GEOSS Implementation
2010 Highlights
GEOSS Common Infrastructure

* Single Clearinghouse (USGS)
* Single GEO Portal (ESA/FAO)
* Components & Services Registry
* Best Practices Wiki
RECOMMENDED ACTIONS (GEO-VII)

- **Register components** in the GCI – including datasets, systems, applications, services, web portals, best practices and ontologies

- **Contribute datasets** with full & open access – to support DATACORE

- …

  (GEO-VII Document 5)
New Products, Information & Services
Rapid and Open Access to Disasters Information
(Japan, Germany, USA, ESA)
Seismographic Stations Upgraded to Next Generation System
(\textit{EC, USA, FDSN, ISC})
More Forecast Products for Sand & Dust Storm Warning

(China, Spain, WMO)
Real-time Air Quality Information
(China, USA)

• AirNow information delivered to ~300 US cities
• Demonstration at 2010 World Expo, Shanghai
• To be extended to other provinces in China
• Open source and free of charge
Digital Geological Map of the World
175 Datasets from 40 Countries (EC, UK)
Long-Term Reanalysis for Climate Change Detection (Japan, USA, ECMWF, GCOS, WCRP)

20th Century Reanalysis

JRA-25 and ERA-40

Temperature Trend
Ocean Forecasting Systems for W-Pacific, Latin America and Africa (Chile, China, Denmark, EC, France, Korea, Norway, South Africa, USA)

**DMI Ocean Forecast**
Currents in Yellow Sea

**SimOcean: modelling pillar of OceanSAfrica**

**Objective:** To develop an ocean forecast system that provides regular estimates of the ocean state and its evolution into the future which are better than climatology and more accurate than persistence forecasts.

2-phase implementation plan

**Phase 1: Implementation**
2 year horizon
Downscaling approach: use already available atmospheric forcing and boundary conditions from existing global forecast products to force nested, regional and limited area domains.

**Phase 2: operational system improvements**
5 year horizon
- System development & research:
  - data assimilation
  - coupling:
    - atmospheric
    - bio-geochemical
    - wave
  - development of additional high resolution limited area domains

Requires close collaboration with other pillars of OceanSAfrica, other disciplines and several institutes.
Launch of Earth-System Prediction Initiative (WMO, WCRP, IGBP, ICSU)
Simulation at 1-km horizontal resolution (q@350m), Hurricane Earl, 12-72 hours
Large Atmospheric Computation on the Earth Simulator (LACES Project)
Climate Data & Services for Risk Management and Adaptation (USA, CEOS, GCOS, WCRP, WMO)
GEO Forest Carbon Tracking
(Australia, Canada, Japan, Norway, USA, CEOS, FAO)

Network of National Demonstrators

From 2009:
• Brazil
• Guyana
• Mexico
• Indonesia (Borneo)
• Australia (Tasmania)
• Cameroon
• Tanzania

From June 2010:
• Colombia
• Congo
• Peru
• Indonesia (Sumatra)

From 2011:
Progressive inclusion of countries from UN-REDD & World Bank FCPF
GEO Forest Carbon Tracking
(Australia, Canada, Japan, Norway, USA, CEOS, FAO)

- Satellite data acquisition completed for 2010
- Portal launched
- Preparation for Global Forest Observation Initiative (GFOI)
New Tool to Improve Land-Cover Maps

(EC, IIASA)

- Global network of volunteers
- Resolve land-cover mismatch
- Based on local knowledge and satellite data
Global Drought Early Warning System
(Australia, Canada, EC, USA)

Integrating regional drought monitors

U.S. Drought Monitor

July 8, 2008

Intensity:
* D0 Abnormally Dry
* D1 Drought - Moderate
* D2 Drought - Severe
* D3 Drought - Extreme
* D4 Drought - Exceptional

Drought Impact Types:
- D - Delineates dominant impacts
- A - Agricultural (crops, pastures, grasslands)
- H - Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/DM

