



# **GEOSS Common Infrastructure (GCI) Initial Operating Capability (IOC)**

Status Briefing for the Architecture and Data Committee

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On behalf of the IOC-TF

Stresa, Italy

May 7, 2009





## **Presentation Overview**

- **The GEOSS Common Infrastructure (GCI)**
- **GCI Initial Operating Capability (IOC) Task Force**
- **GEOSS User Types**
- **GCI Sustained Operations**
- **GEOSS Registration Process**
- **Near Term Actions/Next Steps for GCI**

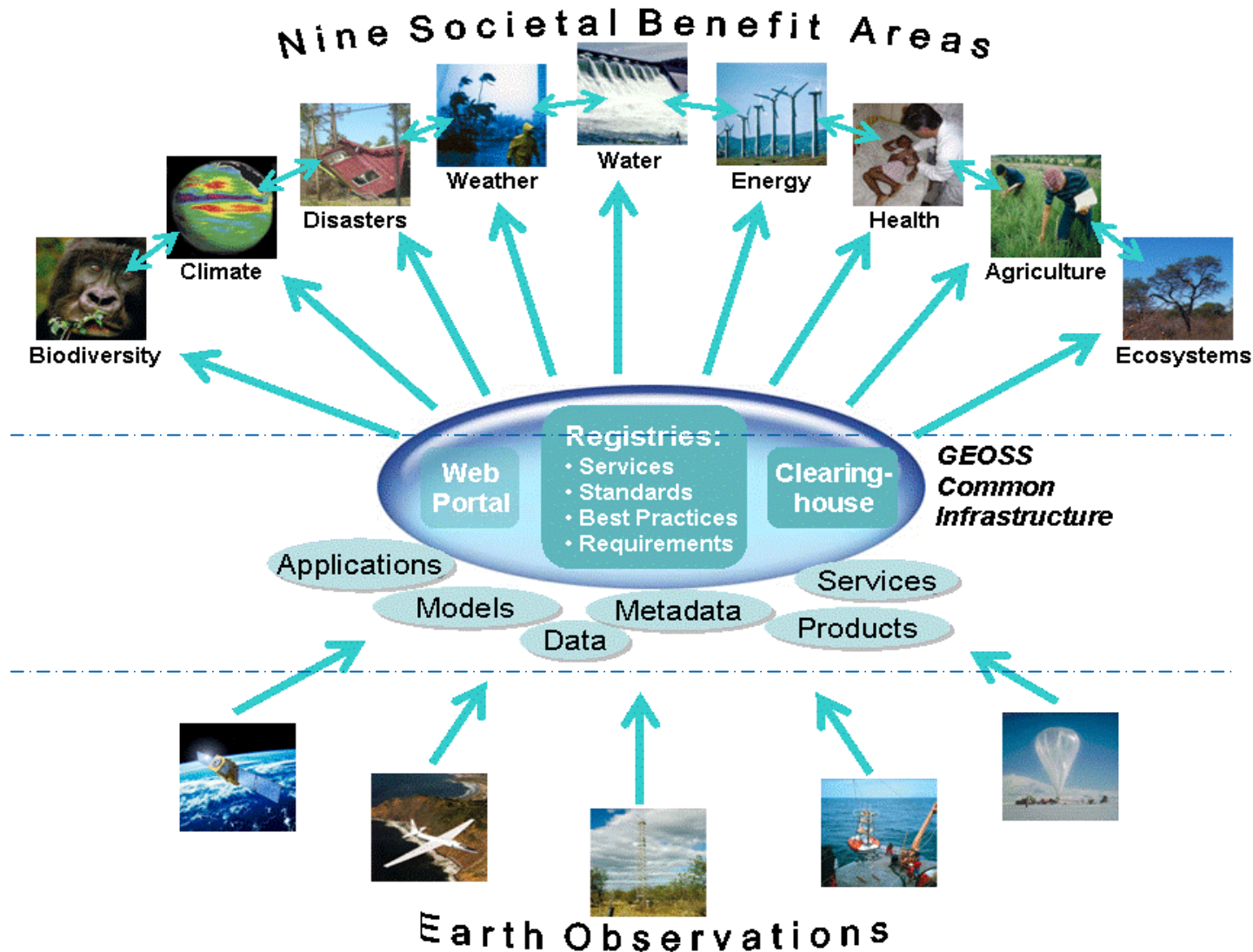


## **GEOSS Common Infrastructure (GCI)**

- **The Cape Town Declaration: “We commit to explore ways and means for the sustained operations of the shared architectural GEOSS components and related information infrastructure”.**
- GCI provides **core capabilities** that enable GEOSS resources (systems, data and products) to be discovered, understood, and accessed by users and decision-makers.
- The GCI includes several **registries**, a search tool known as “**Clearinghouse**,” and **GEO Web Portals** that provide a user interface to search and access all GEOSS resources.
- The **Initial Operating Capability (IOC)** for the GCI was declared (open for business) in June 2008. Provides a one-year evaluation phase for the GEO community to use and deliver feedback.

