

TASK-ST-09-02: Promoting Awareness and Benefits of GEO

Task Description

Area	Science and Technology
Overarching Task	ST-09-02: Promoting Awareness and Benefits of GEO in the Science and Technology Community
Sub Task	n/a
Related Communities of Practice	-
Relevant Committees	-

Task Definition

Promote awareness and benefits of GEOSS in the scientific and technological communities in order to engage the research community in GEO and GEOSS with the goal to achieve breakthroughs in the understanding of the Earth's changing environment and global integrated Earth system. The scientific community should collaborate within GEO to address interactions between the components of the global integrated Earth system, and connect natural and socioeconomic sciences. Related activities will include: (i) Form links with major scientific research enterprises in each societal benefit area; (ii) Actively encourage relevant scientists and technical experts to contribute to GEOSS in a truly participatory way; (iii) Reach out to the world's diverse scientific and technological communities and make GEOSS more visible and attractive to them; (iv) Contact universities and laboratories to involve them in GEOSS activities; and (iv) Organize a GEO presence at major symposia and other meetings, for example through plenary presentations or side events.

Leads

Type	Member or PO	Implementing Entity	Contact Name	EmailAddress
Task Lead (PoC)	IEEE	IEEE	Hans-Peter Plag	hpplag@unr.edu
Task Lead	COSPAR	n/a	Nadine Gobron	nadine.gobron@jrc.it
Task Lead	COSPAR	n/a	Jean-Louis Fellous	jean-louis.fellous@cosparhq.cnes.fr

Motivation/Background



(Why should this Task or sub-task be implemented? What relevance to society? What is the state of the art?)

(Motivation) Scientific and technological knowledge and research are vital to our understanding of the global integrated Earth System. The nine interdependent GEOSS SAs require an inter-disciplinary scientific approach cutting across observations, research, knowledge and information.

A strong engagement of the Science and Technology community in GEO and GEOSS would contribute to:

1. Connect disciplines to address the complex issues of the global integrated Earth system;
2. Improve interoperability between global observing systems, modeling systems, and information systems;
3. Facilitate data sharing, data archiving, data dissemination, and reanalysis;
4. Optimize recording of observations, assimilation of data into models, and generation of data products to improve understanding of the global integrated Earth system for prediction of environmental phenomena;
5. Enhance value of global observations from individual observing systems through their integration in the societal benefit areas; and
6. Harmonize well-calibrated, high-accuracy, stable, sustained in-situ and satellite observations of the same variable recorded by different sensors and different agencies.

(Societal relevance) Considering this list of mutual benefits for GEO and GEOSS and S&T communities, it is clear that all SBA tasks of the 2009-11 Work Plan would benefit from a substantial engagement of relevant S&T communities in GEO.

(State of the art) While some S&T communities are already actively contributing to GEO Work Plan Tasks, other S&T communities are not thoroughly aware of GEO and the benefits of GEOSS. A number of the major international scientific organizations are already POs. Many national scientific and research organizations are involved at Task level. But there are gaps in the participation of relevant S&T communities. These gaps in participation have not been mapped systematically and thoroughly for the nine SBAs, and no overarching plan has been developed to close these gaps.

In order to close these gaps, adequate links have to be established between GEOSS and those relevant R&D and S&T communities presently not involved in GEO.

Over the past years, GEO has made significant effort to engage a larger segment of the S&T communities in GEO. A number of GEO workshops or workshops co-sponsored by GEO involving S&T communities have increased awareness of GEO in these communities and beyond. Examples are the Earth observation meetings organized by IEEE, workshops and symposia organized under the lead of the Forest, Coastal Zone, Geohazards, and other CoPs, regional GEOSS meetings such as the Asia-Pacific and the GEOSS in the Americas symposiums. National GEO groups and CoPs have organized symposiums and Town hall meetings at major scientific conferences, for example, US-GEO at AGU meetings. Publications in scientific journals and other media have also contributed to increased knowledge of GEO. Some national and regional research funding programs have made reference to GEOSS.

