

Twelfth Meeting of the GGOS Steering Committee
Orchard Garden Hotel, San Francisco, CA, USA
December 12, 2007, 12:30 PM - 6:00 PM

Minutes (Version 1.0)
Written by
Hans-Peter Plag
(Version of 2008- 5- 4 16:26).



Participants:

Markus Rothacher, GFZ (*Chair, GGOS Steering Committee*)
Tom Herring, MIT (*GGOS2020 Writing Team, Lead Author Chapter 8*)
Giles Tavernier, CNES, Toulouse (*Delegate, IDS*)
Rene Forsberg, Danish Spacecenter (*Delegate, IGFS*)
Michael Sideris (*IAG President*)
Erricos Pavlis, JCET/UMBC (*Delegate, ILRS*)
Michael Pearlman, Smithsonian (*Executive Committee; Chair, GGOS WG Network and Communications*)
Chopo Ma, GSFC (*Executive Committee; Delegate, IERS*)
Graham Appleby, NERC Space Geodetic Facility (*Substitute, ILRS*)
Mark Tamisiea, POL (*Substitute, PSMSL*)
Bernd Richter, BKG (*Chair, GGOS WG Data and Infrastructure*)
Susanna Zerbin, University of Bologna (*Executive Committee*)
Jacques Hinderer, University Strasbourg (*Delegate, GGP*)
Richard Gross, JPL (*Chair, Science Panel*)
Hans-Peter Plag, NBMG (*Vice-chair, GGOS Steering Committee*)
Srinivas Bettadpur, University of Texas (*Guest*)
Zuheir Altamimi, IGN (*Delegate, Commission 1*)
John LaBrecque, GSFC (*Invited Participant*)

Agenda:

1 Welcome and Discussion of Agenda

2 Minutes of SC11

The draft minutes of SC11 are available as [../scm11/minutes_sc11.html](http://scm11/minutes_sc11.html) and [../scm11/minutes_sc11.pdf](http://scm11/minutes_sc11.pdf) . The minutes will not be discussed in any detail. The participants are asked to identify necessary changes and/or corrections.

3 Action Item Status

The list of action items from SC11 is available as ailist.html and ailist.pdf . Open Action Items from previous meetings (SC910 - SC3) are listed ailist_previous.html and ailist.pdf

4 Reports from the GGOS Chairs

5 Report of WG Chairs and Review of WG Activities

- WG on Networks and Communications, Michael Pearlman;
- WG on Conventions, Hermann Drewes;
- WG on Data and Infrastructure, Carey Noll and Bernd Richter;
- WG on Satellite Missions, Srinivas Bettadpur
- WG on GGOS and GEO, Hans-Peter Plag

6 GGOS 2020

- 7 **GGOS Outreach activities (leaflets, special issues, etc)**
- 8 **Summary of the GGOS Unified Analysis Workshop and Common Research Projects**
- 9 **GGOS 2008 Retreat**
- 10 **GGOS Stakeholder Conference**
- 11 **Progress towards a GGOS Vision and Mission Statement and updated ToRs**

A proposal for vision and mission statements was made by Hans-Peter Plag and Bente Lilja Bye during SC10 in Perugia. The relevant slides from the Perugia presentation are available as [plag_vision_mission_proposal.pdf](#) .
- 12 **CfP for Coordinating Office**
- 13 **GGOS-related research projects and funding**
- 14 **Any other business**
- 15 **Summary of Action Items**

Welcome and Discussion of Agenda

Markus Rothacher opened the Steering Committee meeting and welcomed all participants. He went through the agenda, and asked for any changes or additions. Richard Gross asked to add the proposal for a GGOS Science Workshop, which was added to agenda item 10. Michael Sideris asked to add the question of how gravity field services are represented in the GGOS Steering Committee, and this was added to AOB.

Minutes of SC11

The draft minutes of SC11 were made available as [../scm11/minutes_sc11.html](#) and [../scm11/minutes_sc11.pdf](#) . The minutes were not discussed in any detail. The participants were asked to identify necessary changes and/or corrections. No points were raised and the minutes were accepted as they are.

