Different impact studies will be performed in the context of the CORDEX.be project ([www.euro-CORDEX.be](http://www.euro-CORDEX.be)), these include i.a. the impact of climate change urban parameters for Brussels (such as outdoor labor productivity, excess energy consumption including and heat stress due to heat waves) and agricultural crop performance and yield.

NB: in the follow up of the cordex.be project, a proposal was introduced to assess impact of climate change on rail infrastructure and health in Belgium, unfortunately the project was not selected for funding by the Belgian science policy (brain call 2016)



# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

*Provided by EEA*

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

2011 : Wallonia: 'L'adaptation au changement climatique en région wallonne' ('Adaptation to climate change in Walloon Region')

2012 : Flanders: *LNE adapteert, effectenrapport*, studie uitgevoerd door Royal Haskoning in opdracht van departement Leefmilieu, Natuur en Energie ('LNE adapt, impacts report')

2012 Brussels Region: 'L'adaptation au changement climatique en Région de Bruxelles-Capitale : élaboration d'une étude préalable à la rédaction d'un plan régional d'adaptation' ('Adaptation to climate change in Brussels : elaboration of a preliminary study to the regional adaptation plan')

2013: Federal: study 'Verkenning van de federale bijdrage aan een coherent beleid inzake klimaatadaptatie' ('Exploring federal contribution to a coherent adaptation policy')

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Walloon region:

<http://www.awac.be/index.php/mediatheque/nosetudes/item/78-etude-regionale>

Flanders:

<https://www.lne.be/sites/default/files/atoms/files/Studie%20LNE%20Adapteert%20%282011%29.pdf>

Brussels:

[http://document.environnement.brussels/opac\\_css/electfile/Airclimat%20Etude%20ChgtClimatiqueRBC](http://document.environnement.brussels/opac_css/electfile/Airclimat%20Etude%20ChgtClimatiqueRBC)

Federal:

[http://www.climat.be/files/2013/8253/2115/Federale\\_bijdrage\\_adaptatiebeleid\\_Eindrapport\\_juli\\_2013.pdf](http://www.climat.be/files/2013/8253/2115/Federale_bijdrage_adaptatiebeleid_Eindrapport_juli_2013.pdf)

### 14. When was the assessment published?

2011/2012/2013

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Flemish study : Flanders

Walloon study : Wallonia

Brussels study : Brussels

Federal Study: Belgium

**16. Which organisation or authority initiated or requested the assessment?**

Flemish government (Environment Department) / Walloon government (AWAC) / Brussels government (Environment Brussels) / Federal government (Federal Public Service Health, Food Chain Safety and Environment)

**17. Which organisation(s) carried out the assessment?**

*If several organisations were involved, please state the organisation that took the thematic lead first.*

[See the names of the lead authors of the studies](#)

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

Federal Study: Technum / ClimAct / IMDC (6 experts leading the study)

Brussels: FACTOR-X, ECORES, TEC

Wallonia: consultants (ECORES, TEC) have collaborated with 3 universities and organised several consultations of sectoral experts (around 50 people were involved in the whole assessment)

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input checked="" type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
<a href="#">Support development of subnational adaptation plans</a>	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

Federal Study: 7 months

Brussels Study: 6 months

Wallonia: 6 months

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

**Other resources (please explain)**

Impossible to write in the different cells... note that the budget of each study is around 80-90.000€ (funded by public authorities), except for the Walloon one which is around 190.000€. In general, each study is supervised by one member of the WG Adaptation and the others are kept in touch. Difficult to estimate the staff time.

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input checked="" type="checkbox"/>	s. Other sectors/impact domains Development cooperation, private sector, research
<input type="checkbox"/>	t. Cross-sectoral impact domains [Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
	Please provide further details if relevant. [Further details on time horizon]

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input checked="" type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines
<p>Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.</p> <p><a href="#">Not all the studies followed the specific guidelines. For Brussels and Wallonia, vulnerability was first assessed in the different sectors with the past climate thanks to the observations of the Royal Institute of Meteorology. Then, projections were built thanks to the EU project ENSEMBLES and were used to assess the vulnerability to the future climate. Finally, a list of proposals of action was proposed. NB : DG clima guidance used in the federal study (impossible to select multiple boxes).</a></p>	
<input type="radio"/>	<p>h. No, the assessment approach was developed specifically for this assessment</p> <p><i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i></p> <p>[Main steps of the assessment]</p>

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods
<p>[Please specify other methods]</p>	
<p>Please provide further details on the assessment methods, including when different methods were used for different sectors.</p> <p><a href="#">Different approaches followed in the different studies (e.g. no modelling exercise in federal study)</a></p>	

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

[Additional information on stakeholder involvement]

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input checked="" type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
<a href="#">Answer d. should also be marked. The (sub)national projections were built on the ENSEMBLES data.</a>	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	



## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	<p>a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk)</p> <p><i>Please explain how the assignment of vulnerability/risk categories was done.</i></p> <p>We synthesised the results of the different impacts assessments in one colored table showing the impacts in the different sectors and their evolution in time with a gradient of color (from green for positive impacts to red for severe impacts). This table is included in our national adaptation plan.</p> <p>Note that case b can also be marked because in the Walloon study on costs of inaction, some impacts were monetized when data were available.</p>
<input type="radio"/>	<p>b. Yes, through monetized metrics (e.g. costs, welfare loss)</p> <p><i>Please explain how the monetisation of non-market impacts was done, and by whom.</i></p> <p>In the Walloon study on costs of inaction, some impacts were monetized if data were available.</p>
<input type="radio"/>	<p>c. No, different impact/vulnerability/risk metrics were used</p> <p><i>Please provide further details on the metrics used.</i></p> <p>[Please provide further details]</p>

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	<p>a. Summary table or matrix</p> <p><i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i></p> <p>We synthesized the severity of impacts in a table with different colors, evolving with time. This table is included in our national plan (pg 15, <a href="http://www.cnc-nkc.be/sites/default/files/report/file/nap_en.pdf">http://www.cnc-nkc.be/sites/default/files/report/file/nap_en.pdf</a>).</p>
<input type="checkbox"/>	<p>b. Quantitative map(s)</p> <p><i>Please provide further details, such as the metrics used, and the number of maps.</i></p> <p>[Please provide further details]</p>
<input type="checkbox"/>	<p>c. Qualitative map(s) (e.g. infographics)</p> <p><i>Please provide further details on the information presented.</i></p> <p>[Please provide further details]</p>
<input type="checkbox"/>	<p>d. No specific summary illustration</p>

**34. At what level(s) of regional aggregation were the main assessment results presented?**

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details.	
[Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input checked="" type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input checked="" type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)

- |                       |   |
|-----------------------|---|
| <input type="radio"/> | c. Discrete categories (e.g. low/medium/high confidence or uncertainty) |
| <input type="radio"/> | d. Uncertainty range  |
| <input type="radio"/> | e. Probabilistic results  |
| <input type="radio"/> | f. Other systematic way (please explain below)                          |
| <input type="radio"/> | g. Communication of uncertainties varies across the assessment          |

Please provide further details.

[Further details on uncertainty communication]

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

[Development of regional, federal and national adaptation plans](#)

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

Opportunity to raise awareness , to develop network with sectoral experts and to better understand each other (different sectors with different concepts, terminologies, views, goals, etc.)

**42. What challenges were encountered during the development and use of this assessment?**

Involvement of stakeholders

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

**44. What would possibly be done differently in a future assessment, and why?**

[Please describe possible changes in a future assessment]

## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]



# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Croatia

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of Environment and Energy

**3. What organisation has filled out this survey?**

Ministry of Environment and Energy

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]



## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy [Year]	
Title (including an English translation) and web link(s). [National adaptation strategy]	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No
Date of adoption or last revision of the national adaptation action plan [Year]	
Title (including an English translation) and web link(s). [National adaptation action plan]	
Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

[Timeline of CCIV and adaptation policy development]

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[Report on assessment of climate impacts and vulnerabilities in different sectors, made as the part of development of National adaptation strategy.](#)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input checked="" type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any). [Planned CCIV assessments]	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

HR-1-2012

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

IZVJEŠTAJ O PROCIJENJENIM UTJECAJIMA I RANJIVOSTI NA KLIMATSKE PROMJENE PO POJEDINIM SEKTORIMA (translation: Report on assessment of climate impacts and vulnerabilities in different sectors)

<http://prilagodba-klimi.hr/wp-content/uploads/docs/Procjena-ranjivosti-na-klimatske-promjene.pdf>

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

<http://prilagodba-klimi.hr/wp-content/uploads/docs/Procjena-ranjivosti-na-klimatske-promjene.pdf>

### 14. When was the assessment published?

2017

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National coverage. It also covers regional and county information accros different parts of report and different sectors.

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of Environment and Energy

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

The Ministry of Environment and Energy is the Beneficiary and coordinator of the project of development of National adaptation strategy, under wich the assessment was carried out.

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

The report was prepared by core group of experts, each responsible for drafting assessment for their sector (10 sectors). Also the information from the expert workshops for each sector, and obtained in a

direct contact with other sectoral experts was taken into account in the process of carrying out the assessment.

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input checked="" type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

Overall duration of the project of development of National adaptation strategy is 18 months (May 2016 – November 2017). Duration of the CCIV assessment within the project was approximately 5 months (finished in May 2017).

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

**Other resources (please explain)**

Project – National adaptation strategy development – 770.000 € (90% EU funding, Transition facility, 10% domestic co-financing)

Also, in separate component of the project, supercomputer for the climate modelling was purchased 521.145 € (85% EU funding – Transition Facility, 15% domestic co-financing). Results of climate modelling were used as input for impact and vulnerability assessment.

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
<a href="#">Past trends are given where available.</a>	
<a href="#">Future assessments are given for the period up to 2040, and with a view to 2070.</a>	



## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input checked="" type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
<a href="#">IPCC scenarios RCP4.5 and RCP8.5 were used for the climate projections. The Regional Climate Model (RegCM) for Europe used initial and boundary conditions from four IPCC AR5 global climate models (Cm5, EC-Earth, MPI-ESM and HadGEM2), on resolution 50x50 km. Period 1971-2001 was used as a reference period, and periods 2011-2040 and 2041-2070 for future climate change.</a>	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> Risks were described as high, medium or low
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details.	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified

Please provide any additional information on this topic that you consider relevant.

The report focuses on specific sectors - hydrology and water and marine resources; agriculture; forestry; fisheries; biological diversity; physical planning and coastal area; tourism, human health; energy and disaster risk management.

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions aggregated across all sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Particularly affected regions for individual sectors were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions for individual impacts/risks were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously

Please provide any additional information on this topic that you consider relevant.

[Please provide additional information]

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input checked="" type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were identified
<input type="radio"/>	c. Specific adaptation measures were evaluated and/or prioritised
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment

Please provide further details.

The adaptation measures were not covered in this document. They were identified in separate document for all sectors – „Report on identified measures for adaptation to climate change in vulnerable sectors“.

Taking this measures, next document – „Report on the cost-effectiveness of adaptation options and their ranking“ was prepared. By using multi-criteria analysis, measures and activities were ranked by the priority for implementation.

All this information will be consolidated and integrated into the National adaptation strategy.

**38. How were uncertainties from different sources communicated in the assessment results?**

<input checked="" type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)

- |                       |  |
|-----------------------|--|
| <input type="radio"/> | d. Uncertainty range   |
| <input type="radio"/> | e. Probabilistic results                                       |
| <input type="radio"/> | f. Other systematic way (please explain below)                 |
| <input type="radio"/> | g. Communication of uncertainties varies across the assessment |

Please provide further details.

[Further details on uncertainty communication]

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input checked="" type="checkbox"/>	m. Other dissemination channels (please explain)
	Brochure: Republic of Croatia and adaptation to climate change (Croatian only)
	<a href="http://prilagodba-klimi.hr/wp-content/uploads/docs/Informativna-brosura-Republika-Hrvatska-i-prilagodba-klimatskim-promjenama.pdf">http://prilagodba-klimi.hr/wp-content/uploads/docs/Informativna-brosura-Republika-Hrvatska-i-prilagodba-klimatskim-promjenama.pdf</a>
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The results will be used for the development of the National adaptation strategy and Action plan. It is also envisaged to be used in development or revision and update of different strategic and planning documents (e.g. sectoral strategies and plans, plans at local and regional level).

After adoption of the NAS it is planned to have wide national campaign for raising awareness, education etc., so this results will be also used for that purpose.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

The whole process of CCIV assessment and strategy development was used as an opportunity to gather experts from various sectors together; awareness was raised on the need to include climate issues and adaptation to sectoral documents and planning, dialogue between experts within and across sectors has been initiated.

### **42. What challenges were encountered during the development and use of this assessment?**

Limited time for carrying out the assessment.

Available data varies depending on the sectors.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

### **44. What would possibly be done differently in a future assessment, and why?**

More time for carrying the assessment should be planned.



## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Czech Republic

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of the Environment of the Czech Republic

**3. What organisation has filled out this survey?**

Ministry of the Environment of the Czech Republic

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Czech Hydrometeorological Institute

EKOTOXA s.r.o.

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2015	
Title (including an English translation) and web link(s). Strategie přizpůsobení se změně klimatu v podmínkách ČR <a href="http://www.mzp.cz/cz/zmena_klimatu_adaptacni_strategie">http://www.mzp.cz/cz/zmena_klimatu_adaptacni_strategie</a> (Strategy on Adaptation to Climate Change in the Czech Republic)	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> Nothing has been changed	

### 6. Does your country have a national adaptation action plan?

<input checked="" type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2017

Title (including an English translation) and web link(s).

Národní akční plán adaptace na změnu klimatu/National Action Plan for Adaptation to Climate Change [https://www.mzp.cz/C1257458002F0DC7/cz/news\\_170116\\_NAP/\\$FILE/NAP\\_material.pdf](https://www.mzp.cz/C1257458002F0DC7/cz/news_170116_NAP/$FILE/NAP_material.pdf)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

This section collects information how CCIV information has supported the development of adaptation policy over time.

### 7. How has CCIV information for your country developed over time?

Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.

Comprehensive study on impacts, vulnerability and risks sources connected to climate change in the Czech Republic includes the assessment of the probable impacts of climate change in particular areas of interest / sectors presented in the Strategy on Adaptation to Climate Change in the Czech Republic, including economic analyses. This study also supported the development of the National Action Plan

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[Title of CCIV assessment(s)]

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant.	
[Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input checked="" type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input checked="" type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).	
[Planned CCIV assessments]	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

CZ-1-2015

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Komplexní studie dopadů, zranitelnosti a zdrojů rizik souvisejících se změnou klimatu v ČR

(Comprehensive study on impacts, vulnerability and risks sources connected to climate change in the Czech Republic)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

EKOTOXA s.r.o. (2015): Komplexní studie dopadů, zranitelnosti a zdrojů rizik souvisejících se změnou klimatu v ČR, 338 pages.

[http://www.mzp.cz/C1257458002F0DC7/cz/studie\\_dopadu\\_zmena\\_klimatu/\\$FILE/OEOK-Komplexni\\_studie\\_dopady\\_klima-20151201.pdf](http://www.mzp.cz/C1257458002F0DC7/cz/studie_dopadu_zmena_klimatu/$FILE/OEOK-Komplexni_studie_dopady_klima-20151201.pdf)

### 14. When was the assessment published?

2015

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National coverage

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of the Environment of the Czech Republic

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

EKOTOXA s.r.o.(lead), Centrum dopravního výzkumu, v. v. i.; Centrum výzkumu globální změny AV ČR, v. v. i.; DHP Conservation s.r.o.; RADDIT consulting s.r.o.; URBANISMUS, ARCHITEKTURA, DESIGN - STUDIO, spol. s r. o.; Vysoká škola báňská - Technická univerzita Ostrava; Zdravotní ústav se sídlem v Ústí nad Labem; Prof. Ing. Miroslav Dumbrovský, CSc.; Doc. Ing. Miroslav Hájek, PhD.; Ing. Martina Pásková, Ph.D.; RNDr. Jan Srb, RADDIT consulting s.r.o.

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

35



## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
x	c. To support the development or revision of national adaptation <u>strategy</u>
x	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
x	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

7 months

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		
Other resources (please explain)		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade) [Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains [Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant. <a href="#">Timeframes vary between sectors</a>	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>  1) Prediction of main climate characteristics up to 2100 2) Description of the context information in main sectors connected to climate change 3) Identification of main impacts to individual sectors 4) Proposal of indicators for each sector – climate indicators and impact indicators 5) Identification of vulnerability in each sector 6) What-if analysis – what will happen in each sector if climate characteristic change in the future 7) Analysis of proposed adaptation measures in national adaptation strategy 8) Assessment of economical aspects of impacts and adaptation measures

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input checked="" type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

**27. Were external stakeholders involved in the assessment, and how?**

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	x	<input type="checkbox"/>	<input type="checkbox"/>	x	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

On CCIV worked quite wide team of experts from several organizations from different sectors. Drafts and results were continuously discussed.

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

What-if analysis

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input checked="" type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)

Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).

Different climate scenarios have been used for different sectors (A2, A1B, RCP4.5, RCP8.5), depending on available studies.

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)

Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.

[Please provide further details]

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
x	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment

Please provide further details on the consideration of adaptive capacity.

Part of CCIV was also analys of proposed adaptation measures in national adaptation strategy foreach sector.

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> It was done by CzechGlobe – based mainly on literature research and comparison with similar cases from different countries.
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input checked="" type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
x	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
The comparison between different sectors wasn't done. Priority impacts and risks were identified by what-if analysis for each sector.	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions aggregated across all sectors were identified unambiguously
x	b. Particularly affected regions for individual sectors were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions for individual impacts/risks were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input checked="" type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
On a sub-national basis.	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment

Please provide further details.

[Further details on uncertainty communication]



## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

[For preparation of National action plan](#)

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

[Please describe positive experiences]

**42. What challenges were encountered during the development and use of this assessment?**

[Please describe challenging experiences]

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

**44. What would possibly be done differently in a future assessment, and why?**

[Please describe possible changes in a future assessment]

## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# **EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy**

## **Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)**

### **A. Institutional context**

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Estonia

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of the Environment

<http://www.envir.ee/et>

<http://www.envir.ee/en>

**3. What organisation has filled out this survey?**

Ministry of the Environment

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy Estonian Government approved the „Development Plan for Climate Change Adaptation until 2030“ on 2 March 2017.	
Title (including an English translation) and web link(s). „Kliimamuutustega kohanemise arengukava aastani 2030“ („Development Plan for Climate Change Adaptation until 2030“) <a href="http://www.envir.ee/en/news-goals-activities/climate/climate-change-adaptation">http://www.envir.ee/en/news-goals-activities/climate/climate-change-adaptation</a> ; <a href="http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava">http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava</a> <a href="http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava">http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

Estonian Government approved the „Development Plan for Climate Change Adaptation until 2030“ and national adaptation action plan with it on 2 March 2017.

Title (including an English translation) and web link(s).

(“Kliimamuutustega kohanemise arengukava rakendusplaan 2017-2020” (“Climate Change Adaptation Implementation Plan for 2017-2020”) <http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava>

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

Very significant contribution in the adaptation to the climate change has been done in Estonia during the years 2016 and 2017- the climate change risk and vulnerability assessment and cost-effectiveness assessment for adaptation measures in the most vulnerable sectors are done and the national strategy „Development Plan for Climate Change Adaptation until 2030“and measures for adapting to a changing climate in the Action Plan are developed and also adopted by the Government.

The Development Plan for Climate Change Adaptation prepared by the Ministry of the Environment identifies the domains that are most vulnerable to the climate change and specifies the actions that improve Estonia's readiness and capability to cope with the climate change.

This Development Plan was drawn up based on **four in-depth scientific studies**, which identified sectoral impacts and vulnerabilities of climate change and determined the measures for adaptation to climate change in the short-term perspective (up to 2030) as well as in the long-term perspective (up to 2050 and 2100). Short description about the studies:

#### 1) “Assessment of climate change impacts elaboration of adaptations measures: planning, land use, health and rescue management (KATI)”

The KATI project advised the compilation of the Estonian national climate adaptation strategy and action plan concerning following themes: planning and land use, and health and rescue management. Climate change impacts on coastal areas, other flooding risk areas, land reclamation and urban areas were mapped, as well as impacts on relevant health and rescue management sectors.

The project researchers analysed the impacts of climate change, assessed the risks and vulnerabilities, set the objectives and listed the most crucial measures for adaptation. It also shortlisted the needs for further research and public administration in order to better understand climate change and enforce and facilitate adaptation in the framework of national adaptation strategy.

The project had three work packages. WP1 defined relevant sub-themes (i.e. priority themes for Estonia) and mapped the current situation, i.e. described problems, opportunities, and threats, as well as impacts of past weather events. Existing adaptation measures were also analysed. The results were based on the analysis of existing scientific literature, (national) policies and legislation and info from different databases, as well as expert knowledge.

On the basis of pre-defined climate scenarios, WP2 analysed climate change impacts and existing measures to adaptation on these priority themes. Risks, vulnerabilities and climate change impacts on the pre-defined topical areas and their sub-themes were assessed. Recommendations for future research were also given.

Finally, WP3 developed adaptation measures for the national adaptation strategy and action plan.

Project ended on 31th of August 2015.

Project website <http://www.geograafia.ut.ee/et/teadus/english>

## **2) “Climate change adaptation strategy and measures for thematic fields of natural environment and bioeconomy: BIOCLIM”**

The BioClim project advised the compilation of the Estonian national climate adaptation strategy and action plan concerning following themes: natural environment and bioeconomy. BioClim mapped the current situation, analysed the climate change impacts and possible adaptation measures for the thematic areas natural environment and bio-economy. Within the BioClim project, the following 11 natural environment and bio-economy fields in Estonia were analysed: biodiversity, terrestrial ecosystems, freshwater ecosystems, marine ecosystems including the Baltic Sea, ecosystem services, agriculture, forestry, fishery, hunting, tourism and peat extraction.

The project had three work packages. WP1 defined relevant sub-themes (i.e. priority themes for Estonia) and mapped the current situation, i.e. described problems, opportunities, and threats, as well as impacts of past weather events. Existing adaptation measures were also analysed. The results were based on the analysis of existing scientific literature, (national) policies and legislation and info from different databases, as well as expert knowledge.

On the basis of pre-defined climate scenarios, WP2 analysed climate change impacts and existing measures to adaptation on these priority themes. Risks, vulnerabilities and climate change impacts on the pre-defined topical areas and their sub-themes were assessed. Recommendations for future research were also given.

The project created a set of scientifically based suggestions for developing the national climate adaptation policies. The project also created a network of scientists and stakeholders who have the potential for further cooperation for knowledge co-generation in this field.

WP3 developed adaptation measures for the national adaptation strategy and action plan.

Project ended on 31th of August 2015.

Project website <http://pk.emu.ee/en/structure/landscapemanagement/projects/bioclim/project/>

## **3) “Estonian Climate Adaptation Strategy for Infrastructure and Energy ENFRA”**

The ENFRA project advised the compilation of the Estonian national climate adaptation strategy and action plan concerning two general themes: buildings and infrastructure and energetics and energy supply systems. Climate change impacts on buildings, transport and technical support systems (including roads, ports, bridges, water supply and sewage management, telecommunications) were mapped, as well as impacts on relevant energy sectors, e.g. independence, reliability and security of energy supply systems, energy resources, implementation of energy efficiency, heating and cooling needs and electricity production.

The project had three work packages. WP1 defined relevant sub-themes (i.e. priority themes for Estonia) and mapped the current situation, i.e. described problems, opportunities, and threats, as well as impacts of past weather events. Existing adaptation measures were also analysed. The results were based on the analysis of existing scientific literature, (national) policies and legislation and info from different databases, as well as expert knowledge.



On the basis of pre-defined climate scenarios, WP2 analysed climate change impacts and existing measures to adaptation on these priority themes. Risks, vulnerabilities and climate change impacts on the pre-defined topical areas and their sub-themes were assessed. Recommendations for future research were also given.

Finally, WP3 developed adaptation measures for the national adaptation strategy and action plan.

Project ended on 31th of August 2015.

Project website <http://kliima.seit.ee/about>

#### 4) “Climate change impact assesment and elaboration of suitable adaptation measures in the fields of the economy and society (RAKE)”

The RAKE project advised the compilation of the Estonian national climate adaptation strategy and action plan concerning two general themes: economy and society. Climate change impacts on economy sector (including insurance, banking and finances, employment, business and entrepreneurship, industry,) were mapped, climate change impacts on Estonian society were analysed (incl awareness, education, science and international relations and cooperation) and possible adaptation measures for the thematic areas economy and society were elaborated.

For more details please refer to: [skytte.ut.ee/rake/teostatud-projektid-0#uuringud](http://skytte.ut.ee/rake/teostatud-projektid-0#uuringud)

In the course of drawing up the Development Plan for Climate Change Adaptation, the Environmental Agency (KAUR) drew up the document “Estonian Future Climate Scenarios 2100”, which is aiming to provide an overview of the projections and assessments to the future climate in Estonia up to 2100. Link: [http://www.envir.ee/sites/default/files/kliimastsenaariumid\\_kaur\\_aruanne\\_ver190815.pdf](http://www.envir.ee/sites/default/files/kliimastsenaariumid_kaur_aruanne_ver190815.pdf)

Detailed overview of the presumed impacts of climate changes in Estonia is provided in the “Estonia’s Sixth National Communication under the United Nations Framework Convention on Climate Change”.

Assessment of Flood Hazard in Estonia <http://www.envir.ee/en/floods> and Flood Risk Maps in Estonian Land Board Geoportal:

<http://geoportaal.maaamet.ee/est/Teenused/Kaadirakendus/Uleujutuste-rakendus-p467.html>

Several climate projects have been completed (BALTADAPT: <http://www.baltadapt.eu/>, BALTCLIM <http://www.bef-de.org/index.php?id=52>) or are ongoing, and the climate change impacts and vulnerability has been covered in many academic researches.

#### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessary playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don’t know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).</u> [Title of CCIV assessment(s)]				

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]

<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input checked="" type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any). [Planned CCIV assessments]	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

*Provided by EEA*

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

„Development Plan for Climate Change Adaptation until 2030“ ( in Estonian “Kliimamuutustega kohanemise arengukava aastani 2030”) and its four in-depth scientific studies (described under point 7 in this survey) are including a lot of information on CC impacts and vulnerabilities multi-sectorally and in priority sectors.

Development Plan for Climate Change Adaptation identifies the domains that are most vulnerable to the climate change and specifies the actions that improve Estonia's readiness and capability to cope with the climate change. The general aim of The Estonian Development Plan for Climate Change Adaptation is to improve the preparedness and capability of Estonia to cope with the impact of climate changes on local, regional and national level. Also to determine the activities, which are the most vulnerable to CC.

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

<http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava>

### 14. When was the assessment published?

2017

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Whole country

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of the Environment

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Other ministries (Ministry of the Interior, Ministry of Social Affairs, Ministry of Rural Affairs, Ministry of Economic Affairs and Communications) and agencies/boards (Estonian Environmental Board and Environmental Agency KAUR, Estonian Land Board, Rescue Board, Health Board etc), ), Estonian

Environmental Research Centre, Universities and their institutes (Estonian University of Life Sciences, University of Tartu, Estonian Academy of Security Sciences), Peipsi Centre for Transboundary Cooperation, Stockholm Environment Institute Tallinn Centre, Estonian Fund for Nature, Baltic Environmental Forum, local municipalities, Norwegian Directorate for Civil Protection.

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

I don't know the number, a lots of different field experts from universities, ministries, boards, agencies and environmental NGOs.

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

Period was 2013-2017

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

**Other resources (please explain)**

Total amount was 1,3 million euros, and the main financing source was EEA Grants Financial Mechanism 2009–2014 (10% of it was national co-financing)

European Economic Area (EEA) Financial Mechanism 2009–2014 programme “Integrated marine and inland water management”

<http://www.envir.ee/et/euroopa-majanduspiirkonna-toetused-2009-2014>

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade) [Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains [Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant. [Further details on time horizon]	



## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines Points a) and e) mentioned above plus Norway, Finland, OECD, EEA experience, and – our own methodologies and approaches.
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>  <input checked="" type="checkbox"/> Aggregation of available scientific information about climate change (scientific CC observations, analysis of existing policies, reports, articles etc) <input checked="" type="checkbox"/> Creation of Estonia specific climate change future scenarios and describing the past trends in climate change <input checked="" type="checkbox"/> Assessment of climate change negative and positive impacts (sub-sectorial and sectorial analyses) <input checked="" type="checkbox"/> Vulnerability assessment – based on risk levels, categories and target groups affected, adaptation capacity, level of estimated economic losses or gains, vulnerability level; <input checked="" type="checkbox"/> Proposition of Estonia specific climate change adaptation measures and prioritisation of measures <input checked="" type="checkbox"/> Estimation of (indicative) cost of proposed adaptation measures <input checked="" type="checkbox"/> Identification, description and analysis of relevant adaptation indicators

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews

<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods
	[Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors.	
[Please provide further details]	

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant.					
[Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)

Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).

The Environmental Agency drew up the Estonian Future Climate Scenarios 2100, which provide an overview of the projections and assessments to the future climate in Estonia up to 2100 using calculations of 28 global climatic models according to Intergovernmental Climate Change Panel (IPCC) the Fifth Assessment Report (AR5) and Second Assessment of Climate Change for the Baltic Sea Basin (BACC II).

Link: [http://www.envir.ee/sites/default/files/kliimastsenaariumid\\_kaur\\_aruanne\\_ver190815.pdf](http://www.envir.ee/sites/default/files/kliimastsenaariumid_kaur_aruanne_ver190815.pdf)

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)

Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.

Cost-benefit and effectiveness analysis was done for adaptation measures, also socio-economic analysis, covered all priority sectors.

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input checked="" type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment

Please provide further details on the consideration of adaptive capacity.

[Please provide further details]

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details.	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input checked="" type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
See in the 4 researches (final reports) on risk and vulnerability assessment and identification of adaptation measures in concrete sectors: <a href="http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava">http://www.envir.ee/et/eesmargid-tegevused/kliima/kliimamuutustega-kohanemise-arengukava</a>	
<a href="http://pk.emu.ee/en/structure/landscapemanagement/projects/bioclimate/project/">http://pk.emu.ee/en/structure/landscapemanagement/projects/bioclimate/project/</a>	
<a href="http://kliima.seit.ee/about">http://kliima.seit.ee/about</a>	
<a href="http://www.geograafia.ut.ee/et/teadus/english">http://www.geograafia.ut.ee/et/teadus/english</a>	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results

- f. Other systematic way (please explain below)
- g. Communication of uncertainties varies across the assessment

Please provide further details.

[Further details on uncertainty communication]

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	National CC portal <a href="http://www.envir.ee/et/kliima">http://www.envir.ee/et/kliima</a> (in Estonian) and <a href="http://www.envir.ee/en/climate">http://www.envir.ee/en/climate</a> (In English), different conferences and workshops, project webpage <a href="http://www.klab.ee/kohanemine/en/">http://www.klab.ee/kohanemine/en/</a>
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

National climate change adaptation strategy „Development Plan for Climate Change Adaptation until 2030“ and the implementation plan were resulted of that CC assessment work.



## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

The Development Plan for Climate Change Adaptation and its 4 in-depth scientific studies contributed to a more climate-resilient Estonia and this was the first time when Estonia developed the coherent approach in adapting to climate change field and assembled all the available knowledge about different impacts caused by climate change in our region. Before the year 2013 the information about climate change impacts in different sectors was fragmented and scattered between different authorities and institutes, but since the 2017 we can plan and direct the field of climate change adaptation comprehensively through one development plan.

### **42. What challenges were encountered during the development and use of this assessment?**

Because the climate changes in Estonia are not as extreme as in many other countries it is sometimes very difficult to make it clear why we have to deal with this topic and assessment results, sometimes there is not sufficient interest for dealing with CC (for example in other ministries, state agencies and they will not provide usable information for the assessment).

