

**Thirteenth Meeting of the
GEO Science and Technology Committee**

**The Scientific and Technological Research Council of Turkey (TÜBİTAK), Ankara
24-26 March 2010**

DRAFT MEETING RECORD

Annex 1: Meeting Outcomes and Actions

Annex 2: Agenda

Annex 3: List of Participants

1. Introduction (Chair: S. Minchin)

Opening remarks from the STC Co-chairs:

The Co-chair representative from Australia, S. Minchin opened the meeting by welcoming participants, and thanking the meeting hosts for setting high standards. S. Minchin said that it was an important year for GEO with respect to the Ministerial Summit preparations, and welcomed presentations from Turkish participants.

The Co-chair representative from Germany, J. Hoffmann echoed by thanking the hosts for the efforts involved in organizing the meeting and was happy to see the core group present. He remarked that the last four months had been characterized by routine operations and regular telecons which have helped conducting meeting follow-ups and reiterated that the tasks ST-09-01 had been fairly active and progressive, and highlighted that the European Space Agency (ESA) was taking the lead on the Work Plan review. The fundamental objective was to have Turkish participants engaged their research community further and looking forward to work on the review of disaster SBA.

T. Newby informed the Committee that Val Munsami sent his regrets that he could not attend the meeting and wished the participants a successful meeting.

The Co-chair representative from United Kingdom, S. Marsh also thanked the meeting hosts and looked forward to the review of the Disaster SBA. He reported that UK had currently gone through interesting changes by launching of UK Space Centre that included partners from among 14 organizations. He then informed the Committee of the establishment of the UK GEO Coordination Project which will be sponsored by the National Environmental Research Council (NERC) and the UK Space Centre. He also indicated that he was pleased to be Co-chairing for the first time from geological perspective.

The participants made a roundtable introduction.

T. Kutser, Representative from Estonia to host the future Committee Meeting.

The 13th STC meeting agenda was approved and 12th STC meeting record was approved with minor changes.

Action: D. Cripe to make changes and post on GEO website. [31 March]

2. Status of Actions

It was reported that most of action items that were decided at the 12th STC Meeting were closed and the remaining open ones would be closed as a result of the 13th STC meeting. It was also agreed that

the Water SBA review be presented at the 14th STC meeting in Pretoria on 20 May 2010.

3. Report on ST-09-01

Discussions

- K. Fontaine briefly described the ST-09-01 task, its purpose, and activities. She highlighted aspects of the tasks by activity and progress to date based on the January task sheet update. Ms. Fontaine reported that the task team has developed questionnaires in order to determine gaps, needs, and other issues surrounding resources on a task-by-task basis (Activity 3). The task team identified the following set of questions oriented to Task Leads:
 1. What scientific and/or technological components and/or developments are being used to complete this task?
 2. Do you have sufficient expertise to complete the task? If not, what is missing?
 3. Do you have sufficient resources to complete this task? If not, what do you need? (Resources can be defined as funding, data, in-kind support, or any other element.)
 4. Are there any scientific or technology (or other) barriers or scientific and technology gaps that you foresee that might prevent you from completing this task within the Work Plan time frame? Please describe the need.
 5. What continuity issues (if any) have you identified that should be addressed? (these could be sensor, modeling, technology, observation, or other relevant topic)
 6. Please describe any science or technology (or other) priorities that have arisen during the completion of this task.
 7. Please describe any other issues of relevance to your task that you believe may be of interest to the STC.
- Ms. Fontaine stressed the need for representation from the science community, in the various SBAs and in the technology areas, and regarding the analysis of the answers to these questions. The composition of groups who will review questionnaire is still open. It was also indicated that it would ideal to interview all the Task Leads during the Work Plan Symposium.
- F. Bérout (European Commission) reported that Activity 2 (assembling a list of commercial resource providers) was pending and needed guidance from the Executive Committee on the appropriate level of interaction between GEO and the private sector.
- It was also suggested that there would be a need to go to private sector to help fill the gaps. Open Geospatial Consortium (OGC) ready to organize workshops.
- S. Marsh commented, based on the experience with NERC, that the process of building a UK GEO had been, in the 1st phase, a matter of funding acquisition; in the 2nd phase, developing a more strategic view of UK involvement; and in the 3rd phase needing to find a “quick win,” such as funding an activity that could produce tangible results, quickly. In this perspective, the United Nations Reducing Emissions from Deforestation and Forest Degradation (REDD) had been chosen to to receive UK contributions.
- S. Newby noted that Italy was also working on providing resources to initiate a national GEO, and that Italy should be included as a contributor in the task sheet.

Action: Task PoC (K. Fontaine) to include Italian Space Agency as task contributors. [30 April]

- J. Caughey reported that World Meteorological Organization (WMO) considered this task very important and identification of new resources was critical to developing global activities. WMO has responded to EC calls to respond to gaps but results have not been as successful as hoped, especially for African work.
- J. Hoffmann requested if the level of feedback was adequate and whether there was a need for STC support.
 - K. Fontaine replied that the feedback was going slowly and answering questions by email would be difficult, and suggested the face-to-face or even phone interviews would be more effective.
- J. Hoffmann raised the issue on how STC could interact with tasks, and suggested if Secretariat experts could serve as mentors and also help conducting interviews.
 - D. Cripe responded that it could be possible, especially if STC members were also sharing the load.
- S. Minchin requested if there was progress from US-09-01a.
 - K. Fontaine: informed the Committee that eight reports were completed, and the 9th report would not be ready before the Ministerial Summit. The reports were prepared based on existing documents. Several gaps have surfaced on the report, and believed that it was a bit premature to release them.
- S. Minchin stressed that these three processes were going on and at some point there would be a need to consolidate efforts.
 - US-09-01a activity
 - Individual task reviews (under ST-09-01 and Roadmap Activity 1a)
 - ESA external panel review for IGFA
- K. Fontaine noted that US-09-01 could be considered as input to ST-09-01.
- H-P. Plag has been tasked with extracting user requirements and putting in database. Running into problems: Geohazards and Disasters are closest to gap analysis; Health is on the other end. “Use what we can get” is standard response for Malaria monitoring.
- K. Fontaine noted that, in some cases, end-users for a given SBA were not used to thinking of EO in terms of necessary parameters in existing literature. Need to follow up to see if there is an EO parameter that would fit the bill. US-09-01a reports have been reviewed by experts. In some cases, there is lots of existing literature, in other cases not.
- G. Glaser also considered ST-09-01 an important activity. Resource needs, not just financial, are essential but capacity and a resource within ICSU, there is no capacity to do anything substantial. Still trying to understand what precisely do we need now? To conduct the interviews?
- K. Fontaine pointed out that it needed a couple of activities: conduct interviews; and see if questions can be answered. It would not require research scientist to accomplish. Also Overarching reviews – are there patterns across disciplines?

Q. G. Glaser: how satisfactory are responses to email surveys?

A. H-P. Plag: responses vary considerably.

Q. D. Halpern: What does REDD stand for? What is the UK connection?

A. S. Marsh: UN Reducing Emissions from Deforestation and Forest Degradation. Several experts from carbon accounting, forest monitoring, are now formally being funded by UK.

Q. D. Halpern: interviews make reference to questions – what are they?

A. K. Fontaine: circulated to co-chairs, but not full STC. S. Marsh: questions came out of task ST-09-01a, circulated to Co-chairs who decided to use Disaster SBA review as test case.

Action: D. Cripe to circulate questions to full STC. [25 March]

Q. D. Halpern: what is connectivity of US-09-01a to this?

- A. K. Fontaine: list of parameters coming out of US-09-01 reports need to be integrated into this task.
- S. Minchin remarked that parameters would be useful to identify gaps that were not addressed in the current Work Plan, especially for future directions and S&T needs.

Q. D. Halpern: will reports be made public? On GEO website?

A. K. Fontaine: initially will be looked at by UIC, and then made public.

- F. Béroud indicated that EC was ready to support a group of experts for the review – not a huge sum, but still ready to support an expert group. Also, tasks leads should have already worked on questionnaires so that analysis could be performed at the Pretoria meeting. Need a template for WP symposium and how analysis is going to be performed.

