

Geoland in the context of the Fast Track Service Precursor

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GMES « fast track » service land monitoring

→ to deliver from 2008 onwards a first set of **regular** operational services, aiming to achieve **cost-effective**, more frequent, better quality and more **coherent** information on land cover from global to local scales

(GAC, June 2005)



Latest GMES developments



- COM (2005) 565: "GMES : From concept to reality"
 - Land monitoring = candidate GMES fast track service to be operational by 2008 and to be implemented by EC and ESA
- GMES Bureau : lead DG ENTR
 - coordination of GMES fast track development (from 01.06.06)
- GMES Implementation group Fast Track Service Land Monitoring
 - First meeting 06.02.06



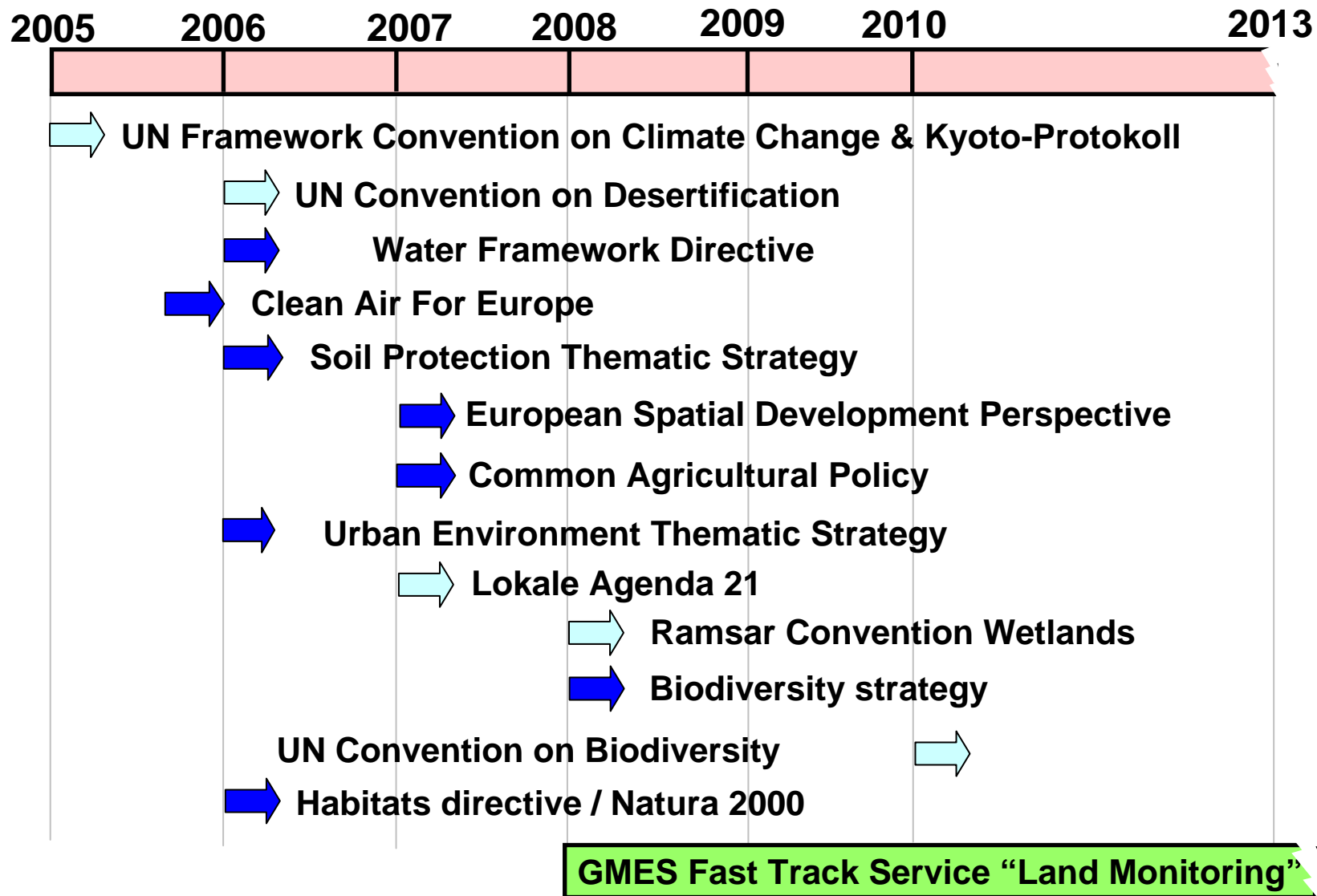


Consolidated information requirements

EU Policy and legal framework	Land information requirement	Update frequency	MMU
Water Framework directive (2006-2015)	Characterization of river catchment areas, prevention of groundwater pollution from diffuse and local soil contamination	3-5 years	1-5 ha
Community Biodiversity Strategy (2006 - 2010) Habitats directive Natura2000, 2010 target	Designated areas and habitats, change in ecosystems, fragmentation	5 years	1-5 ha
Common Agriculture Policy (agri-environmental Regulation; New guidelines for Rural Development; CAP evaluations 2007-2013)	Landscape diversity and management, agriculture habitats, mapping rural area	3-5 years	1-5ha
Community Structural Policies (European Spatial Development Perspective –Territorial Cohesion; 2007-13)	Natural assets, land use conflicts, physical planning, territorial development	3 years	1-5 ha
Follow up European Strategy for ICZM (2006+)	Land use and land cover change coastal zones	5 -10 years	5 ha
