

The IAG-REVIEW 2000

Executive Summary and Recommendations

Gerhard Beutler on behalf of the IAG Review Committee
and the Participants of the IAG Retreat 2000

April 7, 2000

1. Preamble

This document contains six sections (including the preamble) and three appendices . In section 2 we briefly review the development of the IAG Review Process 2000. Section 3 summarizes the preparation phase of the IAG Retreat 2000 at JPL in Pasadena.

Sections 4 to 6 summarize the findings of the IAG Retreat 2000: Section 4 addresses the goals to be achieved by IAG in future as identified at the IAG Retreat 2000, section 5 contains the proposed new mission statement and objectives, and section 6 deals with the essential elements of the proposed new structure.

Appendices A to C contain background information. Appendix A lists the names and e-mail addresses of the Committee members and the Retreat participants, the lead authors and the titles of the position papers as they were presented at the IAG Retreat, and the schedule of the Retreat. Appendix B contains the detailed list of proposed goals and the associated measures to achieve these goals. Appendix C contains additional considerations and material that should be kept in mind for the continuation of the Review process.

More material concerning the IAG Review 2000 is available through the Web-server at University of Bern established for this purpose. All position paper presented at the Retreat and (most of) the background material mentioned in this Executive Summary may be retrieved either through the web or through ftp:

- **Web browser:**

`ftp://ubecx.unibe.ch/aiub/iag`

- **Access by ftp:**

Node: `ubecx.unibe.ch`

User: `anonymous`

Password: `Your e-mail address`

`cd aiub/iag`

`get ...`

Detailed minutes of all sessions of the IAG Retreat 2000 were produced by the Secretary (Werner Gurtner) and the Chair (Gerhard Beutler) of the IAG Retreat. They were made available to and approved by all Committee Members and Retreat Participants. This Executive Summary and the associated Recommendations are based on these minutes. It was agreed, however, that these minutes should not be further circulated.

2. The IAG Review 2000

In the preface to the International Association of Geodesy (IAG) Symposia, Volume 121, Prof. Klaus-Peter Schwarz states (*Schwarz, (2000a), slightly condensed version*):

The 35th General Assembly of the International Association of Geodesy (IAG) took place in Birmingham (UK) from July 19-30, 1999, in the framework of the 22nd General Assembly of the International Union of Geodesy and Geophysics (IUGG). . . . In the last of IAG-specific symposia possible changes to the current IAG structure were discussed with view to a clearer organizational profile.

Schwarz (2000b), Sanso (2000), Beutler (2000), Wolf (2000), Feissel (2000), and Beutler et al. (2000) contributed to Symposium G6 which was concluded by a discussion in the plenum of the plans for an IAG review process. The plan how to perform the IAG Review from the technical point of view, the principles to be observed by the process, and the timeline are contained in the position paper *Beutler et al. (2000)*. Plan, principles, and timeline were approved by the IAG Executive Committee and the IAG Council was informed of the procedure. This procedure was also endorsed by the participants of Symposium G6 in Birmingham.

Georges Balmino, Gerhard Beutler (chair), Fritz Brunner, Jean Dickey, Martine Feissel, Rene Forsberg, Reiner Rummel, Fernando Sanso and Klaus-Peter Schwarz were appointed by the IAG Executive Committee as *IAG Review Committee* Members in Birmingham. Due to CNES-internal reasons Georges Balmino decided to leave the IAG Review Committee. He was not replaced. Members and e-mail addresses of the IAG Review Committee are contained in the first part of Table 1, Appendix A.

The IAG Review Committee had a first organizational meeting after the closing session of symposium G6 in Birmingham, a business meeting in San Francisco (attached to the AGU Fall Meeting) and a third meeting on February 13 as the final preparation step of the Retreat.

The IAG Review Committee decided that the *IAG Retreat 2000* should be held early in 2000 to come up with a proposal for a new IAG mission, new IAG objectives, and, eventually, with a new IAG structure. It was furthermore decided that Dr. Werner Gurtner from the University of Bern should act as secretary of the Retreat and that Prof. Ivan I. Mueller should be asked to moderate the discussion part of the Retreat. Both colleagues accepted to assume their responsibilities.

