

GEOSS Update & Work Plan Development

Asian Water Cycle Symposium

2-4 November 2005

Yukio Haruyama

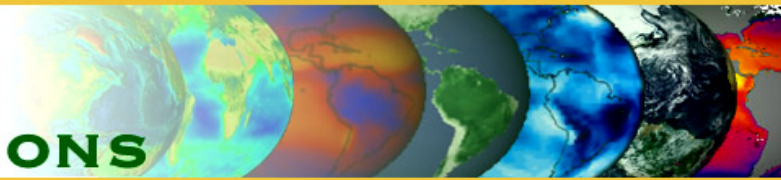
GEO Work Plan Team



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Earth Observation Summit I

34 Countries and 20 International Organizations



U.S. Department of State, Washington DC

July 31, 2003



Earth Observation Summit I: Declaration

- Linked to WSSD & G8 outcomes
- Affirmed need for:
 - Comprehensive, coordinated, sustained Earth observation system or systems;
 - Coordinated effort to address capacity-building needs related to Earth observations;
 - Exchange of observations in a full and open manner with minimum time delay and minimum cost; and
 - Preparing a 10-year Implementation Plan, building on existing systems and initiatives
- Created the *ad hoc* Group on Earth Observations (*ad hoc* GEO)

Earth Observation Summit II

47 Countries and 26 International Organizations



Hotel Okura, Tokyo, Japan
April 25, 2004



Earth Observation Summit II: Framework Document

This set out nine societal benefit topics to be derived through **Global Earth Observation System of Systems, GEOSS.**

Nine Societal Benefit Areas

- 1. Reduction and Prevention of Disasters**
- 2. Human Health**
- 3. Energy Management**
- 4. Climate Change**
- 5. Water Resource Management**
- 6. Weather Forecasting**
- 7. Ecosystems**
- 8. Agriculture and Desertification**
- 9. Biodiversity**

Earth Observation Summit III

Nearly 60 Countries, EC and over 40 International Organizations



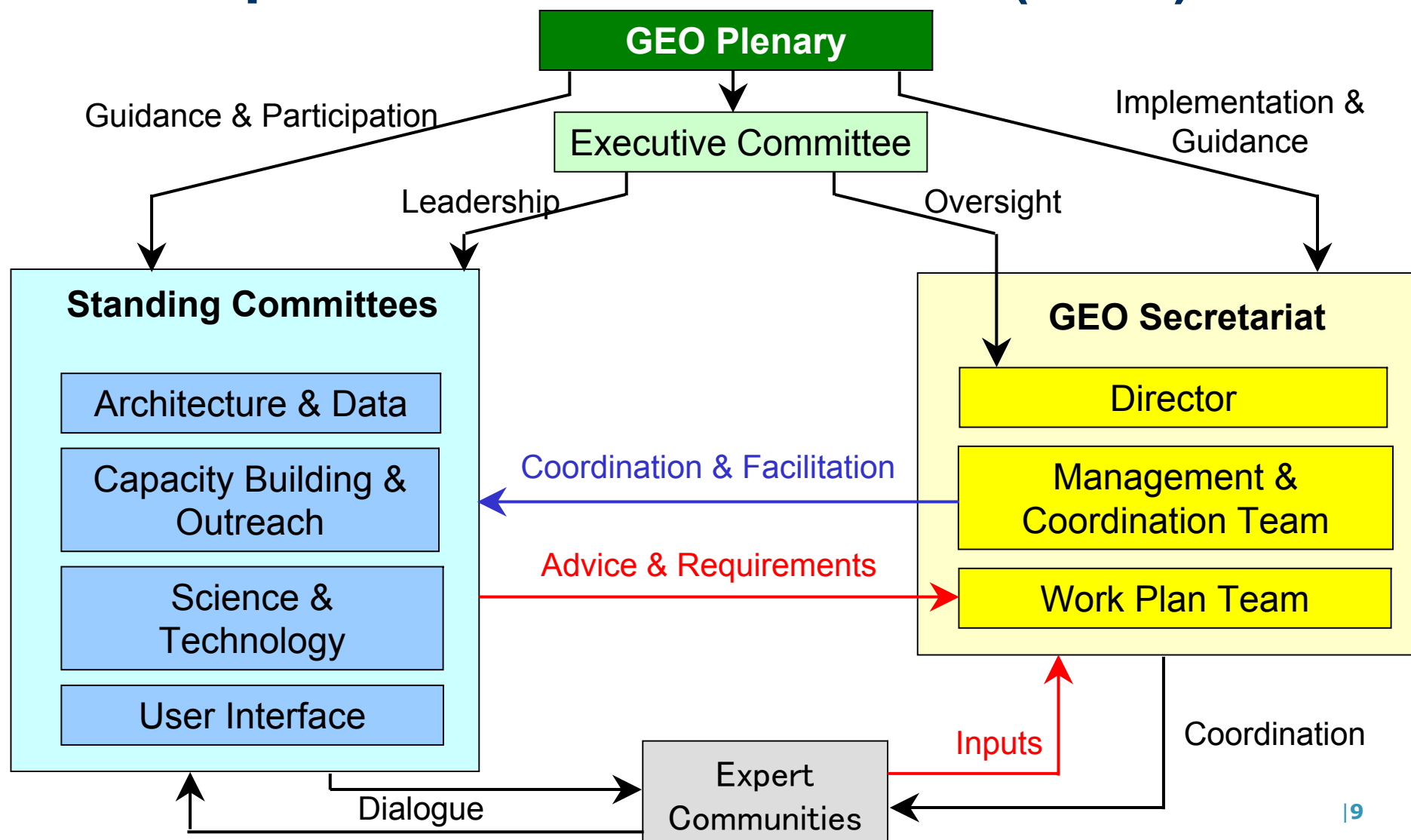
Palais d'Egmont, Brussels, Belgium
February 16, 2005

