EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

I&CLC2000 in support to “new” policy initiatives (INSPIRE, GMES,..)

Manfred Grasserbauer, Director

Joint Research Centre

Institute for Environment and Sustainability

Joint Research Centre

Institute for Environment and Sustainability

IMAGE 2000

- **European mosaic of satellite images created for the purpose of CLC updating**
- **A consistent picture of Europe to which we can zoom to any area up to a resolution of 12.5m**
- **A result of I&CLC2000 co-management of EEA and JRC**

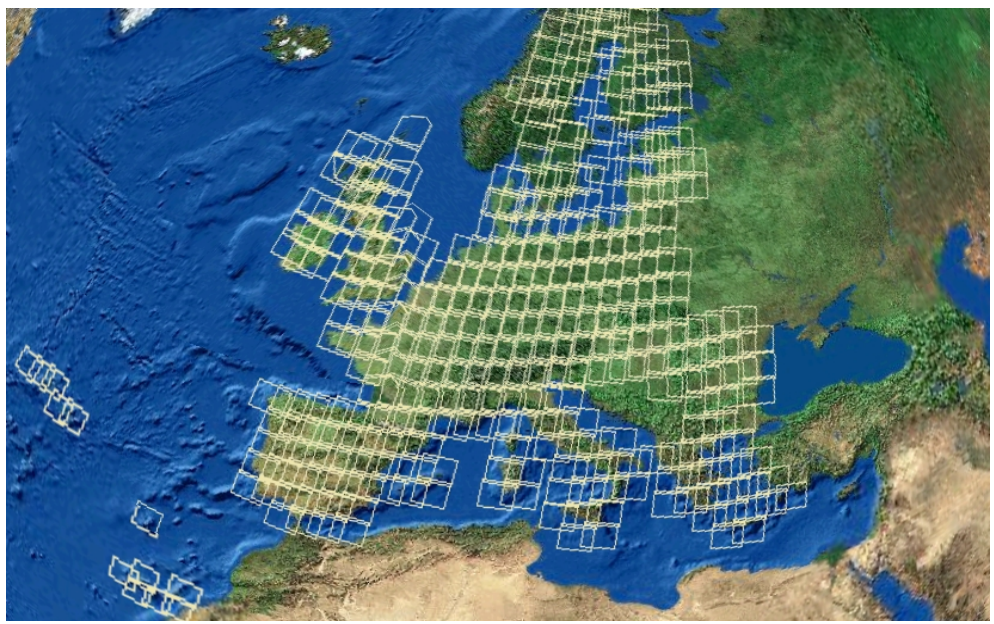
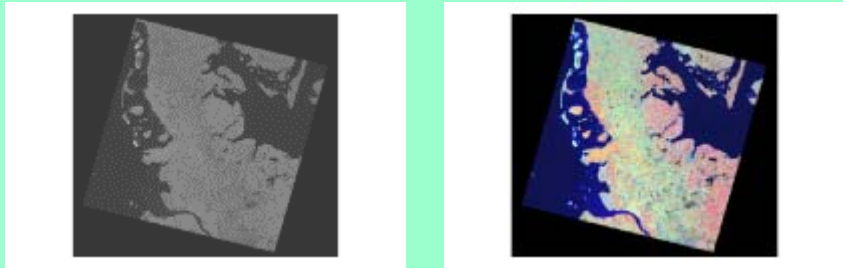
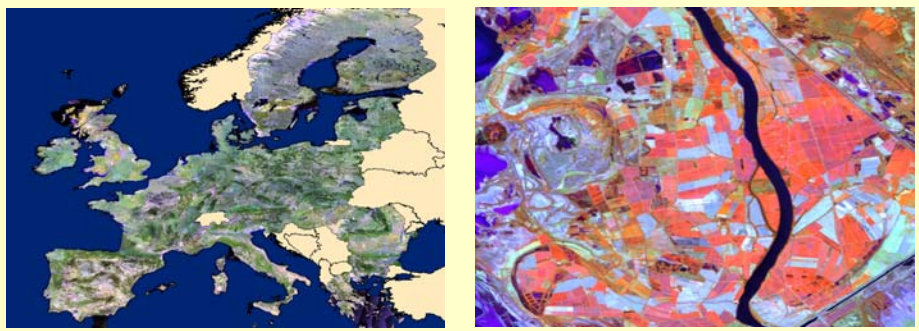