Martine Feissel offered to compose an IAG-Questionnaire and to conduct a poll concerning the expectations of the IAG “customers” or “stakeholders” concerning the new IAG. This proposal was gratefully accepted by the IAG Review Committee. Martine Feissel’s work is documented in *Feissel (2000b)*.

3. The IAG Retreat 2000: History, Committee and Invitees, Preparation, Schedule and Chronicle

The *IAG Retreat 2000* was planned by the IAG Review Committee in fall 1999 mainly by e-mail. The business meeting of a subset of committee members in December in San Francisco during the AGU Fall Meeting was an additional element of the preparation phase.

The *IAG Retreat* took place from February 14-16, 2000 at Jet Propulsion Laboratory (JPL) in Pasadena. The IAG Retreat 2000 was a three days *brainstorming event* of the IAG Review Committee and of invited speakers and participants from inside and outside IAG.

It was the declared goal of the Retreat to

- *analyze the current situation* of IAG,

- *define the future goals* of the Association,
- *specify the measures to be taken to achieve these goals*, and to
- *draft a new structure of IAG* to meet the challenges of the future.

Table 1, Appendix A lists the names of all participants, namely the IAG Review Committee members, the invitees, the secretary and the moderator of part 2 of the IAG Retreat 2000.

The IAG Review Committee identified a number *IAG stakeholder groups* and asked distinguished representatives of these groups to prepare *position papers* to be available before the IAG Retreat 2000 and to be presented at the Retreat.

Seven stakeholder groups were identified by the IAG Review Committee:

1. IAG experts (in particular from IAG Services)
2. Academic Sector (research and education)
3. National Surveys and Geodetic Organizations
4. IUGG, IAU and former IUSM sister associations of IAG (i.e., geophysical societies), ISPRS, etc.
5. National or international geophysical unions, societies (AGU, EGS, ...)
6. Space agencies and international programs (NASA, ESA, COSPAR, ...)
7. Developing countries resp. international (as opposed to European and North American) countries.

Table 2, Appendix A gives the lead authors, the titles of the position papers, and the numbers of the associated stakeholder groups. It was decided at the Retreat to consider the Analysis of the IAG Poll, as performed by Martine Feissel, as a position paper, as well. It is given the label 1-8. The full titles of the position papers are included in the reference section (and they may be retrieved as explained above). All position papers were available at least one week before the IAG Retreat 2000 through an ftp server at the University of Bern. Hardcopies of the entire information including schedule, etc. were made available to all Retreat participants in binders by the local organizers in Pasadena.

The papers *Beutler et al. (2000)*, *Beutler (2000)*, *Dermanis and Sanso (1999)*, *Schwarz (2000b)*, *Tscherning (1999)* and *Tscherning (2000)* provided very valuable input for the authors of the position papers and for the Retreat participants. Shortly before the workshop Jean Dickey and produced the paper *Dickey (2000a)* with reflections concerning a possible new structure of IAG. This paper was slightly modified after workshop *Dickey (2000b)* and contains essential elements for the structure proposed. All papers mentioned were available in the same above mentioned ftp area and, at the retreat, as hardcopies in the binders.

The schedule of the Retreat is contained in Table 3, Appendix A. On February 14, in the morning and in the early afternoon of February 15 the current situation of IAG was analyzed from different stakeholders' points of view. Goals to be achieved and measures to be taken were proposed by the authors of the position papers. The list of position papers are contained in Table 2. A first summary and discussion session concluded the second day.

In the evening of February 15 Beutler, Manning, Mueller, and Rummel discussed the table of content for the summary to serve as the basis for the final day of the Retreat. Beutler prepared this summary in the (very) early morning hours of February 16.

