A process, elaboration of GEOSS Architecture

Operational Capability

GEOSS Common Infrastructure (GCI) Task AR-09-01a

User Needs, Scenarios

SBA Tasks, UIC, CBC, STC

support

Design, Develop, Deploy

persistent implementation

requirements

ADC activities including:
Architecture Implementation Pilot (AIP)
Task AR-09-01b

SBA Tasks, UIC, CBC, STC

GEOSS Common Infrastructure (GCI) Task AR-09-01a

support

User Needs, Scenarios

Design, Develop, Deploy

persistent implementation

requirements

ADC activities including:
Architecture Implementation Pilot (AIP)
Task AR-09-01b
GEOSS Architecture Implementation Pilot, Phase 3 (AIP-3)

- Build on GCI and Community Services
- Refine SBA Scenario process
- Results in time to support Ministerial Summit

"fostering interoperability arrangements and common practices for GEOSS"

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Call for Participation</td>
<td>January 2010</td>
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<tr>
<td>Kickoff Workshop at ESA</td>
<td>March 2010</td>
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<tr>
<td>Ministerial Summit, Beijing</td>
<td>November 2010</td>
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<tr>
<td>All Deliverables Completed</td>
<td>2010</td>
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AIP-3 Focus Areas

• SBAs addressed
  – Energy
  – Disaster Management
  – Climate Change and Biodiversity
  – Water Drought
  – Health: Air Quality

• Technology Areas
  – Services Use Cases
  – Data Harmonization
  – Data Sharing
  – Semantics
AIP Reusable Process for SBA Integrators

- **Scenarios**: end user view of the value of GEOSS
  - Focused on topics of interest to a community
  - Occur in a geographic Area of Interest (AOI)
  - Steps in a scenario are mapped to Use Cases

- **Engineering Use Cases** support SBA Scenarios
  - Use cases for discovery, data access, etc
  - Utilize Standards & Interoperability Arrangements

- **Reusable service oriented architecture**
  - Leverages ‘operational domain value’ through interoperable services
Components deploy Services

GEOSS Common Infrastructure
- Registries
- Standards and Interoperability
- Best Practices Wiki
- User Requirements
- GEO Web Portal
- GEOSS Clearinghouse

Main GEO Web Site

Registered Community Resources
- Community Portals
- Client Applications

Client Tier
- Community Catalogues
- Mediation Servers
- Alert Servers
- Workflow Management
- Processing Servers
- Test Facility

Mediation Tier

Access Tier
- GEONETCast
- Product Access Servers
- Sensor Web Servers
- Model Access Servers
- Workflow Management
AIP-3 Working Groups and Leaders

- Disaster Management
  - Didier Giacobbo
  - Arnaud Cauchy
- Water: Agricultural Drought
  - Will Pozzi
  - Stefano Nativi
  - Liping Di
  - Brad Lee
- Health: Air Quality
  - Stefan Falke
  - François Marques
- Biodiversity and Climate: Ecosystem evolution and Arctic SDI
  - Doug Nebert
  - Stefano Nativi
- Energy: Environmental Impacts
  - Lionel Menard
  - Isabelle Blanc
- End-to-End Engineering
  - Nadine Alameh
  - Josh Lieberman
  - Larry McGovern
- Data Harmonization
  - Herve Caumont
- Data Sharing Guidelines
  - Steve Browdy
- Vocabularies and Semantics
  - Cristiano Fugazza
  - Roberto Lucchi
  - Masahiko Nagai
AIP coordinates with other GEO Tasks

- DI-09-02: Multi-Risk Management
- DI-06-09: Use of Satellites for Risk Management
- WA-06-02: Droughts, Floods and Water Management
- WA-06-07: Water Resource Management
- BI-07-01: BON
- EN-07-02: Energy Enviro. Impact
- HE-09-01: Info Systems for Health
- HE-09-02: Monitoring and Prediction for Health
- US-09-01: User Engagement
- DA-06-01: Data Sharing Principles
- DA-09-01: Data Management
- DA-09-02: Data Integration and Analysis
- DA-09-03: Global Data Sets
- AR-09-02: Interoperable Systems for GEOSS
- AR-09-04: Dissemination and Distribution Networks
Architecture Progress and AIP-3 Results

- Bold vision endorsed 5 years ago
- Architecture vision has now been demonstrated
- Ministers should invest in their agency’s developments consistent with GEOSS plan

http://www.ogcnetwork.net/geoss/aip-3/
GEOSS AIP Phase 4 (AIP-4)

DRAFT Schedule and Priorities

• Increasing implementation GEOSS SBAs
• Foster access to UIC Priority Observations consistent with Data-CORE and Interoperability Arrangements.
• GCI components baseline

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<th>Call for Participation</th>
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<td>Kickoff Workshop in US</td>
<td>May/June 2011</td>
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<tr>
<td>Plenary</td>
<td>November 2010</td>
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<tr>
<td>Demonstrations</td>
<td>2011</td>
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AIP-4 Scope - draft

• GCI selected components as baseline
• Technology development
  – Semantics and ontologies for mediation
  – Data harmonization and quality
  – Data Sharing: DSTF, User identity
  – Model Web and Sensor Web
• Additional GEOSS SBAs network integrators
• Foster access to UIC Priority Observations consistent with Data-CORE and Interoperability Arrangements
SBA Community Networks supported by AIP

- SBA Community Networks
  - AIP-3: Disasters, Health (Air Quality), Energy, Climate (Arctic), Water (Drought), Biodiversity
  - Potential new in AIP-4: Climate, Water (Flood and Cryosphere), Weather, Ecosystems, Agriculture

- Role of the SBA Integrator
  - Builds network through Community Portal, supported by catalogues, datasets and other information and services to meet the needs of the community
  - Build on the best practices and interoperability arrangements.
AIP-4 Near Term Plan

• Complete AIP-3 Engineering Reports and post
  – http://www.ogcnetwork.net/AIP3ERs

• Develop initial scope of AIP-4 through discussions with GEO committees, tasks, members

• AIP-4 scope to ADC meeting, end of February

• AIP-4 Call for Participation, release in March

• AIP-4 Kickoff Workshop May/June in US (location TBD)
References

• GEO
  – earthobservations.org

• GEO Architecture Implementation Pilot
  – www.ogcnetwork.net/Alpilot

• GEOSS registries and SIF
  – geossregistries.info

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