"Building Synergies Across the GEO Work Plan"

GEO WORK PLAN SYMPOSIUM 2012
30 April – 2 May 2012, GEO Secretariat
Geneva, Switzerland

DRAFT RECORD

The third Work Plan Symposium was held on 30 April-2 May 2012 in Geneva, Switzerland convening about 130 participants from 43 GEO Members and Participating Organizations. The Work Plan Symposium represented a key opportunity to highlight progress, exchange information, and foster coordination across the whole Work Plan. The main focus was on cross-fertilization of the new Tasks – bringing together Leads and contributors from all GEOSS areas as well as members of the new Implementation Boards.

Key objectives of the Symposium were to: (i) Identify cross-cutting issues and build synergies across Tasks; (ii) Guide and accelerate Work Plan implementation; (iii) Support progress assessment towards the GEOSS 2015 Strategic Targets; (iv) Collectively address issues and gaps; and (v) Develop practical recommendations for the 2013 Work Plan update

All Symposium documents (incl. presentations) may be downloaded from:
ftp://ftp.earthobservations.org/201205_Work_Plan_Symposium/

The online version of the 2012-2015 Work Plan and related Component Sheets are available at:
http://www.earthobservations.org/geoss_imp.php

1. WORK PLAN MANAGEMENT

An extensive discussion was held to address the multiple aspects of Work Plan Management, including overall structure, role of new Implementation Boards, Task implementation/ management, and Task progress reporting/monitoring. The main discussion points and recommendations are summarized below.

New Work Plan Management Structure

- Three Boards were created. Initial Memberships for each of the Boards were developed following the process and transition schedule accepted by GEO-VIII (Document 21).
- Initial memberships were reviewed by the Executive Committee in March to ensure reasonable geographic and developed/developing country balance.
- A process for renewing Board membership will be developed by the Executive Committee by November 2012.

- The main objectives (ToRs) of the Implementation Boards are to:
  - Monitor progress towards achieving the 2015 GEOSS Strategic Targets; Annually assess Strategic Targets completion progress and provide an analytical review of Task performance against the Targets; Identify issues, gaps, and Target objectives that require additional support from the GEO community; Design and conduct actions for addressing these issues and gaps
  - Actively coordinate activities across Tasks within a specific part of the Work Plan (e.g. Infrastructure), while also establishing cross-cutting links to the other parts
  - Advise on the implementation of Tasks; provide guidance on issues of technical and non-technical nature (e.g. resources; delivery on commitments of Members and Participating Organizations)

Task Implementation/Management

- Main role of Task Coordinator

  Intra-Task: Provide coordination and guidance at the Task level (working with the Task Team, and Points of Contacts in particular); Foster interactions across Components; Ensure cross-fertilization of activities
  Inter-Task: Look for synergies with other Work Plan Tasks*;* Provide a direct link to Implementation Boards

- Main role of Leads

  Leading Implementation: In cooperation with other Leads (Points of Contact) and contributors, identify key outputs/milestones; Monitor progress towards milestones and outputs*;* Identify gaps in skills and resources; Encourage new contributions, e.g. from developing countries*;* Support coordination at Task level (working with the Point of Contact and Task Coordinator)
  Reporting: Communicate to the Point of Contact progress made on implementation*;* Inform GEO related discussions (e.g. Plenary)

- Main role of the Point of Contact (also representing a Lead)

  Provide a single point of contact for all involved in the Component; Report on progress to the GEO community through Component Sheets (incl. input from other Leads and contributors); Support coordination at Task level (working with the Task Coordinator); Bring issues to the attention of Implementation Boards (with the Task Coordinator), Communities of Practice and GEO Secretariat, as appropriate

- Main role of the GEO Secretariat

  Provide technical/scientific support to Work Plan implementation; Monitor and foster Work Plan Task implementation; Liaise with, ensure commitment from, international/national entities involved in Work Plan implementation; Report on Work Plan implementation progress; Work with community on the development/update of the GEO Work Plan

  Moreover, support Points of Contact, Task Coordinators, and Implementation Boards, as needed. Experts will also represent the GEO Secretariat on Implementation Boards or Working Groups, and by default, speak on behalf of the GEO Secretariat (consultation with other members of Secretariat would take place as needed)

- Cross-Task relationships should be better depicted through the Component Sheets and also through other means. The Work Plan section “To Be Implemented in Connection With” should be made more specific, pointing to selected aspects of Task implementation. Good progress should be achieved on display and visualization thanks to Japan who announced that their Target-Task Tool would be soon operational for the 2012-2015 Work Plan