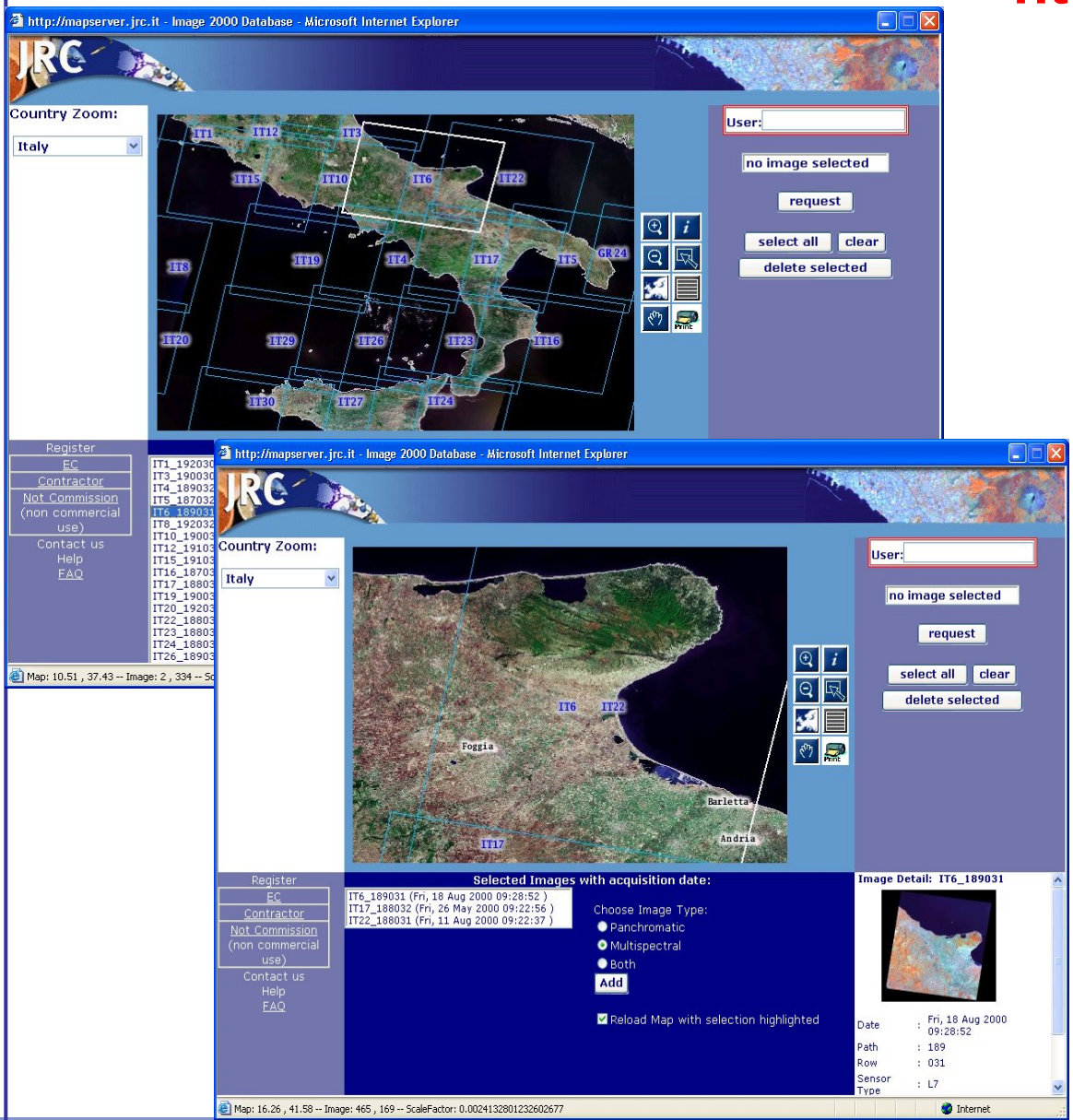
IMAGE 2000 – 3 products

Product 1 Individual ortho-rectified satellite scenes (using national projection systems)	
Product 2 National Mosaics	
Product 5 The European Mosaic 12.5m resolution (B&W) 25m resolution (Colour)	

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

IMAGE 2000 – Public Dissemination Service

http://image2000.jrc.it



Product 1- individual scenes

- Free access for non-commercial uses
- Disseminated by JRC and MS
- Dissemination for commercial purposes by Metria and Eurimage

Product 2 – national mosaics

- Free access for non-commercial uses
- Disseminated by MS

Products 5 – European mosaic

- Free access for non-commercial uses
- Disseminated by JRC

Joint Research Centre

Institute for Environment and Sustainability

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

IMAGE 2000 within the framework of INSPIRE

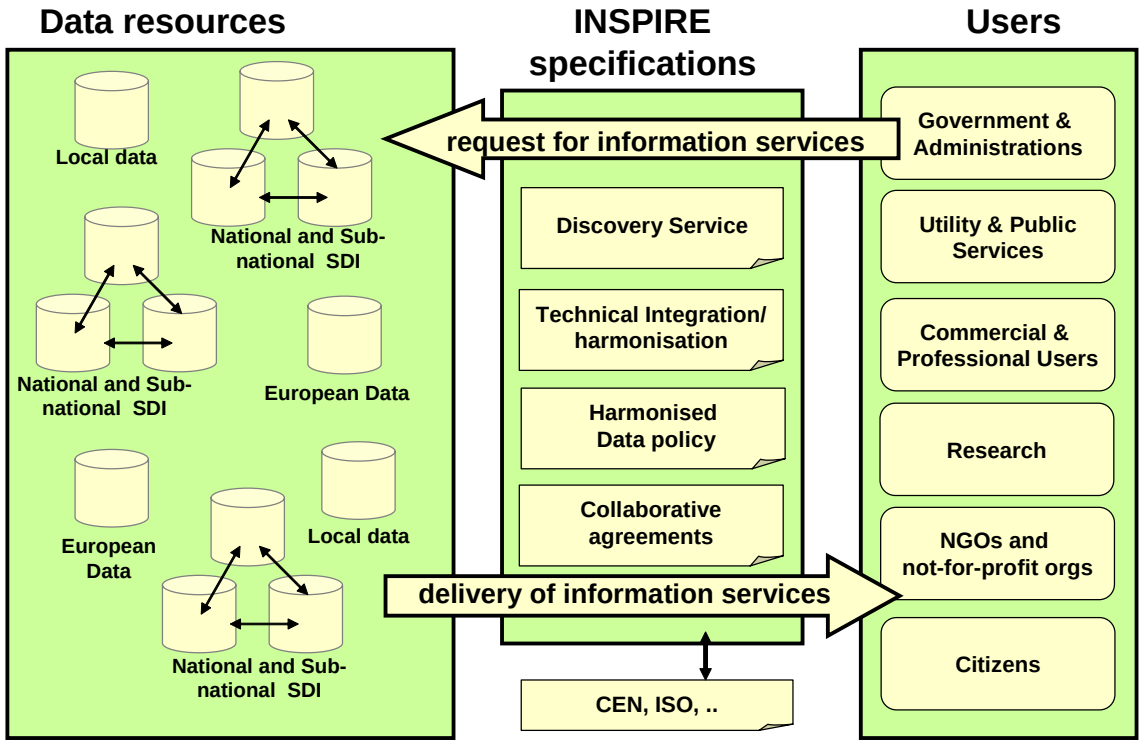
Joint Research Centre

Brussels, 17 November 2004

Institute for Environment and Sustainability

INSPIRE

Infrastructure for spatial information in Europe



Annex I - data

- Coordinate reference systems
- Geographical grid systems
- Geographical names
- Administrative units
- Transport networks
- Hydrography
- Protected sites

Annex II - data

- Identifiers of Properties
- Elevation
- Land cover
- Cadastral parcels
- Ortho-imagery

- Proposal for a Directive COM(2004) 614 adopted in July 2004
- Coordination at EU level: by Commission (JRC&EUROSTAT) with support of EEA
- Ortho-imagery and Land Cover are reference datasets

The INSPIRE Geo-Portal

The INSPIRE Geo-Portal is Europe's Internet access point for Spatial Data and Services. From here, you can search for spatial data, services, and organisations

