European Environment Agency

1 April 2014

Clarification No 1

Reference: **Open call for tenders No EEA/MDI/14/001**

Title: *Copernicus Initial Operations 2011-2013 - Land Monitoring Service Local Component: riparian zones*

Question 1
Section 6.2.1 Of the Tender Specifications refers to "the production of a tailored LC/LU dataset focusing on a buffer zone along selected rivers, covering an area of interest (AOI) of approximately 500.000 km2". Would it be possible to make available to the tenderers the mentioned "indicative shapefile"?

Answer 1
The indicative shapefile mentioned in section 6.2.1 has been made available to all tenderers in a password protected ftp-server. To get access to the ftp-server please write an email to gio.land@eea.europa.eu*.*

The shapefile is derived from the EU-Hydro dataset (also made available on the ftp-server). Please note that, as stated in footnote 18 (page 7) EU-hydro (Beta version; produced in the frame of GMES preparatory action 2009: RDA project) is provided on an as-is basis, not validated dataset. Only river segments with Strahler levels ≥ 3 were selected and the following buffer widths applied:

Strahler level	Distance (to each river side)
Strahler 3	250m
Strahler 4	250m
Strahler 5	500m
Strahler 6	750m
Strahler 7	1000m
Strahler 8	1500m

The second input dataset is the Pan-EU Flood Hazard Map *produced by the JRC for the 100-year return period (as described in Alfieri et al. 2013;* http://onlinelibrary.wiley.com/doi/10.1002/hyp.9947/abstract*). This map is also made available in the above mentioned ftp server together with the license agreement setting the conditions of use.*

The Pan-EU Flood Hazard Map *with 100m grid size was converted into vector format. In a final step the vectorised* Pan-EU Flood Hazard Map *and the EU-Hydro derived and buffered Strahler segments were merged through a spatial UNION obtaining the maximum extent of both layers.*

Please note that this shapefile is only an indication of the working area to be mapped for LU/LC, as described in 6.2.1. The vectorised Pan-EU Flood Hazard Map *was not filtered, i.e., small island polygons and artefacts resulting from the raster to vector conversion still exist and were not filtered yet from the dataset. A clean version will be provided to the successful tenderer. Bear also in mind that the* Pan-EU Flood Hazard Map *data is not available for the EEA39 coverage. For those countries which are not covered (e.g. Turkey) only the river network with the above mentioned Strahler level buffers was applied.*

Question 2
Please clarify whether/to which extent/how riparian zones around lakes shall be taken into account. Please also specify which lakes dataset has been incorporated so as to get to the overall 500,000 Km2 sized buffer zone, and if/how Strahler levels of the associated rivers running through the lakes and related buffer widths have been assigned for that purpose along the lake shores.

Answer 2
All riparian zones of lakes which are connected to the river system, i.e., which are crossed by a river (e.g. Lake Constance, Lake Maggiore) should be considered. The buffer size applied depends on the Strahler level of the corresponding river segment crossing the lake. In the current version of the above described indicative shapefile lakes were not included. The new clean version to be provided to the successful tenderer will include buffered lakes. Please note that the EU-Hydro dataset includes also canals but those were not taken into account.

Question 3
In order to be able to set up a tentative production, time and delivery plan, how the envisaged schedule for completion of the Data Warehouse Core_03 coverage of VHR

images within the vegetation season over the riparian zones would look like, and which VHR data (i.e. from which sensor(s) are to be expected?

Answer 3
It is planned to complete the core_03 VHR coverage with 2014 acquisitions within the vegetation season. However at this stage, it is not yet known which sensors will be used. EEA will provide an update as soon as more information is obtained from ESA.

Question 4
Section 6.2.3 specifies that green linear elements shall be mapped "within the buffer zone". Could you please confirm that this relates to the spatially same extent of buffer zone as described in section 6.2.1 of the Tender Specifications?

Answer 4
It is hereby confirmed, that the buffer zone where green linear elements shall be mapped is the Area of Interest (AoI) described under section 6.2.1., which is composed of the union of a buffer zone around river segments categorised according to Strahler levels, with the extent of the Pan-EU Flood Hazard Map produced by the JRC, as discussed under question 1.