Action: EC (F. Béroud), ESA (J. Béquignon), US (K. Fontaine) to write letter to all task leads requesting response to questions. Answers to be provided via email. [15 April]

Action: K. Fontaine responsible to set up team for processing surveys comprised of task team, GEO Secretariat, and EC volunteers. [31 March]

Action: Secretariat experts to update SBA pages. [31 March]

Action: Survey to be followed up by interviews: ST-09-01 (K. Fontaine) to prepare an interview guide and a list of interviewees, gets together with the GEO Secretariat and the ST-09-01 Task Team to assign interview partners [30 April]. Missing answers to be communicated to STC for STC members to offer to fill the residuals.

Recommendation: Secretariat Work Plan Coordinator should perform routine checks on this as part of Work Plan update.

4. ST-09-02

Discussions

In the comprehensive review of the status of the Task ST-09-02 prepared by the Task co-leads, Hans-Peter Plag put main emphasis on those task activities corresponding to activities in the STC Roadmap. He also identified issues to be addressed by the STC. Concerning a GEOSS citation standard the activities of the Federation of Earth Science Information Partners (ESIP) were considered relevant, and it was suggested to develop an initial draft for a GEOSS Citation Standard based on the work done by the Preservation and Stewardship Cluster of the ESIP. With respect to a GEO Label, it was pointed out that such a label could be mainly related to quality issue or also promotes other values. It was requested that the STC provide more guidance on what such a label should address. A number of proposals for compelling examples of how GEOSS serves S&T communities has been received and some of the proposals for Ministerial Summit showcases also would make good compelling examples. However, the further process of how to identify and publish the compelling examples would depend on how the showcases proposals not selected for presentation during the Summit would be handled in the frame of the Summit exhibition. Therefore, the STC was asked to provide clarification on that to the Task team. Concerning the identification of research infrastructure that should be transitioned to a more sustained operation, several possible procedures were presented. The STC was asked to give some guidance on the level at which such infrastructure should be endorsed/supported by GEO. The Task team has engaged in the organization of a number of dedicated GEO/GEOSS sessions and side events at major scientific conferences. Hans-Peter Plag pointed out that these dedicated sessions and side events are often likely to end up with an audience well accustomed to GEO/GEOSS. He asked whether an additional focus should be on science presentations in other sessions illustrating the benefits of GEOSS for science in order to reach many scientists who do not know GEOSS. Concerning Task Team membership, he pointed out that active membership was biased towards Europe and North America. With respect to Task leadership, he reported that IEEE was now a Co-lead and Hans-Peter Plag representing IEEE in this function as Point of Contact for the Task.

Action: S. Minchin and J. Hoffmann to elaborate GEO label in a 1-page concept paper. [30 April]
To be communicated and agreed with STC via email by co-located Meetings. [20 May 2010]

Action: D. Cripe to determine why non-member contributors and Task leads are disappearing from task sheets. [31 March]

Action: STC Co-chairs should bring question of independent expert participation in Committees under Rules of Procedure 5.3 as a gray area to the Executive Committee for clarification. [30 June]

Keynote presentation

Presentation available [here](#).

Excellent work being done in Turkey with regard to earthquake preparedness and early warning systems could form key part of seismic work being done under GEO framework. Turkey could also learn from work being done in other countries as well as share expertise, and would make good contribution to Supersites initiative. Turkish participation in GEOSS through registering data in GCI, engaging with DI-09-01b, and participating in Geohazards Community of Practice is greatly encouraged.

5. Report on STC Roadmap

Discussion

• Activity 1b: Review indicators

Q. Where is best place to include review indicators? Task sheet?

A. S. Minchin suggested that it would be best if the Task Leads handled this. He also indicated that the Task sheets are perhaps too high-level. K. Fontaine added that this activity could also be handled by M&E.

Q. J. Hoffmann: example of DEM – if it is handed to you, how do you know it is worth anything? What assurances come with it? What independent evaluation?

A. S. Minchin indicated that currently there was no mechanism for sharing this information. There is a need to find traceability. There were many different data sets being created across the Work Plan and it is not always clear where the data sets came from. Everyone does readme files differently, and no way to check on provenance of data. What was proposed was a standardized way of describing what peer-review process a given data set being used in some project. K. Fontaine reported that CEOS was attempting to do this.

S. Fritz concurred that there is no process to include metadata automatically, which should feature accuracy information, cal/val procedures, etc.

S. Marsh remarked that there is no need to over-complicate things. The activity just asks Task Leads to **identify** these indicators.

J. Hoffmann reported that M&E are mostly concerned with whether tasks are meeting “Outcomes” bullet points in strategic targets document. S. Marsh reminded the Committee to question the Task Leads on what indicators they used to determine and assess their progress, milestones, and communicate them. K. Fontaine pointed out that the usability of this task is tied directly to validity of data set produced. Those tasks that were creating data needed to have some sort of check. This is where STC could provide direction to M&E.

H-P. Plag suggested asking M&E whether they feel they are covering these S&T indicators adequately, if not STC can offer questions to push to Task Leads.

S. Minchin suggested that the Task Leads design questions that would be part of the task sheet, and then could be taken up by M&E. S. Marsh also commented to add the questions to the targeted questionnaire and get responses by Pretoria. S. Minchin remarked that task sheet reporting would provide historical track for those to check traceability.

J. Hoffmann: Summed up by noting that ST-09-02 will now take up the issue of review indicators; deadline will be based on responses to follow-up questions.

Action: ST-09-02 Task Team to address review indicators with task leads by means of questionnaire to be distributed prior to the Work Plan Symposium. [15 April]

- **Activity 1c: assessing continuity requirements.**

Q. How to move this forward? Who and by when?

S. Minchin reminded the STC that the C4 conclusion was the GCI is not ready to implement a mechanism for this. Need to keep pushing ahead. Perhaps should ask ESA review panel to also identify core continuity needs at the same time.

K. Fontaine added that the STC perspective is that need had been identified, continuity indicator identified; however ADC not yet ready to take this on board. GCI is not yet at stage to incorporate and they need to have someone on ADC or GCI CT to keep bringing this up.

- S. Minchin pointed out that there were two issues to be addressed: 1. to assess the importance of continuity, and 2. to understand the importance of applications and thus need feedback from user groups. It was known that Argo is being used by meteorological services, but there might be others. Need to know which bits of GEOSS were providing operational value to decision makers. Until we know this, hard to advocate for continuity.
- K. Fontaine: remarked that US-09-01 reports would contribute to this and should be out in May.
- S. Minchin indicated that the need to identify what receiving mechanism is for this. Hard to get action unless we know this. He proposed preparing another concept paper for this.

Action: S. Minchin and K. Fontaine to initiate process to move forward by drafting 1-page concept paper. [April 30]

- **Activity 2c: Promotion of GEO/GEOSS at Major Scientific Symposia**

J. Hoffmann concluded that the process was actually working, needs time to have impact and should carry on. H.P. Plag pointed out that the Committee would need to actively solicit papers for sessions.

The following symposia were identified:

- S. Minchin also suggested that STC need to get a session organized at ISRSE meeting in Sydney in April 2011 and organizes STC meeting simultaneously.
- H-P. Plag: GEO should also consider organizing session at IUGG
- R. Lefevre: will take it on himself to look among IEEE conferences (IGARS, AEROSPACE) to find relevant slots. Has been rather ad hoc, perhaps should be more systematic approach.
- T. Özalp: series of conferences in May at TÜBİTAK in Ankara; might also a good venue, organized with EC.
- S. Nativi: townhall meeting at INSPIRE should be organized.

- S. Marsh also indicated that the next international geology congress (IUGS) would be in Australia and could be another proposal.

H-P. Plag: expressed opinion that current ad hoc nature of planning is insufficient – need to develop more structured approach and prepare a targeted, organized conference list.

S. Zerbinì informed STC that IAG is organizing 15th conference of the Wegener program, and its 30th anniversary. One of the subjects would be global reference frame. Many sessions also devoted to earthquakes and disasters – GEO should be present (14-17 September 2010).

J. Hoffmann: so what is being done in terms of planning ahead? Is this a part of ST-09-02?

- H-P. Plag noted this activity is also included in the task web page. Efforts underway to scan web and be as comprehensive as possible.
- R. Lefevre: one thing to go to a conference and ask if a track on GEOSS will be accepted; another thing to follow it up.
- J. Hoffmann: ad hoc approach seems to have worked, the right people just need to be contacted.