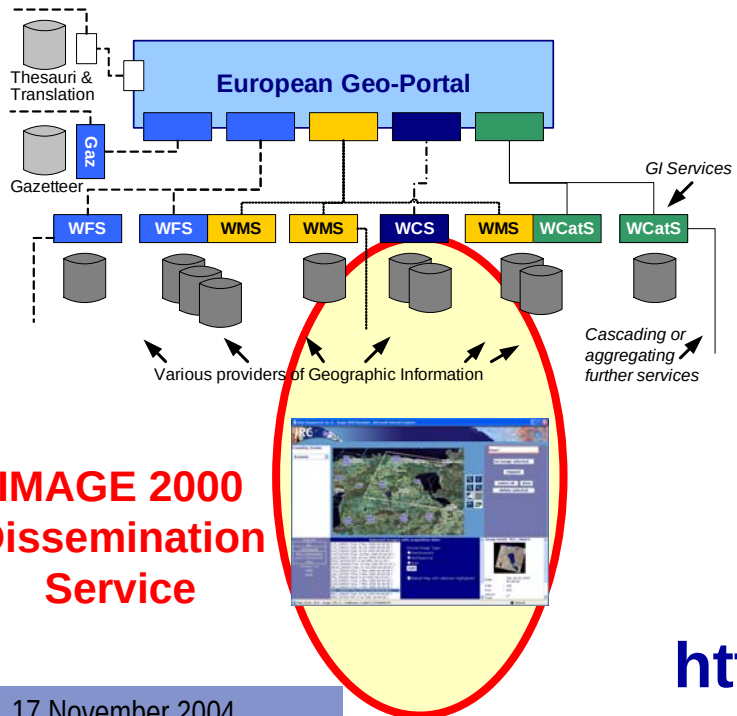
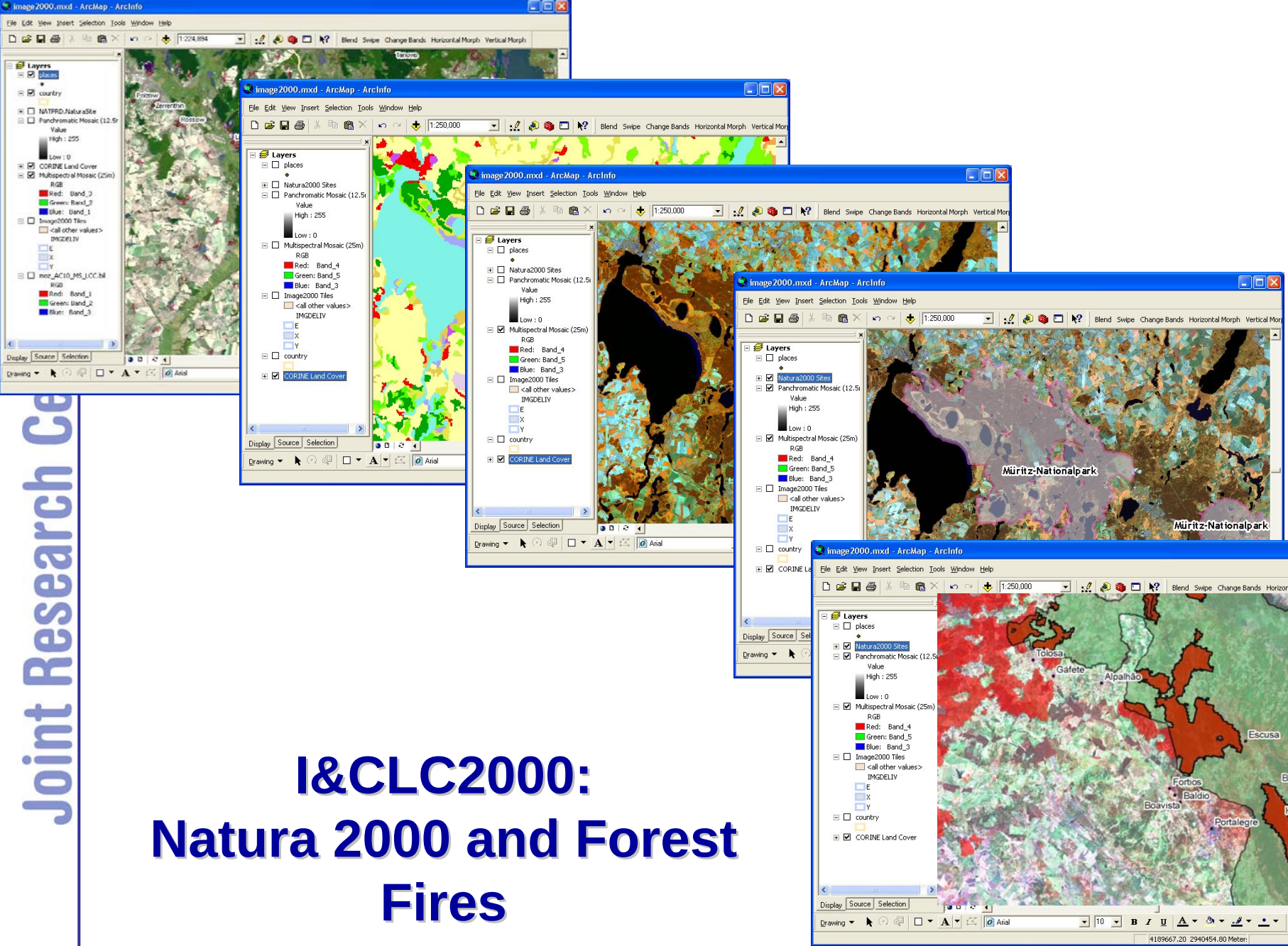


IMAGE 2000 Dissemination Service

http://eu-geoportal.jrc.it



Joint Research Ce

I&CLC2000: Natura 2000 and Forest Fires

Brussels, 17 November 2004

Institute for Environment and Sustainability

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

IMAGE 2000 within the framework of GMES

Joint Research Centre

Brussels, 17 November 2004

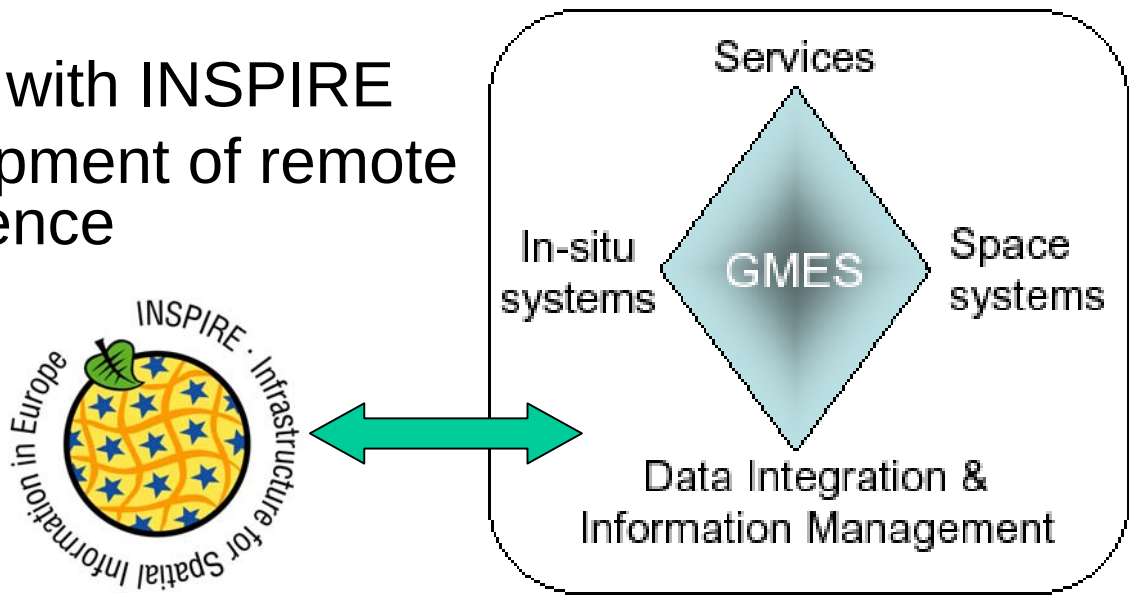
Institute for Environment and Sustainability

