GEO

GROUP ON EARTH OBSERVATIONS

WORK PLAN FOR 2006

VERSION-3

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Preface

The mission of the Group on Earth Observations (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)*

This vision and purpose, articulated in the GEOSS 10-Year Implementation Plan, represents the consolidation of a broad scientific and political consensus: the assessment of the state of the Earth requires continuous and coordinated observation of our planet at all scales. The perspective of considering the Earth as an integrated system facing major common challenges represents a significant breakthrough, an intentional departure from earlier approaches looking at individual components of the Earth's system. This new approach has gathered the political support of the world's leaders.

The GEOSS 10-Year Implementation Plan calls for a series of annual GEO work plans to implement GEOSS. This document, the GEO 2006 Work Plan, sets forth a series of activities and tasks for the first year of GEOSS implementation.

GEO Members and Participating Organizations are kindly invited to approve this 2006 Work Plan and associated budget at GEO-II on 14-15 December 2005.

Part I: GEO 2006 Organizational Activities

In 2006, GEO will begin implementation of the GEOSS 10-Year Implementation Plan as endorsed by the Third Earth Observation Summit. GEO programme activities will cover all nine societal benefit areas and five transverse (cross-cutting) elements identified in the 10-Year Plan. The detailed work plan of supporting tasks for each programme area is presented in Part II.

To ensure proper task implementation and to maximize the effectiveness of GEO for 2006 and beyond, GEO will also engage in a series of activities designed to strengthen the GEO organization and consolidate its role in the Earth observation community. The GEO Secretariat will coordinate these organizational activities.

1.1 Define relationships with coordinating mechanisms, programmes, associations, and activities

Today, a diverse array of organizations, bodies and UN-agencies are engaged in Earth observation coordination efforts for a variety of specific observational domains, for specific Earth observation platforms, or for particular user requirements. GEO should derive benefits from these groups and organizations in the implementation of its work programme. In order to facilitate this, the GEO Secretariat will (i) review the strategic plans of these bodies as well as relevant UN specialized agencies and the sponsors of major observing strategies, and (ii) engage in dialogue with them to better define how these bodies can interact to build and operate GEOSS and to determine how best to harmonize their efforts in the context of GEO. In addition, GEO will examine Earth observation activities falling outside the domain of existing global coordination mechanisms, particularly in the domain of *in-situ* observations, to determine how best to integrate those activities into GEOSS.

1.2 Harmonize Earth observation planning and prepare future Work Plans

GEO will develop a regular dialogue process for improving harmonization of Earth observation planning within GEO, including: (a) collecting input for GEOSS annual work plans, in particular user requirement outcomes from GEO Committees and workshops; (b) establishing priority, high-visibility tasks within GEO work plans; (c) advocating agreed priorities in the context of budgetary and fiscal cycles of GEO Members and Participating Organizations; (d) reinforcing synergies among national and/or regional Earth observation planning efforts, and enhancing alignment of these efforts with the GEOSS 10-Year Implementation Plan; (e) disseminating requirements and standards for component systems of GEOSS as they are developed, in particular outcomes from the GEO Committees and workshops.

1.3 Mobilize resources

To ensure necessary funding for GEO programme activities, GEO will: (a) encourage GEO Members and Participating Organizations to contribute to the GEO Trust Fund, (b) establish high-level relationships with key international funding agencies, including the World Bank, and regional development banks (Europe, Asia, Africa, Americas), (c) increase consultation with major national and regional funding entities to finance GEOSS priority activities, and (d) explore the creation of donor mechanisms for funding activities in targeted areas.

1.4 Expand participation in GEO

GEO will seek to increase the number of GEO Members from among the Member States of the United Nations, and will endeavor to establish high-level relationships with key international user organizations currently not participating in GEO but relevant to GEO societal benefit areas. For the latter, the goal is to identify relevant organizations and programmes and to encourage them to join GEO as Participating Organizations. The GEO Secretariat will also aim to attain observer status in

high-level governing bodies (or equivalent) of these organizations in order to define key areas of cooperative activity.

1.5 Explore the relationship with industry

Industry can play a major role in the implementation of GEOSS, particularly in the domain of information technology and value-added products. Industry engagement in GEO activities will contribute to ensuring that GEOSS is sustainable and will also help to ensure that GEOSS stays current with mainstream and emerging information services and technologies. With the consent and cooperation of relevant GEO Members, the Secretariat will explore mechanisms for engaging with industry, such as the organization of national and regional industry fora.

1.6 Explore the link with socio-economic policymakers

To ensure the link between GEOSS implementation and socio-economic policy maker needs, GEO will define and establish relationships with major international economic development and cooperation programmes and organizations. Engagement of these communities to identify their needs for new or improved services is essential to enhancing the adequacy of provided data and products for a wide diversity of applications.

1.7 Engage with the global scientific research and technological community

It is essential for GEO to engage the scientific and technical research communities by promoting the involvement of universities and laboratories in GEOSS activities. Scientific research is crucial to (i) improve our understanding of basic Earth processes that are at work in each societal benefit area, (ii) optimize the use of GEOSS observations, (iii) ensure the transition from research to operational systems and (iv) generate new applications in existing and emerging fields. GEO will work through ICSU and the GEO Committee on Science and Technology to form linkages to major scientific research enterprises in each societal benefit area, and to ensure that relevant scientists and technical experts are involved and contributing to GEOSS in a truly participatory way.

Part II: Programme Tasks for 2006

For 2006, specific programme tasks are proposed for each of the nine GEO societal benefit areas as well as in the five "transverse" areas. Transverse activities are those "cross-cutting" activities that make up the technical approach of GEOSS across societal benefit areas, as well as capacity building and outreach. These programme tasks are designed to address specific targets identified in the GEOSS 10-Year Implementation Plan Reference Document (GEO 1000R). The 2006 Work Plan addresses primarily the two-year targets of the 10-Year Plan with the understanding that many of these two-year targets were designed as first steps in support of the subsequent six-year and ten-year targets also described in the Reference Document. Therefore, while some tasks will be initiated and completed within the first two-years, others may span the full 10 years of GEOSS implementation.