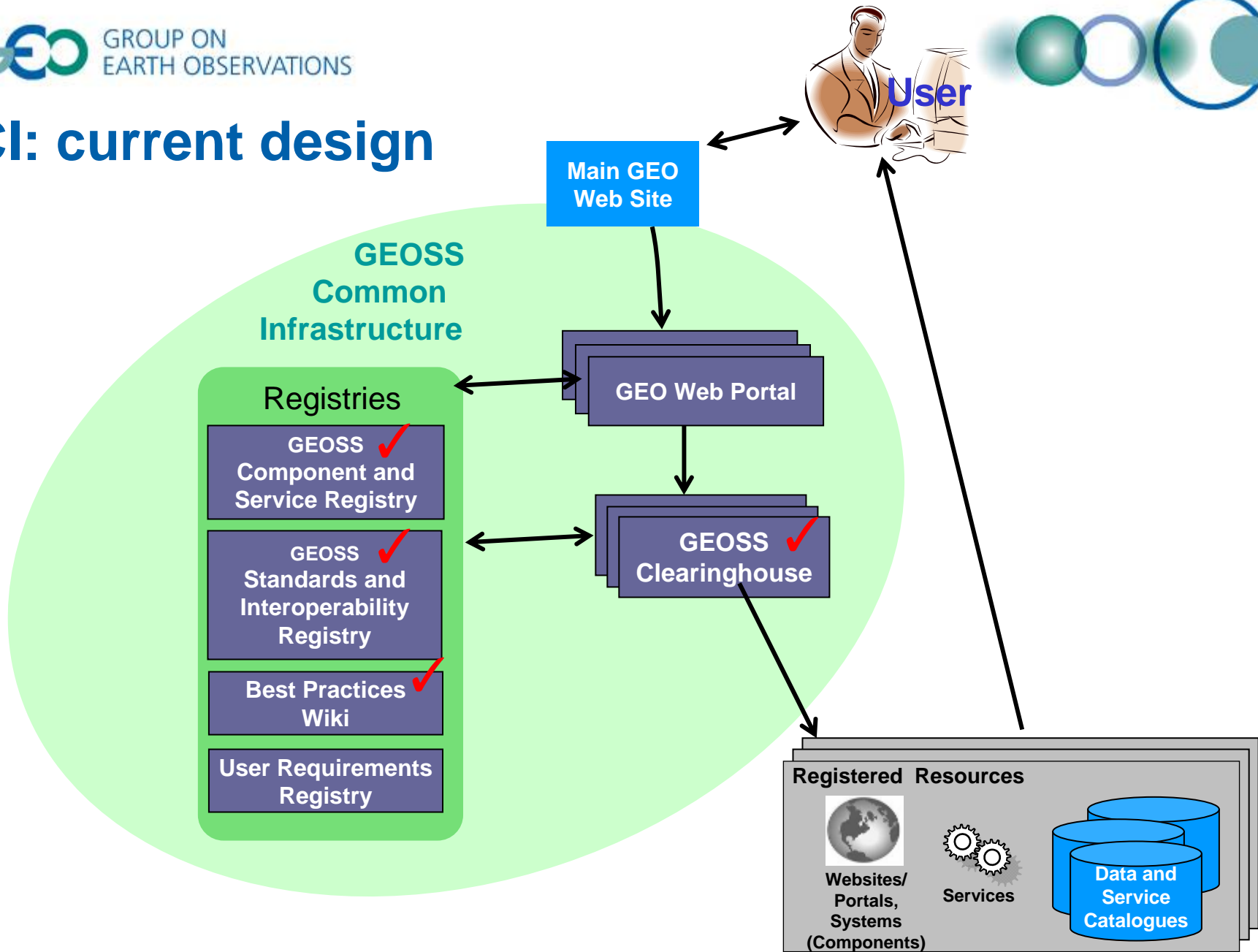


## GEOSS Common Infrastructure Operational View





# GCI: current design





## GCI Contributors

- **Component and Service Registry: USGS/George Mason University**
- **Standards and Interoperability Registry: IEEE**
- **Best Practices Wiki: IEEE**
- **GEOSS Clearinghouses: Compusult, ESRI, [ESA/FAO], USGS**
- **GEO Web Portals: Compusult, ESRI, ESA/FAO**
- **Architecture Implementation Pilots: Open Geospatial Consortium (OGC)**



# GEO Web Portals

provided by: **GEO** GROUP ON EARTH OBSERVATIONS | **GEO Portal** | **eesa** | **FAO**

HOME ABOUT GEOPORTAL CONTACTS NEWS MAP VIEWER  go ADVANCED SEARCH ABOUT GEO

Provide Feedback to GEO

BROWSE RESOURCES BY SOCIAL BENEFIT AREAS

DISASTERS

**BREAKING NEWS**  
**FLOOD IN VIETNAM**  
Torrential and persistent rainfall caused widespread flooding in various parts of the North and the Central provinces of Vietnam. Various cities and provinces were badly affected by this devastating flood, including Lang Son, Hoa Binh, Phu Tho, Vinh Phuc, Bac Giang, Ha Noi, Hung Yen, Ha Nam, Ninh Binh, Thanh Hoa, Nghe An and Ha Tinh. According to the government information, 85 dead have been reported so far. Up to 20,000 families in the capital city of Hanoi are affected, while 2,000 families in rural areas along the Red River have been moved to safer areas.

| [Feedback](#) | [Help](#)

Provided by **ESRI**

- ▶ News
  - ▶ Events
- ▶ Societal Benefit Areas
  - ▶ Agriculture
  - ▶ Biodiversity
  - ▶ Climate
  - ▶ Disaster
  - ▶ Ecosystems
  - ▶ Energy
  - ▶ Health
  - ▶ Water
  - ▶ Weather

- ▶ GEOSS Scenarios
