

**Global Geodetic Observing System (GGOS):
Fifteenth Meeting of the Steering Committee
University of Vienna, Vienna, Austria
Saturday, April 18, 2009, 13:00 to 19:00**

Minutes (Version 0.1)

Written by

Hans-Peter Plag

(Version of 2009- 6- 7 17:15).



Participants:

Harald Schuh, University Vienna (*Substitute Delegate, IVS*)
Markku Poutanen, Finish Geodetic Institute (*Delegate, Commission 2*)
Bernd Richter, BKG (*Chair, GGOS WG Data and Infrastructure*)
Wolfgang Schwegmann, BKG (*Webportal Manager*)
Werner Gurtner, AIUB, Bern (*Invited Participant*)
Bente Lilja Bye, NMA (*Chair, GGOS WG User Linkage and Outreach*)
Richard Gross, JPL (*Chair, Science Panel*)
John Dow, ESA (*Delegate, IGS*)
Hermann Drewes, DGFI (*Chair WG on Conventions*)
Michael Pearlman, Smithsonian (*Executive Committee; Chair, GGOS WG Network and Communications*)
Frank Webb, JPL (*Invited Participant*)
Steve Fisher, JPL (*Guest*)
Mark Tamisiea, POL (*Substitute, PSMSL*)
Urs Hugentobler, Tech. University Munich (*Guest*)
Chopo Ma, GSFC (*Executive Committee; Delegate, IERS*)
Ruth Neilan, JPL (*Vice-Chair, GGOS Steering Committee*)
Hans-Peter Plag, NBMG (*Vice-chair, GGOS Steering Committee*)
Markus Rothacher, GFZ (*Chair, GGOS Steering Committee*)
Zuheir Altamimi, IGN (*Delegate, Commission 1*)
Harald Schuh, University Vienna (*Substitute Delegate, IVS*)
Susanna Zerbinì, University of Bologna (*Executive Committee*)

Agenda:

1 (13:00 - 13:05) Welcome and Discussion of Agenda

2 (13:05 - 13:10) Minutes of SC14

The draft minutes of SC14 are available as [../scm14/minutes_sc14.html](http://scm14/minutes_sc14.html) and [../scm14/minutes_sc14.pdf](http://scm14/minutes_sc14.pdf). These minutes will not be discussed in any detail. The participants are asked to identify necessary changes and/or corrections.

3 (13:10 - 13:30) Action Item Status

The list of action items from previous SC meetings is available as ailist.php and ailist.pdf.

4 (13:30 - 13:50) Brief Reports from the GGOS Chairs

5 (13:50 - 14:50) Reports from Bureaus and Science Panel

The reports will include:

- Schwegmann et al.: Status of the GGOS Portal implementation
- Hugentobler et al.: Status of the Bureau for Standards and Conventions
- Pearlman et al.: Status of the Bureau for Networks and Communications
- Gross: GGOS Science Panel Report

Written reports are available at the public [../../reports/](#) page.

6 (14:50 - 15:05) GGOS Strategy and Implementation Plan

7 (15:05 - 15:30) The next generation network

8 (15:30 - 15:45) GGOS Coordination Office

9 (16:00 - 17:00) Reports from WGs

The reports will include:

- Shum et al.: Report of the Working Group on Satellite Missions
- Richter/Noll: Report of the Working Group on Data Infrastructure
- Plag et al.: Report on the status of the Working Group on Outreach and User Linkage
- Plag et al.: Report of the Working Group on GEO relations

Written reports from most WGS are available at the public [../../reports/](#) page.

10 (17:00 - 17:20) GGOS and GEO

A proposal for a focusing of the activities will be made and discussed.

11 (17:20 - 17:40) Progress towards an ISO standard for ITRS

Claude Boucher will report on the work of the ad hoc Working Group and the position paper will be discussed.

12 (17:40 - 18:00) GGOS Publication Series

A proposal for a GGOS publication series has been prepared by Richard Gross and is available on the internal page.