The programme tasks for 2006 will be carried out collectively and cooperatively by GEO. To clarify task responsibilities, one of the following classifications is given to each task:

- [SEC] - The GEO Secretariat will lead the task in close cooperation with GEO Members and Participating Organization;
- [MBR/ORG] - GEO Members and Participating Organizations will lead the task, with the support of the Secretariat when needed, and in coordination with GEO Committees as appropriate.

[SEC] tasks address mostly transverse activities where coordination is needed and societal benefit areas where the level of internal organization is not mature enough (e.g. energy).

One or more relevant GEO Participating Organizations have been proposed to take responsibility and lead each [MBR/ORG] task. GEO Members, as well as other Participating Organizations, are encouraged to contribute to the task in cooperation with the proposed Participating Organizations.

For each programme task, a detailed task sheet will be prepared and agreed upon in early 2006 by the GEO Members and Participating Organizations agreeing to implement the task. The Secretariat will work with these Members and Participating Organization(s) to agree on the content of the task sheets. The finalization of each detailed task sheet will indicate a commitment, on the part of the volunteering Members and Participating Organizations, to implement the task on behalf of GEO, and a willingness to mobilize the necessary resources to reach the objectives within the schedule described in the task sheet. As GEO is an entirely voluntary and non-binding process, all such commitments will be considered non-binding.

In some cases, programme tasks will require deliberation and technical cooperation among relevant GEO Members and Participating Organizations. These will take place within the GEO Committees. The Secretariat will work with the GEO Committees to achieve consensus on a series of tasks, which could be delegated to GEO Members and Participating Organizations as a [MBR/ORG] task in the course of 2006 or in future GEO Work Plans.

Currently the GEO 2006 Work Plan comprises 24 tasks assigned to the Secretariat, 45 MBR/ORG tasks, and 26 tasks to be handled by Committees; for a total of 96 tasks, including GEO-Netcast. All 96 tasks will be initiated in 2006, and 44 will be completed entirely in 2006.

2.1 Specific Tasks by Societal Benefit Area

The 10-Year Implementation Plan prescribes a user-driven approach to the creation of GEOSS. For each societal benefit area below, the tasks are presented in the following order: (i) engage with users; (ii) define or improve requirements; and (iii) expand availability and use of relevant Earth observation data, metadata, and products.

2.1.1 Disasters

Disaster-induced losses can be significantly reduced through an enhanced coordination of observations related to hazards, timely processing of the data and dissemination of the resulting information to relevant authorities. GEOSS implementation will provide a major contribution to the monitoring, prediction, early warning and mitigation of hazards occurring at local, regional and global levels.

Building on the 2005 World Summit resolution "to work expeditiously towards the establishment of a worldwide early warning system for all natural hazards with regional nodes, building on existing national and regional capacity such as the newly established Indian Ocean Tsunami Warning and Mitigation System", GEO activities for 2006 will focus on:

- Priorities jointly identified by the GEO Working Group on Tsunami Activities and IOC
- Developing a multi-hazard approach to early warning and crisis management
- Expanding the use of Earth observations for disaster prevention and mitigation

Disasters
Tasks for 2006

DI-06-01: Encourage *in-situ* and space agencies to (i) systematically record data over coastal regions subject to tsunami risk, and (ii) archive data in a form easily accessible to all countries.

[MBR/ORG] (CEOS, ICSU/WDCS, GOOS, WMO, GLOSS, FDSN, GEO Member(s) TBD)
To be initiated in 2006

DI-06-02: Facilitate improvement of capabilities for global seismographic networks such as GSN, FDSN, DAPHNE, and data sharing among GEO members.

[MBR/ORG] (FDSN, GEO Member(s)TBD)
To be initiated in 2006

DI-06-03: Support, and advocate funding for, research projects that contribute to the improved integration of InSAR technology for disaster warning and prediction.

[MBR/ORG](IGOS-Geohazards, CEOS, GEO Member(s) TBD)
To be initiated in 2006

DI-06-04: Promote and facilitate free and unrestricted exchange of all Earth observation data relevant to tsunami early warning systems.

[SEC] (in coordination with the Architecture and Data Committee)
To be initiated in 2006

DI-06-05: Building on existing techniques, create a plan for the production in coastal zones of high-resolution (i) near-shore bathymetric maps, (ii) land use/land cover maps, and (iii) digital elevation models.

[SEC] (in cooperation with IOC, GEO Member(s) TBD)
To be initiated in 2006

DI-06-06: Harmonize existing efforts towards the preparation of a "global tsunami hazard map" to support coastal zone monitoring and infrastructure planning & investment.

[MBR/ORG] (IUGG, IOC, GEO Member(s) TBD)
To be initiated in 2006

DI-06-07: Conduct an inventory of existing geologic and all-hazard zonation maps and identify gaps and needs for digitization.

[MBR/ORG] (IGOS-Geohazards,UNESCO, ICSU, GEO Member(s) TBD)
To be initiated in 2006

DI-06-08: Promote the cooperation of national and international agencies towards a multi-hazard approach to address more effectively and systematically coastal risks (e.g. from tropical cyclones, storm surges, tsunamis, land slides, volcanic eruption).

[MBR/ORG] (WMO, IOC, ISDR, UNOSAT, UNESCO, GEO Member(s) TBD)
To be initiated in 2006

DI-06-09: Expand the use of meteorological geostationary satellites for the management of non-weather related hazards.

[MBR/ORG] (WMO/CGMS, CEOS, GEO Member(s) TBD)
To be completed in 2006

DI-06-10: Initiate and maintain a dialogue between GEO, the Board of the International Charter on Space and Major Disasters and relevant UN agencies to identify mechanisms for strengthening the scope and mandate of the Charter.

[SEC] (in cooperation with CEOS)
To be initiated in 2006

DI-06-11: Explore possibilities for the development of an international charter on telecommunication systems and disasters, building upon the experience of the International Charter on Space and Major Disasters.

[SEC]
To be initiated in 2006

DI-06-12: Initiate a knowledge-transfer programme to developing countries, to ensure basic capacity to utilize Earth observations for disaster management.

[MBR/ORG] (IGOS-Geohazards, WMO, UNESCO, GEO Member(s) TBD)
To be initiated in 2006

DI-06-13: Initiate a globally coordinated warning system for fire and monitoring for forest conversion, including the development of improved information products and risk assessment models.