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

### **44. What would possibly be done differently in a future assessment, and why?**

We haven't analyse this yet.

## L. Concluding question

45. Do you have any feedback regarding this survey?

No

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Finland

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of Agriculture and Forestry

<http://mmm.fi/en/nature-and-climate/climate-change-adaptation>

<http://mmm.fi/luonto-ja-ilmasto/ilmastonmuutokseen-sopeutuminen>

**3. What organisation has filled out this survey?**

Ministry of Agriculture and Forestry

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Finnish Meteorological Institute

Finnish Environment Institute

Natural Resources Institute Finland

Ministry of the Environment

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2005 (Finlands National Strategy for Adaptation to Climate change) 2014 (National Climate Change Adaptation Plan 2022) revised strategy	
Title (including an English translation) and web link(s). Ilmastonmuutoksen kansallinen sopeutumisstrategia (Finlands National Strategy for Adaptation to Climate Change), 2005 <a href="http://mmm.fi/documents/1410837/1721050/MMMjulkaisu2005_1.pdf/7dd5b555-20f0-44a5-ab1b-880425432c8a">http://mmm.fi/documents/1410837/1721050/MMMjulkaisu2005_1.pdf/7dd5b555-20f0-44a5-ab1b-880425432c8a</a> (Finnish) <a href="http://mmm.fi/documents/1410837/1721050/MMMjulkaisu2005_1a.pdf/63f5d78d-8492-4621-b019-fe38d7aeb709">http://mmm.fi/documents/1410837/1721050/MMMjulkaisu2005_1a.pdf/63f5d78d-8492-4621-b019-fe38d7aeb709</a> (English)	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. The current national adaptation policy framework is described in the Government Resolution on the National Climate Change Adaptation Plan 2022 adopted on 20 November 2014. <i>Kansallinen ilmastonmuutokseen sopeutumissuunnitelma 2022 (National Climate Change Adaptation Plan 2022), 2014</i> <a href="http://mmm.fi/documents/1410837/1720628/2014_5_ilmastonmuutos.pdf/8a446702-2960-44b8-9e02-c21598a472de">http://mmm.fi/documents/1410837/1720628/2014_5_ilmastonmuutos.pdf/8a446702-2960-44b8-9e02-c21598a472de</a> (Finnish) <a href="http://mmm.fi/documents/1410837/1888935/MMM-%23193086-v1-Finland_s_National_climate_Change_Adaptation_Plan_2022.pdf/c2bfec7b-ae73-4247-b666-26a3ed363f99">http://mmm.fi/documents/1410837/1888935/MMM-%23193086-v1-Finland_s_National_climate_Change_Adaptation_Plan_2022.pdf/c2bfec7b-ae73-4247-b666-26a3ed363f99</a> (English)	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2014

Title (including an English translation) and web link(s).

*Kansallinen ilmastonmuutokseen sopeutumissuunnitelma 2022 (National Climate Change Adaptation Plan 2022), 2014*

[http://mmm.fi/documents/1410837/1720628/2014\\_5\\_Imastonmuutos.pdf/8a446702-2960-44b8-9e02-c21598a472de](http://mmm.fi/documents/1410837/1720628/2014_5_Imastonmuutos.pdf/8a446702-2960-44b8-9e02-c21598a472de) (Finnish)

[http://mmm.fi/documents/1410837/1888935/MMM-%23193086-v1-Finland\\_s\\_National\\_climate\\_Change\\_Adaptation\\_Plan\\_2022.pdf/c2bfec7b-ae73-4247-b666-26a3ed363f99](http://mmm.fi/documents/1410837/1888935/MMM-%23193086-v1-Finland_s_National_climate_Change_Adaptation_Plan_2022.pdf/c2bfec7b-ae73-4247-b666-26a3ed363f99) (English)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

The plan itself is a single coherent document, but it is implemented in a series of more specific sector plans:

Ministry of the Environment (2017) Action Plan for the Adaptation to Climate Change of the Environmental Administration 2022, Reports of the Ministry of the Environment 25en | 2016, <http://urn.fi/URN:ISBN:978-952-11-4736-4>

[https://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/41447/YMra20\\_2008.pdf?sequence=2](https://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/41447/YMra20_2008.pdf?sequence=2)

Adaptation to Climate Change in the Administrative Sector of the Ministry of the Environment - Action Plan for implementing National Strategy to Climate Change

(2008) Ilmastomuutokseen sopeutuminen ympäristöhallinnon toimialalla - Toimintaohjelma ilmastomuutoksen kansallisen sopeutumisstrategian toteuttamiseksi

(Anpassning till klimatförändringen inom miljöförvaltningens ansvarsområde Åtgärdsprogram för genomförande av den nationella strategin för anpassning till klimatförändringen)

[http://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/41499/YMra\\_18\\_2011\\_Ilmastomuutokseen\\_sopeutumisen\\_toimintaohjelman\\_paivitys.pdf?sequence=2](http://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/41499/YMra_18_2011_Ilmastomuutokseen_sopeutumisen_toimintaohjelman_paivitys.pdf?sequence=2)

Adaptation to Climate Change in the Administrative Sector of the Ministry of the Environment - Action Plan Update for 2011–2012

(2011) Ilmastomuutokseen sopeutuminen ympäristöhallinnon toimialalla -Toimintaohjelman päivitys vuosille 2011–2012

[http://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/41467/YMra\\_3\\_2013\\_Ymparistoministerion.pdf?sequence=2](http://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/41467/YMra_3_2013_Ymparistoministerion.pdf?sequence=2)

Assessment of the Environmental Administration's Action Plan for Adaptation to Climate Change

(2013) Ympäristöministeriön hallinnonalan sopeutumisohjelman arviointi

The Ministry of Foreign Affairs (2016) Guidance and Checklist for Climate Sustainability and Disaster Risk Reduction (DRR) analysis – Annex of Manual for Bilateral Programmes 2016.

<http://formin.finland.fi/public/default.aspx?contentId=259204&nodeId=15445&contentlan=2&culture=en-US>

Ministry of the Interior (2016). National Risk Assessment 2015. Ministry of the Interior Publication 4/2016.

<https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/64973/National%20Risk%20Assessment%202015.pdf?sequence=1>

Ministry of Agriculture and Forestry (2014) Maatalouden ilmasto-ohjelma - Askeleita kohti ilmastoystävällistä ruokaa. (The Climate Programme of Finnish Agriculture – steps towards climate-friendly food) (in Finnish) Maa- ja metsätalousministeriön julkaisu 8/2014.

<http://mmm.fi/documents/1410837/1720628/MMM-julkaisu-2014-8/01b1528e-a2ad-4eb7-955e-258f8e9dd025>

Ministry of Social Affairs and Health (2010) Ympäristöterveyden erityistilanteet. Opas ympäristöterveydenhuollon työntekijöille ja yhteistyötahoille (Exceptional Situations Related to Environmental Health. A handbook for environmental health care staff and cooperation partners) (in Finnish with English summary). Sosiaali- ja terveysministeriön julkaisu 2010:2. Helsinki.

[http://www.stm.fi/c/document\\_library/get\\_file?folderId=1087414&name=DLFE-12714.pdf](http://www.stm.fi/c/document_library/get_file?folderId=1087414&name=DLFE-12714.pdf)

Ministry of Transport and Communications (2009) Liikenne- ja viestintäministeriön hallinnonalan ilmastopoliittinen ohjelma 2009–2020 (Climate Policy Programme for the Ministry of Transport and

Communications' administrative sector for 2009–2020) (in Finnish with English Summary). Ohjelmia ja strategioita 2/2009. <https://www.lvm.fi/documents/20181/817515/Ohjelmia+ja+strategioita+2-2009/b91d90ae-b823-4930-b138-d918d8037561?version=1.0>

Ministry of Transport and Communications (2014) Liikenne- ja viestintäministeriön hallinnonalan ilmastopoliittinen ohjelma 2009–2020 - Seuranta 2014 (Climate Policy Programme for the Ministry of Transport and Communications' administrative branch 2009–2020 - Follow-up 2014) (in Finnish with English Summary). Publications of the Ministry of Transport and Communications 33/2014. [https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/78838/Julkaisu\\_33-2014.pdf?sequence=1](https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/78838/Julkaisu_33-2014.pdf?sequence=1)

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

A. The development of the NAS (2005) was heavily based on the results of national research programmes SILMU, FIGARE, and FINADAPT. Also Arctic Climate Impact Assessment" (ACIA) of the impacts of climate change on the Arctic region, commissioned by the Arctic Council, was used:

SILMU (1990-1995) Finnish Research Programme on Climate Change produced the first scenarios on the changes to the Finnish climate and included impact assessment in key sectors. Adaptation issues were dealt with at a very preliminarily level.

<http://www.aka.fi/globalassets/awanhat/documents/tiedostot/asiakirjat/silmu.pdf>

FIGARE (Finnish Global Change Research Programme 1999-2003) updated the climate scenarios and extended the field of research from the natural sciences to economic and social issues. Its objective was also to look for social, economic and technical solutions aimed at influencing climate change and facilitating adaptation. The results of the programme focused on the impacts of climate change.

<http://www.aka.fi/en/research-and-science-policy/academy-programmes-new/completed-programmes/figare-finnish-global-change-research-programme-1999-2002/>

FINADAPT (Assessing the Adaptive Capacity of the Finnish Environment and Society under a Changing Climate, 2004-2005) studied adaptation of different sectors to the potential impacts of climate change in Finland. It also identified key recommendations for future research that may assist policy makers in adapting to a changing climate. <http://www.syke.fi/projects/finadapt>

Carter, T. R. (2007) Assessing the adaptive capacity of the Finnish environment and society under a changing climate: FINADAPT. Summary for Policy Makers. The Finnish Environment 1/2007.

<http://hdl.handle.net/10138/38397>

Arctic Climate Impact Assessment (ACIA) <http://www.amap.no/arctic-climate-impact-assessment-acia>

The risk based approach was taken into account in writing process of the National Adaptation Plan 2022 in 2013-2014. Finland had *Action Plan for the Adaptation to Climate Change of the Ministry of Agriculture and Forestry 2011-2015 - Security of Supply, Sustainable Competitiveness and Risk Management (2011)* and the [vulnerability assessment \(Sorvali 2013: The adverse impacts of climate change and the vulnerability of sectors\)](#) and in addition [the Assessment of the Environmental Administration's Action Plan for Adaptation to Climate Change \(2013\)](#). [All the material together with the Final evaluation of Finland's National Strategy for Adaptation to Climate Change \(2013\) give risk based approach to the National Adaptation Plan 2022.](#)

B. The practical implementation of the NAS was supported by e.g. projects like RATU and REFI:

RATU (Heavy Urban Rains and Floods, 2005-2007) which results were used in preparing the national storm water runoff guide (Hulevesiopas). Aaltonen, J., Hohti, H., Jylhä, K., Karvonen, T., Kilpeläinen, T., Koistinen, J., Kotro, J., Kuitunen, T., Ollila, M., Parvio, A., Pulkkinen, S., Silander, J., Tiihonen, T.,



Tuomenvirta, H. ja Vajda, A., 2008. Rankkasateet ja taajamatulvat (RATU). Suomen ympäristö 31/2008, Luonnonvarat, 123 s. Suomen ympäristökeskus (SYKE) <http://hdl.handle.net/10138/38381>

<https://helda.helsinki.fi/handle/10138/154436>

Advancing climate objectives in land use planning

Ilmastotavoitteita edistävä kaavoitus – Näkökulmia kuntakaavoitukseen

(Planläggning som främjar klimatmålen – Perspektiv på den kommunala planläggningen)

[https://helda.helsinki.fi/bitstream/handle/10138/135189/YO\\_2014.pdf?sequence=1](https://helda.helsinki.fi/bitstream/handle/10138/135189/YO_2014.pdf?sequence=1)

Flood preparedness in building – guide for determining the lowest building elevations in shore areas

Tulviin varautuminen rakentamisessa -Opas alimpien rakentamiskorkeuksien määrittämiseksi ranta-alueilla

EN: [https://helda.helsinki.fi/bitstream/handle/10138/38348/FE\\_44en\\_2008.pdf?sequence=3](https://helda.helsinki.fi/bitstream/handle/10138/38348/FE_44en_2008.pdf?sequence=3)

Climate Change and the Cultural Environment – Recognized Impacts and Challenges in Finland

FI:

[https://helda.helsinki.fi/bitstream/handle/10138/38358/SY44\\_2008\\_Ilmastonmuutos\\_ja\\_kulttuuriymparisto.pdf?sequence=1](https://helda.helsinki.fi/bitstream/handle/10138/38358/SY44_2008_Ilmastonmuutos_ja_kulttuuriymparisto.pdf?sequence=1)

Ilmastonmuutos ja kulttuuriympäristö. Tunnistetut vaikutukset ja haasteet Suomessa

[https://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/37980/SY\\_17\\_2010.pdf?sequence=3](https://julkaisut.valtioneuvosto.fi/bitstream/handle/10138/37980/SY_17_2010.pdf?sequence=3)

Julkisivujen ja parvekkeiden kestävyys muuttuvassa ilmastossa

The durability of facades and balconies in a changing climate

<https://helda.helsinki.fi/bitstream/handle/10138/135722/2014nro3.pdf>

Ilmastonmuutos ja lämmitystarveluku paikkatietoarvioina Suomessa

Climate change and heating degree days as spatial information in Finland

REFI-projects (2010-2013). REFI-A calculated a reference year for building energy demand and impacts of climate change. REFI-B produced weather datasets relevant for building physics were produced. Two reports: REFI A: Jylhä, K., Kalamees, T., Tietäväinen, H., Ruosteenoja, K., Jokisalo, J., Hyvönen, R., Ilomets, S., Seppo, S. & Hutila, A. (2011) Rakennusten energialaskennan testivuosi 2012 ja arviot ilmastomuutoksen vaikutuksista (Test reference year 2012 for building energy demand and impacts of

climate change) (in Finnish, abstract in English). Finnish Meteorological Institute Reports 2011:6, Helsinki. <http://hdl.handle.net/10138/33069>. REFI B: Ruosteenoja, K., Jylhä, K. Mäkelä, H. Hyvönen, R., Pirinen, P. & Lehtonen, I. (2013) Rakennusfysiikan testivuosiin sääaineistot havaitussa ja arvioitussa ilmastossa : REFI-B -hankkeen tuloksia (Weather data for building physics test reference years in the observed and projected future climate - results from the REFI-B project) (in Finnish, abstract in English). Finnish Meteorological Institute Reports 2013 :1, Helsinki. <https://helda.helsinki.fi/handle/10138/38648>

C. The development of the NAP (2014) was influenced e.g. by the results of the national research programmes ISTO, VACCIA, MIL and some projects of FICCA but also the commissioned reports which covered adverse impacts of climate change and the vulnerability of sectors and resilience as well as the midterm and final evaluations of the NAS (2005):

ISTO (Finland's Climate Change Adaptation Research Programme, 2006–2010) implemented the NAS by providing funding for research aimed at producing information to support planning of the adaptation measures. It funded 30 studies concerning the vulnerability of various sectors and also a number of synthesis studies. Summary of the ISTO projects and their results:

<http://www.finessi.info/ISTO/index.php?page=overview&lang=en>

VACCIA (Vulnerability Assessment of Ecosystem Services for Climate Change Impacts and Adaptation, 2009–2011) analysed the vulnerability of nature's ecosystem services and means of livelihood, as well as adapting to climate change. The evaluation was carried out in nine long-term environmental research network areas (see map image) belonging to the Finnish national research infrastructure (FinLTSER).

<http://www.syke.fi/projects/vaccia>. Synthesis report: Bergström, I., Mattson, T., Niemelä, E., Vuorenmaa, J. & Forsius, M. (eds.) (2011) Ecosystem services and livelihoods – vulnerability and adaptation to a changing climate. VACCIA synthesis report. The Finnish Environment 26en/2011. <http://hdl.handle.net/10138/37031>

MIL (Functioning of Forest Ecosystems and Use of Forest Resources in Changing Climate, 2007–2012) <http://www.metla.fi/ohjelma/mil/index-en.htm>

The synthesis report covers the results of (ISTO, VACCIA and MIL programmes): Ruuhela, R. (ed.) (2012) Miten väistämättömään ilmastonmuutokseen voidaan varautua? Yhteenvedo suomalaisesta sopeutumistutkimuksesta eri toimialoilla (How to adapt to inevitable climate change – A synthesis of Finnish research on adaptation in different sectors) (in Finnish). MMM:n julkaisu 6/2011, Helsinki.

[http://mmm.fi/documents/1410837/1721026/MMM\\_julkaisu\\_2012\\_6.pdf/c01a813c-8538-4efa-b29e-4844d723c0af](http://mmm.fi/documents/1410837/1721026/MMM_julkaisu_2012_6.pdf/c01a813c-8538-4efa-b29e-4844d723c0af)

FICCA (Finnish Research Programme on Climate Change, 2011-2014) <http://www.aka.fi/en/research-and-science-policy/academy-programmes-new/completed-programmes/ficca/>

Sorvali, J. 2013. Ilmastonmuutoksen haitalliset vaikutukset ja toimialojen haavoittuvuus. (The adverse impacts of climate change and the vulnerability of sectors) (in Finnish) Jocean.

[http://mmm.fi/documents/1410837/1516663/Ilmastonmuutoksen\\_haitalliset\\_vaikutukset\\_ja\\_toimialojen\\_haavoittuvuus\\_raportti\\_\(final\).pdf/7f1a2e21-a4cb-48e6-aff4-d92dc770240a](http://mmm.fi/documents/1410837/1516663/Ilmastonmuutoksen_haitalliset_vaikutukset_ja_toimialojen_haavoittuvuus_raportti_(final).pdf/7f1a2e21-a4cb-48e6-aff4-d92dc770240a)

Sorvali, J. 2013. Ilmastonmuutokseen sopeutumisen kansalliset ohjauskeinot (National policy instruments related to adaptation to climate change) (in Finnish)

[http://mmm.fi/documents/1410837/1516663/sopeutumisen\\_ohjauskeinot\\_selvityksen\\_loppuraportti.pdf/35717f46-9ee9-49c0-a29f-32b41e561ffa](http://mmm.fi/documents/1410837/1516663/sopeutumisen_ohjauskeinot_selvityksen_loppuraportti.pdf/35717f46-9ee9-49c0-a29f-32b41e561ffa)

Ministry of Agriculture and Forestry (2009) Evaluation of the implementation of Finland's National Strategy for Adaptation to Climate Change 2009. Ministry of Agriculture and Forestry, Helsinki. Publications of Ministry of Agriculture and Forestry 4a/2009.

[http://mmm.fi/documents/1410837/1721034/Adaptation\\_Strategy\\_evaluation.pdf/043c0964-58c5-4fce-8924-cc47748cf766](http://mmm.fi/documents/1410837/1721034/Adaptation_Strategy_evaluation.pdf/043c0964-58c5-4fce-8924-cc47748cf766)

Ministry of Agriculture and Forestry (2013) Ilmastomuutoksen kansallisen sopeutumisstrategian arviointi. (Final evaluation of Finland's National Strategy for Adaptation to Climate Change) Työryhmämuistio mmm 2013:5. (in Finnish). <http://mmm.fi/documents/1410837/1723887/MMM-TRM-2013-5/04793e45-0685-44ad-ae8a-53cdaed4e03c>

- D. The implementation of the NAP (2014) is supported by e.g. ELASTINEN-project, and new research projects SIETO, and FORBIO. Also the state of adaptation in the sectors in the administrative branch of the Ministry of Agriculture and Forestry have been recently assessed, and :  
Risk based approach...

ELASTINEN-project (Gregow et al. 2016) increased the information about the management of weather and climate related risks, including cross-border impacts of climate change to Finland. It also examined the present state of the management of weather and climate related risks and analyzed risk management measures and the roles of different actors. In addition, it examined how the costs and benefits of different risk management and adaptation measures are assessed in Finland and how risk management can enable new business:

Gregow H, Carter T, Groundstroem F, Haavisto R, Haanpää S, Halonen M, Harjanne A, Hildén M, Jakkila J, Juhola S, Jurgilevich A, Kokko A, Kollanus V, Lanki T, Luhtala S, Miettinen I, Mäkelä A, Nurmi V, Oljemark K, Parjanne A, Peltonen-Sainio P, Perrels A, Pilli-Sihvola K, Punkka A-J, Raivio T, Räsänen A, Säntti K, Tuomenvirta H, Veijalainen N & Zacheus O. (2016) Keinot edistää sää- ja ilmatoriskien hallintaa. (Measures to promote the management of weather and climate related risks) (in Finnish, abstract in English). Valtioneuvoston selvitys- ja tutkimustoiminnan julkaisusarja 47/2016. 36 s. <http://tietokayttoon.fi/julkaisu?pubid=15406>

SIETO (2017-2018) is a targeted assessment and development project. It will 1) prepare a national weather and climate vulnerability and change assessment mainly based on literature; 2) prepare a plan how vulnerability and risk assessments should be conducted in the future to support the Climate Act and other national (implementation of NAP) and international policy needs; and 3) prepare a plan how to develop the production and collection of information and data for future vulnerability and risk assessments. Funding: Government's analysis, assessment and research activities. Contact: Group leader, Scientist Heikki Tuomenvirta, Finnish Meteorological Institute. <http://ilmatieteenlaitos.fi/sieto-hanke> (in Finnish)

FORBIO-project (Sustainable, climate-neutral and resource-efficient forest-based bioeconomy, 2015-2020) aims to the renewal of the scientific knowledge base and provide for decision making smart means, solutions and tools needed to sustainably improve resource-efficiency and climate-neutrality of management and utilization of Finnish forests. The aim is also to facilitate the adaptation to the changing operational environment. The project is coordinated by the University of Eastern Finland,

School of Forest Sciences (co-ordinator) . Funding: the Strategic Research Council (SRC) at the Academy of Finland. Contact: Professor Heli Peltola, University of Eastern Finland.

<http://www.uef.fi/en/web/forbio>

Peltonen-Sainio, P. et al. 2017. Sopeutumisen tila 2017- ilmastokestävyyden tarkastelut maa- ja metsätalousministeriön hallinnonalalla. (The state of adaptation 2017 – review of climate resilience in the administrative branch of the Ministry of Agriculture and Forestry)

[http://jukuri.luke.fi/bitstream/handle/10024/538722/luke-luobio\\_18\\_2017.pdf?sequence=1&isAllowed=y](http://jukuri.luke.fi/bitstream/handle/10024/538722/luke-luobio_18_2017.pdf?sequence=1&isAllowed=y)

[Lilja-Rothsten et al., \(2015\). Ilmastomuutoksen sopeutumisen seurannan järjestäminen. Seurantakehikko. \(The monitoring framework of the climate change adaptation\) \(In Finnish\) Tapio.](#)  
<http://mmm.fi/luonto-ja-ilmasto/ilmastomuutokseen-sopeutuminen>

Arnkil, N., Lilja-Rothsten, S., Juntunen, R., Koistinen, A. & Lahti, E. (2017) Ilmastomuutokseen sopeutumisen indikaattorit seurannan työkaluna. (Indicators for the monitoring of adaptation to climate change in Finland) (in Finnish) Tapion raportteja nro 17. <http://tapio.fi/wp-content/uploads/2017/05/Ilmastomuutokseen-sopeutumisen-indikaattorit.pdf>

## 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

Sorvali, J. 2013. Ilmastonmuutoksen haitalliset vaikutukset ja toimialojen haavoittuvuus. Jocean. [http://mmm.fi/documents/1410837/1516663/Ilmastonmuutoksen\\_haitalliset\\_vaikutukset\\_ja\\_toimialojen\\_haavoittuvuus\\_raportti\\_\(final\).pdf/7f1a2e21-a4cb-48e6-aff4-d92dc770240a](http://mmm.fi/documents/1410837/1516663/Ilmastonmuutoksen_haitalliset_vaikutukset_ja_toimialojen_haavoittuvuus_raportti_(final).pdf/7f1a2e21-a4cb-48e6-aff4-d92dc770240a)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input checked="" type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

Finished project related to CCIV: A project in the Natural Resources Institute (LUKE): State of Adaptation 2017 – review of climate resilience in the administrative branch of the Ministry of Agriculture. Covering the risk and vulnerability assessment for agriculture, forestry, fishery, game and reindeer-husbandry sectors. The method was similar to the 2013 assessment, but more detailed and also more sectoral experts worked for the vulnerability assessments. Report available at: <http://jukuri.luke.fi/handle/10024/538722>. Contact: Pirjo Peltonen-Sainio, LUKE.

Ongoing project related to CCIV: A joint project of the Climate Service Centre in the Finnish Meteorological Institute (FMI), the Finnish Environment Institute (SYKE), The Natural Resources Institute (LUKE) the National Institute of Health and Welfare (THL) and the University of Helsinki: SIETO (2017-2018) is a targeted assessment and development project. It will 1) prepare a national weather and climate vulnerability and change assessment mainly based on literature; 2) prepare a plan how vulnerability and risk assessments should be conducted in the future to support the Climate Act and other national and international policy needs; and 3) prepare a plan how to develop the production and collection of information and data for future vulnerability and risk assessments. Funding: Government's analysis, assessment and research activities. Contact: Heikki Tuomenvirta, FMI.

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## E. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

FI-1-2013

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Ilmastonmuutoksen haitalliset vaikutukset ja toimialojen haavoittuvuus 2013 [The adverse impacts of climate change and the vulnerability of sectors]

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Sorvali, J. 2013. Ilmastonmuutoksen haitalliset vaikutukset ja toimialojen haavoittuvuus. Jocean. [http://mmm.fi/documents/1410837/1516663/Ilmastonmuutoksen\\_haitalliset\\_vaikutukset\\_ja\\_toimialojen\\_haavoittuvuus\\_raportti\\_\(final\).pdf/7f1a2e21-a4cb-48e6-aff4-d92dc770240a](http://mmm.fi/documents/1410837/1516663/Ilmastonmuutoksen_haitalliset_vaikutukset_ja_toimialojen_haavoittuvuus_raportti_(final).pdf/7f1a2e21-a4cb-48e6-aff4-d92dc770240a)

### 14. When was the assessment published?

2013

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National, the whole of Finland

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of Agriculture and Forestry

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

2013 Jocean (consultancy firm)

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

2013: 1 person + 1 person from the Ministry of the Agriculture and Forestry + monitoring group (c. 26 persons) + experts interviews ( c. 30).

Total: 58 experts provided input in the form of commenting and providing references and information





## F. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
To follow up the activities initiated in the first adaptation strategy of 2005 with with more specific details supporting the planning of adaptation action	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
Primary users were assumed to be public organisations, but in addition the material is thought to support discussions on adaptation more widely	

### 21. How long did the assessment project take?

2012-2013: two years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

<b>Other resources (please explain)</b>		
[Other resources]		

## G. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input checked="" type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	Perspective of international co-operation
<input checked="" type="checkbox"/>	s. Other sectors/impact domains game management; reindeer husbandry
<input type="checkbox"/>	t. Cross-sectoral impact domains [Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
Considered time interval 2020 (early), 2040 (mid) and 2080 (late)	

## H. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input checked="" type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines  In the year 2013 the assessment method based on the IPCC's 4th assessment report 2007. There were seven criteria for the vulnerability assessment. The vulnerability between the sectors were analysed.
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment  <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>  1) a literature based review of possible impacts using domestic and international sources (EEA report 2012) 2) compilation of risks identified in the survey for the evaluation of national adaptation strategy 3) review of sector based studies of impacts and vulnerabilities 4) Tabulation of impacts according to a predefined framework identifying the magnitude of the impact (three categories: small, medium, large), the timing of the impact (three categories 2020, 2040, 2080, the permanence of the impact (reversible, somewhat irreversible, irreversible); the probability of the impact (not likely, likely, very likely); the distribution of the impact (even, mostly even, clustered); the significance of the affected system (not very significant, significant, highly significant); the adaptation potential (good, medium, weak) 5) Based on 4 arriving at a conclusion one vulnerability category (not particularly vulnerable, vulnerable, very vulnerable) with respect to each impact. 6) Providing a verbal reflection on the greatest vulnerabilities and their causes.

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)

<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods
	[Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors.	
<a href="#">2013: Expert/stakeholder interviews and kriterials for vulnerability (IPCC 4th report 2007)</a>	

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant.					
[Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## I. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input checked="" type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
[Please provide further details]	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
Depending on the available literature some sector and impact categories also included some reflection on future adaptive capacity	

## J. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> <a href="#">An overview of vulnerabilities using three categories: low, medium and high across all sectors</a>
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i>
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
The identification is presented sector by sector, but some ambiguity is embedded in the results as they are based on a literature survey and the criteria for risk and vulnerability may vary across sectors as the source information has not been fully synchronized	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions aggregated across all sectors were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions for individual sectors were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions for individual impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input checked="" type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were identified
<input type="radio"/>	c. Specific adaptation measures were evaluated and/or prioritised
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
In some sectors and for some impacts adaptation measures were noted on a general level	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment



Please provide further details.

Resources were not available to provide a systematic comparable uncertainty analysis

## K. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
2013: seminar, stakeholder events	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The primary use was related to developing the national adaptation plan, but the approach has been expanded and in the sector study for Ministry of Agriculture and Forestry and parts are also incorporated in the SIETO project (reputed above). The results have thus fed into the policy cycles that provide more specific planning for actions

## L. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

There is value in making an assessment that brings out the differences between sectors.

### **42. What challenges were encountered during the development and use of this assessment?**

The subjective and qualitative assessment does not give exact results, however in the adaptation descriptive assessment is much better than no assessment.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

It is essential to compare the results from the different assessments. The findings and experiences will be followed up in more detailed studies.

### **44. What would possibly be done differently in a future assessment, and why?**

As soon as we have indicators for the assessments, we will use them. We should compare the results from different assessments to understand the trend of adaptation. Even if the assessment is qualitative.

Economic indicators are needed to describe the level of adaptation, but are very difficult in practice as impacts of climate change are integrated with many other impacts affecting the economy of sectors and actors

## M. Concluding question

### 45. Do you have any feedback regarding this survey?

Why you don't have any questions about indicators?

This survey is really needed, but it was very difficult to fill the form. It was impossible to fill in the E 22.

In Finland we had three projects which produced actual assessments. Ministry of Forestry and Agriculture was the source of funding for the whole assessment, we had also staff time contributions.

The total resource dedicated to the assessment in the year 2013 is very difficult to summarize due to the wide collaboration between different organizations and research institutes. The Ministry of Agriculture and Forestry provided all the funding to the Final evaluation of Finland's National Strategy for Adaptation to Climate Change (2013), but there were many other supportive processes and projects eg. Sorvali 2013: The adverse impacts of climate change and the vulnerability of sectors) and the Assessment of the Environmental Administration's Action Plan for Adaptation to Climate Change (2013). The funding was up to 100 000euros, but it is underestimation due to the staff work and the funding from other sources to the separate assessments.

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

[France](#)

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

[Observatoire national sur les effets du réchauffement climatique \(ONERC\)](#)

**3. What organisation has filled out this survey?**

[Observatoire national sur les effets du réchauffement climatique \(ONERC\)](#)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2007	
Title (including an English translation) and web link(s). National Adaptation Strategy - France <a href="http://www.ecologique-solidaire.gouv.fr/sites/default/files/ONERC_Rapport_2006_Strategie_Nationale_WEB.pdf">http://www.ecologique-solidaire.gouv.fr/sites/default/files/ONERC_Rapport_2006_Strategie_Nationale_WEB.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input checked="" type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2011

Title (including an English translation) and web link(s).

[The national adaptation plan 2011-2015](#)

[https://www.ecologique-solidaire.gouv.fr/sites/default/files/ONERC\\_PNACC\\_1\\_complet.pdf](https://www.ecologique-solidaire.gouv.fr/sites/default/files/ONERC_PNACC_1_complet.pdf)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

This section collects information how CCIV information has supported the development of adaptation policy over time.