13 (18:00 - 18:40) Next SC Meetings, Workshops, and Symposia Sessions

A detailed Meeting Plan for 2009 and 2010 is available as [../../sci/ggos_meeting_plan_2009_2010.php](#). The following meetings will be discussed in more details:

- Gross et al.: Preparations of the GGOS 2009 Science Workshop
- Plag et al.: Preparation of the GGOS/IGCP 565 Workshop on future gravity satellite missions
- Rothacher, Gross, Richter, Plag: Preparation of 2009 UAV and 2009 GGOS Retreat
- Plag et al.: GGOS Science Workshop 2010

14 (18:40 - 18:55) Any other business

15 (18:55 - 19:00) Summary of Action Items

(13:00 - 13:05) Welcome and Discussion of Agenda

MR: MR will speak to Gruenreich+Rummel meeting.

(13:05 - 13:10) Minutes of SC14

The draft minutes of SC14 were available as [../scm14/minutes_sc14.html](http://scm14/minutes_sc14.html) and [../scm14/minutes_sc14.pdf](http://scm14/minutes_sc14.pdf). These minutes were not be discussed in any detail. The participants had been asked to identify necessary changes and/or corrections prior to the meeting. No changes were requested and the minutes were accepted as they are.

(13:10 - 13:30) Action Item Status

The list of action items from previous SC meetings including reports on the status was made available as [aillist.php](#) and [aillist.pdf](#). The following additional comments/reports were made:

Concerning ***Action Item GGOS-SC14-2:*** Markus Rothacher will follow up that Ken Hudnut will be asked to represent GGOS together with John LaBrecque in the *JB GIS at the Ad hoc Committee on Risk and Disaster Management* and IUGG's GeoRisk. ***Responsible: Markus Rothacher, Deadline: 2009-01-15,***

Markus Rothacher reported that Ken Hudnut was not able to take this responsibility. Therefore, John LaBrecque was the only representative of GGOS to this Committee. It was suggested to ask Kurt Feigl, who could be a candidate. It was reiter

Concerning ***Action Item GGOS-SC14-5:*** Bernd Richter will report back to Prof. Gruenreich and ensure that the meeting of major agencies involved in funding of global geodetic infrastructure takes place early in 2009. ***Responsible: Bernd Richter, Deadline: 2009-01-31,***

Bernd Richter stated that he would report on the status later during the meeting.

With respect to ***Action Item GGOS-R2008-10:*** Rene Forsberg will finalize the Call for Proposals for the Central Bureau of the IGFS together with others, and he will ensure that this Cfp is widely published in the geodetic community ***Responsible: Rene Forsberg, Deadline: 2008-06-30,***

Markus Rothacher reported that a plan would be shown in his report.

(13:30 - 13:50) Brief Reports from the GGOS Chairs

Markus Rothacher summarized the work of the GGOS EC since SC14 (see his presentation [pdfs/20090418_rothacher_etal_report.pdf](#)). He reviewed the implementation of the GGOS organization and reported on the establishment of the two new Bureaus. He mentioned that the Bureau for Satellite Missions and the Coordination Office were still missing. Reviewing the future structure of GGOS, he emphasized the future need for GGOS Centers.

Markus Rothacher described the Bureau for Satellite and Space missions and the Coordination Office as being under construction, and referred to the report of the Working Group on Satellite Missions to be given later and the scheduled discussion of the Coordination Office, respectively.

Markus Rothacher informed the participants that the new ToR were accepted by the IAG Executive Committee during the meeting in December 2008. He summarized the major changes with respect to the previous ToR (see his presentation for details).

He also reported that the GGOS 2020 Book was in print with expected publication date before the IAG meeting in Buenos Aires. For the strategy document, a draft structure had been developed and

would be discussed later during the meeting. He presented a list of publications, which included a Community White Paper (CWP) for the OceanObs09 conference in September 2009. This CWP was led by C.K. Shum. Hans-Peter Plag added that another CWP related to geodesy was addressing the decision support for coastal zone management with respect to sea level rise.

