



GROUP ON  
EARTH OBSERVATIONS

## GEO-VIII

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Report of the User Interface Committee (UIC)

Document 18

For information



## **Report of the User Interface Committee (UIC)**

The UIC thanks the Plenary for establishing the User Interface Committee in 2005, and hope that we have exceeded the expectations with our work as outlined in the Terms of Reference. We offer this report and hope that our recommendations will be accepted. This report summarizes the activities of the UIC since GEO-VII, including highlights and recommendations for the Plenary to consider.

### **1 BUILDING A USER-DRIVEN GEOS: CONTINUING USER ENGAGEMENT AS A PRIORITY OF THE NEW GEO MANAGEMENT APPROACH**

#### **1.1 Recommendations:**

- Noting that the “Engagement of Users”, which is currently the role of UIC, has been a priority of GEO, the Plenary should maintain this priority in the new Work Plan management approach;
- Since the UIC has shown that “success for GEO begins and ends with the users”, the new management approach should be charged to determine as soon as possible whether there has been sufficient user engagement for each of the GEO Strategic Targets so that they become more achievable and thus more measurable;
- The Plenary should recognize the importance of the Communities of Practice (CoPs) within GEO and both ensure their continuance and the creation of new ones.

#### **1.2 What is User Engagement?**

It starts with the face-to-face engagement of a “spectrum” of relevant Users (often decision-makers) to learn about what they do and what from GEOSS could help them do it better.

It ends with feedback from the Users on whether the science or decision-making improved and the anticipated impacts and societal benefits were realized.

During the last six years, user engagement has been accomplished through meetings of the UIC, collaborations in the GEO CoPs and SBA-focused workshops put on within GEO tasks.

#### **1.3 Highlights from the UIC’s User Engagement during the Past Year**

At the UIC meeting held in September in Salzburg, Austria, the UIC developed several recommendations for GEO management:

- The UIC recommends that real progress should be reported from each Task at least once a year, but preferably twice per year at the Work Plan Symposium and Plenary;
- If the new management approach is adopted, the UIC also recommends that management of CoPs be shared between two entities: For review of current CoPs, the responsibility could be given to the Societal Benefits Implementation Board and review and approval of new CoPs could be managed through Task ID-04;
- UIC recommends a CoP Symposium that could be part of the next Work Plan Symposium;
- Finally, the UIC recommends that the post-2015 Working Group should explore how the role of members, Participating Organizations, and the private sector can be expanded.

The User Engagement Session at GEO-VII in Beijing was held for two days to involve participants from Asia and Oceania. Speakers came from:

Chinese Academy of Forestry,

Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia,

Indian Space Research Organization (ISRO), the Indian Institute of Technology,

Japan Aerospace Exploration Agency (JAXA),

Remote Sensing Technology Center (RESTEC), Japan,

International Steering Committee on Global Mapping,

Partnership for Observation of the Global Oceans, and

UNESCO Intergovernmental Oceanographic Commission.

In addition, nine CoPs gave updates on their progress and user related activities.

The User Engagement in at the UIC meetings in Austria included:

Information on GEO Coordination in Austria and activities of both the Austrian GEO Secretariat and the Austrian Meteorological and Seismological Service,

Presentation by the International Atomic Energy Agency, Vienna, on their SIMPACTS program (the IAEA Energy assessments),

Presentation about discussions with Austrian Public Television about the needs and expectations of the public for TV and radio weather information,

Interactions with UNOOSA United Nations Office for Outer Space Affairs on their activities especially UNSPIDER,

Overview of GEONET and how this activity fits within the User Engagement activities.

A workshop on “Building a User-Driven GEOSS was held at ISRSE in Sydney and proved to be very interesting and constructive. GEOSS is intended to be user-driven; therefore, the objectives were to explore progress to date in the tasks and CoPs and to contribute to a truly user-driven development of GEOSS by discussing the currently applied and other potentially useful approaches to gather user-related needs and information relevant for GEOSS. The following issues for the attention of GEO were agreed upon by the attendees:

*There may be potentially large undiscovered user groups:* The user-related GEO activities may be too narrowly focused on those user communities known to the User Interface Committee and other GEO units involved, while potentially large 'undiscovered' user groups may be overlooked.