However, up to now, these activities to a certain extent resemble a bottom-up approach, depending largely on the initiative of national groups and individuals. There is a lack of a comprehensive and focused outreach and engagement program, to which these necessary bottom-up activities could be linked, and on which the promotion, fostering, and facilitating of necessary top-down activities could be based.

Current Status

Outputs

Description	By Date
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Activity 3.3 has resulted in the submission of for “compelling examples” which are currently under review by the ST-09-02 Team. Further examples are solicited. The submitted examples are available at http://www.geo-tasks.org/st0902/ .	
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Activities

Description	By Date
ST-09-02 Kick-off meeting, Frascati, Italy	Q3 2009
The European Commission included in the CfP for 2010 a topic on quality assessments of google-like services. A project, if awarded, could provide input for the development of a concept for a GEO label (Sub-Activity 2.2).	Q2 2009
IEEE has started to compile a list of conferences (Sub-Activity 5.1).	Q1 2009
At the Aerospace Conference (6-13 March 2010) there is a Section “Global Earth Observation System of Systems , Architecture, Data Management and Applications” Co-Chairs: Kathleen Fontaine, NASA and Mirke Antonini, University of Rome.	Q2 2010
At IGARSS 2009, a number of sessions and presentations focused on GEO/GEOSS issues were included (see the report of IEEE).	Q4 2009
GEOSS Workshop XXVII: The GEOSS Workshop XXVII Understanding the Integrated Ocean Observation System, Including Sub-surface Sensors was held on Sunday, May 10, 2009 at the Congress Center Bremen in Bremen, Germany in association with the IEEE OES Oceans '09 meeting. The workshop was hosted by the IEEE Committee on Earth Observations (ICEO) and the IEEE Oceans Engineering Society (OES). The focus of the workshop was the status and future of ocean observation systems within the context of GEOSS. The Workshop explored the status of existing ocean observation systems and data portals for the Global Earth Observation System of Systems. The discussions were focused on the ability to build on existing systems to develop a global coordinated information and data system for ocean monitoring. This would improve understanding of the dynamics of the deep-ocean processes throughout the ocean water column. The workshop addressed as well the strategic GEOSS scientific issues for the development of Ocean Observatories and is a contribution to the GEO tasks ST-09-01 and ST-09-02. Moreover, the workshop contributed to the requirements of GEO subtask AR-09-03c (Sub-Activity 5.3). More information on the Workshop is available at the IEEE GEOSS Workshops Page (http://www.ieee-earth.org/Conferences/GEOSSWorkshops). An overview of the Workshop is provided in the Proceedings available there. The Workshop resulted in a number of recommendations, which have been submitted to the GEO Secretariat.	Q3 2009
A joint GEO/GGOS/IGCP 565 Workshop titled “Towards a Roadmap for future Satellite Gravity Mission” was held in Graz, Austria, on September 30 - October 2, 2009, and this	Q3 2009

workshop introduced a science community to GEO and GEOSS and relevant Work Plan tasks and produced a declaration for the GEO Plenary. Observation of gravity from space are, among others, an important element of water cycle observations, an linking the research community to GEO tasks provides new and urgently needed S&T support to these tasks. Full information on the workshop, including all outputs is available at http://www.iqcp565.org/workshops/Graz .	
The IGOS Achievements Symposium was organized on November 19, 2009, in Washington, D.C., USA, as a part of ST-09-02 activities with Stuart Marsh, U.K., being the link between ST-09-02 Task Team and the Program Committee.	Q2 2010
A Union Session on GEOSS was organized at the Fall AGU Meeting (December 14-18, 2009 in San Francisco; co-conveners were Kathleen Fontaine, NASA, Hans-Peter Plag, University of Nevada, Reno, and Nadine Gobron, JRC, European Commission).The session had xxx presentations, many underlining the importance of GEOSS services for science and research. Several presentations are key candidates for "compelling examples" (activity 3.3) and the authors will be contacted.	Q4 2009
At the ISPRS Technical Commission VIII Symposium, 9-12 August, Kyoto, Japan, two sessions on GEOSS will be organized.	Q3 2010

Resources

Description	By Date
Currently, the available resources for the task are mostly limited to commitments of individual task team members.	Ongoing
The European Commission has included relevant topics addressed by ST-09-02 in the 2010 FP7 CFP, and is aiming to include further topics - where appropriate.	Ongoing