The first half of the morning of February 16 was reserved to summarize the goals the new IAG should achieve, to identify the primary objectives, the elements for the new IAG mission statement, and to agree on the basic elements for the proposed new structure emerging from this process.

The rest of the day was used to compile a list of recommendations and action items. Actually (as opposed to the official schedule in Table 3, Appendix A) the entire remaining working day of February 16 was spent on that issue.

After the initial summary by Beutler early in the morning two sub-groups were formed to fine-tune the mission statement and the objectives on one hand and to draft a new structure on the other

hand. Sub-group 1 consisted of Dehant, Fortes, Fritz, Heki, Milbert, and Schwarz, Sub-group 2 of Dickey, Brunner, Forsberg, Neilan, Rummel, and Sanso. Beutler, Manning, Mueller, and Rummel, who prepared the input for the discussion, were not included in these sub-groups.

4. Goals to be Achieved by the New IAG

The goals and measures as identified by the Retreat Participants as the key elements for the new IAG all stem from the position papers (including the IAG Poll). This list, as summarized by Beutler on February 16, was approved by all Retreat participants at the Retreat. It was subsequently distributed by e-mail and not disputed.

Table 4 in Appendix B contains the agreed upon the goals and measures. Even in this screened list one recognizes some overlap. From Table 4 and from all discussions and disputes on February 16 the general consensus emerged that

- the new IAG structure must be simplified (goal 1, 2, 6),
- services should be given better visibility in IAG (goal 3),
- services should be represented in the new IAG Executive Committee (goal 3),
- IAG should do its best to preserve, maintain, and improve the global geodetic infrastructure needed in modern global geodesy and geophysics (goals 4 and 5),
- publication and communication should be improved in future (goal 2) to include not only theoretical articles,
- the IAG role in professional education should be enhanced (goal 7),
- IAG visibility in related sciences, in international organizations (UNESCO, etc.) and in the society in general should be improved by, e.g., providing the global references to the IUGG, IAG, FIG, etc. (goals 5, 8, 9, 10) and by making IAG's contribution to the (geo-)sciences officially accepted, and that
- IAG presence in developing parts of the world should be significantly improved (goals 11, 12, 13).

Table 4, Appendix B summarizes the key elements identified at the Retreat to derive the new mission statement, the objectives, and the structure for the IAG. There were many more concrete goals and action items proposed in the position papers. The authors of the position papers were asked to compile a list of such action items not contained in Table 4, Appendix B for consideration by the IAG Executive Committee.

5. New Mission and New Objectives

Based on the proposal prepared by sub-group 1 on the final day of the Retreat it was agreed that the following mission statement and objectives should be proposed to the IAG Executive Committee:

IAG MISSION

The mission of the International Association of Geodesy (IAG) is the promotion of the science of Geodesy through the study of the Earth and of other planets by collecting, analyzing, and modeling observational data, in particular by a consistent representation of the figure, rotation, and gravity field of the Earth and their temporal variations.

IAG OBJECTIVES

To achieve its mission, the IAG shall pursue the following objectives:

- (a) study all problems related to the definition, establishment, and maintenance of global and regional reference systems, positioning, deformation, gravity field determination, time transfer, and rotational dynamics at the highest possible levels of accuracy
- (b) support the maintenance of geodetic reference frames by continuous, long-term observations and archival of results through international services
- (c) provide observational and processed data, standards, and models in a form that maximizes the broadest possible range of research and application
- (d) initiate, coordinate, and promote international cooperation and knowledge exchange through symposia, workshops, summer schools, training courses, publications, and other means of communication
- (e) foster the development of geodetic activities and infrastructure in all regions of the world, taking into consideration the specific situation of developing countries
- (f) collaborate with the international science and engineering community; supporting the application of geodetic theory and techniques, and the interpretation of results
- (g) cooperate with national and space agencies for establishing research goals, missions, and projects.

6. Proposed New Structure

Preamble 1:

The paper *Dickey (2000a)* served as basis of the discussion concerning the new IAG structure; many essential elements of this proposal were adopted by the IAG Retreat Participants. Appendix C.2 summarizes some of the discussions that were held on February 16.