[MBR/ORG] (GTOS/GOFC-GOLD, GEO Member(s) TBD)
To be initiated in 2006

DI-06-14: Support the design of multi-media training modules to communicate the levels of risk from hydro-meteorological hazards to the public to enable them to make informed decisions.

[MBR/ORG] (WMO, GEO Member(s) TBD)
To be initiated in 2006

2.1.2 Health

The application of Earth observations, in particular space-based observations, to improve human health is an emerging field in which GEO can facilitate significant progress by forging new connections between the Earth observation and health sectors at all levels. Activities for 2006 will focus on:

- Identifying and further refining human health user requirements for Earth observations
- Improving the Earth observation sector's understanding of these requirements
- Demonstrating the utility of Earth observations for human health needs
- Raising awareness of the availability and potential uses of Earth observations for human health

GEO notes that the World Health Organization (WHO) is the central international forum for coordinating global activities relating to human health. Although WHO is not a member of GEO, GEO will endeavour to develop close ties and cooperation with WHO for each of the programme tasks identified.

Health
Tasks for 2006

HE-06-01: Consult with scientists and experts from the health, environment, and Earth observation communities to define the requirements and priorities of the Health communities regarding environmental observations.

[MBR/ORG] (IGOS-P, WHO)
To be completed in 2006

HE-06-02: Organize a workshop in Geneva in 2006 with the external support of WHO on human health issues, and their relations with Earth observations, environmental and disease outbreak modeling, building upon 2005 events (EC workshop on Human health and Global Change, NIEHS/EPA workshop on Human health and Air quality, EPIDEMIO workshop, Wengen meeting on seasonal climate forecasts for health, etc).

[SEC] (in cooperation with WHO and GEO Member(s) TBD)
To be completed in 2006

HE-06-03: Facilitate the formation of international consortia and advocate funding for the implementation of demonstration pilot-projects integrating Earth observations, health and epidemiological as well as socio-economic data. As a priority, support a project focused on the use of advanced weather and climate ensemble forecasting methods to develop and improve the predictability of major health hazards and their impacts in developing countries.

[SEC] (in cooperation with WMO, WHO)
To be completed in 2006

HE-06-04: Organize bi-lateral meetings with major health organizations and associations at national and regional levels and representatives of GEO, to raise awareness of potential uses of GEOSS for health.

[SEC] (in cooperation with WHO and GEO Member(s) TBD)
To be completed in 2006

HE-06-05: Building on the existing work of WHO, perform an assessment, with emphasis on developing countries, of existing capacities for the integration of Earth observation and health data (in terms of data collection, processing and integration). Identify gaps, and explore funding as well as existing projects to close gaps and build capacity.

[SEC] (in cooperation with WHO and GEO Member(s) TBD)
To be initiated in 2006

2.1.3. Energy

The application of Earth observation information to improve energy development, management and delivery is an emerging field that could yield significant benefits for economies worldwide. The G-8 Gleneagles Plan of Action specifically references the need for cleaner and more efficient energy resource management, and increased awareness of the environmental impact of energy production and use. The need for improved weather forecasting has already been articulated by the energy sector. In contrast the application of these types of Earth observations remains largely unexplored. Development of new applications of GEOSS in this area must take into account the high level of competitiveness prevailing in the sector, which tends to limit the exchange of information between stakeholders.

Activities for 2006 will focus on:

- Assessing the benefits of Earth observation-derived information for sustainable energy management
- Producing a strategic 5-10 Year Plan for the exploitation of the new generation of operational observing systems, building upon consultations with international policy and economic organizations, energy providers, and the Earth observation community
- Facilitating access to existing information and products for energy stakeholders
- Identifying and further refining Energy users' requirements for Earth-observation-derived information and customized tools
- Encouraging the development of decision support systems and tools for energy management

GEO notes that the International Energy Agency (IEA) is a major international forum for coordinating global activities related to energy management. Although IEA is not a member of GEO, GEO will endeavour to develop close ties and cooperation with IEA for each of the programme tasks identified.

Energy
Tasks for 2006

EN-06-01: Consult with scientists and experts representative of the energy sector including representatives of the private sector, to support the Secretariat in developing a set of energy-related priorities.

[SEC] (in cooperation with IEA and GEO Member(s) TBD)
To be completed in 2006

EN-06-02: Conduct a survey and assessment of energy management needs in terms of Earth observations (*in-situ,* airborne, and space-based) and products in cooperation with national energy agencies and associations, focusing on gaps and requirements for new observations.

[User Interface Committee]
To be completed in 2006

EN-06-03: Initiate and maintain a dialogue between decision-support tool providers and energy production & distribution managers to identify requirements for the development of improved and/or new tools.

[User Interface Committee]
To be initiated in 2006

EN-06-04: Organize a workshop in 2006 with the external support of IEA to identify and define the main elements/components of a strategic 5-10 Year Plan for the optimum exploitation of the enhanced capabilities offered by the forthcoming new generation of observing systems and forecasting modelling techniques (e.g. ensemble-based techniques).

[SEC] (in cooperation with IEA and GEO Member(s) TBD)
To be completed in 2006

EN-06-05: Facilitate the formation of an international consortium to initiate the implementation of a demonstration project utilizing advanced ensemble forecasting techniques to improve energy management – particularly those linked to hydro-power.

[MBR/ORG] (ECMWF, WMO, GEO Member(s) TBD)
To be initiated in 2006

EN-06-06: Participate in major energy fora and roundtables organized by international organizations, energy associations, and business councils.

[User Interface Committee]
To be initiated in 2006

2.1.4 Climate

In the climate domain, important goals for GEO include ensuring the sustained provision of data relevant to climate studies, promoting the enhancement of climate observing systems (especially in the terrestrial and ocean domains), facilitating access to quality-assured climate data, and facilitating international coordination of climate observations. GEO supports the GCOS Implementation Plan, as referred to in the Gleneagles G-8 Summit statement.

Activities for 2006 will focus on:

- Providing coherent, consistent, continuous long-term records for climate datasets and products derived from these datasets
- Expanding observations of climate variables identified in the GCOS Implementation Plan
- Enhancing and improving coordination of terrestrial climate observations and improving coherence in global ocean observation coordination

Climate
Tasks for 2006

CL-06-01: Ensure the initiation of international mechanisms to coordinate and maintain sustained climate data reprocessing and reanalysis efforts.

