

# ADC Report to STC

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AGU, San Francisco  
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## ADC 2008

The Architecture and Data Committee oversees the Tasks that are dedicated to building a transverse GEOSS.

ADC members are responsible for addressing all issues involving infrastructure, coordinated observation systems and cross-cutting data sets.

This Committee has a particularly important role in guiding the Tasks relating to the GEOSS interoperability, Common Infrastructure and to Data Sharing Principles.

*Source: GEO workplan 2009-11*



J. Pearlman (IEEE)



I. Petiteville (CEOS)



I. Deloatch (US)



A. Annoni (EC)



R. Shibasaki (Japan)



J. Zhang (China)

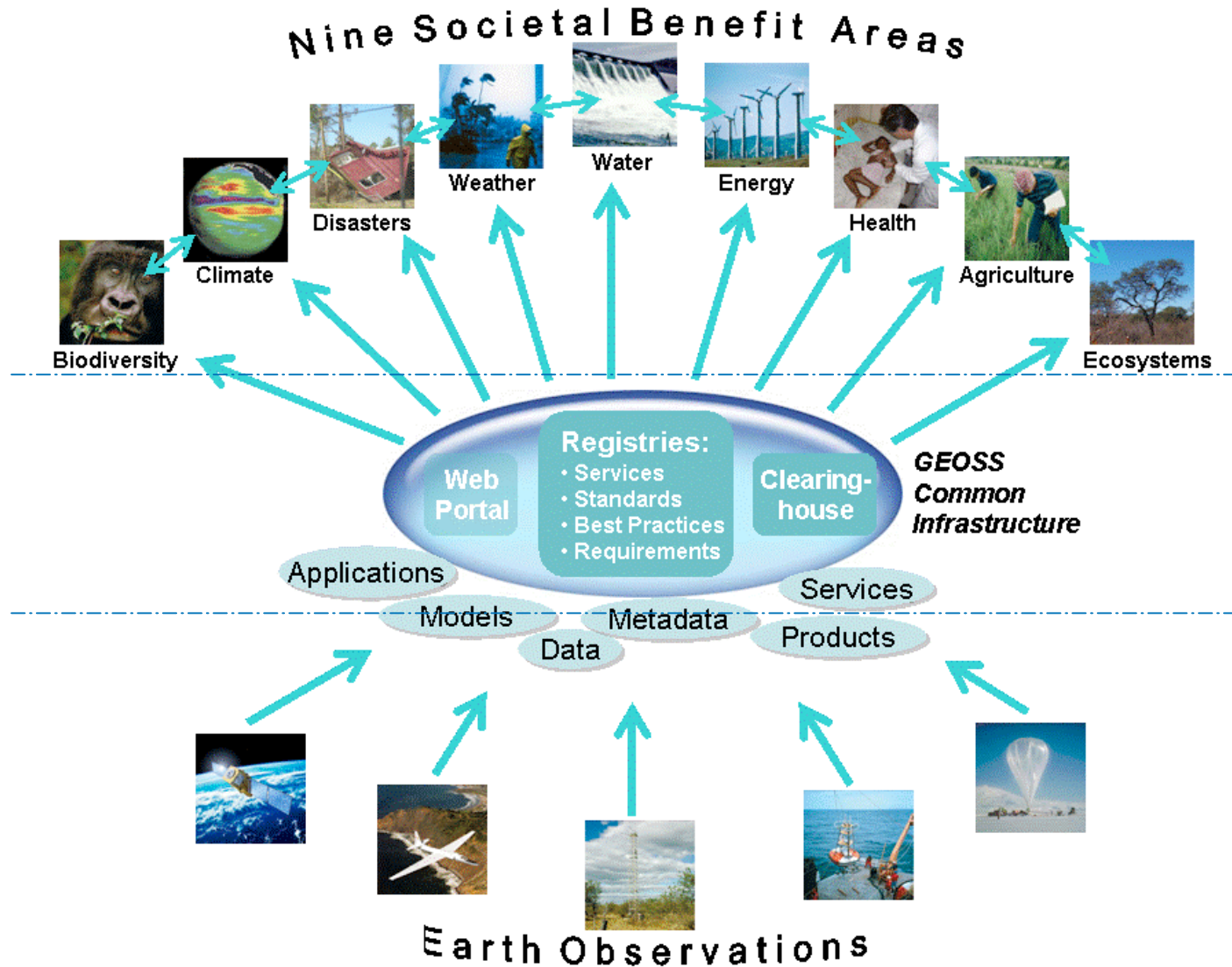


B. Ryan (WMO)

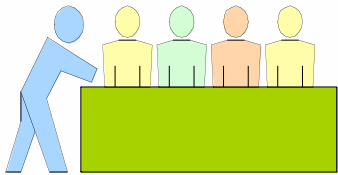


# GEOS Common Infrastructure

## Conceptual Operational View



# GCI: progress status



Standards and Interoperability Forum

## GEOSS Common Infrastructure

### Registries

GEOSS Component and Service Registry ✓

GEOSS Standards and Interoperability Registry ✓

Best Practices Wiki ✓

User Requirements Registry

Registration

Main GEO Web Site

Web browser

Applications



User

GEO Web Portal ✓

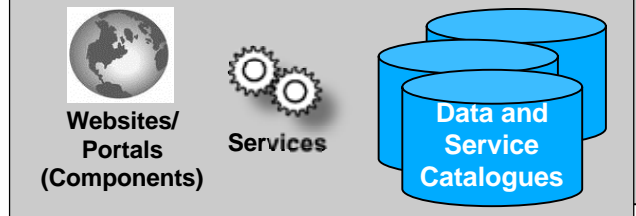
GEOSS Clearinghouse ✓

Unregistered Community Resources



*Registered resources can be discovered easily and used later by GEO community, thanks to the Clearinghouse and Web portal*

Registered Community Resources



Catalog queries

Concept of Operations

Guidance Documents (e.g. Strategic, Tactical,...)

Others Documents (e.g. Usage Statistics)



## GEOSS Common Infrastructure (GCI)

- Initial Operating Capability (IOC) Task Force created to document the requirements and support evaluation of GCI offered components
- Concept of Operations Document completed and ready for distribution as reference document
- Consolidated Requirements document to be developed Nov-Dec to capture requirements from all existing sources; web forms and database complete to compile the requirements



