

The Asian Water Cycle Initiative (AWCI)
International Task Team (ITT)
Working Session

Introduction to AWCI and the Tasks of ITT

1. GEO and GEOSS
2. The 1st Asian Water Cycle Symposium
3. CEOP
 - A GEOSS Prototype
4. Japan's ODA
5. Summary

Toshio Koike
The University of Tokyo
Monday 25 September 2006
Rama Gardens Hotel, Bangkok,
Thailand





Earth Observation Summit I

DECLARATION

Affirmed need for:

- **Comprehensive, coordinated, sustained** Global Earth Observations for **sound decision making**
- **Capacity-building** related to Earth observations
- Exchange of observations in a **full and open** manner
- A **10-year Implementation Plan**

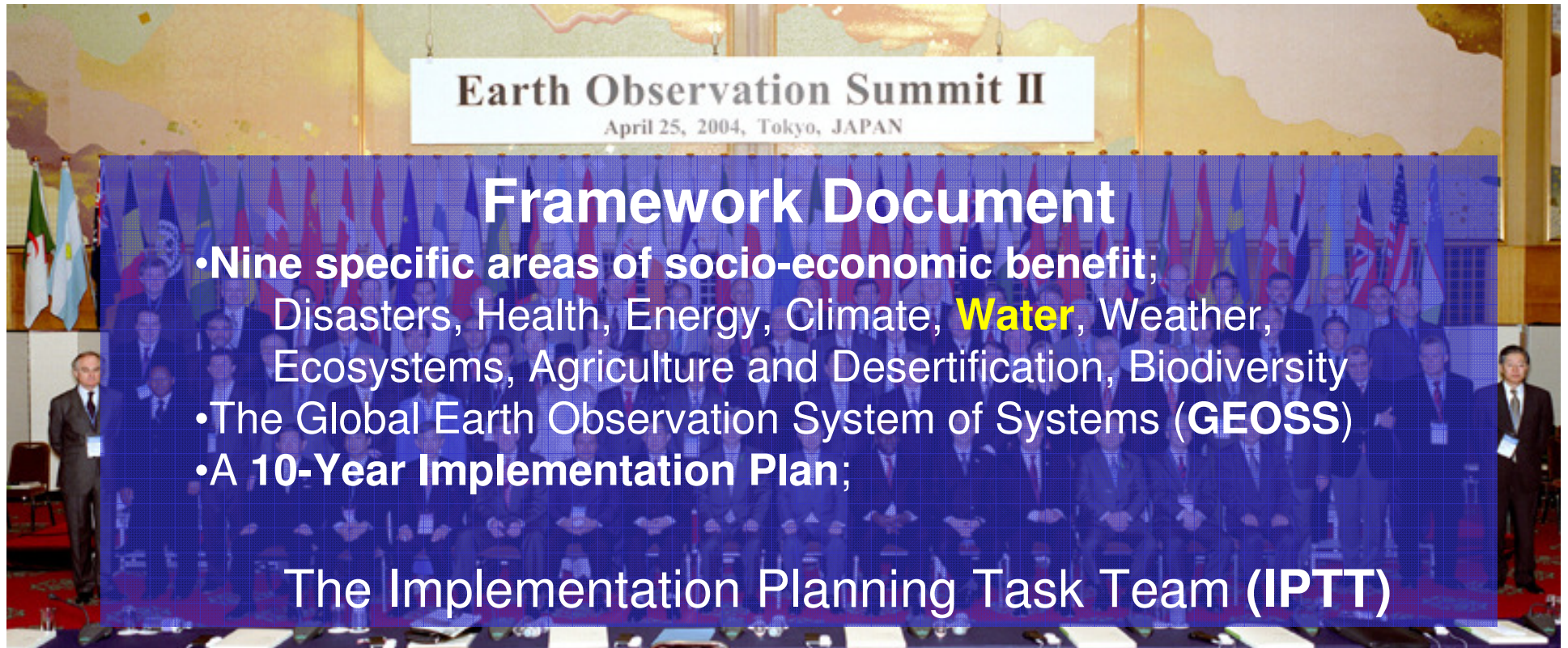
The ad hoc Group on Earth Observations (**ad-hoc GEO**)