GMES

Global Monitoring for Environment and Security

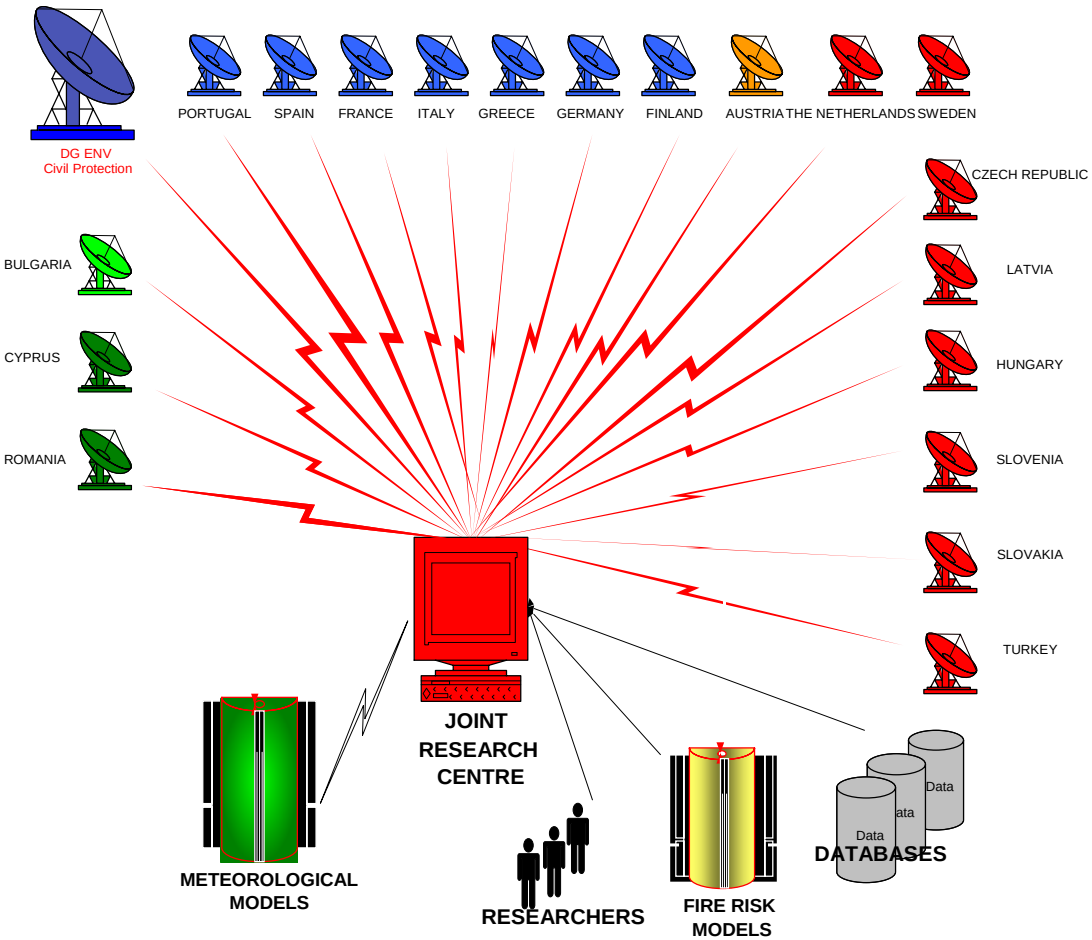
The Joint Research Centre

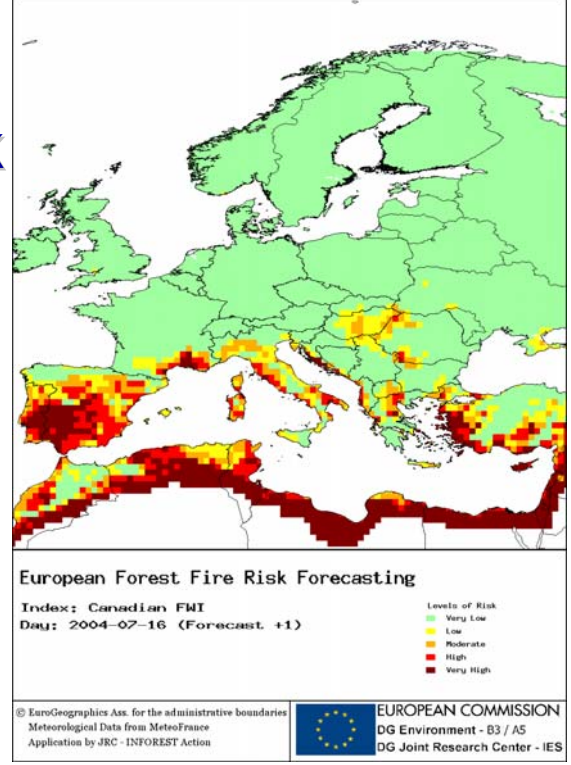
- supports Europe's commitments to monitoring the global environment, Environmental policies with a European geographic Focus, European civil protection, Common Agricultural and Fisheries Policies, European Union external aid and security policies
- full coordination with INSPIRE
- in-house development of remote sensing science