Preamble 2:

As one might perhaps conclude from the proposed IAG mission and the IAG Objectives, *Applied Geodesy is proposed to be part of the new IAG*. The aspect was addressed in the first afternoon session on February 15 and answered in the affirmative sense.

6.1 Recommendations

6.1.1 Commissions, Services, Communication and Outreach Branch, IAG Projects

The current IAG structure, consisting of many layers (Sections, Commissions, Special Commissions, and Services) on different levels of the hierarchy, must be streamlined to have on one and the same level of the hierarchy

- (1) Commissions
- (2) Services
- (3) Communication and Outreach Branch
- (4) A Maximum of 1-2 IAG Projects established by the IAG Executive Committee

Commissions focus on research and theory, **Services** on scientific data and products. **IAG Projects** must cover a wide area of geodesy. Such projects must have a high visibility within IAG and should be viewed as **IAG Flagships** and as IAG's contribution to a wider field of science and to society.

The IAG Review Committee also proposes to establish GIGGOS (after a suitable renaming) as the only Project on this level for the time period 2003-2007.

The **Communication and Outreach Branch** should be a permanent IAG office for publication and publicity. The branch would have an executive member addressing issues of publication, newsletters, web-sites, and global outreach. It will be necessary to have a permanent office for the new Communication and Outreach Branch. It is proposed that an organization is sought by a *Call for Participation*.

The success of modern IAG Services resides in the facts that “complete solutions” from data recording to final products are produced and made available and that they are relatively independent in setting up their structure. The steps necessary to perform their mission include research, and this characteristic should be preserved.

The *new* Commissions have nothing to do with the currently existing IAG Commissions. They are dealing with research issues, new trends, new technologies, etc. in the entire field of geodesy. It was generally agreed that there should be only 3-5 Commissions to cover the entire field of Geodesy.

To fix the ideas, we mention that the commissions might, e.g., be composed as follows:

1. Commission on Reference Frames
2. Commission on Gravity
3. Commission on Geodynamics
4. Commission on Positioning and Applications

Another solution would be to replace Commission 4 by Observing Systems (incl. Space missions), still another would completely remove Commission 4, assuming that these aspects might be addressed in Commission 1. Additional considerations may be found in Appendix C.2.

No firm proposal concerning the names for new Commissions was made at the Retreat. However: **The principle of having few commissions covering the entire field of geodesy was never questioned.**

Commissions, Services, and Outreach Branch are assumed to have an internal structure following certain guidelines specified in Terms of Reference (to be drafted after the IAG Executive Committee Meeting in April in Nice). In order not to come up with a complicated overall structure, the Commission (and Service) structure should be simple, as well.

6.1.2 IAG Central Bureau, IAG Bureau, IAG Executive Committee

The following consensus concerning the IAG Central Bureau, the IAG Bureau, the IAG Executive Committee, and the IAG Council was reached at the Retreat:

- (a) The new IAG, as the “old” one, needs a **Central Bureau** with the Secretary General of the Association as its Director. Rights and duties remain the same as today.
- (b) The **IAG Bureau** consists of President, Vice-Presidents, and Secretary General. It provides an active IAG leadership.
- (c) The **IAG Executive Committee** consists of the Bureau, three representatives of the IAG Services, the Commission Presidents, the President of the Communication/Outreach Branch, and of two members at large appointed by the new IAG Executive Committee upon recommendation of the new IAG Bureau.
- (d) The **IAG Council** is the IAG legislative. Its functions, duties and privileges remain in essence unchanged. (Minor changes might be required to account of the proposed individual membership).

The main changes with respect to the composition of the current Executive Committee concern the representation of the services and the members at large. The latter are meant to balance geographical representation and/or to emphasize important topics.