U.S. Department of State, Washington DC

July 31, 2003



Earth Observation Summit II



- **Nine specific areas of socio-economic benefit;**
Disasters, Health, Energy, Climate, **Water**, Weather, Ecosystems, Agriculture and Desertification, Biodiversity
- **The Global Earth Observation System of Systems (GEOSS)**
- **A 10-Year Implementation Plan;**

The Implementation Planning Task Team (IPTT)

Hotel Okura, Tokyo, Japan

April 25, 2004

GROUP ON EARTH OBSERVATIONS

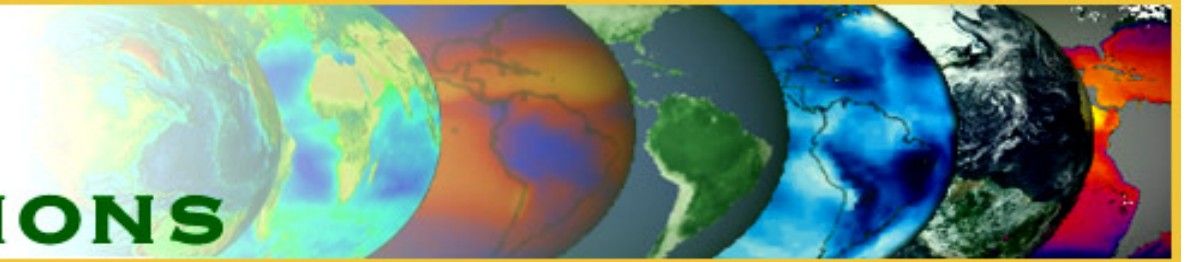


Earth Observation Summit III

Summit Resolution

- Endorsed the **GEOSS 10-Year Implementation Plan**
- Noted with appreciation the extensive supporting material in its companion **Reference Document**
- Established formally the **Group on Earth Observations (GEO)**
- Issued special communiqué relating to support for tsunami and multi-hazard warning systems with the context of the Global Earth Observations System of Systems (GEOSS)

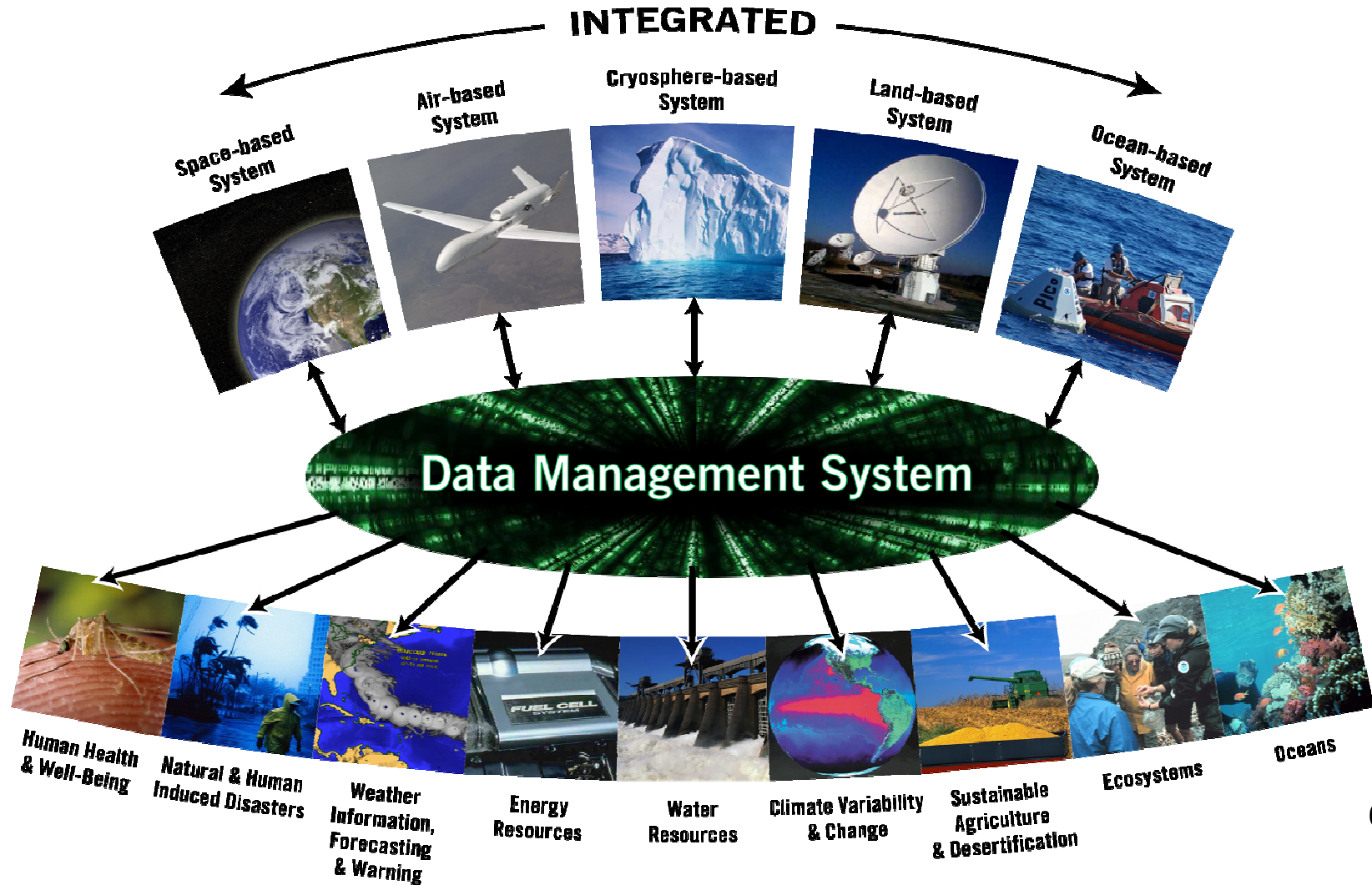
Palais d'Egmont, Brussels, Belgium
February 16, 2005