He briefly reviewed the meeting schedule and concluded his report by summarizing the next major steps (see his presentation for details).

(13:50 - 14:50) Reports from Bureaus and Science Panel

Written reports are available at the public [../..../reports/](#) page. The reports included:

- Wolfgang Schwegmann presented a report on the status of the GGOS Portal implementation (for details see [pdfs/20090418_schwegmann_portal-report.pdf](#)).

After the presentation, considerable discussion took place. Ruth Neilan asked how the work on the portal is linked to the IAG Services. Wolfgang Schwegmann responded that there was currently no link. To the question how easily such links could be established, he responded that this needs to be worked out. The portal currently sits on a secure server with no external access. There were several comments requesting that other directions, which would provide external access would have to be considered.

Zuheir Altamimi asked what the IAG Services will have to do in order to link to the Portal. Wolfgang Schwegmann responded that they would have to provide meta data. Bernd Richter added that a proposal to be discussed with the Services would be prepared.

Hans-Peter Plag identified two major problems: (1) the fact that the portal would be built with proprietary software would limit the transportability of the portal to other host, if needed; and (2) the lack of external content management would considerably complicate and slow down any update of the web pages.

Claude Boucher asked the general question what this web portal about is about and requested a discussion of contents. Would it only be for the Services or also for smaller regional activities, such as EUREF? He identified the need for a document that describes the anticipated contents of the web portal.

Ruth Neilan requested that the Portal design should be discussed with GGOS and the GGOS SC. She suggested that a working group be created with the charter to develop the design. Hans-Peter Plag voiced the opinion that such a WG already exists in the form of the Working Group on Data and Information Systems. This led to the Action Item: ***Action Item GGOS-SC15-1: Bernd Richter and Carey Noll as co-chairs of the WG on Data and Information Systems will ensure that a proposal for the design of the GGOS Web Portal is developed and submitted to the GGOS SC for comments and endorsement. Responsible: Bernd Richter, Carey Noll, Deadline: 2009-05-31.***

Markus Rothacher pointed out that the meta data will help to get access to the products of the Services, but that a lot of time would be needed to develop this. He also identified the need to have the meta data discussed by a WG. This led to: ***Action Item GGOS-SC15-2: Bernd Richter and Carey Noll as co-chairs of the WG on Data and Information Systems will ensure that the WG develops a concept for the metadata formats and contents related to the Web Portal. Responsible: Bernd Richter, Carey Noll, Deadline: 2009-07-31.***

Claude Boucher suggested that a first step could be to develop an inventory of data sources in IAG. This led to: ***Action Item GGOS-SC15-3: Bernd Richter and Carey Noll as co-chairs of***

the WG on Data and Information Systems will ensure that the WG establishes an inventory of data sources in the IAG community. *Responsible: Bernd Richter, Carey Noll, Deadline: 2009-08-30.*

- Urs Hugentobler presented a report on the status of the Bureau for Standards and Conventions (BSC). For details see his presentation available as [pdfs/20090418_hugentobler_etal_BSC_report.pdf](#) . His report included a brief review of the history, a list of the membership, and a summary of the objectives. He emphasized that there will be two main focuses: (1) standards and conventions within the frame of GGOS, and (2) propagation of these standards to the outside. He then reviewed past activities and presented the planned activities.

After the presentation, it was discussed whether the Working Group on Conventions, Modeling and Analysis should be dissolved. Ruth Neilan formulated the motion that the WG should be dissolved and the BSC should consider to establish a task force to include modeling and other relevant topics. This was modified into a motion to dissolve the WG, which was accepted unanimously.

Bernd Richter pointed out that IAG has a responsibility for ISO/TC211, but that the committee was active yet. He emphasized the importance of this committee to become active. Hermann Drewes explained that starting the work of the committee was in the process and that Urs Hugentobler would push this further.