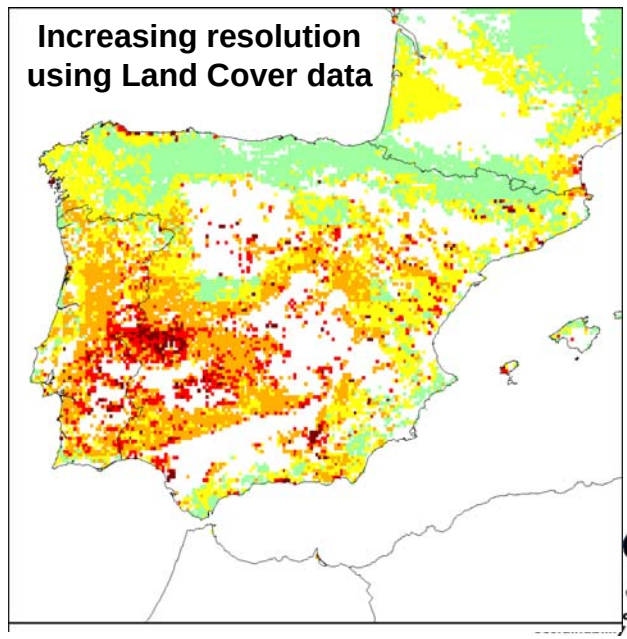


EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

EFFIS: Module 1
European Forest Fire Risk Forecasting System



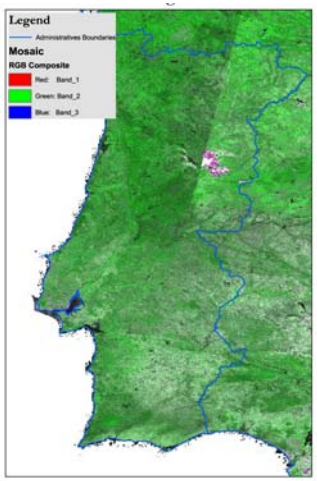




Joint Research Centre

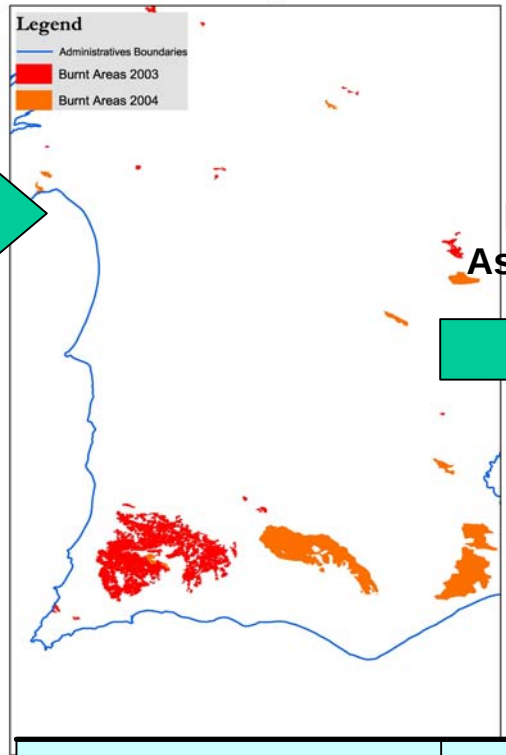
EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

EFFIS: Module 2 - European Forest Fire Damage Assessment System

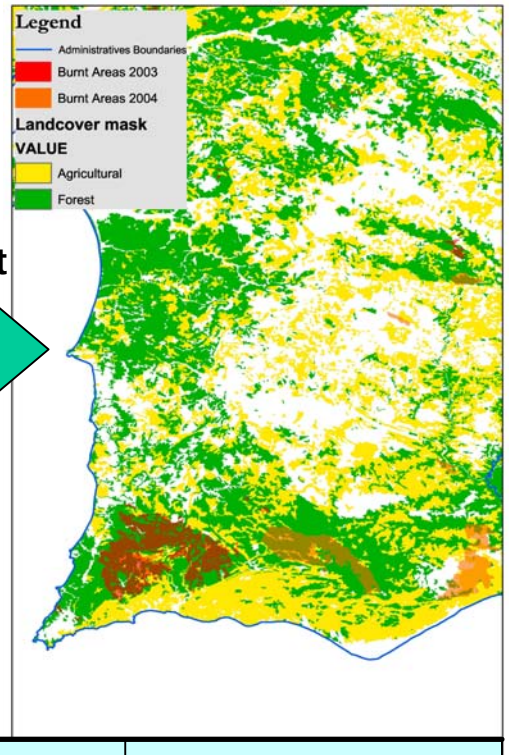


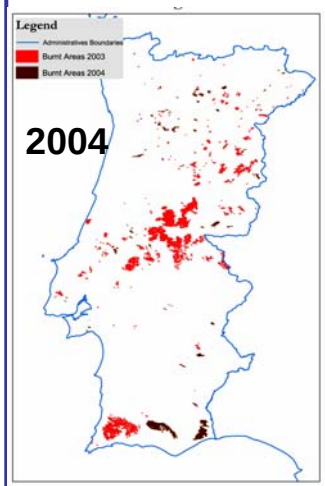
2003

Burned Area Mapping



Damage Assessment





2004

Land use	Area burned (ha) 2004	% of total burned 2004
Agriculture	15,584	16.6
Forest land	34,427	36.7
Barren	43,364	46.3
Social	360	0.4
Total	**93,735**	**100.0**

Joint Research Centre

Brussels, 17 November 2004

Institute for Environment and Sustainability

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

EFAS - European Flood Alert System

Joint Research Centre

CORINE Land Cover data used for water balance !

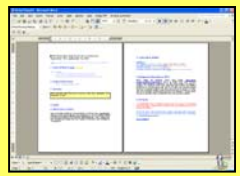
FLOOD ALERT

MS authorities

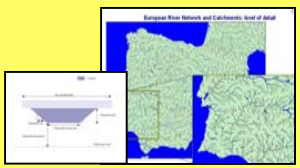
"Test" messages on Flood Alerts

GIS (DEM, landcover, soil,…)

Procedures for analysis, alerts, Rotating schedule



River dimensions

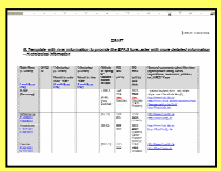


EFAS

LISFLOOD

(JRC)

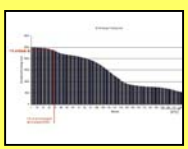
Background Information on rivers



Hydrological "climatology" – reference data

JRC-MARS

ERA40



7 days/week 2x daily

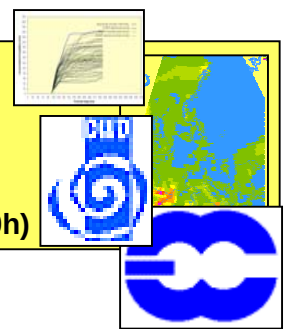
Development and Test in real time conditions

Meteo Forecasts

DWD (174h)

ECMWF Det (240h)

ECMWF 51 EPS (240h)