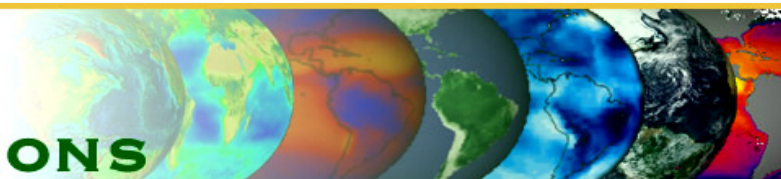


Earth Observation Summit III: Resolution

- Affirmed link to WSSD & G8 outcomes
- 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)

Group on Earth Observations (GEO)





GEO Members (58 Countries & EC)

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

GEO Participating Organizations (43 international and regional organizations)

- AARSE
- ADIE
- APN
- CEOS
- ECMWF
- EEA
- ESA
- ESEAS
- EUMETNET
- EUMETSAT
- EuroGeoSurveys
- FAO
- FDSN
- GCOS
- GSDI
- GOOS
- GTOS
- IAG
- ICSU
- IEEE
- IGBP
- IGFA
- IGOS-P
- IISL
- INCOSE
- IO3C
- IOC
- ISCGM
- ISDR
- ISPRS
- OGC
- POGO
- SICA/CCAD
- SOPAC
- UNCBD
- UNEP
- UNESCO
- UNFCCC
- UNITAR
- UNOOSA
- UNU-EHS
- WCRP
- WMO



GEO Next Steps after Summit III

- Transition GEO Secretariat operations to Geneva, Switzerland (WMO Building)
- Establish Work Plan Team by secondment from GEO Members and Participating Organizations till end of Dec. 2005
- Establish GEO Executive Committee (GEO-I, May 2005)
- Assign GEO Secretariat Director (Jose Achache) on Sep. 1st 2005.
- Structure 4 Subcommittees to be approved at GEO-II
 - Science & Technology, Architecture & Data, User Interface, Capacity Building & Outreach
- Initiate 2005 GEOSS Activities (Apr. - Dec. 2005)
- Develop 2006 GEOSS Work Plan



Work Plan Development

- Starting point: 2-, 6-, and 10-Year Targets (as per 10-Year Implementation Plan Reference Document)
- Initial focus on 107 2-Year Targets (completion of tasks expected by end of 2007)
- Translation of each 2-Year Target into concrete tasks/activities (“Work Packet”) with the support of external organizations / experts



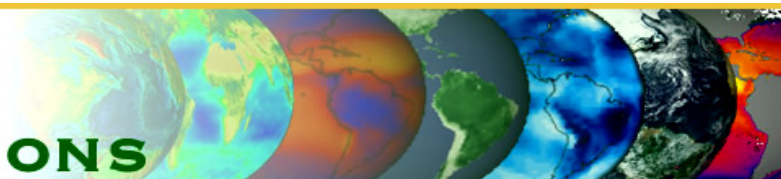
For 2005 Activities

- Thorough screening/ranking of proposed activities / tasks to identify those achievable or to be initiated in 2005
- Interactions with major User's entities
- Finalization of definition of 2005 activities by 30 June
- Written report circulated to GEO community by 1 July
- Released "Report on 2005 planned GEOSS Activities" (Document GEO 0107R, 1 July 2005)