### 7. How has CCIV information for your country developed over time?

Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.

Costs of impacts published in 2009 ; NAP 2011-2015 published in 2011 ; NAP assessment in 2015 ; NAP revision in 2017 ; Regional CCIV published from 2009 to 2013. A synthesis is available:

[http://www.cget.gouv.fr/sites/cget.gouv.fr/files/atoms/files/etude\\_changement-climatique.pdf](http://www.cget.gouv.fr/sites/cget.gouv.fr/files/atoms/files/etude_changement-climatique.pdf)

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> <a href="#">Regional Studies</a>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

Cost of impacts (Onerc, 2009) [http://www.ecologique-solidaire.gouv.fr/sites/default/files/ONERC\\_rapport\\_Climate%20change\\_Costs%20of%20impacts%20and%20lines%20of%20adaptation\\_ENG.pdf](http://www.ecologique-solidaire.gouv.fr/sites/default/files/ONERC_rapport_Climate%20change_Costs%20of%20impacts%20and%20lines%20of%20adaptation_ENG.pdf)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input checked="" type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input checked="" type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

CCIV assessments are planned at local level

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

FR-1-2009

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Climate change: costs of impacts and lines of adaptation

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Climate change: costs of impacts and lines of adaptation

<http://www.ecologique->

[solidaire.gouv.fr/sites/default/files/ONERC\\_rapport\\_Climate%20change\\_Costs%20of%20impacts%20and%20lines%20of%20adaptation\\_ENG.pdf](http://www.ecologique-solidaire.gouv.fr/sites/default/files/ONERC_rapport_Climate%20change_Costs%20of%20impacts%20and%20lines%20of%20adaptation_ENG.pdf)

<http://www.developpement->

[durable.gouv.fr/sites/default/files/ONERC\\_rapport\\_Climate%20change\\_Costs%20of%20impacts%20and%20lines%20of%20adaptation\\_ENG.pdf](http://www.developpement-durable.gouv.fr/sites/default/files/ONERC_rapport_Climate%20change_Costs%20of%20impacts%20and%20lines%20of%20adaptation_ENG.pdf)

### 14. When was the assessment published?

2009

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National coverage

### 16. Which organisation or authority initiated or requested the assessment?

ONERC

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

ONERC, DLCES, Sogreah

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

5 Authors, 20 people proofreading, more than 200 people were involved.



## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

2 years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

Other resources (please explain)

Contracted cost: about 50k€

1 person during 2 years

5 lead authors

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
[Further details on time horizon]	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input checked="" type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines <i>As it was in 2009, a specific approach was used</i>
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

This assessment was performed in 2007-2009 which was innovative

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input checked="" type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
For the quantitative part, the group chose to work from the IPCC A2 and B2 scenarios, in accordance with the simulations created by CNRM/Météo-France using the Arpège-Climate model.	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
The economic environment was considered as constant	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input checked="" type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i>  For most sectors, a monetarization was used. For Energy the change in Mtoe/year was used. For Forest and Water, a descriptive level was given.

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input checked="" type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input checked="" type="checkbox"/>	m. Other dissemination channels (please explain)
	<a href="#">An English version is also available</a>
Please provide further details if relevant	
<a href="#">An English version is also available</a>	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

[This study was used as a sparkplug to start the work on the first NAP](#)

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

Priority sectors were identified

**42. What challenges were encountered during the development and use of this assessment?**

No socio-economic forward-looking were available

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Impacts are not always easily expressed with a Euro value

**44. What would possibly be done differently in a future assessment, and why?**

A territorial approach is necessary in some sectors

## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

[Germany](#)

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

[Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety](#)

<http://www.bmub.bund.de/en/topics/climate-energy/climate/adaptation-to-climate-change/>

**3. What organisation has filled out this survey?**

[German Environment Agency](#)

<https://www.umweltbundesamt.de/en/topics/climate-energy/climate-impacts-adaptation>

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Part II: Climate Service Center Germany \(GERICS\), Helmholtz-Zentrum Geesthacht](#)



## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2008, 2015	
Title (including an English translation) and web link(s). German Strategy for Adaptation to Climate Change, 2008 <a href="http://www.bmub.bund.de/fileadmin/bmu-import/files/english/pdf/application/pdf/das_gesamt_en_bf.pdf">http://www.bmub.bund.de/fileadmin/bmu-import/files/english/pdf/application/pdf/das_gesamt_en_bf.pdf</a> Progress Report for the German Strategy for Adaptation to Climate Change, 2015 <a href="http://www.bmub.bund.de/themen/klima-energie/klimaschutz/klima-klimaschutz-download/artikel/fortschrittsbericht-zur-klimaanpassung/">http://www.bmub.bund.de/themen/klima-energie/klimaschutz/klima-klimaschutz-download/artikel/fortschrittsbericht-zur-klimaanpassung/</a> (only in German)	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i>	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2015

Title (including an English translation) and web link(s).

Adaptation Action Plan of the German Strategy for Adaptation to Climate Change (2011)

[http://www.bmub.bund.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/aktionsplan\\_anpassung\\_klimawandel\\_en\\_bf.pdf](http://www.bmub.bund.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/aktionsplan_anpassung_klimawandel_en_bf.pdf)

Adaptation Action Plan II (Part of the Progress Report 2015)

<http://www.bmub.bund.de/themen/klima-energie/klimaschutz/klima-klimaschutz-download/artikel/fortschrittsbericht-zur-klimaanpassung/>

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

In Germany, adaptation to climate change is a permanent task established along an agreed and politically adopted institutional and methodological framework. All mayor resolutions with regard to the adaptation process are enforced by cabinet decision. The German Adaptation Strategy was adopted in 2008, followed by the Action Plan I in 2011. In 2015, the Federal Government of Germany adopted the Initial Progress Report on the German Strategy for Adaptation to Climate Change (DAS). This report gives an overview of the federal activities since the adoption of the DAS in 2008 and the Action Plan I (APA I 2011) and outlines future measures and activities to combat the impacts of climate change in an Action Plan II. The Federal Government decided to report periodically: Monitoring Report of impacts every 4 years, Vulnerability Assessment every 6 years, Adaptation Actions Plans as well as the Progress Reports every 4 years. Furthermore, it was decided to evaluate the adaptation process in Germany on a regular basis. The first report is scheduled for 2019.

2005 First national vulnerability analysis (Zebisch et al. 2005)

2008 Adoption of the national adaptation strategy, suggestions for measures and instruments were derived on the findings of Zebisch et al. 2005 and other information.

2011 Adoption of Adaptation Action Plan I

With the Action Plan it was politically agreed to conduct a comprehensive and methodological consistent VA by 2015.

2015 First integrated vulnerability analysis (Buth et al. 2015) as part of the progress report of the German Adaptation Strategy (2015). The vulnerability analysis was conducted by a network of federal authorities and institutions supported by a scientific consortium, based on a multi sectoral consistent methodology. It helped to structure and inform the second adaptation action plan about the key climate change impacts in the present and until the middle of the century. This was used to point out key action needs and to conduct a gap analysis of already proposed measures to add measures for key action needs.

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
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a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

Germany's Vulnerability to Climate Change (Buth et al. 2015, Climate Change 24/2015, Umweltbundesamt <https://www.umweltbundesamt.de/vulnerabilitaet-deutschlands-gegenueber-dem>) has been endorsed by the formal Interministerial Working Group leading the national strategic process of adaptation to climate change as to be the scientific basis for for policy relevant decisions regarding the German Adaptation Strategy as well as further processing the strategy.

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development

<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input checked="" type="checkbox"/>	t. Cross-sectoral policy domains <a href="#">Sustainable development and climate change adaptation</a>
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant.	
<a href="#">The integrated vulnerability analysis as part of the progress report of the German Adaptation Strategy (2015) contains a gap analysis; issues listed above are being addressed as part of the ongoing work in Germany.</a>	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input checked="" type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).	
The progress report on the German Adaptation Strategy stipulated that federal-level vulnerability assessments be carried out every five to seven years (German Federal Government 2015). The next vulnerability assessment shall be completed in 2021.	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

DE-1-2015

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Vulnerabilität Deutschlands gegenüber dem Klimawandel - Sektorenübergreifende Analyse des Netzwerks Vulnerabilität

(Germany's vulnerability to Climate Change)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

adelphi / PRC / EURAC (2015): Vulnerabilität Deutschlands gegenüber dem Klimawandel. Umweltbundesamt. Climate Change 24/2015, Dessau-Roßlau. <http://www.umweltbundesamt.de/publikationen/vulnerabilitaet-deutschlands-gegenueber-dem> (ISSN 1862-4359)

Summary available under

[https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/climate\\_change\\_24\\_2015\\_summary\\_vulnerabilitaet\\_deutschlands\\_gegenueber\\_dem\\_klimawandel\\_2.pdf](https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/climate_change_24_2015_summary_vulnerabilitaet_deutschlands_gegenueber_dem_klimawandel_2.pdf)

### 14. When was the assessment published?

2015

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National Coverage

### 16. Which organisation or authority initiated or requested the assessment?

Interministerial Working Group "Adaptation Strategy", led by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB); German Environment Agency, UBA).

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Adelphi, PRC, EURAC carried out the assessment under scientific coordination of the German Environment Agency.

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

The work was done in a network of 16 federal authorities and institutions with different numbers of experts. Additionally around 40 experts from the Bundesländer and external experts were involved in expert workshops and interviews.

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input checked="" type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input checked="" type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

2011 – 2015 (4 years)

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		
Other resources (please explain)		
[Other resources]		



## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input checked="" type="checkbox"/>	s. Other sectors/impact domains Soil
<input checked="" type="checkbox"/>	t. Cross-sectoral impact domains Civil and disaster protection, and regional and urban development are cross sectoral

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
Discrete time horizons for the near (2021-2051) and distant future (2071-2100)	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>
<p>The GIZ Vulnerability Sourcebook is an offspring of the methodology developed for the German Vulnerability Assessment. Both use the IPCC 2007 framework of vulnerability, slightly changed specifically developed further to improve operationalization. The methodology was published in a guideline (see below). For the present and future consistent climate and socio-economic information or data, based on measurements or scenarios, was used. Adaptive capacity was defined complementary to sensitivity as possible additional measures to be conducted in future, whereas adaption measures of the past influence the sensitivity of a system. Therefore also vulnerability (as a function of climate change impact and adaptive capacity of a system) could only be estimated for the future.</p> <p>Guideline for vulnerability assessments (in German and English):  <a href="https://www.umweltbundesamt.de/publikationen/leitfaden-fur-klimawirkungs">https://www.umweltbundesamt.de/publikationen/leitfaden-fur-klimawirkungs</a></p> <p>Working step 1: plan and prepare the assessment          Involving experts from responsible institutions          Specifying the methodological framework and key terms          Specifying scenarios for climate stimuli, spatial exposure and sensitivity</p> <p>Working step 2: Step-by-step execution of the climate impact and vulnerability assessment          Developing impact chains          Operationalising selected sectoral climate impacts          Evaluating and aggregating climate impacts          Evaluating adaptive capacity          Evaluating vulnerability</p> <p>Working step 3: Communicating and using results</p>	

**26. Which were the main assessment methods used?**

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input checked="" type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]

Please provide further details on the assessment methods, including when different methods were used for different sectors.  
[Please provide further details]

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.  
[Additional information on stakeholder involvement]

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

- 1. Transdisciplinary process (co-production) of authorities and scientists:** In a cooperative manner the scientists developed the methodology, collected the available knowledge, prepare the assessment, and worked with the scientific officers of the authorities, who supported the scientists by their expert knowledge as well as provided impacts models and data. These methodological proposals were discussed, modified and finally agreed by the experts from the federal authorities in the network. Normative decisions such as the evaluation of the results were formulated by the scientists and answered by the authorities to ensure transparency and to focus the assessment on most relevant aspects and to evaluate the results. The authorities were mandated to do so by their ministries. Scientists provided many detailed knowledge, helped to structure the process and to ensure its objectivity and transparency. By working together a co-design of the assessment could be reached, which facilitates also the communication and ensures the applicability of the results in the following political process.
- 2. Multi-sectoral consistent methodology:** In 15 actions fields the most relevant climate impacts were identified, estimated and assessed in a step by step approach (see Buth et al. 2017: Guidelines for climate impact and vulnerability assessment, Recommendations of the Interministerial Working group on Adaptation to Climate Change of the German Federal Government, <https://www.umweltbundesamt.de/publikationen/leitfaden-fur-klimawirkungs>) based on a common assessment framework, impact chains for all action fields, socio-economic and climate data from measurements and scenarios, combining quantitative and qualitative methods to operationalize the

impacts. Finally the results of the scientific assessment were evaluated, including a judgement about the confidence level of them. This common evaluation enabled a sectoral and cross sectoral aggregation of the results.

3. Process of the establishment of the assessment was embedded in an extensive participation process.

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input checked="" type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
Climate Simulations with 17 members (15 simulations from ENSEMBLES extended by two simulations with the RCM CLM), only A1B Scenarios, high resolution (5 * 5 km).	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input checked="" type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
Two socio-economic scenarios (only for scenario time horizon "near future"), comprising: economic growth, land use changes, and population change	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
For each sectors experts were interviewed systematically. The adaptive capacity was defined in the assessment as the possibilities for a system to adapt to climate change in future through additional measures and to reduce potential losses or exploit opportunities. Therefore capabilities and possibilities for future measured were collected.	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> <b>The same common vulnerability categories were used for describing the “significance” of all impacts.</b>
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input checked="" type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> <b>Two maps are provided in the Summary document:</b> - Climate area types in Germany for the identification of "similarly affected areas" - Key regional impacts and consequences across all action fields of climate change in Germany (near future)
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps

<input type="checkbox"/>	d. Other level or does not apply
Please provide further details.	
The spatial scale of the single impacts results were municipalities, the aggregated results were shown in a map with raster zells	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term ‘unambiguous’ means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
For each impact the significance of ist effect for Germany was assessed, therefore priority impacts could be identified. Also for each sector its vulnerability was calculated based on the assessment of the climate impacts of each sector and its estimated adaptive capacity.	

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

<input checked="" type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input checked="" type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
For single impacts regional information was provided, if data was available on a municipality level. For the results of the sectors no maps were provided. On the cross-sectoral level, regional information was provided based on the climate projections (“ areas with similar climate”) with additional narrative information.	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
The vulnerability analysis identified priority areas of action. Furthermore, adaptation measures were inquired during the interviews for the adaptive capacity. Within the framework of a further project, measures and instruments were developed, which were then assigned to the priority areas of action. The identification and selection of adaptation measures was carried out as a political coordination process within the German Government, based on the results of the vulnerability analysis Agreed upon measures and instruments were adopted with the Action Plan II.	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input checked="" type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
<ul style="list-style-type: none"><li>- <a href="#">Applied concept on the uncertainties of climate impacts</a></li><li>- <a href="#">Information on evidence in three categories (low-medium-high)</a></li></ul>	



## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input checked="" type="checkbox"/>	m. Other dissemination channels (please explain)
<p>The methodology of the assessment was developed further together with colleagues from Bundesländer to guidelines, adopted by the IMA Adaptation (interministerial working group) and published in a separated report, which is used as a basis for a proposal for an ISO standard.</p>	
<p>Please provide further details if relevant</p> <p>For different user groups different products were produced. A summary was produced to become an attachment of the progress report. Only the key results were integrated in the text of the progress report. The scientific report and a scientific summary were published separately. For the main public and the press a press conference was given and text blocks as well as an animation was provided in German and English.</p>	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

1. The summary of the assessment was integrated into the progress report of the German Adaptation Strategy and used as a basis for the Adaptation Action Plan II
2. The method was reformulated to a guideline and distributed to federal and state funding agencies, research institutions and advisory bodies as well as used as proposal for an international ISO standard on vulnerability assessments (ISO/TC 207)
3. Press conference material was used intensively in printed media, radio and television. Animation was shown also at the UNFCCC COP in Paris 2015

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

Co-production process promotes mutual learning among authorities in the network and deepened understanding of method. Differentiating between scientific (knowledge based) and normative (knowledge and value based) decisions ensured transparency and reliability. Involving authorities and the IMA early gave legitimation to the normative decisions and acceptance of the method. This helped in the political process identifying priority adaptation needs and additional adaptation measures. Also the common assessment stimulated additional projects between the network partners.

### **42. What challenges were encountered during the development and use of this assessment?**

Creating a common language is a time consuming process. Developing the method and using it simultaneously in an assessment for a political process with a fixed dead line, helps to keep the focus but is challenging. Also collecting information of many different sources for all of Germany and rendering them consistently is a lot of work. Many important information are only available qualitatively or/and not for all of Germany, but it need also to be considered in the assessment. For many climate change impacts there is still not sufficient knowledge available. Assessing adaptive capacity consistently is still a methodological challenge.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Cross-sectoral vulnerability assessments depend on the available information, the involvement of experts and the support of the political level, providing also sufficient financial means. A co-production process with the involvement of decision makers early onwards is important. For dissemination specific communication products for different target groups need to be developed.

### **44. What would possibly be done differently in a future assessment, and why?**

In general the method is sound and allows the production of robust results. Still, it needs to be developed further in details, which will be done in Germany in the next vulnerability assessment, starting in autumn 2017.

## L. Concluding question

### 45. Do you have any feedback regarding this survey?

Please note that any conclusions and assumptions that might be derived from the answers to this questionnaire are subject to the approval of the German Government. It is the view of the German Government that responsibility for adaptation to climate change lies with the MS.

Given the limited resources available, the compilation of information presents a significant administrative burden.

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

DE-2-2016

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Klimawandel in Deutschland. Entwicklung, Folgen, Risiken und Perspektiven.

(Climate Change in Germany. Trends, Impacts, Risks and Adaptation)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Guy P. Brasseur, Daniela Jacob, Susanne Schuck-Zöllner (Editors, 2016): Klimawandel in Deutschland. Entwicklung, Folgen, Risiken und Perspektiven. ISBN: 978-3-662-50396-6 (Print) 978-3-662-50397-3 (Online, <http://link.springer.com/book/10.1007%2F978-3-662-50397-3>)

### 14. When was the assessment published?

2017

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National coverage

### 16. Which organisation or authority initiated or requested the assessment?

Helmholtz Zentrum Geesthacht, Climate Service Center Germany

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Helmholtz Zentrum Geesthacht, Climate Service Center Germany, and more than 120 authors from the German climate research community as well as from national agencies.

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

12 members of editorial board, 9 chapter editors, 47 lead authors, 85 authors, three review editors, 60 reviewers, partly from science, partly from practice; persons can be included in more than one of the expert groups (counted double).

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input checked="" type="checkbox"/>	e. Bottom-up initiative by scientists
<input checked="" type="checkbox"/>	f. Other reasons (please specify below)

Please provide further details on the reasons for conducting the assessment.

The 5th IPCC Assessment Report should be broken down to the national scale  
To collect expressions of climate change, its impacts, deriving risks and adaptation options.  
Impacts in different natural spaces and single economic sectors should be provided.

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input checked="" type="checkbox"/>	i. Other users (please explain)
	Administration in municipalities, business management

### 21. How long did the assessment project take?

3 years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

<b>Other resources (please explain)</b>		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
<input checked="" type="checkbox"/>	s. Other sectors/impact domains Soils
<input type="checkbox"/>	t. Cross-sectoral impact domains Economy

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
The time horizons differ between sectors in the assessment, depend on the information and literature available.	



## G. Assessment approach

*This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.*

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines <a href="#">IPCC process was taken as an example, but was adapted</a>
<p>Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.</p> <p>[Further details on assessment framework]</p>	

<input checked="" type="radio"/>	<p>h. No, the assessment approach was developed specifically for this assessment</p> <p><i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i></p> <ol style="list-style-type: none"> <li>1) Collection of people for the Editorial Board</li> <li>2) 1st workshop to make a structure for content and name authors</li> <li>3) 2nd workshop with all the authors to decide guidelines</li> <li>4) Draft written</li> <li>5) Meeting of editorial board to discuss review process</li> <li>6) Review by scientific editors</li> <li>7) 1st revision</li> <li>8) Review by scientists and practitioners in parallel</li> <li>9) 2nd revision and review reporting</li> <li>10) Minor changes: step 12</li> </ol> <p>Major changes: Rereading by reviewers of chapters with major revisions</p> <ol style="list-style-type: none"> <li>11) 3rd revision of articles with major revisions in step 8</li> <li>12) Last review by editors</li> <li>13) Dissemination of version to be published to authors</li> <li>14) Collecting executive summary from chapters' summaries</li> <li>15) Handing over to publishing house</li> <li>16) Revision by publishing house</li> <li>17) Okay for final version from publishing house and editors</li> <li>18) Print and online-publishing</li> <li>19) Dissemination by press conference and mailing activities</li> </ol>
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**26. Which were the main assessment methods used?**

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input checked="" type="checkbox"/>	f. Other methods  Case studies
<p>Please provide further details on the assessment methods, including when different methods were used for different sectors.</p> <p>The authors integrated their shortest findings, even if they were not yet published. Project results (e.i. EuroCordex) were integrated.</p>	

**27. Were external stakeholders involved in the assessment, and how?**

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Government authorities at sub-national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

Good mix of potential users from different sectors and kind of organisations and societal groups gained for the review by practitioners.

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

- first ever collection and evaluation of all existing information about climate change in Germany
- "grey" literature, case studies and the authors' own scientific findings were integrated
- description of the whole range: expressions of climate change, its impacts, deriving risks and adaptation options
- a review by practitioners involved the users' group in the production process
- open access

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input checked="" type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
The source of climate projections depends on the underlying literature and data used per sector. Nearly all sorts of climate projections mentioned above were used. Every chapter is an own publication and uses own methodology.	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
Very different scenarios across the chapters. Every chapter is an own publication and uses own scenarios.	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input checked="" type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input checked="" type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment

Please provide further details.

Information on uncertainties are given for all sectors. Nevertheless, as the information basis varies in (many) literature based studies, there was no systematic way in communicating uncertainties.

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input checked="" type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	Political event: Parliamentary evening
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

Parliamentary evening in Berlin presented the book to political community.

331 printed books purchased, more than 390.000 downloads for open access version



## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

Very pleasant work with many high ranked scientists, broad support from reviewers, great acceptance for the activity in the community

### **42. What challenges were encountered during the development and use of this assessment?**

Which level in style and complexity in content should the scientific editing (1st step after draft) provide?  
How can scientific texts be easy to read without losing content on complex issues?

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Important is the balance between bottom-up decisions (by the authors' community) and top down decisions (by editors and editorial board), on the one hand to secure the identification of the authors, on the other to keep time scales manageable

### **44. What would possibly be done differently in a future assessment, and why?**

No scientific editing from free-lance persons.

## L. Concluding question

45. Do you have any feedback regarding this survey?

**BMUB:** Please note that the assessment described above is not regarded as a vulnerability assessment but a compilation and evaluation of existing literature on impact assessments. Hence, the data basis and methodologies are not consistent.

Bug in question 22, nothing can be inserted.

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Greece

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of Environment & Energy

[www.ypeka.gr](http://www.ypeka.gr)

**3. What organisation has filled out this survey?**

Ministry of Environment & Energy, Division of Climate Change & Air Quality, Department of Climate Change

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Bank of Greece

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2016	
Title (including an English translation) and web link(s). <a href="http://www.ypeka.gr/LinkClick.aspx?fileticket=crbjkilcLIA%3d&amp;tabid=303&amp;language=el-GR">National Adaptation Strategy for Climate Change http://www.ypeka.gr/LinkClick.aspx?fileticket=crbjkilcLIA%3d&amp;tabid=303&amp;language=el-GR</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies.  An integrated national-regional approach is followed to adapt Greece to climate change, considering the country's complex topography and variety of climates. That is: a national adaptation strategy developed by national authorities, namely the Ministry of Environment & Energy and 13 Regional Adaptation Plans (RAPs) developed by the regional authorities. The national strategy works as a guiding document. It spells out the goals, principles and priorities of adaptation and lists potential adaptation measures per sector. The RAPs will examine these potential measures based on the particular regional circumstances, priorities and needs and will develop concrete regional action plans. Wherever, there is a case of sector analysis specific actions per sector will be indicated.	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

[Year]

Title (including an English translation) and web link(s).

[National adaptation action plan]

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

As already mentioned in Q6 above, the national adaptation strategy works as a guiding document to be, eventually, translated into concrete actions through the Regional Adaptation Plans (RAPs). In short, the national action plan will be comprised of 13 regional action plans.

The majority of RAPs is still at procurement phase and they are expected to be in place by the end of 2018.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

2011 – The Climate Change Impacts Study Committee (CCISC) of the Bank of Greece delivers a CCIV assessment titled „The environmental, economic and social impacts of climate change in Greece“

2014 – The Climate Change Impacts Study Committee (CCISC) of the Bank of Greece delivers a CCIV assessment for tourism entitled „Greek Tourism and Climate Change: Adaptation policies and New Growth Strategy“

A Memorandum of Understanding (MoU) is signed among the Ministry of Environment & Energy, the Academy of Athens (Biomedical Research Foundation) and the Bank of Greece to strengthen cooperation on climate change adaptation, including drafting a national adaptation strategy.

2015 – A national adaptation strategy is drafted and released for public consultation. The strategy draft is prepared by CCISC of the Bank of Greece and builds on its existing CCIV assessment work and reports (mostly its 2011 CCIV assessment). The Ministry of Environment & Energy (Division of Climate Change & Air Quality) contributes to drafting the strategy and assessing the outcomes of the public consultation.

2016 – The Ministry of Environment & Energy (Division of Climate Change & Air Quality) completes and finalises the national adaptation strategy. The Greek Parliament adopts the National Adaptation Strategy (Law 4414/2016, art.45).

2017-2018 Procurement and implementation of the studies for the Regional Adaptation Plans (RAPs). The RAPs will include regional CCIV assessments and concrete action plans and are expected to be concluded by the end of 2018.

Note: The Law 4414/2016 (art. 42-45) sets CCIV assessment as an integral part of both the National Adaptation Strategy and the Regional Action Plans and a basis for developing and prioritising concrete adaptation measures/actions.

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

As specified in C7 (above), the Climate Change Impacts Study Committee, an interdisciplinary scientific team set up by the Bank of Greece in 2009, carried out the multi-sectoral national CCIV assessment.

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
	e. Coastal areas
	f. Cultural heritage
	g. Digital communication (ICT) infrastructure
	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
	p. Transport
<input type="checkbox"/>	q. Water
	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]

<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
X	u. I cannot answer this question
Please provide further details if relevant.	
We will be able to identify needs for better sectoral CCIV information after the conclusion of the Regional Adaptation Plans (the majority still at procurement phase).	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).	
Regional CCIV assessments will be carried out within the Regional Adaptation Plans (currently under procurement). The RAPs are developed by Regional Authorities, pursuant to Law 4414/2016.	
The Ministerial Decision 11258/2017 (Gov.Gazette, issue B, 873/2017) sets the technical specifications for RAPs, defining a general approach to follow than setting a rigid methodology. The approach to be followed is quite similar to the one used for the existing multi-sectoral CCIV assessment, however the projection/simulation models to be used are not strictly defined.	
According to the Technical Specifications the CCIV assessments of RAPs will include:	
<ul style="list-style-type: none"> <li>a) Projections of future climate conditions at regional level. More specifically, analysis of the trends of the main climate parameters for the short, the mid (2050) and the long (2100) term and for more than one scenarios, using existing data and well-established regional climate models. The analysis will include existing trends and potential changes in extreme weather events, the temperature and the sea-level rise.</li> <li>b) Vulnerability assessment of specific sectors and/or geographical areas within the Region based on the outcomes of the climate condition projections.</li> <li>c) Assessment of climate change impacts (environmental, social, economical etc.) on the previously identified sectors and/or geographical areas at the short, mid (2050) and long (2100) term. The impacts are assessed based on their: probability, magnitude (area or population affected), intensity, complexity, timing, reversibility /possibility to mitigate, cross-border and/or cross-sectoral character.</li> <li>d) Identifications of priority sectors or priority geographical areas for action.</li> </ul>	



# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

GR-1-2011

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

The environmental, economic and social impacts of Climate Change in Greece

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

English version:

Climate Change Impacts Study Committee (CCISC, 2011): The environmental, economic and social impacts of Climate Change in Greece, 494 pages. Available online under [http://www.bankofgreece.gr/BogEkdoseis/ClimateChange\\_FullReport\\_bm.pdf](http://www.bankofgreece.gr/BogEkdoseis/ClimateChange_FullReport_bm.pdf)

Greek version:

Επιτροπή Μελέτης Επιπτώσεων Κλιματικής Αλλαγής (ΕΜΕΚΑ, 2011): Οι περιβαλλοντικές, οικονομικές και κοινωνικές επιπτώσεις της κλιματικής αλλαγής στην Ελλάδα, 520 σελ. Available online under: [http://www.bankofgreece.gr/BogEkdoseis/Πληρης\\_Εκθεση.pdf](http://www.bankofgreece.gr/BogEkdoseis/Πληρης_Εκθεση.pdf)

### 14. When was the assessment published?

2011

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

The whole country

### 16. Which organisation or authority initiated or requested the assessment?

The Bank of Greece

**17. Which organisation(s) carried out the assessment?**

*If several organisations were involved, please state the organisation that took the thematic lead first.*

The Climate Change Impacts Study Committee (CCISC). The CCISC was set up in 2009 by the Bank of Greece to study the economic, social and environmental impacts of climate change in Greece. The CCISC is an interdisciplinary team bringing together scientists from different scientific fields.

Further information on CCISC can be found at: [www.bankofgreece.gr/Pages/en/klima/default.aspx](http://www.bankofgreece.gr/Pages/en/klima/default.aspx)

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

112 experts (authors and reviewers of the report)

## E. Assessment purpose and context

This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
X	f. Other reasons (please specify below)

Please provide further details on the reasons for conducting the assessment.

A bottom-up initiative of the Bank of Greece aiming to bridge the gap of well-documented scientific analysis and information on climate change, its impacts and effective ways to adapt. This initiative keeps with the broader institutional role and long-standing tradition of the Bank of Greece of addressing structural problems of the Greek economy.

### 20. Who were the main target users of the assessment?

X	a. Politicians
X	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
X	h. General public
<input type="checkbox"/>	i. Other users (please explain)
	[Further details on other target users]

### 21. How long did the assessment project take?

Two years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment	300,000 Euros	Bank of Greece
Staff time in your own organisation (monetary costs or person months)	54 person months	Bank of Greece
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)	140 person months	Bank of Greece
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

<b>Other resources (please explain)</b>		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
X	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
X	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
X	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains Mining industry
<input type="checkbox"/>	t. Cross-sectoral impact domains The cross-sectoral impact domains are mostly addressed under the existing main sectors/domains and not separately. For example, the impacts on water resources used for agriculture (i.e. impacts on irrigation) are mainly addressed under the agriculture sector.

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
	Please provide further details if relevant. 2021-2050, 2071-2100

## G. Assessment approach

*This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.*

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	

<input checked="" type="radio"/>	<p>h. No, the assessment approach was developed specifically for this assessment</p> <p><i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i></p> <ol style="list-style-type: none"> <li>1. Greece was divided into 13 climate zones on the basis of climatic and geographic criteria.</li> <li>2. The variation in the mean seasonal and annual values of six climate parameters (air temperature, precipitation, humidity, cloud cover, total incident short-wave radiation, wind speed) was estimated for the periods 2021-2050 and 2071-2100, using model simulation datasets for four IPCC GHGs emissions scenarios (A2, A1B, B2 and B1) developed by the Research Centre for Atmospheric Physics and Climatology of the Academy of Athens.</li> <li>3. Extreme weather events and their impacts were assessed. A regional climate model (ENSEMBLES) was used to project changes in max. summer and min. winter temperatures , number of warm days and nights, number of days with precipitation and dry days, number of frost days and growing seasons. The degree-days method was used to assess changes in energy demand for heating and cooling, the Forest Fire Weather Index (FFWI) to assess the wildland fire potential and the Humidex to estimate the number of days with high thermal discomfort. Moreover, the ECHAM5 and the HadCM3 models were used to assess changes in the intensity and distribution of landslides and floods. In addition, the change in mean sea level and its impact on Greece's shoreline were assessed.</li> <li>4. The risks and impacts of climate change by sector were assessed -based on the outcomes of the climate change projections carried out at previous steps - using modelling exercises and reviewing existing literature.</li> <li>5. The economic cost of climate change was estimated using the GEM-E3 general equilibrium model (estimations per climate scenario and per sector).</li> <li>6. The cost of adaptation was estimated using the GEM-E3 equilibrium model.</li> </ol> <p>Further information on the approach used can be found at the respective assessment report (please see Q3 of Part II)</p>
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**26. Which were the main assessment methods used?**

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods
	[Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors.	
[Please provide further details]	

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
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a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Please provide any additional information on stakeholder involvement that you consider relevant.</p> <p>4 External Scientists (non-members of the Climate Change Impacts Study Committee) participated in reviewing the draft of the CCIV assessment.</p>					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]



## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)

Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).