In Planning

Outputs

Description	By Date
High-level list of relevant major scientific enterprises (activity 1).	Q2 2010
List of target scientific enterprises for linkage/integration (activity 1).	Q3 2010
Workshop reports; 2011-2012 (activity 1).	Q4 2011



Draft GEOSS citation and citation rules (activity 2).	Q1 2010
The draft "GEO Label" concept; (activity 2)	Q1 2010
List of core scientific datasets not yet registered in GEOSS and potential sources (activity 2).	Q3 2010
Proposal for a set of GEOSS promotion material targeted for relevant S&T communities (activity 3).	Q4 2009
An on-line annotated GEOSS Slide Library (activity 3).	Q2 2010
A list of "GEOSS at Work" examples that can be derived from GEO Tasks (activity 3).	Q4 2009
List of relevant major scientific conferences (activity 5).	Q2 2009
GEOSS-related Sessions at IGARSS, AGU, EGU, COSPAR, AOGS.	Ongoing
Draft high-level prospectus for major SBA-specific symposia (activity 5).	Q4 2010
Established links between major S&T activities at universities and GEO tasks.	Ongoing
Increased awareness of university programs about GEOSS (activity 4).	Ongoing
Targeted promotion of transition from research to operational (activity 4).	Q2 2010

Activities

Description	By Date
(1) In order to foster links with major scientific research enterprises in each SBA, the following steps are planned:	
<ul style="list-style-type: none"> 1.1 establish or identify a high-level list of major scientific research enterprises necessary for GEOSS; (use input from Task leads to identify major scientific enterprises involved and/or missing from the tasks in coordination with Task ST-09-01; ICSU to take the lead). 	Q2 2010
<ul style="list-style-type: none"> 1.2 identify the key organizations currently not linked to GEO and find mechanisms for effective and efficient linkage to these organizations, for example, through POs, the GEOSEC, or targeted workshops. 	Q4 2010
<ul style="list-style-type: none"> 1.3 organize, support, launch, or initiate, where necessary, workshops to network the new organizations with relevant Task Team and CoPs in the different SBAs. 	Q4 2012
(2) Encourage relevant scientists and technical experts to contribute to GEOSS in a truly participatory way. That will result in two levels of activities, i.e. by creating an environment	



that is generally attractive for scientists and technical experts, and by specifically targeting relevant groups:	
<ul style="list-style-type: none"> 2.1 (Roadmap 2a) Getting GEOSS acknowledged: In the scientific community in particular, recognition and renown are important currencies. In order to increase the attractiveness of GEO and GEOSS for scientists, their contributions must be acknowledged visibly when others use it to their benefit. A GEOSS citation standard will be proposed by the end of 2009 and its use will be promoted thereafter. 	Q4 2009
<ul style="list-style-type: none"> 2.2 (Roadmap 2b) Establishing a "GEO label". Develop a concept for a "GEO label" related to the scientific relevance, quality, acceptance and societal needs for activities in support of GEOSS as an attractive incentive for involvement of the S&T communities. A draft concept will be proposed liaising with existing major Earth observation data providers. 	Q2 2010
<ul style="list-style-type: none"> 2.3 (Roadmap 2e) Enhancing registrations of relevant scientific data sets. Increase relevance and benefits of GEOSS registries for scientific communities as a means for dissemination and a source of core data sets, which are often produced by science organizations and needed for both research and GEOSS services. Accomplishing this through targeted contacts with relevant groups will dramatically increase the acceptance of GEOSS in the S&T communities as a resource for accessing scientific data and further motivate registration. 	ongoing
(3) Outreach to diverse scientific and technological communities in order to make GEOSS more visible in and attractive to these communities will entail a number of steps:	
<ul style="list-style-type: none"> 3.1 Propose, stimulate, foster and monitor production of promotional material, including but not limited to scientific publications on GEOSS products and services, leaflets catered for S&T communities, and web pages with specific information for S&T users and/or contributors to GEOSS. 	Q4 2010
<ul style="list-style-type: none"> 3.2 Support outreach of GEO Principals, Committee members and other delegates to S&T communities by the provision of a slide library (ppt) that can be used to compile with small effort customized presentation on GEOSS aspects. 	Q3 2009
<ul style="list-style-type: none"> 3.3 (Roadmap 2d) Showing GEOSS at work. Support broader involvement of S&T communities by a set of compelling examples showing how GEOSS serves S&T communities in their work. Suitable examples will be identified in cooperation with GEO Tasks and the provision of the examples through the tasks will be promoted. The examples will be accessible through the GEO web page and/or the GEO portals and publicized in reports and at conferences. This activity will strongly feed into the preparations for the Ministerial in 2010. 	Q4 2010