## Component and Service Registry

- Updated after the Boulder discussions to simplify the process and clarify the registration goals, allowing publishers to register Components without Services
  - Component ‘Types’ list expanded to encourage registration of objects with an HTTP URL
  - “Component” is aligned with “Resource” to encourage more registration
  - Review of entries shows that most ‘Services’ are actually human web interfaces (web site/portal) and are not accessible by software clients
- 146 Components, 137 Services registered



## Standards and Services

- Coordination between the Service Registry and the Standards Registry is still being implemented to allow:
  - Nomination of a new Interoperability Arrangement (IA, standard or special arrangement) from within the Component and Service Registry
  - Current view of available IAs from within the Service Registry as picklist synchronized from special web service
- Anticipated integration complete by November 2008



## Standards Registry- SIF Accomplishments

- Over 100 standards registered
- working process for review of standards registry entries email based workflow system & content of review forms (now in testing) requires linkages to stds registry, experts databases (not yet built)
- building subject-matter experts database will start from SIF CFP responses, but need another CFP? will request Regional Teams to assemble regional lists
- Regional Team guidelines document in draft stage
- addressing consensus on bounded set of recommended stds desirability, approaches, achieving buy-in need to be able to associate components w/ stds, this interop soon!
- SIF needs to start looking at this and other "Big Picture" interoperability issues a well-populated and representative stds registry will be valuable in determining where we could help bring communities together to maximize opportunities for interoperability