[MBR/ORG] (WCRP, GCOS, GEO Member(s) TBD)
To be completed in 2006

CL-06-02: Establish actions securing the provision of key data for climate studies and forecasting from satellite systems.

[MBR/ORG] (GCOS, CEOS, WCRP, GEO Member(s) TBD)
To be completed in 2006

CL-06-03: Consolidate the role of existing intergovernmental mechanisms for terrestrial observations needed for climate studies and forecasting. Develop a framework for the preparation of guidance materials, standards, and reporting guidelines for terrestrial observing systems for climate and associated data, metadata, and products to expand the comprehensiveness of current networks, facilitate exchange of data, and provide strategic direction to the terrestrial climate sector.

[MBR/ORG] (GTOS, GCOS, GEO Member(s) TBD)
To be initiated in 2006

CL-06-04: Identify lead international entities and national focal points for ocean observation efforts that can articulate national goals for their ocean observing sector and coordinate national activities with other designated national entities in order to evolve toward a truly global system of ocean observations.

[MBR/ORG] (GOOS, IOC, POGO, GEO Member(s) TBD)
To be completed in 2006

CL-06-05: Coordinate with the International Polar Year (IPY) to enhance the utilization of Earth observations in all appropriate realms (including, but not limited to, sea and land ice, permafrost, coastal erosion, marine and terrestrial ecosystem change, biodiversity monitoring and impacts of increased resource exploitation and marine transport).

[SEC] (in coordination with IPY IPO and IPY Joint Committee and Consultative Forum and IGOS Cryosphere Team)
To be initiated in 2006

CL-05-06: Enhance and improve coordination of coastal and marine climate observations.

[MBR/ORG] (GOOS, GTOS, GCOS)
To be initiated in 2006

2.1.5 Water

Improving water resource management through a better understanding of the water cycle implies the integration of observations, data assimilation, prediction models and decision support tools into a coherent and comprehensive management system.

Activities for 2006 will focus on:

- Improving existing *in-situ* observation networks for oceanography and hydrology at all levels
- Improving and expanding space-based observations for measurement of hydrological variables
- Developing ensemble-based hydrological prediction techniques

Water
Tasks for 2006

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.

[MBR/ORG] (IGOS-IGWCO, UNESCO-IHP, UNEP, WMO, WCRP, GEO Member(s) TBD)
To be initiated in 2006

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.

[SEC] (in cooperation with UNEP, UNESCO-IHP, WMO, WCRP, IGOS- IGWCO, and GEO Member(s) TBD)
To be initiated in 2006

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.

[SEC] (in cooperation with UNEP-GEM, UNESCO-IHP, WMO, WCRP, IGOS- IGWCO, and GEO Member(s) TBD)
To be completed in 2006

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.

[MBR/ORG] (UNESCO-IHP, FAO-GTOS, GCOS, GEO Member(s) TBD)
To be initiated in 2006

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.

[MBR/ORG] (GTOS, WMO, GOOS, POGO, IGOS/IGWCO)
To be initiated in 2006

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.

[MBR/ORG] (IGOS- IGWCO and GEO Member(s) TBD)
To be completed in 2006

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.

[MBR/ORG] (IGOS- IGWCO and GEO Member(s) TBD)
To be completed in 2006

2.1.6 Weather

Objectives for 2006 are defined to support the efforts of the World Meteorological Organization (WMO) on data continuity, observation gaps and predictive model improvements. These include:

- Advocating the stability (and improvement as necessary) of surface-based and space-based observing systems
- Encouraging the development of advanced forecasting systems and data dissemination methods
- Building capacity and know-how in developing countries

Weather
Tasks for 2006

WE-06-01: Advocate a complete and stable surface-based (*in-situ* and airborne) Global Observing System (GOS). High priority should be given to a stable and fully functional World Weather Watch Upper Air Network and the further development of the Aircraft Meteorological Data Relay (AMDAR) programme.

[MBR/ORG] (WMO)
To be completed in 2006

WE-06-02: Advocate a stable and improved space-based Global Observing System (GOS) including operational geostationary and polar components. Support WMO efforts related to (i) increased spatial and temporal resolution for geostationary imagers and sounders and (ii) a broader availability of polar Doppler wind profiles for initial operational testing.

[MBR/ORG] (WMO, CEOS)
To be completed in 2006

WE-06-03: Facilitate the development of a prototype global operational multi-model ensemble prediction system for weather and climate.

[MBR/ORG] (WMO)
To be completed in 2006

WE-06-04: Support the development of Advanced Dissemination Methods (ADMs) within an operational Integrated Global Data Dissemination Service (IGDDS), as a component of WMO Information System (WIS) and a contribution of the WMO Space Programme to GEO-Netcast.

[MBR/ORG] (WMO)
To be completed in 2006

WE-06-05: Co-organize a series of regional capacity building workshops with major numerical weather-prediction training centres to assist developing countries in their utilization of currently available forecasts; building in particular upon WMO programmes for developing countries.

[MBR/ORG] (WMO, ICTP)
To be initiated in 2006

2.1.7 Ecosystems

The eventual outcome of GEOSS in global systematic ecosystem studies will be to support natural resource industries and managers in understanding resource production potential and limits to inform policy making and ensure sustainability.

For this, it is essential to improve the basic knowledge of temporal and spatial variations in ecosystems. GEOSS will allow repeated mapping of ecosystems extent and the quantification of ecosystems condition. This requires the development of standardized and integrated methodologies, observations and products, on a global basis.

Activities for 2006 will focus on:

- Initiating planning for a global carbon observing system
- Developing a global operational scheme for ecosystems classification
- Pursuing harmonization of ecosystems observing methods
- Improving tools for space-based and *in-situ* ecosystems observations

Ecosystems
Tasks for 2006

EC-06-01: Support the Integrated Global Carbon Observation (IGCO) development of a global carbon-observing system, in particular improved global networks of *in-situ* CO_2 observations.

[MBR/ORG] (IGOS-P)
To be initiated in 2006

EC-06-02: Establish an *ad hoc* Ecosystems Classification Task Force, covering terrestrial, freshwater, and ocean ecosystems, with a mandate to create a globally agreed, robust, and viable classification scheme for ecosystems.