The service representation was specified in the following way:

- The services with the deepest impact on geodesy, geodynamics, and related fields should be represented in the IAG Executive Committee.
- In view of the current situation it is proposed that the IERS and IGS delegate each one Directing Board resp. Governing Board member into the IAG Executive Committee. This assessment must be reconsidered periodically.
- The new IAG Bureau appoints at the beginning of each four year period one representative stemming from one of the other IAG services as an Executive Committee member.

It is assumed that the Chairman of an IAG Project is a member of the Executive Committee. Should this not be the case, he might be appointed as a member “at large”.

6.1.3 Nominations and Elections

The Retreat participants recommend, that at least two candidates per “important position” are nominated and that their names and curricula are made available to the Council members two month prior to the elections.

6.1.4 Individual Membership

There was a consensus that individual membership in IAG should be proposed to the IAG Executive Committee. Schwarz was asked by to come up with a concrete proposal.

6.1.5 Further Activities of the IAG Review Committee

The IAG Review Committee is prepared to continue with its work after the IAG Executive Committee on April 28/29 in Nice. It is clear that the feedback from the Executive Committee will be taken into consideration. It should also be kept in mind, however, that the IAG Review Committee performs its work independently from the IAG Executive Committee – exactly as it did in the past.

Assuming that the IAG Executive Committee in essence agrees with the the plans developed so far, the agenda items to be dealt with till the end of the year 2000 are the following:

- develop a plan for individual membership,
- draft Terms of Reference for Services, Commissions, and Outreach Branch,
- clarify the role of methodology and theory in the new organization,
- draft a Call for Participation for the new Communications / Outreach Branch,
- come up with a list of Commissions, and
- draft new IAG Statutes and By-Laws.

Acknowledgements

The IAG Review Committee wishes to express its gratitude for the excellent organization of the IAG Retreat 2000 towards the local organizers of the Retreat, in particular to Jean Dickey and Ruth Neilan, towards the authors of the position papers for their substantial contributions, toward all Retreat participants for their constructive and concentrated work, and, last but not least, towards JPL and IAG for their generous financial support of the IAG Retreat 2000.

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A. Committee, Retreat Participants, Schedule of Retreat

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Table 1: The IAG Review Committee, Retreat Participants, Secretary and Moderator

Stakeholder	Lead Author	Title
1.-8.	M. Feissel	Report on the Poll about the Role of IAG
1.	J. Kouba et al.	The IAG Mission, Role and Organization from the Perspective of IAG Services
2.	R. Rummel	IAG's Mission/Duties from the Research and Education (Academic Sector) Point of View
3.	R. Forsberg	IAG Missions and Duties from the National Agencies Point of View
4.	J. Dickey	IAG-2000: A Vision towards the Future, Links with IUGG Sister Organizations
5.	V. Dehant	IAG Polling about the Role and Activities of IAG. Special Target IAU, COSPAR, AGU and EGS
6.	C. Wilson	IAG's Mission and Duties from the Space Agency Point of View
7.	J. Manning	IAG: A non-US/non European perspective: Mission/Duties from a Stakeholder Group's Point of View

Table 2: Position Papers

Date	Time	Title of Session	Author	Chair
Feb 14	8:30-10:15	What do we want to achieve? Evaluation of Questionnaire	Beutler Feissel	Schwarz Schwarz
	10:45-12:00	Mission/Duties as proposed by the IAG Services	Kouba	Neilan
	01:30-02:45	Mission/Duties as proposed by the Aca- demic Sector	Rummel	Sanso
	02:45-04:00	Mission/Duties as proposed by Space Agencies	Wilson	Neilan
	04:30-05:45	Mission/Duties as proposed by Na- tional Geodetic Organizations	Forsberg	Heki
Feb 15	08:30-09:45	Mission/Duties as proposed by the IUGG Sister Organizations	Dickey	Dehant
	09:45-11:00	Mission/Duties as proposed by IAU/COSPAR/AGU/EGS/...	Dehant	Dickey
	11:30-12:45	Mission/Duties as proposed Non- US/European Countries	Manning	Fortes
	02:00-03:00	Engineering in IAG Reflections on a Focus	Brunner Schwarz	Rummel Rummel
	03:30-	New Mission, New Structure: Summary and Discussion		Mueller/Beutler
Feb 16	08:30-10:30	Proposal(s) for a new mission and structure		Mueller/Beutler
	11:00-12:30	Recommendations and Action Items		Beutler/Mueller