## SIF Issues

- CFP for Experts supporting SIF, and acknowledgments from GEOSec or some other motivator to encourage participation
- Guidance from ADC on convergence issue
- No regular representation from co-chairs in SIF telecons
- RTs slow to assemble
  
- Plans:
  - N. Amer. & EU RTs in UK next week?
  - All-RT meeting (virtual) in January



## User Requirements Registry

- UIC Task (US-07-01) plans to develop a registry to store EO requirements for identified classes of users in support of applications (SBAs)
- Development on-hold pending a database re-design to simplify the collection and presentation of entries



## GEO Web Portals

- Three solutions offered to GEO from:
  - Compusult
  - ESRI
  - ESA
- Common set of requirements, refined through AI Pilot Phase 1 (2007)
- Provide focused access to registries, distributed resource descriptions (Clearinghouse), and other resources (RSS, web search, applications)



## **GEOSS Clearinghouse**

- A federated search facility that will harvest or search all registered catalogues (registered as GEOSS services) making all content searchable through one API
- Web portal provides human UI, Clearinghouse provides catalog search API
- Four solutions:
  - ESA/GeoNetwork
  - Compusult
  - ESRI
  - USGS



## Results of IP3

- Introduced and demonstrated an interoperability process for CC and Biodiversity, now adopted by the AIP-2 use scenarios
- Achieved multi-disciplinary prototypes and demonstration of functionality for CC and Biodiversity
- IP3 Team developed and tested:
  - An IP3 Community distributed catalog (Mediator) component
  - An Ecological Niche Modeling server along with an Ajax based client to interface it
- IP3 worked with the GBIF to develop specific mediation and interoperability arrangements.
- IP3 was the first framework to experiment the Model Web feasibility



## Best Practices Wiki - Summary

- Wiki is on-line at <http://wiki.ieee-earth.org>
- Expert volunteers are being solicited
- Entries are welcome and encouraged
- Comments on the process should be provided to Ruth Duerr at [ruth.duerr@ieee.org](mailto:ruth.duerr@ieee.org)
- Your participation is important. Exposure of the Wiki through Members and Organizations and the GEO Secretariat is critical to BP utility



## **Architecture Implementation Pilot** (Task AR-07-02)

- Facilitate incorporation of contributed components consistent with the GEOSS Architecture...
- AIP Phase 2 Themes:
  - Augment the GEOSS Common Infrastructure
  - Operational persistence; "persistent exemplars"
  - Emphasize four communities identified with UIC
- Call for Participation, released in July, remains open
  - 37 CFP responses received to date
  - 85 persons at Kickoff Workshop, Sept 25-26
  - 9 Working Groups established for Development
- Demonstration & Transition to operations, March '09