The GHG emissions scenarios A2, A1B, B2 and B1 of IPCC were used as drivers for the projections of variations in the mean seasonal and annual values of climate parameters. More info, it can be found at Q15 above.

With regard to ENSEMBLES' models used to project changes in extreme events (temperature, precipitation) the GHG emission scenario A1B was used.

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

X	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)

Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.

Projections on demographic trends, global economic developments, labour market participation, government policies and level of technological progress were included in the general equilibrium model used for estimating the costs of climate change per sector.

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
X	f. Consideration of adaptive capacity differs across the assessment

Please provide further details on the consideration of adaptive capacity.

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input checked="" type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> Only impacts directly affecting production activities or reducing infrastructure value and translated into capital losses were taken into account in cost valuations. The impact on the natural environment and biodiversity was not included, with the exception of the impact on productivity in the sectors of agriculture, forestry and fisheries. The burden in the health system and the economic implications of increased workforce morbidity were not included as well.
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> Table on estimates of GDP loss and welfare equivalent variations per sector (page 362 of the CCIV assessment). Table on estimates of direct costs of adaptation measures (page 377 of the CCIV assessment).
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

**34. At what level(s) of regional aggregation were the main assessment results presented?**

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply

Please provide further details.

The CCIV report presents the assessment results per sector at country level. However, the results per sector were further downscaled to regional level in the national adaptation strategy report, based on the mix and intensity of economic activities in each Region.

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified

Please provide any additional information on this topic that you consider relevant.

[Please provide additional information]

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

<input checked="" type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input checked="" type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously

Please provide any additional information on this topic that you consider relevant.

As mentioned in Q24 above, the assessment results were downscaled to regional level in the national adaptation strategy report.

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment

Please provide further details.

[Further details on adaptation measures]

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
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<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input checked="" type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

A legacy of this assessment has been the hands on cooperation of experts from different disciplines.

**42. What challenges were encountered during the development and use of this assessment?**

A major challenge has been the coordination of the experts from various disciplines that had not previously worked together, i.e. environmental scientists with economists in order to quantify the impacts.

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

**44. What would possibly be done differently in a future assessment, and why?**

The large scientific base of the assessment and the extended report could have been complemented by a light version of the report that would convey the message in an easy way.

## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]



# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Hungary

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of National Development (<http://www.kormany.hu/hu/nemzeti-fejlesztesi-miniszterium>;  
<http://klima.kormany.hu/>)

**3. What organisation has filled out this survey?**

Ministry of National Development

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Mining and Geological Survey of Hungary (succeeded Geological and Geophysical Institute of Hungary)

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2017	
Title (including an English translation) and web link(s). <a href="http://www.parlament.hu/irom40/15783/15783.pdf">Nemzeti Alkamazkodási Stratégia (National Adaptation Strategy), http://www.parlament.hu/irom40/15783/15783.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. <a href="#">National Adaption Strategy is part of the Second National Climate Change Strategy</a>	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

[Year]

Title (including an English translation) and web link(s).

[National adaptation action plan]

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[The development of the action plan is in progress, it must be accepted within 6 months after the adoption of the Second National Climate Change Strategy.](#)

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

In 2008 the Parliament adopted the National Climate Change Strategy, which was revised in 2013 as a draft version. Having regard to the Paris Agreement revision and adaptation of the Strategy became appropriate. In consideration of this, NCCS2 has a text adopted to the objectives and priorities of the Paris Agreement. National Adaptation Strategy is part of the NCCS2.

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

Regional assessment of climate vulnerability within the framework of the National Adaptation Geo-information System (NAGiS) which is part of the National Adaptation Strategy

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input checked="" type="checkbox"/>	s. Other sectors or impact domains
	Land use
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant.	
[Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input checked="" type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input checked="" type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

Between 2013 and 2016 the Geological and Geophysical Institute of Hungary (GGIH) has developed and made accessible the basic infrastructure of National Adaptation Geo-information System (NAGiS) from the grant of European Economic Area (EEA) to support National Adaptation Strategy. For better usefulness it became necessary to make further development. In November 2016 HUF 400 million was awarded for GGIH for the project plan for revisioning, updating and development of NAGiS from the 1.1.0 support construction of the first priority "Adaptation to climate change impacts" of Environment and Energy Operative Programme.

In the framework of the project lasting till the end of 2018 domestic natural resources and crucial infrastructures will be analysed from climate aspects, climate vulnerability will be mapped and the sociopolitical and economic development effects of climate change will be examined. The planning and evaluation methodologies of climate change impact assessment will be developed, online manager information services of NAGiS and decision making portal for municipalities will be established.

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Nemzeti Alkalmazkodási Stratégia, National Adaptation Strategy

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

National Adaptation Strategy, part of the Second National Climate Change Strategy,  
<http://www.parlament.hu/irom40/15783/15783.pdf>

### 14. When was the assessment published?

2017

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Hungary

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of National Development

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Mining and Geological Survey of Hungary (succeeded Geological and Geophysical Institute of Hungary)

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

20 experts

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input checked="" type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

5 years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment	2013: 18,000 EUR	Ministry of National Development
	2013: 35,000 EUR	Environment and Energy Operative Programme
	2016: 14,351 EUR	Ministry of National Development
Staff time in your own organisation (monetary costs or person months)	108 months worked	-



<p>Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)</p>	<p>1,541,920 EUR</p>	<p>EEA Grant. The National Adaptation Geo-information System (NAGiS) project is a multipurpose geo-information system that can facilitate the policy-making, strategy-building and decision-making processes related to the impact assessment of climate change and founding necessary adaptation measures in Hungary. NAGiS may directly support the implementation, supervision and evaluation of the second National Climate Change Strategy, and the implementation and evaluation of the Environment and Energy Operative Programme (KEHOP).</p>
<p>In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)</p>		
<p>Other resources (please explain)</p> <p>European Economic Area Grants, Ministry of National Development, Geological and Geophysical Institute of Hungary</p>		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade) Traffic, Architecture, Insurance
<input checked="" type="checkbox"/>	s. Other sectors/impact domains Drinking water
<input type="checkbox"/>	t. Cross-sectoral impact domains [Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input type="checkbox"/>	a. Present (including past trends)
<input type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
[Further details on time horizon]	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input checked="" type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. <a href="#">We used Climate Impact and Vulnerability Assessment Schemes (CIVAS) model which is based on IPCC Technical Guidelines but it is adopted for the Hungarian environment and circumstances.</a>	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
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a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant.					
[Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

The map application of National Adaptation Geo-information System which supports the National Adaptation Strategy is an interactive interface to run in a browser ([www.nater.mfgi.hu/en](http://www.nater.mfgi.hu/en)).

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
SRES A1B scenario was used.	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input checked="" type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> not vulnerable, slightly vulnerable, moderately vulnerable, significantly vulnerable, intensely vulnerable
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input checked="" type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> Maps were presented about different topics (human health, plant production, forestry, biodiversity, flash flood, drinking water)
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply

Please provide further details.

[Further details on regional aggregation]

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

- |                                     |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | a. Particularly affected sectors were identified unambiguously                      |
| <input checked="" type="checkbox"/> | b. Priority impacts/risks were identified unambiguously                             |
| <input type="checkbox"/>            | c. Neither particularly affected sectors nor priority impacts/risks were identified |

Please provide any additional information on this topic that you consider relevant.

[Please provide additional information]

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

- |                                     |   |
|-------------------------------------|---|
| <input type="checkbox"/>            | a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously |
| <input type="checkbox"/>            | b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously        |
| <input checked="" type="checkbox"/> | c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously  |
| <input type="checkbox"/>            | d. The assessment did not identify particularly affected regions unambiguously                      |

Please provide any additional information on this topic that you consider relevant.

[Please provide additional information]

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | a. Adaptation measures were not identified or evaluated on a systematic basis |
| <input type="radio"/>            | b. Potential adaptation measures were <i>identified</i>                       |
| <input checked="" type="radio"/> | c. Specific adaptation measures were <i>evaluated and/or prioritised</i>      |
| <input type="radio"/>            | d. Consideration of adaptation measures varied across the assessment          |

Please provide further details.

[Further details on adaptation measures]

**38. How were uncertainties from different sources communicated in the assessment results?**

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | a. Not explicitly (i.e. only central estimate)                              |
| <input checked="" type="radio"/> | b. Not systematically (e.g. some uncertainties are described qualitatively) |
| <input type="radio"/>            | c. Discrete categories (e.g. low/medium/high confidence or uncertainty)     |
| <input type="radio"/>            | d. Uncertainty range  |
| <input type="radio"/>            | e. Probabilistic results  |
| <input type="radio"/>            | f. Other systematic way (please explain below)                              |



g. Communication of uncertainties varies across the assessment

Please provide further details.

[Further details on uncertainty communication]



## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The assessment is part of the National Adaptation Strategy and hereby it helps to define goals and targets for the Second National Climate Change Strategy.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

We had very positive experiences about efficient and successful cooperation between Ministry, research institute and non-governmental organisations.

### **42. What challenges were encountered during the development and use of this assessment?**

We faced lack of data and it was difficult to develop and use a single, unified methodological framework.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

During the development of NAGiS and through the discussion about the draft version numerous scientific publications were carried out. These studies are collected on this homepage:

<http://nater.mfgi.hu/en/node/13>

About some specific sectors it became necessary the further development of NAGiS System: That is why AGRATÉR (Agriculture), KRITÉR (Tourism) and RCMTÉR (Radiation) would be worked out with the coordination of Hungarian Academy of Sciences and Hungarian Meteorological Service. (more information about partner projects: <https://nater.mfgi.hu/en/node/61>)

### **44. What would possibly be done differently in a future assessment, and why?**

The National Adaptation Geo-information System which is the base of the National Adaptation Strategy will be further developed: the methodology will be improved, indicators and examined subjects will be extended. (See above, under question 10.)

## L. Concluding question

45. Do you have any feedback regarding this survey?

It would be useful adding page numbers to the survey.

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Ireland

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry for the Communications, Climate Action and Environment

**3. What organisation has filled out this survey?**

EPA/DCCA

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Department of Communications, Climate Action and Environment

## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2012	
Title (including an English translation) and web link(s). National Climate Change Adaptation Framework (2012) <a href="http://www.housing.gov.ie/sites/default/files/migrated-files/en/Publications/Environment/ClimateChange/FileDownload%2C32076%2Cen.pdf">http://www.housing.gov.ie/sites/default/files/migrated-files/en/Publications/Environment/ClimateChange/FileDownload%2C32076%2Cen.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

[Year]

Title (including an English translation) and web link(s).

[National adaptation action plan]

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

This section collects information how CCIV information has supported the development of adaptation policy over time.

### 7. How has CCIV information for your country developed over time?

Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.

A number of International and nationally relevant scientific reports have been published since the 2012 adaptation strategy; these include IPCC AR5 reports, and national reports on observations, projections, national vulnerability scoping study, adaptive capacity assessment. Sectoral specific reports have also been produced for water/flooding, biodiversity, phenology and costing climate change impacts. The development of the climate information platform Climate Ireland has been particularly useful along with the development of local authority adaptation guidelines and sectoral guidelines (in preparation)

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[Title of CCIV assessment(s)]

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant.	
[Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input checked="" type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken



Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

A new national level climate change risk assessment is underway (funded under EPA research). A new approach will be used based on best international practice. It will also build on the previous Summary of the State of Knowledge on Climate Change Impacts for Ireland (version 1 and 2). The new assessment will focus on the prioritisation of climate risks, cross sectoral issues, evaluation of combined effects and synergies, identification of adaptation indicator set, recommendations on response actions to climate risks and opportunities.

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

IE-3-2013

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Current and Future Vulnerability to Climate Change in Ireland, 2013. CCRP Report No. 30. EPA

<http://www.epa.ie/pubs/reports/research/climate/climatechangereserchreportnumber29.html>

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

John Coll and John Sweeney

### 14. When was the assessment published?

2013

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National coverage: focus on biodiversity and fisheries;

- Water resources and the built coastal environment;

- Forestry and agriculture.

### 16. Which organisation or authority initiated or requested the assessment?

Environmental Protection Agency (EPA)

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

National University of Ireland Maynooth

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

Lead by 2 University scientists with a long history of working on this area. The experts were also part of a large research team based in the ICARUS research centre for climate change in the National University of Maynooth.

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input checked="" type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

2 years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment	100, 000 €	EPA research funding
Staff time in your own organisation (monetary costs or person months)	1 person-5 days	EPA
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		

<p>In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)</p>	<p>Support given to identify and contact sectoral experts; support in organizing expert workshop, including comment and review of workshop material, facilitation, participation at workshop. Support in write up of final technical and non technical study reports.</p>	
<p>Other resources (please explain)</p> <p>Ongoing dissemination of findings to relevant stakeholders at national and subnational levels</p>		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
[Further details on time horizon]	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input checked="" type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines <a href="#">Classical –science/impacts first and a stakeholder led assessment</a>
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input checked="" type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

It was useful to include a the wide stakeholder element, which brought new insights to the overall assessment, particularly in relation to coastal/marine where observational data was in short supply

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
The main model output employed was that of the Community Climate Change Consortium for Ireland (C4I). This involved the Hadley Centre (UK) Global Circulation model (HadCM3L) driving a Regional Climate Model (RCA3) using the A1B Emission Scenario.	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	



## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> <a href="#">Summary table set out sensitivity, adaptive capacity and vulnerability</a>
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details.	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input checked="" type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
<a href="#">Detailed recommendations are given for all sectors.</a>	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input checked="" type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The result of this first national vulnerability assessment, recommended that that a more detailed assessment was required for a national overview. It further recommended that the priority risk sectors identified should be subjected to further scrutiny. The will form the basis for developing the new national climate change risk assessment currently under development.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

As a first pass at developing a national risk assessment, it demonstrated how challenging it is to undertake such an exercise in a meaningful way. Since this exercise has been completed methodologies for risk and vulnerability assessment have become more usable, knowledge and confidence have also developed. The exercise also demonstrated the importance of stakeholder participation where sectoral/regionally specific data is not available or insufficient.

### **42. What challenges were encountered during the development and use of this assessment?**

Getting stakeholders to the table during a period of lack of awareness around climate change impacts and adaptation.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Need to begin any such assessment with understanding current sensitivities to weather and extremes. This is the opposite to the traditional classical or science first approach. It is also easier to engage stakeholders when they are faced with thinking about their current vulnerabilities to weather rather than focusing on climate projections (which are often a turn off for people).

### **44. What would possibly be done differently in a future assessment, and why?**

Begin the assessment with stakeholder involvement as a very high priority, since they know their own vulnerabilities and sensitivities to climate change (current) better than anybody else.

## L. Concluding question

### 45. Do you have any feedback regarding this survey?

Some of this information has been reported on previously to EEA.

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Italy

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry for Environment, Land and Sea - Directorate General for Climate and Energy

website: [www.minambiente.it](http://www.minambiente.it)

**3. What organisation has filled out this survey?**

ISPRA

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Ministry for the Environment, Land and Sea:

- Directorate General for Climate and Energy;
- Directorate General for Sustainable Development, Environmental Damage, European Union and International Affairs

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2015	
Title (including an English translation) and web link(s). Strategia Nazionale di Adattamento ai Cambiamenti Climatici (National Strategy for Adaptation to Climate Change) <a href="http://www.minambiente.it/sites/default/files/archivio/allegati/clima/strategia_adattamentoCC.pdf">http://www.minambiente.it/sites/default/files/archivio/allegati/clima/strategia_adattamentoCC.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. The NAS does not include sub-national or sectoral strategies, but includes three key documents: <ol style="list-style-type: none"><li>1) the National Impacts Vulnerability Assessment: „Report on the state of scientific knowledge on impacts, vulnerability and adaptation to climate change in Italy“ (Rapporto sullo stato delle conoscenze scientifiche su impatti, vulnerabilità ed adattamento ai cambiamenti climatici in Italia“;</li><li>2) the Legal Assessment: „Analysis of Acquis Communautaire and National legislation relevant for impacts, vulnerability and adaptation to climate change“ (Analisi della normativa comunitaria e nazionale rilevante per gli impatti, la vulnerabilità e l’adattamento ai cambiamenti climatici);</li><li>3) the Strategic Vision Document: „Elements for an Italian NAS to Climate Change“ (Elementi per una Strategia Nazionale di Adattamento ai Cambiamenti Climatici“)</li></ol>	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

The National Adaptation Plan is under preparation and most likely will be adopted by the end of 2017. The NAP includes an update of the impacts and vulnerability assessment for the sectors previously identified in the NAS.

Title (including an English translation) and web link(s).

„National Adaptation Plan to Climate Change“  
(Piano Nazionale di Adattamento ai Cambiamenti Climatici - PNACC)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

The National Adaptation Plan (Piano Nazionale di Adattamento ai Cambiamenti Climatici – PNACC) is under development since May 2016; it is expected to be finalized and adopted in 2017. The work is coordinated by the Italian Ministry for Environment, Land and Sea and the PNACC is directly built up on the CCIV Assessment and NAS.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]



## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

2010: a book including an assessment on the state of knowledge on observations/projections, impacts and vulnerability for several sectors in Italy has been published at the end of 2009 from Euro-Mediterranean Center on Climate Change (Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici –CMCC) with the contributions of the National scientific community.

Reference: Castellari S. And V. Artale, 2009: „I cambiamenti climatici in Italia: evidenze, vulnerabilità e impatti“ (in Italian). Bononia University Press, 2009

2014: The first National Climate Change Impacts and Vulnerability Assessment has been produced from a national scientific panel (including about 120 scientists) during the preparation of the NAS. This panel was coordinated by Euro-Mediterranean Center on Climate Change (Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici – CMCC). The work ended in July 2014 and the following report was published: „Report on the state of the scientific knowledge on impacts, vulnerability and adaptation to climate change in Italy“ (Rapporto sullo stato delle conoscenze scientifiche su impatti, vulnerabilità ed adattamento ai cambiamenti climatici in Italia).

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[Rapporto sullo stato delle conoscenze scientifiche su impatti, vulnerabilità ed adattamento ai cambiamenti climatici in Italia](#)

[http://www.minambiente.it/sites/default/files/archivio/allegati/clima/snacc\\_2014\\_rapporto\\_stato\\_conoscenze.pdf](http://www.minambiente.it/sites/default/files/archivio/allegati/clima/snacc_2014_rapporto_stato_conoscenze.pdf)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
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<input checked="" type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

[The preparation work towards the National Adaptation Plan for Climate Change includes an update of the published CCIV Assessment.](#)

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

IT-1-2014

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Rapporto sullo stato delle conoscenze scientifiche su impatti, vulnerabilità ed adattamento ai cambiamenti climatici in Italia

(Report on the state of scientific knowledge on impacts, vulnerabilities and adaptation to climate change in Italy)

Strategia Nazionale di Adattamento ai Cambiamenti Climatici

(National Strategy for Adaptation to Climate Change;

this document includes in Chapters 2 and 3 a summary of the findings from the national CCIV assessment, which is not included in the original CCIV assessment)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Castellari S., Venturini S., Ballarin Denti A., Bigano A., Bindi M., Bosello F., Carrera L., Chiriaco M.V., Danovaro R., Desiato F., Filpa A., Gatto M., Gaudioso D., Giovanardi O., Giupponi C., Gualdi S., Guzzetti F., Lapi M., Luise A., Marino G., Mysiak J., Montanari A., Ricchiuti A., Rudari R., Sabbioni C., Sciortino M., Sinisi L., Valentini R., Viaroli P., Vurro M., Zavatarelli M. (a cura di.) (2014). Rapporto sullo stato delle conoscenze scientifiche su impatti, vulnerabilità ed adattamento ai cambiamenti climatici in Italia. Ministero dell'Ambiente e della Tutela del Territorio e del Mare, Roma.

website:

[http://www.minambiente.it/sites/default/files/archivio/allegati/clima/snacc\\_2014\\_rapporto\\_stato\\_conoscenze.pdf](http://www.minambiente.it/sites/default/files/archivio/allegati/clima/snacc_2014_rapporto_stato_conoscenze.pdf)

Strategia Nazionale di Adattamento ai Cambiamenti Climatici

website:

[http://www.minambiente.it/sites/default/files/archivio/allegati/clima/strategia\\_adattamentoCC.pdf](http://www.minambiente.it/sites/default/files/archivio/allegati/clima/strategia_adattamentoCC.pdf)

### 14. When was the assessment published?

2014

**15. What is the geographic coverage of the assessment?**

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National coverage, but for some sectors the coverage was regional.

**16. Which organisation or authority initiated or requested the assessment?**

Ministry for the Environment, Land and Sea

**17. Which organisation(s) carried out the assessment?**

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Lead: Euro-Mediterranean Center on Climate Change (CMCC)

Other institutions: Universities, National Research Institutions, Regional Environmental Protection Agencies, Private Research Institutions

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

About 120 scientists (including lead authors, contributing authors and expert reviewers)

## E. Assessment purpose and context

This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)

Please provide further details on the reasons for conducting the assessment.

The Ministry for Environment, Land and Sea approved and financed a National Project coordinated by CMCC to carry on the whole preparatory work towards the finalization of a NAS for Italy. One key step was the preparation and finalization of the first comprehensive multi-sectoral CCIV assessment.

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
	[Further details on other target users]

### 21. How long did the assessment project take?

2 years (July 2012 – July 2014)

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		National resources
Staff time in your own organisation (monetary costs or person months)	Two years	
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)	The scientific assessment was based on a review of existing literature.	
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

<b>Other resources (please explain)</b>		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input checked="" type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input checked="" type="checkbox"/>	s. Other sectors/impact domains 1) Desertification and soil degradation 2) Agriculture includes also Food Production 3) Aquaculture
<input checked="" type="checkbox"/>	t. Cross-sectoral impact domains 1) Mountain areas (Alps and Appennines) 2) The Po river basin 3) The urban settlements

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
The knowledge assessed on the sectoral impacts allowed the definition of a specific time frame for the identification and prioritization of the sectoral and cross-sectoral adaptation measures sown in the NAS:	
1) short term: measures to be implemented by 2020;	
2) long term: measures to be implemented beyond 2020.	



## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input checked="" type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
<p>Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.</p> <p><a href="#">Adaptation Support tool and DG CLIMA Guidelines on developing adaptation strategies:</a></p> <ol style="list-style-type: none"> <li>1) <a href="#">Preparing the ground for Adaptation</a></li> <li>2) <a href="#">Addressing risks and vulnerability to climate change</a></li> </ol>	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
<p>Please provide further details on the assessment methods, including when different methods were used for different sectors.</p> <p>[Please provide further details]</p>	

**27. Were external stakeholders involved in the assessment, and how?**

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Government authorities at sub-national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

The preparation of the CCIV assessment and the related NAS applied the following participatory approach:

Step 1 - A self-assessment of the national and subnational stakeholders (public and private sector).

Step 2 – Establishment of a Institutional Panel (coordinated from the Ministry for Environment, Land and Sea) which included the relevant ministries, Civil Protection Agency, network of regional authorities, network of provinces authorities and network of municipal authorities.

Step 3 – Organization of a 2-day workshop to discuss with public and private sectors the contents of vulnerability assessment and related NAS

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

This CCIV assessment, despite being built only on a review of existing literature, addressed specifically:

- 1) the different types of ecosystems: terrestrial ecosystems, marine ecosystems and internal waters/transition ecosystems;
- 2) Industry and dangerous infrastructures (e.g. dealing with hazardous processes and chemicals).

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input checked="" type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
[Please provide further details]	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i>  The CCIV assessment was built on a review of existing literature which had applied different metrics.

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i>  The NAS include a section (pages 16-21) with a synthesis which presents two text boxes on the main impacts of climate changes in the selected sectors and on the identified key vulnerabilities for Italy.
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply

Please provide further details.

[Further details on regional aggregation]

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

- |                                     |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | a. Particularly affected sectors were identified unambiguously                      |
| <input checked="" type="checkbox"/> | b. Priority impacts/risks were identified unambiguously                             |
| <input type="checkbox"/>            | c. Neither particularly affected sectors nor priority impacts/risks were identified |

Please provide any additional information on this topic that you consider relevant.

Coastal areas, water resources (quantity and quality), hydrogeological risk (floods and landslides), human health, urban settlements

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

- |                                     |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously |
| <input type="checkbox"/>            | b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously        |
| <input type="checkbox"/>            | c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously  |
| <input type="checkbox"/>            | d. The assessment did not identify particularly affected regions unambiguously                      |

Please provide any additional information on this topic that you consider relevant.

Mountain areas (Alps and Appennines)

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

- |                                  |   |
|----------------------------------|---|
| <input checked="" type="radio"/> | a. Adaptation measures were not identified or evaluated on a systematic basis |
| <input type="radio"/>            | b. Potential adaptation measures were <i>identified</i>                       |
| <input type="radio"/>            | c. Specific adaptation measures were <i>evaluated and/or prioritised</i>      |
| <input type="radio"/>            | d. Consideration of adaptation measures varied across the assessment          |

Please provide further details.

The identification, evaluation and prioritization of adaptation measures for all sectors was carried out in the NAS.

**38. How were uncertainties from different sources communicated in the assessment results?**

- |                       |   |
|-----------------------|---|
| <input type="radio"/> | a. Not explicitly (i.e. only central estimate)                              |
| <input type="radio"/> | b. Not systematically (e.g. some uncertainties are described qualitatively) |
| <input type="radio"/> | c. Discrete categories (e.g. low/medium/high confidence or uncertainty)     |
| <input type="radio"/> | d. Uncertainty range  |
| <input type="radio"/> | e. Probabilistic results  |

- |                                  |  |
|----------------------------------|--|
| <input type="radio"/>            | f. Other systematic way (please explain below)                 |
| <input checked="" type="radio"/> | g. Communication of uncertainties varies across the assessment |

Please provide further details.

The observational evidences and the projections had clear estimates of uncertainties. The quality of estimates of uncertainties on the impacts of specific sectors varied across the assessment.

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
<p>Summary/synthesis: The NAS includes</p> <ol style="list-style-type: none"> <li>1) a section „The National context“ with a synthesis presenting two tables on the main impacts of climate changes in the selected sectors and on the identified key vulnerabilities for Italy (pages 18-21 of the NAS);</li> <li>2) a section „The state of knowledge on sectorial impacts and vulnerabilities“ which includes Key Messages from the IV Assessment for all selected sectors (pages 22 – 57 of the NAS)</li> </ol> <p>Scientific events: The CCIV assessment, legal assessment and related NAS were presented from the scientific coordinator of the National project in different scientific workshops and conferences at national and international level in 2014 and 2015.</p>	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The CCIV assessment was one of the documents on which the NAS has been developed.

Furthermore, some Italian regions, such as Lombardia and Abruzzo, have built their adaptation strategies on the CCIV assessment and related NAS, and other regions are keen to do so.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### 41. What positive experiences did the development and use of this assessment provide?

The Italian scientific community working on climate science and related sciences has been very proactive in reacting to the invitation of the Ministry for Environment, Land and Sea and of CMCC to contribute to the work for a first national CCIV assessment and related NAS. This National project proved that a 2-way interactive dialogue can be possible but it needs more coordination among the different governance levels (ministerial, regional and municipal levels).

### 42. What challenges were encountered during the development and use of this assessment?

- a) The fragmentation and lack of coordination of different efforts on CCIVA from the ministries.
- b) The lack of a specific set of common climate projections on which building impacts assessments for the different sectors.
- c) The lack of a quantitative knowledge on current and potential climate change impacts.

### 43. What lessons have been learned during the development and use of this assessment?

*If a formal evaluation exists, please include a link to the evaluation.*

Some important lesson learned are the following:

- 1) The lack of an adequate estimation of costs of aggregated impacts and of the cost/benefit of the specific adaptation measures;
- 2) The need to support a specific and comprehensive national research plan for CCIV sectoral and cross-sectoral assessment based on a coherent set of common climate projections;
- 3) The need to enhance the involvement of the private sector (i.e. insurance and SMEs) in contributing to the assessment of the specific sectoral and cross-sectoral vulnerabilities;
- 4) The need to support a national and coordinated regional plan to disseminate the scientific/technical and policy outcomes of the current national CCIV assessment and other future assessments, the NAS and future NAP.

### 44. What would possibly be done differently in a future assessment, and why?

Future sectoral and cross-sectoral CCIV assessment should be referred to specific areas of the Italian territory, taking into account the main characteristics.

Furthermore, indicators for a quantitative estimate of the different components of vulnerability and risk will be useful in order to better identify the priorities at national scale. In this perspective, a Working Group on „Climate change impacts, vulnerability and adaptation“ has been established within the newborn National System for Environmental Protection coordinated by ISPRA and made up of the Regional Environmental Protection Agencies. The first objective of the ongoing activity of the WG will be the assessment of the climate change impacts currently occurring in Italy through a specific set of sectoral indicators (for each sector identified within the SNAC and the PNACC).



## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Latvia

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of Environmental Protection and Regional Development

**3. What organisation has filled out this survey?**

*e in English and provide a web link.*

Ministry of Environmental Protection and Regional Development:  
[http://www.varam.gov.lv/eng/par\\_ministriju/](http://www.varam.gov.lv/eng/par_ministriju/)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy A national adaptation strategy up to 2030 and supported action plan is under consulting process now before submission to Cabinet of Ministers in September, 2017	
Title (including an English translation) and web link(s). Latvian Adaptation to Climate Change Strategy up to 2030, including Action Plan (in Latvian - Latvijas pielāgošanās klimata pārmaiņām stratēģija 2030.gadam: <a href="http://www.varam.gov.lv/lat/lidzd/attistibas_planosanas_dokumentu_projekti/">http://www.varam.gov.lv/lat/lidzd/attistibas_planosanas_dokumentu_projekti/</a> )	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. A national adaptation strategy is developed, based on climate change historical and future impact analysis, risks and vulnerability assessment in all main sectors, supported by: Project "Development of Proposal for National Adaptation Strategy, Including Identification of Scientific Data, and Measures for Adapting to Changing Climate, Impact and Cost Evaluation" in framework of 2009-2014 European Economic Area grants programme "National Climate Policy" <a href="http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/?doc=18233">http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/?doc=18233</a>	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

A national adaptation strategy up to 2030 and supported action plan is under consulting process now before submission to Cabinet of Ministers in September, 2017

[http://www.varam.gov.lv/lat/lidzd/attistibas\\_planosanas\\_dokumentu\\_projekti/](http://www.varam.gov.lv/lat/lidzd/attistibas_planosanas_dokumentu_projekti/)

Title (including an English translation) and web link(s).