D. Cripe: remarked that Secretariat experts could be asked to search web in their particular SBAs, and pass any relevant info on to H-P. Plag.

G. Glaser: World Data System being set up. Need to encourage strong link to GEO. COSPAR has also been quite active in this regard.

Action: S. Minchin to organize GEO/GEOSS session at ISRSE meeting in Sydney in April, 2011. (Note: possibility to organize STC meeting simultaneously.) [31 July]

Action: H-P. Plag to request full STC membership to identify relevant meetings and potential convener for GEO/GEOSS sessions. [15 April]

Action: D. Cripe to request Secretariat Experts to identify relevant meetings and potential convener for GEO/GEOSS sessions. [15 April]

- **2d- Showing GEOSS at work.**

H.P. Plag remarked that IEEE would discuss what could be done in terms of publications. He further emphasized the need to have the outlet in mind when soliciting compelling cases.

S. Minchin added it would be helpful if cases would provide slides that can be used to promote GEO, show examples of why people should be interested in joining GEO.

Action: H-P. Plag to suggest process with deadline for distribution to STC membership. [15 April]

- **2f – Identify key commercial partners**

K. Fontaine noted this is already being covered by ST-09-01.

S. Minchin: this is an ongoing topic of discussion in Executive Committee and there is uncertainty on how to proceed. The Secretariat has been tasked with composing a position paper for the next Executive Committee meetings (July 2010).

J. Hoffmann indicated that it was important to note that there were already examples of this coexistence: 2 GEO portals being provided by private industry, as well as Google providing forest carbon portal.

F. Béroud remarked that, while true, the approach needs to be different. One example might be the way in which the EC is working with the Open Geo-spatial Consortium.

- **2g catalyze research and development funding.**

K. Fontaine noted that, to some extent, this topic is being covered by ST-09-01, and a preliminary list has been established. Progress can therefore be changed to green.

Q. J. Hoffmann. Does STC still have a role to play?

A. K. Fontaine: yes, intervening periodically as necessary.

S. Minchin questioned to what extent this activity is aligned with CFP; there will hopefully be some sort of convergence at some point.

Q. S. Fritz: how fast is the CFP securing of funding?

A. K. Fontaine: No target dates currently set. This is different from targeted calls where proposals are designed around the call and there is a pot of money. We are simply trying to match proposals with interested donors.

D. Cripe commented that it has been clear from the start that there was no promise of funding in connection with the CFP; rather task and GEO Secretariat will attempt using its connections and play a brokering role to match proposals with potential donors.

Action: J. Hoffmann to update the Annex of the Roadmap according to the decisions made. [30 April]

6. Work Plan review:

- **1a revolving scientific review**

ESA discussed this issue with IGFA and the feedback from IGFA was that S&T issues weren't adequately integrated in the Work Plan. In response, ESA is preparing a report, and has started assembling a panel of people. Though the panel is not yet complete, it should start looking at Work Plan as soon as possible.

J. Hoffmann remarked that the question remains whether ESA proposal adequately addresses activity 1a. K. Fontaine responded that ST-09-01 task would deal with the 2009-2011 Work Plan whereas the Roadmap calls for a review that would inform the 2011-2015 Work Plan. However, she questioned whether the panel being assembled would be competent to answer technology questions as it seems to be composed of mostly scientists. S. Marsh noted he has been asked to join panel by J. Béquignon for Disasters SBA perspective, but can also respond to technology issues. G. Glaser supported this proposal fully. Also supported KF comment, technology expertise was essential.

J. Hoffmann clarified that the main question needing to be answered is: what *science does GEOSS need*? At the task level, what type of tech or science is lacking is not being addressed? S. Minchin commented that given the panel is exploring what science does GEOSS need it is a concern that panel members are the same ones who are Task Leads. The panel should also have people on board who are totally outside of GEOSS; otherwise we are limiting the answer.

K. Fontaine reiterated that J. Béquignon sees this as an answer to IGFA, that science is involved. This is sufficient and the timeline is workable. This review is a valuable thing to do as a first cut. S. Marsh commented that it seems evident the Committee could use a quick win through responding to first set of questions, then evaluate and evolve as needed. It is useful in dialogue with IGFA, keeping in mind

that technology and some questions will need to be answered later. The review should be considered as useful in its own right. K. Fontaine added that there is a need to make clear this is a first step. S. Nativi also commented that the message should be technology is not just about sensors – important yes, but GEO is also focused on IT, and GCI. Need technologies that are useful to science, and those experts must be included.

S. Minchin summarized by noting the consensus was that STC should accept this offer and thanked ESA for proposing this, viewing it as a step towards our intent, though not entirely sufficient. Need to consider how to expand remit. K. Fontaine reminded the Committee that this is S&T and important to pay attention to Technological part. J. Hoffmann added that the STC must take note of independence issue. Also, there appears to be a bias for North America and Europe which could be rectified through nominations if the panel were still open for suggestions.

Action: STC Members to contact J. Béquignon with more panel member suggestions. [April 30]

7. Proposal for STC report on how GEOSS will advance S&T:

Proposal presentation available here.

D. Halpern stated this was not a NASA proposal. Affiliations were with several other organization, including NASA.

Proposal is to highlight the need to think of Earth as an interconnected system. Premise is that all SBA challenges can be met by GEOSS through correct science and technology. Technology very important: discoveries have led to improved observations. Often it is difficult to observe interconnectedness of SBAs.

Comments:

Q. J. Caughey: didn't understand list of challenge topics in SBA slide. Have just gone through identification of strategic targets process – how do strategic targets fit in this context?

A. D. Halpern asked to elaborate if those were arbitrary statements really and whether it would be a responsibility of Weather community, for example, to elaborate through leadership of writing team to define scientific challenge that would make a breakthrough in their community.

A: J. Caughey replied that in some senses these challenges have already been voiced through target process, and embedded in them are the scientific challenges. Advocate targets of being the starting point.

J. Hoffmann: not clear how this definition of science challenges fits in context of previous discussion. Was expecting this report to be an input to work of ST-09-02 There may be some overlap.

S. Minchin: still not clear on what response would be to challenges identified. What is added value of analysis? Most important thing for water might not be enhanced observational system. Challenge may be a part of an observation system, but may not be observational related. Proposal seems to assume that better observations are necessary to improve models. Because this is GEOSS, main focus tends to be on observations. However, there are information systems currently in place where there is very little connectivity, and this should be improved through GEO.

S. Marsh: perspective from IGOS-P: starting to do some cross-cutting thinking. Would be very amazed if there were no overlap among SBAs – they found there were across IGOS themes. Better to use strategic targets as starting point: these are high-level enough to lay the ground work and not get lost in specifics.

G. Glaser explained the advantage of this report was to target specific audience, the scientific

community. We have been discussing how to promote usefulness of GEO in science community. Writing team should pick up on scientific challenges identified in strategic targets document. ICSU is preparing a report on data and observational system requirements for sustaining research. WCRP, Diversitas, project on health, etc, from user point of view of research scientists. It would be advantageous to define link between this project and the proposed report. The more links we can foster and scientific challenges identified, in one document, the better. The science link will be enhanced.

S. Minchin indicated that this report can pick-up on ICSU report, then amplify what GEOSS could do to achieve conclusions.

H-P. Plag saw link with FAR-GEO. Integrated Earth System science perspective is necessary. Must ask what is necessary in terms of EO to provide an integrated, holistic view.

Q. R. Lefevre: who would you see as target audience?

A. D. Halpern replied that the main target audience could be the highest levels of government, ministers and their staff, the science community, and attract the attention of writers in Science.

J. Hoffmann reminded the Committee that explaining to the scientific communities how GEOSS supports them and their research would be a key objective. However, much of analysis portion of proposed report has already been done. Need to bring together parts (Work Plan, Targets, UIC work), then highlight this to science community.

D. Halpern responded that the main focus and added-value of the report should be the integration and interpretation of this information, as shown in pyramid diagram.

K. Fontaine responded that most of the pieces of the analysis have been done – integration process is the same as analysis.

S. Marsh: **Q:** Support the concept of the integrating part – always wanted to do this with IGOS-P but never quite got there. Suggest that D. Halpern speak with G. Glaser about how the ICSU project and D. Halpern proposal interact. Do they help each other? Are they in parallel? STC will make a final recommendation once this issue is clear.