- New contributors to the Work Plan (GEO Members or Participating Organizations) should commit resources to Task implementation to the best of their capacity. Resources available for Task implementation are listed in the Component Sheets (non exhaustive)
- Leads and/or contributors showing no sign of activity could be considered for removal from lists of participation - in consultation with the GEO Principals

Task Progress Reporting/Monitoring

- "Task Sheets" should, in the future, be referred to as "Component Sheets" to avoid any confusion. The information introduced by Points of Contact in the Component Sheets should be specific enough to support progress monitoring (see also M&E recommendations below)
- Component Sheets are a key source of information for the GEO community, including Implementation Boards and GEO Secretariat. Regular updates by Points of Contact are required in order to give visibility to activities and projects, and build efficient synergies across the Work Plan
- A "Work Plan Progress Report" will be produced by the GEO Secretariat. The report will summarize Task implementation progress, also identifying issues hindering Task implementation. It will draw information from Component Sheets and bilateral exchanges with Task Coordinators. The report will not go into assessing the relevance of progress to the 2015 Strategic Targets, nor in identifying gaps in the completion of the Targets. The latter would be the remit of the Implementation Boards (cf. Terms of Reference)

Work Plan Information System – New Tools and Functionalities

- The Work Plan Information Management System was further developed to include new online tools and functionalities. In particular, the Report Generator (http://www.earthobservations.org/geoss_imp.php) and Component Sheet Update Tool (for Points of Contact) were launched to enable the community to introduce/extract information from the Work Plan at will
- The Report Generator allows GEO Principals (or anyone) to instantly create the list of all the Tasks in which their country or organization is involved
- Component Sheet information can be compiled such as to produce a Task level document, an option that should be of use to Task Coordinators
- The Report Generator and Component Update Tool will continue to develop based on the feedbacks received. In particular, new functionalities will be added related to: (i) Searching the Work Plan; (ii) Exporting to Word; (iii) Uploading of supporting documents; and (iv) Linking of Tasks
- Points of Contact will be notified of any change in Task Component participation

Monitoring and Evaluation (M&E) Perspective

- The purpose of monitoring and evaluation is to (i) demonstrate achievement of meaningful results; and (ii) maximize our collective ability to achieve those results by identifying progress shortfalls
- Monitoring is primarily the function of the Implementation Boards, Task Coordinators/Teams, and GEO Secretariat
- The main role of the M&E Working Group is to advise and support; and look to build a complete "system" of monitoring
- The relevance of the information contained in the Component Sheets to monitoring should be high. In particular,
  - Statements of activities & outputs should be clear and concrete
  - Statements should be objectively verifiable. It should be possible to determine later whether or not the activity or output was completed as planned

- Vague adjectives should be avoided, such as “improved”, “enhanced”. What should be described should be “what will be improved and in what way”
- Outputs should not be phrased as actions (should not include verbs). They should also not be outcomes
- Activities should not repeat the output, e.g. “Develop report on…”. In general, there should be more activities than outputs
- Each activity and output should be a single, discrete item

- Performance indicators should relate to progress in addressing the Strategic Targets, not to progress in implementing the Tasks. Implementation Boards should be the “owners” of the performance indicators and design/test them. The M&E Working Group would support the Boards in this context, building on its previous work on performance indicators for the Architecture, Data Management, Capacity Building and User Engagement Targets

2. WORK PLAN REVIEW

For each of the 26 Work Plan Tasks, a presentation was given followed by discussion. Issues specific to each Task (e.g. scope and expected achievements by 2015, recent progress and key 2012 outputs, relationship with other Tasks and GEOSS 2015 Targets) are best described in related presentations. Issues cutting across Tasks are summarized below. These have been turned into recommended actions for the consideration of the GEO community – at the Work Plan level, Implementation Board level and possibly Plenary level.