Action Plan, integrated into Latvian adaptation to climate change strategy up to 2030

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

Adaptation action plan includes 18 main action directions according to strategic goals and adaptation subjects: people, economy, infrastructure and construction, nature, and horizontal subject – information and knowledge. In total 86 actions, related to concrete climate change risk and vulnerability assessment, done previously, are included in action plan. For each action the responsible institution, other involved institutions, duration, necessary financing, finance sources, the level of priority, and other information is included in action plan.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

- The first time when climate CC and risk identification in the context of policies was performed and analysed at the national level was in the “Report on adaptation to climate change”, approved by the Cabinet of Ministers of Latvia in the August 2008.
- The first National Research Programme (for four years), devoted to detailed assessment of climate change impacts, was programme “Climate change impact on water environment in Latvia” (KALME, 2006-2009, <http://kalme.daba.lv/en>), which investigated how climate change will potentially influence Latvian lakes, rivers and the Baltic Sea coastal waters and terrestrial zone, and elaborated science-based proposals to adapt to and reduce adverse CC impacts. The most usable outcomes from this programme were future climate change scenarios for Latvia, based on SRES, hydrological forecast and atlas "Processes on the Latvian Coast of the Baltic Sea. Atlas".
- For this period (2014-2017) Cabinet of Ministers announced CC and adaptation issues in national Research Programme related to the newest climate scenarios development, impacts on ecosystems` services, exploration of invasive species, underground waters, etc. National research programme`s sub-programme “Value of Latvian ecosystem and its dynamics in the influence of climate – EVIDENT” addresses ten tasks in five sub-projects of the 1st National Research Programme priority “Environment, Climate and Energy” subtask 1.2 “Environment and Climate”; <http://vpp-evident.lv/index.php/en>.
- The most comprehensive regional level study (for the Baltic Sea Region) which covered also Latvia, was assessment of CC risks and vulnerability performed within BSR Programme 2007-2013 and ERDF common project BALTADAPT: <http://www.baltadapt.eu/>
- In 2012, the first risk and vulnerability assessment in the main sectors was prepared, and proposals for development or improvement of adaptation policies and measures were set out. (In Latvian: Analīze un priekšlikumu sagatavošana informatīvā ziņojuma par piemērošanas klimata pārmaiņām izstrādei Vides politikas pamatnostādņu 2009.-2015.gadam īstenošanas ziņojuma ietvaros, Analysis and proposal for a report on adaptation to climate change in the development of environmental policy guidelines for 2009 to 2015; 2012). Besides, the main fourteen general risks in the country were recognized and described within intergovernmental expert group, using risk assessment matrix. Completed questionnaire was sent to European Commission.
- Flood Risk Management Plan for the Riga City has been elaborated and ratified by City Council at the end of 2012: [www.rigapretpludiem.lv](http://www.rigapretpludiem.lv)
- Latvian Environment, Geology and Meteorology Centre (LEGMC) has performed an detailed analysis (237 pages report) of long term (1961–2010) historical climate data (average and extreme values of air temperature, precipitation, wind direction and speed – average and extremes values) as well as developed climate change future scenarios for Latvia (regarding IPCC scenarios RCP4.5. and RCP8.5) for the periods 2011-2040, 2041-2070, 2071-2100: <http://www2.meteo.lv/klimatariks/zinojums.pdf> . For wider public visualization tool for climate change scenarios is also developed and available online: <http://www2.meteo.lv/klimatariks/>
- Significant contribution and result has been achieved in the period 2014-2017, when climate change risk and vulnerability assessment and cost-benefit and cost-effectiveness assessments for adaptation measures in the most vulnerable sectors are prepared with scientific expertise and methods. The adaptation monitoring,

reporting and evaluation (MRE) system was also developed, and now is included in the adaptation strategy. Correction in the legal frame are also estimated but not finished yet.

- Flood risk management plans and early flood warning system for the biggest river catchments in Latvia are also on place: <http://www.meteo.lv/lapas/vide/udens/udens-apsaimniekosana-upju-baseinu-apsaimniekosanas-plani-/upju-baseinu-apsaimniekosanas-plani?id=1107&nid=424>
- In autumn 2017 the Latvian adaptation to climate change strategy (included action plan) is expected to be approved by national government.

## 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i>  Latvian researches, own methods and approaches are used	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).</u>				
Risku un ievainojamības novērtējums un pielāgošanās pasākumu identificēšana				

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input checked="" type="checkbox"/>	s. Other sectors or impact domains Also: biodiversity, coastal areas, energy, water, transport, etc.
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input checked="" type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input checked="" type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any). [Planned CCIV assessments]	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

LV-2-2017

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Significant result has been achieved early this year (2017), when climate change risk and vulnerability assessment and cost-benefit and cost-effectiveness assessment for adaptation measures in the most vulnerable sectors finished (detailed see in point 13; [http://www.varam.gov.lv/lat/publ/petijumi/petijumi klimata parmainu joma/?doc=23668](http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668) or <http://petijumi.mk.gov.lv/> ). Reports were made with scientific expertise and methods. Methodologically steps used are the following:

- 1) Context analysis (scientific observations, analysis of existing policies, reports, articles), socio economic data analysis in sectors: biodiversity and ecosystem services; forestry and agriculture; tourisms and landscape planning; health and welfare; building and infrastructure planning; civil protection and emergency planning;
- 2) Identification of cause – effect relationships (presented as flow-charts), caused by climate change direct and indirect impacts and resulting in concrete socio-economic consequences, social groups or biodiversity / ecosystems services as losses or gains;
- 3) Main risk assessment, primarily methodologically based on COM paper “Risk Assessment and Mapping Guidelines for Disaster Management” (SEC(2010) 1626 final) and IEC 31010:2009 (Risk management) standard, qualitative methods (risk matrices), also quantitative methods (regression analysis and partial correlation), risk mapping (for flood risk zones, sea coastal zones, vulnerable territories regarding tourism and landscape planning, etc.), socio-economic assessment of risks;
- 4) Vulnerability assessment – based on risk levels, categories and target groups affected, adaptation capacity, level of estimated economic losses or gains, vulnerability level;
- 5) Identification, description and analysis of relevant adaptation measures;
- 6) Cost-benefit and cost-effectiveness assessment for adaptation measures for 50- year period.

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

#### **Six researches (final reports) on risk and vulnerability assessment and identification of adaptation**

**measures in concrete sectors (2016 and 2017):** biodiversity and ecosystem services; forestry and agriculture; tourisms and landscape planning; health and welfare; building and infrastructure planning; civil protection and emergency planning. Links: Governmental research web page: <http://petijumi.mk.gov.lv/> and Ministry of Environmental protection and Regional development web page:

[http://www.varam.gov.lv/lat/publ/petijumi/petijumi klimata parmainu joma/?doc=23668](http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668)



- 1) Risk and vulnerability assessment and identification of adaptation measures in civil protection and emergency assistance (January 2017), done by Center of Processes` Analysis & Research (University of Latvia) and experts from State Fire and Rescue Service of Latvia:  
[http://petijumi.mk.gov.lv/sites/default/files/title\\_file/petijums\\_varam\\_2016\\_2017\\_risk\\_un\\_ievain\\_novert\\_un\\_pielag\\_pasak\\_identific\\_civilas\\_aizsardz\\_arkart\\_palidz\\_joma.pdf](http://petijumi.mk.gov.lv/sites/default/files/title_file/petijums_varam_2016_2017_risk_un_ievain_novert_un_pielag_pasak_identific_civilas_aizsardz_arkart_palidz_joma.pdf)
- 2) Risk and vulnerability assessment and identification of adaptation measures in biodiversity and ecosystem services (2016), done by International environmental consulting company Estonian, Latvian & Lithuanian Environment (ELLE):  
[http://petijumi.mk.gov.lv/sites/default/files/title\\_file/petijums\\_2016\\_varam\\_risku\\_un\\_ievainoj\\_novertej\\_un\\_pielagos\\_pasak\\_identific\\_biologisk\\_daudzveid\\_un\\_ekosist\\_pakalp\\_joma.pdf](http://petijumi.mk.gov.lv/sites/default/files/title_file/petijums_2016_varam_risku_un_ievainoj_novertej_un_pielagos_pasak_identific_biologisk_daudzveid_un_ekosist_pakalp_joma.pdf)
- 3) Risk and vulnerability assessment and identification of adaptation measures in forestry and agriculture (2016), done by Agriculture University of Latvia, and Latvian State Forest Research Institute "Silava":  
[http://petijumi.mk.gov.lv/sites/default/files/title\\_file/petijums\\_2016\\_varam\\_risku\\_un\\_ievain\\_novertej\\_un\\_pielagos\\_pasak\\_identific\\_lauksaimniec\\_un\\_mesaimniec\\_joma.pdf](http://petijumi.mk.gov.lv/sites/default/files/title_file/petijums_2016_varam_risku_un_ievain_novertej_un_pielagos_pasak_identific_lauksaimniec_un_mesaimniec_joma.pdf)
- 4) Risk and vulnerability assessment and identification of adaptation measures in tourisms and landscape planning (2016), done by Latvian University and University of Applied Sciences:  
[http://petijumi.mk.gov.lv/sites/default/files/title\\_file/petijums\\_2016\\_varam\\_risku\\_un\\_ievainoj\\_novertej\\_un\\_pielagos\\_pasak\\_identific\\_ainavu\\_planosa\\_un\\_turisma\\_joma.pdf](http://petijumi.mk.gov.lv/sites/default/files/title_file/petijums_2016_varam_risku_un_ievainoj_novertej_un_pielagos_pasak_identific_ainavu_planosa_un_turisma_joma.pdf)
- 5) Risk and vulnerability assessment and identification of adaptation measures in health and welfare (2016), done by Ltd. Baltkonsults, Ltd. Ardenis, State Emergency Medical Service:  
[http://petijumi.mk.gov.lv/sites/default/files/title\\_file/petijums\\_2016\\_varam\\_risku\\_un\\_ievain\\_novertej\\_pielagos\\_pasak\\_identific\\_veselibas\\_un\\_labklaj\\_joma.pdf](http://petijumi.mk.gov.lv/sites/default/files/title_file/petijums_2016_varam_risku_un_ievain_novertej_pielagos_pasak_identific_veselibas_un_labklaj_joma.pdf)
- 6) Risk and vulnerability assessment and identification of adaptation measures in building and infrastructure planning (2017), done by society Green Liberty, society Green Liberty:  
[http://petijumi.mk.gov.lv/sites/default/files/title\\_file/petijums\\_varam\\_2016\\_2017\\_risk\\_un\\_ievain\\_novertej\\_un\\_pielagos\\_pasak\\_identific\\_buvniec\\_un\\_infrastr\\_joma.pdf](http://petijumi.mk.gov.lv/sites/default/files/title_file/petijums_varam_2016_2017_risk_un_ievain_novertej_un_pielagos_pasak_identific_buvniec_un_infrastr_joma.pdf)
- 7) Latvian Environment, Geology and Meteorology Centre (LEGMC) has performed an detailed analysis (237 pages report) of long term (1961–2010) historical climate data (average and extreme values of air temperature, precipitation, wind direction and speed – average and extremes values) as well as developed climate change future scenarios for Latvia (regarding IPCC scenarios RCP4.5. and RCP8.5) for the periods 2011-2040, 2041-2070, 2071-2100: <http://www2.meteo.lv/klimatariks/zinojums.pdf> . For wider public visualization tool for climate change scenarios is also developed and available online: <http://www2.meteo.lv/klimatariks/>

#### 14. When was the assessment published?

First assessment – in 2012, detailed risk and vulnerability assessment in sectors – 2016-2017

**15. What is the geographic coverage of the assessment?**

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National

**16. Which organisation or authority initiated or requested the assessment?**

Department of Environmental Protection and Regional Development

**17. Which organisation(s) carried out the assessment?**

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Ministry of Environmental protection and Regional development, Latvian University, Agriculture University of Latvia, State Fire and Rescue Service of Latvia, Center of Processes` Analysis & Research, International environmental consulting company Estonian, Latvian & Lithuanian Environment (ELLE), Latvian State Forest Research Institute "Silava" , Ltd. Baltkonsults, Ltd. Ardenis, society Green Liberty, University of Applied Sciences, State Emergency Medical Service, Latvian Environmental, geology and meteorology center (LEGMC), Latvian Hydroecological Institute, Ministry of Agriculture, Building Association, etc.

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

61 experts were involved in the risk and vulnerability assessment, and identification of adaptation measures.

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input checked="" type="checkbox"/>	a. Legal requirement
<input checked="" type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input checked="" type="checkbox"/>	f. Other reasons (please specify below)

Please provide further details on the reasons for conducting the assessment.

To avoid from socio-economic losses caused by climate change negative impacts and use the benefits (possibilities) offered by CC. Latvia have many gains from CC also, not only negative risks. Adaptation – issue of secure and successful development

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input checked="" type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input checked="" type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
	[Further details on other target users]

### 21. How long did the assessment project take?

From 2014 to 2017

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

<p>Other resources (please explain)</p> <p>[Other resources]</p>	<p><b>Total Project</b></p> <p>“Development of Proposal for National Adaptation Strategy, Including Identification of Scientific Data, and Measures for Adapting to Changing Climate, Impact and Cost Evaluation” in framework of 2009-2014 European Economic Area grants programme “National Climate Policy” <b>costs are 1 209 305 EUR.</b> Included not only (!) CC risks and vulnerability assessment (<b>~140 000 EUR</b>), but also CC historical data analysis, future scenarios, flood risk maps and early warning system, maritime spatial planning, CC web-paltform development, etc.</p>	<p>European Economic Zone financial instrument (EEZ FI) for period 2009-2014, programme “national Climate Policy”:</p> <p><a href="http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/">http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/</a></p>
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## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
	Please provide further details if relevant.
	[Further details on time horizon]

## G. Assessment approach

*This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.*

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines  All mentioned above plus <a href="#">COM paper “Risk Assessment and Mapping Guidelines for Disaster Management” (SEC(2010) 1626 final)</a> and <a href="#">IEC 31010:2009 (Risk management) standard</a> , <a href="#">UK</a> , <a href="#">Norway</a> , <a href="#">Finland</a> , <a href="#">OECD</a> , <a href="#">EEA experience</a> , and – our <a href="#">own methodologies and approaches</a> .
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.  [Further details on assessment framework]	

<input checked="" type="radio"/>	<p>h. No, the assessment approach was developed specifically for this assessment</p> <p><i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i></p> <p>Very important part takes up by our own methodological approaches; the main steps were the following:</p> <ul style="list-style-type: none"> <li>✓ Context analysis (scientific CC observations, analysis of existing policies, reports, articles), socio economic data analysis in sectors: biodiversity and ecosystem services; forestry and agriculture; tourisms and landscape planning; health and welfare; building and infrastructure planning; civil protection and emergency planning;</li> <li>✓ Identification of cause – effect relationships (presented as flow-charts), caused by climate change direct and indirect impacts and resulting in concrete socio-economic consequences, social groups or biodiversity / ecosystems services as losses or gains;</li> <li>✓ Main risk assessment, primarily methodologically based on COM paper “Risk Assessment and Mapping Guidelines for Disaster Management” (SEC(2010) 1626 final) and IEC 31010:2009 (Risk management) standard, qualitative methods (risk matrices), also quantitative methods (regression analysis and partial correlation), risk mapping (for flood risk zones, sea coastal zones, vulnerable territories regarding tourism and landscape planning, etc.), socio-economic assessment of risks;</li> <li>✓ Vulnerability assessment – based on risk levels, categories and target groups affected, adaptation capacity, level of estimated economic losses or gains, vulnerability level;</li> <li>✓ Identification, description and analysis of relevant adaptation measures;</li> <li>✓ Cost-benefit and cost-effectiveness assessment for adaptation measures for 50-year period;</li> <li>✓ Identification, description and analysis of relevant adaptation indicators, MRE system`s establishment.</li> </ul>
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**26. Which were the main assessment methods used?**

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input checked="" type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods  [Please specify other methods]
<p>Please provide further details on the assessment methods, including when different methods were used for different sectors.</p> <p>[Please provide further details]</p>	

**27. Were external stakeholders involved in the assessment, and how?**

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

[Additional information on stakeholder involvement]

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

Starting point: Cause – effect relationships (CERs) between climate change direct and indirect parameters and indexes (sea level rise, atmospheric temperatures, precipitations, wind regimes, etc.) and their impacts on environment and sectors (systems and individuals), resulting in socio-economic losses or gains (historical data, where available) were defined and analysed. Appropriate adaptation measures and indicators, and monitoring system to risk and vulnerability assessment was established.

Latvian adaptation to climate change strategy and action plan up to 2030 (the last step) was the result of this huge work.



## H. Scenarios and drivers

*This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.*

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)

Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).

The development of future climate change scenarios for Latvia until 2100 was carried out, using calculations of 28 global climatic models according to Intergovernmental Climate Change Panel (IPCC) the Fifth Assessment Report (AR5):

- Future climate change scenarios for the periods: years 2011-2040, years 2041-2070 and years 2071-2100
- Used scenarios: RCP2.6, RCP4.5 and RCP8.5 of IPCC (2013)
- Models: CanESM2, CNRM-CM5, GFDL-CM3, HadGEM2-ES, MIROC5, MPI-ESM-MR
- Calculation of climate indices for future climate
- Future climate and climate indices visualization

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)

Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.

Cost-benefit and cost-effectiveness analysis was done for adaptation measures and socio-economic losses, covered all sector, for long future (up to 2100)

**31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?**

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | a. No systematic consideration of adaptive capacity.   |
| <input checked="" type="checkbox"/> | b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)            |
| <input type="checkbox"/>            | c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)        |
| <input checked="" type="checkbox"/> | d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)             |
| <input type="checkbox"/>            | e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators) |
| <input checked="" type="checkbox"/> | f. Consideration of adaptive capacity differs across the assessment                                |

Please provide further details on the consideration of adaptive capacity.

[Please provide further details]

## I. Assessment results

*This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.*

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input checked="" type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> See previously
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input checked="" type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> Adaptation indicators – metadata sheets, climatic parameters and indices, maps with flood territories, etc.
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply

Please provide further details.

Smaller territories assessed for flood

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

- |                                     |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | a. Particularly affected sectors were identified unambiguously                      |
| <input checked="" type="checkbox"/> | b. Priority impacts/risks were identified unambiguously                             |
| <input type="checkbox"/>            | c. Neither particularly affected sectors nor priority impacts/risks were identified |

Please provide any additional information on this topic that you consider relevant.

[Please provide additional information]

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

- |                                     |   |
|-------------------------------------|---|
| <input type="checkbox"/>            | a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously |
| <input type="checkbox"/>            | b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously        |
| <input checked="" type="checkbox"/> | c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously  |
| <input type="checkbox"/>            | d. The assessment did not identify particularly affected regions unambiguously                      |

Please provide any additional information on this topic that you consider relevant.

E.g. flood prone territories

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | a. Adaptation measures were not identified or evaluated on a systematic basis |
| <input type="radio"/>            | b. Potential adaptation measures were <i>identified</i>                       |
| <input checked="" type="radio"/> | c. Specific adaptation measures were <i>evaluated and/or prioritised</i>      |
| <input type="radio"/>            | d. Consideration of adaptation measures varied across the assessment          |

Please provide further details.

See in the six researches (final reports) on risk and vulnerability assessment and identification of adaptation measures in concrete sectors <http://petijumi.mk.gov.lv/> or [http://www.varam.gov.lv/lat/publ/petijumi/petijumi\\_klimata\\_parmainu\\_joma/?doc=23668](http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668)

**38. How were uncertainties from different sources communicated in the assessment results?**

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | a. Not explicitly (i.e. only central estimate)                              |
| <input checked="" type="radio"/> | b. Not systematically (e.g. some uncertainties are described qualitatively) |
| <input type="radio"/>            | c. Discrete categories (e.g. low/medium/high confidence or uncertainty)     |
| <input type="radio"/>            | d. Uncertainty range  |

<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input checked="" type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain) Workshops, conferences, in national climate change portal
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

Latvian adaptation to climate change strategy and action plan up to 2030 (the last step) as well as established adaptation to climate change national system (also adaptation MRE) was resulted of that huge work.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### 41. What positive experiences did the development and use of this assessment provide?

To understand much more correctly, how climate change really effect sectors, groups, systems (directly, indirectly) what are the CC impacts (past and future trends), main risks and also benefits, what already are on place and what would be the most appropriate policy tools for adaptation in the future.

### 42. What challenges were encountered during the development and use of this assessment?

Data needed for us. Sometimes we faced cases where (i) information (data) on the investigated subject is not known or is insufficient or inaccurate, (ii) the collection of information (data) is an expensive, time and resource consuming process, (iii) information (data) on subject under study is only qualitative in its nature, (iv) the development of the research object is subject to rapid or disruptive changes, and (v) the existence of the object functioning uncertainty, then use semi-quantitative or qualitative risk analysis methods were used.

Adaptation indicators in sectors as a part of adaptation monitoring system. For each indicator metadata sheet was prepared (description of indicator, the period covered, measurement, spatial coverage, data source, indicator relevance, current trends, trends in the future, vulnerability characteristics). For some indicators data is available already now, for others- need to be collected in the nearest future.

Another task is to set the certain legal frame of the monitoring system and institutions responsible for data delivery in each sector in the nearest future.

### 43. What lessons have been learned during the development and use of this assessment?

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

### 44. What would possibly be done differently in a future assessment, and why?

We would try to involve more stakeholders (especially from municipalities, bussiness) in the assessment process, in the work of data exchange among insitutions, data providers, but for that we need to improve the legal system, to reduce / overcome knowledge and adminitrative gaps.

## **L. Concluding question**

### **45. Do you have any feedback regarding this survey?**

We have feedback after the risk and vulnerability assessments, in the consultation process of adaptation strategy and action plan (now are continuing).



# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Lithuania

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of Environment

**3. What organisation has filled out this survey?**

Ministry of Environment

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2012	
Title (including an English translation) and web link(s). National Strategy for Climate Change Management Policy <a href="http://www.am.lt/VI/files/File/Klimato%20kaita/Nacionaline_klimato_kaitos_valdymo_politikos_st_rategija_EN_qalutinis.docx">http://www.am.lt/VI/files/File/Klimato%20kaita/Nacionaline_klimato_kaitos_valdymo_politikos_st_rategija_EN_qalutinis.docx</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. National Strategy For Climate Change Management Policy contains two separate parts for mitigation and adaptation.	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2016

Title (including an English translation) and web link(s).

Inter-institutional Action Plan on the implementation of the Goals and Objectives for 2013-2020 of the Strategy for the National Climate Change Management Policy, approved by the Government in April 2013 with latest amendment in 2016 determined measures for the year 2017-2019.

<http://www.am.lt/VI/index.php#a/12869> (Patikrinti ar teisinga nuoroda ??)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

In addition, the goals and objectives of the Strategy are implemented by the main cross-sectorial strategies as the National Strategy for Sustainable Development (2009), Lithuania's Progress Strategy "Lithuania 2030", the National Progress Programme and planning documents for the country's specific economic sectors, such as the Multi-Apartment Building Renovation Programme, the Programme on the Increase of Energy Efficiency in Public Buildings, the Action Plan on Energy Efficiency, the Programme on Investment promotion and Industrial Development for 2014–2020, the National Programme for the Heating Sector Development for 2015–2021, the National Programme on Renewable Energy Source Development, the National Programme on Transport Development for 2014–2022, the State Waste Management Plan for 2014–2020, the Rural Development Programme for Lithuania 2014–2020, National Forest Area Development Program 2012-202, Water Area Development Programme 2017-2023 and other sectorial development programmes contribute to climate change mitigation and adaptation to climate change.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

This section collects information how CCIV information has supported the development of adaptation policy over time.

### 7. How has CCIV information for your country developed over time?

Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.

First report on climate change (CC) and risk identification „Evaluation study and outcomes of the impact of climate change for the country’s ecosystems, biodiversity, water resources, agriculture, forestry and human health“ was conducted in 2007.

National Research Programme: “Lithuanian Ecosystems: Climate Change and Men’s Impact” was carried out in the period of 2010-2014.

A study regarding CC impacts to human health „A study, determining climate change caused threat to human health“ was conducted in 2014.

In 2015, a comprehensive risk and vulnerability assessment in all the main sectors (except human health) „A study laying down the vulnerability of specific sectors to climate change, risk assessment, effective adaptation to climate change and evaluation criteria“ was carried out. Twelve vulnerable sectors were recognized and recommendations assessing risks formulated. This data was used to distinguish the structure of the Strategy and identify its goals, objectives and measures for their implementation.

Flood risk has received the most attention at the region level. The regions of Klaipeda and Taurage have adopted Programmes for preparation of flood threat and removal of flood consequences. Flood risk management plans and early warning systems were developed and adopted recently. Lithuania has also taken active participation within the Baltic Sea Region Climate Change Adaptation Strategy and Action Plan.

The capital city Vilnius is currently developing an Adaptation Action Plan (the first of its kind in Lithuania).

Various awareness raising material (studies) and guidelines are published, such as:

Adaptation to Climate Change in Agricultural Sector: Lessons from Project “BalticClimate” (2012)

[http://www.zum.lt/documents/baltijos klimatas/Klimato%20prisitaikymas brosiura%20\(A5\)%2002-24.pdf](http://www.zum.lt/documents/baltijos_klimatas/Klimato%20prisitaikymas_brosiura%20(A5)%2002-24.pdf) (in Lithuanian)

“Climate Change in Klaipeda City and Region: Impact, Costs and Adaptation” (2011),

<http://www.hkk.gf.vu.lt/publikacijos/2007%20Klimato%20kaita%20-%20prisitaikymas%20prie%20jos%20poveikio%20Lietuvos%20pajuryje.pdf> (in Lithuanian)

“How to Adapt to the Climate Change: Advice for Farmers” (European Regional Policy Institute, 2011) (in Lithuanian)

“Impact Analysis of Opportunities to Adapt to the Climate Change in Panevėžys Region” (2011) (in Lithuanian)

“Climate Change: Adaptation to its Impacts at the Lithuanian Seaside” (2007)

<http://www.hkk.gf.vu.lt/publikacijos/2007%20Klimato%20kaita%20-%20prisitaikymas%20prie%20jos%20poveikio%20Lietuvos%20pajuryje.pdf> (in Lithuanian)

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don’t know
--	----------------	--------------------	--------------------------------	------------

a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

„A study laying down the vulnerability of specific sectors to climate change, risk assessment, effective adaptation to climate change and evaluation criteria“

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water

<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input checked="" type="checkbox"/>	s. Other sectors or impact domains Energy, forestry, , transport, biodiversity, coastal areas
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input checked="" type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input checked="" type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any). [Planned CCIV assessments]	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

LT-1-2015

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

STUDIJOS, NUSTATANČIOS ATSKIRŲ SEKTORIŲ JAUTRUMĄ KLIMATO KAITOS POVEIKIUI, RIZIKOS VERTINIMĄ IR GALIMYBES PRISITAIKYTI PRIE KLIMATO KAITOS, VEIKSMINGIAUSIAS PRISITAIKYMO PRIE KLIMATO KAITOS PRIEMONES IR VERTINIMO KRITERIJUS, PARENGIMAS

(Studies, laying down the vulnerability of specific sectors to climate change, risk assessment, the most effective adaptation to climate change measures and evaluation criteria)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

#### **Arūnas Bukantis et al. (2015):**

STUDIJOS, NUSTATANČIOS ATSKIRŲ SEKTORIŲ JAUTRUMĄ KLIMATO KAITOS POVEIKIUI, RIZIKOS VERTINIMĄ IR GALIMYBES PRISITAIKYTI PRIE KLIMATO KAITOS, VEIKSMINGIAUSIAS PRISITAIKYMO PRIE KLIMATO KAITOS PRIEMONES IR VERTINIMO KRITERIJUS, PARENGIMAS.

Ministry of the Environment, Vilnius, Lithuania, 160 pp.

[http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita\\_galutine%20ataskaita\\_2015\\_08\\_31.pdf](http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita_galutine%20ataskaita_2015_08_31.pdf)

### 14. When was the assessment published?

2015

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of Environment

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Public Enterprise „Gamtos paveldo fondas“

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

12 experts



## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input checked="" type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

From December 2014 till July 2015

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		
Other resources (please explain)		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input checked="" type="checkbox"/>	s. Other sectors/impact domains
	Waste management
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
	Please provide further details if relevant.
	[Further details on time horizon]

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input checked="" type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input checked="" type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. <a href="#">Discussions and workshops, provided comments from relevant public authorities.</a>	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input checked="" type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
[Please provide further details]	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input checked="" type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input checked="" type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input checked="" type="checkbox"/>	m. Other dissemination channels (please explain)
	Study results were used for the preparation inter-institutional action plan and reports on adaptation to climate change in Lithuania submitted to the European Commission and UNFCCC secretariat.
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The results of this assessment were used to update the Inter-institutional Action Plan on the implementation of the Goals and Objectives for 2013-2020 of the Strategy for the National Climate Change Management Policy, setting measures for 2017-2019.



## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

The assessment has given an important knowledge base on vulnerability of different economy sectors, to understand the effect of climate change on various sectors and risks, to select the most important measures for adaptation to climate change and elaborate indicators.

### **42. What challenges were encountered during the development and use of this assessment?**

The biggest challenge was to ensure the coordination of different institutions responsible for various sectors and to select the most efficient measures in different sectors. There was also a lack of sector specific monitoring data and difficulties to identify proper qualitative indicators for evaluation of effectiveness of adaptation.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Additional researches and evaluation studies will be required to conduct for the deeper evaluation of vulnerability and risk assessment of different economy sectors.

### **44. What would possibly be done differently in a future assessment, and why?**

More detailed analyzes of different economy sectors with broader involvement of relevant stakeholders should be accomplished.

## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

[Luxembourg](#)

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

[Ministry of Sustainable Development and Infrastructure](#)

**3. What organisation has filled out this survey?**

[MDDI – Department of the Environment](#)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2011	
Title (including an English translation) and web link(s). Stratégie nationale d'adaptation au changement climatique (National Strategy for Adaptation to Climate Change)	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. No	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

A new strategy is being developed and should be published at the End of 2017.

Title (including an English translation) and web link(s).

tbd

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

Detailed information on national projections of future climatic conditions, such as temperature, precipitation, extreme climate events and the evolution of event days have been assembled by the Luxembourgish Institute of Science and Technology (LIST). Luxembourg has also carried out a thorough analysis of national climate change impacts, including the expected impacts on vegetation, agriculture, viticulture, forests, biodiversity and the water cycle.

- J. Junk, A. Matzarakis, A. Ferrone, and A. Krein (2014), Evidence of past and future changes in health related climate and thermal stress indices across Luxembourg.
- D. Molitor, A. Caffarra, P. Sinigoj, I. Pertot, L. Hoffmann, and J. Junk (2014), Late frost damage risk for viticulture under future climate conditions: a case study for the Luxembourgish winegrowing region.
- A. Matzarakis, J. Rammelberg, and J. Junk (2013), Assessment of thermal bioclimate and tourism climate potential for central Europe – the example of Luxembourg.
- K. Goergen, J. Beersma, L. Hoffmann, and J. Junk (2013), ENSEMBLES-based assessment of regional climate effects in Luxembourg and their impact on vegetation.
- M. Eickermann, M. Beyer, K. Goergen, L. Hoffmann, and J. Junk (2014), Shifted migration of the rape stem weevil linked to climate change.

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
<u>Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).</u>				
[Title of CCIV assessment(s)]				

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question

Please provide further details if relevant.

[Further details]

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | a. Yes, by conducting a new multi-sectoral national CCIV assessment            |
| <input type="checkbox"/>            | b. Yes, by updating an existing multi-sectoral national CCIV assessment        |
| <input type="checkbox"/>            | c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions |
| <input type="checkbox"/>            | d. Yes, by conducting CCIV assessments for specific sectors or impact domains  |
| <input type="checkbox"/>            | e. Yes, through other sources of information                                   |
| <input type="checkbox"/>            | f. No, the current information is sufficient                                   |
| <input checked="" type="checkbox"/> | g. The matter has not been discussed, or a decision has not been taken         |

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

[Planned CCIV assessments]



# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

LU-1-2012

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Anpassung an den Klimawandel - Strategien für die Raumplanung in Luxemburg

(Adaptation to Climate Change – Strategies for spatial planning in Luxembourg)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

AGL (2012): Anpassung an den Klimawandel - Strategien für die Raumplanung in Luxemburg, 68 pages.