Table 3: Schedule of IAG Retreat 2000

B. Main Goals and Associated Measures for the New IAG as Identified at the IAG Retreat 2000

#	Goal	Measures
1	Enhance IAG Role, Relevance and Membership	Develop new Mission, Charter, and Structure, revise them regularly
2	Enhance Coordination Role	New organization with three to five sections; improve publication, enhance commission and service mandates, promote ITRF
3	Improve role of services	Consolidate and merge services, introduce service representation in Executive, reduce SSGs, link them to services where appropriate
4	Maintain and enhance global infrastructure	promote and global geodetic reference, support state-of-the-art instrumentation, encourage collocation
5	Improve IAG Visibility	Establish GIGGOS, get program adopted by UNESCO, ICSU, engage in CHAMP, GRACE, GOCE, CRYOSAT, ICESAT, etc.
6	Analyze Current Structure	run effectively sections, commissions, services, and GIGGOS, some services might be combined into one service
7	Increase IAG role in professional education and training	Organize traditional schools, expand to all areas of geodesy, in particular to GPS processing, secure economic resources, encourage regional activities, organize pool of teachers, expand IAG software services
8	Provide links and interactions with other associations	Set up Joint Working Group, Interassociation Symposia at IUGG General Assemblies, General Assemblies joint workshops with other Associations, joint Summer Schools with ISPRS, FIG. Utilize the meetings of geophysical societies (e.g., AGU and EGS) as a forum for discussion.
9	Provide infrastructure, reference frame, constants for IUGG&IAU	Establish constants, ITRF, promote densification of the ITRF, Establish ICRF with IAU
10	Establish IAG as the source for documentation and standards for software, models and products	Use www as the source for such information, embrace IERS and other 'standards' as IAG standards, Continue refinements of ITRF and its publication
11	Promote geodetic activities in developing countries on a regional basis	sponsor annual meeting, symposium, workshops in of Africa, South America and Asia or pacific regions, establish contact for each country, work jointly with FIG, facilitate, fund attendance at major conferences
12	Promote membership and involvement from countries in Asia Pacific region	Determine current membership status, develop a contact list, hold a regional meeting on regional GPS densification amongst Pacific nations in conjunction with SOPAC during 2000, extend IAG communication by printed and Internet newsletters, Facilitate regional IAG newsletters in Asia Pacific; South America; Africa
13	Promote international cooperation with other bodies on scientific and practical levels	Support the network activity of the PCGIAP Geodesy Group and SIRGAS. Establish a coordinating mechanism for the Africa, coordinating groups with other communities, appropriate reporting/support links with APSG on Geodynamics in Asia Pacific region

Table 4: Principal Goals and Measures

C. Alternative Formulations and Additional Considerations

C.1 The Mission Statement

In an e-mail dated March 3, 2000 Jean Dickey proposed to modify the IAG Mission statement as follows:

IAG Mission. The mission of the International Association of Geodesy (IAG) is the promotion of the study of the Earth and planets through the advancement of Geodesy utilizing its synergistic strengths in theory and methods; in technology and mission development; and in observations, analysis and associated interpretation; in particular by a consistent representation of the figure, rotation, and gravity field of the Earth and their temporal variations.

It was agreed that the original version (as contained in the main text) should be retained.

C.2 Detailed Considerations Concerning the New IAG Mission and Structure

Dickey (2000b) proposed to use the name *Board* for what is called *Commission* in the Review Committee's proposal.

The Review Committee's attitude was, that it would be a good idea to make this distinction at the Retreat, but that the proposed name might give a wrong impression on the long run. The expression *Commission* was generally accepted.

