

EUGENE is an EU FP-7 Support Action
under topic ENV.2009.4.1.2.1

„Further structuring the European approach to Earth Observation“

Presentation outline

- Objectives
- Scope and Methodology
- Partnership
- Results
 - Climate
 - Water
 - Disasters
 - Cross-cutting issues
- Conclusions

Objectives and expected outcome

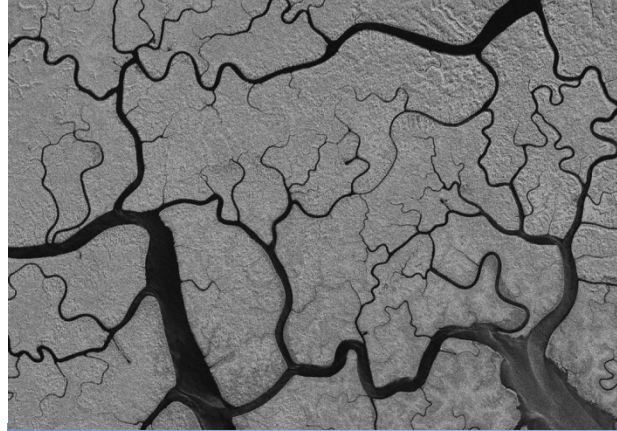
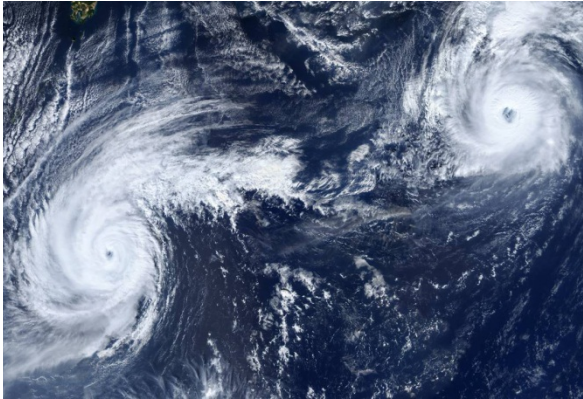
- Contribute to a coherent European position and strategy
 - proposing a structured approach for selected SBAs
 - special attention to 2010 GEO Ministerial Summit in Beijing

- Strengthen collaboration of European EO programmes and organisations towards GEO
 - Significant national activities also addressed