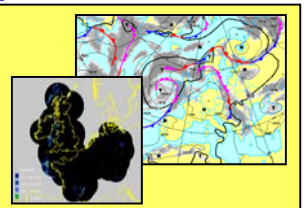


Obs. Data For IC

Synop

UKMO radar

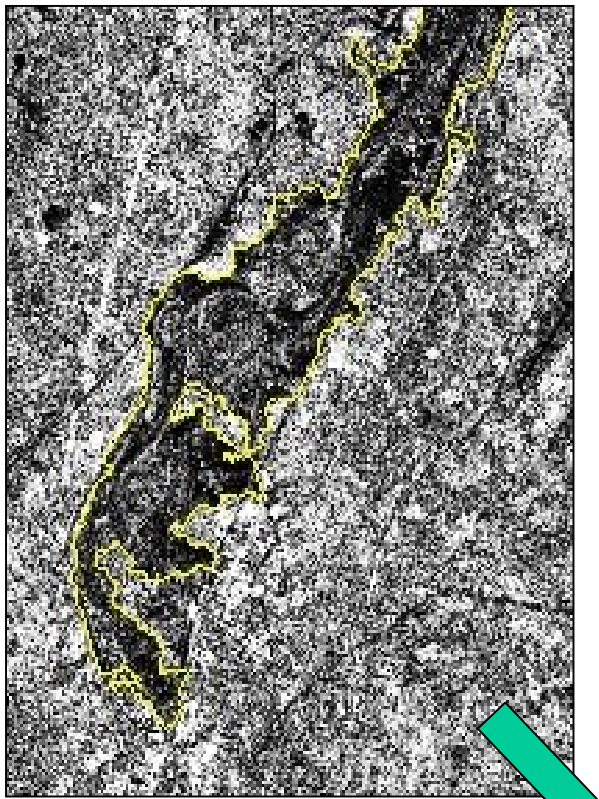
Discharges



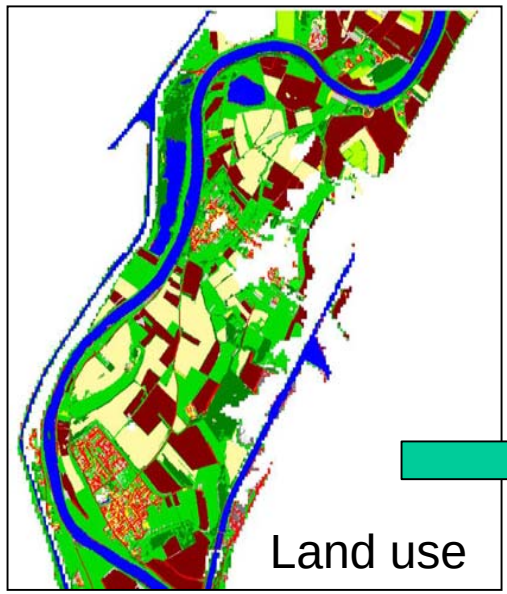
Support to COM(2002)481 following Elbe/Danube floods