  - ▶ Ecosystems & Biodiversity in Africa
  - ▶ Ecosystems & Biodiversity in Polar Regions
  - ▶ Oil Spill
  - ▶ Regional Climate
  - ▶ Volcano
  - ▶ Wildland Fires in Africa

provided by: **COMPUSULT**

Welcome! Home - Language - Sign In

GEO Portal Discovery/View Browse Registry

- GEO Portal
- ▶ Agriculture
- ▶ Biodiversity
- ▶ Climate
- ▶ Disasters
- ▶ Ecosystem
- ▶ Energy
- ▶ Health
- ▶ Water Management
- ▶ Weather Forecasting

**Key Catalogs**

- ▶ Geodata.gov U.S. Maps and Data Portal
- ▶ NASA ESG Earth Science Gateway Portal
- ▶ GeoNetwork FAO GeoNetwork Portal
- ▶ ESA EO Portal Earth Observation Portal

**Welcome to the GEO Portal - Your Central Portal to Earth Observation Product and Service Discovery**

To get the most from the GEO Portal please **Create an Account**. It only takes a minute.

If you already have an account, please [click here to 'Sign In'](#).

This Portal and Clearinghouse provides access to Earth Observation (EO) geospatial data in support of GEOSS. It is a secure web site that will provide discovery for geospatial data focusing on the Group on Earth Observation (GEO), Social Benefit Area's (SBA).

The GEO Portal has been implemented using Compusult's Web Enterprise Suite ([www.compusult.net](http://www.compusult.net)), a suite of applications, based on open standards, that work together to provide a comprehensive, data discovery, access, retrieval and delivery system. The GEO Portal facilitates the discovery of Earth Observation data from thousands of services, instruments, collections, libraries and catalogues worldwide, transforming the data collected into vital information for society.