(4) Specific efforts will be made to contact universities and research laboratories with the goal to involve them in GEOSS activities. Steps towards this goal include:	
<ul style="list-style-type: none"> 4.1 Disseminate information about GEOSS towards major university cooperation programs and research network identified under (1). 	
<ul style="list-style-type: none"> 4.2 Establish proactive collaboration between S&T activities at universities and labs identified under (1) and relevant GEO tasks. Examples of such activities are the Earth System Atlas. 	Q4 2010
<ul style="list-style-type: none"> 4.3 If activities are found to be of appropriate scope and level, promote a transition from research to operational. 	Q4 2010
(5) A key element in the outreach to and engagement of the S&T community is the presence of GEO at major symposia and other meetings on different levels. The steps planned include:	Q4 2010
<ul style="list-style-type: none"> 5.1 Identify major scientific conference and facilitate plenary presentations on GEO and GEOSS in relevant sessions (IEEE to lead). 	ongoing
<ul style="list-style-type: none"> 5.2 Work with the scientific organizations convening major scientific meetings to include specific session on GEOSS-related topics, including high-level union sessions, and work on this, if appropriate, with GEO CoPs. Near-term goals are sessions at the International Geoscience & Remote Sensing Symposium (IGARS), July 2009, Fall AGU 2009, the EGU 2010, COSPAR Scientific Assembly, July 2010, and the AOGS 2010. 	ongoing
<ul style="list-style-type: none"> 5.3 Organize or promote organization of side events at major scientific meetings, including GEO town hall meetings, exhibition booth, and open GEO Committee meetings (or parts of these meetings) with reports on GEO activities catered for a broader scientific audience. With respect to the four GEO Committees, it will be promoted that at meetings co-located with major science conferences, open sessions are included with a few presentations on science-related activities (task reports); on-going. 	ongoing
<ul style="list-style-type: none"> 5.4 Develop a plan and high-level draft prospectus for a series of SBA-specific major conferences to be convened before 2015 either for all or most of the SBAs. 	Q4 2010

Resources

Description	By Date
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Currently, the available resources for the task are mostly limited to commitments of individual task team members.	Ongoing
The European Commission is aiming to include relevant topics addressed by ST-09-02 in CfP where appropriate.	Ongoing
A European consortium has submitted a proposal in response to a FP7 call, which will, if funded, address several of the planned activities. The Task CoP of ST-09-02 and ST-09-01 are members of the Participants Network of the Proposal. Response from the Commission is expected mid 2010. The proposal is for a period of three years.	Q3 2010

Cross-cutting Components

Architecture and Data

1) Please briefly describe any task-related Earth observation resources (data set, system, website/portal) and any related Web Service interfaces that are contributed to GEOSS. State whether these items are or will be registered with the GEOSS Component and Service Registry for access via the GEO Web Portals, and whether any associated standards or other interoperability arrangements will be registered in the Standards and Interoperability Registry.

2) Please also describe what data and information your activity/system needs that you would request to be accessible through the GEOSS Common Infrastructure.

Capacity Building

(capacity building is defined to include the development of capacity related to: (i) Infrastructure and technology transfer (Hardware, Software and other technology required to develop, access and use EO); (ii) Individuals (education and training of individuals to be aware of, access, use and develop EO) and (iii) Institutions – building policies, programs & organizational structures to enhance the value of EO data and products).

1) In accordance with the above definition does this Task have a capacity-building component? If so, please provide a short description of this component including a description of end users.