Recommended Actions for Accelerating GEOSS Implementation

Technical

- Improve availability of data, analysis, and interpretation tools through cyber infrastructure (globally available and scalable to meet regional needs; utilizing cloud computing; linking with local end-users with emphasis on interoperability with other geospatial platforms; augmented through local data/expertise e.g. using crowd sourcing; including work flows and best practices for capacity building)
- Consider enabling access to data registered in the GEOSS Common Infrastructure through community portals (linked, but not necessarily through the GEO Portal). Show benefits of registration in the GEOSS Common Infrastructure (a limited number of data providers seem to see those benefits). Ensure metadata standards are common
- Strengthen simulation capabilities to better understand options, scenarios, sensitivities and trade-offs in observation deployment strategies. Conduct inter-comparisons of ocean color sensors. Develop more advanced sensors for mercury and persistent organic pollutants in order to make observing systems less human dependent. Increase the resolution of air- and spaceborne gravimetry for CO2 monitoring
- Process/validate data, and extract/classify high resolution imagery to produce quality land cover products with resolution <30m. The need for higher-resolution land cover data is cutting across most societal benefit areas. Develop urban products with global coverage; support related technologies for imagery mining, data fusion, and better interpretation
- Secure additional African rain-gauge data for food insecure regions; encourage USA (USGS) to give a high priority to LDCM agricultural acquisitions; encourage EC/ESA to provide access to Sentinel 2 NRT for agricultural regions
- Develop temporal/spatial methodologies for assessing energy alternatives e.g. using the South African BioEnergy Atlas; link the economics of supply and demand for energy alternatives to a detailed assessment of bioenergy supply and demand

- Accelerate the integration of CMACast into GEONETCast to further improve Asian data dissemination
- Draw the attention of the GEO community (e.g. Members, Task Teams) to the criticality of radio-frequency protection in Earth observation. Liaise with national representatives in radio-communication fora – to ensure sustained political support for radio-frequency protection. Spectrum protection for Earth obs. at WRC-15 is expected to be more challenging due to threat from industry with increasing requirements for new allocations

Data Management and Sharing

- Promote the contribution of datasets with full and open access to support the development of the GEOSS DataCORE (Data Collection of Open Resources for Everyone). Engage with developing countries, science and technology communities and socio-economic information producers (e.g. OECD, UN offices, national statistics agencies)
- Promote the development of national policy frameworks. Address open access licensing at national/regional levels – a very important basis for developing overall GEOSS data interoperability. Frame issues related to data property rights more clearly. Build on EEA experience with GMES to catalogue in-situ data needs and identify key enablers and obstacles to data access.
- Provide incentives to industry to provide, share and disseminate data on impact of their activity
- Potential contributions to the GEOSS DataCORE include: (i) Argo data as well as all ocean data from autonomous networks that transmit data in real time on WMO GTS; (ii) Ecosystem web mapping services (ESRI RESTful); (iii) SHARE GeoNetwork data and metadata; (iv) Global Atlas for Solar and Wind Energy; and (v) Various weather forecasts (TIGGE), carbon datasets, global land cover products and global agricultural monitoring products

Management/Coordination

- Enhance intra-Task coordination; Establish more interaction among Component Leads; Try to link all Components in a homogeneous manner to optimize integration of resources
- Task-specific “Symposia” could foster intra-Component dialogue and feedback to identify issues and roadblocks to overcome. Examples include: Global Urban Observation and Information, EORSA, Shanghai, China, June 2012; Global Land Cover Mapping, ISPRS Melbourne, Australia, Aug 2012; Global Drought Monitoring, IRSA, Beijing, China, Oct 2012; Blue Planet Kickoff Symposium, Ihlabela, Brazil, Nov 2012
- Foster inter-Task coordination. Encourage Implementation Boards and Task Coordinators to address cross-cutting issues early and regularly. Establish close cooperation/coordination between Infrastructure, Institutions and Societal Benefits Tasks; Consider adopting a buddy system for reinforcing links between Tasks
- Harmonize Work Plan terminology and clarify respective Work Plan roles; Ensure a focused, clear, supportive, non-duplicative interaction with Implementation Boards (see also Section 1 above)
- Encourage active Task Team participation (member countries and organizations) as well geographic and developed/developing country balance among Task Teams. Seek support from GEO principals to further provide task/component leaders with contacts of relevant people.
- Improve communication between Component Leads and GEO Secretariat experts. The GEO Secretariat should provide direct support to the Point of Contact in case of large participation list (Leads and contributors)
- Identify: (i) a Task Coordinator for EC-01 on “Global Ecosystem Monitoring” and additional contributors on moist/dry forests, arctic ecosystems, wet-lands, dry-lands, and protected areas as well as ecosystem services; (ii) a new Task Coordinator for ID-05 on “Catalyzing Resources for GEOSS Implementation”; (iii) a Point of Contact for Component IN-01-C3 on “Promotion and Coordination across Surface-based and Space-based Observing Systems”; and (iv) a new contact for the Carbon Community of Practice