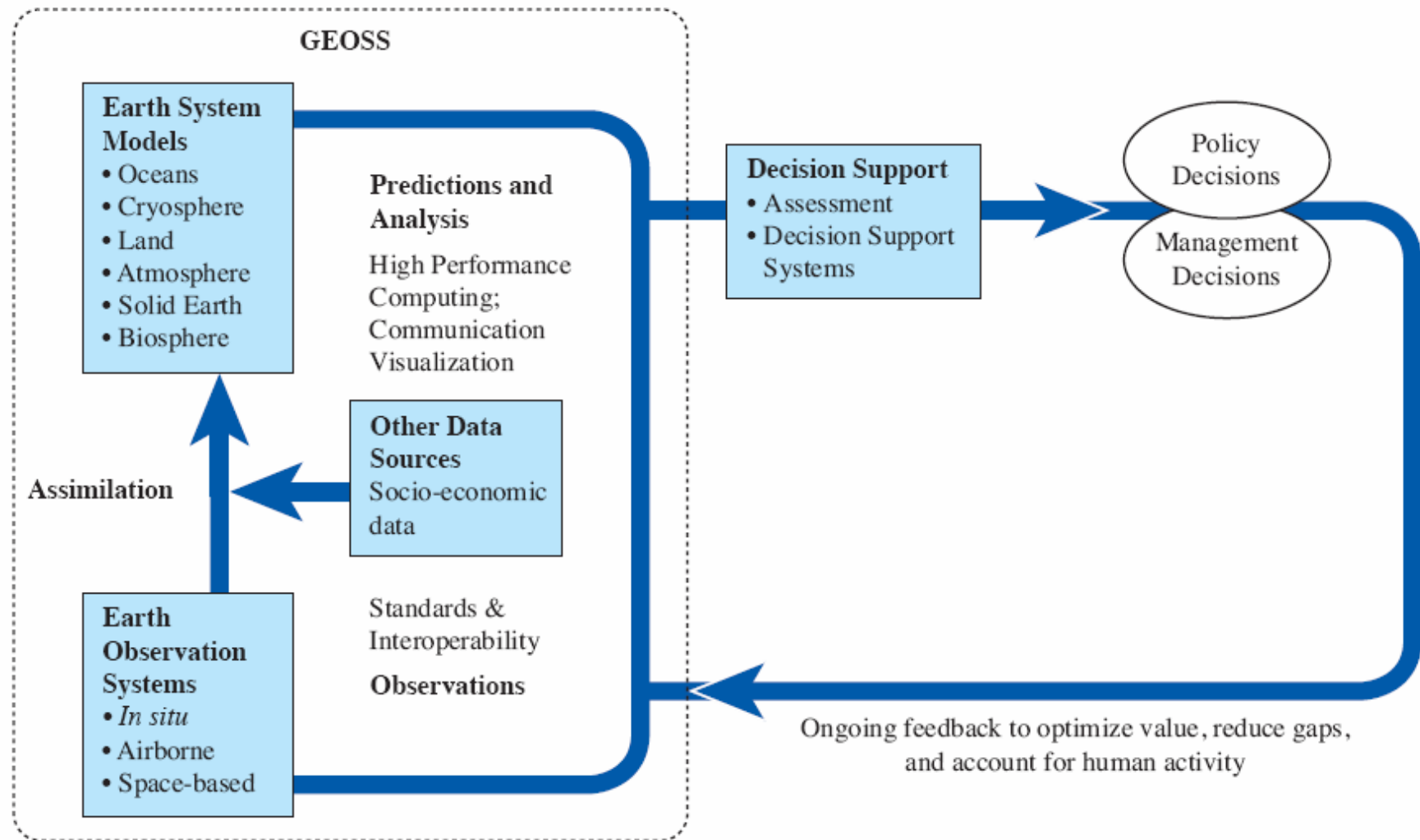
Vision for GEOSS

The vision for GEOSS is to realize a future wherein decisions and actions for the benefit of humankind are informed by coordinated, comprehensive