[Science & Technology Committee]
To be completed in 2006

EC-06-03: Initiate the harmonization of observing-methods and create synergies between ecosystem observing activities and those of other existing groups and mechanisms for terrestrial, freshwater and marine systems.

[Science & Technology Committee]
To be completed in 2006

EC-06-04: Explore techniques for up-scaling *in-situ* ecosystem observations.

[Science & Technology Committee]
To be initiated in 2006

EC-06-05: Complete a survey of the research community involved in *in-situ* observations and modelling for new platform and sensor needs, or for suggestions for better use of existing systems.

[MBR/ORG] (IGBP)
To be completed in 2006

EC-06-06: Conduct an inventory of archived data for ecosystems, identify data gaps, identify data at risk, and evaluate costs of data rescue. In complement, conduct a workshop to define a data archiving strategy taking into account data types, processing levels and supporting media.

[MBR/ORG] (ICSU, GTOS, IGBP, UNESCO, ILTER)
To be initiated in 2006

EC-06-07: Build upon existing initiatives (e.g. ANTARES in South America for oceans and GOFC-GOLD regional networks for terrestrial domains) to develop a global network of organization-networks for ecosystems, and coordinate workshops to strengthen observing capacity in developing countries.

[MBR/ORG] (POGO, GOOS, IOC, GTOS)
To be initiated in 2006

2.1.8 Agriculture

The primary GEO objectives within this area are to increase food security through the utilization of Earth observations and to increase the utility of Earth observations to the agriculture, forestry, fisheries, and aquaculture sectors. This requires exploration of the full range of available Earth observations that can provide value to these sectors, the creation of sustained provision of basic data and data products, and the development of the capacity and infrastructure necessary to utilize Earth observation information, especially within the developing world.

Activities for 2006 will focus on:

- Further exploring the utility of current Earth observations within the agricultural, forestry and fishery sectors, especially in developing countries
- Advocating for the development of new applications for Earth observation data in these sectors where opportunities are identified
- Securing commitments to sustain the acquisition of key land cover datasets and data products for the agricultural, forestry, and fisheries sectors

Agriculture
Tasks for 2006

AG-06-01: Initiate the creation of a 5- to 10-year strategic plan: define specific objectives for 2007 and create a plan of action for GEO in agriculture.

[MBR/ORG] (FAO, UNESCO. EEA, GEO Member(s) TBD)
To be initiated in 2006

AG-06-02: Consult with scientists and experts from the fisheries, aquaculture, coastal zone management and Earth observation communities at international and regional levels to identify opportunities for enhanced utilization of Earth observations in fisheries and aquaculture.

[SEC] (in cooperation with FAO Regional Fisheries Bodies (RFBs) and non-FAO RFBs, and GEO Member(s) TBD)
To be initiated in 2006

AG-06-03: Utilizing global and regional high-resolution land-cover datasets (e.g. GLOBCOVER) and earlier 1-km resolution land cover data sets (e.g. Global Land Cover 2000), implement production of a high-resolution global land-cover change dataset and report. Propose mechanisms for regular analysis and reporting on land cover change building on current efforts and promulgate the use of these products, especially in developing countries.

[MBR/ORG] (GTOS/GOFC-GOLD, CEOS, GEO Member(s) TBD)
To be initiated in 2006

AG-06-04: Initiate an international assessment effort on forests and forest changes utilizing ongoing land cover mapping projects (e.g. GLOBCOVER). Ensure application of standardized classifications and harmonization of existing datasets.

[*MBR/ORG] (GTOS/GOFC-GOLD, FAO, GEO Members(s) TBD)*
To be initiated in 2006

AG-06-05: Coordinate and advocate funding for the implementation of a demonstration project on the use of advanced weather and climate ensemble forecasting methods integrating Earth observations, agricultural data and socio-economic data, to develop and improve the predictability of food-supply hazards in Africa.

[MBR/ORG] (WMO, FAO, GEO Member(s) TBD)
To be completed in 2006

AG-06-06: Advocate funding for demonstration projects to produce global irrigated area/crop production datasets and promulgate sustained monitoring efforts utilizing the validated methodologies.

[MBR/ORG] (FAO, GEO Member(s) TBD)
To be completed in 2006

AG-06-07: Initiate the design of training modules to demonstrate the usage of Earth observation data and products for the agricultural sectors in Africa, Asia, Latin America, Central and Eastern Europe, and in Small Island States.

[MBR/ORG] (FAO, GEO Member(s) TBD)
To be completed in 2006

2.1.9 Biodiversity

Biodiversity monitoring efforts worldwide engage the interest and concern of society segments as diverse as the ecotourism industry, the pharmaceutical industry, environmental organizations, the agricultural sector, and, of course, the scientific community. The community of networks monitoring various aspects of biodiversity is highly diverse and topically focused. The challenge for building GEOSS in this realm is to assist these monitoring communities to develop comprehensive classification and observing strategies that will allow both observational standards and interoperability to emerge from the current monitoring activities, thus allowing global integration of data generated by these efforts. The framework for monitoring biodiversity trends recently adopted within the UN Convention on Biological Diversity (CBD) will form the basis for further developments in this area.

Activities for 2006 will focus on:

- Developing coherent biodiversity observation strategies within the context of an agreed upon ecosystem classification system
- Facilitating the establishment of monitoring systems that enable frequently-repeated, globally-coordinated assessment of trends and distributions of species of special conservation merit
- Facilitating consensus on data collection protocols and the coordination of the development of interoperability among monitoring programs

GEO notes that DIVERSITAS is a major international forum for coordinating global activities relating to biodiversity. Although DIVERSITAS is not a member of GEO, GEO will endeavour to develop close ties and cooperation with DIVERSITAS through ICSU, for each of the programme tasks identified.

Biodiversity
Tasks for 2006

BI-06-01: Ensure participation of the biodiversity community into the Ecosystem Task Force (see Task EC-06-02) in order to ensure that the ecosystem classification system developed as part of this task is compatible with biodiversity observational requirements.

[User Interface Committee]
To be completed in 2006

BI-06-02: Building on the framework adopted for monitoring biodiversity trends in the UN Convention on Biological Diversity, conduct a series of workshops and meetings to (i) define the needs and requirements of the biodiversity information users sector, (ii) delineate available methodologies and (iii) identify the adequacy of current and past observational strategies.