Question 5
Both in section 6.2.1 and section 6.2.3, overall classification accuracies of 85% for the VHR LC/LU product and the green linear elements product, respectively, are requested from bidders. Shall these requested overall accuracies relate to the reference area of the specified buffer zone along selected rivers (section 6.2.1) in its full spatial extent over the EEA-39 countries?

Answer 5
This is correct. Please, note that the relative occurrence of LC/LU classes is also to be taken into account.

Question 6
Section 6.2.3 states that "green linear elements identifiable within the given image resolution (2 to 2.5m), as hedgerows and groups of trees, shoulders, typically smaller than the minimum required width of 5m" shall be mapped. Is our understanding correct that such elements shall only be mapped in case of a tree/bush crown cover width of at least 5m (i.e. 2 pixels identifiable in a 2.5m satellite image)?

Answer 6
The understanding is not correct. The maximum width is defined by the requirements outlined under task 6.2.1 (i.e. 10m) while the minimum width for linear features under 6.2.3 is only set by the detectability of such green landscape elements in VHR imagery.

However a length of 100m or in the case of patchy structures an area extent of 500m² is given as guiding thresholds for inclusion in the product.

Please, note that a correction was made to the tender specifications text in page 14 under section 6.2.3, instead of "(…) typically smaller than the minimum required width of 5 m)" it should read "(…) typically smaller than the minimum required width of 10 m)"

Question 7
For the separation of Green Linear Elements into trees vs. hedgerows/scrub, is it correct to assume that the FAO definition of trees applies ("trees should be able to reach a minimum height of 5 m at maturity in situ")? This would guarantee consistency with other Copernicus Land data, such as the HRL forest.

Answer 7
The assumption is correct.

Question 8
According to section 6.4.2, the future contractor is expected to be able to provide consultancy services for specified areas of expertise. It appears that for the evaluation of this task only the price evaluation criteria as in section 11.3.2.2 of the Tender Specifications will apply. Or will also the proposed Human Resources (as specified in section 11.2.3 of the Tender Specifications) have an impact for the evaluation of this consultancy task, e.g. in the Technical merits evaluation section 3-Production Plan (section 11.3.1 to the Tender Specifications)?

Answer 8
The evaluation of the proposed Human Resources (HR) is performed against the selection criteria as listed in section 11.2.3, and refers to "similar type of work". Evidence has to be provided that the tenderer has the HR expertise and experience needed to fulfil all tasks foreseen in this call for tenders (as described under sections 6.2.1 to 6.2.4).
Once beyond the evaluation of the selection criteria (namely the Technical and professional capacity as described under 11.2.3), the price remains as award criteria (Price as described under 11.3.2) applied to section 6.2.4.

Question 9
The Draft Specific Contract foresees two annexes, a Request for Service and a Contractor's specific tender. Once the Framework Contract will be in place, will the Contractor have to provide additional specific tenders for services within the Framework Contract? Or would such procedure only apply to consultancy services?

Answer 9
Article I.4 of the Draft Framework Contract states that "All services delivered under this Contract will be the subject of a written specific contract. The specific contract will specify

the terms of the performance including in particular the reference of the Contract, the type of the services and the amount."

Therefore, the whole Contract will be implemented through Specific Contracts, to be issued upon EEA's needs.

Question 10

According to chapter 6.2.1 and 6.2.3 of the tender specifications VHR-data will be the source for the detection of LC/LU and green linear elements. As mentioned under chapter 6.3.1 the VHR coverage will be completed in 2014. However, if the coverage cannot be completed in 2014 or at any later stage during the project lifetime, should the uncovered area be mapped with any alternative image-data?

Answer 10

The assumption is correct. Please refer to Answer 3 above. In addition, please refer to section 6.3.1 (page 16 ff) where it is mentioned "other datasets may be made available, which hold different resolution and characteristics" and "The use of Landsat-8 data or other freely available satellite image sources is not excluded as a complementary data source". Whenever no VHR data is available other datasets should be used in order to cover the whole AoI. In this case, tenderers should describe the impact in the nomenclature and the accuracy of the product.

Question 11

Could you please provide a footprint shape including data quality (including cloud coverage per image) of the VHR image data?

