



European
Commission



Global
Monitoring for
Environment and
Security

GMES Status December 2004

Peter BREGER

DG RTD/H5

« Space: research activities, GMES »

DG ENTR/H3

« Space research and applications »



GMES: a joint EC-ESA initiative

- The objective is to establish by 2008 a European capacity for global as well as regional monitoring to support EU objectives in a wide variety of policy areas.
- GMES should:
 - make the maximum use of existing EO systems,
 - harmonise current initiatives,
 - support the development of new capacity where needed.
- **to achieve coherent, efficient and sustainable systems of production of information**

Action Plan for the intermediate period (2004-2008): see Commission Communication COM (2004) 65 final, of 3 Feb. 2004



GMES Implementation Period (2004-2008)

- **Management actions**

- Advisory Council, Programme Office, GMES partnership(s), Coordination actions in the framework of GEO

- **Implementation actions**

- in-situ component, space component, data policy, data integration and information management, management structure, services, security aspects

- **Funding actions**

- ensure sustainability of GMES services through appropriate funding mechanisms (in the context of the EU Financial Framework for 2007-2013)



GMES management 2004 - 2005

GMES Programme Office

- Undertakes the *operational management of GMES* in accordance with the mechanisms foreseen in the EC/ESA Framework Agreement.
Populated in part by seconded staff from the Commission and relevant international organisations (e.g. EEA, EUMETSAT).

GMES

- By Decision of the ESA Member States, the European Commission and ESA, as well as other stake-holders on an ad-hoc basis: relevant international organisations (e.g. EEA, EUMETSAT, ECMWF, European Maritime Safety Agency, EU Satellite Centre, etc.), representatives of end-users, industry, service providers, research organisations, academia.
=> **long-term strategy, political and financial support**

Inaugural meeting 6 July 2004 (see → <http://www.gmes.info>), **latest meeting 8 December 2004**



Action Plan for 2004 - 2005

- Analysis of existing or planned GMES activities
 - Initial mapping of GMES (pre) operational activities
 - Focus on "initial services" for early implementation in 2005. These will be confirmed with the Advisory Council
 - Demonstration of the initial services at the Earth and Space week (12-20 February 2005)

- Strategic & socio-economic
 - Strategic socio-economic
 - Possible funding scenarios

http://europa.eu.int/comm/space/esw/index_en.htm

- Proposal for GMES implementation
 - Approach for the governing structure & related funding scenarios
 - Final proposal to be submitted by EC to the Council & European Parliament by end 2005



GMES Initial Services

- Preliminary picture of what GMES is
- Concrete examples of GMES added-value
- Increase awareness & mobilize resources on GMES
- Starting-point for other GMES activities e.g.: socio-economic & architectural studies

Generic core vs. customised services

Cost-benefit analysis & impact study

Point to funding scenarios

Service activities under EC & ESA Programmes



First list of Initial Services

- Marine & coastal environment
- Risk management (floods & fires, subsidence & landslides)
- Air pollution (local to regional scale)
- Water quality (at European scale)
- Land cover state and changes (at European scale)
- Forest monitoring (global)
- Food security and early warning system
- Global change issues (modelling at European level)
- Maritime security (transport, coastal, ice-monitoring)
- Humanitarian aid



Preliminary analysis

- Sustainable supply chains should be adapted to organisational structures and working practices
- Different service provision models are being followed, largely determined by
 - the characteristics of observational data
 - the coverage and updating rates of information
 - the subsidiarity level of monitoring mandates
- In some areas, generic multi-purpose services emerge as basis for specialised services, e.g. by providing
 - boundary conditions for regional or local models
 - reference products for deriving customised information



Supporting Programmes

- Two main implementing mechanisms until 2007:

- European Commission

- *Framework Programmes FP(5) & FP6
(DG Research and DG Information Society)*

- European Space Agency

- *GMES Service Element (2002-2006)*
 - Service Consolidation
 - Scaling-up Services
- *GMES Preparatory Activities (2005-2007)*
 - Socio-economic studies, Sentinel studies



Space Council 25th November: Clear identification at ministerial level of GMES as a priority for the European Space Programme

- budget 2007-2013
- Basis for such actions are outlined in the White Paper for Space, as integral part of a « European Space Programme »
 - Implementation of GMES in two lines:
 - Operational actions
 - Research & Development
 - International participation in GEOSS



The role for R & D in GMES (FP7)

- Need to maintain (and in some cases establish) close links between R&D activities and implementation of GMES services:
 - Improvement/expansion of existing services
 - Input for new services
- GMES acts as driver/prescriber & facilitator of research activities through:
 - Request/requirements from GMES services (e.g. for FP7)
 - Supply of data (especially continuous time series) and facilities to the research community



Part of an operational GMES: proposed operational satellites = Sentinels

- Sentinel 1: A SAR family, providing continuity to established applications and to interferometry in particular
- Sentinel 2: A superspectral imaging family for terrestrial applications providing continuity to Landsat and SPOT-type measurements (including Vegetation)
- Sentinel 3: An ocean monitoring family, embarking a wide swath multispectral sensor as well as an altimeter
- Sentinel 4: A geostationary family for atmospheric composition monitoring and transboundary pollution detection
- Sentinel 5: An atmospheric composition monitoring family in low Earth orbit.