[MBR/ORG] (DIVERSITAS, GBIF, UNESCO, GTOS, GEO Member(s)TBD)
To be initiated in 2006

BI-06-03: Initiate the development of a strategic plan for capturing historical biodiversity data from natural history collections and the research community.

[MBR/ORG] (GBIF, GEO Member(s) TBD)
To be completed in 2006

BI-06-04: Initiate the development of a strategic plan for periodic global assessment of status and trends for species of merit, taking into account the Millennium Ecosystem Assessment and CBD 2010 targets. Include the remote sensing community in this discussion to determine the applicability of remote sensing to this topic.

[MBR/ORG] (DIVERSITAS, GBIF, GTOS, GEO Member(s) TBD)
To be completed in 2006

BI-06-05: Facilitate the interoperability of the multi-institutional biodiversity observation network and ensure that it links to data sets of ecological and other related observation systems.

[MBR/ORG] (GBIF, GEO Member(s) TBD)
To be initiated in 2006

2.2 Transverse Activities

The identification of activities for each transverse area is driven by significant synergies among user requirements. Addressing these common requirements is central to the efficient implementation of GEOSS.

2.2.1 GEO-Netcast

The successful implementation of GEOSS and its efficient use in all nine societal benefit areas requires the proper capacity for all GEO participants and users to access data and information, and transmit and exchange data. In many disciplines, existing systems are in place for the collection and transmission of Earth observation data using existing telecommunication infrastructures. While some of these systems are quite advanced, many suffer from limitations in performance and capacity. In some areas and disciplines, they do not exist. Beginning with an assessment of current data transfer and dissemination systems, and building on identified user requirements, GEO will study the concept of a "GEO-Netcast".

Conceptually, GEO-Netcast will use existing commercial telecommunications infrastructure to allow for the broadcast of Earth observation data streams, for on-demand access to observation data upon user request, as well as for the collection of data from isolated sites and observatories. To ensure relevance to users, specific applications and benefits for each societal benefit area will be evaluated in the development of GEO-Netcast.

GEO-Netcast will be developed by GEO Members and Participating Organizations. Activities will be coordinated by the Secretariat and discussed in the GEO Committees on Architecture and Data and User Interface.

2.2.2 User Engagement

User engagement activities for 2006 will be coordinated through the GEO Committee on User Interface, and will serve as the driver for all Architecture and Data Management tasks. User engagement as a transverse activity will focus on establishing effective fora for the identification and communication of user requirements.

User Engagement
Tasks for 2006

US-06-01: Establish a GEO process for identifying critical Earth observation priorities common to many GEOSS societal benefit areas, involving scientific and technical experts, taking account of socio-economic factors, and building on the results of existing systems' requirements development processes.

[SEC] (in cooperation with the User Interface, Architecture and Data, and Science and Technology Committees)
To be completed in 2006

US-06-02: Initiate pilot communities of practice to identify and further refine users' needs, in particular on cross-cutting areas, building upon the initial experience of community of practice and on information provided by national, regional and project-level surveys.

[User Interface Committee]
To be completed in 2006

US-06-03: Promote interactions, in the form of fora, between data providers, scientists, industry, international governmental and non-governmental organizations, decision- and policy-makers to identify requirements for new or improved data, products, and data management tools.

[SEC] (in cooperation with the User Interface Committee)
To be initiated in 2006

2.2.3 Architecture

Architecture activities for 2006 will be coordinated through the GEO Architecture & Data Committee and driven by user requirements. They will focus on the following:

- Building on existing systems and initiatives
  - defining the components of the GEOSS architecture
  - converging or harmonizing observation methods
  - promoting the use of existing standards and references, intercalibration, and data assimilation
- Defining and updating interoperability arrangements including technical specifications for collecting, processing, storing, and disseminating shared data, metadata and products
- Facilitating architecture and data standards, using existing standards wherever possible, and identifying gaps in existing standards
- Strengthening or creating a framework for *in-situ* observations
- Expanding capacity for, and identifying challenges to, continuity of observation of key variables commonly required across user communities
- Advocating protection of radio frequencies

Architecture
Tasks for 2006

AR-06-01: Establish and maintain a process for reaching interoperability arrangements, informed by ongoing dialogue with major international programmes and consortia. That process is to be sensitive to technology and accessibility disparities among GEO Members and Participating Organizations, and must include mechanisms for upgrading arrangements.

[Architecture & Data Committee]
To be completed in 2006

AR-06-02: Produce practical strategic and tactical guidance document on how to converge disparate systems to a higher degree of collaboration and interoperability under GEOSS including its roadmap and using existing efforts wherever possible.

[Architecture & Data Committee]
To be completed in 2006

AR-06-03: Reach consensus on how the GEOSS architecture will link the components of GEOSS and allow for growth potential.

[Architecture & Data Committee]
To be initiated in 2006

AR-06-04: Establish a process for GEO Members and Participating Organizations to commit component systems to GEOSS, and advocate specific initial commitments of contributed systems and other components, including agreement to accept GEOSS interoperability specifications as defined to date, and allowing for growth.

[Architecture & Data Committee]
To be initiated in 2006

AR-06-05: Initiate development of a publicly accessible, network-distributed clearinghouse, subject to GEOSS interoperability specifications to date, and including an inventory of existing data, metadata, and pre-defined common products.

[Architecture & Data Committee]
To be initiated in 2006

AR-06-06: Facilitate interoperability among Digital Elevation Model (DEM) data sets with the goal of producing a global, coordinated and integrated DEM.

[Architecture & Data Committee]
To be initiated in 2006

AR-06-07: Produce an inventory of existing *in-situ* observation networks (including airborne), beginning with the networks of GEO Members and Participating Organizations, and associate them with societal benefit areas as appropriate.

[Architecture & Data Committee]
To be initiated in 2006

AR-06-08: Advocate additional resources for the maintenance and expansion of *in-situ* observing systems in cooperation with major national and international organizations and programmes.

[SEC]
To be initiated in 2006

AR-06-09: Advocate establishing continuity for near real-time, 30-m (or better) resolution, multi-spectral remote-sensing coverage everywhere on the Earth's surface, including support for the launch of a Landsat-equivalent follow-on mission.