and sustained Earth observations and information.

Global Earth Observation System of Systems (GEOSS)



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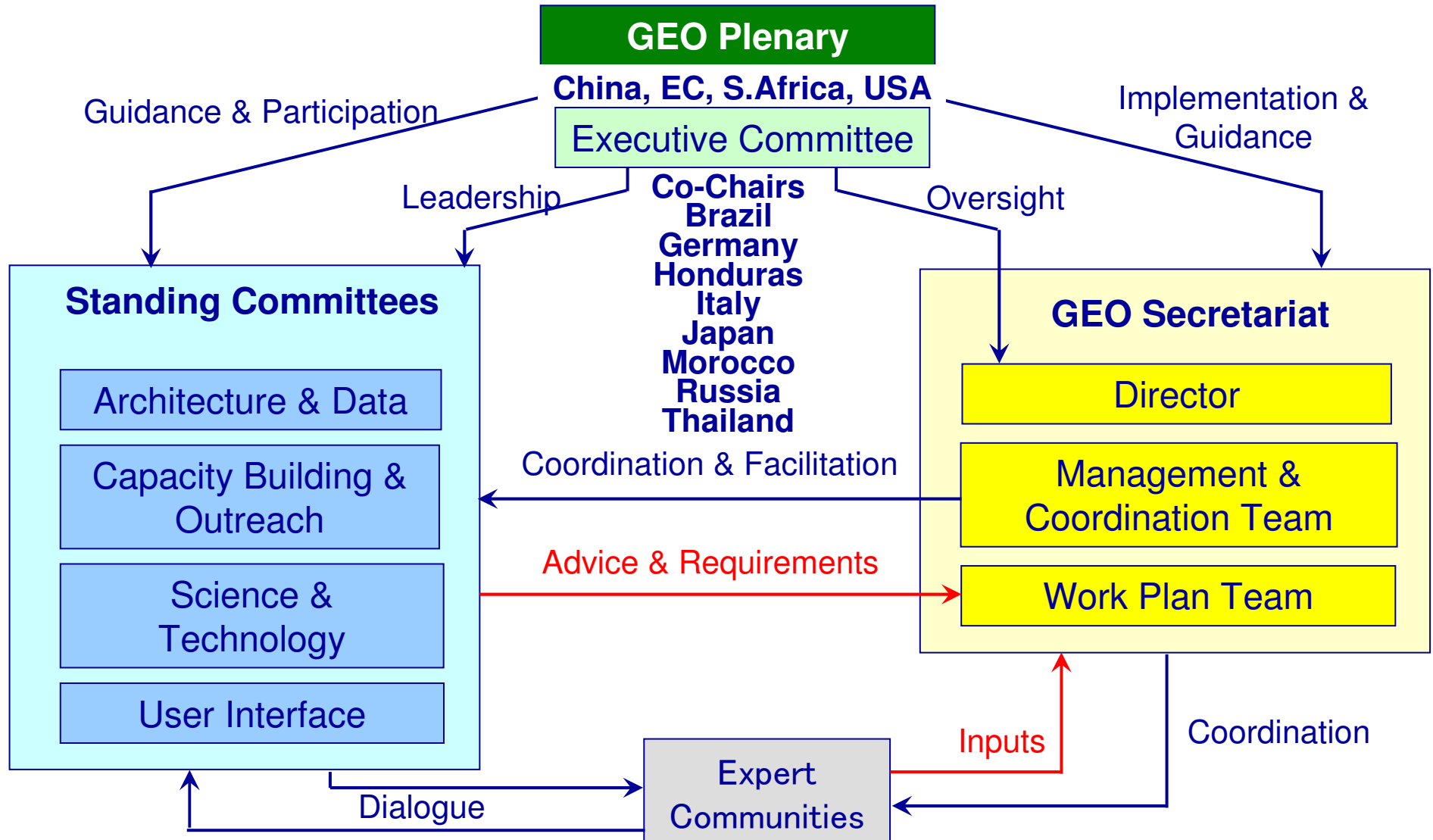