- With regard to Component Sheets (see also Section 1 above): Points of Contact and Leads should define clear outputs/milestones and provide information on capacity building activities. The GEO Secretariat should improve the process for collating information and clarify the level of detail required. Frequent progress reporting should be enabled to foster coordination *[note that Component Sheets may be updated anytime by the Point of Contact, and as often as necessary]*
- Consider defining an 'observer' role for entities wishing to participate in Work Plan activities without a formal status *[note that an observer role already exists]*

Resource Mobilization

- Clearly identify resources missing for Task implementation (Task Teams need to be specific: in kind? financial? how much? to do what? for how long?)
- Improve engagement with funding initiatives and donor organizations to ensure implementation. Identify/initiate appropriate international project calls and funding options for joint activities. Identify relevant stakeholders (UN Habitat, World Bank, …)
- Build on the European FP7 example to align funding proposals with Work Plan Tasks and the EGIDA experience (http://www.egida-project.eu/) to attempt to mobilize national R&D funding. Further establish high-level contact with Belmont Forum and professional fund raisers
- Develop a long-term funding strategy for sustaining project outputs, beyond the funding period of the project
- Identify resources to ensure desirable levels of (i) participation by developing country representatives and (ii) outreach to developing country data users and providers
- Carbon, Oceans and Climate in general: Lack of continuity and sustainability of many of the past/current observation systems (especially in less developed regions); Sustainability of observing networks, mostly on fragile research funding
- Weather: Need for resources to develop a high-impact weather information system for Africa; conduct research into selected cases of extreme weather events across the African continent; and conduct routine monitoring and assessment of forecast system performance for high impact weather events across Africa
- Biodiversity: Need for resources for the development of the Essential Biodiversity Variables and the expansion of activities to regional networks
- Agriculture: Need funding commitment for GEOGLAM Project Office; Expanded National Participation in and Funding for GEOGLAM Implementation (Brazil, Russia, India, China, South Africa); Targeted national capacity building initiatives to incorporate Earth observation in national agricultural Monitoring (focus on Africa, South Asia, etc); Funding for African JECAM Site development and workshops
- Urban: Funding for urban product generation and continuation, and technological development
- Ecosystems: Funding for ecosystem monitoring and classification, map and inventory
- Infrastructure: Seek funding for architecture design and implementation. Increase advocacy for in-situ coordination and Quality Assurance/Control procedure

Outreach/Communication

- Ensure a better link between the Task level (outputs) and the policy level. Translating results into policy-relevant information remains a challenge for all Tasks and Societal Benefit Areas. The GEO Secretariat should facilitate communication with decision-makers (means to be determined)
- Build on GEONetCab platform and tools to improve and expand GEO capacity building activities; promote the development of relevant cyber-infrastructure
- Encourage industry communities and associations (e.g. EuroMines) to better engage in GEO activities
- Promote the low-cost dimension of GEONETCAST (a strong "sales" argument). GEONETCAST users are not paying for using the bandwidth, only for the installation

- Tackle the right audience and promote Earth observation/information based integrated tools in user-oriented conferences and events (as opposed to Earth observation/information oriented events); Demonstrate GEOSS capabilities to relevant groups (e.g. energy producers)
- Organize annual Task Symposia in conjunction with other event(s); Foster dissemination of Task results through books and journal special issues

New Partnerships / Institutions

- Improve inter-institutional communication at local and national levels to allow downstream use of technologies
- Develop new projects/partnerships better exploiting synergies with the private sector (SMEs; cf, HORIZON 2020), international conventions (e.g. Stockholm, UNEP), programs (e.g. IGPB), and initiatives (e.g. GFCS)

User Engagement / Potential benefits from a systematic user requirements review

- Support the development of the User Requirement Registry (URR) to (i) enable users to guide GEOSS implementation (in the case of Disasters, the end should be informed policies, decisions and actions associated with disaster preparedness and mitigation); (ii) understand the nature and needs of users in developing countries; (iii) establish and sustain an ongoing dialogue with user communities (feedback son experiences); (iv) identify user needs across Tasks and Societal Benefit Areas; (v) perform gap analyses; and (vi) eventually reach a broader audience

Communities of Practice

- A Community of Practice collocated symposium could be organized to collectively address issues such as: (i) Research results; (ii) New applications; (iii) Capacity building efforts; and (iv) User viewpoints
- Task Leads should engage more with Communities of Practice to better capture users' perspectives. Communities of Practice could help broaden applications of Task outputs in their field of interest/expertise

3. GENERAL DISCUSSION ON CROSS-CUTTING ISSUES

A general discussion was held to address a number of cross-cutting issues, including: (i) Delivering on GEOSS 2015 Strategic Targets: Matching individual Task outputs (1000 flowers) with GEOSS; (ii) Identifying/communicating the value-added by GEO/GEOSS; and (iii) Mobilizing resources. Below is a summary of the main recommendations and discussion points.