Institute for Environment and Sustainability

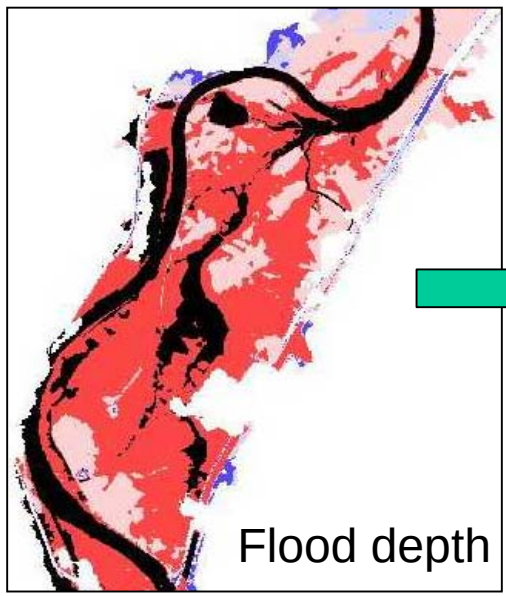
Flood Damage Assessment



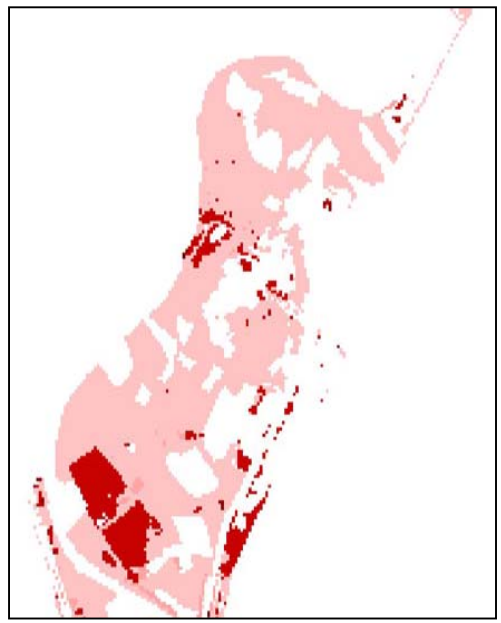
Flood extent



Land use



Flood depth



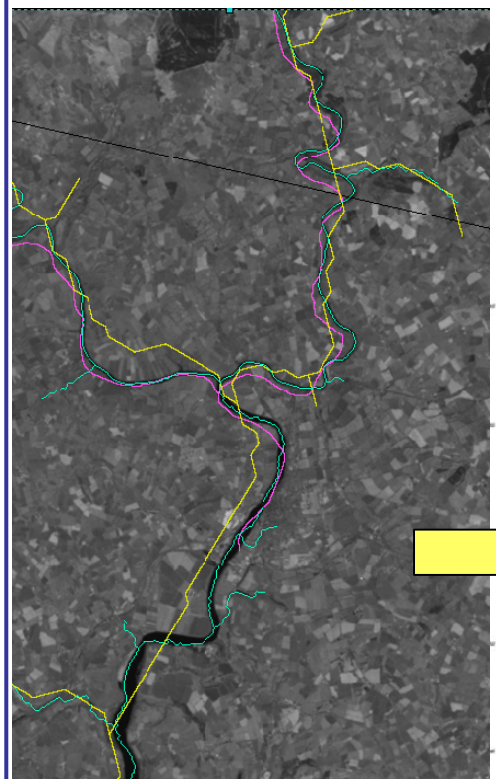
Economic losses

Future perspectives

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

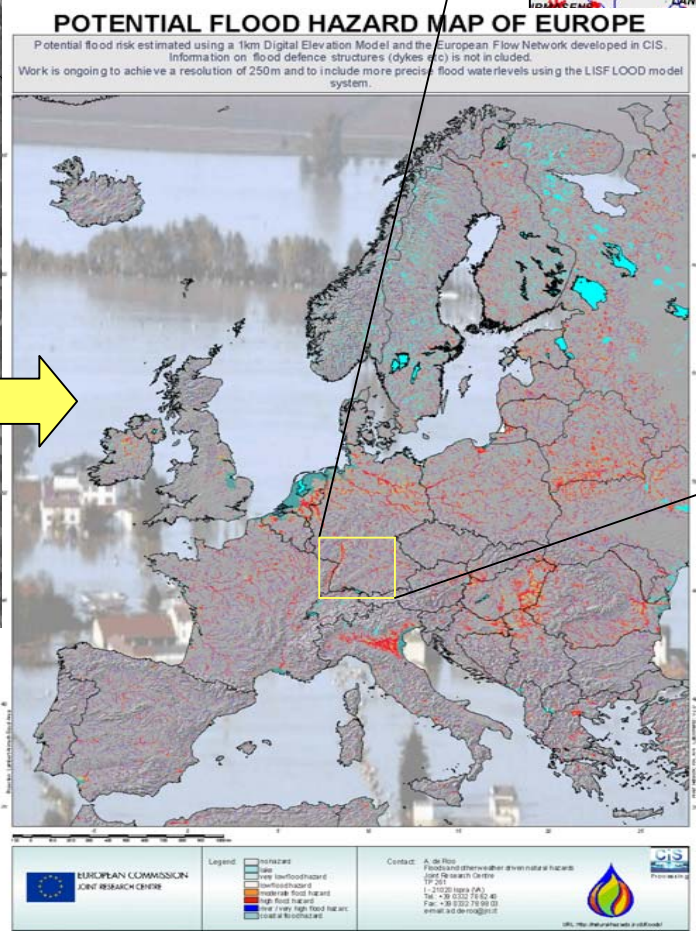
Flood Risk Mapping

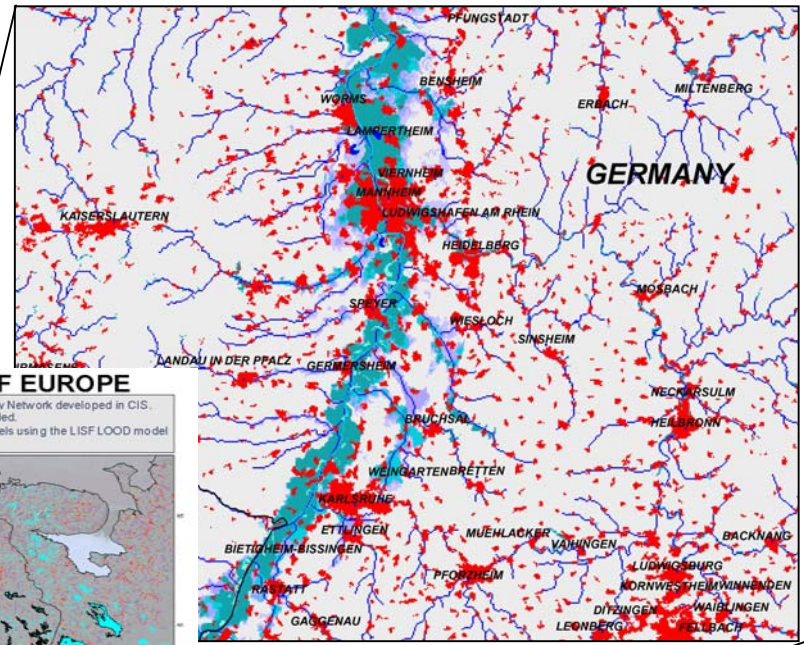
Automatic generation of European spatial layers: river network extraction from DEMs and



Legend

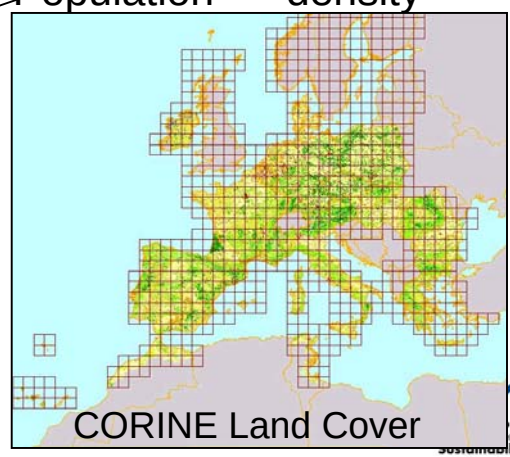
- **AMS_Image200_RIVER**
  - 1
- **DEM_RIVER_CCM**
  - 1
- **GISCO_RIVER**
  - 1





Flood Risk & Urban areas

Population density



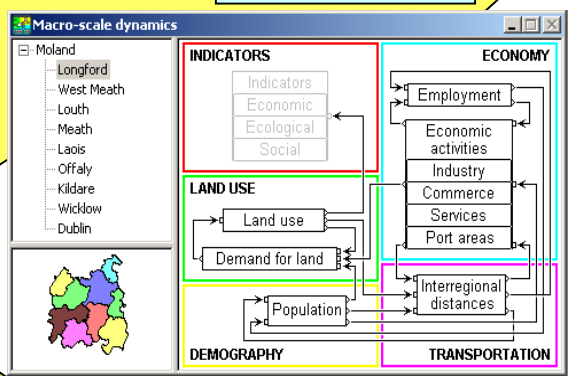
CORINE Land Cover

Joint Research Centre

Brussels, 17 November 2004

Land use development and natural hazards risk and impact scenarios

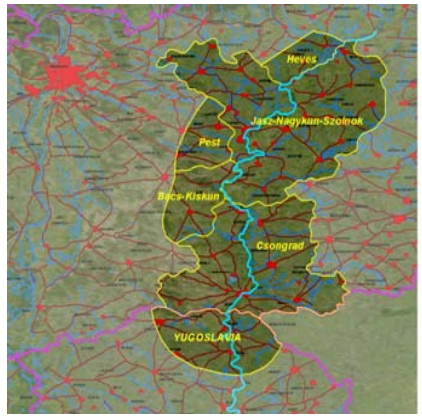
MOLAND Model



Land use demand / distribution

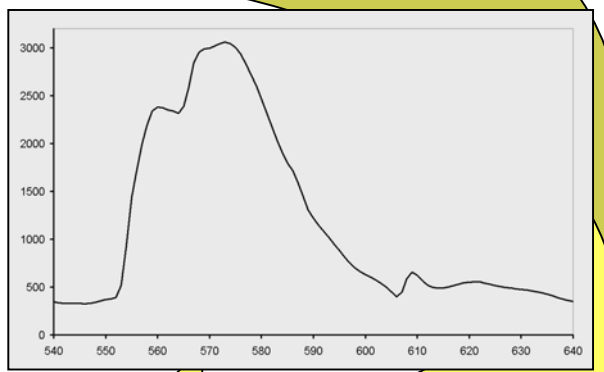
Economic Activities
Housing demand
Zoning maps
Transport plans