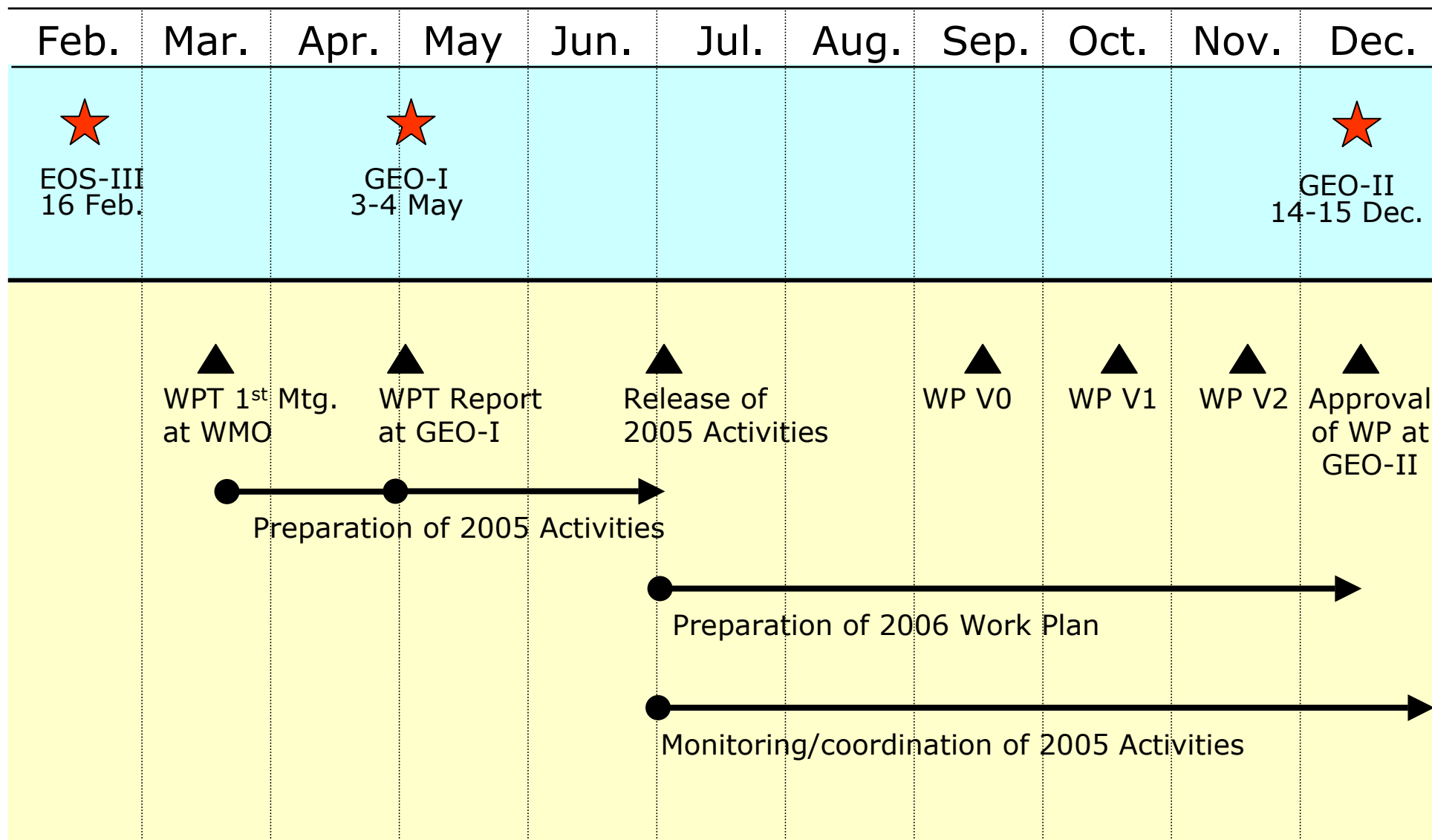


For 2006 Work Plan

- Issue of Work Plan Version 0 to external experts by 17 Sep. 2005
- Issue of Work Plan Version 1 to GEO members by 21 Oct. 2005 (Comments requested by 11 Nov.)
- Issue of Work Plan Version 2 for GEO-II by 25 Nov. 2005
- Submission of 2006 Work Plan and associated budget with report on 2005 works on 14-15 Dec. 2005 (GEO-II for approval)



2005 Schedule





GEO interactions with CEOS and IGOS-P

- Willingness from CEOS & IGOS-P to get re-organized and re-structured to serve GEOSS objectives better.
- CEOS is reviewing its roles and mandate in GEO-era
- Wide experience existing in CEOS Working Groups
- GEOSS IP heavily depends on groundwork of IGOS Themes and is contributed by Theme teams
- IGOS-P will undertake a mapping of IGOS Themes and GEOSS Societal Benefit Areas
- **In Summary, strong support from CEOS and IGOS-P for GEO**