[http://www.aménagement-territoire.public.lu/content/dam/amenagement\\_territoire/fr/publications/documents/C-Change/CChange\\_conclusions.pdf](http://www.aménagement-territoire.public.lu/content/dam/amenagement_territoire/fr/publications/documents/C-Change/CChange_conclusions.pdf)

### 14. When was the assessment published?

2012

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National coverage for (essential) climate variables. General Information about possible climate impacts are given spatially implicit.

### 16. Which organisation or authority initiated or requested the assessment?

Ministère du Développement durable et des Infrastructures Département de l'aménagement du territoire

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

agl, Großherzog-Friedrich-Straße 47, D-66111 Saarbrücken

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

[Assessment team]

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input checked="" type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
<a href="#">Luxembourgish contribution to Interreg IV-b Project C-Change</a>	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

[March 2009 – December 2012](#)

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		
Other resources (please explain)		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
<a href="#">Time periods are given for (essential) climate variables. General Information about possible climate impacts are given timely implicit.</a>	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>  The assessment was elaborated on the basis of the experience gained by the various project partners and was not based on guidelines or frameworks.

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
--	------------------	---------------	------------------------	--------------------	-----------

a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input checked="" type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)

Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).

[The majority of data used came from the ENSEMBLES project.](#)

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)

Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.

[Please provide further details]

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment

Please provide further details on the consideration of adaptive capacity.

[Please provide further details]

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input checked="" type="checkbox"/>	d. Other level or does not apply
Please provide further details. Whole country for the climate variables, other results focus on cities (spatially implicit)	



**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
<a href="#">The entire territory of the national country</a>	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input checked="" type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
<a href="#">For (essential) climate variables, the uncertainty range (defined by the range min-max) is given.</a>	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

Used for the revision of the next National Adaptation Strategy

## **K. Experiences**

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

[Please describe positive experiences]

**42. What challenges were encountered during the development and use of this assessment?**

[Please describe challenging experiences]

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

**44. What would possibly be done differently in a future assessment, and why?**

[Please describe possible changes in a future assessment]

## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Norway

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Norwegian Ministry for Climate and Environment, <https://www.regjeringen.no/no/dep/kld/id668/>

**3. What organisation has filled out this survey?**

Norwegian Environment Agency

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

None

## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2013	
Title (including an English translation) and web link(s). Climate change adaptation in Norway (White Paper); <a href="https://www.regjeringen.no/en/dokumenter/meld.-st.-33-20122013/id725930/">https://www.regjeringen.no/en/dokumenter/meld.-st.-33-20122013/id725930/</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

[Year]

Title (including an English translation) and web link(s).

[National adaptation action plan]

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

Planning is not formalised in a single plan, but the strategy and the regularly updated www-pages <http://www.klimatilpasning.no/> provide guidance and information on action.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

May 2008: The Ministry of the Environment presented a framework to enhance society's resilience to climate change, to reduce vulnerability and strengthen our ability to adapt.

December 2008: The Norwegian Government appointed a Committee to assess Norway's vulnerability to the effects of climate change and the need to adapt.

June 2009: Projections of climate change for Norway from past, present and up to two scenario periods were presented in the report "Climate in Norway 2100". (Hanssen-Bauer et al., (2009)). Projections were commissioned by the Government appointed Committee.

November 2010: The Government appointed Committee presented the Official Norwegian Report "Adapting to a changing climate" (NOU 2010:10)

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> <a href="#">Updated national projection of climate change (Klima i Norge 2100 November 2015), based on the scenarios from IPCC AR5. Climate Profiles for all Counties in Norway based on national projections.</a>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><u>Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).</u></p> <p><a href="#">Norwegian Official Report: Adapting to a changing climate; NOU 2010:10</a></p>				

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input checked="" type="checkbox"/>	u. I cannot answer this question

Please provide further details if relevant.

For those of particular importance, there have been and/o rare ongoing processes to improve the CCIV assessments and policy development. Examples are on Storm water runoff in towns and cities, National assessment of agriculture, several relating to flooding and safety of hydropower dams etc. (See country page for Norway)

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input checked="" type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input checked="" type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

A climate profile for Svalbard is in progress. Under the forum "Naturfareforum" work is in progress to further assess and manage the risks of natural hazards. Work in progress to establish national planning guidelines to ensure that climate change impacts are considered in land-use planning.

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

NO-1-2010

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Tilpassing til eit klima i endring — Samfunnet si sårbarheit og behov for tilpassing til konsekvensar av klimaendringane;

(Adapting to a changing climate. Norway's vulnerability and the need to adapt to the impacts of climate change)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

NOU 2010: 10 Tilpassing til eit klima i endring; <https://www.regjeringen.no/no/dokumenter/nou-2010-10/id624355/>

NOU 2010: 10 Adapting to a changing climate; <https://www.regjeringen.no/no/dokumenter/nou-2010-10-2/id668985/>

### 14. When was the assessment published?

2010

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Whole country

### 16. Which organisation or authority initiated or requested the assessment?

Government of Norway, Ministry of the Environment

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Committee appointed by Royal Decree of 5 December 2008. Submitted to the Ministry of the Environment on 15 November 2010

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

Committee with 17 members in the Committee + 7 persons in secretariat. However, a lot more experts were involved, especially in preparing the 10 reports that were commissioned by the Committee, and which the CCIV assessment is based on. 12 sectoral meetings were arranged by the Commitee, and more than 200 experts from those sectors participated in those meetings.

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

23 months – from December 2008 until November 2010.

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

**Other resources (please explain)**

Resources were provided by the Government, mainly by the (then) Ministry of Environment.

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input checked="" type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade) Food security; development co-operation; migration
<input checked="" type="checkbox"/>	s. Other sectors/impact domains reindeer husbandry; game management; petroleum; arctic; local communities
<input type="checkbox"/>	t. Cross-sectoral impact domains [Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant. [Further details on time horizon]	

## G. Assessment approach

*This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.*

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]

Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.

[No particular assessment guidelines were used, but work undertaken by other countries/bodies were considered a part of the assessment.](#)



<input checked="" type="radio"/>	<p>h. No, the assessment approach was developed specifically for this assessment</p> <p><i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i></p> <ol style="list-style-type: none"> <li>1. Based on a shared method and criteria for assessment of vulnerability and risk using the comprehensive risk scenario for Norway on the climate projections presented by Klima 2100. Hanssen-Bauer, I., H. Drange, E.J. Førland, L.A. Roald, K.Y. Børsheim, H. Hisdal, D. Lawrence, A. Nesje, S. Sandven, A. Sorteberg, S. Sundby, K. Vasskog og B. Ådlandsvik (2009): Klima i Norge 2100. Bakgrunnsmateriale til NOU Klimatilplassing, Norsk klimasenter, september 2009 Oslo (<i>Climate in Norway 2100</i>) [Available in updated form as NCCS report no. 2/2015 <a href="http://www.miljodirektoratet.no/no/Publikasjoner/2015/September-2015/Klima-i-Norge-2100/">http://www.miljodirektoratet.no/no/Publikasjoner/2015/September-2015/Klima-i-Norge-2100/</a>]</li> <li>2. The vulnerability analysis consists of a review of how vulnerable an area of society is to this risk scenario and what capacity the areas of society or the sectors have to cope with this risk.</li> <li>3. Focus areas defined in the mandate: <ul style="list-style-type: none"> <li>– health and safety for humans</li> <li>– physical infrastructure and buildings</li> <li>– business and industry</li> <li>– the natural environment and primary industries)</li> </ul> <p>were used to select sectors for an assessment of vulnerability and adaptive needs. The objectives were to examine both the natural environment and society. The committee was to give an account of the geographical areas, industries and sectors that are most exposed to negative impacts of climate change.</p> </li> <li>4. The approach emphasises a broad dialogue combined with the use of existing literature and new reports. The objective has been to develop a comprehensive picture of the variation in the ways in which different involved parties experience vulnerability to climate change, and tie this in with the cutting-edge research in the fields of climate and adaptation.</li> <li>5. Broad involvement with different stakeholders - twelve expert meetings with selected parties</li> <li>6. A national conference was organised to present the report Klima i Norge 2100 and to obtain input on how the scenarios will impact the various sectors and industries.</li> <li>7. Seven conferences open to the public were organised in all parts of the country</li> <li>8. Report the consequences of climate change was written including proposals for how society best can handle the challenges associated with those changes.</li> </ol>
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**26. Which were the main assessment methods used?**

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods
<a href="#">See also answer to Question 25.</a>	

Please provide further details on the assessment methods, including when different methods were used for different sectors.

[Please provide further details]

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

Scientists were commissioned to deliver several reports used by the Committee for the assessment. The Report (NOU 2010:10) was sent for public consultation after the publication, and all level of society (including authorities at national level) provided comments.

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
SRES B1, SRES A1B and SRES A2, downscaling based on HIRHAM model, combination of own downscaling and use of ensembles of other regional models	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
The report includes regular references to future development in the sectors and areas that have been treated, but no overall analysis of the non-climatic changes have been carried out	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
Qualitative reflection on adaptive capacity is emphasised throughout the analysis	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input checked="" type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> The summary includes an economic assessment (12.4 Economic costs and benefits) with a table of monetised cost-ranges (Annual cost, Norway 2070–2100) based on a separate study: Vista Analyse 2010. Vista analyse (2010) Rasmussen I. and Vennemo H. Samfunnsøkonomiske virkninger av klimaendringar i Norge. [Socio-economic impacts of climate change in Norway.] Vista Analyse Report 2010/1
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> Table 12.1 Economic consequences of climate change. Annual cost, Norway 2070–2100 for 7 sector groups
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps

<input type="checkbox"/>	d. Other level or does not apply
Please provide further details.	
[Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

<input checked="" type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input checked="" type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
<a href="#">Chapter 16 Recommendations for a policy for adapting to climate change, in addition considerations for adaptation were included in each sector considered.</a>	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results



f. Other systematic way (please explain below)



g. Communication of uncertainties varies across the assessment

Please provide further details.

Uncertainty was explicitly dealt with in section 3.4 Principles for handling uncertainty that systematically explored the different sources of uncertainties that have to be addressed and considered. Uncertainties were consequently systematically referred to in the report, but the actual form varied, in some cases uncertainties were noted in others ranges were presented.

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input checked="" type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input checked="" type="checkbox"/>	m. Other dissemination channels (please explain)
<p>The report was sent out for public consultation after it was published. Comments were sent to the (then) Ministry of Environment. The members of the Committee, and especially the leader of the Committee gave many presentations of the report at many events across the country.</p>	
<p>Please provide further details if relevant</p> <p>[Please provide further details on dissemination products and events]</p>	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The Assessment (NOU 2010:10), together with the comments received by the (then) Ministry of Environment were the main basis for the Government's strategy presented to the Parliament in the White Paper Climate Adaptation in Norway in 2013 (Meld. St. 33 (2012–2013)).

## **K. Experiences**

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

Not in a position to comment on this – might come back on it.

**42. What challenges were encountered during the development and use of this assessment?**

Not in a position to comment on this – might come back on it.

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

No formal evaluation.

**44. What would possibly be done differently in a future assessment, and why?**

Not in a position to comment on this.



## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Poland

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of the Environment

**3. What organisation has filled out this survey?**

Ministry of the Environment

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Institute of Environment Protection- State Research Institute

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2013	
Title (including an English translation) and web link(s). Polish National Strategy for Adaptation to Climate Change (NAS 2020) <a href="https://klimada.mos.gov.pl/wp-content/uploads/2014/12/ENG_SPA2020_final.pdf">https://klimada.mos.gov.pl/wp-content/uploads/2014/12/ENG_SPA2020_final.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. Yes. Is now implemented in adaptation strategies for large cities	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

[Year]

Title (including an English translation) and web link(s).

[National adaptation action plan]

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

KLIMADA research project has started the CCIV was the first big source of information about issues mentioned above. It was a basis for the preparation of National Adaptation Strategy and basic source of information after all for any researchers or policy makers interested in.

Outcomes of the projet was used albo for creating the content of Klimasa website

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessary playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[Title of CCIV assessment(s)]

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant.	
[Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input checked="" type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

CCIB multisectoral assessments within the 44mpa.pl project “Development of Urban Adaptation Plans for cities with more than 100,000 inhabitants in Poland”. Adaptation plans for the cities will be prepared on the basis of tailored assessments for every city.

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Portugal

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Portuguese Environment Agency (APA)

**3. What organisation has filled out this survey?**

Portuguese Environment Agency (APA)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

None.



## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2015	
Title (including an English translation) and web link(s). Estratégia Nacional de Adaptação às Alterações Climáticas (ENAA) 2020 (National Strategy for Adaptation to Climate Change 2020) <a href="http://apambiente.pt/index.php?ref=16&amp;subref=81&amp;sub2ref=118&amp;sub3ref=955">http://apambiente.pt/index.php?ref=16&amp;subref=81&amp;sub2ref=118&amp;sub3ref=955</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. National Adaptation Strategy promotes mainstreaming at all relevant scales and vertical coordination. The pilot project ClimAdaPT.Local under EEA Grants-Programme AdaPT gave an important contribution to the capacitation on adaptation of regional and legal officers, which lead to the elaboration of 27 municipal adaptation strategies. National programming of Cohesion Fund supports Adaptation planning at regional, intermunicipal and municipal level, based on the experience of ClimaAaPT.local ( <a href="http://climadapt-local.pt/">http://climadapt-local.pt/</a> ).	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

[Year]

Title (including an English translation) and web link(s).

[National adaptation action plan]

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

Adaptation plans are available for some sectors, but they are not currently regarded as a NAAP. The approach on ENAAC 2020 is to mainstream Adaptation in all relevant policies, which may include sectoral and spatial adaptation planning.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

The starting point on the work on adaptation in Portugal was observed at research level when in 2002 and 2006 were published two assessments on climate change impacts in Portugal – the SIAM I & II projects. These reports remain a reference for any adaptation initiative including the first National Adaptation Strategy (2010). CCIV information was further developed under the NAS particularly at sectoral level where sectoral reports were published and a summary of all this information was integrated on the Progress Report of the NAS (published in 2013). It was from this knowledge that the revision of the NAS was supported. The revised NAS was adopted in 2015 and since then its sectoral groups continue to improve the CCIV information at their side.

It is also important to highlight for this issue two key projects developed under Programme AdaPT: a website produced to provide information on climate scenarios at NUT3 level for a battery of indicators ([www.portaldoclima.pt](http://www.portaldoclima.pt)) and the vulnerability and risk assessments on climate change at local level used to elaborate Local Adaptation Strategies in the ClimaAdaPT.local project (<http://climadapt-local.pt/>).

National Risk Assessment concluded in 2014 also considers climate change scenarios.

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

- [Climate Change in Portugal. Scenarios, Impacts and Adaptation Measures - SIAM Project \(Eds: Santos, F.D., Forbes, K. & Moita, R., 2002\).](#)
- [Alterações Climáticas em Portugal Cenários, Impactos e Medidas de Adaptação – Projecto SIAM II \[Climate Change in Portugal. Scenarios, Impacts and Adaptation Measures – SIAM II Project\] \(Eds: Santos, F.D., & Miranda, P.\)](#)
- [Relatório de Progresso da Estratégia Nacional de Adaptação às Alterações Climáticas \[Progress Report of the National Adaptation Strategy\] \(APA, 2013\).](#)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question

Please provide further details if relevant.

[Further details]

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | a. Yes, by conducting a new multi-sectoral national CCIV assessment            |
| <input type="checkbox"/>            | b. Yes, by updating an existing multi-sectoral national CCIV assessment        |
| <input checked="" type="checkbox"/> | c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions |
| <input checked="" type="checkbox"/> | d. Yes, by conducting CCIV assessments for specific sectors or impact domains  |
| <input type="checkbox"/>            | e. Yes, through other sources of information                                   |
| <input type="checkbox"/>            | f. No, the current information is sufficient                                   |
| <input type="checkbox"/>            | g. The matter has not been discussed, or a decision has not been taken         |

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

Presently several regional and local adaptation strategies and plans are being developed and they will have own CCIV assessments.

Under the revised National Adaptation Strategy some sectoral groups are updating their CCIV assessments and other new sectoral groups (not considered on the first NAS) are conducting their first CCIV assessment (e.g transports and communications).

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

PT-1-2006

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Alterações Climáticas em Portugal. Cenários, Impactos e Medidas de Adaptação - Projecto SIAM II

(Climate Change in Portugal. Scenarios, Impacts and Adaptation Measures - Project SIAM II)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

F.D. Santos e P. Miranda (editores) Alterações Climáticas em Portugal. Cenários, Impactos e Medidas de Adaptação - Projecto SIAM II, Gradiva, Lisboa, 2006

Book downloadable at: <http://cciam.fc.ul.pt/prj/siam/SIAM-II-BOOK.zip>

### 14. When was the assessment published?

2006

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National

### 16. Which organisation or authority initiated or requested the assessment?

Calouste Gulbenkian Foundation; BP Portugal; Ministry of Environment

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Filipe Duarte Santos and Pedro Miranda (editors), Faculty of Sciences, University of Lisbon

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

About 61

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input checked="" type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input checked="" type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input checked="" type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

2002 and 2003 (based on the previous SIAM project that took place between 1999 and 2002).

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment	229 695,94 EUR + VAT	Former Instituto Português do Ambiente (now APA)
Staff time in your own organisation (monetary costs or person months)	188 624,48 EUR	Provided by project partners and FCUL as coordinating institution

<p>Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)</p>	<p>Observed Climate Trends; Global Circulation Models; Regional Climate Models; CIELO; Hydrologic Models; Aerial Videotape-Assisted Vulnerability Analysis; Storm Surge; DSSAT 3.5 (Decision Support System for Agrotechnology Transfer); CERES Wheat and CERES Maize, PROMES; GOTILWA+BIOME4</p>	<p>Provided by project partners and FCUL as coordinating institution</p>
<p>In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)</p>	<p>In-kind experts (not included in contracted or staff time): Climate: 4 experts; Water Resources: 6 experts; Costal Zones: 4 experts; Agriculture: 2 experts; Human Health and Tourism: 8 experts; Energy: 2 experts; Forests and Biodiversity: 5 experts; Fisheries: 1 expert; Case Study (Sado): all of the above</p>	<p>More than 40 Institutions participated in the SIAM II project by offering in-kind human resources and/or multiple types of data</p>
<p>Other resources (please explain) [Other resources]</p>	<p>Not applicable</p>	<p>Not applicable</p>



## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input checked="" type="checkbox"/>	t. Cross-sectoral impact domains
	Socio-economic scenarios; Outreach and engagement; Regional case study (Sado region)

### 24. Which time periods were explicitly addressed in the assessment?

<input type="checkbox"/>	a. Present (including past trends)
<input type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
	Please provide further details if relevant.
	[Further details on time horizon]

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>  <a href="#">Varied across sectors.</a>

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors.  <a href="#">Each sector applied its own methodologies while using the same climate data.</a>	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. The main focus of the workshops was for outreach and engagement purposes.					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

SIAM II was the first multi-sectoral climate change assessment for a southern european country.

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
<a href="#">Emission scenarios IS92a and SRES A2/B2</a>	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input checked="" type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
<a href="#">Consideration of non-climatic changes varied across sector assessments</a>	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> <a href="#">Each sector assessment used its own metrics</a>

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input checked="" type="checkbox"/>	d. Other level or does not apply
Please provide further details. <a href="#">Different disaggregation levels depending on the sector</a>	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input checked="" type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input checked="" type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input checked="" type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

Despite being published several years ago (2002 and 2006), the SIAM projects still remain a reference for adaptation projects and other initiatives. Some parts of the CCIV assessment on the SIAM projects have been updated, namely on: the NAS Progress Report (2013), the climate scenarios portal (Portal do Clima - <http://portaldoclima.pt/en/>), other sectoral reports (e.g. Relatório Grupo de Trabalho para o Litoral 2015 [Coastline 2015 Working Group Report]) and on sectoral NAS working groups and academic activities and projects.

Adaptation plans and strategies use the information available on this different sources depending on its own scope. Awareness raising and enabling action are promoted mainly from adaptation initiatives developed by projects that reflect, among others, the CCIV information from the SIAM projects.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

This assessment was very important to bring public and academic attention to the impacts of climate change. Also its multisectoral scope and the involvement of various experts from different fields and from different research centres resulted on two major positive outcomes:

- Allowed a more effective dissemination of SIAM's CCIV assessment;
- Capacitated experts from the various sectors to work with climate scenarios and on adaptation.

### **42. What challenges were encountered during the development and use of this assessment?**

Every sector had its own particularities and research approaches so a fully common structure for the CCIV assessment was not followed.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

The information published was quite extensive and because it didn't follow a systematic approach for every sector vulnerability, made it harder to consult the information and to establish priorities between risks, sectors, and regions.

### **44. What would possibly be done differently in a future assessment, and why?**

It would be important to have a standardized method for assessment and report between the different sectors, with common regional disaggregation and preferably articulated with a database with a structure favourable for update and improvement.



## **L. Concluding question**

**45. Do you have any feedback regarding this survey?**

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Romania

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of Environment

**3. What organisation has filled out this survey?**

Ministry of Environment

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Ministry of Water and Forests, National Meteorological Administration

## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2016	
Title (including an English translation) and web link(s). The National Climate Change Strategy based on growth economy with low carbon emissions for the period 2016-2020 and the National Climate Change Action Plan for the implementation of national climate change strategy based on growth economy with low emissions for the period 2016-2020. The link for the entire document: <a href="http://www.mmediu.ro/categorie/strategia-cresc/117">http://www.mmediu.ro/categorie/strategia-cresc/117</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2016

Title (including an English translation) and web link(s).

The National Climate Change Strategy based on growth economy with low carbon emissions for the period 2016-2020 and the National Climate Change Action Plan for the implementation of national climate change strategy based on growth economy with low emissions for the period 2016-2020.

The link for the entire document: <http://www.mmediu.ro/categorie/strategia-cresc/117>

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

Sections five and six from the Strategy set out the reporting format for the priority actions selected at sectorial level to reduce greenhouse gas emissions and adapt to climate change. The proposed actions to reduce emissions and adapt to climate change are linked to the key strategic sectoral targets proposed in the national strategy for climate change and low carbon growth. The action plan includes lists of sectoral actions and result indicators of the proposed measures.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

[Timeline of CCIV and adaptation policy development]

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

Romania - Climate change and low carbon green growth program : summary of sector rapid assessments and recommendations for incorporating climate actions in the 2014-2020 sectoral operational programs - component B synthesis report

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input checked="" type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

[Planned CCIV assessments]

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

*Provided by EEA*

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Romania - Climate change and low carbon green growth program : summary of sector rapid assessments and recommendations for incorporating climate actions in the 2014-2020 sectoral operational programs - component B synthesis report

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

Xie, Jian. 2014. Romania - Climate change and low carbon green growth program : summary of sector rapid assessments and recommendations for incorporating climate actions in the 2014-2020 sectoral operational programs - component B synthesis report. Washington, DC ; World Bank Group.  
<http://documents.worldbank.org/curated/en/961771468094456331/Romania-Climate-change-and-low-carbon-green-growth-program-summary-of-sector-rapid-assessments-and-recommendations-for-incorporating-climate-actions-in-the-2014-2020-sectoral-operational-programs-component-B-synthesis-report>

### 14. When was the assessment published?

2014

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Romanian territory

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of the Environment

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

World Bank, Ministry of the Environment,



**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

[Assessment team]

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input checked="" type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

[Duration]

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		
Other resources (please explain)		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
[Further details on time horizon]	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input checked="" type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input checked="" type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
[Please provide further details]	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input checked="" type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	



## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input type="checkbox"/>	a. Printed publication
<input type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The assessment results were used to elaborate the updated action plan for climate change.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

We appreciate the integrative approach applied to water sector for which a suite of models (starting from the results of the climate models) have been used: a run-off model, a crop model, a water-use model.

### **42. What challenges were encountered during the development and use of this assessment?**

The coupling of hazard and impact data is a challenge, especially due to the quantitative impact data.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

The effort have to be not only multidisciplinary, but also trans-disciplinary.

### **44. What would possibly be done differently in a future assessment, and why?**

The starting point for the modeling suite should be, in the next iteration, the results from the regional climate models (e.g. EURO-CORDEX) instead of global climate models, like in the present version.

## **L. Concluding question**

**45. Do you have any feedback regarding this survey?**

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Slovenia

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of the Environment and Spatial Planning, [www.mop.gov.si](http://www.mop.gov.si)

**3. What organisation has filled out this survey?**

Slovenian Environment Agency (ARSO), Ministry of the Environment and Spatial Planning (MOP)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

none

## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2016	
Title (including an English translation) and web link(s). Strategic Framework for Climate Change Adaptation <a href="http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/podnebne_spremembe/SOzP_ang.pdf">http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/podnebne_spremembe/SOzP_ang.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

[Year]

Title (including an English translation) and web link(s).

[National adaptation action plan]

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

- ARSO: trends from the past project (1961-2011, finished in 2013), reports on cc impacts for water sector (2010), preparation of first scenarios for the future (2006, 2014), now ongoing project on cc scenarios (RCP2.5, RCP4.5 and RCP8.5 till 2100) and impacts will be further analysed in the future
- Ministry of agriculture and forestry: first adaptation strategy for agriculture and forestry (2004), action plan for years 2010 and 2011, adaptation measures now included in CAP and other activities of the ministry
- MOP: first climate vulnerability assessment for Alpine region (2012), then climate risk assessment for Slovenia (report 2014), leading to NAS (2016)
- Administration for Civil Protection and Disaster Relief of the Ministry for Defense: Disaster risk assessment Report (2014, upgraded with climate change impacts for identified existing risks in 2016)

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><u>Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).</u></p> <p><a href="#">Okolje se spreminja. Podnebna spremenljivost Slovenije in njen vpliv na vodno okolje. (=previously mentioned water report from 2010)</a></p>				

9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.

<input type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input checked="" type="checkbox"/>	s. Other sectors or impact domains <a href="#">Agriculture-forestry-biodiversity (nature); which are closely connected</a>
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

10. Are there plans for obtaining more precise or systematic CCIV information in the future?

<input checked="" type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken



Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

[Planned CCIV assessments]

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

SI-2-2010

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Okolje se spreminja. Podnebna spremenljivost Slovenije in njen vpliv na vodno okolje.

(The environment is changing. Climate variability in Slovenia and its effects on the aquatic environment)

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

OKOLJE se spreminja : podnebna spremenljivost Slovenije in njen vpliv na vodno okolje / [avtorji Klemen Bergant ... [et al.] ; urednik Tanja Cegnar]. - Ljubljana : Ministrstvo za okolje in prostor, Agencija Republike Slovenije za okolje, 2010. ISBN 978-961-6024-55-6

[http://www.arso.gov.si/o%20agenciji/knjiznica/publikacije/Okolje\\_se%20spreminja.pdf](http://www.arso.gov.si/o%20agenciji/knjiznica/publikacije/Okolje_se%20spreminja.pdf)

### 14. When was the assessment published?

2010

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Slovenia

### 16. Which organisation or authority initiated or requested the assessment?

Ministrstvo za okolje in prostor (Ministry of Environment and Spatial Planning)

World Meteorological Organization

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Agencija Republike Slovenije za okolje

(Slovenian Environment Agency)

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

About 20 experts

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input checked="" type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input checked="" type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

[Duration]

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		
Other resources (please explain)		
WMO, Tromp Foundation		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade) [Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains [Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant. [Further details on time horizon]	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input checked="" type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines <a href="#">Guide to Climatological Practice WMO, WMO Service delivery strategy, Global framework for climate services</a>
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
--	------------------	---------------	------------------------	--------------------	-----------

a. Government authorities at national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input checked="" type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
[Please provide further details]	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	



## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
[Further details on adaptation measures]	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input type="radio"/>	g. Communication of uncertainties varies across the assessment
Please provide further details.	
[Further details on uncertainty communication]	

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input checked="" type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

[Please describe the use for policy development]

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

Harmonization of vocabulary used in different sectors

**42. What challenges were encountered during the development and use of this assessment?**

[Please describe challenging experiences]

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

**44. What would possibly be done differently in a future assessment, and why?**

[Please describe possible changes in a future assessment]

## L. Concluding question

### 45. Do you have any feedback regarding this survey?

It is difficult to fill the form for our country since we're in an early phase of CCIV development, for now only climate scenarios have been prepared, which is an important precondition for any meaningful CCIV, so there is more to expect in the near future. There are however other activities (CCRA, DRA, IEA...) being carried out and developed in parallel, but hard to fit in within this questionnaire (which is btw very user unfriendly), so we are available for further clarifications over e-mai or phone (preferably). :)

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Spain

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Spanish Climate Change Office, Ministry of Agriculture and Fisheries, Food and Environment

<http://www.mapama.gob.es>

**3. What organisation has filled out this survey?**

Spanish Climate Change Office

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

*This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.*

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2006	
Title (including an English translation) and web link(s). The Spanish National Climate Change Adaptation Plan <a href="http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/plan-nacional-adaptacion-cambio-climatico/">http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/plan-nacional-adaptacion-cambio-climatico/</a> <a href="http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/folleto_pnacc_ing_tcm7-197095.pdf">http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/folleto_pnacc_ing_tcm7-197095.pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. [Additional information]	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input checked="" type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2014

Title (including an English translation) and web link(s).

The Spanish National Climate Change Adaptation Plan – Third Work Programme 2014-2020

[http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/3PT-PNACC-enero-2014\\_tcm7-316456.pdf](http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/3PT-PNACC-enero-2014_tcm7-316456.pdf)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]



## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

The first comprehensive climate change impact assessment for Spain was published in 2005: A Preliminary General Assessment of the Impacts in Spain Due to the Effects of Climate Change ([http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/Full\\_report\\_tcm7-199440.pdf](http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/Full_report_tcm7-199440.pdf))

This assessment informed the development of the Spanish National Climate Change Adaptation Plan, which was adopted in 2006.