Recommendation: STC thanks D. Halpern for proposal and endorses the proposal with D. Halpern as Chair of the Writing Team. The STC notes that short updates should be delivered at each STC meeting, and the report will be considered as a US contribution to ST-09-02. The STC also requests that the Writing Team composition as well as the first and final drafts of report be submitted to the STC for review.

Action: D. Halpern is requested to inform the STC of composition of Writing Team as soon as possible (via email to co-chairs, review can be done off-line). [31 August]

8. SBA Theme Sessions: Disasters

R. Lefevre mentioned that the IEEE ran a GEO workshop in November 2009 on communication and mitigating hazards. Communication is key, before, during and after an event.

Q. T. Newby: how do you define geohazards – can they be expanded?

A. S. Marsh: yes, could include forest fires, mining.

- **DI-06-09: Use of Satellites for Risk Management**

The PoC responded that there were no S&T issues in task.

Action: S. Marsh as co-chair of STC to follow up on clarification of response from PoC.

• **DI-09-01a : *Vulnerability Mapping and Risk Management***

- Appears to only produces scientific papers.
- Focused on Italy.
- Supersites not referenced.
- HPP sub-presentation.
- Vulnerability model chosen.
- Processing chain established and experimented.
- Chain not yet automatized (though some components are).
- Perhaps not aware of what it is to lead a GEO task, need to broaden group activity, open up to solicit contributions from other contributors.

Action: D. Cripe / Geohazards Community of Practice (GHCP; H-P. Plag) to review with new Secretariat Disaster expert and PoC respectively, to discuss ways of broadening task.

Supersites:

- Would like website to be located on GEO Website server if possible.
- Need to be careful: website is ad hoc, no metadata, place where imagery is dumped without quality control, building a structure outside of GEO
- S. Marsh: – perhaps needs to be reconsidered as a showcase.
- S. Marsh: this is valuable work, but need to approach them as to how to integrate into Work Plan. Need to go back to them
- J. Hoffmann: discrepancy in how this is being handled at present.
- G. Glaser: real implementation is not well-organized; there needs to be a check that there is correspondence with reality.

Action: GHCP (H-P. Plag) to liaise with PoC to consider how to better integrate into and broaden task (issues: handling task as a whole, establishment of clearinghouse).

Action: K. Fontaine to liaise UIC with issue of CoPs supporting tasks. [30 April]

• **DI-09-01b** – task sheet has no information on output.

Need science & technology for secondary effects (landslides), where projections are somewhat possible.

- Data online very fast after Haiti earthquake.
- S. Minchin: In Haiti example, does it make a difference where we get these images? Any way to illustrate how these images are being used?
- H-P. Plag: perhaps not used to full potential, but has great possibilities.

Q. S. Minchin: about seismic network improvement and coordination. Are we integrating CTVT network? Is coordination mechanism incorporating these things? Are we getting the coordination necessary?

A. S. Marsh: yes, task is doing what it should

Action: H-P. Plag to check that task dissemination systems interface with GCI. [30 April]

• **DI-09-02a** – task sheet has no information. PoC did not return questionnaire, nor even knew what task was about.

- Time to contact other Task Leads about changing PoC? Should this issue be raised for the Executive Committee?
- How is it possible the latest Work Plan progress report has given this task green color?
- S. Marsh: what is way forward? Perhaps contact other Task Leads (CEOS, Norway, etc) to see if they are aware of this status, whether they agree with it. Also, could bring it before GHCP to see if they would pick it up.

Action: S. Marsh to approach other Task Leads to get their views. Seek alternative POC from within that group. If no interest, identify new Task Lead within GHCP. [30 April]

Action: S. Marsh to provide input to STC Co-chairs for 19th Executive Committee report on issue of non-responsive Task Leads (e.g. DI-09-02a – WMO lead had no clue; DI-09-03a – negative response from IOC). [31 May]

- **DI-09-02b**

- Questionnaire was completed actually; just didn't get presentation. Situation here is different, task is active, work just has not been reported.

Q: How do tasks arise, and who decides on the outputs and activities?

A: H-P. Plag responded that tasks come through Committees and were proposed to Plenary for inclusion in the Work Plan. But process was unequal – there needs to be a review of how this happens.

Action: K. Fontaine to ask PoC (G. Seguin) how dissemination systems interface with those of GCI. [30 April]

- **DI-09-03a** – response from IOC PoC to survey was uncooperative, even hostile.

Action: H-P. Plag to clarify with IOC Chairman whether PoC view reflects the IOC's position. Escalate if necessary by asking GEO Secretariat Director to speak with IOC Principal. [30 April]

- **DI-09-03b** – Global EWS for Wild land Fire

- Seems to be doing what task set out to do.
- T. Newby pointed out that SA is not listed as contributors, but should be.
- S. Fritz: there is also an issue of time-lag, as MODIS satellites pass over once per day.
- D. Halpern: trying to use GEO to reduce data gaps – should make case that there is need for more instruments like MODIS.
- S&T challenge identified (technology question): MODIS frequency is not sufficient - to be discussed with tasks, a technology requirement. Could be folded into summary report and presented at autumn meeting.

Action: S. Marsh to check with PoC about links to countries not listed on Task Sheet (e.g. S. Africa). [30 April]

Discussion:

S. Minchn: Something is missing in these activities, perhaps not strictly an S&T issue, and that is operational capability. Tasks should be more than a collection of contributions from universities. We need to move beyond a mere demonstration of capabilities. Some agency should be identified that takes responsibility for ongoing operations and actually runs the operation. GEO can assemble the prototype, but how do we engage the agencies that might take it on? Challenge for GEO is transitioning research projects into operations. What exactly is that mechanism?

H-P. Plag responded that this was being handled through some intergovernmental agreements (as in previous task on sensor-web). NASA funded projects were in some cases doing, for example, two-year experimental projects, and then transitioning them to operational.

K. Fontaine said that AIP is designed to do this; match projects with agencies willing to take them on. Tsunami early warning and disaster charter are 2 examples. Before making any recommendations, GEO should check what is being done with charter, what NASA's commitments are to tsunami early warning system. However, caution is urged, in area of tsunamis, to research everything out there to be sure we are not stepping on toes.

H-P. Plag indicated that the problem was not having enough indicators to predict tsunamis. Moreover,

there is more research required to fully comprehend – don't yet have the science solved. He emphasized that there would be a need to do this before getting something operational. In addition, there would also be a need for international coordination and GEO should take another look at this.

J. Hoffmann explained that there were disaster response agencies in many countries that should take this up. J. Caughey reported that within Weather SBA, he dealt with two activities and they are both fundamentally research activities. As they begin to mature, they would be engaging with operational branch of WMO for assessment and evaluation. WMO have a number of demonstration projects that discussed whether time is right to introduce prototype projects. Outputs would be captured in WMO task sheets.

Summary of Disaster SBA Review

Issues common to several tasks:

- Integration of different techniques
- Integration of observation and models
- Extraction of relevant information from observations
- Real-time low latency networks
- Product and information relevant for end users

J. Hoffmann suggested that the problems identified in the course of the SBA review should be brought to the GHCP for comment. H-P. Plag added that GHCP should also be identifying what is missing in the current structure of the SBA that GEO should be addressing.

H-P. Plag noted that disarray from PoC is a good reason why Committees need to follow-up on tasks, to keep tabs on them, as used to be the case.

F. Bérourd questioned why the PoCs were contacted, but not co-leads? Perhaps this created some confusion.

Supersites:

How is issue of designating supersites being handled? Philosophical question. Where does it belong? Perhaps in GHCP. Things are going on outside the task that pertains to supersites. J. Hoffmann remarked that this was an issue for the Task team to decide.