Action Item Status

The list of action items from the SC-10 meeting was available as [aillist.html](#) and [aillist.pdf](#) . A list of all open action items from previous meetings was available as [aillist_previous.html](#) and [aillist_previous.pdf](#) .

Markus Rothacher pointed to the list of Action Items and stated that most AIs were closed through appropriate actions.

The following AIs were discussed in more detail:

- ***Action Item GGOS-SC11-2: Markus Rothacher will contact Roger Haagmans and ask him to take the lead in writing a white paper on satellite missions in support of GGOS. Responsible: Markus Rothacher, Deadline: 2007-11-10.***

Markus Rothacher reported that he spoke to Roger Haagmans, who stated that he could contribute to the paper, but because of his affiliation with ESA did not want to lead the

paper. After some discussion, Srinivas Bettadpur volunteered to lead the paper and it was agreed that Roger Haagmans, Susanna Zerbini, Srinivas Bettadpur, Markus Rothacher, and Hans-Peter Plag, would contribute as co-authors. The corresponding action item is ***Action Item GGOS-SC12-1:*** Srinivas Bettadpur will lead the writing of a white paper on satellite mission and a potential GGOS Bureau on satellite mission as a link between GGOS, the science community, and the space agencies and he will include Roger Haagmans, Susanna Zerbini, Markus Rothacher, and Hans-Peter Plag as co-authors. ***Responsible: Srinivas Bettadpur, Deadline: 2008-03-12.***

- ***Action Item GGOS-SC11-3:*** Markus Rothacher will contact the authors who presented a paper at the GGOS Session at the IUGG General Assembly in July 2007 in Perugia and clarify (1) whether the presentations can be put online and (2) whether they would contribute to proceedings. ***Responsible: Markus Rothacher, Deadline: 2007-11-20.***

Markus Rothacher reported that he had not been in contact with the authors.

- ***Action Item GGOS-SC11-7:*** Hans-Peter Plag will investigate potential sources for funding for a professional editor for the GGOS 2020 Strategy document. ***Responsible: Hans-Peter Plag, Deadline: 2007-11-25.***

Hans-Peter Plag informed that he had not been able to investigate funding but will do so in the near future.

- ***Action Item GGOS-SC11-11:*** Hans-Peter Plag will ask the GGOS SC members to report on relevant research projects (on-going and planned) prior to the SC12. ***Responsible: Hans-Peter Plag, Deadline: 2007-11-25.***

Hans-Peter Plag had sent a request to the extended GGOS Steering Committee mail, and he reported that he had received several responses that would be presented under the appropriate agenda item.

- ***Action Item GGOS-SC11-12:*** The GGOS EC will review the draft CfP for the Coordinating Office and send a revised draft to the Steering Committee prior to SC12. ***Responsible: Executive Committee, Deadline: 2007-11-25.***

During a GGOS Chairs' meeting in Cape Town, Ruth Neilan had committed to look over the draft and edit it. However, no edited draft was available for the SC meeting.

- ***Action Item GGOS-SC10-3:*** The GGOS EC will establish a review process for GGOS Leaflets including the Topic of the Months leaflets, and this review process will involve the GGOS Science Panel. ***Responsible: Executive Committee, Deadline: 2007-09-15.***

Hans-Peter Plag pointed out that no review process had been proposed or established so far. He proposed that leaflets should be reviewed by the GGOS Science Panel before publication. This was accepted by all participants. This decision established a formal GGOS Review Process for Leaflets.

Reports from the GGOS Chairs

Markus Rothacher presented the report of the chairs (see his presentation [presents/rothacher_GGOS_Report_121207.pdf](#)). He reviewed the activities since the last SC meeting, including the [../ggosws_2007/](#), the GEO-IV Plenary meeting, and the Ministerial Summit on Earth Observations in Cape Town. With respect to the latter two events, he mentioned the GGOS

Booth at the GEO Exhibition, and the Statement of the IAG to the Summit (see the respective new item at the ../news.php).

Report of WG Chairs and Review of WG Activities

Michael Pearlman presented the report of the Network and Communication WG (see his presentation presents/pearlman_WG_presentation.pdf). He reviewed the charter and stated that because there was no other guidance from the GGOS Science Panel, the main focus of the work so far had been on the reference frame. He presented a list of tasks addressed by the WG, which included an item "estimate size of network required for distribution of the reference frame". He then described the individual activities (see the presentation for details).