[MBR/ORG] (CEOS)
To be initiated in 2006

AR-06-10: Advocate and facilitate the timely implementation of the Global Precipitation Measurement (GPM) mission and encourage more nations to contribute to the GPM constellation.

[MBR/ORG] (CEOS)
To be initiated in 2006

AR-06-11: Prepare a series of appropriate advocacy activities, including representations to the International Telecommunication Union. For example, evaluation of challenges presented by the industrial development of automobile anti-collision radar and the implications for the use of radio frequencies essential for tropospheric sounding.

[MBR/ORG] (CEOS, WMO, in cooperation with the Science and Technology Committee)
To be completed in 2006

2.2.4 Data Management

Data-management tasks for 2006 will be closely tied to user requirements, coordinated though the GEO Architecture & Data Committee, and will focus on the following:

- Initiating steps for promoting the agreed GEO data sharing principles
- Developing GEO data quality assurance strategy
- Supporting the development and use of emerging assimilation and modelling techniques for new applications
- Identifying and improving the access to common data across GEOSS societal benefit areas
- Developing common data access tools, portals and best practices for users across societal benefit areas

Data Management
Tasks for 2006

DA-06-01: Invite experts to identify steps required to further the practical application of the agreed GEOSS data sharing principles.

[Architecture & Data Committee]
To be initiated in 2006

DA-06-02: Develop a GEO data quality assurance strategy, beginning with space-based observations and evaluating expansion to *in-situ* observations, taking account of existing work in this arena.

[Architecture & Data Committee]
To be initiated in 2006

DA-06-03: Support and advocate funding for demonstration projects promoting the wider use, in other disciplines, of ensemble-based techniques originally developed for weather forecasting.

[SEC] (in collaboration with Science and Technology Committee)
To be initiated in 2006

DA-06-04: Facilitate the development, availability and harmonization of data, metadata, and products commonly required across diverse societal benefit areas, including base maps, land-cover data sets, and common socio-economic data.

[User Interface Committee, Architecture & Data Committee]
To be initiated in 2006

DA-06-05: Develop a guidance document for basic geographic data (including format, precision, accuracy, etc.), taking into account relevant national, regional and global initiatives.

[Architecture & Data Committee]
To be initiated in 2006

DA-06-06: Advocate use of existing Spatial Data Infrastructure components as institutional and technical precedents, where appropriate, including standard protocols and interoperable system interfaces, among other components.

[Architecture & Data Committee]
To be initiated in 2006

DA-06-07: Define a model web portal system for access to all Earth observation data, based on existing portals and systems, designed to increase use, quality, and accessibility of existing information, tools, and networks. Particular attention will be given to the coordination of networks in specific societal benefit areas to enable reuse thereby to achieve synergy and leverage.

[SEC] (in cooperation with the Architecture & Data Committee)
To be completed in 2006

DA-06-08: Develop learning tools (based on existing tools) to improve technical capability to (i) create common geo-referenced maps, (ii) merge socio-economic data using geographic information systems (GIS), and (iii) combine geo-referenced maps with application tools to yield basic information systems.

[Architecture & Data Committee]
To be completed in 2006

DA-06-09: Establish GEOSS Best Practices Registry by a request for proposals from GEO organizations willing to maintain/update GEOSS Best Practices Registry. The registry should also include existing cost-benefit sharing mechanisms and examples (data sharing, cooperative data acquisition, joint development, joint flight, collaborative sciences, etc).

[Architecture & Data Committee]
To be completed in 2006

2.2.5 Capacity Building

Transverse capacity-building activities for 2006 will be coordinated with the GEO Committee on Capacity Building and will focus on:

- Assessing existing and planned capacity-building activities in Earth observations globally, identifying best practices, and providing frame for future GEOSS capacity building initiatives
- Initiating and supporting relevant training initiatives

Additional capacity building tasks are identified in specific societal benefit areas.

Capacity Building
Tasks for 2006
(Transverse)

CB-06-01: Perform a review of capacity-building initiatives in GEO Members and Participating Organizations, taking into account results of existing surveys, to identify existing and planned capacity-building activities and gaps.

[Capacity Building Committee]
To be completed in 2006

CB-06-02: Perform an analysis of existing documentation of Earth observation infrastructure requirements essential to the implementation of GEOSS in developing countries, and document commonly identified gaps.

[Capacity Building Committee]
To be completed in 2006

CB-06-03: Perform a review of existing education and training initiatives for Earth observation utilization in developing countries, and promulgate the use of best practices in cooperation with specialized UN agencies.

[Capacity Building Committee]
To be completed in 2006

2.2.6 Outreach

Outreach activities for 2006 will focus on:

- Enhancing technical engagement with emerging user communities for Earth observations
- Raising awareness of the availability and potential uses of Earth observations in each societal benefit area
- Raising general awareness of GEOSS and the value of Earth observations through the design and launch of a communication campaign to reach prioritized target audiences
- Maintaining ongoing media contact and interest in GEOSS

Outreach
Tasks for 2006

OR-06-01: Develop a comprehensive list of major international conferences and workshops relevant to GEOSS (UNFCCC COP, sustainable development fora, etc.) in each societal benefit area and ensure GEOSS participation and visibility in selected events.

[SEC]
To be completed in 2006

OR-06-02: Engage in a series of presentations and briefings to technical audiences in each societal benefit area, with an emphasis on emerging fields of health, energy, water resources management, and ecosystems.

[User Interface Committee]
To be completed in 2006

OR-06-03: Promote awareness of successful communities of practice activities, advancing awareness of potential applications for Earth observations.

[User Interface Committee]
To be completed in 2006

OR-06-04: Implement a sustained outreach campaign plan of targeted communication activities.

[SEC]
To be intiated in 2006

OR-06-05: Complete preparation of general communication tools for the outreach campaign, including a GEOSS logo/visual identity; an engaging website; an umbrella message and sector-specific messages; multi-media & press tools; and standard PowerPoint briefings.

[SEC]
To be completed in 2006

OR-06-06: In coordination with the outreach campaign, engage in a series of regular media roundtables and briefings and occasional well-timed press conferences and special events.

[SEC]
To be completed in 2006

OR-06-07: Establish a network of press & media (public affairs) representatives of all GEO members and Participating Organisations to advance outreach objectives.