Action: H-P. Plag to place Disaster survey responses on local website and notify K. Fontaine when available. [30 April]

Action: H-P. Plag and S. Marsh to write summary paper based on Disaster analysis, addressing issues specific to this SBA. [30 April]

Action: GHCP (S. March) and TÜBİTAK (T. Özalp) to discuss ways to integrate TÜBİTAK activities presented into GHCP. [30 April]

Action: K. Fontaine to raise experience with Disaster review with UIC and discuss possible roles of the CoPs in reacting to such problems. [20 May]

Action: Co-Chairs to raise experience with Disaster review and the implications for the standard reporting on the Tasks in next report to Executive Committee. [30 June]

9. GEOSS Evaluation Survey

J. Adamec of the GEOSS Evaluation Team, part of the GEO M&E Framework, gave a brief overview of the GEOSS Evaluation Survey. The Team has been conducting an online survey to collect feedback on the implementation of GEOSS at the mid-point of the 10-year implementation plan. The survey is open to anyone and seeks the surveyee's perspective on certain aspects of GEOSS implementation and progress. Over 200 responses have been gathered to date, with about 3 times that many hits at the

website. Results are still being analysed, thus too early to provide any initial results.

Action: D. Cripe to request full STC membership to complete survey. [9 April]

10. GEO Developments:

Discussions

- **Improving Committee-Secretariat Relationship.**

STC noted that since this issue was identified by the Executive Committee, as far as STC is concerned, the relationship has been greatly improved and the Committee is satisfied with level of Secretariat support and responsiveness. However, the STC noted that having Secretariat experts handle administrative tasks and serve as secretary during Committee meetings is perhaps not the best use of Secretariat expertise. Note-taking, minute drafting, etc, distracts from expert participation and could be handled by interns or support staff provided by hosting agency.

- J. Hoffmann reported that the relationship has been improved substantially and does not feel issue needs to be raised.
- S. Minchin suggested the use of interns or young scientist to work on note-taking under supervision of experts. Could perhaps suggest this as supported from the Secretariat trust fund.
- T. Newby proposed the idea that host should supply the secretary for the meeting – something to be decided by Committee and not the Executive Committee.
- K. Fontaine mentioned that US has someone under contract from EPA to take minutes, track actions and for sending reminders for the UIC.
- J. Hoffmann: EPA did provide a contractor in Washington; could this be extended?
- S. Marsh: each Co-chair could also provide a secretary in turn. Generally, situation has improved. Note the case of the UIC – there are two experts assigned, plus a note-taker. How can the Secretariat support this? Also, like the intern question, would solve the continuity situation. Another option: one of the organizations around the table could provide secretariat support.

Action: S. Minchin with Co-chairs to draft a position paper on STC-Secretariat interaction, with a range of strategies regarding most pertinent use of GEO Secretariat SBA experts in Committee meetings. [30 June]

- **Ministerial Preparation**

The STC noted recommendations from the 18th Executive Committee, with special emphasis to be placed on the areas of Food Security, Water, Agriculture, and Data Sharing. The STC is particularly interested in shaping the Supersites initiative into an integrated whole, as a showcase demonstration of the GEO coordination framework. With respect to suggested showcases, the STC has named members to track their progress and ensure appropriate scientific input.

- Supersites: Geohazards Community of Practice (GHCP) through S. Marsh and H-P. Plag
- Asian Water Cycle Initiative: S. Minchin
- GEOBON: G. Glaser
- End User: S. Fritz
- Carbon: R. Lefevre, G. Ollier
- Health: P-Y. Whung and M. Radtke

Feedback requested from these members to the STC in the form of periodic reports to 1) ensure no Showcase is falling through the cracks from the S&T perspective; 2) solicit expertise on particular matters, if necessary.

The STC presence at the Ministerial was also discussed. Several ideas including: 1) a booth dedicated

to STC; 2) materials or posters available at a central location (i.e. GEO booth and 4 Committees booth); 3) forgoing a booth and concentrating on the S&T aspects of showcase candidates that were not selected.

With respect to this last point, some type of promotion/presence of showcase candidates not selected by the Summit Task team is needed. Suggestion is to contact Summit Task team to determine if this issue is being addressed. Also, showcase candidates not selected should be contacted to determine their input on promotional possibilities.

Action: F. Bérourd to contact G. Ollier regarding nature of exhibition for non-selected showcase candidates and inform H-P. Plag. [15 April]

Action: H-P. Plag to contact non-selected showcase candidates to determine interest and best method to present showcase under auspices of STC. [30 April]

Work Plan Symposium

Concern expressed over planning process. STC notes apparently no organizing committee has been formed to prepare WP Symposium, as was the case for IGOS-P. The organization mechanism is not transparent and feeling is Task Leads are not interested because they have not been consulted in the planning. Task Leads could be requested to provide responses to S&T-type questionnaire well in advance of Symposium so that analysis can be performed during the Symposium. There is a need for a WP symposium template to guide how task analysis should be performed.

Action: D. Cripe to follow-up with Secretariat on process for Work Plan Symposium planning. [15 April]

11. Proposal for a First Assessment Report on the State of Global Earth observation.

Presentation available [here](#).

FAR-GEO: report could be a way of enticing governments to provide funding for gaps identified. Proposal includes formation of an Intergovernmental Panel on Earth Observations (IPEO), similar to the way the IPCC functions.

S. Minchin: not sure that IPCC type report is the way to go. IPCC was set up as a response to a core threat to planet. IPEO is providing scientific advice on EO methodologies. Observations are not done in a vacuum – in the end, important point is how EO are actually used. Care must be taken to emphasize the added-value of the proposal (not just down on its own right). How will the report improve national responses with respect to threats? This is the message that must be central.

H-P. Plag: sea level rise is being widely recognized as a huge threat. Need to make the point that because we do not know how fast, where, and how much with degree of precision, EO is increasingly important. The world needs EO, here is why ...

S. Minchin: but is not GEO something very similar to IPEO?

H.P. Plag: Yes, can be inside or out of GEO- point is someone needs to get the ball rolling.

J. Hoffmann: GEO is the right framework for this, but is commitment really there to see this through? Should be recognized as important by Ministers. In order for AR to be successful, a more formal approach needs to be followed than is usually the case. Need to have formal review mechanisms – this is panel you are proposing.

G. Glaser: also supports proposal, ICSU, WMO and others would certainly welcome this. Global

research site, ESSP, ICSU visioning process – all these are silos that could be brought together. GOOS, IPY are others that have done this for Polar Regions. Shares concern that IPCC model is not the best way to go: 1) IPCC: assessment of current knowledge; what is proposed here is an assessment of the state of a scientific tool. Convening a panel on earth system observation science – fairly narrowly defined. 2) Don't see this as a standing panel – another reason why IPCC is not a good model. Need to discuss modalities and make sure there is an interaction with what the research programs are doing.

R. Lefevre: supports this activity. But what do you want the STC to do about this in the next 7 minutes? Is the STC going to take this and bring it to declaration where it belongs so that summit brings mandate to bear.

H-P. Plag: there is a comparison with respect to knowledge. Do we really know what is in the cockpit of planet earth? Do we know what the red lights are? It is a knowledge assessment in addition to a tool.

S. Marsh: wants to support the idea we need an assessment of the planet, away from the climate. Focus on climate has been in some ways counterproductive. If this is a vehicle for a broader view, should be strongly supported. Want to take bits that are working well from IPCC, but GEO by definition is intergovernmental. Also want to close loop with D. Halpern's proposal.

S. Minchin: need to utilize communications with the Executive Committee and ask them to take leadership as Summit Task team may not be appropriate. Want ministers to request that GEO convene a panel to perform a first assessment report, and why it's important (inform governments where gaps are for the future).

S. Fritz: there needs to be a cost-benefit analysis that accompanies it. If you go to policy maker to say this is a system that is cheap and can provide \$\$\$ in benefits. Need to make case that investments are paying off.

J. Caughey: WMO can be helpful with its experiences. Strategic target for weather talks about closing gaps. Continuous, rolling review never stops – updating and assessing requirement is a continuing process that never ends.

Recommendation: STC thanks H-P. Plag and endorses proposal. However, proposal should be reworked to broaden scope in light of concerns raised above. Goal should also be to bring proposal before Ministerial to request that GEO convene a panel to perform a first assessment report. Thus report needs to stress why EO are important while informing governments where gaps are for the future.