2) Have any additional CB needs for this Task been identified? Please provide a short description.

The task aims to reach out to and engage all relevant S&T communities including those in less developed regions. Therefore, the task will have to either develop specific capacity-building activities (not yet included in the planned activities) or promote these together with the CBC.

This task definitely has considerable CB needs in order to engage the S&T communities in a number of regions both as contributor, user and facilitator of uses of GEOSS. Particularly in developing countries, the local S&T communities will have a pivotal role in adapting GEOSS products and services for applications. For that, CB needs will be considerable.

Science and Technology

1. Please briefly describe the elements of scientific research or technological development contained in this Task

2. In relation to the S&T component(s) of this Task, please describe gaps, priorities, continuity needs, barriers, scientific expertise and additional resource needs (this information will be used for developing a gaps and needs assessment in Task ST-09-01)

The task is cross-cutting in its nature. All task activities cover the nine SBAs and are relevant to all Committees, although with main relevance for the STC. The task activities also related to several CoPs, in particularly those with a stronger scientific component.

User Engagement

Please briefly describe to what extent end users are engaged in this Task and influence the nature of the outputs produced

'Users' for this task are mainly the S&T communities relevant for GEOSS, who also are potential providers. In a sense, this task is strongly focused on scientific user engagement, and many of the activities are focused solely on this engagement.

Contribution to Outputs and Activities Above

UK

IGOS Achievements Symposium organisation as a part of ST 09 02.

CEOS

IOCCG: Highlight CEOS contribution (OCR Constellation) to achieving GEO goals at the OceanObs Conference in 2009.

EC

European Commission funds research projects in the domain of GEO through the FP7 tool. A special sub-activity under the Environment theme is foreseen with focuses on the development and integration of observation systems for environmental and sustainability issues in the context of GEOSS. It should contribute to making systems interoperable and to optimise the information for understanding, modelling and predicting environmental phenomena, and for assessing, exploring and managing natural resources. A central goal within this sub activity is to bring the European efforts into the global context, as foreseen within GEO. All these projects are directly monitored by the EC and therefore strictly related to GEO.

However, there are many other projects and initiatives within the Commission, aimed at funding projects outside GEO context that could be easily brought under GEO framework. A list of potential projects has been recently prepared, and both project officers and project coordinator have been invited to the 3rd GEO European Project Workshop to be held in Istanbul on 8-9 October. The intention of this series of workshops is to develop the collaboration between the Earth Observation activities and projects financed by the EU and to consolidate the European contribution towards GEOSS.

Projects funded by the EC in the context of GEO are free to identify synergies with other EC funded projects, planning to collaborate better in order to contribute to and benefit from GEOSS. Research Projects in other fields (Climate Change, Environmental Technology, Infrastructures), ERA-NET initiatives like BONUS can have in their domain projects with a potential contribution to GEO. EC triggers all GEO related projects to find such synergies. Part of the budget delivered to projects is always reserved for participating in meetings, upon request by the EC, where the project objectives and outcomes (of a public nature) will be presented in the perspective of contributing to common approaches and sharing of best practices. Such concertation activities may foresee up to two meeting per year, covered by project funds, with the presence of project representatives.

One of the goals of the recently funded EC project EuroGEOSS is demonstrating the added value given by GEOSS. EuroGEOSS will disclose systems that were not available before, adding something at global level. Another important element is that for the moment GEOSS registries only contain what already exists, while EuroGEOSS has the goal of proving added value of being part of GEOSS activities. There will be three thematic area (Drought, biodiversity and forestry) where EuroGEOSS will introduce interoperability among existing systems, extending operating capacity.

One of the latest proposals awarded by the EC within ENV 2009 call, the EUGENE project, has as a main object organising a series of workshops and other activities, with the intention of strengthening European GEO component, giving a higher level of visibility and involvement at the political level.

The project will be operational from October 2009 on. Currently there are three workshops foreseen in three different SBA's, namely Climate, Disasters, and Water. In the short term, EUGENE will yield concrete contributions to the next GEO Ministerial summit in 2010. This will intensify the global impact of European GEO activities and facilitate international networking. EUGENE will mainly, but not exclusively, address the major relevant European Organisations and Programmes in the field of earth observation, with regard and complementary to GMES, INSPIRE and FP7 GEO projects.