Bernd Richter provided the position paper as report (see presents/richter_report.pdf). The report gives an overview of the proposed GGOS Portal and required meta data flow.

There was some discussion about the increasing need to address real-time issues. It was concluded that these issues should be addressed by the WG on Networks and Communication.

There was no report on the WG on Conventions. However, Erricos Pavlis provided some comments on recent activities. He had gathered some input from the UAW at Monterey in the previous week. The relevant talks at the UAW revealed that we are nowhere near a uniform and strict use of the IERS Conventions 2003 within any of the techniques. It seems that in general all ACs try to adhere to these ICs but each one has at least a short list of "favorite" techniques or models that they prefer over the ICs suggestion. These deviations are part of the submissions to IERS which makes it very hard to sort out who is right and who is wrong when the Combination Centers see discrepancies. The prime example for this is the erroneous lack of modeling of the mean pole tide in the VLBI analysis software of GSFC, which is used by three IVS ACs, an error which resulted in the wrong scale of the VLBI solutions that contributed to ITRF2005. During the UAW the form sent out by Hermann Drewes to the various ACs to fill in was discussed. This form asks for the exact models, values and procedures used in the analysis of the ACs. Erricos Pavlis gave a copy of the form to Markus Rothacher, who agreed to re-circulate it, hoping that this time the ACs will be more frank to state the TRUE values rather than rubber-stamp them "IERS Conventions 2003" without really checking that they indeed follow them. No action item was agreed upon.

There was no report on the WG on Satellite Mission. Prior to the SC meeting, Srinivas Bettadpur had informed the GGOS Chairs that he was not able to continue as WG chair. Markus Rothacher suggested that the question of a new chair could be postponed until a GGOS Bureau on satellite mission was established and it could be decided whether such a WG was still necessary. Hans-Peter Plag opposed this suggestion arguing that it may take up to 1.5 years before this component would be established and working. Considering the importance of satellite missions for GGOS, he argued that an active WG on satellite mission was vital for GGOS. The ensuing discussion result in: ***Action Item GGOS-SC12-2:*** *The EC will identify a few candidates to chair the WG on satellite missions and will subject these to a vote in the Steering Committee by e-mail. Responsible: Executive Committee, Deadline: 2008-01-31.*

It was also suggested that the WG should establish an overview of satellite missions relevant for GGOS. In this respect, it was mentioned that Carey Noll should be contacted as a potential source of information.

Hans-Peter Plag reported on the activities of the new WG on GEO relations. First he asked Susanna Zerbini to report on the activities in the GEO Science and Technology Committee (see her presentation presents/zerbini_GEO_STC_presentation.pdf).

Action Item GGOS-SC12-3: Hans-Peter Plag will send out the draft charter for the GGOS GEO WG to the current members for comments. **Responsible: Hans-Peter Plag, Deadline: 2008-01-31.**

Action Item GGOS-SC12-4: Hans-Peter Plag will edit the draft charter for the GGOS GEO WG according to the comments received and prepare it for acceptance at the Retreat. **Responsible: Hans-Peter Plag, Deadline: 2008-03-12.**

At the end of this topic, it was agreed that a reminder for the white papers might be necessary: **Action Item GGOS-SC12-5:** Markus Rothacher will send out a reminder to the lead authors of the white papers for the retreat and ask them to provide drafts by March 10, 2008 to Hans-Peter Plag for inclusion on the Retreat web page. **Responsible: Markus Rothacher, Deadline: 2008-01-21.**

GGOS 2020

Hans-Peter Plag reported on the status of the GGOS 2020 Reference Document and summarized that most of the editing was done with the final draft anticipated available early in January 2008. He presented a draft title page (see [presents/GGOS_2020_title.pdf](#)). There was considerable discussion concerning the front page containing the GEO logo. Hans-Peter Plag pointed out that the GGOS2020 was part of the GEO Task AR-07-03, and as such the report could be considered a GEO report. Moreover, having the report officially accepted as GEO report could lend stronger authority to the contents and recommendations than just having it as a kind of GGOS wish list. However, there was strong opposition from a number of participants, who argued that GGOS needs to show face. Ruth Neilan requested that the GGOS logo needs to be on the front page. Hans-Peter Plag proposed the compromise of having no logos on the front-page. There was no consensus concerning the logo, and this issue was post-phoned. No action item was decided. With respect to the motive, John LaBrecque pointed out that a picture of the Earth not featuring the North-American continent in the center could be a better choice.