Action: H-P. Plag to review 2010 Baseline initiative for potential overlap. [30 April]

Action: STC supports proposal, with modifications, and will work to advance through appropriate channels (e.g. Summit Task Force, Executive Committee). [30 April]

Action: Co-chairs requested by STC to help rework proposal. [30 April]

Wrap-Up on proposals by D. Halpern and H.-P. Plag

R. Lefevre: noted that there was solid consensus behind the proposals and recommended the STC endorse them.

G. Glaser proposed that STC endorsed preparation of STC report. Must be more precise: change title to "How GEOSS will advance S&T in the field of global integrated earth system science and technology." Also need to reflect it would heavily draw on review of existing materials (targets, ST-

09-01, etc), and also that would be focused on earth system, across SBAs. Regarding complementarity with ICSU visioning process (a demand for Earth system observation requirements), D. Halpern invited to consult with ICSU further, and to report back to next full meeting of STC.

S. Minchin remarked that it was still unclear where this report fits, but willing to go ahead with knowledge that Glaser would be involved and clarify relationship with ICSU. He proposed two points:

1. Inform committee of composition of writing team.
2. Allow committee to see first outline of report (he sets deadlines for when this happens). Suggested to submit the first full and final drafts to the STC for review.

J. Hoffmann supported that STC endorse this proposal, and views it as a contribution to Task ST-09-02 – just a conceptual point.

S. Marsh pointed that it would need a map of how these three things fit together. ICSU was interested in Earth system requirements; H.P. Plag is assessing what we currently have today.

S. Zerbin: IAG supported D.Halpern proposal in conjunction, and IAG Willing to contribute document.

G. Glaser: clarify that D.Halpern report is not part of the ICSU visioning process. ICSU visioning process is about detailing what are the EO system requirements, without looking at what exists institutionally.

Actions: G. Glaser, D. Halpern, H-P. Plag requested to coordinate efforts and provide S. Marsh with global outline of their proposals. [31 July]

Action: S. Marsh to review and compile overviews into a report for STC. [31 August]

AOB

J. Hoffmann: full STC meeting should not be held during the Ministerial Summit. It is therefore important to identify when/where to have an autumn meeting.

S. Marsh: support need for a September meeting, given the number of action items.

Regarding SBA surveys, K. Fontaine plans to collect responses preferably by email. If necessary, follow-up by personal contact. Following STC members volunteered to be part of follow-up effort.

Surveys:

- Weather: J. Caughey
- Energy: R. Lefevre
- Water: S. Minchin, T. Kutser
- Disasters: H-P. Plag and S. Marsh
- Architecture and Data: S. Nativi
- Health: M. Radtke
- Users: K. Fontaine

S. Marsh also volunteers to help on as needed/available basis.

S. Marsh noted that ADC would like to start a dialogue about how Committees interact with tasks – suggested this be placed on joint-session.

Action: Co-chairs to work with Secretariat to determine date and venue for full STC meeting during

September (full STC meeting will *not* be held during the week of GEO-VII Plenary and Ministerial Summit). [30 April]

Recommendation: For the future, in line with request from the Executive Committee, the STC will plan to convene 2 full meetings per year: dedicated in the spring, co-located with other GEO Committees in the autumn. A potential third STC meeting during the week of GEO Plenary will be decided on an as-needed basis.

H.P. Plag: reiterated that FAR-GEO should detail not only what we have in terms of EO, but also what we think we will need for enhanced future observations, leading to better decision making.

Closing Comments:

S. Minchin thanked TÜBİTAK for excellent facilities.

J. Hoffmann: very well hosted, thanks – productive meeting, useful discussion of Disaster SBA.

S. Marsh: very decisive meeting, taken some critical decisions – need to keep this momentum going. Review was productive – very useful.

DRAFT

Annex 1**Thirteenth Meeting of the GEO Science and Technology Committee
The Scientific and Technological Research Council of Turkey (TÜBİTAK), Ankara
24th – 26th March 2010****Draft Outcomes / Actions****1. Introduction**

12th STC Meeting Record approved, with changes recommended by D. Halpern
Version 11 of the 13th STC meeting agenda approved.

Action: D. Cripe to make changes and post on GEO website. [31 March]

2. Status of Actions

Most items are closed. Those remaining open will be closed as a result of 13th STC meeting, with the exception of the Water SBA review, to be presented at the 14th STC meeting in Pretoria on 20 May, 2010.

3. Report on ST-09-01

Questionnaire for task leads has been developed and will be circulated to all task leads prior to the Work Plan Symposium. Questions relate to S&T components of the tasks and grew out of the observation that S&T questions on the task sheets have been largely ignored. Questionnaires could also be used to influence template for Work Plan Symposium interviews with goal of having responses form part of WP presentations at Symposium. Essentially 3 components to task review process:

- US-09-01a activity.
- Individual task reviews (under ST-09-01 and Roadmap Activity 1a)
- ESA external panel review for IGFA

Action: Task PoC (K. Fontaine) to include Italian Space Agency as task contributors. [30 April]

Action: D. Cripe to circulate questions to full STC. [25 March]

Action: EC (F. Bérout), ESA (J. Béquignon), US (K. Fontaine) to write letter to all task leads requesting response to questions. Answers to be provided via email. [15 April]

Action: K. Fontaine responsible to set up team for processing surveys comprised of task team, GEO Secretariat, and EC volunteers. [31 March]

Action: Secretariat experts to update SBA pages. [31 March]

Action: Survey to be followed up by interviews: ST-09-01 (K. Fontaine) to prepare an interview guide and a list of interviewees, gets together with the GEO Secretariat and the ST-09-01 Task Team to assign interview partners [30 April]. Missing answers to be communicated to STC for STC members to offer to fill the residuals.

Recommendation: Secretariat Work Plan Coordinator should perform routine checks on this as part of Work Plan update.

4. Report on ST-09-02

- **Activity 2:**

Still pending a lead; also there have been problems with the GCI registration process.

- **Activity 3:**

- Good basis now to produce material for promoting GEOSS.
- Slides for GEO presentations are available from Secretariat experts on case-by-case basis.
- Need to identify appropriate outlet for compelling examples of how GEOSS serves S&T community, perhaps as publication for Ministerial summit.

- **Activity 4:**

Mechanism to promote transition from research to operational still not identified.

- **Activity 5:**

- Although attendance (60-70) was not as high as expected, feedback from AGU GEO/GEOSS Town Hall session has been largely positive.
- This approach to promoting GEO/GEOSS in the science community may take some time, but ST-09-02 Task Team consensus is activity worth pursuing.
- GEO label concept still not clear – means many things to many people. Need to develop a workable definition in order to move forward.

Action: S. Minchin and J. Hoffmann to elaborate GEO label in a 1-page concept paper. [30 April]

To be communicated and agreed with STC via email by co-located Meetings. [20 May 2010]

Action: D. Cripe to determine why non-member contributors and Task leads are disappearing from task sheets. [31 March]

Action: STC Co-chairs should bring question of independent expert participation in Committees under Rules of Procedure 5.3 as a gray area to the Executive Committee for clarification. [30 June]

Keynote presentation

Extensive work being done in Turkey with regard to earthquake preparedness and early warning systems could form key part of seismic work being done under GEO framework. Turkey could also learn from work being done in other countries as well as share expertise, and would make good contribution to Supersites initiative. Turkish participation in GEOSS through registering data in GCI, engaging with DI-09-01b, and participating in Geohazards Community of Practice is greatly encouraged.

5. Report on STC Roadmap

- **Activity 1b: Review indicators**

Currently there is no mechanism for tracing reliability of the many different data sets contributed to GEOSS. Need to find a standardized way of describing peer-review processes associated with contributed data sets. CEOS and M&E framework may be doing some work on this, but it is not clear.

Action: ST-09-02 Task Team to address review indicators with task leads by means of questionnaire to be distributed prior to the Work Plan Symposium. [15 April]

- **Activity 1c: Assessing the requirement for continuity and long-term monitoring**

Conclusion of the Committees Co-chairs is that the GCI is not ready to implement a mechanism for this. At a higher level, it is difficult to advocate for continuity since there is some confusion over the term “continuity.” Feedback from user groups is needed to ascertain

which parts of GEOSS are providing operational value to decision makers.

Action: S. Minchin and K. Fontaine to initiate process to move forward by drafting 1-page concept paper. [April 30]

- **Activity 2c: Promotion of GEO/GEOSS at major scientific symposia.**

See comments under Activity 5, ST-09-02 above. Potential upcoming symposia identified: ISRSE, IUGG, IEEE (IGARS, AEROSPACE), INSPIRE, IUGS, IAG (Wegener), ISPRS, COSPAR, and TÜBİTAK.