EC is about to open a new call for proposals, namely EC FP7 ENV 2010, where a dedicated project will be awarded to support strategic GEO related S&T activities, promoting awareness and benefits of GEO in the S&T Community as foreseen in ST-09-02 task. The project will also be oriented towards facilitating the registration of data in the GEOSS, including existing data bases, data being developed, research data, operational data. Currently all GEO-related EC projects commit themselves to register into GEOSS registries, and to take part of initiatives as AIP (former AR-07-02, now AR-09-01b). The expected impact is a full interaction and engagement of relevant European and International science and technology communities into GEOSS implementation such that GEOSS is strongly supportive of scientific and technological development while integrating advances in technology and latest Earth observation science in its development and operation. The call will be open until 5th January 2010, and the start of this project is foreseen mid-2010. This new project will also coordinate within the European Members of GEO and the EC a process involving different EU potential contributors of GEO, with the aim to take advantage of the European Scientific and Technological strengths in building the GEOSS and to facilitate access to global information and knowledge to the benefit of European stakeholders. The view should be to prepare a sustainable process to support the interaction between the GEOSS and the European Science and Technology stakeholders for all Societal Benefit Areas and for the Transverse activities areas. The upcoming project within 2010 call will contribute to promoting synergies between European projects and between European Research Programmes (including projects from the EC FP7 programme, National projects, pan-European and Regional programmes).

Two other topics within the same call are here worth to be mentioned. One will contribute developing a Global Observation System for Mercury. The Commission suggested that the topic contributes developing a global monitoring system able to predict the spatial distribution of atmospheric mercury deposition loads to and fluxes from terrestrial and aquatic receptors for current and projected scenarios of economic development strategies on the environment. Based on results from past EU research projects, long-term data set from different locations will be provided, improving current mercury monitoring and observing system. The awarded project will be contributing to GEO task HE-09-02d and related tasks in other SBA's, all being relevant for the S&T community. The second topic deals with the integration into GEOSS of new data visualisation approaches of Earth Systems. The European Commission aims at developing mechanisms and protocols enabling the mining, screening and quality-control of EO data used in visualisation Google-like web services registered in the GEOSS and used in such data visualisation applications by the science community and operational users. Proposals should contribute to the development of a GEO S&T label that is broadly acknowledged in the Science Community.

Regional/National activities within Europe are monitored by the EC with the help of HLWG, which meets twice a year and reports on GEO initiatives in Member States. Interactions with new Earth observation centres or Earth observation data management networks are frequent. The recently established UK Centre for Earth Observation is located in the University of Reading with 26 institutions from the UK, covering areas including Climate Research, Water Cycles, Data simulations and Data management has been presented at GEPW2 in Stresa. The GIIDA initiative from Italian CNR, currently building a multidisciplinary infrastructure related to management of Earth and environmental data at national level with the same logic of GEOSS (a sort of GEOSS clone in Italy), is also monitored. Leading scientists of this network have a good knowledge of GEOSS, some of them even lead or contribute to GEO tasks.

Since 2008, as part of their dissemination plan, the projects funded by EC have to commit in producing appealing multimedia material showcasing to the public at large the activities performed. This includes material at both the early and late stages of the project, comprising as a minimum, a public web site, leaflets, a set of re-usable illustrations and a few short stand-alone videos for use by the project and the EC in various events. Such videos shall be downloadable from the project web site and from other widely visited media.

Although an EC funded project under FP7 tool is limited in time, without foreseeing an operational phase, the maintenance of the portal and the availability of data have to be covered beyond the end

of the project. This can not guarantee a transition from research to operational, but guarantees at least the sharing of collected data, according to GEO principles. Calls for follow-up of a project could be issued, but this is something not yet predictable by today.

The EC is also active in taking part of workshops on relevant subjects for S&T communities. The GEOSS Workshop on Understanding the Integrated Ocean Observation System, Including Sub-surface Sensors, recently organized by IEEE in Bremen, in association with the IEEE OES Oceans '09 meeting, was a good occasion to promote S&T goals and roles within GEOSS. The workshop, mainly addressing ocean research topics, drafted some recommendations, sponsored by the Science Community, and transmitted to the GEO Secretariat and appropriate GEO committees for their consideration.