Group on
Earth Observations

GEO Members

- Algeria
- Argentina
- **Australia**
- Bahrain
- Belgium
- Belize
- Brazil
- Cameroon
- Canada
- Central African Republic
- Chile
- **China**
- Croatia
- Cyprus
- Denmark
- Egypt
- European Commission
- Finland
- France
- Germany
- Greece
- Guinea-Bissau
- Honduras
- Hungary
- Iceland
- **India**
- **Indonesia**
- Iran
- Ireland
- Israel
- Italy
- **Japan**
- **Kazakhstan**
- Latvia
- Luxembourg
- **Malaysia**
- Mali
- Mauritius
- Mexico
- Morocco
- **Nepal**
- Netherlands
- New Zealand
- Niger
- Nigeria
- Norway
- Paraguay
- **Philippines**
- Portugal
- **Republic of Korea**
- Republic of the Congo
- Russian Federation
- Slovak Republic
- Slovenia
- South Africa
- Spain
- Sudan
- Sweden
- Switzerland
- **Thailand**
- Tunisia
- Uganda
- Ukraine
- United Kingdom
- United States
- **Uzbekistan**





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Benefits of GEOSS

10-Year Implementation Plan

Water

Improving water resource management through better understanding of the water cycle

Water-related issues addressed by GEOSS will include: precipitation; soil moisture; streamflow; lake and reservoir levels; snow cover; glaciers and ice; evaporation and transpiration; groundwater; and water quality and water use. GEOSS implementation will improve integrated water resource management by bringing together observations, prediction, and decision support systems and by creating better linkages to climate and other data. In situ networks and the automation of data collection will be consolidated, and the capacity to collect and use hydrological observations will be built where it is lacking.



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WA-06-01: Organize workshops on water observations, encompassing space-based, airborne, and in-situ observing systems, and focusing on (i) water quality, including fresh, estuarine, and marine water quality, (ii) ground water, (iii) precipitation, soil moisture, surface water, and (iv) hydrological ensemble-based prediction and new observing techniques and products.

WA-06-02: Facilitate the formation of consortia and advocate funding for one (or more) demonstration-project that points to the added value of hydrological ensemble forecasts in water resource-management.

WA-06-03: Organize a side-event at World Water Forum IV (March 2006, Mexico), highlighting the benefits of global and coordinated Earth observations for water resource-management.

WA-06-04: Facilitate the development of a global dataset that maps catchments to the first and second order stream level for use in applying land cover data to management of catchments and monitoring the hydrological cycle.

WA-06-05: Initiate the creation of a coordination mechanism within GEO for global in-situ water observations, including ocean observations, and advocate synergy and sharing of infrastructure among observing systems.