Action: S. Minchin to organize GEO/GEOSS session at ISRSE meeting in Sydney in April, 2011. (Note: possibility to organize STC meeting simultaneously.) [31 July]

Action: H-P. Plag to request full STC membership to identify relevant meetings and potential convener for GEO/GEOSS sessions. [15 April]

Action: D. Cripe to request Secretariat Experts to identify relevant meetings and potential convener for GEO/GEOSS sessions. [15 April]

- **Activity 2d: Showing GEOSS at work**

Collection of compelling examples is an on-going activity. Need to start thinking in terms of outlet – publications? GEO newsletter? website? Need to aim for convergence soon if aim is to present something at Ministerial.

Action: H-P. Plag to suggest process with deadline for distribution to STC membership. [15 April]

- **Activity 2f: Identify key commercial partners**

Being handled under ST-09-01, timing is fine. However, there appears to be reticence on the part of the Executive Committee to tackle this issue and provide guidance.

- **Activity 2g: Catalyze research and development funding.**

Being handled under ST-09-01, preliminary list has been assembled.

Action: J. Hoffmann to update the Annex of the Roadmap according to the decisions made. [30 April]

6. Implementing the Revolving Science Plan Review

- **Activity 1a: Work Plan review**

ESA discussed with IGFA – feeling was that ST issues were not adequately integrated in Work Plan. In response, ESA is preparing a review report in conjunction with an independent panel of people. Not yet complete, but panel should soon start looking at the Work Plan.

Recommendation: STC accepted ESA Work Plan review proposal in response to IGFA, though not perfectly aligned, as a *first step* in line with Activity 1a for the longer-term review. ST-09-01 takes responsibility for implementing this Roadmap Activity through the current ESA-panel action and the survey done by the Task.

Action: STC Members to contact J. Béquignon with more panel member suggestions. [April 30]

7. Proposal for an STC report on how GEOSS will advance S&T

Report premise is that Earth is an interconnected system and all SBA challenges can be met by GEOSS through correct science and technology in Earth observations. Identification of these challenges will be based on work done by ICSU's Earth System Visioning Process (ESVP) and other existing GEO documents, such as the GEOSS Strategic Targets. The significance of the proposed report will be integration and interpretation of this information,

as shown in pyramid diagram of the by David Halpern. Complementarity between the proposed STC report and ESVP should be ensured through consultation and coordination between the two processes which will be the responsibility of D. Halpern and G. Glaser. The suggestion was made that G. Glaser sit on the STC report writing team, and D. Halpern sit on the ESVP writing team. STC agreed that the report has to build on relevant documents, including the Strategic Targets, the Report prepared under ESA-lead under ST-09-01, the Implementation Plan Reference Document and the current GEO Work Plan (all available at the GEO website). Suggested title: “How GEOSS will Advance Global Integrated Earth System Science and Technology.”

Recommendation: STC thanks D. Halpern for proposal and endorses the proposal with D. Halpern as Chair of the Writing Team. The STC notes that short updates should be delivered at each STC meeting, and the report will be considered as a US contribution to ST-09-02. The STC also requests that the Writing Team composition as well as the first and final drafts of report be submitted to the STC for review.

Action: D. Halpern is requested to inform the STC of composition of Writing Team as soon as possible (via email to co-chairs, review can be done off-line). [31 August]

8. SBA Theme Session: Disasters

- **DI-06-09: Use of Satellites for Risk Management**

The PoC responded that there were no S&T issues in task.

Action: S. Marsh, as Co-chair of STC, to follow up on clarification of response from PoC. [30 April]

- **DI-09-01a: Vulnerability Mapping and Risk Assessment**

Activities are not responding to task description but rather focusing on one person’s research.

Action: D. Cripe / Geohazards Community of Practice (GHCP; H-P. Plag) to review with new Secretariat Disaster expert and PoC respectively, to discuss ways of broadening task.

- **Supersites:**

Approach Amelung et al. to discuss: 1) integration of Supersites, 2) the issue of every disaster becoming a SuperSite, 3) establishing a clearinghouse (especially as a way to broaden task) in the context of Ministerial Showcase. GFZ possibly interested in contributing at the over-arching level, identify who could be task lead.

Action: GHCP (H-P. Plag) to liaise with PoC to consider how to better integrate into and broaden task (issues: handling task as a whole, establishment of clearinghouse).

Action: K. Fontaine to liaise UIC with issue of CoPs supporting tasks. [30 April]

- **DI-09-01b: Seismographic Networks Improvement and Coordination**

Task proceeding, PoC responsive.

Action: H-P. Plag to check that task dissemination systems interface with GCI. [30 April]

- **DI-09-02a: Implementation of a Multi-Risk Management Approach**

Task PoC not even aware of task, nor that she was task lead; provided no response to S&T questionnaire.

Action: S. Marsh to approach other Task Leads to get their views. Seek alternative POC from within that group. If no interest, identify new Task Lead within GHCP. [30 April]

Action: S. Marsh to provide input to STC Co-chairs for 19th Executive Committee report on issue of non-responsive Task Leads (e.g. DI-09-02a – WMO lead had no clue; DI-09-03a – negative response from IOC). [31 May]

- **DI-09-02b: Regional End-to-End Disaster Management Applications**

Task proceeding, PoC responsive.

Action: K. Fontaine to ask PoC (G. Seguin) how dissemination systems interface with those of GCI. [30 April]

- **DI-09-03a: Tsunami Early Warning System of Systems**

Task PoC negative with respect to task, deeming it duplicative and unnecessary. No response to S&T questionnaire.

Action: H-P. Plag to clarify with IOC Chairman whether PoC view reflects the IOC's position. Escalate if necessary by asking GEO Secretariat Director to speak with IOC Principal. [30 April]

- **DI-09-03b: Implementation of a Wildland Fire Warning System at Global Level**

Task proceeding, S&T questionnaire identified a technology issue: there is a need for more frequent MODIS-class observations for success of this sub-task.

Action: S. Marsh to check with PoC about links to countries not listed on Task Sheet (e.g. S. Africa). [30 April]

General:

S&T issues identified that are common to several sub-tasks:

- Integration of different observing techniques
- Integration of observations and model output
- Extraction of relevant information from observations
- Real-time low latency networks
- Product and information relevant for end users

Could be addressed through targeted workshops (integration of observing techniques) and improved coordination of efforts (enhanced real-time networks).

Action: H-P. Plag to place Disaster survey responses on local website and notify K. Fontaine when available. [30 April]

Action: H-P. Plag and S. Marsh to write summary paper based on Disaster analysis, addressing issues specific to this SBA. [30 April]

Action: GHCP (S. March) and TÜBİTAK (T. Özalp) to discuss ways to integrate TÜBİTAK activities presented into GHCP. [30 April]

Action: K. Fontaine to raise experience with Disaster review with UIC and discuss possible roles of the CoPs in reacting to such problems. [20 May]

Action: Co-Chairs to raise experience with Disaster review and the implications for the standard reporting on the Tasks in next report to Executive Committee. [30 June]

STC notes that Turkey will consider hosting a future meeting of the GHCP for this region.

9. GEOSS Evaluation Survey

J. Adamec of the GEOSS Evaluation Team, part of the GEO M&E Framework, gave a brief overview of the GEOSS Evaluation Survey. The Team has been conducting an online survey to collect feedback on the implementation of GEOSS at the mid-point of the 10-year implementation plan. The survey is open to anyone and seeks the surveyee's perspective on certain aspects of GEOSS implementation and progress. Over 200 responses have been gathered to date, with about 3 times that many hits at the website. Results are still being analysed, thus too early to provide any initial results.

Action: D. Cripe to request full STC membership to complete survey. [9 April]

10. GEO Developments

- ***Improving Committee-Secretariat Relationship.***

STC notes that since this issue was identified by the Executive Committee, as far as STC is concerned, the relationship has been greatly improved and the Committee is satisfied with level of Secretariat support and responsiveness. However, the STC notes that having Secretariat experts handle administrative tasks and serve as secretary during Committee meetings is perhaps not the best use of Secretariat expertise. Note-taking, minute drafting, etc, distracts from expert participation and could be handled by interns or support staff provided by hosting agency.