- Contribute to the establishment of strong European GEOSS component by 2015

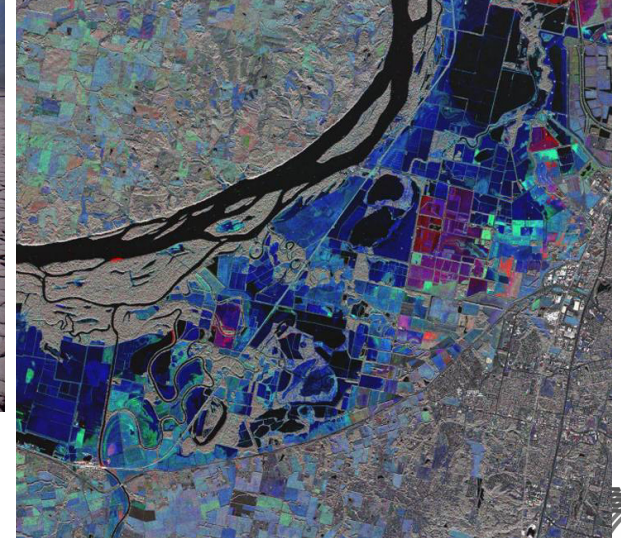
Three Societal Benefit Areas

Climate

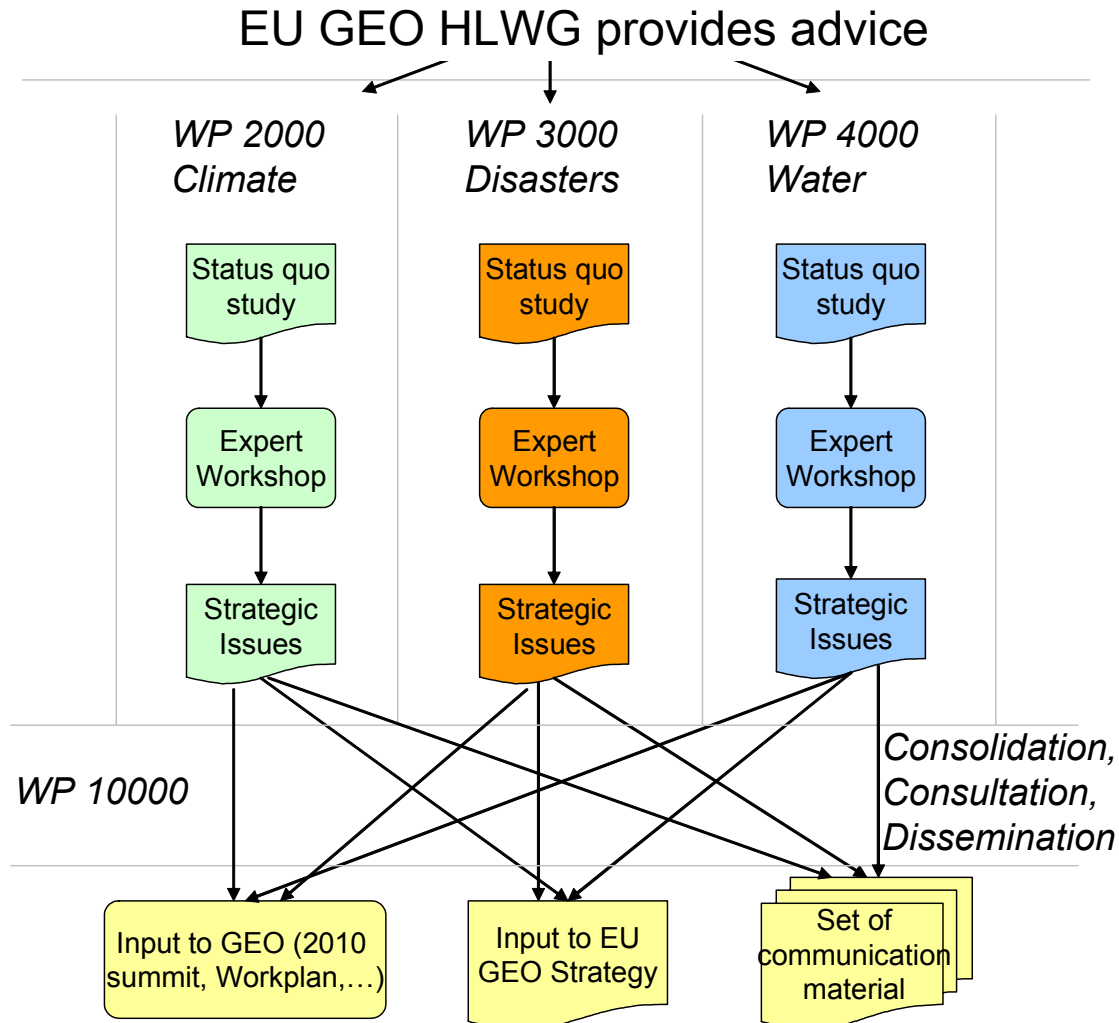


Water

Disasters



Scope, Methodology





Climate

The Challenge

- Both global data sets and coordinated analysis/modelling needed

Europe's capability to respond

- Very well positioned with pan-European world-class capabilities, e.g.
 - systematic meteorological observation networks (both in-situ and space)
 - long-term commitments to create and maintain climate data records
 - extensive modelling capabilities
 - R&D investments in observing systems and addressing climate issues
- Strong political will to address climate issues
- Well-integrated in key international frameworks
- Strategic participation by European organisations augmented by strong, individual, contributions from European Member States



Climate

Recommendations

- Ensure sustainability and further strengthen the overall European contribution to the GEO Climate SBA with long-term funding of crucial activities
- Possibly utilise the mechanism of the GMES Climate Change Service
- Target some specific activities (with secure, long-term funding):
 - Maintain, extend and strengthen terrestrial and oceanic in-situ networks, filling remaining regional gaps, and improving access to in-situ data
 - Create long time series Climate Data Records and take measures for data rescue and homogenisation (with a particular focus on in-situ data)
 - Construct long time series of Essential Climate Variables based on satellite data
 - Implement standards for metadata documentation
 - Make provision for regular reanalysis cycles