Answer 11

No footprint shape including data quality is provided. Information on CORE dataset status and quality is published by ESA on a monthly basis. Please, refer to page 6 of document http://gmesdata.esa.int/c/document_library/get_file?uuid=fc802d1e-f3cc-4659-862e-19dd8f3d0ec9&groupId=10725 under the heading "DWH_MG2b_CORE_03: Optical VHR2 coverage over EU 2011-2013 and Riparian zones".

Question 12

HR Data: SPOT5 Data is Pan-sharpened (2.5m) with 3 channels (NIR,Red,Green). For automatic classification routines the original data (separate channels, not-pan-sharpened) would be helpful. Could you therefore please provide access to the original data?

Answer 12

It is not possible to provide access to the original data. As mentioned in page 17 of annex I, full specifications of the satellite input data made available for this project can be found in the document "GMES Space Component Data Access Portfolio: Data Warehouse 2011-

2014", available at http://gmesdata.esa.int/web/gsc/dap_document. CORE_03 data is provided at processing level L3 (ortho-rectified) pan-sharpened.

Question 13
Could you please provide an overview of already available data of the HR-Layers and a delivery plan for the outstanding high resolution layer data as a basis for our production- and delivery plan?

Answer 13

Please refer to section 6.3.2 (page 19). HRL 2012 intermediate products (imperviousness and forestry) will be available, provided on "as is" basis.

Question 14
Will you also provide the necessary data for the 2nd test area?

Answer 14
Please refer to Annex 12. The second test area is to be chosen by the tenderer. For the second test area tenderers should preferably use the same type of input satellite imagery as will be used for the execution of the contract.

Corrigendum
Please note that Annex I - Technical Specifications related to this procedure shall be amended according the wording of Answer 1 and as follows:
- Section 6.2.1, page 9, Table "Description of the Very High Resolution (VHR) LC/LU data layer to be produced" under Minimum Mapping Unit: instead of "minimum width of 10m for transport networks" it should read "minimum width of 10m for transport networks or other linear landscape features"

- Section 6.2.1, page 7: instead of "The LISFLOOD European flood hazard map, produced by the JRC" it should read "The Pan-EU Flood Hazard Map produced by the JRC"

- Footnote No 28, page 10: instead of "Nicola Clerici, Christof J. Weissteiner, Maria Luisa Paracchini, Luigi Boschetti, Andrea Baraldi, Peter Strobl, Pan-European distribution modelling of stream riparian zones based on multi-source Earth Observation data. Ecological Indicators, vol. 24, no. January 2013, p. 221-223" it should read "Nicola Clerici, Christof J. Weissteiner, Maria Luisa Paracchini, Luigi Boschetti, Andrea Baraldi, Peter Strobl, Pan-European distribution modelling of stream riparian zones based on multi-source Earth Observation data. Ecological Indicators, vol. 24, no. January 2013, p. 221-223 and Nicola Clerici, Maria Luisa Paracchini, Joachim Maes, Land-cover change dynamics and insights into ecosystem services in European stream riparian zones. Ecohydrology and Hydrobiology, in

press, corrected proof available online http://www.sciencedirect.com/science/article/pii/S1642359314000044"

- Section 6.2.2, page 12: instead of "LISFLOOD data" it should read "The Pan-EU Flood Hazard Map produced by the JRC using the LISFLOOD model"

- Section 6.2.3, page 14: instead of "(…) typically smaller than the minimum required width of 5 m" it should read "(…) typically smaller than the minimum width of 10 m"

- Section 6.3.1, page 18: instead of "A list of DWH_MG2b_CORE_03 delivered products, per sensor and acquisition, date is provided in annex 10, together with a *shapefile* of footprints" it should read "A list of DWH_MG2b_CORE_03 delivered products, per sensor and acquisition date is provided in annex 10, together with a *shapefile* of footprints. A list of data delivered in addition to the nominal CORE_03 in response to the new Riparian zones coverage requirement containing the identification of the SubDataSet and the Filename can be found in http://gmesdata.esa.int/web/gsc/resource_details?p_p_id=rdtPortlet_WAR_gscportlets&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_rdtPortlet_WAR_gscportlets_rid=427"

- Section 6.3.2, page 19: instead of "The JRC LISFLOOD dataset" it should read "The JRC Pan-EU Flood Hazard Map"