Action: S. Minchin with Co-chairs to draft a position paper on STC-Secretariat interaction, with a range of strategies regarding most pertinent use of GEO Secretariat SBA experts in Committee meetings. [30 June]

- ***Ministerial Preparation***

The STC noted recommendations from the 18th Executive Committee, with special emphasis to be placed on the areas of Food Security, Water, Agriculture, and Data Sharing. The STC is particularly interested in shaping the Supersites initiative into an integrated whole, as a showcase demonstration of the GEO coordination framework. With respect to suggested showcases, the STC has named members to track their progress and ensure appropriate scientific input.

- Supersites: Geohazards Community of Practice (GHCP) through S. Marsh and H-P. Plag
- Asian Water Cycle Initiative: S. Minchin
- GEOBON: G. Glaser
- End User: S. Fritz
- Carbon: R. Lefevre, G. Ollier
- Health: P-Y. Whung and M. Radtke

Feedback requested from these members to the STC in the form of periodic reports to 1) ensure no Showcase is falling through the cracks from the S&T perspective; 2) solicit expertise on particular matters, if necessary.

The STC presence at the Ministerial was also discussed. Several ideas including: 1) a booth dedicated to STC; 2) materials or posters available at a central location (i.e. GEO booth and 4 Committees booth); 3) forgoing a booth and concentrating on the S&T aspects of showcase candidates that were not selected.

With respect to this last point, some type of promotion/presence of showcase candidates not selected by the Summit Task team is needed. Suggestion is to contact Summit Task team to determine if this issue is being addressed. Also, showcase candidates not selected should be contacted to determine their input on promotional possibilities.

Action: F. Bérourd to contact G. Ollier regarding nature of exhibition for non-selected showcase candidates and inform H-P. Plag. [15 April]

Action: H-P. Plag to contact non-selected showcase candidates to determine interest and best method to present showcase under auspices of STC. [30 April]

Work Plan Symposium

Concern expressed over planning process. STC notes apparently no organizing committee has been formed to prepare WP Symposium, as was the case for IGOS-P. The organization mechanism is not transparent and feeling is Task leads are not interested because they have not been consulted in the planning. Task leads could be requested to provide responses to S&T-type questionnaire well in advance of Symposium so that analysis can be performed during the Symposium. There is a need for a WP symposium template to guide how task analysis should be performed.

Action: D. Cripe to follow-up with Secretariat on process for Work Plan Symposium planning. [15 April]

11. Proposal for a First Assessment Report on the state of global EO

Proposal is for an Intergovernmental Panel on Earth Observations (IPEO) to produce an IPCC-type assessment report of the state of Earth observations globally. Key question is whether we really know what is in the “cockpit of planet Earth” and if we know what the warning signs of impending disaster are. For example, sea level rise is being widely recognized as a major threat. Since we cannot predict with any certainty what will happen, EOs are increasingly important to monitor this closely. Thus, the world needs EO, and the report aims to outline why. Proposal widely supported and STC notes that GEO is the right framework for this. However, concern expressed that IPCC-type report may not be the best model because 1) IPCC report is an assessment of current knowledge; what is proposed here is an assessment of the state of a scientific tool; 2) Convening a panel on Earth system observation science may be too narrowly defined; 3) do not see this as a standing panel. Thus, there is the need to discuss modalities and make sure there is an interaction with activities of current research programs.

Recommendation: STC thanks H-P. Plag and endorses proposal. However, proposal should be reworked to broaden scope in light of concerns raised above. Goal should also be to bring proposal before Ministerial to request that GEO convene a panel to perform a first assessment report. Thus report needs to stress why EO are important while informing governments where gaps are for the future.

Action: H-P. Plag to review 2010 Baseline initiative for potential overlap. [30 April]

Action: STC supports proposal, with modifications, and will work to advance through appropriate channels (e.g. Summit Task Force, Executive Committee). [30 April]

Action: Co-chairs requested by STC to help rework proposal. [30 April]

12. AOB

Actions: G. Glaser, D. Halpern, H-P. Plag requested to coordinate efforts and provide S. Marsh with global outline of their proposals. [31 July]

Action: S. Marsh to review and compile overviews into a report for STC. [31 August]

Action: Co-chairs to work with Secretariat to determine date and venue for full STC meeting during September (full STC meeting will *not* be held during the week of GEO-VII Plenary and Ministerial Summit). [30 April]

Recommendation: For the future, in line with request from the Executive Committee, the STC will plan to convene 2 full meetings per year: dedicated in the spring, co-located with other GEO Committees in the autumn. A potential third STC meeting during the week of GEO Plenary will be decided on an as-needed basis.

Annex 2: Agenda

Twelfth Meeting of the GEO Science and Technology Committee
Hemisphere A, Ronald Reagan Building
1300 Pennsylvania Avenue NW, Washington DC

AGENDA

Saturday, 14 November 2009

08:30 – 09:00	Arrival and Registration
	<i>(Chair: G. Ollier)</i>
09:00 – 09:30	1. Introduction <ul style="list-style-type: none"> • Welcoming remarks (Host, Co-Chairs and GEO Secretariat) • Round table of introductions • Approval of 11th STC Meeting Record • Adoption of the Agenda
09:30 - 09:45	2. Status of actions decided on at the 11th STC meeting
09:45 - 10:15	3. Report on Task ST- 09- 01 (F. Bérout) <ul style="list-style-type: none"> • Report on IGFA meeting
10:15 - 10:35	4. Report on Task ST- 09- 02 (H-P Plag)
10:35 - 11:00	<i>Break</i>
	<i>(Chair: J. Hoffmann)</i>
11:00 - 11:30	5. Report on Task US-09-01a (L. Friedl)
11:30 - 12:00	6. Ministerial Task Force (G. Ollier)
12:00 - 13:00	7. STC Roadmap Implementation <ul style="list-style-type: none"> • Overview of roadmap activities status
13:00 - 14:30	<i>Lunch</i>
	<i>(Chair: P-Y Whung)</i>
14:30 - 15:30	8. Health SBA Task Activities (panel)
15:30 - 15:45	9. Work Plan Review Process (Status of Roadmap Activity 1a) (J. Hoffmann)
15:45 - 16:00	10. Proposal for a GEO EO Assessment Report (H-P Plag)
16:00 - 16:15	<i>Break</i>
	<i>(Chair: V. Munsami)</i>
16:15 - 17:00	11. Review of STC Report to Plenary VI
17:00 - 17:30	12. Any Other Business <ul style="list-style-type: none"> • Report on GEO interactions with scientific unions (<i>I. Downman</i>) • Next Meeting
17:30 - 18:00	13. Summary of Meeting Outcomes
18:00	Adjourn

Annex 3: Participant List

Family Name	First Name	Representative of	Email
Béroud	Florence	European Commission	
Caughey	Jim	WMO	jim.caughey@gmail.com
Cripe	Douglas	GEO Secretariat	dcripe@geosec.org
Drissi	Siham	FAO	Siham.Drissi@fao.org
Erdik	Mustafa	Bogazici University, Istanbul	erdik@boun.edu.tr
Fontaine	Kathy	NASA	kathy.fontaine@nasa.gov
Fritz	Steffen	IIASA	fritz@iiasa.ac.at
Glaser	Gisbert	International Council for Science (ICSU)	Gisbert.Glaser@icsu.org
Halpern	David	NASA	david.halpern@nasa.gov
Hoffmann	Jörn	Germany	joern.hoffmann@dlr.de
Kutser	Tiit	Estonia	Tiit.Kutser@sea.ee
Lefevre	Russell	IEEE	r.lefevre@earthlink.net
Marsh	Stuart	United Kingdom	shm@bgs.ac.uk
Minchin	Stuart	Australia	Stuart.Minchin@csiro.au
Nativi	Stefano	Italy	nativi@imaa.cnr.it
Newby	Terry	ARC- Institute for Soil, Climate & Water	Terry@arc.agric.za
Özalp	Tamer	TÜBITAK, Ankara	Tamer.Ozalp@tubitak.gov.tr
Plag	Hans-Peter	IEEE	hpplag@unr.edu
Radtke	Meghan	US Environmental Protection Agency (EPA)	Radtke.Meghan@epamail.epa.gov
Zerbini	Susanna	International Association of Geodesy (IAG)	susanna.zerbini@unibo.it