Zuheir Altamimi noted that the IERS Convention were not mentioned. Hermann Drewes responded that all Services were mentioned and invited to contribute. Zuheir Altamimi commented that just welcoming them would not be enough, and he saw the necessity for the BSC to approach the Services. Harald Schuh supported Zuheir Altamimi in the respect that he saw the need to be clarified the differences between BSC output and the IERS conventions in order to avoid confusion.

Claude Boucher requested that the added value of the BSC would be shown, which was not clear to him. However, to get an inventory of the situation and to show the level of consistency would be a very important role.

Hermann Drewes added that the gravity field community would need to be involved. Markus Rothacher saw the need for the IERS Convention product center to meet with the BSC. Chopo Ma requested that the presentation should make these issues clear in order to avoid the impression that the BSC would replace the IERS Conventions.

- Michael Pearlman presented a report on the status of the Bureau for Networks and Communications, which is available as [pdfs/20090418_pearlman_etal_BNC_report.pdf](#) . For details see this report.
- Richard Gross reported on the activities of the GGOS Science Panel. The presentation is available as [pdfs/20090418_gross_science_panel_report.pdf](#) . For the details, see this report.

After the presentation, Claude Boucher emphasized the need to have the GGOS Science Panel involved in the GEO Science and Technology Committee.

Ruth Neilan suggested that the Science Panel should review the strategy document. Hans-Peter Plag added that a review of GGOS leaflets by the Science Panel would be very helpful.

The Science Panel membership was reviewed. Roderick van der Wal and Frederique Remy were suggested as potential candidates for new members. With respect to hydrology, Hans-Peter Plag stated that he talked to Hubert Savinije, who was ready to step down. A potential replacements could be Taikan Oki, Japan. Hans-Peter Plag proposed to find representatives who are active in GEO CoPs, which was supported by Claude Boucher. Harald Schuh criticized that the Science Panel is too US-biased and requested that Chinese members should be added to the Science Panel. In summary, the following Action Item emerged:

Action Item GGOS-SCI5-4: Richard Gross will review the Science Panel membership and solicit new members to represent hydrology and glaciology. ***Responsible: Richard Gross, Deadline: 2009-08-30.***

Michael Pearlman proposed that GGOS hold a meeting in China to get more support in that region. This was supported by Science Workshop as a good starting point.

(14:50 - 15:05) GGOS Strategy and Implementation Plan

Markus Rothacher presented the draft strategy document. His presentation is available as [pdfs/20090418_rothacher_ggos_strategy_draft.pdf](#) . The draft structure is available as [GGOS_Strategy_Document_ToC_2009.04.14.doc](#) . In the presentation, Markus Rothacher addressed the issues of the concept of the document, layout options, and the next steps.

Concerning the layout and publication, Ruth Neilan stated that JPL would be a possible option, since JPL has good people with experience in publishing and a understanding of science and geodesy. Moreover, costs and copyright would not be main issues.

Hermann Drewes also stated that the publication would not be too expensive, and DGFI could be able to pay for it. Markus Rothacher showed potential layouts for title pages (not available here), all of which used a combination of several pictures. He then discussed the contents as outlined in the [GGOS_Strategy_Document_ToC_2009.04.14.doc](#) . Bernd Richter asked why Part III (*Who will benefit? GGOS and Modern Society*) was not first in the structure. Hans-Peter Plag supported Bernd Richter and stated that the proposed structure and contents were too much aligned to the GGOS 2020 Book. Bernd Richter added that the proposal was too technical, with too many details and jargon. Ruth Neilan also agreed and requested a much shorter, high level document with a language on the level of eighth-grade English. For her, the executive summary would be the most important part. Both Harald Schuh and Susanna Zerbini also suggested to start with GGOS and what it does and could do. Hans-Peter Plag wanted to see a reference to the Societal Benefit Areas of GEO and a demonstration of the added value of GGOS.