A lot of sectoral CCIV assessments have been developed recently, always in close collaboration with the corresponding competence institution in order to mainstream adaptation into the planning and management of each of the sectors. Among these recent assessments are:

#### **Agriculture**

- Impacts, vulnerability and adaptation in the agricultural sector in Spain: Approach to knowledge and management in Spain (2016)  
([http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/impactos\\_vulnerabilidad\\_adaptacion\\_cambio\\_climatico\\_sector\\_agrario\\_tcm7-424554.pdf](http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/impactos_vulnerabilidad_adaptacion_cambio_climatico_sector_agrario_tcm7-424554.pdf))
- Climate Change and vineyard in Spain (2016)  
(<http://coag.coag.org/post/efectos-y-adaptacion-del-vinedo-al-cambio-climatico-106462>)
- Climate Change and aquaculture in Spain (2014)  
[http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/Impactos\\_del\\_cambio\\_clim%C3%A1tico\\_sobre\\_la\\_acuicultura\\_en\\_Espa%C3%B1a\\_tcm7-360143.pdf](http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/Impactos_del_cambio_clim%C3%A1tico_sobre_la_acuicultura_en_Espa%C3%B1a_tcm7-360143.pdf)  
Impacts, vulnerability and adaptation to climate change in mediterranean apiculture  
<http://mon.uvic.cat/catedra-agroecologia/files/2016/10/Informe-Apicultura-y-CC.pdf>

#### **Turism**

- Impacts, vulnerability and adaptation to climate change in tourism sector (2016)  
([http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/impactosvulnerabilidadyadaptacionalcambioclimaticoenelsectorturistico\\_tcm7-434487.pdf](http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/impactosvulnerabilidadyadaptacionalcambioclimaticoenelsectorturistico_tcm7-434487.pdf))
- Cost and benefits of adaptation to climate change in the Winter tourism sector in Spain (2016)  
([http://ent.cat/wp-content/uploads/2016/03/160126\\_CB-de-la-adaptaci3n-al-cambio-clim3tico-en-el-sector-del-turismo-de-nieve-en-Espa3a.pdf](http://ent.cat/wp-content/uploads/2016/03/160126_CB-de-la-adaptaci3n-al-cambio-clim3tico-en-el-sector-del-turismo-de-nieve-en-Espa3a.pdf))

#### **Health**

Impacts of climate change on health (2014)  
[http://www.oscc.gob.es/docs/documentos/2013.11.18\\_Publ\\_Impacto\\_Cambio\\_Climatico\\_compl.pdf](http://www.oscc.gob.es/docs/documentos/2013.11.18_Publ_Impacto_Cambio_Climatico_compl.pdf)

#### **Marine environment**

- Climate Change in the Marine environment in Spain: Impacts, vulnerability and adaptation (2016)  
[http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/kersting\\_2016\\_cambio\\_climatico\\_medio\\_marino\\_tcm7-416481.pdf](http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/kersting_2016_cambio_climatico_medio_marino_tcm7-416481.pdf)

#### **Coastal areas**

- Impacts, vulnerability and adaptation to climate change in coastal areas in Spain (2015)  
[http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/2014\\_INFORME\\_C3E\\_final\\_tcm7-352338.pdf](http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/2014_INFORME_C3E_final_tcm7-352338.pdf)  
<http://www.c3e.ihcantabria.com/>  
<http://www.c3e-asturias.ihcantabria.com/>

#### **Desertification**

- Impacts of climate change in the process of desertification in Spain (2016)  
[http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/impactos-desertificacion\\_tcm7-421434.pdf](http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/impactos-desertificacion_tcm7-421434.pdf)

#### **Forest and Biodiversity**

- Protected Areas In the context of Global Change. Mainstreaming adaptation to climate change into planning and management (2016)

[http://www.redeuroparc.org/system/files/shared/Publicaciones/manual\\_13\\_planificacion\\_adaptacion.pdf](http://www.redeuroparc.org/system/files/shared/Publicaciones/manual_13_planificacion_adaptacion.pdf)

- Forest and Biodiversity facing climate change: Impacts, vulnerability and adaptation in Spain (2015)  
[http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/bosques-biodiversidad-frente-al-cc\\_tcm7-404996.pdf](http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/bosques-biodiversidad-frente-al-cc_tcm7-404996.pdf)

### Energy

- Adaptation to Climate Change in the Spanish Energy Sector (2015)  
<https://www.iit.comillas.edu/docs/IIT-15-169A.pdf>

### Tools and guidelines

- Map viewer-AdapteCCa on downscaled climate change scenarios for Spain  
<http://www.adaptecca.es/escenarios/>  
Map viewer con coast scenarios (2017)  
<http://www.c3e.ihcantabria.com/>
- Guideline to elaborate local adaptation strategies, Volumes I (2015) and II (2016)  
Volumen I: [http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/guia\\_local\\_para\\_adaptacion\\_cambio\\_climatico\\_en\\_municipios\\_espanoles\\_tcm7-419201.pdf](http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/guia_local_para_adaptacion_cambio_climatico_en_municipios_espanoles_tcm7-419201.pdf)  
Volumen II: [http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/guia\\_local\\_para\\_adaptacion\\_cambio\\_climatico\\_en\\_municipios\\_espanoles\\_vol\\_2\\_tcm7-430401.pdf](http://www.mapama.gob.es/es/cambio-climatico/publicaciones/publicaciones/guia_local_para_adaptacion_cambio_climatico_en_municipios_espanoles_vol_2_tcm7-430401.pdf)

Protected areas and global change: A guide to including adaptation to climate change in management and planning

[http://www.redeuroparc.org/system/files/shared/Publicaciones/manual\\_13\\_planificacion\\_adaptacion.pdf](http://www.redeuroparc.org/system/files/shared/Publicaciones/manual_13_planificacion_adaptacion.pdf)

## 8. How important have different sources of CCIV information been for the development of national adaptation policy?

Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).</u>				
<a href="#">A Preliminary General Assessment of the Impacts in Spain Due to the Effects of Climate Change</a>				

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input checked="" type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

Water and climate change: a new CCIV is being carried out to update an earlier assessment made in 2012. It will use the new scenarios from the AR5 and it will include an analysis of droughts. It will be finished in 2017.

Wild fires and climate change: An assessment on climate change and wild fires in Spain has just been finished and it will be available on line in a few weeks.

Extensive stockfarming and climate change: An assessment on this sector has just been finished a few weeks ago and it will be available on line in 2017.

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

ES-1-2005

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

A Preliminary General Assessment of the Impacts in Spain Due to the Effects of Climate Change

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

A Preliminary Assessment of the Impacts in Spain due to the Effects of Climate Change. ECCE PROJECT - FINAL REPORT. Ministerio de Medio Ambiente, 2005

[http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/Full\\_report\\_tcm7-199440.pdf](http://www.mapama.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/Full_report_tcm7-199440.pdf)

### 14. When was the assessment published?

2005

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Spain

### 16. Which organisation or authority initiated or requested the assessment?

Ministry of the Environment

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

University of Castilla La Mancha and other research institutions

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

Around 50 main authors, 146 contributing authors, 160 reviewers

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
x	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
The Spanish National Adaptation Plan was adopted in 2006. Findings included in the ECCE Project were a basic source for the adaptation planning.	

### 20. Who were the main target users of the assessment?

x	a. Politicians
x	b. Government authorities at national level
x	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
x	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

[Duration]

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

Other resources (please explain)		
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[Other resources]		
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## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains
	[Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral impact domains
	[Please provide further details]

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
[Further details on time horizon]	



## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input checked="" type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
<p>Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.</p> <p>Further guidance was provided by the ACACIA Concerted Action funded by the European Commission:</p> <p><a href="#">Martin L. Parry: Assessment of Potential Effects and Adaptations for Climate Change in Europe. Jackson Environment Institute, London, 2000.</a></p>	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
<p>Please provide further details on the assessment methods, including when different methods were used for different sectors.</p> <p>[Please provide further details]</p>	

**27. Were external stakeholders involved in the assessment, and how?**

*Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.*

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	x	<input type="checkbox"/>	<input type="checkbox"/>	x	<input type="checkbox"/>
b. Government authorities at sub-national level	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

[Additional information on stakeholder involvement]

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

[Innovative aspects]

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input checked="" type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
Most climate projections were based on the SRES A2 and B2 scenarios.	
Global projections were based on various global climate models.	
Regional projections were based on one regional climate model (PROMES), which participated in the PRUDENCE project.	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input checked="" type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
[Please provide further details]	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i> [Please explain the assignment of vulnerability/risk categories]
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i> [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> [Please provide further details]
<input checked="" type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).

<input type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input checked="" type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
<a href="#">The summary provides an overview of main impacts of climate change in Spain for each sector, but it does not compare the impacts of different sectors with each other.</a>	

**36. Did the assessment unambiguously identify particularly affected regions?**

This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input checked="" type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
<a href="#">Each sectoral chapter includes a section on „most vulnerable areas“</a>	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
<a href="#">Each sectoral chapter includes a section on „main adaptation options“</a>	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)
<input type="radio"/>	c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
<input type="radio"/>	d. Uncertainty range
<input type="radio"/>	e. Probabilistic results
<input type="radio"/>	f. Other systematic way (please explain below)
<input checked="" type="radio"/>	g. Communication of uncertainties varies across the assessment

Please provide further details.

Each sectoral chapter includes a section on “main uncertainties and knowledge gaps”. In a few chapters, these uncertainties are expressed using discrete categories (e.g. from “very high certainty” to “low certainty”).

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

[The first assessment was the basis for the Spanish National Adaptation Plan](#)

## **K. Experiences**

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

[Please describe positive experiences]

**42. What challenges were encountered during the development and use of this assessment?**

[Please describe challenging experiences]

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

[Please describe lessons learned]

**44. What would possibly be done differently in a future assessment, and why?**

[Please describe possible changes in a future assessment]



## L. Concluding question

45. Do you have any feedback regarding this survey?

[Feedback]

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Switzerland

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Federal Office for the Environment (FOEN)

[www.bafu.admin.ch/climate](http://www.bafu.admin.ch/climate)

**3. What organisation has filled out this survey?**

FOEN, climate division

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Other organisations]

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2012 (1 <sup>st</sup> part of Federal Council's strategy, i.e. goals, challenges and fields of action) 2014 (2 <sup>nd</sup> part of strategy, i.e. action plan)	
Title (including an English translation) and web link(s). Adaptation to climate change in Switzerland Goals, challenges and fields of action <a href="https://www.bafu.admin.ch/bafu/en/home/topics/climate/publications-studies/publications/adaptation-climate-change-switzerland-2012.html">https://www.bafu.admin.ch/bafu/en/home/topics/climate/publications-studies/publications/adaptation-climate-change-switzerland-2012.html</a> Adaptation to climate change in Switzerland. Action plan 2014-2019 <a href="https://www.bafu.admin.ch/bafu/en/home/topics/climate/publications-studies/publications/anpassung-klimawandel-schweiz-2014.html">https://www.bafu.admin.ch/bafu/en/home/topics/climate/publications-studies/publications/anpassung-klimawandel-schweiz-2014.html</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. The Swiss adaptation strategy has two parts. It includes an action plan, which is the 2 <sup>nd</sup> part of the strategy.	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

2014

Title (including an English translation) and web link(s).

Anpassung an den Klimawandel in der Schweiz. Aktionsplan 2014-2019. Zweiter Teil der Strategie des Bundesrates

(Adaptation to climate change in Switzerland. Action Plan 2014-2019)

<https://www.bafu.admin.ch/bafu/en/home/topics/climate/publications-studies/publications/anpassung-klimawandel-schweiz-2014.html>

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

There is one national action plan which is structured by sectors (in total 9).

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

OcCC (2007): Klimaänderung und die Schweiz 2050. [[www.occc.ch/reports/291\\_d.html](http://www.occc.ch/reports/291_d.html)]; 1st qualitative impact assessment based on a climate scenario. The report eventually led to the decision to start with adaptation on the national level.

CH2011 (2011): Swiss Climate Change Scenarios CH2011. [<http://www.ch2011.ch/en/index.html>]; basis for development of adaptation strategy.

BAFU (2012): Auswirkungen der Klimaänderung auf Wasserressourcen und Gewässer (CCHydro).

CH2014-Impacts (2014): CH2014 - Impacts. Toward quantitative scenarios of climate change impacts in Switzerland. [<http://www.ch2014.ch/>].

Akademien der Wissenschaften Schweiz (2016): Brennpunkt Klima Schweiz . Grundlagen, Folgen und Perspektiven

[<https://naturwissenschaften.ch/organisations/proclim/activities/brennpunkt/downloads/81637-brennpunkt-klima-schweiz>]

Bundesamt für Umwelt (2017): Analyse der klimabedingten Risiken und Chancen in der Schweiz (to be published in december 2017) [<https://www.bafu.admin.ch/klima-risikoanalyse>]; bases for development and implementation of adaptation strategies on the national and cantonal level. In total, approximately 400 experts have contributed to the assessment, and it is based on all relevant publications. The climate scenarios, which have been used for the assessment are based on CH2011, the hydrological scenarios on CCHydro (BAFU 2012), and the impacts on “Brennpunkt Klima Schweiz”. As the climate risk assessment, the latter report gives a comprehensive overview over all impacts. The impacts are however not assessed with a consistent approach, as has been done for the climate risks.

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. ‘Very important’ means that an information source has had a major influence on setting the priorities and focusing actions; ‘somewhat important’ means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[Klimabedingte Risiken und Chancen. Eine schweizweite Synthese](#)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]

<input checked="" type="checkbox"/>	t. Cross-sectoral policy domains Especially feedbacks or interactions between impacts within different sectors
<input type="checkbox"/>	u. I cannot answer this question
Please provide further details if relevant. [Further details]	

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input checked="" type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken
Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any). Switzerland will only just complete its first national CCIV assessment commissioned by the government. The assessment will eventually be updated, in which form (impact domains, sectors or multiscotral national assessment) and at what time has not yet been determined. On the other hand, sectoral CCIV assessments are conducted by the research community anyway.	

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

CH-2-2017

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

[Klimabedingte Risiken und Chancen. Eine schweizweite Synthese](#)

Climate related risks and opportunities. A national synthesis for Switzerland

Synthesis report is not yet published (release date 5 december 2017), it will also be published in French and Italian (not in English though)

The Foen risk assessment not only consists of a synthesis report for whole Switzerland but of 8 regional (sub-national) case studies (8 regional assessment reports in the language of the corresponding region and 2 background information reports in German) and a development of the method (1 report in German).

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

The synthesis report is not yet published (no reference)

All reports are published (or will be published in the case of the synthesis report) on the following website (scroll down to the bottom)

DE: [www.bafu.admin.ch/klimaanpassung-risikoanalyse](http://www.bafu.admin.ch/klimaanpassung-risikoanalyse)

FR : [www.bafu.admin.ch/adaptation-climat-analyse-risques](http://www.bafu.admin.ch/adaptation-climat-analyse-risques)

IT : <https://www.bafu.admin.ch/bafu/it/home/temi/clima/info-specialisti/adattamento-ai-cambiamenti-climatici/strategia-del-consiglio-federale-di-adattamento-ai-cambiamenti-c/analisi-dei-rischi-e-delle-opportunita-legati-ai-cambiamenti-cli.html>

### 14. When was the assessment published?

Synthesis report: 5 december 2017

Other reports between 2013 and 2016



**15. What is the geographic coverage of the assessment?**

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Switzerland (sub-national assessments (cantonal case studies) were conducted for the Swiss Plateau, the alpine und prealpine region, southern Switzerland, the Jura and the large agglomerations)

**16. Which organisation or authority initiated or requested the assessment?**

Mandate from the federal council

**17. Which organisation(s) carried out the assessment?**

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Federal Office for the Environment FOEN (in house work and paid external services by private bureaus)

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

360 in total, 75 for synthesis report

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input checked="" type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input checked="" type="checkbox"/>	f. Other reasons (please specify below)

Please provide further details on the reasons for conducting the assessment.

[Also to provide a basis for adaptaion action \(strategies, action plans, ...\) in the cantons of Switzerland: 8 case studies in different regions of Switzerland conducted](#)

### 20. Who were the main target users of the assessment?

<input type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
	[Further details on other target users]

### 21. How long did the assessment project take?

7 years: 2011-2017

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

<b>Other resources (please explain)</b>		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade) Superficially analyzed: Impacts of climate change abroad concerning Switzerland
<input checked="" type="checkbox"/>	s. Other sectors/impact domains - Superficially analyzed: wild card risks - Open spaces and green areas in cities
<input checked="" type="checkbox"/>	t. Cross-sectoral impact domains The case studies were structured by impact domains, the synthesis report on the other hand is structured by the cross-sectoral challenges of climate change (referring to the national strategy).

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant. Present (reference period 1980-2009) and 2060 (future period 2045-2074)	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them.	
<input checked="" type="radio"/>	<p>h. No, the assessment approach was developed specifically for this assessment</p> <p><i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i></p> <ol style="list-style-type: none"><li>1. For each of the 8 cantonal case studies, the risks and opportunities are assessed under current climate conditions, either by determining the 100-year event for event-like hazards, or the annual expected damage for slow-onset changes.</li><li>2. The assessment is also carried out for two climate scenarios and one socio-economic scenario.</li><li>3. Based on the risks and opportunities of the case studies and additional risks and opportunities relevant for the corresponding large regions (Plateau, prealpine and alpine region, southern Switzerland, Jura and large agglomerations), a long list of risks and opportunities is established for Switzerland.</li><li>4. Based on selected criteria (such as the risk increase or decrease under the specified scenario, or the associated adaptive capacity), priority risks and opportunities are determined for Switzerland.</li><li>5. The priority risks and opportunities are associated cross-sectoral challenges of climate change, as described in the national adaptation strategy.</li></ol> <p>A methodological report is published on the following website (scroll down to the bottom)</p> <p>DE: <a href="http://www.bafu.admin.ch/klimaanpassung-risikoanalyse">www.bafu.admin.ch/klimaanpassung-risikoanalyse</a></p> <p>FR : <a href="http://www.bafu.admin.ch/adaptation-climat-analyse-risques">www.bafu.admin.ch/adaptation-climat-analyse-risques</a></p> <p>IT : <a href="https://www.bafu.admin.ch/bafu/it/home/temi/clima/info-specialisti/adattamento-ai-cambiamenti-climatici/strategia-del-consiglio-federale-di-adattamento-ai-cambiamenti-c/analisi-dei-rischi-e-delle-opportunita-legati-ai-cambiamenti-cli.html">https://www.bafu.admin.ch/bafu/it/home/temi/clima/info-specialisti/adattamento-ai-cambiamenti-climatici/strategia-del-consiglio-federale-di-adattamento-ai-cambiamenti-c/analisi-dei-rischi-e-delle-opportunita-legati-ai-cambiamenti-cli.html</a></p>

**26. Which were the main assessment methods used?**

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input checked="" type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods

Please provide further details on the assessment methods, including when different methods were used for different sectors.

The team that conducted the assessment reviewed the literature and assessed the risks and opportunities based on this information and indicators. Interviews with experts helped clarify/estimate certain risks or opportunities and the expert workshops as well as the reviewing of drafts by experts validated plausibility.

**27. Were external stakeholders involved in the assessment, and how?**

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b. Government authorities at sub-national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

In each case study one representative of the corresponding canton was more involved in the project. Experts (government authorities at national and cantonal level, scientists, representatives of NGOs, associations or private firms) contributed their knowledge by means of interviews, workshops and reviewing drafts.

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

- Systematic approach to assess all risks and opportunities of Switzerland
- Method is consistent for all sectors
- Method allows to compare and prioritize the risks and opportunities
- Case studies yielded specific results for the corresponding canton: good basis for planning adaptation action (in this and similar cantons)

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input checked="" type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
Swiss Climate Change Scenarios CH2011	
Further information: <a href="http://www.ch2011.ch/en">www.ch2011.ch/en</a>	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input checked="" type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
Depending on the impact, socio-economic and demographic scenarios were considered qualitatively or quantitatively.	
However climate and socio-economic scenarios were not mixed. That means: The risk was evaluated in the present. Afterwards either a climate scenario or a socio-economic scenario was used to evaluate the risk in the future (2060). This shows the impact of climate change on the risk (no consideration of socio-economic changes). The impact of socio-economic changes was separately shown and indicated if the climate related risk might be defused or aggravated.	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment

Please provide further details on the consideration of adaptive capacity.

The case studies didn't take into consideration any adaptive capacity. The ETHZ conducted (mandate by FOEN) a study on the current adaptive capacity of Switzerland (qualitative estimates assessed by experts). These results have found their way into the synthesis report.



## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i>
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i> [Please explain the monetisation of non-market impacts]
<input checked="" type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i>  Risk were evaluated through monetized metrics if possible, if not they were qualitatively evaluated (in the case studies). It was then defined, how they compare to each other. In the synthesis report a qualitative evaluation was used (3 levels, minor/moderate/major change).

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i> [Please provide further details]
<input type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i> [Please provide further details]
<input checked="" type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i>  Synthesis report: <a href="#">Qualitative maps (21)</a> , <a href="#">qualitative infographic</a> Case studies : <a href="#">quantitative and qualitative overview graphics</a>
<input type="checkbox"/>	d. No specific summary illustration

### 34. At what level(s) of regional aggregation were the main assessment results presented?

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply

Please provide further details.

Switzerland was partitioned into 6 large regions (Plateau, prealpine and alpine region, southern Switzerland, Jura, large agglomerations). For each of the regions, one or two representative cantons were analysed in detail. Based on the results of the cantonal studies, the risks and opportunities were determined for the corresponding large region and for the whole of Switzerland.

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

- |                                     |   |
|-------------------------------------|---|
| <input type="checkbox"/>            | a. Particularly affected sectors were identified unambiguously                      |
| <input checked="" type="checkbox"/> | b. Priority impacts/risks were identified unambiguously                             |
| <input type="checkbox"/>            | c. Neither particularly affected sectors nor priority impacts/risks were identified |

Please provide any additional information on this topic that you consider relevant.

The synthesis report prioritizes the risks and opportunities regarding Switzerland (and its different regions). In whole Switzerland about 30 risks and opportunities were identified as priority. Priority was evaluated for the six different regions separately, meaning that (i.e.) the risk of forest fire might be a priority in the alps but not in the Swiss plateau.

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

- |                                     |   |
|-------------------------------------|---|
| <input type="checkbox"/>            | a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously |
| <input type="checkbox"/>            | b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously        |
| <input type="checkbox"/>            | c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously  |
| <input checked="" type="checkbox"/> | d. The assessment did not identify particularly affected regions unambiguously                      |

Please provide any additional information on this topic that you consider relevant.

See answer to question 35: The assessment didn't lead to the conclusion that one region is more affected by climate change than another region.

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

- |                                  |   |
|----------------------------------|---|
| <input checked="" type="radio"/> | a. Adaptation measures were not identified or evaluated on a systematic basis |
| <input type="radio"/>            | b. Potential adaptation measures were <i>identified</i>                       |
| <input type="radio"/>            | c. Specific adaptation measures were <i>evaluated and/or prioritised</i>      |
| <input type="radio"/>            | d. Consideration of adaptation measures varied across the assessment          |

Please provide further details.

Potential adaptation measures are mentioned in the synthesis report, but not focus of the assessment.

**38. How were uncertainties from different sources communicated in the assessment results?**

- |                       |  |
|-----------------------|--|
| <input type="radio"/> | a. Not explicitly (i.e. only central estimate) |
|-----------------------|--|

- b. Not systematically (e.g. some uncertainties are described qualitatively)
- c. Discrete categories (e.g. low/medium/high confidence or uncertainty)
- d. Uncertainty range
- e. Probabilistic results
- f. Other systematic way (please explain below)
- g. Communication of uncertainties varies across the assessment

Please provide further details.

The first case study estimated the uncertainty of each risk with Monte Carlo simulations, all the other case studies estimated the uncertainties of the risks by means of categories (uncertainty factors). Generally, all the case studies yielded huge uncertainties. Therefore the synthesis report covers the topic uncertainty in a separate chapter (no statement of uncertainties to the single risks and opportunities).

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input checked="" type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
Only the synthesis report is a printed publication. The press release and the public event (or stakeholder event) where experts from research, administration and the private sector are invited, are only planned for the synthesis report. Articles (interviews, citations) about the synthesis report are planned in a couple of magazines.	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

They will be taken into consideration when the national action plan is up-dated. The will also serve as a basis for future evaluations. At cantonal level theses results are a basis for further adaptation activity on this level (10 cantons used this basis).

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

The 8 case studies in different regions of Switzerland strengthened the collaboration between the national and sub-national level, also across the different sectors. The method (systematically assessing all risks and opportunities) ensures that all important risks have been identified and the results are therefore a sound basis for planning adaptation measures on national and sub-national levels.

### **42. What challenges were encountered during the development and use of this assessment?**

The originally developed method had to be adapted during the project. Basic data (i.e. the price of energy) changed during the completion of the case studies. Comparability was not always possible: The plausibility of the results (in comparison to other results) had to be evaluated for the synthesis report. Also bringing together quantitative and qualitative data was a challenge. Or the subjectivity linked to expert evaluations.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Reviewing the assessment reports was a fundamental part of this project. Not only does it ensure the correctness, completeness and quality of the information but it also leads to the acceptance of the report and its results.

### **44. What would possibly be done differently in a future assessment, and why?**

Professional evaluation of the project will be conducted in 2018 and will yield suggestions for improvement.

## L. Concluding question

### 45. Do you have any feedback regarding this survey?

Question 22:

Resources regarding the whole assessment (development of a method, case studies, synthesis report)

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)	360 Experts: - Participating in workshops - Reviewing drafts  Rough Estimate: 500 person days	
Other resources (please explain)  [Other resources]		

A lot of patience was needed to fill out the survey, because half the times you couldn't write into the „answer boxes“. The explanations helped a bit...

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

Turkey

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

Ministry of Environment and Urbanization

**3. What organisation has filled out this survey?**

Ministry of Environment and Urbanization

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

Ministry of Forestry and Water Affairs

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2011	
Title (including an English translation) and web link(s). Turkey's National Climate Change Adaptation Strategy and Action Plan <a href="http://www.csb.gov.tr/db/iklim/editorodosya/uyum_stratejisi_eylem_plani_EN(2).pdf">http://www.csb.gov.tr/db/iklim/editorodosya/uyum_stratejisi_eylem_plani_EN(2).pdf</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. National Climate Change Adaptation Strategy and Action Plan covers the subtitles of <ul style="list-style-type: none"><li><input type="radio"/> Management of Water Resources</li><li><input type="radio"/> Agriculture Sector and Food Security</li><li><input type="radio"/> Ecosystem Services, Biodiversity and Forestry</li><li><input type="radio"/> Natural Disaster Risk Management</li><li><input type="radio"/> Public Health</li><li><input type="radio"/> Crosscutting Issues</li></ul>	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input checked="" type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No



Date of adoption or last revision of the national adaptation action plan

2011

Title (including an English translation) and web link(s).

Turkey's National Climate Change Adaptation Strategy and Action Plan

[http://www.csb.gov.tr/db/iklim/editordosya/uyum\\_stratejisi\\_eylem\\_plani\\_EN\(2\).pdf](http://www.csb.gov.tr/db/iklim/editordosya/uyum_stratejisi_eylem_plani_EN(2).pdf)

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

[Additional information]

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

General Directorate of Water Management executed a sectoral vulnerability analysis in 3 river basins as pilot regions in Turkey, by the Climate Change Impacts on Water Resources Project in which climate projections have been obtained at national scale for the period 2015-2100 and water deficit or surplus specific to the all 25 river basins.

As part of the climate projections, three global models selected from CMIP5 archive and RCP4.5 and RCP8.5 release scenarios and RegCM4.3 regional climate model forming the basis of the 5th Evaluation Report of Intergovernmental Panel on Climate Change (IPCC) were studied including whole Turkey. Total 8 parameters and projections of 17 climate indices representing extreme conditions were formed in river basin scales through model simulations, and the differences of the studied parameters until 2010 were calculated as seasonal and annual averages for 10 and 30 years periods based on the reference period accepted as the simulations of 1971-2000. For the first time with this project, 3 global climate model with 10x10 km resolution results were obtained for Turkey. The water potentials of all river basins in Turkey were calculated using hydrologic model by employing hydrologic models with the outcomes of the climate models. Moreover, groundwater potential amounts specific to water basis for the projection period were calculated by adding current groundwater potential data and the precipitation, evaporation and temperature data changed due to climate change projections, and the possible changes in groundwater levels were predicted. All the data gathered, used or produced during the studies including climatic and hydrological projections was integrated into a Geographic Information System based database named "ClimaHydro Database". Furthermore, ClimaHydro Database will be soon uploaded in Climate-ADAPT Platform. More detailed information regarding the project results and adaptation activities of the Ministry can be obtained from the web address [iklim.ormansu.gov.tr](http://iklim.ormansu.gov.tr).

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[Climate change impacts on water resources project](#)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question

Please provide further details if relevant.

[Further details]

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | a. Yes, by conducting a new multi-sectoral national CCIV assessment            |
| <input checked="" type="checkbox"/> | b. Yes, by updating an existing multi-sectoral national CCIV assessment        |
| <input type="checkbox"/>            | c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions |
| <input checked="" type="checkbox"/> | d. Yes, by conducting CCIV assessments for specific sectors or impact domains  |
| <input type="checkbox"/>            | e. Yes, through other sources of information                                   |
| <input type="checkbox"/>            | f. No, the current information is sufficient                                   |
| <input type="checkbox"/>            | g. The matter has not been discussed, or a decision has not been taken         |

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

Snow Water Equivalent studies need to be determined for water usage potential.

Further studies will be decided by the Coordination Board on Climate Change and Air Management.

# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

TU-1-2016

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

Climate Change Impacts on Water Resources – Sectoral Vulnerability Analysis in 3 River Basins: Meriç-Ergene, B. Menderes, Ceyhan

İklim Değişikliğinin Su Kaynaklarına Etkisi Projesi-3 Pilot Havzada Sektörel Etkilenebilirlik Analizi: Meriç-Ergene, B. Menderes, Ceyhan

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

#### İKLİM DEĞİŞİKLİĞİNİN SU KAYNAKLARINA ETKİSİ PROJESİ

General Directorate of Water Management, Ministry of Forestry and Water Affairs, Turkey, 2016

<http://iklim.ormansu.gov.tr/Dokumanlar.aspx>

Climate change impacts on water resources project. Executive Summary.

General Directorate of Water Management, Ministry of Forestry and Water Affairs, Turkey, 2016

<http://iklim.ormansu.gov.tr/Eng/>

### 14. When was the assessment published?

2016

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

Climate Change Impacts on Water Resources Project was studied in the whole country covering all 25 river basins.

As a part of the project sectoral vulnerability analysis was implemented in 3 pilot river basins: Meriç-Ergene, B. Menderes, Ceyhan.

Agriculture, Ecosystem, Industry, Water intended for human consumption for all 3 river basins

Additionally, energy for Ceyhan River Basin; textile for Meriç-Ergene; and tourism for B. Menderes

**16. Which organisation or authority initiated or requested the assessment?**

General Directorate of Water Management, Ministry of Forestry and Water Affairs

**17. Which organisation(s) carried out the assessment?**

*If several organisations were involved, please state the organisation that took the thematic lead first.*

General Directorate of Water Management, Ministry of Forestry and Water Affairs

**18. How many experts participated in carrying out the assessment?**

*Please estimate the number of experts if possible.*

40

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input checked="" type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	
[Further details on reasons for assessment]	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input type="checkbox"/>	c. Government authorities at sub-national level
<input checked="" type="checkbox"/>	d. International organisations
<input checked="" type="checkbox"/>	e. Academic researchers
<input checked="" type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input checked="" type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)

### 21. How long did the assessment project take?

2.5 years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment		
Staff time in your own organisation (monetary costs or person months)		
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)		
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)		

Other resources (please explain)

1,350,000 €

The financial resource of the project was national budget.



## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input type="checkbox"/>	b. Biodiversity
<input type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input type="checkbox"/>	j. Forestry
<input type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	[Please provide further details]
<input type="checkbox"/>	s. Other sectors/impact domains Textile, Ecosystem
<input type="checkbox"/>	t. Cross-sectoral impact domains

### 24. Which time periods were explicitly addressed in the assessment?

<input type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)

Please provide further details if relevant.

The differences of the studied parameters until 2010 were calculated as seasonal and annual averages for 10 and 30 years periods based on the reference period accepted as the simulations of 1971-2000.

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input checked="" type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i> [Main steps of the assessment]

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input checked="" type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input checked="" type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews
<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods [Please specify other methods]
Please provide further details on the assessment methods, including when different methods were used for different sectors. [Please provide further details]	

### 27. Were external stakeholders involved in the assessment, and how?

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

b. Government authorities at sub-national level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. International organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Please provide any additional information on stakeholder involvement that you consider relevant. [Additional information on stakeholder involvement]					

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

For the first time with the Climate Change Impacts on Water Resources Project, 3 global climate model with 10x10 km resolution results were obtained for Turkey.

For the first time in Turkey, the water potentials of all river basin in Turkey were calculated using hydrologic model.

Turkey's static groundwater reserve was calculated for the first time in this project.

The methodology developed by using the IPCC guidelines is the first and the unique up to now in Turkey, which will pave the way for further and detailed analyses.

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input checked="" type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)

Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).

[Outcomes of three global models selected from CMIP5 archive and RCP4.5 and RCP8.5 release scenarios and RegCM4.3 regional climate model forming the basis of the 5th Evaluation Report of Intergovernmental Panel on Climate Change \(IPCC\) were studied including whole Turkey.](#)

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input checked="" type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)

Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.

[Please provide further details]

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input checked="" type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input checked="" type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment

Please provide further details on the consideration of adaptive capacity.