- **Ensuring that individual Task outputs (1000 flowers) ultimately deliver the Strategic Targets**. Are Task outputs complementary and directly contributing to Strategic Targets delivery? Assessments/evaluations by Implementation Boards and ad-hoc Evaluation Teams should help identify issues and gaps in implementation, also leading to appropriate actions by GEO Members and Participating Organizations (e.g. additional resources and contributions)
- **Better communicating the GEO added value**. The Work Plan framework is part of the GEO added value (e.g. coordinating previously disconnected activities; bringing quick results through flexibility; multiplying investment impact; enlarging user-bases) however it does not demonstrate this added-value itself. The latter is multi-dimensional and inherently difficult to pin down. The community needs to better identify/communicate the benefits of their work, so that they can be expressed in a meaningful way at the highest political levels
- **Leveraging resources for Work Plan activities.** GEO Members and Participating Organizations should align their "call for proposals" with the GEO Work Plan. A good example of this is the work the European Union has done with their Framework Programme. Back in 2005, the European Union made the political decision to provide

direct research support to GEOSS implementation through its Framework Programme. This action has translated into millions of Euros allocated to dozens of major research projects that are advancing GEO goals and objectives. Anticipation (time) and political will were key to the European success

- **Reinforcing capacity building and maintenance**. Capacity development is at the top of GEO agenda and this should show throughout the Work Plan. GEO still needs to reach a critical mass of relevant activities/outputs before it can truly benefit developing nations. In addition, GEOSS does not sufficiently engage developing nations. To at least partially remedy to this problem, participation in Work Plan Tasks is fully inclusive, giving an opportunity to any country to join and potentially benefit.
- **Supporting the development of the GEOSS Common Infrastructure (GCI).** Much work remains to be done on the GCI to make it truly useful and user-friendly. Users and providers need to join forces, also meeting the needs for new types of demand (e.g. mobile applications) and interfaces (e.g. social networking)
- **Relying on 2015 Strategic Targets to provide directions for GEOSS implementation and communication** (e.g. 2013 GEO Ministerial Summit). Although a few Targets may need adjustment, 2015 Strategic Targets should be considered as the reference for progress assessment/evaluation

4. NEXT STEPS

Work Plan Management

- The respective roles of Leads, Task Coordinators, Implementation Boards, and GEO Secretariat will be further outlined in a document to be submitted to the Executive Committee in July
- New functionalities will be added to the Component Sheet Update Tool and the Report Generator in the coming months
- Points of Contact will be invited to revise Component Sheets to increase their relevance to reporting and monitoring (cf. M&E perspective)

Advancing Work Plan Implementation

- An impressive amount of information was exchanged over the Work Plan Symposium. This information is now available online in the form of presentations and the present report; see ftp://ftp.earthobservations.org/201205_Work_Plan_Symposium/
- Task Teams will be invited to further analyze this information to enhance coordination of activities, and build new partnerships. This will be done in collaboration with Communities of Practice, the GEO Secretariat and through Implementation Boards
- Note that new Contributions to the GEO 2012-2015 Work Plan are welcome anytime. A simple email to the GEO Secretariat (secretariat@geosec.org) is enough to initiate the process.

Evaluating Progress towards 2015 Targets

- Implementation Boards will build on the Symposium material and Task Sheet information to assess Target completion progress, identify gaps vis-à-vis the GEOSS 10-year Implementation Plan, and recommend appropriate actions. This work was initiated during the two days following the Work Plan Symposium.
- Implementation Boards will present their first assessment report to the GEO-IX Plenary in November in Brazil.

Preparing 2013 Work Plan Update

Following the Work Plan Symposium, the GEO community was invited to review the current version of the 2012-2015 Work Plan (Rev 1) – proposing adjustments as appropriate. The deadline for proposals and comments is 27 June (see detailed schedule below).

Schedule
2013 Update of the 2012-2015 Work Plan

10 May

Work Plan **Revision 1**
Circulated to GEO community for *Technical Review*
Deadline for Comments – 27 June

20 July

Work Plan **Revision 1.1**
Circulated to GEO community for *Official Review*
Deadline for Comments – 5 Sept

Early October

Work Plan **Revision 1.2**
Circulated to GEO Principals as part of GEO-IX Documents
Submitted to GEO-IX for "acceptance as a living document"

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