WA-06-06: Promote best practices in Earth observation application for integrated water resource management in developing countries by supporting a series of workshops in South America, Asia, Africa, and a Small Island nation.

WA-06-07: Initiate a capacity building program in Latin America to develop tools for using remote sensing data in support of water management, and to show the value of Earth observations generally in water resource management.



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Continuing Tasks

WA-06-02: Forecasts in water resource management

WA-06-05: In-situ water resource monitoring

WA-06-07: Capacity building program in Latin America

New Tasks

WA-07-P1: Global Water Quality Monitoring

Many aspects of water quality monitoring and assessment, both in-situ and remotely sensed are severely deficient. Many countries lack the technical, institutional, and financial resources to conduct proper assessments using in-situ water quality monitoring methods. Remote-sensed operational systems of global-scale freshwater quality are non-existent. Operational observation systems need to be developed, and the resulting information systems should be made compatible and interoperable as part of the system of systems. This task is built on the outcomes of the water quality workshop in WA-06-01. This item has relevant synergies with HE-07-P2.

WA-07-P2: Satellite Water Measurements

Develop an operational mechanism to provide water level observations in rivers, lakes/reservoirs and estuaries from satellite altimetry to support the upgrade of deficient run-off water gauge networks. Combine different types of satellite data that are relevant for water measurements (quantity and quality) with in-situ observations for better accuracy and global coverage. Produce an implementation plan for a broad global water cycle data integration system that combines in-situ, satellite data and model outputs.



Group on
Earth Observations

WORK PLAN 2007-2009

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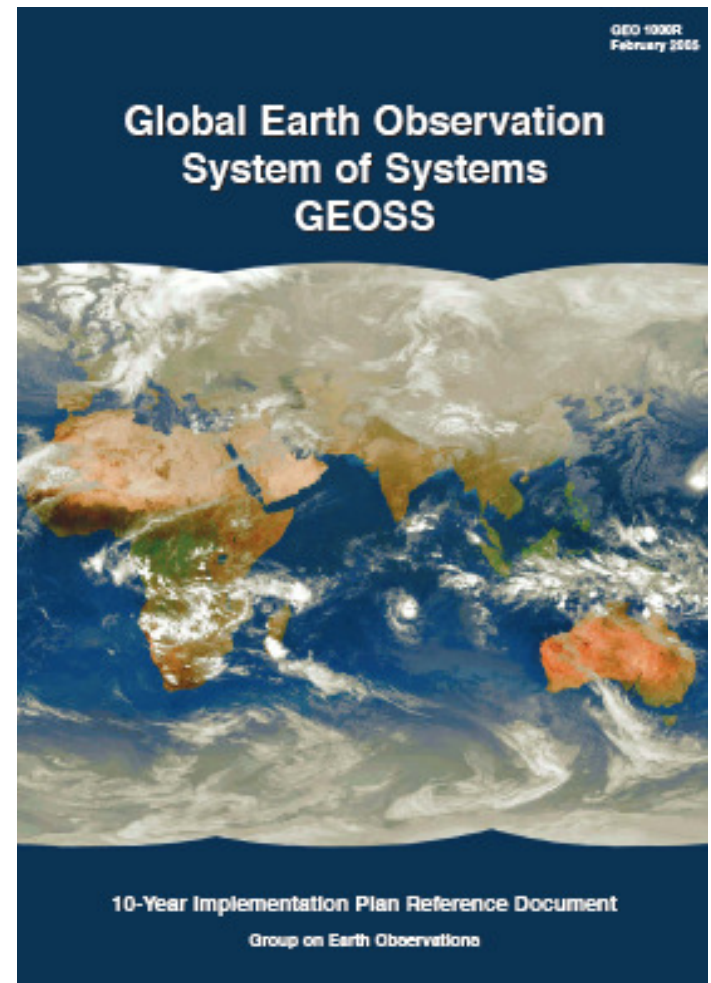
For more information about GEO & GEOSS

GEO web site:

<http://earthobservations.org>

Following information is available via
web site;

Official documents, including 10-
Year Implementation Plan, and
accompanying Reference
Document



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