[Please provide further details]

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk) <i>Please explain how the assignment of vulnerability/risk categories was done.</i>  Low Impact, Medium Impact, High Impact, Very High Impact according to numeric scores from 1 to 4.
<input type="radio"/>	b. Yes, through monetized metrics (e.g. costs, welfare loss) <i>Please explain how the monetisation of non-market impacts was done, and by whom.</i>  [Please explain the monetisation of non-market impacts]
<input type="radio"/>	c. No, different impact/vulnerability/risk metrics were used <i>Please provide further details on the metrics used.</i>  [Please provide further details]

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	a. Summary table or matrix <i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i>  The tables for the specific basins indicates the impacts for the sectors in columns according to the 10-year-periods between 2015-2100 in lines.
<input checked="" type="checkbox"/>	b. Quantitative map(s) <i>Please provide further details, such as the metrics used, and the number of maps.</i>  All climate projections and hydraulic projections were indicated in tables, graphs and maps. All results obtained were processed in the web-based ClimaHydro Database equipped with Geographical Information System (GIS) application. All projections can be queried dynamically with different frequencies. Furthermore, complex data such as water surplus/deficit ratio projections were visualised with color ranking maps.
<input type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i>
<input type="checkbox"/>	d. No specific summary illustration

**34. At what level(s) of regional aggregation were the main assessment results presented?**

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input checked="" type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details.	
[Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input checked="" type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant.	
[Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input checked="" type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment
Please provide further details.	
<a href="#">The potential adaptation measures determined in the project should be detailed and be more specific as to river basins. Fund seeking is continued for that purpose.</a>	

**38. How were uncertainties from different sources communicated in the assessment results?**

<input type="radio"/>	a. Not explicitly (i.e. only central estimate)
<input checked="" type="radio"/>	b. Not systematically (e.g. some uncertainties are described qualitatively)

- |                       |   |
|-----------------------|---|
| <input type="radio"/> | c. Discrete categories (e.g. low/medium/high confidence or uncertainty) |
| <input type="radio"/> | d. Uncertainty range  |
| <input type="radio"/> | e. Probabilistic results  |
| <input type="radio"/> | f. Other systematic way (please explain below)                          |
| <input type="radio"/> | g. Communication of uncertainties varies across the assessment          |

Please provide further details.

[Further details on uncertainty communication]

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input checked="" type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input checked="" type="checkbox"/>	i. Stakeholder events
<input checked="" type="checkbox"/>	j. Scientific events
<input checked="" type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
<p>The project results have been sharing with conferences and workshops and all relevant representatives from public and private sectors, including NGOs, have been invited not only to share the results but also provide contribution for further efforts on developing the analyses. However, the most effective dissemination strategy of the project is to use the web-site, in which all documentation including the results and the methodology. The existence of the web-site and workshops arranged for the dissemination have been announced by sending e-mails and cover letters to all relevant stakeholders.</p>	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The results of the Climate Change Impacts on Water Resources will be one of the main studies constituting the base of the next updated National Adaptation Plan. The results are currently being used as input and used in the plans and strategies like river basin management plans, water allocation projects, flood and drought management plans and etc.



## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

**41. What positive experiences did the development and use of this assessment provide?**

**42. What challenges were encountered during the development and use of this assessment?**

Data collection and using unique form of them were the main problems. Awareness of sector are not enough for data collection individually and sharing the data with public organizations.

**43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

Sectoral vulnerability assessments should be an individual project, not a part of comprehensive one, and the study region should be kept small in terms of aiming targets successfully.

**44. What would possibly be done differently in a future assessment, and why?**

Data collection is the the key factor for a successful evaluation, more time can be allocated for interviews with stakeholder and field work.

## **L. Concluding question**

**45. Do you have any feedback regarding this survey?**

# EEA survey on the use of information about climate change impacts, vulnerability and/or risk for the development of national adaptation policy

## Part I: General information on national adaptation policy development and underlying information on climate change impacts, vulnerability and/or risk (CCIV)

### A. Institutional context

*This section collects information about the organisations involved in adaptation policy development at the national level and in filling out this survey.*

**1. Country**

[United Kingdom](#)

**2. What is the lead organisation for adaptation at the national level?**

*The lead organisation is understood as the organisation or institution that is responsible for coordinating adaptation activities at the national level. Please state the name in English and provide a web link.*

[Department for Environment, Food & Rural Affairs](#)

**3. What organisation has filled out this survey?**

[Department for Environment, Food & Rural Affairs](#)

**4. What other organisations have been consulted in filling out this survey (including Part II)?**

[Adaptation Sub-Committee of the Committee on Climate Change](#)

## B. National adaptation policy

This section includes general information about national adaptation policy. Pre-filling is based on information previously reported by EEA member countries as reported on Climate-ADAPT. If you change the pre-filled text, please provide an explanation, so that EEA can follow up as needed.

### 5. Does your country have a national adaptation strategy?

<input checked="" type="radio"/>	a. Yes <i>Please provide further information below.</i>
<input type="radio"/>	b. No
Date of adoption or last revision of the national adaptation strategy 2008	
Title (including an English translation) and web link(s). Climate Change Act 2008 <a href="http://www.legislation.gov.uk/ukpga/2008/27/contents">http://www.legislation.gov.uk/ukpga/2008/27/contents</a>	
Additional information, e.g. if the national adaptation strategy is comprised of several sub-national and/or sectoral strategies. Climate Change (Scotland) Act 2009 <a href="http://www.gov.scot/Topics/Environment/climatechange/scotlands-action/climatechangeact">http://www.gov.scot/Topics/Environment/climatechange/scotlands-action/climatechangeact</a>	
Please provide an explanation if you changed any of the entries above. <i>Your response in this field will only be used for follow-up by EEA; it will <b>not</b> be published.</i> [Explanation of changes]	

### 6. Does your country have a national adaptation action plan?

<input checked="" type="radio"/>	a. Yes, separate from the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	b. Yes, integrated with the national adaptation <u>strategy</u> <i>Please provide further information below.</i>
<input type="radio"/>	c. No

Date of adoption or last revision of the national adaptation action plan

Varies

England (and UK reserved matters): 2013

Scotland: 2014

Wales: 2011

Northern Ireland: 2014

Title (including an English translation) and web link(s).

England (and UK reserved matters): National Adaptation Programme

<https://www.gov.uk/government/publications/adapting-to-climate-change-national-adaptation-programme>

Scotland: Scottish Climate Change Adaptation Programme

<http://www.gov.scot/Publications/2014/05/4669>

Wales: Adaptation Delivery Plan

<http://gov.wales/topics/environmentcountryside/climatechange/publications/adaptationplan/?lang=en>

Northern Ireland: Northern Ireland Climate Change Adaptation Programme

<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Northern%20Ireland%20Climate%20Change%20Adaptation%20Programme.pdf>

Additional information, e.g. if the national adaptation action plan is comprised of several sub-national and/or sectoral action plan.

Many adaptation actions are under the responsibility of the devolved administrations.

Please provide an explanation if you changed any of the entries above.

*Your response in this field will only be used for follow-up by EEA; it will **not** be published.*

[Explanation of changes]

## C. CCIV information supporting adaptation policy development

*This section collects information how CCIV information has supported the development of adaptation policy over time.*

### 7. How has CCIV information for your country developed over time?

*Please highlight any major milestones, such as the publication of specific reports, and explain how this information has supported policy development, such as the development of national adaptation strategies or action plans.*

The Climate Change Act (2008) requires the UK Government to produce a UK Climate Change Risk Assessment (CCRA) every 5 years followed by a National Adaptation Programme (NAP) to address the risks identified. The first CCRA was presented to Parliament in Jan 2012 and the first NAP was completed in 2013. The second CCRA was presented to Parliament in Jan 2017 and will be used to inform the second NAP which is due for completion in 2018.

### 8. How important have different sources of CCIV information been for the development of national adaptation policy?

*Please choose one option from each line. 'Very important' means that an information source has had a major influence on setting the priorities and focusing actions; 'somewhat important' means that the information has been used together with other sources of information, without necessarily playing a decisive role. Please consider also planned development of adaptation policy, in particular if the most recent CCIV assessment has not yet been used for adaptation policy development.*

	Very important	Somewhat important	Not important or not available	Don't know
a. Multi-sectoral national CCIV assessments commissioned by government authority <i>Please provide further information below.</i>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Multi-sectoral national CCIV assessments (including review type assessment) initiated by scientists <i>Please provide further information below.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Sectoral national CCIV assessments commissioned by government authorities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Sectoral national CCIV assessments initiated by other organisations (e.g. research projects, private sector)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. European or transnational CCIV assessments (e.g. EU research projects, EEA reports)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. International CCIV assessments (e.g. IPCC reports)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Stakeholder and expert opinions obtained through active engagement in drafting the national adaptation strategy or action plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

h. Other sources of CCIV information <i>Please provide further details.</i> [Other CCIV information]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Please specify the multi-sectoral national CCIV assessment(s) that shall be covered in Part II of this survey (see Introduction for further guidance).

[The Climate Change Risk Assessment 2017](#)

**9. Please select up to five sectors or impact domains, for which you think that better CCIV information would be particularly important in order to significantly improve adaptation policies in your country.**

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input type="checkbox"/>	f. Cultural heritage
<input type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input type="checkbox"/>	h. Energy
<input type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input type="checkbox"/>	n. Regional and urban development
<input type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade or migration)
<input type="checkbox"/>	s. Other sectors or impact domains [Please provide further details]
<input type="checkbox"/>	t. Cross-sectoral policy domains [Please provide further details]
<input type="checkbox"/>	u. I cannot answer this question

Please provide further details if relevant.

[Response to this question is based on the risks identified as a research priority in the latest Climate Change Risk Assessment \(CCRA\).](#)

**10. Are there plans for obtaining more precise or systematic CCIV information in the future?**

<input checked="" type="checkbox"/>	a. Yes, by conducting a new multi-sectoral national CCIV assessment
<input type="checkbox"/>	b. Yes, by updating an existing multi-sectoral national CCIV assessment
<input type="checkbox"/>	c. Yes, by conducting multi-sectoral CCIV assessments for sub-national regions
<input type="checkbox"/>	d. Yes, by conducting CCIV assessments for specific sectors or impact domains
<input type="checkbox"/>	e. Yes, through other sources of information
<input type="checkbox"/>	f. No, the current information is sufficient
<input type="checkbox"/>	g. The matter has not been discussed, or a decision has not been taken

Please provide additional information on planned CCIV assessments, such as whether they will use the same approach as earlier assessments (if any).

The Climate Change Act requires a new Climate Change Risk Assessment every 5 years. The next is due in 2022. The details on the approach to be used for the next assessment is still to be determined.



# Part II: Detailed information about a specific multi-sectoral national CCIV assessment

## D. General information about the CCIV assessment

*This section collects general information about this specific multi-sectoral CCIV assessment.*

### 11. Assessment code

UK-2-2017

### 12. What is the title of the assessment?

*If the assessment is published in a language other than English, please provide the title in the original language together with an English translation.*

UK Climate Change Risk Assessment 2017

### 13. Please provide the full reference and a web link for the assessment.

*Please provide separate entries for each language version and if synthesis/summary documents were published separately.*

HM Government (2017): UK Climate Change Risk Assessment 2017. Online available under [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/584281/uk-climate-change-risk-assess-2017.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf)

Background document: UK Climate Change Risk Assessment 2017 Evidence Report can be accessed at: [www.theccc.org.uk/UK-climate-change-risk-assessment-2017/](http://www.theccc.org.uk/UK-climate-change-risk-assessment-2017/)

### 14. When was the assessment published?

2017

### 15. What is the geographic coverage of the assessment?

*Please explain if the assessment does not cover the whole country or if coverage differs across different parts of the assessment.*

National Coverage

### 16. Which organisation or authority initiated or requested the assessment?

The government as required under the Climate Change Act (2008)

### 17. Which organisation(s) carried out the assessment?

*If several organisations were involved, please state the organisation that took the thematic lead first.*

Adaptation Sub-Committee of the Committee on Climate Change.

### 18. How many experts participated in carrying out the assessment?

*Please estimate the number of experts if possible.*

Hundreds of leading scientists participated as authors and reviewers There was a call for evidence in 2014 and 2 rounds of review by stakeholders, technical peer reviewers and other organisations.

## E. Assessment purpose and context

*This section collects information on the purpose and context of the CCIV assessment, including the resource requirements.*

### 19. What were the main reasons for conducting the assessment?

<input checked="" type="checkbox"/>	a. Legal requirement
<input type="checkbox"/>	b. Regular reporting (without legal requirement)
<input checked="" type="checkbox"/>	c. To support the development or revision of national adaptation <u>strategy</u>
<input type="checkbox"/>	d. To support the development or revision of national adaptation <u>action plan</u>
<input type="checkbox"/>	e. Bottom-up initiative by scientists
<input type="checkbox"/>	f. Other reasons (please specify below)
Please provide further details on the reasons for conducting the assessment.	

### 20. Who were the main target users of the assessment?

<input checked="" type="checkbox"/>	a. Politicians
<input checked="" type="checkbox"/>	b. Government authorities at national level
<input checked="" type="checkbox"/>	c. Government authorities at sub-national level
<input type="checkbox"/>	d. International organisations
<input type="checkbox"/>	e. Academic researchers
<input type="checkbox"/>	f. Non-governmental stakeholders
<input type="checkbox"/>	g. Media
<input type="checkbox"/>	h. General public
<input type="checkbox"/>	i. Other users (please explain)
[Further details on other target users]	

### 21. How long did the assessment project take?

3 years

### 22. What were the total resources dedicated to the assessment, and who provided the funding?

*Please estimate the amount of resources dedicated to this assessment according to different categories. If quantitative estimates are not possible, please provide a verbal description of the resources.*

Type of resource	Amount of resources	Source of funding
Contracted costs for producing the actual assessment	£850k	Defra, Devolved Administrations
Staff time in your own organisation (monetary costs or person months)	Approx. £80k	Defra
Research activities dedicated to providing the scientific base for the assessment (monetary costs or verbal description)	£400k	NERC, Defra, Devolved Administrations
In-kind contributions (e.g. experts writing or reviewing draft texts without specific funding)	Approx. £205k	Unpaid time from lead contributors
Other resources (please explain)		
[Other resources]		

## F. Assessment scope

*This section collects information on the scope of the CCIV assessment.*

### 23. Which sectors/impact domains were covered in the assessment?

<input checked="" type="checkbox"/>	a. Agriculture
<input checked="" type="checkbox"/>	b. Biodiversity
<input checked="" type="checkbox"/>	c. Built environment
<input checked="" type="checkbox"/>	d. Civic and disaster protection
<input checked="" type="checkbox"/>	e. Coastal areas
<input checked="" type="checkbox"/>	f. Cultural heritage
<input checked="" type="checkbox"/>	g. Digital communication (ICT) infrastructure
<input checked="" type="checkbox"/>	h. Energy
<input checked="" type="checkbox"/>	i. Financial and insurance services
<input checked="" type="checkbox"/>	j. Forestry
<input checked="" type="checkbox"/>	k. Human health
<input checked="" type="checkbox"/>	l. Industry
<input checked="" type="checkbox"/>	m. Marine and fisheries
<input checked="" type="checkbox"/>	n. Regional and urban development
<input checked="" type="checkbox"/>	o. Tourism
<input checked="" type="checkbox"/>	p. Transport
<input checked="" type="checkbox"/>	q. Water
<input checked="" type="checkbox"/>	r. Cross-border impacts (e.g. through international trade)
	International dimensions
<input checked="" type="checkbox"/>	s. Other sectors/impact domains
	Infrastructure
<input type="checkbox"/>	t. Cross-sectoral impact domains

### 24. Which time periods were explicitly addressed in the assessment?

<input checked="" type="checkbox"/>	a. Present (including past trends)
<input checked="" type="checkbox"/>	b. Early 21 <sup>st</sup> century (e.g. 2030)
<input checked="" type="checkbox"/>	c. Mid-21 <sup>st</sup> century (e.g. 2050)
<input checked="" type="checkbox"/>	d. Late 21 <sup>st</sup> century (e.g. 2100)
<input type="checkbox"/>	e. Beyond 21 <sup>st</sup> century (e.g. 2200)
Please provide further details if relevant.	
[Further details on time horizon]	

## G. Assessment approach

This section collects information on the methods used to perform the assessment, including the involvement of stakeholders.

### 25. Did the assessment follow any specific assessment guidelines or framework?

<input type="radio"/>	a. <a href="#">IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation</a>
<input type="radio"/>	b. <a href="#">PROVIA Guidance on Assessing Vulnerability, Impacts and Adaptation to Climate Change</a>
<input checked="" type="radio"/>	c. <a href="#">UKCIP Wizard and UKCIP risk framework</a>
<input type="radio"/>	d. <a href="#">GIZ Vulnerability Sourcebook</a>
<input type="radio"/>	e. <a href="#">DG CLIMA Guidelines on developing adaptation strategies</a> and/or <a href="#">Climate-ADAPT Adaptation Support Tool</a>
<input type="radio"/>	f. <a href="#">PROVIA / MEDIATION Adaptation Pathfinder</a>
<input type="radio"/>	g. Other existing assessment guidelines or a combination of guidelines [Please describe guidelines applied]
Please provide further details on the assessment framework if relevant, such as whether existing guidelines were used fully or partly and/or how and why this assessment deviated from them. [Further details on assessment framework]	
<input type="radio"/>	h. No, the assessment approach was developed specifically for this assessment <i>Please describe the 5 to 12 main steps of the assessment. If the methodology for this assessment was published separately, please include a link.</i>
<p>The method used to compile the evidence reports of the CCRA assessed each risk or opportunity in three steps.</p> <p>Step 1: Understand current day vulnerability and assess current climate-related risks, opportunities and levels of adaptation.</p> <p>Step 2: Understand future vulnerability and adaptation, and assess how climate and socio-economic change may alter climate-related risks and opportunities in the 2020s, 2050s and 2080s (where these timescales are relevant).</p> <p>Step 3: Prioritise risks and opportunities for which additional action is needed in the next five years to manage the risk or take advantage of the opportunity.</p> <p>The Evidence Report uses the concept of urgency to summarise the findings of the analysis. One of four urgency categories has been assigned by the ASC to each risk and opportunity. The urgency scoring in turn is based on the evidence provided by the chapter authors.</p> <p>For more detail on the assessment approach used in the CCRA 2017 refer to <a href="https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/ccra-chapters/approach-and-context/">https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/ccra-chapters/approach-and-context/</a></p>	

### 26. Which were the main assessment methods used?

<input checked="" type="checkbox"/>	a. Review of existing literature
<input type="checkbox"/>	b. Modelling exercise specifically dedicated to producing this CCIV assessment
<input type="checkbox"/>	c. Composite indicator approach (e.g. by combining information on hazards, exposure and sensitivity/vulnerability)
<input checked="" type="checkbox"/>	d. Expert workshops or interviews

<input checked="" type="checkbox"/>	e. Stakeholder workshops
<input type="checkbox"/>	f. Other methods
	[Please specify other methods]

Please provide further details on the assessment methods, including when different methods were used for different sectors.

For more detail on the assessment approach used in the CCRA 2017 refer to <https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/ccra-chapters/approach-and-context/>

**27. Were external stakeholders involved in the assessment, and how?**

Please tick all boxes that apply. If a given group of stakeholders was not involved, simply leave the corresponding boxes unticked.

	Review of drafts	Online survey	Interviews or hearings	Advisory committee	Workshops
a. Government authorities at national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Government authorities at sub-national level	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. International organisations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. External scientists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e. Non-governmental stakeholders (e.g. interest organisations, business associations)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please provide any additional information on stakeholder involvement that you consider relevant.

[Additional information on stakeholder involvement]

**28. Please describe briefly any aspects of the assessment that you consider particularly innovative.**

The urgency framework used to prioritise risk and opportunities and translate the academic literature into recommendations for government is innovative.

For more detail see Annex 2 of <https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/ccra-chapters/approach-and-context/>

## H. Scenarios and drivers

This section collects information on the climatic and non-climatic scenarios and drivers underlying the CCIV assessment.

### 29. What was the main source of climate projections applied in the assessment?

<input type="radio"/>	a. No quantitative climate projections
<input type="radio"/>	b. Existing projections based on global climate models (e.g. CMIP3 or CMIP5)
<input type="radio"/>	c. Existing projections for Europe based on regional climate models (e.g. PRUDENCE, ENSEMBLES, EURO-CORDEX)
<input type="radio"/>	d. National projections downscaled from existing global or European projections
<input type="radio"/>	e. National projections based on own regional climate models (i.e. <i>not</i> downscaled from existing global or European projections)
<input type="radio"/>	f. Synthetic climate scenarios (e.g. uniform changes in temperature and precipitation)
<input checked="" type="radio"/>	g. Different sources of climate projections (e.g. in case of a literature review)
Please provide further details, in particular which emissions scenarios were used as drivers for the climate projections (if relevant).	
<a href="#">Common sets of scenarios are UKCP09, RCP and SRES scenarios, and direct CMIP5 modelling output.</a>	

### 30. Did the assessment consider scenarios for non-climatic changes, such as demographic changes or socio-economic development, on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of non-climatic changes
<input checked="" type="checkbox"/>	b. Qualitative consideration of non-climatic changes
<input checked="" type="checkbox"/>	c. Quantitative scenarios of demographic changes
<input checked="" type="checkbox"/>	d. Quantitative scenarios of socio-economic changes
<input type="checkbox"/>	e. Other quantitative scenarios (please specify below)
Please provide further details, in particular if the use of non-climatic scenarios varies across different parts of the assessment.	
[Please provide further details]	

### 31. Did the assessment consider the adaptive capacity of regions and/or sectors on a systematic basis?

<input type="checkbox"/>	a. No systematic consideration of adaptive capacity.
<input type="checkbox"/>	b. Qualitative estimates of <i>current</i> adaptive capacity (e.g. assessed by experts)
<input checked="" type="checkbox"/>	c. Quantitative estimates of <i>current</i> adaptive capacity (e.g. using proxy indicators)
<input type="checkbox"/>	d. Qualitative estimates of <i>future</i> adaptive capacity (e.g. assessed by experts)
<input checked="" type="checkbox"/>	e. Quantitative estimates of <i>future</i> adaptive capacity (e.g. scenarios for proxy indicators)
<input type="checkbox"/>	f. Consideration of adaptive capacity differs across the assessment
Please provide further details on the consideration of adaptive capacity.	
<a href="#">Step 1 (current) and Step 2 (future adaptive capacity) of the three-step method used for the assessment.</a>	

## I. Assessment results

This section collects information how the main assessment results are summarized and presented at the highest aggregation level. Many assessments do this in a dedicated summary chapter or synthesis report, whereas others summarize information in key messages or through homogeneous graphical illustrations for individual sectors or indicators. The questions below aim at capturing the most important ways of summarizing and presenting aggregated assessment results, but they may not be able to capture the full range of CCIV assessments. If the standard answers do not appropriately reflect this specific assessment, please provide explanatory text rather than skipping the question completely.

### 32. Was the level of vulnerability or risk for different sectors or impacts presented in a common metric?

<input checked="" type="radio"/>	<p>a. Yes, through common vulnerability/risk categories (e.g. high/medium/low risk)</p> <p><i>Please explain how the assignment of vulnerability/risk categories was done.</i></p> <p>The second CCRA still considers magnitude (similar to the first CCRA) but also suggests an urgency rating as the final output. For example, even if the future magnitude of a risk is classed as medium, the urgency might be high if plans do not exist to manage the relevant drivers of vulnerability, and it is necessary to put those plans in place in the next 5 years to start a process that ultimately manages the risk in the 2050s.</p>
<input type="radio"/>	<p>b. Yes, through monetized metrics (e.g. costs, welfare loss)</p> <p><i>Please explain how the monetisation of non-market impacts was done, and by whom.</i></p> <p>[Please explain the monetisation of non-market impacts]</p>
<input type="radio"/>	<p>c. No, different impact/vulnerability/risk metrics were used</p> <p><i>Please provide further details on the metrics used.</i></p> <p>[Please provide further details]</p>

### 33. Were the main assessment results across sectors or impacts presented in a summary illustration, such as a table or a map?

<input checked="" type="checkbox"/>	<p>a. Summary table or matrix</p> <p><i>Please provide further details, such as the metrics used, and the number of sectors, impacts and/or regions distinguished in the table/matrix.</i></p> <p>Summary tables are provided in national summaries, available online under <a href="https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/national-summaries/">https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/national-summaries/</a></p> <p>Overall summary is included in <a href="https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Synthesis-Report-Key-Messages-fact-sheet-1.pdf">https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Synthesis-Report-Key-Messages-fact-sheet-1.pdf</a></p> <p>Additionally, a fact sheet is available per technical chapter, e.g. <a href="https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Ch5-People-and-the-built-environment-fact-sheet.pdf">https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Ch5-People-and-the-built-environment-fact-sheet.pdf</a></p>
<input type="checkbox"/>	<p>b. Quantitative map(s)</p> <p><i>Please provide further details, such as the metrics used, and the number of maps.</i></p> <p>[Please provide further details]</p>

<input checked="" type="checkbox"/>	c. Qualitative map(s) (e.g. infographics) <i>Please provide further details on the information presented.</i> <a href="https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Ch5-People-and-the-built-environment-infographic.pdf">Infographics are presented per technical chapter, e.g. https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Ch5-People-and-the-built-environment-infographic.pdf</a>
<input type="checkbox"/>	d. No specific summary illustration

**34. At what level(s) of regional aggregation were the main assessment results presented?**

<input checked="" type="checkbox"/>	a. Whole country
<input checked="" type="checkbox"/>	b. Several sub-national regions
<input checked="" type="checkbox"/>	c. High-resolution maps
<input type="checkbox"/>	d. Other level or does not apply
Please provide further details. [Further details on regional aggregation]	

**35. Did the assessment unambiguously identify particularly affected sectors or priority impacts/risks?**

*This question focusses on the unambiguous identification of particularly affected sectors or priority impacts/risks, in particular through common metrics and/or summary tables. In this context, the term 'unambiguous' means that there can be no disagreement as to which sectors or impacts/risks are particularly affected (under a given scenario).*

<input checked="" type="checkbox"/>	a. Particularly affected sectors were identified unambiguously
<input checked="" type="checkbox"/>	b. Priority impacts/risks were identified unambiguously
<input type="checkbox"/>	c. Neither particularly affected sectors nor priority impacts/risks were identified
Please provide any additional information on this topic that you consider relevant. <a href="#">The final stage of the analysis is to prioritise the risks and opportunities identified, according to their urgency</a>	

**36. Did the assessment unambiguously identify particularly affected regions?**

*This question focusses on the unambiguous identification of particularly affected regions, in particular through common metrics and/or summary maps or tables.*

<input type="checkbox"/>	a. Particularly affected regions <i>aggregated across all sectors</i> were identified unambiguously
<input type="checkbox"/>	b. Particularly affected regions <i>for individual sectors</i> were identified unambiguously
<input type="checkbox"/>	c. Particularly affected regions <i>for individual impacts/risks</i> were identified unambiguously
<input checked="" type="checkbox"/>	d. The assessment did not identify particularly affected regions unambiguously
Please provide any additional information on this topic that you consider relevant. [Please provide additional information]	

**37. Did the assessment identify, evaluate or prioritise adaptation measures on a systematic basis?**

<input checked="" type="radio"/>	a. Adaptation measures were not identified or evaluated on a systematic basis
<input type="radio"/>	b. Potential adaptation measures were <i>identified</i>
<input type="radio"/>	c. Specific adaptation measures were <i>evaluated and/or prioritised</i>
<input type="radio"/>	d. Consideration of adaptation measures varied across the assessment



Please provide further details.

[Further details on adaptation measures]

**38. How were uncertainties from different sources communicated in the assessment results?**

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | a. Not explicitly (i.e. only central estimate)                              |
| <input type="radio"/>            | b. Not systematically (e.g. some uncertainties are described qualitatively) |
| <input checked="" type="radio"/> | c. Discrete categories (e.g. low/medium/high confidence or uncertainty)     |
| <input type="radio"/>            | d. Uncertainty range  |
| <input type="radio"/>            | e. Probabilistic results  |
| <input type="radio"/>            | f. Other systematic way (please explain below)                              |
| <input type="radio"/>            | g. Communication of uncertainties varies across the assessment              |

Please provide further details.

Within the evidence report confidence scores (of high, medium or low) have been provided to summarise the strength and consistency of the evidence in each case.

## J. Dissemination and use

*This section collects information on how the assessment results were disseminated and how they were used for policy-making.*

### 39. How were the assessment results disseminated?

*If the CCIV assessment was an integral part of a national adaptation strategy or action plan, please focus on the dissemination of the CCIV-related aspects if possible.*

<input checked="" type="checkbox"/>	a. Printed publication
<input checked="" type="checkbox"/>	b. Electronic book or report (e.g. PDF, ePub)
<input checked="" type="checkbox"/>	c. Summary/synthesis documents
<input checked="" type="checkbox"/>	d. Web publication (value added material, such as indicators, interactive maps, etc.)
<input type="checkbox"/>	e. Outreach material (e.g. press highlight, video)
<input type="checkbox"/>	f. Invited contributions (e.g. opinion pieces, blogs, interviews)
<input checked="" type="checkbox"/>	g. Social media (Facebook, Twitter, etc.)
<input type="checkbox"/>	h. Press conferences
<input type="checkbox"/>	i. Stakeholder events
<input type="checkbox"/>	j. Scientific events
<input type="checkbox"/>	k. Public events
<input type="checkbox"/>	l. Webinars
<input type="checkbox"/>	m. Other dissemination channels (please explain)
	[Other dissemination channels]
Please provide further details if relevant	
[Please provide further details on dissemination products and events]	

### 40. How were the assessment results used (or how are they planned to be used) for policy development?

*Please note that policy development comprises not only the development of adaptation plans and strategies at national and subnational level, but also awareness raising, enabling action, etc. Please answer this question even if you have provided related information in Part I under Question 7.*

The assessment will underpin the preparation of the next National Adaptation Programme due in 2018 that will set out the key actions being taken to address the priority risks identified in the assessment. Adaptation and the consideration of climate change risks is integrated within the development of policies, programmes and actions across UK government and the results of the most recent climate change risk assessment will therefore directly inform that work.

## K. Experiences

*This section collects information about experiences with the development and use of the assessment.*

### **41. What positive experiences did the development and use of this assessment provide?**

The development of an upfront user requirement for the assessment has resulted in much more user-led and useable output, e.g. prioritised risks.

The academic and other expert community was mobilised in the production, synthesis and interpretation of evidence for the assessment. This combined with an independent peer review of the assessment has meant that the findings have been generally well received by most stakeholders.

The significant engagement with stakeholders inside and outside Government during the production of the assessment is expected to translate into critical engagement with the subsequent development of the National Adaptation Programme, which will identify measures to manage the priority risks.

### **42. What challenges were encountered during the development and use of this assessment?**

A number of technical challenges were encountered, e.g.:

The assessment was largely based on a literature review which required the comparison of evidence based on varying assumptions about future climate and socio-economic scenarios;

There remain a number of gaps in the evidence, including a lack of quantification in many areas; and consideration of cross-cutting risks and interdependencies between sectors.

### **43. What lessons have been learned during the development and use of this assessment?**

*If a formal evaluation exists, please include a link to the evaluation.*

No formal evaluation exists and the most recent assessment (published in 2017) has not yet been fully applied in the development of the second National Adaptation Programme.

### **44. What would possibly be done differently in a future assessment, and why?**

There are a number of different approaches that could be adopted for the 2022 assessment, but no formal assessment of the options has been carried out yet. However a reasonable ambition would be to develop a methodology that could be applied on a rolling-basis to future assessments to provide information on how the size and nature of climate risks is changing over time in response to science, policies and other factors. More work on presenting cross-cutting risks and interdependencies between sectors. Greater consideration of socio-economic factors in the magnitude of risks and their consequences and their priority for action.

## L. Concluding question

45. Do you have any feedback regarding this survey?

n/a