Claude Boucher asked the question of what we (GGOS) want to do with the document. Would the main purpose be to explain GGOS? He indicated that one goal should be to show that geodesy has real added value. Moreover, the document should demonstrate the need for the new organization, and the need for funds.

Markus Rothacher summarized the discussion by stating that there were different ideas about the sequence of contents, and that it would be difficult to bring these together. Hans-Peter Plag and Ruth Neilan recommended that the authors look at the WMO brochures, which they deemed very good examples for layout and structure. Bernd Richter stated that WMO, ESA, and other such organizations are well known, while GGOS needs to be introduced as a body. Susanna Zerbini saw the need to get help from communication experts, and Hans-Peter Plag added that some universities might be able to help as they have schools of journalism often focusing on communication of complex contents

to society. Claude Boucher supported the statement made by Bernd Richter and emphasized the difference between existing well established organizations and GGOS. Michael Pearlman voiced the opinion that the main message was clear: geodesy is essential in understanding global change. Ruth Neilan analyzed that the proposed document was not a strategy document, and rather an introduction to GGOS. She claimed that GGOS needs a strategy process, so that a common, shared understanding can be developed. Hans-Peter Plag classified the proposed document more as a promotion document, and Claude Boucher concluded that several documents were needed with different writing styles for different groups. As a result of the discussion, a number of Action Items were agreed:

Action Item GGOS-SC15-5: All SC Members will send comments on the Draft Strategy Document content to Markus Rothacher. **Responsible: Steering Committee, Deadline: 2009-06-30.**

Action Item GGOS-SC15-6: Markus Rothacher will ensure that the Draft Strategy Document undergoes a comprehensive review in the Steering Committee, the Science Panel and the larger IAG Community. **Responsible: Markus Rothacher, Deadline: 2009-08-30.**

Action Item GGOS-SC15-7: All SC Members will send suitable figures for the Strategy Document to Markus Rothacher. **Responsible: Steering Committee, Deadline: 2009-06-30.**

Action Item GGOS-SC15-8: Markus Rothacher will work with Ruth Neilan and others to identify people with expertise in layout and communication to help with the Strategy document. **Responsible: Markus Rothacher, Deadline: 2009-06-30.**

(15:05 - 15:30) The next generation network

Frank Webb introduced the topic of the next generation geodetic network. He explained that NASA had realized that the network is degrading. The Decadal survey, which came out recently, directed NASA towards several satellite missions, which all depend on the quality of the geodetic reference frames. John LaBrecque was working within NASA to improve the global geodetic network. In 2008, a five-year plan to built core stations was developed. However, this plan did not make it into the budget plan. Therefore, NASA was now looking for guidance to develop a new plan in 2010 for a start in 2011. The group at NASA was just starting on the effort to write the proposal for 2010. They needed support in drafting the argument why the core network is needed and what would not be possible if this core network was not being developed.

Hans-Peter Plag commented that a line of argument could be to start with the GGOS 2020 recommendations, which were part of the work of the GEO Work Plan Task <http://www.geo-tasks.org/da0902c>. This could be worked into a Call for Proposals with the proposals submitted to a joint review of GEO and GGOS. It would be important to channel this through the GEO Science and Technology Committee to get full GEO support.

Zuheir Altamimi mentioned the report and asked whether there would be duplication. Frank Webb responded that there was no duplication, but that the proposal would have to refer to the report. Ruth Neilan pointed out that NASA has never done anything except for cooperation with other agencies. She also noted that the initiative ties directly into the meeting proposed by Gruenreich and Rummel. Richard Gross proposed to create a project within GGOS, which would focus on building the network. This GGOS Project could then link to GEO.

Michael Pearlman commented that if GGOS was to coordinates this, then there would be the technical aspect of what the stations should look like, and he identified the need that somebody would work on this.