ESA

ESA will support EC in this task.

IAG

Activity 5.2: IAG through GGOS contributes to a number of sessions, workshops and events that link GGOS and Earth science to GEOSS. At these conferences, key note lectures emphasize the links between GGOS and GEOSS and thus inform the audience about the role of GEOSS for science, and they make a point of the importance of science and technology for GEOSS. Recent examples are the IGARSS 2009 in Cape Town, South Africa, IAU General Assembly 2009 in Rio de Janeiro, Brazil, the IAG Symposium 2009 in Buenos Aires, Argentina, and sessions at the AGU Fall meeting, San Francisco, USA.

GGOS also brings science communities to relevant GEO Workshops and organizes science-oriented workshops relevant to GEO in cooperation with GEO. An example is the workshop "*Towards a roadmap for future satellite gravity missions*" held on September 30 to October 2, 2009, which was jointly organized with the IGCP 565 Project, ESA, NASA, and GEO. At major scientific conferences, GGOS organizes specific sessions related to GGOS and invites routinely presentations which address the GGOS contributions to GEOSS. These presentations inform the scientific audience about GEOSS.

IEEE

Activity 3.4: Save Earth Game: The IEEE Committee on Earth Observation launched a pair of computer-game design contests referred to as the SaveEarthGame. In phase 1 (idea contest), contestants were asked to create a concept for a computer game using Earth observations that addresses areas such as disaster prevention, energy conservation, and climate control. IEEE received over 30 entries for this first phase. And these are still in the judging phase (delayed due to schedule conflicts). Among the judges are Susan Gold (IGDA - Independent Game Developers Assoc - Education SIG Chair and co-founder of Global Game Jam), Rob Simmon (lead designer and visualizer for NASA Earth Observatory), Donna Horne (co-founder ZoomPool, a green web 2.0 service company), and Michael Odell (Director of School of Education @ Univ. of Texas-Tyler), and Raymond Yan (DigiPen). The plan is to have a list of subject matter experts up by the end of summer, probably doing a Q&A with as many as possible to post on the website.

Activity 5.1: IEEE has a complete list of conferences that the IEEE touches, which contains currently 976 events. This list will be examined in order to determine where GEOSS can be promoted. The IEEE Committee on Earth Observations has several Societies involved. Below is a list of the top 10 conferences in attendance that are sponsored by one of those Societies as a starting point:

- 2008 IEEE International Conference on Microwaves, Communications, Antennas and Electronic Systems (IEEE COMCAS 2008)
- 2008 IEEE Radio and Wireless Symposium (RWS)
- 2008 IEEE Wireless Communications & Networking Conference (WCNC)
- 2008 IEEE Radar Conference
- 2008 IEEE International Symposium on Electronics and the Environment (ISEE)
- 2008 International Symposium on Communications and Information Technologies (ISCIT)
- 2008 IEEE International Symposium on Technology and Society (ISTAS)
- 2008 International Joint Conference on Biomedical Engineering Systems and Technologies (BIOSTEC)



- 2008 IEEE Aerospace Conference
- 2008 Microwave Radiometry and Remote Sensing of the Environment (MICRORAD 2008)
- 2008 IEEE International Symposium on Geoscience and Remote Sensing

Activity 5.2: In IGARSS Dr. Jose Achache, was scheduled to give a keynote presentation: "Reflections of the successes and prospectus of the Global Earth Observation System of Systems"

There was a Panel Discussion: "GEO/GEOSS Collaboration-Opportunities in Global Earth Observation" Cp Chairs: Robert Scholes, CSIR, and Michael Turner

In IGARSS there are 2 Tracks that specifically call out GEOSS:

GEOSS Implementation-Uniting Perspectives. Chair: Jay Pearlman

- INSPIRE: A European contribution to GEOSS
- Implementation of the GEOSS architecture using open geospatial consortium (OGC) standards for geoinformatics
- Global earth observation system of systems capacity building in Africa
- Human capital development: The key to unlocking the full potential for space science applications