Disasters

The challenge

- Timely, accurate and reliable provision of Earth observation data and products for the different stages of disaster management in many regions of the world

Europe's capability to respond

- Substantial European developments and contributions to GEO in the framework of GMES
- GMES Emergency Response Services are being developed in the context of the EU RTD framework programmes and ESA GMES projects. Most important contributions currently provided by EU FP7 project SAFER
- Further European Services (e.g. Met Services!) are provided on an operational basis

Disasters

Recommendations



- Support an improved international coordination of Earth observation based contributions to emergency response
- Facilitate access to in-situ data and their integration into all stages of disaster management
- Improve organisational links and interaction between existing forecasting services and emergency response services to facilitate a fast and efficient reaction in case of a disaster
- Promote the establishment of global early-warning systems and missing services
- Improve benefits from Earth-observation based disaster management products through capacity building



Water

The challenge

- Sustained observation systems that acquire water cycle data and make this data accessible to the wider community are essential to achieve sustainable management of the world's water resources.
- Main challenges in Europe
 - Fragmentation of the Water sector in Europe & lack of coordination of EU contributions towards GEO/GEOSS
 - Obstacles on data sharing, especially as regards in-situ data
 - Decline of hydrological in-situ networks due to a general decrease of government funding



Water

Europe's capability to respond

- Earth observation technology/systems & expertise
 - e.g. operational hydrological networks; data archives; satellite missions that deliver hydrological & meteorological data; Water Framework Directive;
- Programmatic frameworks
 - e.g. GMES, INSPIRE, EU Framework Programme, capacity building programmes (focus on Africa);
- International cooperation
 - e.g. Europe supports implementation of key international frameworks such as GCOS/GTOS, IHP and HWRP; EU Member States host international data centres (GRDC, GPCC, IGRAC); support to GEO/GEOSS



Water

Recommendations

- Improve coordination of GEOSS-related hydrological activities in Europe
- Establish a coordinated European presence in the GEO Water SBA
- Develop coordinated, targeted observations of the global water cycle and assure a proper European branding
- Foster the exchange of hydrological data, with a focus on in-situ observations

Cross Cutting

The challenge

- Make substantial and coordinated European contributions to the Cross cutting GEO Strategic Targets on
 - Architecture: Facilitate sustainable access to and use of EO
 - Data management: Shared data stream with documented quality
 - Science &Technology: Full interaction with relevant communities
 - User Engagement: Ensure user needs are recognised and met
 - Capacity Building: Enhance coordination and efforts to build EO capacities

Cross Cutting

Europe's capability to respond

- Many relevant programmes and structures in place or emerging
 - GMES (incl. space and in-situ infrastructure, services, data policy, partnerships...)
 - INSPIRE as legal basis for the European Geodata Infrastructure
 - ESFRI
 - European Meteorological Infrastructure (EMI)

 - FP7 and other R&D funding mechanisms

 - User requirement studies, e.g. in the frame of EMI and GMES

 - PUMA/AMESD, EUMETCast, ESA Tiger, GMES & Africa...

Cross Cutting

Recommendations (selected)

- Provide European key activities with secure long-term funding
- Implement within GMES a framework for GEOSS contributions, link GISC with GEOSS
- Intensify involvement in GEOSS interoperability and data quality activities to promote European standards
- Continue and further focus GEOSS related research
- Link European user engagement structures with GEOSS structures
- Become strategically involved in GEO Capacity Building activities

Conclusions

- The need for European GEO Coordination and Outreach
 - Both “mainstreaming GEO” into major European EO related frameworks and overarching coordination needed
 - Further develop political profile of GEO as global framework that creates added value for relevant European efforts
 - With its increasing sustainability and operationality, GMES should play a major role

- Specific achievements through EUGENE
 - Informing the HLWG for discussing the European GEO approach
 - Stimulating links between GMES and GEOSS, at generic, service and in-situ level
 - Inception of global coordination process in disaster mapping, led by European institutions
 - Deriving inputs to GEO Workplan 2012-15

- Process needs to be taken further by European GEO community