**Register Your Components, Services & Standards**

- ▶ GEOSS Registry - Register your Components and Services

**Create an Account!**

Create an Account to access many additional portal features! Save Search Results, Save Maps, Participate in Discussion Boards and more. *Create an account Now!*

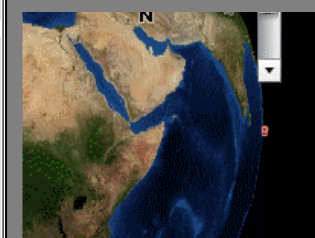
**Provide Feedback**

Please provide GEO with your feedback by selecting the button below:

**About GEO**

The intergovernmental Group on Earth Observations (GEO) is leading a worldwide effort to build a Global Earth Observation System of Systems (GEOSS) over the next 10 years.

GEOSS will work with and build upon existing national, regional, and international systems to provide comprehensive, coordinated Earth observations





## GEO IOC Task Force

- **Established by the GEO Executive Committee in July 2008 for a period of 1 year in support of GEOSS IOC phase**
- **Charged with evaluating the GCI initial operating capability and developing recommendations for the sustained operations of the GCI**



## IOCTF Deliverables

The IOC Task Force Work Plan foresees the following deliverables:

- **Concept of Operations Plan** (completed Oct 2008)
- **Process and Consolidated User Requirements Document** (March 2009)
  - to enhance the process and clarify the rules
  - to identify additional improvements and user requirements.
- **Evaluation and Analysis of Existing GCI Components** (May - June 2009)
- **Recommendations for long-term GCI operations** (May - August 2009)



## Focus on the GEOSS User Types

- **Publisher** – Individual(s) authorized by Member and Participating Organizations to commit GEOSS Components and/or Services
- **Operator** – The agency/organization responsible for the operation and maintenance of a committed service and related data
- **Approver** – Acts to approve or disapprove an entry or update in one of the GEOSS Registries and the GEO Web Portals.



## Focus on the GEOSS User Types

- **Software and services integrator (Integrator)**– A class of user typically engaged in support of one or more application areas who is able to use GEOSS to locate suitable services, data, and related resources, and to develop and deploy integrating software solutions that cater to a specific context or subject area.
- **GEOSS-Experienced users** – Users who understand the concepts of GEOSS and seek registered resources through the GEO Web Portal interface or desktop applications.
- **Issue-Oriented Users** - Researchers and science-to-policy analysts who work on specific issues that fall within one or more Societal Benefit Areas.



## Recommendations for long-term GCI operations

In accordance with the IOC-TF ToR, the key logistical items that the IOC-TF were asked to address, together with those issues that have arisen during the Initial Operating Capability (IOC) phase, will therefore be treated under the following headings:

- **Access control and security**
- **Software licensing and ownership (intellectual property rights)**
- **Maintenance**
- **Enhancements**
- **Sustainability**

**Document the alternatives and options to provide the highest level of capability for access to GEOSS resources**



## Recommendations for long-term GCI operations

### Access control and security

- Access control and security policies on GCI services;
- User interface policies in support of human and software clients, SBAs, communities of practice, and the general GEO community;
- Process for incorporating user community requirements into GCI;
- Other issues:  
E.g.: Quality management of all GEOSS Registry content needs to be addressed as an operational expectation.



## Recommendations for long-term GCI operations

### Software licensing and ownership (intellectual property rights)

- **Software ownership and intellectual property issues regarding long-term operations (Proprietary versus open source concerns);**
- **Other issues.**



## Recommendations for long-term GCI operations

### **Maintenance**

- **Operation and Maintenance of single versus multiple GCI service instances (e.g. Web portals, Clearinghouses, and Registries);**
- **Presenting issues and alternatives for GCI service maintenance (hardware/software and telecom);**
- **Other issues.**