Since the Gruenreich and Rummel meeting was mentioned, Bernd Richter reminded that the discussion about the geodetic infrastructure started in during SC14 in San Francisco. There, a meeting was proposed for Spring 2009, the discussion of the meeting showed that a concept is needed. The plan is now to have a meeting in autumn. He continued to state that a draft concept paper would be distributed to GGOS and IAG soon. This resulted into Action Item:

Action Item GGOS-SC15-9: Bernd Richter will ensure that the draft document detailing the objectives and concepts of the Gruenreich/Rummel conferences is distributed to the GGOS SC. ***Responsible: Bernd Richter, Deadline: 2009-06-30.***

Bente Lilja Bye commented that a push from GEO for the renewal of the geodetic network would help. Claude Boucher pointed out that GEO could complement the traditional ways of funding. Markus Rothacher stated that many activities were already going on to built new core stations, and it would be important to bring all these activities under one umbrella. Hans-Peter Plag had the opinion that the GGOS BNC should lead this GGOS Project, and Ruth Neilan proposed that the BNC comes back to the SC with a project proposal detailing the plan and the potential participants. Hans-Peter Plag seconded this proposal, which was then accepted by the SC.

Action Item GGOS-SC15-10: Michael Pearlman as the director of the BNC will develop a proposal for a GGOS project related to the implementation of the Global Geodetic Core Network (GGCN) and provide this to the GGOS SC. ***Responsible: Michael Pearlman, Deadline: 2009-08-15.***

(15:30 - 15:45) GGOS Coordination Office

MR gave an overview of the status concerning the Coordination Office. His overview is available as [pdfs/20090418_rothacher_CO_status.pdf](#) . A key point was that a proposal by GFZ to host the CO was in preparation. However, this would only be a core CO with additional support needed from others. With respect to potential funding from other sources, Zuheir Altamimi stated that he was not sure EuroGeographics would contribute.

Hans-Peter Plag reported concerns John LaBrecque had expressed with respect to a GGOS Coordination Office. John LaBrecque was more in favor of a Secretariat, and this was supported by Ruth Neilan.

(16:00 - 17:00) Reports from WGs

For the report of the Working Group on Satellite Missions, the participants were referred to the written report available as [../..../reports/sc15/20090329_GGOS_SMWG.pdf](#) . For the Working Group on Data and Information Systems, Bernd Richter reported that no activities had taken place since the last report.

Hans-Peter Plag presented a report on the outreach activities of GGOS, which is available as [pdfs/20090418_plag_bye_outreach_activities.pdf](#) . He showed a list of published papers introducing GGOS, reviewed the statistics of access to the GGOS web page, and informed about the outreach through science blogs and internet TV, which was done by Bente Lilja Bye.

Hans-Peter Plag also presented the report of the Working Group on GEO relations (see [pdfs/20090418_plag_et_al_GEO_WG_report.pdf](#) for details. In the discussion, the need to distribute the work load on several shoulders was emphasized.

(17:00 - 17:20) GGOS and GEO

Hans-Peter Plag reviewed and analyzed the contributions of GGOS to GEO and presented a proposal for a more focused approach (see the [pdfs/20090418_plag_et_al_GGOS_and_GEO](#) for more details).

(17:20 - 17:40) Progress towards an ISO standard for ITRS

Claude Boucher reported on the work of the ad hoc Working Group. The presentation is available as [pdfs/20090418_boucher_ITRS_standard.pdf](#)). He pointed out that the governance issue would be very important and would need careful consideration to ensure proper funding. Addressing the question of which Technical Committee (TC) would be appropriate, he pointed out that the existing ones are community oriented, and a new one might be needed to serve the purpose of an ITRS standard.

With respect to the position paper, Hans-Peter Plag asked whether this can be made available for the SC meeting in Buenos Aires. Claude Boucher considered this as a realistic target.

John Dow pointed out that the WG activities were very complementary to what ICG was doing. There, the nominations of experts would be under way.