European Thematic Strategy on Urban Environment and sustainable land use (2006+)	Urban sprawl, rural-urban relationships	5 years	0.1-5 ha
European Thematic Strategy on Soil Protection (2006+)	Soil degradation, protection and sealing	5 years	1-5 ha
Forest Monitoring	LULCC forest area	3 years	0.5 ha



Timetable LULCC Reporting Requirements



About GMES FTSP* Land Monitoring

(*Fast Track Service Precursor)

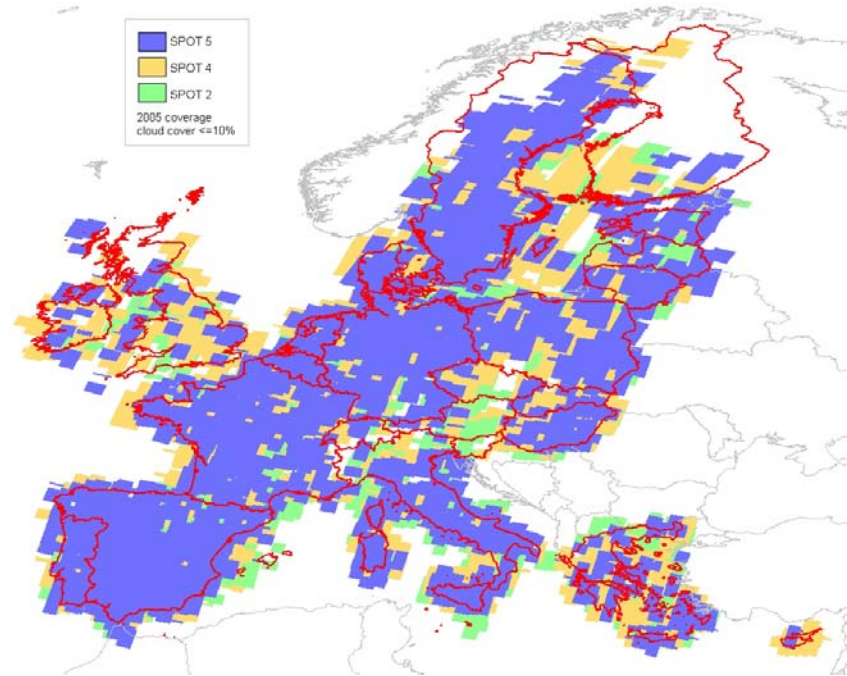


- Proposal from Geoland/GSE land service provider consortium (lead Infoterra GmbH)
- First high resolution database EU25
 - 1 ha for urban areas
 - 5 ha for rural areas
- 16 classes Corine Land Cover compatible
- Supporting 2007/2008 reporting requirements
- Precursor for full-scale GMES service from 2008 onwards



Production approach FTSP

- EO data acquisition
 - Existing 2005 SPOT4 coverage
 - New acquisition 2006
 - Backstopping IRS / SPOT
- Ortho rectification
- Radiometric pre-processing
- Thematic mapping
 - Segmentation
 - Pre-classification
 - Visual interpretation
- Validation



Deliverables: IMAGE2005 + FTSP2005
within 21 months after kick-off

Results discussion Eionet stakeholders

31.01.06



- Meeting of EIONET National Reference Centres Land Cover organised by ETC TE.
- Discussion items:
 1. the preferred option for **updating the European land cover** dataflow, including the requested improvements for higher resolution land cover and land use data compared to CLC;
 2. EEA potential participation in the **implementation group for the GMES fast track service Land Monitoring** set up by DG ENTR;
 3. **EEA/Eionet role** within the management of the CLC project as part of the development of the GMES fast track services implemented jointly by EC and ESA.