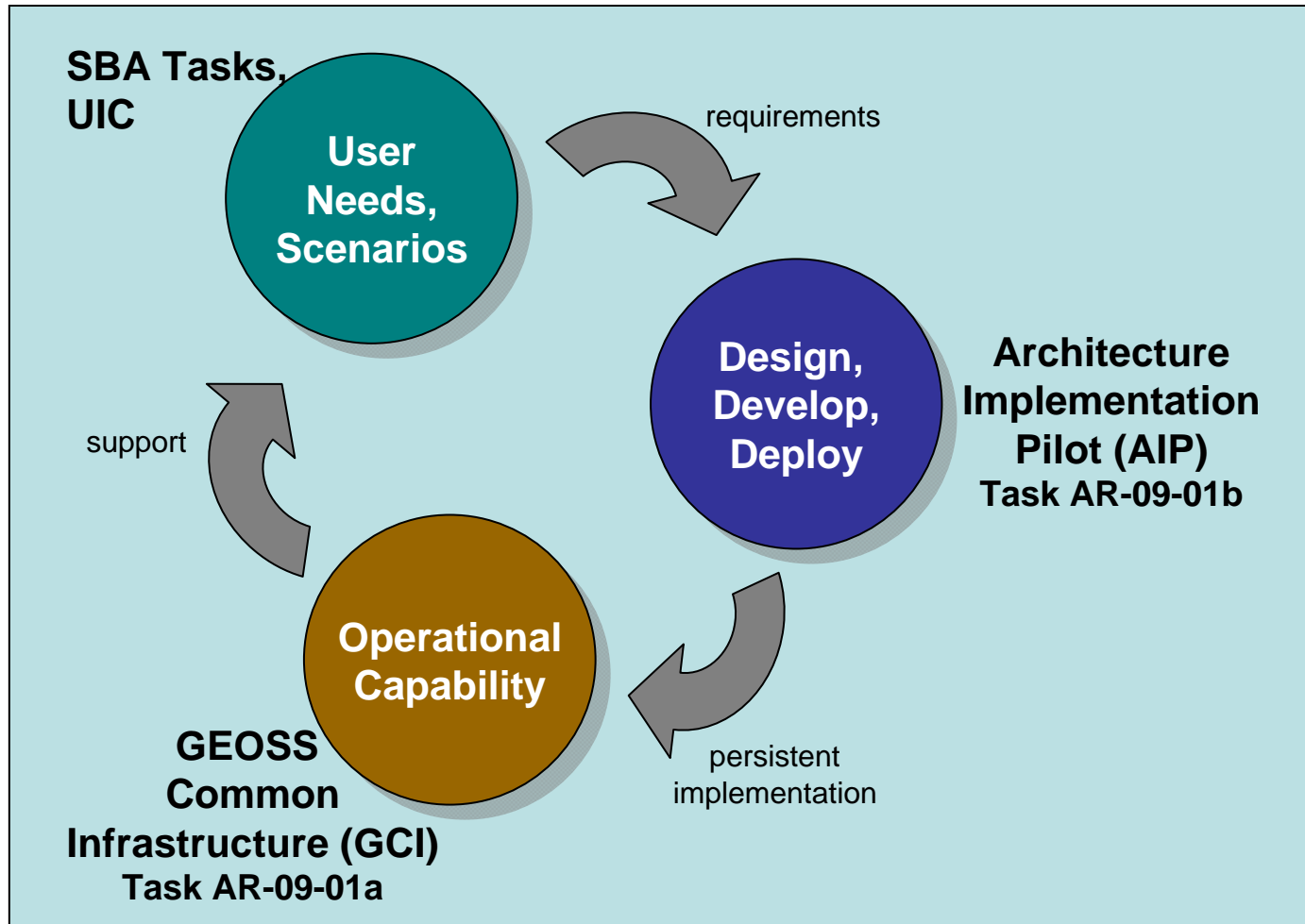
# Recommendations for long-term GCI operations

## Enhancements

- **Presenting issues and alternatives for GCI extensibility**
- **AIP-2 will augment the GCI IOC with additional pilot-level capabilities beyond the IOC. AIP-2 will recommend Persistent Exemplar services to augment the IOC and will deliver Engineering Reports that can be considered as best practices for GEOSS.**
- **Other issues.**



# Elaboration of GEOSS Architecture





## Recommendations for long-term GCI operations

### **Sustainability**

- Long-term cost implications of voluntary, contributed, or contracted operations for each / all components;
- Accountability and responsibility for operations by service provider;
- Other issues.

And then in conclusion:

**A document with alternatives, discussion, and references to support the understanding of potential budgetary and operational commitments by GEO in the long-term operations of the GCI.**



## Near Term Actions/Next Steps

- Identify problem areas and remediate
- Continue to refine registration process
- Incorporate the lessons learned and data from the Stresa usability testing
- Evaluate and leverage data from AIP-2 testing
- Complete and execute the plan for additional testing and evaluation against the consolidated requirements
- Prepare draft recommendations for Ex Com



**Thank You**