Concerning the final reviewing of the document, Hans-Peter Plag explained that a final round would include the lead authors who first need to accept the edited versions of their chapters, and then the draft would be available for internal (including any of the IAG Components which still want to comment and the GGOS 2020 reviewers) and external (including the relevant GEO Committees) review. **Action Item GGOS-SC12-6:** Hans-Peter Plag will finalize the editing of the GGOS Reference Document and send the individual chapters to the lead authors for acceptance. **Responsible: Hans-Peter Plag, Deadline: 2008-01-31.**

GGOS Outreach activities (leaflets, special issues, etc)

A number of outreach issues were discussed:

- Existing GGOS Leaflets: Hans-Peter Plag pointed out that Michael Pearlman had provided thorough editing of the text of the three leaflets originally proposed by Hans-Peter Plag. It was agreed that new versions of these three leaflets should be produced and that these then would be reviewed by the Science Panel before finalization. Hans-Peter Plag informed the SC that he was preparing web versions of the leaflets. The subsequent discussion resulted into **Action Item GGOS-SC12-7:** Hans-Peter Plag and Markus Rothacher will work together to produce three leaflets based on the text edited by Michael Pearlman and ensure that web and printed version are consistent. **Responsible: Hans-Peter Plag, Deadline: 2008-02-15.**

Action Item GGOS-SC12-8: Richard Gross will ensure that the revised leaflets (both web and printed versions) are reviewed by the Science Panel. **Responsible: Richard Gross, Deadline: 2008-03-11.**

Action Item GGOS-SCI2-9: Hans-Peter Plag and Markus Rothacher will finalize the three leaflets (both web and printed versions) and based on the comments received from the Science Panel. ***Responsible: Hans-Peter Plag, Deadline: 2008-03-25.***

- Special issue with papers from the GGOS + Geohazards Workshops: Hans-Peter Plag informed the participants that it is planned to produce a thematic issue of Physics and Chemistry of the Earth with invited papers resulting from the GGOS and Geohazards Workshop in November. Markus Rothacher suggested that papers from the 2005 GGOS would also be included together with manuscripts from the IUGG GGOS session. Hans-Peter Plag agreed and stated that invitations for contributions to the issue would be sent out soon.
- It was mentioned that Bente Lilja Bye was no longer available as chair of the Outreach WG. However, the issue was not discussed to any detail and no decision was made.

Summary of the GGOS Unified Analysis Workshop and Common Research Projects

Markus Rothacher gave an overview of the main points of the UAW, which according to him was a success in terms of discussions, participation, venue, and activities (see [presents/rothacher_UAW_Report_121207.pdf](#)). The UAW had resulted in a long list of action items (see [presents/UAW_Workshop_Action_Items.pdf](#)). He concluded by saying that the position papers and presentations would be made available in the next few days at the Workshop web page at <http://www.iers.org/MainDisp.csl?pid=66-1100205>.

GGOS 2008 Retreat

Susanna Zerbini reported that the registration for the retreat would be open early in January and would be handled by the Center in Bertinoro. Hans-Peter Plag explained the overall structure of the program. There was considerable discussions concerning program details but no decision were made. Rene Forsberg pointed out that the gravity services would need some time for pre-Retreat meeting to sort out coordination issues. It was agreed that the program needs to be worked out in more detailed. In order to get a better overview of the participation, the following AI was agreed: ***Action Item GGOS-SCI2-10:*** If the on-line registration for the Retreat is delayed, Hans-Peter Plag will send out a mail requesting pre-registration. ***Responsible: Hans-Peter Plag, Deadline: 2008-01-15.***

GGOS Stakeholder Conference

There was considerable discussion concerning the potential events which would be good opportunities for co-location of the Stakeholder conference. The GEO-IV meeting will be held in Beijing in November 2008, which was not considered optimal for the Stakeholder conference due to the geographic location. The potential GEO/IGOS-P science conference could be a good option, and so are future GEO UIC and ADC meetings. Another potential co-location would be with a CEOS meeting. Hans-Peter Plag pointed out that participation in CEOS meetings would require for GGOS to apply for membership, which he recommended independent of the Stakeholder conference. The scope of the Stakeholder conference was discussed, however without any clarification.