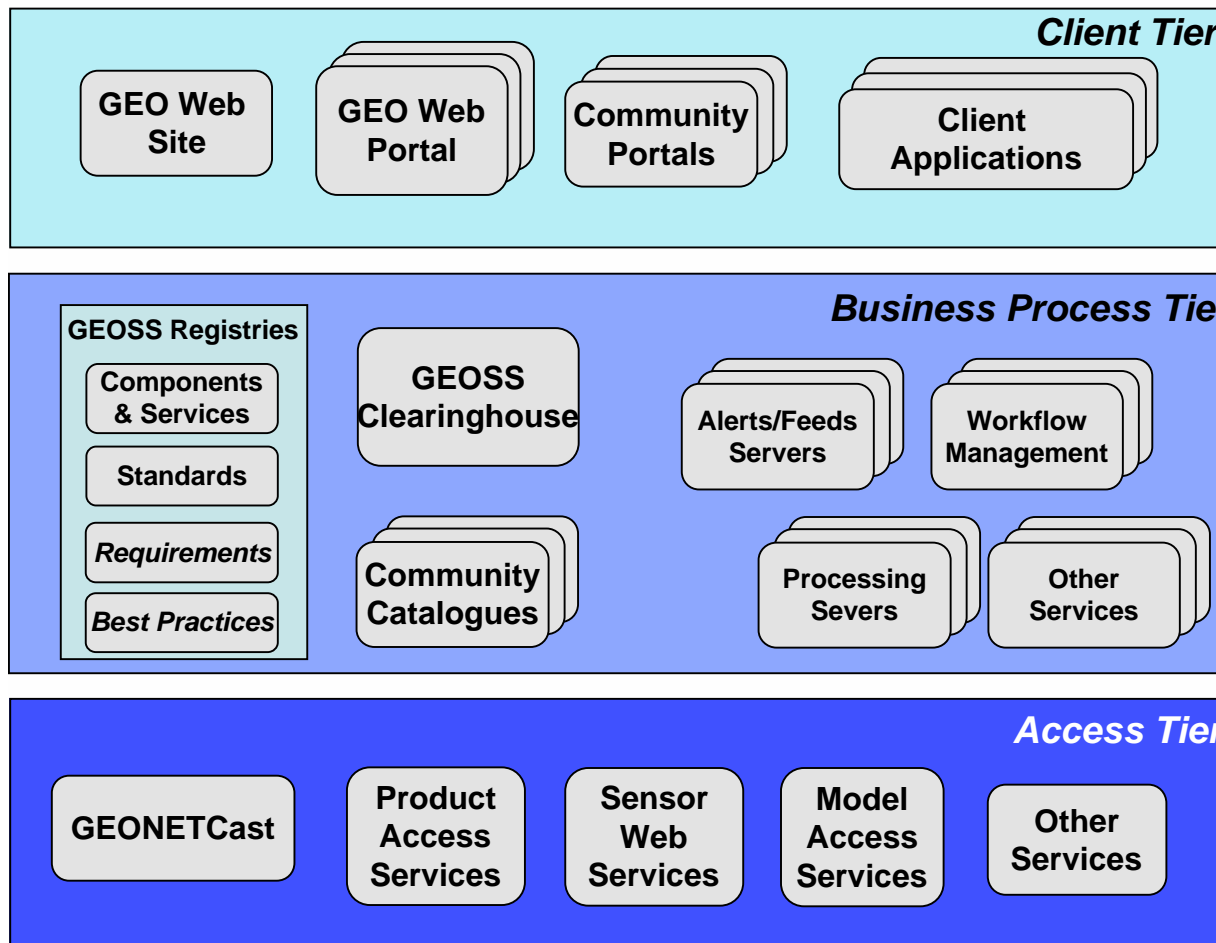


# Architecture Implementation Pilot (GEO Task AR-07-02)

## *elaboration of GEOSS architecture*

### CFP Architecture – Component Types

### AIP-2 Working Groups



#### Community

- Disaster Response
- Climate Change and Biodiversity
- Renewable Energy
- Air Quality

#### Transverse Technology

- Clearinghouse, Catalogues, Registries and Metadata
- Access Services: products, sensors, models
- Workflow and Alerts
- Portals and Application Clients
- Others: Test Facility for service registration



## Some highlights – coming soon

- Ontology and Taxonomy (*Task AR-09-01*)
- *Sensor web applications*
- *Model web*
- Expanded virtual constellations, etc
- Data Sharing Principles White paper and Implementation Guidelines



## ADC Issues and Recommendations

- **Population of the GEOSS registries** must be intensively encouraged
- **Continuous response to Users direction** through the UIC and the user requirements authentication and registration
- **Implementation of the GEOSS Data Sharing Principles** is important to ensure the real use of registered resources
- Reflection on **Public & Private partnerships opportunities** is needed
- **Sustainable operation** should be established for Common infrastructure and registered GEO resources



## GEO ADC Community and their Sherpas



**Questions ?**