

Preparing GMES Services for the Future

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Main topics

- I. Land Monitoring Core Service :
What and what for?
- II. Current status
- III. 2011-2013 : towards operations
- IV. The role of Geoland2



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Land Monitoring Core Service: Characteristics

- **One of the three Fast Track Services**
- **The Land Monitoring Core Service is a tool**
 - to support policies at EU and international level (e.g. soils, water, agriculture, forestry, biodiversity, transport, etc.)
 - to support diverse user communities in their daily work
- **It addresses common key user requirements:**
 - improves data access
 - provides reliable multi-purpose land cover data
 - forms the basis for a multitude of applications in environmental management and spatial planning



The future portfolio

- **‘Multi-purpose’ products common to a large community of users: Pre-processed space data and Reference data**
- **A set of land use products**
 - at various scales
 - at various time resolutions
- **Bio-geophysical parameters in support to Essential Climate Variables at Global level (e.g. vegetation parameters)**
- **possible extension to thematic products at EU or International level (e.g. for crop monitoring, water management)**



Implementation approach

- **Possible Mix of centralised and decentralised elements**
 - Role EU level: common functions (pre-processing, low-coarse level products...) harmonisation, aggregation
 - MS level (European component): national activities, in-situ data provision, validation of EU-level products
- **EU component: two step approach proposed by Implementation Group Land**
 - Short term : Ensure the continuity of Corine time series with improvement
 - Progressive synchronisation and integration with MS's activities in compliance with Inspire Directive which requires that land cover information be supplied in an interoperable and harmonised format



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The Land Monitoring Core Service today

- A Land service starting with 2 components at European level
 - Continental Pan-EU component (Corine)
 - Local component (Urban areas)
- Further extension to:
 - Evolution of land cover activities at Pan-EU, national, local level (e.g. protection of sites, coastal areas...)
 - Global Component including global scale monitoring (e.g. terrestrial essential climate variables) and activities at EU level (e.g. hot spots mapping, thematic services...)
- Thematic elements still to be addressed (e.g. crop monitoring, water management)



The research projects

- **ESA GMES Service Elements (Land, Forest, Urban Services) and EU FP6 (GEOLAND...)**
 - proof of concept (technical, organisational)
 - Research on enhancement (methodology, implementation)
 - User involvement (requirement, acceptance)
- **EU FP7 (mainly GEOLAND2):**
 - Readiness for operations



The first operational implementations

- Existing operational activities:
 - Corine
 - Urban Atlas
- Two preparatory actions agreed by the EP:
 - 1) Implementation of Emergency Response (2008)
 - 2) Reference Data Access and provision (2009) (in preparation)
- GMES Initial Operations (2011-2013) proposal from the Commission (in preparation)



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Required improvements

- **Improve existing Land Cover activities at EU level (spatial, time and thematic resolution, timeliness, accuracy, methods...)**
- **Enhance harmonisation and synergies between national, European and global Land Cover activities**
- **Improve data access, including access to primary and pre-processed data**
- **Extend GMES Land cover activities to dynamic monitoring and various geographical scales**



The steps forward

GMES Initial Operations (GIO)

- **Indicative amount: 150 Mio Euros**
- **Bridge financing for period 2011-2013**
- **Proposed scope: focus on land monitoring, emergency response, data access and GMES space component**
- **Beyond this phase, fully-fledged GMES programme expected to be in place in the next multi-annual framework (2014-2020)**



GIO – content (1)

- **Focus on priorities (« multi-purpose » products) defined by the Land Implementation Group and land user communities**
- **Pre-processing of data, including atmospheric corrections, ortho-rectification, image mosaics**
- **Access to, and provision of, reference data required for operation of Land and Emergency Response services (e.g. European topographic maps and digital elevation models)**
- **Validation and quality control, dissemination, archiving and cataloguing of all generated products and data**



GIO – content (2)

- **EU level: Periodic Land Cover Mapping**
 - Update and upgrade of Corine land cover integrating improvements from precursor projects to ensure the continuity of Corine series
 - In parallel start to develop synergies with national activities
- **Local level: Urban Atlas update, additional mapping of areas of interest (e.g. protection sites, coastal areas, etc.)**
- **Global level: Near Real Time production of a set of mature bio-geophysical parameters as contribution to Climate Change monitoring**



GIO – Elaboration process

- Details of activities not in the legislative proposal; exact contents will be decided further in the procedure, and with Programme Committee for the implementation.
 - **Still time to discuss the contents and implementation scheme**
- Allocation budget (indicative, not in the proposal)
 - Emergency service 10-15%
 - **Land monitoring services 30%**
 - Uptake of Operational Services less than 5%
 - GMES Space Component (operation of Sentinel -1/-2/-3 A units) 30-35%
 - Data Access 20%



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Geoland2 outputs

- **Methodology and service specifications**
- **A demonstration of implementation**
- **Getting confidence in maturity for operations**
- **Major input for GIO and future operations**



Geoland2 role

- Finalise user requirements
- Develop methodologies and specifications answering the technical and governance approach
- Demonstrate the operational feasibility of the implementation

→ This forum is key to reaching these objectives



Thank you for your attention

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http://ec.europa.eu/enterprise/policies/space/research/index_en.htm