*There is diversity in terminology:* Users have a strong tendency to express their needs in a terminology specific to their field and community. This diversity in terminology poses a challenge to GEO in collecting user needs and converting them into requirements for observations, products, infrastructure, services, and information.

*Licensing of GEOSS products could be a turn-away:* The licensing required for products, applications and software accessible in the frame of the Architecture Implementation Pilot (AIP) could easily turn away potential users of these entities.

*Multiple registrations are a problem for GEOSS users:* Many data providers require users to register and log in before they can access data products they have discovered through GEOSS; this could lead users to use other search tools instead of GEOSS.

*Delays in outreach activities are detrimental:* For some activities reaching out to users, large delays relative to a published time line and insufficient feedback to users have caused uncertainty and dissatisfaction and have turned users away.

*Games promoting Earth observations need to be web-based:* Games are an interesting means for the promotion of Earth observations, but such games need to be web-based and available for large communities.

*Users want products, not just information where products could be found:* Users strongly are interested in getting products or services responding to their needs, while meta-information restricted to data availability is often not useful for them. While some meta-data, for example, information on accuracy, latency, resolution, etc., is of value to many users, meta-data restricted to source information is not considered useful.

*Surveys of web usage could provide clues on Earth Observation users:* Surveys of what web users search for could provide important clues and who is using Earth observations and derived information when and for what; such surveys may lead to the discovery of currently unknown groups of Earth observations.

*Separation between users and providers increasingly more diffuse:* User and providers are increasingly in overlap; therefore, there is a need to revisit the conceptual separation between users and providers, and an alternative may be to use applications as the key entities, to which some contribute and others benefit from.

A proposal for GEO to develop a “User Engagement Handbook” was presented to the UIC by NASA, where several techniques (e.g., online user surveys, email newsletters, webinars, conferences) would be used to gather information and serve as a start for developing a GEO User Engagement Handbook. Such a handbook could be a useful tool to complement the user engagement sessions of the UIC and the CoPs to build relationships with even more users in the nine GEO SBAs. This would help create additional users of GEOSS, and provide channels for user input and feedback.

## 2 SIGNIFICANT 2011 ACTIVITIES AND OUTCOMES

The UIC held three meetings since the GEO-VII Plenary: the 17<sup>th</sup> UIC meeting was held in January, 2011 in Vienna, Austria (hosted by ZAMG); the 18<sup>th</sup> UIC meeting in April 2011 in Sydney, Australia in conjunction with the ISRSE conference; and the 19<sup>th</sup> UIC meeting in September 2011 in Salzburg, Austria (hosted by xxxx). Detailed minutes of the meetings are available on the GEO UIC website. These meetings addressed the UIC activities and outcomes, as summarized in the following:

### 2.1 US-09-01a

In 2010, the UIC supported the US-09-01a Task Team deliver its final report of the critical Earth observations priorities common to the SBAs. The final Cross-SBA report and individual SBA reports provide complete lists of the priority observations. It showed that all of the 20 highest-ranking observations are common to 4 or more SBAs. The highest-ranking observations included precipitation, soil moisture, surface air temperature, surface wind speed, land cover, and others to follow. The report included recommendations to gather information and engage users on specific characteristics of the priority Earth observations, and to conduct an assessment of the current and planned availability of the priority Earth observations. The report was published and distributed at the Beijing GEO-VII Plenary. The UIC included a summary of the final report as an Annex to its report at the Plenary. The full report is available at the GEO UIC website or the US-09-01a task website <http://sbageotask.larc.nasa.gov/>.