John LaBrecque informed that a number of U.S. agencies have decided to have a national panel to look at the geodetic infrastructure that is needed in the next decade. He pointed out that this could be an opportunity for GGOS to present to this committee.

Progress towards a GGOS Vision and Mission Statement and updated ToRs

Hans-Peter Plag briefly presented the slide he had prepared and distributed earlier by e-mail and the mission statement that resulted from the e-mail discussion prior to the SC meeting (see [presents/plag_ggos_vision_mission.pdf](#)). There was considerable controversial discussion about the mission statement, while little comments were made on the proposed vision statement. However, several participants asked for examples and it was asked whether all the services have vision and mission statements. Michael Sideris and John LaBrecque suggested to consider not to have a vision for GGOS. John LaBrecque mentioned the negative experience NASA had made with a vision statement too broad and demanding. Hans-Peter Plag pointed out that there seemed to be considerable differences in what the individual participants expected from a vision and mission statement and mentioned the web page <http://www.nsba.org/sbot/toolkit/cav.html> which provides a lot of helpful information on the background for vision and mission statements.

After some discussion, Ruth Neilan requested that the topic was postponed. Hans-Peter Plag mentioned that the topic of GGOS vision and mission kept reappearing on the agenda since more than 1.5 years. It was agreed that enough time for a discussion and finalization of vision and mission would be allocated at the retreat. As a result of the discussion, two AIs emerged: ***Action Item GGOS-SC12-11:*** **The GGOS EC will ensure that there is sufficient time included on the agenda of the Retreat for discussion and finalization of the GGOS vision and mission. *Responsible: Executive Committee, Deadline: 2008-02-29.***

Action Item GGOS-SC12-12: **Markus Rothacher and Ruth Neilan will provide to the SC a number of examples of vision and mission statements of other observing systems. *Responsible: Markus Rothacher, Ruth Neilan, Deadline: 2008-02-29.***

CfP for Coordinating Office

The Draft Call for Proposals for the Coordinating Office as prepared by Michael Pearlman was briefly discussed. It was not clear to what extent the functions of the office should be defined in detail in the CfP. It was also pointed out that some of the expected functions of the CO depend on the outcome of the Retreat. The following AI was agreed: ***Action Item GGOS-SC12-13:*** **Michael Pearlman and Ruth Neilan will develop the draft Call for Proposals for a GGOS Coordinating Office and send the draft to the SC for comments prior to the Retreat. *Responsible: Michael Pearlman, Ruth Neilan, Deadline: 2008-02-29.***

GGOS-related research projects and funding

Hans-Peter Plag reported that he received six response to the e-mail request for information on GGOS related research projects and presented an overview (see [presents/plag_research_overview.pdf](#)).

John LaBrecque emphasized the need for more research related to the reference frames for the GNSS and asked that ITRF would be promoted for that.

Michael Sideris asked for progress towards a unified global height system. Rene Forsberg voiced the opinion that enough research had been done and all we need now is a decision. He claimed that IAG could make this decision. Hans-Peter Plag emphasized the importance of a unified height system for many of the GEO Tasks and added that also transformations from ITRF to national frames is an issue of concern in GEO.

Richard Gross brought the discussion back to the GGOS science workshop proposed by him. He explained rationale and emphasized the need to get the Science Panel more involved. The anticipated duration is 2.5 days and a potential co-location could be with the ICG meeting in December 2008 in Pasadena. It was suggested that a few science questions are identified and the Science Panel

members are asked to address these questions. **Action Item GGOS-SC12-14:** Richard Gross will draft a rationale and scope for a 2008 GGOS Science Workshop including science questions to be addressed by this workshop and send this to the EC for discussion. **Responsible: Richard Gross, Deadline: 2008-02-29.**

Any other business

Michael Sideris asked whether representation of the individual IAG gravimetric services on the Steering Committee was sufficient and requested that there was a better coordination between these services.