Discussed options



- **Option 1:** “classic” CLC2005 update similar to CLC2000
 - Total cost estimate: 6 Meuro
 - Main added value GMES:
 - Provision IMAGE2005
- **Option 2:** FTSP: a CLC compatible update with higher geometric resolution (1-5 ha) and reduced number of classes
 - Total cost estimate: 17 Meuro (+5.4 Meuro)
 - Main added value GMES
 - European land cover data with higher geometric resolution
 - Production process managed by service industry
 - Precursor for full scale GMES Land Monitoring service based on FP6 Geoland and ESA GSEs

Pros&Cons of proposed FTSP

- + Political support for implementation of GMES fast track service
- + First European wide high resolution (1-5 ha) land cover data
- + Fast guaranteed delivery
- + Possible further upgrade to a full scale Fast Track Service

- Reduced number of classes (16 out of 44)
- The selected classes are not selected on the basis of user needs, but for technical reasons. The balance between thematic content and spatial detail is lost (e.g. combining arable-grassland, wetlands-vegetation, etc.)
- Land cover change monitoring with previous CLC inventories not possible
- Limited involvement of national authorities during the production process
- High costs
- Ownership of data and distribution policy not clear



Results Discussion GMES Land User Platform

9.02.06

Proposed approach for 2006-2008 FTSP:

- Combination of option 1 + 2 :
 - Update of land cover changes (5 ha) using standard CLC approach
 - Plus simultaneous production of new high resolution land cover data layers (1-5 ha MMU) for selected number of classes
- Defined high resolution data candidates:
 - Urban built-up area
 - Composition complex CLC classes
 - Forest
 - Wetlands

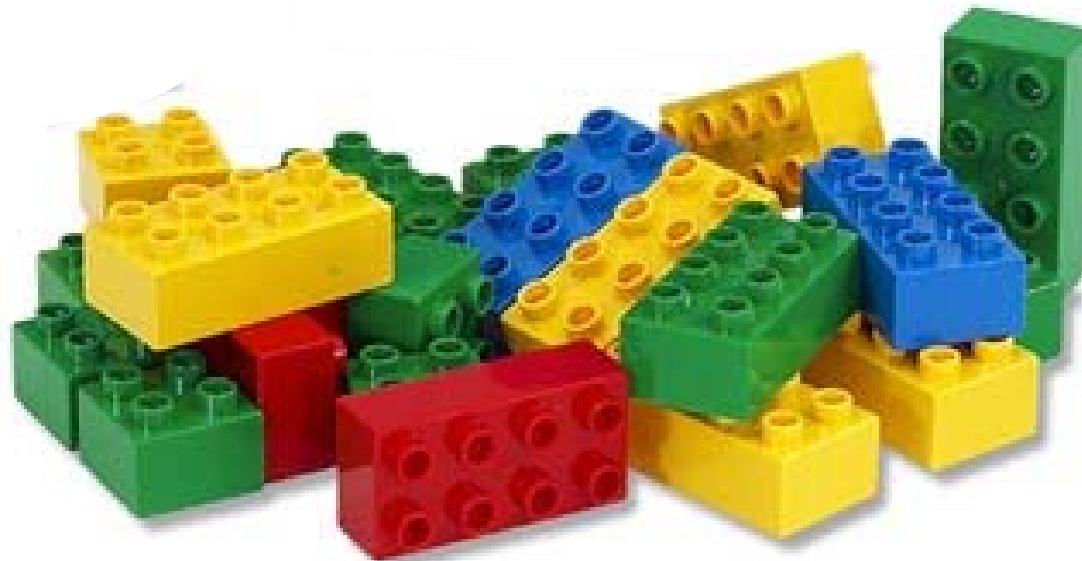
Challenges for FTSP

- **F**ast delivery of first full scale GMES service by 2008
- **T**eam work for pooling of available/existing resources from public&private partners
- **S**ervice responding to end-user demands
- **P**rogramming of implementation



Make it happen

”Use **existing** building blocks*”



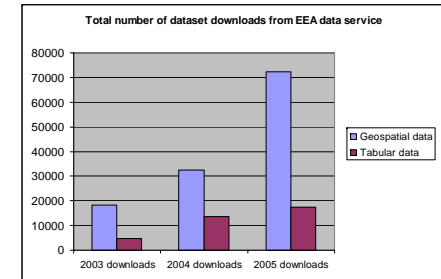
* Geoland, GSE Land, GSE Forest Monitoring, CLC, LUCAS, GCPs, NRCs, ...

From concept to reality



”...to build the GMES Fast Track service”

Conclusions



- Consolidate efforts from Geoland, GSE Land + Forest
- Build on existing European expertise and networks
- Use window of opportunity 2006-2008 for implementing GMES Fast Track service land monitoring precursor
- Focus on continuity of information flow tailored towards policy-customer needs
- Ensure widest possible use of core service land cover based on open access and free data dissemination policy

Next steps EEA/Eionet



- 31 Jan: Eionet workshop – discussion with NRCs
- 1 February: EEA internal discussion with director
- 6 February: First meeting GMES implementation group Land Monitoring
- 9-10 February: Geoland forum Vienna – FTSP discussion
- 14 February: EEA Bureau guidance/decision
- 21 February: NFP/Eionet meeting
- 22 March: EEA Management Board decision