A Quality Assurance framework for Earth Observation (QA4EO) to Underpin GEOSS with a Particular Emphasis on Climate Change through Optical Based Sensors II. Co-Chairs: Stephen Ungar, NASA and David Llewellyn-Jones, University of Leicester

Some needed standards and best practices for calibration and validation of remote sensing data Global change observation mission

Radiation transfer models and QA4EO: Current and future efforts for traceability and validation

The moon as a radiometric reference source for on-orbit sensor stability calibration

An assessment of African test sites in the context of a global network of quality-assured reference standards

There was a scheduled meeting "GEO/GEOSS follow on discussion; Further African collaboration on GEOSS activities. Convenors: Bob Scholes, Jay Pearlman, Alex Fortescue.

At the Aerospace Conference (6-13 March 2010) there is a Section "Global Earth Observation System of Systems , Architecture, Data Management and Applications" Co-Chairs: Kathleen Fontaine, NASA and Mirke Antonini, University of Rome

In the Africa GIS 2009 (an ISPRS sponsored conference) website (26-30 October 2009) there is a hot link to GEOSS Workshop XXX: Disaster Management and Humanitarian Assistance for the Global Observation System of Systems-GEOSS.

University of Nevada, RenoUNR brings in the IGCP 565 Project, which is lead by an international team of geodesists and hydrologists. This R&D project provides a platform for a cross-discipline dialogue related to the monitoring of the global water cycle and brings several science communities (including geodesy, hydrology) into GEO Task Teams and Community of Practice. UNR also provides the PoC for ST-09-02.

Participation

Type	Member or PO	Implementing Entity	Contact Name	EmailAddress
Task Lead (PoC)	IEEE	IEEE	Hans-Peter Plag	hpplag@unr.edu



Task Lead	COSPAR	n/a	Jean-Louis Fellous	jean-louis.fellous@cosparhq.cnes.fr
Task Lead	COSPAR	n/a	Nadine Gobron	nadine.gobron@jrc.it
Task Contributor	CEOS	IOCCG	James Yoder	jyoder@whoi.edu
Task Contributor	China	n/a	Wen Hongtao	kjsdeve@cma.gov.cn
Task Contributor	Denmark	DMI	Jun She	js@dmi.dk
Task Contributor	Denmark	DMI	Erik Buch	ebu@dmi.dk
Task Contributor	ESA	n/a	Jean Louis Fellous	jean-louis.fellous@esa.int
Task Contributor	ESA	n/a	Bruno Greco	bruno.greco@esa.int
Task Contributor	ESA	n/a	Jerome Bequigon	jerome.bequigon@esa.int
Task Contributor	European Commission	DG-RTD	Gilles Ollier	gilles.ollier@ec.europa.eu
Task Contributor	European Commission	n/a	Vojko Bratina	vojko.bratina@ec.europa.eu
Task Contributor	France	Meteo-France	Pierre Bauer	pierre.bauer@meteo.fr
Task Contributor	IAG	n/a	Susanna Zerbini	susanna.zerbini@unibo.it
Task Contributor	ICSU	n/a	Gisbert Glaser	gisbert.glaser@icsu.org
Task Contributor	IEEE	n/a	Russell Lefevre	r.lefevre@ieee.org
Task Contributor	IIASA	International Institute for Applied Systems Analysis	Michael Obersteiner	oberstei@iiasa.ac.at
Task Contributor	IIASA	n/a	Steffen Fritz	fritz@iiasa.ac.at



Task Contributor	South Africa	n/a	Humbulani Mudau	humbulani.mudau@dst.gov.za
Task Contributor	Spain	Instituto Espa	Gregorio Parrilla-Barrera	gregorio.parrilla@md.ieo.es
Task Contributor	Turkey	TUBITAK	Tamer Ozalp	tamer.ozalp@tubitak.gov
Task Contributor	United Kingdom	IGOS Themes	Stuart Marsh	shm@bgs.ac.uk
Task Contributor	United States	NASA	David Halpern	david.halpern@nasa.gov
Task Contributor	WMO	RES	Jim Caughey	jim.caughey@gmail.com