Risk Maps
Mitigation / Adaptation measures

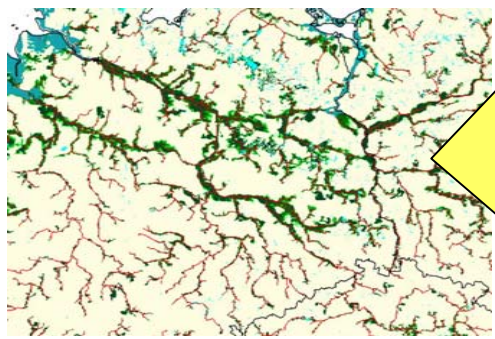


Predicted Land use (e.g. 2020)

LISFLOOD Model



Flood Simulation (e.g. 2020)

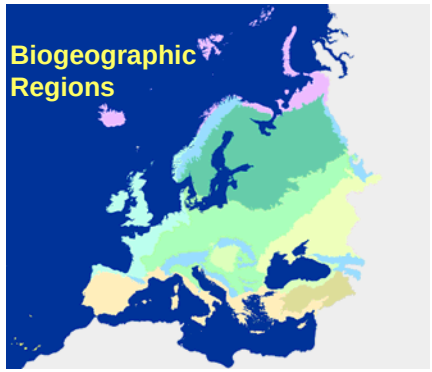


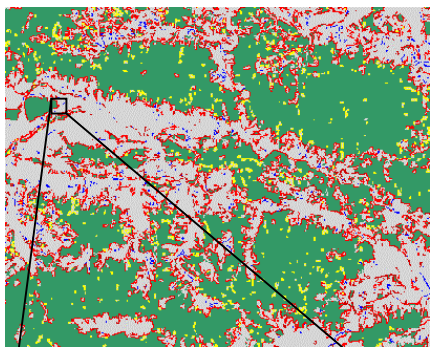
Flood Hazard Assessment (e.g. 2020)

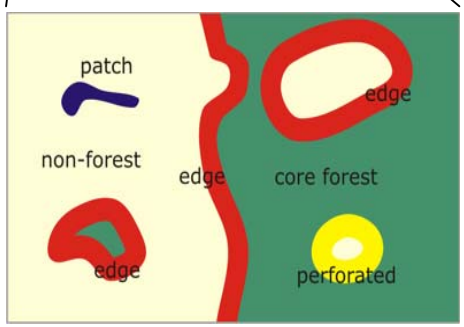
EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

Forest Applications

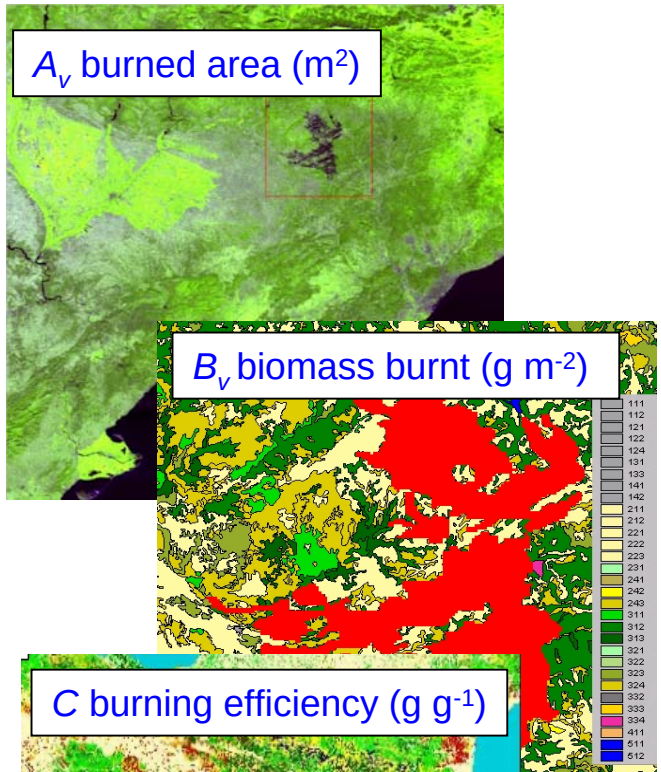
Biodiversity







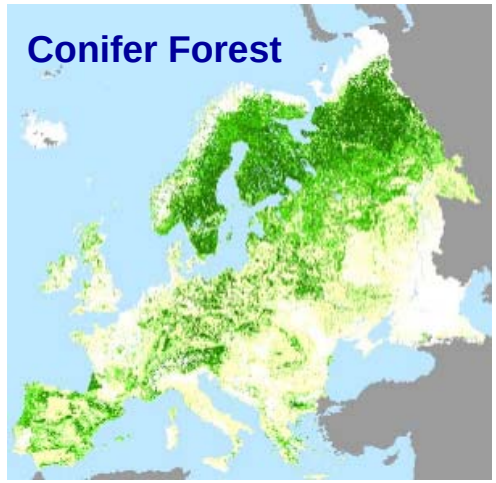
Fire emissions estimation

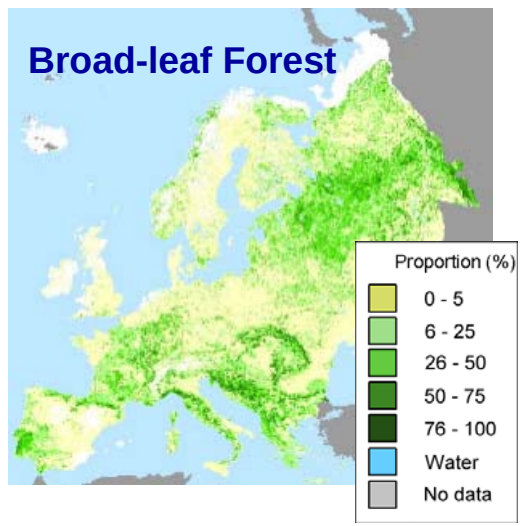


$$CO_2 = \sum_v A_v \times B_v \times C \times E_v$$

Regional estimates of CO2 emissions

Mapping





Joint Research Centre

Brussels, 17 November 2004

Institute for Environment and Sustainability