(17:40 - 18:00) GGOS Publication Series

Richard Gross presented a proposal for a GGOS publication series (see the [pdfs/20090418_gross_publication_series.pdf](#) for more details). After the presentation, Markus Rothacher asked the participants to express their general feeling about the proposal. Michael Pearlman informed that ILRS had decided to go for biannual reports.

Hans-Peter Plag recommended to consider as first choice to produce a newsletter and then consider annual or biannual reports as a second (later) option. Bernd Richter commented that annual reports are difficult and considered a newsletter a better choice.

(18:00 - 18:40) Next SC Meetings, Workshops, and Symposia Sessions

A detailed Meeting Plan for 2009 and 2010 had been made available prior to the meeting. (see [../../sci/ggos_meeting_plan_2009_2010.php](#) for an updated version). Richard Gross provided some more information on the GGOS 2009 Science Workshop (see the http://dynaqlim.fgi.fi/files/GGOS_DynaQlim.htm . Hans-Peter Plag reported on the preparation of the GGOS/IGCP 565 Workshop on future gravity satellite missions. Markus Rothacher gave details about the 2009 UAV (see the [pdfs/20090418_rothacher_et_al_GGOS_UAW.pdf](#) for details).

(18:40 - 18:55) Any other business

There was no other business.

(18:55 - 19:00) Summary of Action Items

Action Item GGOS-SC15-1: Bernd Richter and Carey Noll as co-chairs of the WG on Data and Information Systems will ensure that a proposal for the design of the GGOS Web Portal is developed and submitted to the GGOS SC for comments and endorsement. ***Responsible: Bernd Richter, Carey Noll, Deadline: 2009-05-31.***

Action Item GGOS-SC15-2: Bernd Richter and Carey Noll as co-chairs of the WG on Data and Information Systems will ensure that the WG develops a concept for the metadata formats and contents related to the Web Portal. ***Responsible: Bernd Richter, Carey Noll, Deadline: 2009-07-31.***

Action Item GGOS-SC15-3: Bernd Richter and Carey Noll as co-chairs of the WG on Data and Information Systems will ensure that the WG establishes an inventory of data sources in the IAG community. ***Responsible: Bernd Richter, Carey Noll, Deadline: 2009-08-30.***

Action Item GGOS-SC15-4: Richard Gross will review the Science Panel membership and solicit new members to represent hydrology and glaciology. ***Responsible: Richard Gross, Deadline: 2009-08-30.***

Action Item GGOS-SC15-5: All SC Members will send comments on the Draft Strategy Document content to Markus Rothacher. ***Responsible: Steering Committee, Deadline: 2009-06-30.***

Action Item GGOS-SC15-6: Markus Rothacher will ensure that the Draft Strategy Document undergoes a comprehensive review in the Steering Committee, the Science Panel and the larger IAG Community. ***Responsible: Markus Rothacher, Deadline: 2009-08-30.***

Action Item GGOS-SC15-7: All SC Members will send suitable figures for the Strategy Document to Markus Rothacher. ***Responsible: Steering Committee, Deadline: 2009-06-30.***

Action Item GGOS-SC15-8: Markus Rothacher will work with Ruth Neilan and others to identify people with expertise in layout and communication to help with the Strategy document. ***Responsible: Markus Rothacher, Deadline: 2009-06-30.***

Action Item GGOS-SC15-9: Bernd Richter will ensure that the draft document detailing the objectives and concepts of the Gruenreich/Rummel conferences is distributed to the GGOS SC. ***Responsible: Bernd Richter, Deadline: 2009-06-30.***

Action Item GGOS-SC15-10: Michael Pearlman as the director of the BNC will develop a proposal for a GGOS project related to the implementation of the Global Geodetic Core Network (GGCN) and provide this to the GGOS SC. ***Responsible: Michael Pearlman, Deadline: 2009-08-15.***