Released Thursday, July 10, 2008
Author: Rich Teske, Climate Prediction Center/NOAA
Global Ecosystem Classification & Mapping
(Australia, China, EC, Netherlands, Paraguay, USA, RCMRD)
GEO BON Early Product
Digital Observatory of Protected Areas
(EC, Switzerland, USA, Diversitas, GBIF, UNEP)
Global Invasive Species Information
Over 1 Million Biodiversity Records
(Argentina, Australia, Denmark, Greece, India, New Zealand, Portugal, USA, GBIF)
More Data Sharing and Capacity to Use GEOSS Information
New Data Policy for Water Research (Germany, Italy, Japan, USA, WCRP)

50 Reference Sites
Full and Open Access to Sentinel Data (EC, ESA)
GEONETCast Fully Operational
Product Navigator and
Training & Alert Channels

Global Broadcast of Environmental Information
Data Sharing Standardized
Network of Receiving Stations Expanded
(Brazil, China, EC, Netherlands, USA, EUMETSAT, WMO)
One Stop-Shop for Disaster Management
Central America, Africa and now Himalayas
(Nepal, South Africa, USA, Cathalac, RCMRD)

- Downloadable data
- Online mapping & animation applications
- Decision support tools
- 3D visualization tools
Engaging Users
Communities of Practice

Air Quality
Biodiversity
Carbon
Coastal Zone
Energy
Forests
Geohazards
Global Agricultural Monitoring
Health and Environment
Integrated Global Water Cycle Observations

GEO-VII Plenary and 2010 Ministerial Summit
3-5 November 2010, Beijing, China
6 New Sub-tasks:

* DI-09-01c “Supersites and Natural Laboratories”
* HE-09-02e “Surveillance & Prediction of Seasonal Influenza”
* HE-09-03d “Reducing Health Risk from Water-borne Diseases”
* EN-07-02b “Carbon Capture & Sequestration (CCS) Monitoring”
* EN-07-02c “Locating High-Temperature Geothermal Resources”
* EC-09-02e “Risk and Vulnerability Atlas”
2009–2011 Work Plan

- GEO Work Plan 2009–2011 Information Management System & Task Sheets
- GEO Work Plan 2009–2011 (pdf version)

To open a Task Sheet page:
1) Choose the Task from the list below and
2) Click the Go button:

Search all Task Sheets

Search results will show here

Highlighted Actions
- Call for Participation (CFP) in the 3rd Phase of the GEOSS Architecture Implementation Pilot (AIP)
- GCI – IOC phase
- Data Sharing Principles implementation - (GEO-04-01)
- AIP Information online to GEOSS Implementation
- Call for Proposals: Earth Observations in Decision Support Projects

please visit also the GEO key documents page.
The New GEO 2012-2015 Work Plan
Preparation and Schedule
# GEO Work Plan History & Future

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Fully Address Strategic Targets Area by Area

2015 - End of GEOSS Implementation Plan
Broad Consultation

Initial Call (launched 9 Dec 2010)

GEO community invited to make proposals for structuring and streamlining the new Work Plan following guidelines accepted by GEO-VII

Deadline for proposals – 17 February
Main Guidelines (GEO-VII, Beijing 2010)

* Foster development of GEOSS products & services
* Ensure delivery of societal benefits through GCI
* Enhance data sharing (full and open access) & data distribution
* Build upon synergies across SBAs & cross areas
* Improve coordination of activities
* Ensure continuity of relevant activities
* …
Schedule – Work Plan Development

**Dec-Feb**  
GEO community invited to make proposals  
Following guidelines accepted by GEO-VII  
Deadline for proposals – 17 February

**March**  
Work Plan V0 submitted to GEO community for technical review.  
Deadline for comments – 26 May

**4-6 May**  
Work Plan Symposium (Geneva) to discuss V0 among Task contributors, Committees and Communities of Practice

**June**  
Work Plan V1 submitted to GEO Principals for official review  
Deadline for comments – 1 September

**November**  
Work Plan V2 submitted to GEO-VIII