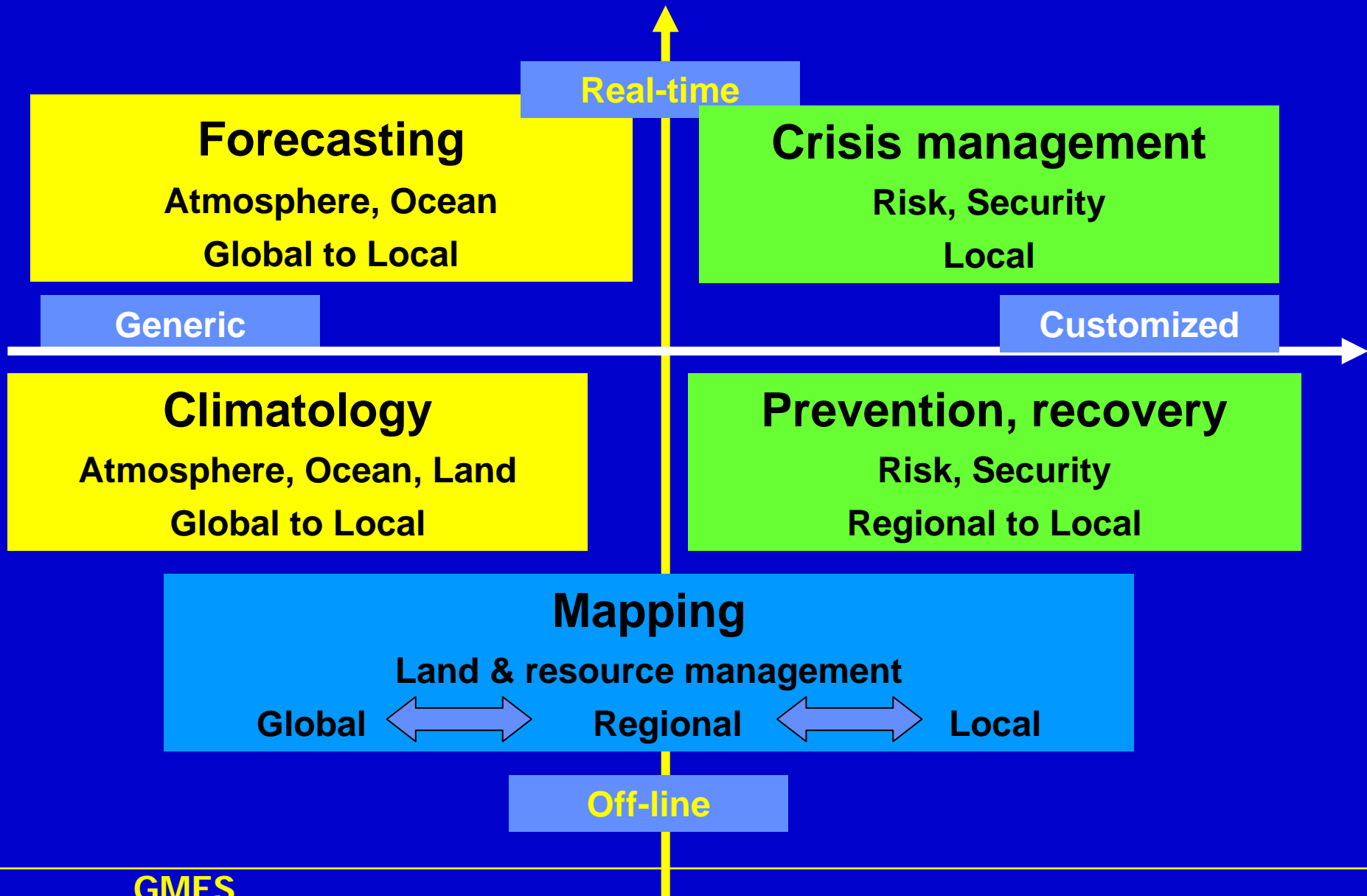
→ *Task of user requirement definition !*



European Commission



Examples of GMES Services





Forming the GMES Partnership

- Structure of GMES – umbrella organisation involving all stakeholders, including *Users*

Responsibilities in requirement specification and feedback / funding role

Clear call from Member States (GAC) to have strong private/industry involvement

(not) a public responsibility and supported through public funding

- Data policies: *key issues*

INSPIRE Directive compliance

- Funding routes – multi-source or centralised



Infrastructural stakeholders/ EC operational & infrastructure funding/ Regional funding