2006 Work Plan: GEO Objectives

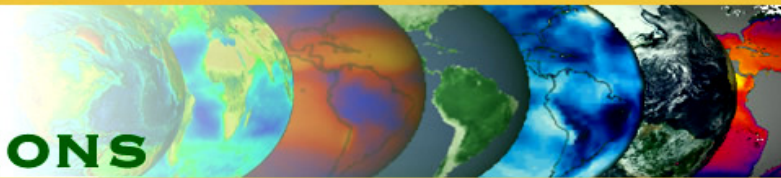
1. To build a sustainable, comprehensive and coordinated observation system of systems
2. To provide open and easy access to data anytime and anywhere
3. To increase the use of Earth observations.



2006 Work Plan: Activities Overview

- **Programme Activities**
 1. Design an interoperable GEOSS architecture
 2. Improve data sharing and management
 3. Engage user communities
 4. Create a GEO Fellowship
 5. Build capacity where needed
 6. Develop outreach and communication
 7. Implement activities specific to each social benefit area

- **Organizational Activities**
 1. Define relationships with existing coordinating mechanism, programmes and associations
 2. Harmonize Earth observation planning
 3. Mobilize resources
 4. Expand participation in GEO
 5. Explore the relationship with industry



2006 Work Plan: Program Tasks

Five Transverse Areas

1. **Architecture**
2. **Data Management**
3. **User Engagement**
4. **Capacity Building**
5. **Outreach**

Nine Societal Benefit Areas

1. **Disasters**
2. **Health**
3. **Energy**
4. **Climate**
5. **Water**
6. **Weather**
7. **Ecosystems**
8. **Agriculture**
9. **Biodiversity**



2006 Work Plan: Architecture

- **Initiate creation of in-situ coordination mechanism (AR-06-08)**
 - Initiate the creation of a global in-situ coordination mechanism within GEO and advocate synergy and sharing of infrastructure among observing systems, starting with the Water societal benefit area.
- **Advocate resources for expanding in situ obs. (AR-06-09)**
 - Advocate additional resources for the maintenance and expansion of in-situ observing systems in cooperation with major national and international organizations and programmes, starting with the Water societal benefit area.
- **Establish continuity gap analysis process (AR-06-10)**
 - Establish a GEO gap analysis process for all nine societal benefit areas to examine priorities



2006 Work Plan: Data Management & Capacity Building

- **Data sharing task force (DA-06-01)**
 - Establish a Task Force on data sharing to identify steps required to further the practical application of the agreed GEOSS data sharing principles.
- **EO & IWRM best practices-dev countries (CB-06-07)**
 - Promote best practices in Earth observation application for integrated water resource management in developing countries by supporting the Integrated Global Water Cycle Observations (IGWCO) series of workshops in South America, Asia, and Africa.



2006 Work Plan: Water (1)

- **EO and Water (WA-06-01)**
 - Organize one major workshop on water observations, combining space and in-situ observing systems and focussing on (i) water quality, (ii) surface and ground water, (iii) precipitation, (iv) soil moisture, (v) hydrological ensemble-based prediction and (vi) new observing techniques and products.
- **Funding EO and Water demo projects (WA-06-02)**
 - Help coordinate and advocate funding for one (or more) demonstration-project that points to the added value of hydrological ensemble-based forecasts in local water resource-management.



2006 Work Plan: Water (2)

- **World Water Forum IV session (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.
- **Global dataset mapping catchments (WA-06-04)**
 - Produce a global dataset mapping 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.



2006 Work Plan: Weather

- **Timely GPM mission (WE-06-03)**
 - Facilitate the timely implementation of the Global Precipitation Measurement mission.



Summary

- The mission of GEO, is to build the Global Earth Observation System of Systems (GEOSS) in order to:

“... realize a future wherein decisions and actions for the benefit of human kind are informed via coordinated, comprehensive, and sustained Earth observations . . . The purpose of GEOSS is . . . to improve monitoring of the state of the Earth, increase understanding of Earth processes, and enhance prediction of the behaviour of the Earth system.” (GEOSS 10-Year Implementation Plan)
- Improving water resource management through a better understanding of the water cycle is a priority objective for GEOSS. This implies the integration of observations, data assimilation, prediction models and decision support tools into a coherent and comprehensive management system.



For more information about GEO & GEOSS

- GEO web site:
<http://earthobservations.org>
- Following information is available via web site;
 - How to join GEO
 - Official documents, including 10-Year Implementation Plan, and accompanying Reference Document



GROUP ON EARTH OBSERVATIONS



Thank you