John LaBrecque suggested that IAG, GGOS, and IGS consider to hold their meeting by teleconferences instead of meetings in person, thus reducing the need to travel. Hans-Peter Plag explained that because of global participation, it would be very difficult to find appropriate day times. His experience from GEO teleconferences shows that participants from the U.S. Pacific Coast would have to be up at very early times while Eastern Asian participants would have late evening session, and some Australian participants at the middle of the night. There was consensus that telecons for meetings with global participation were rather difficult.

Concerning the next meeting, it was agreed to have the 13th Steering Committee meeting as proposed earlier in conjunction with the 2008 Retreat.

Summary of Action Items

Action Item GGOS-SC12-1: Srinivas Bettadpur will lead the writing of a white paper on satellite mission and a potential GGOS Bureau on satellite mission as a link between GGOS, the science community, and the space agencies and he will include Roger Haagmans, Susanna Zerbini, Markus Rothacher, and Hans-Peter Plag as co-authors. **Responsible: Srinivas Bettadpur, Deadline: 2008-03-12.**

Status of Action Item GGOS-SC12-1: Open.

Report: Srinivas Bettadpur has distributed a first draft to the group including also Erricos Pavlis, Michael Pearlman, and Mike Watkins. Several of the team have commented on the draft. **Reported on 2008-03-02 by Hans-Peter Plag.**

Action Item GGOS-SC12-2: The EC will identify a few candidates to chair the WG on satellite missions and will subject these to a vote in the Steering Committee by e-mail. **Responsible: Executive Committee, Deadline: 2008-01-31.**

Status of Action Item GGOS-SC12-2: Open.

Report: During ECT38 on February 14, the EC discussed the issue extensively. It was emphasized that this WG needs a senior chair with considerable experience in advocating satellite missions. Names that came up included Pieter Pffizer, Delft; Veronique Dehant, Brussels (who may be too busy); Mike Watkins (who also may be too busy but may be able to recommend someone and then be the godfather of the WG); Frank Flechtner; Bruce Haynes, JPL; Reiner Rummel, Munich (who most likely is too busy); and Thomas Gruber. As a result, the AIs GGOS-ECT38-9 and -10 were agreed: **Reported on 2008-02-29 by Hans-Peter Plag.**

Action Item GGOS-SC12-4: Hans-Peter Plag will edit the draft charter for the GGOS GEO WG according to the comments received and prepare it for acceptance at the Retreat. **Responsible: Hans-Peter Plag, Deadline: 2008-03-12.**

Action Item GGOS-SC12-6: Hans-Peter Plag will finalize the editing of the GGOS Reference Document and send the individual chapters to the lead authors for acceptance. ***Responsible: Hans-Peter Plag, Deadline: 2008-01-31.***

Action Item GGOS-SC12-7: Hans-Peter Plag and Markus Rothacher will work together to produce three leaflets based on the text edited by Michael Pearlman and ensure that web and printed version are consistent. ***Responsible: Hans-Peter Plag, Deadline: 2008-02-15.***

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Action Item GGOS-SC12-9: Hans-Peter Plag and Markus Rothacher will finalize the three leaflets (both web and printed versions) and based on the comments received from the Science Panel. ***Responsible: Hans-Peter Plag, Deadline: 2008-03-25.***

Action Item GGOS-SC12-12: Markus Rothacher and Ruth Neilan will provide to the SC a number of examples of vision and mission statements of other observing systems. ***Responsible: Markus Rothacher, Ruth Neilan, Deadline: 2008-02-29.***

Action Item GGOS-SC12-13: Michael Pearlman and Ruth Neilan will develop the draft Call for Proposals for a GGOS Coordinating Office and send the draft to the SC for comments prior to the Retreat. ***Responsible: Michael Pearlman, Ruth Neilan, Deadline: 2008-02-29.***

Action Item GGOS-SC12-14: Richard Gross will draft a rationale and scope for a 2008 GGOS Science Workshop including science questions to be addressed by this workshop and send this to the EC for discussion. ***Responsible: Richard Gross, Deadline: 2008-02-29.***