Per a report recommendation, the Task Team has begun efforts to identify specific parameter characteristics across SBAs for precipitation, which was the highest-priority observation in the Cross-SBA report. In addition, the Task Team initiated activities to conduct a gap analysis of the current and

planned availability of measurements of the highest-ranked Earth observations in the Cross-SBA report results; the team is involved with the GEOSS Gap Analysis Action Team. Additionally, the Biodiversity community has been working to revise the sub-report to further articulate observation priorities, which will be included in an updated Cross-SBA report. The outcomes of this work may have multiple applications, including: (i) support satellite mission planning; (ii) identify key gaps in current and planned observation networks; (iii) target access to high-priority observations; and (iv) serve users' needs across SBAs. The ADC has decided to base its work of the "Sprint to Plenary" on the results of this analysis in determining which parameters will be available first to enhance the functionalities of the GCI.

## **2.2 User Requirements Registry (URR)**

A prototype GEO User Requirements Registry (URR) has been developed under the guidance of the UIC. The URR allows users to publish their needs in terms of Earth information, and it enables users and providers to analyze the value chains from Earth observations to end users (<http://www.scgcorp.com/urr/>). The core of the URR is a comprehensive database with information on user types, applications, requirements, links, lexicon, references and research needs. Population of the URR is based on peer contribution similar to the Wikipedia system. In 2010, a series of URR demonstrations and tests have been conducted in conjunction with co-sponsored GEO Conferences and independently with Advisory Committee members who assisted in the preparation of the Task US-09-01a SBA Reports. Based on these tests, the URR prototype has been improved – Version 3.0 were made available for testing at the GEO-VII Plenary and Ministerial Summit Exhibition.

During 2011 additional features are being added to the prototype and user requirements obtained from the Coastal Zone CoP are being put into the registry. During 2012 the registry will be integrated into the GCI.

## **2.3 Community of Practice (CoP)**

The UIC continued to support the development of the CoPs. A first comprehensive CoP brochure was developed by the support of US EPA, ECMWF and NASA (available at: [http://www.earthobservations.org/documents/cop/201011\\_CoP\\_brochure.pdf](http://www.earthobservations.org/documents/cop/201011_CoP_brochure.pdf)).

The CoPs, including Biodiversity, Coastal Zone, Geohazards, Health and Environment reported their developments to the 17<sup>th</sup> UIC meeting. Additionally, there was a new proposal on an Ocean CoP, which the UIC accepted. The UIC will work with the Ocean community to refine the proposal for it to be recognized as a CoP, while coordinating with the Coastal Zone community if this can be one large CoP. The UIC also discussed the idea of a possible CoP Symposium, building on the GEO IGOS symposium held in 2009 and that would lead to specific CoP developments.

The CoPs reported to the 18<sup>th</sup> UIC. These were compiled in a presentation "The Communities of Practice: Implementation & Users" delivered to the ISRSE workshop "Building a User-Driven GEOSS". The presentation reviewed the way the CoP concept is implemented by GEO and to what extent this implementation is successful in actually linking users and their CoPs. This included contributions from the Air Quality, Biodiversity, Forest, Integrated Global Water Cycle Observation, Energy, Geohazards, and Coastal Zone CoPs on how they link their activities to users.

## **2.4 STC/CBC/ADC Coordination Activities**

The UIC has continued activities in support of various other Committee efforts, including the CBC-UIC Call for Proposals, the STC GEO Label concept and Continuity Indicators effort (both still in the early phases), and ADC activities centering on support for the GCI. The CFP seeks to promote practical applications of Earth observations for improved decision making and to highlight specific examples of how Earth observations can benefit society. In 2010 GEO received 72 full proposals in the four areas of focus: 18 in Agriculture, 2 in Energy, 13 in Health, and 39 in Water. For each SBA, a dedicated Review Panel has reviewed the proposals. In 2011, for selected proposals, the GEO

Committees worked to broker connections between proposals and resource providing organizations. Joint STC activities also encourage the UIC to link with and understanding of various user communities, through mechanisms such as CoP, and will continue to be addressed in the UIC Activity Plan for 2011-2012.