[SEC]
To be completed in 2006

Part III: Secretariat Operations Budget for 2006

Please see Document GEO 0204-2C : 2006 Budget as Adopted

Appendix A

Work Plan Team Formation

At the Sixth Meeting of the *ad hoc* GEO (GEO-6), the plenary agreed to the creation of a Work Plan Development Team (hereafter Work Plan Team or WPT) which would be tasked to produce the 2006 GEO Work Plan as well as a report on preliminary activities to be conducted in 2005. Immediately following GEO-6, the GEO Secretariat issued a call for secondments of personnel to serve as members of the GEO Work Plan Team. Thanks to the generosity of their countries and participating organisations, five individuals were provided and co-located with the Secretariat, two in March, two in May, and one in July. In addition to the Secretariat Executive Officer, a special assistant was recruited to assist the team.

At GEO-I, the Work Plan Team provided an initial report (GEO 0107) on planned activities for 2005. A revised report, containing 26 tasks for implementation, was released on 1 July 2005 (GEO 0107R). A full report on these activities is included in the 2005 Annual Report (GEO 0207) to be presented at GEO-II on 14-15 December.

In order to develop specific tasks and priorities for 2005 and 2006, the WPT agreed to proceed on the basis of the 2, 6 and 10-year targets contained in the Implementation Plan Reference Document (GEO 1000R), with appropriate cross references to the relevant section of the Implementation Plan itself (GEO 1000). While all targets were considered, the WPT focused its work on developing activities in support of the 107 two-year targets, which are to be achieved by 2007. Please note that for easy reference, the WPT has assigned a serial number to all targets (see companion document GEO 1000R-T).

To translate these 107 broad targets into concrete actions, the WPT determined it was necessary to develop preliminary tasks to be initiated in 2005, major tasks for 2006, and target fulfillment tasks for completion by 2007. To facilitate the identification of these tasks, the WPT created a "Work Packet" for each target. These packets consist of three parts requesting task proposals for 2005, 2006, and 2007. They also provide a summary of the specified target and a citation from the Reference Document.

Input Analysis

Drawing upon the list of topic coordinators and other experts who supported the development of the Implementation Plan, the Work Plan Team developed an informal list of 75 experts who could be contacted to assist in completing the packets, with the understanding that these experts could enlist the assistance of others in their community. These experts were asked to submit a preliminary list of proposed tasks for 2005 by 15 April, and to identify well-qualified individuals or groups to provide further input. From May to August, the WPT expanded the process well beyond the initial 75 experts by coordinating with GEO Participating Organizations and other expert groups to finalize the list of 2005 activities, gather additional suggested tasks for 2006, and identify possible actors for 2006 task implementation. As of 5 August, the WPT had received proposals for nearly 800 activities in 2006.

The WPT created a log of all proposed tasks and activities, and the log was then divided among the team members for analysis. Throughout the month of August, the WPT worked together and in consultation with contributing experts to define the list of tasks presented in Part II, which were then refined through three rounds of technical and official comment from September to December 2005.

Appendix B: List of Acronyms

ADMs	Advanced Dissemination Methods
AMDAR	Aircraft Meteorological Data Relay
ANTARES	Observation Network in South America
CBD	Convention on Biological Diversity
CEOS	Committee on Earth Observation Satellites
CGMS	Co-ordination Group for Meteorological Satellites
DAPHNE	Deployment of Asia-Pacific Hazard-mitigation Network for Earthquakes and volcanoes (Japan)
DEM	Digital Elevation Model
DIVERSITAS	A biodiversity research programme of ICSU, UNESCO, IUBS, and SCOPE
EC	European Commission
ECMWF	European Centre for Medium-Range Weather Forecasts
EEA	European Environment Agency
EO	Earth Observations
EPA	Environmental Protection Agency
EPIDEMIO	Earth Observations in Epidemiology Programme funded by ESA
ESA	European Space Agency
FAO	Food and Agriculture Organization (of the United Nations)
FDSN	Federation of Digital Broad-Band Seismograph Networks
GBIF	Global Biodiversity Information Facility
GCOS	Global Climate Observing System
GEO	Group on Earth Observations
GEO-n	n-th meeting of the *ad hoc* GEO
GEO-Netcast	GEO 2006 New Initiative; see p. 25
GEOSS	Global Earth Observation System of Systems
GIS	Geographic Information Systems
GLOBCOVER	Global land-cover project initiated by ESA and using MERIS data
GLOSS	Global Sea Level Observing System
GOFC-GOLD	Global Observation for Forest and Land Cover Dynamics
GOOS	Global Ocean Observing System
GOS	Global Observing System
GPM	Global Precipitation Measurement
GTOS	Global Terrestrial Observing System
GSN	Global Seismographic Network
ICSU	International Council for Science
ICTP	International Centre for Theoretical Physics
IEA	International Energy Agency
IGDDS	Integrated Global Data Dissemination Service
IGBP	International Geosphere-Biosphere Program (of ICSU)
IGCO	Integrated Global Carbon Observation
IGOS	Integrated Global Observing Strategy
IGOS-IGOL	IGOS Integrated Global Observations of Land
IGOS-IGWCO	IGOS Integrated Global Water Cycle Observations
IGOS-P	Integrated Global Observing Strategy Partnership
IGWCO	Integrated Global Water Cycle Observations
IHP	International Hydrological Programme
ILTER	International Long Term Ecological Research network
InSAR	Interferometric Synthetic Aperture Radar

IPY IPO	International Polar Year / International Project Office
IOC	Intergovernmental Oceanographic Commission of UNESCO
ISDR	International Strategy for Disaster Reduction
IUGG	International Union of Geodesy and Geophysics
NIEHS	National Institute of Environmental Health Sciences
NSDI	National Spatial Data Infrastructure
NSF	National Science Foundation
POGO	Partnership for Observation of the Global Ocean
RFBs	Regional Fisheries Bodies
UN	United Nations
UNOSAT	United Nations initiative "Satellite Imagery for All"
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC COP	United Nations Framework Convention on Climate Change Conference of the Parties
WCRP	World Climate Research Programme
WDCS	World Data Center System
WHO	World Health Organization
WIS	WMO Information System
WMO	World Meteorological Organization
WPT	Work Plan Team