Let us address a few other items of the structure debate.

Commissions

According to *Dickey, (2000b)* the proposals for Commissions considered by sub-group 2 were:

Proposal A:

- 1: Reference Frames
- 2: Gravity
- 3: Geodynamics
- 4: Observing Systems

Proposal B:

- 1: Reference Frames
- 2: Gravity
- 3: Geodynamics
- 4: Positioning and Applications

Proposal C:

- 1: Reference Frames
- 2: Gravity
- 3: Earth Rotation
- 4: Geometry and Deformation
- 5: Applied Geodesy

Proposal D:

- 1: Reference Frames and Positioning
- 2: Gravity
- 3: Advanced Space Techniques

Proposal E:

- 1: Positioning, Crustal Deformation & Applied Geodesy
- 2: Gravity
- 3: Global Geophysics and interdisciplinary studies
- 4: Emerging Technologies and Missions
- 5: Theory and Methods

Only proposals A (including Commission 4 into Commission 1), B, and a simplified version of C were briefly discussed in the plenum. A decision on the actual commissions was postponed till after the IAG Executive Committee Meeting in Nice.

Services

The Analysis of the IAG Questionnaires by Martine Feissel and all position papers revealed that the IERS and the IGS are considered as the *front-runners* of IAG services. Their products are needed by broad scientific and application user communities. There was a general consensus that the IERS and IGS positions and visibility within IAG must be improved.

Other services are of great importance for specialized tasks (e.g., the BIPM for the definition and dissemination of UTC), still others like the bibliography service are of use to the specialist.

It was strongly recommended that some of the services are merged to bigger entities (e.g., to form one gravity service). One might also think of integrating the bibliographic service into the new outreach branch.

This “fine tuning” in the service area is highly recommended by the Retreat participants, it should be endorsed later on by the IAG Executive. Immediate action is not required, however.

Before such “between-service steps” have been taken, it is recommended, that all services are on the same level as the new Commissions, but that only three service representatives will be in the IAG Executive Committee.

After a lengthy discussion the model presented in the main text was proposed and adopted by the Retreat Participants. It is assumed that through this proposal the services’ importance and visibility will be adequately dealt with in IAG.

Concrete proposals concerning the unification of different services will have to be made at a later stage.

General Considerations concerning Commissions, Services, and Outreach Branch

It was acknowledged that the new Commissions (exactly as the bigger services), will need a well defined structure which has to be drafted as soon as possible — at the latest immediately after the IAG Executive Committee meeting in April in Nice.

The size of the Commissions was a concern for all Retreat participants. In order to alleviate the problems it was proposed by Beutler that the new Commissions, exactly as the big services, should have a permanent *Central Bureau* handling the day-to-day workload in order to allow the Commission President to focus on scientific issues and general guidelines. The Retreat Participants had no clear view concerning this issue.

Project(s) on the Commissions/Services Level

Reiner Rummel in his position paper *Rummel (2000)* strongly recommended that the entire IAG structure should be centered around the realization and maintenance of what he calls *GIGGOS*.

The acronym stands for Global Integrated Geodetic and Geodynamic Observing System (GIGGOS). GIGGOS should be viewed as IAG’s contribution to geosciences.

On the one hand the Retreat participants took over Rummel’s view by accepting his principal goal as one of the future IAG key elements (see Table 4, goal 5). On the other hand it was also clear that the Retreat participants had difficulties building a structure of an international scientific association uniquely on GIGGOS, which has all attributes of a project.

It was therefore recommended and, based on an e-mail consultation after the Retreat, unanimously accepted, that the IAG Executive Committee should be allowed to define one or two projects on the

same level as the Commissions, the Services, and the Outreach Branch.

It was also generally accepted that the IAG Review Committee should recommend the IAG Executive Committee to establish GIGGOS (if possible with a “better” name) as the first and initially only project of this kind together with the implementation of the new IAG structure.

Outreach and Communication Branch

This should be a permanent IAG office for publication and publicity activities. The branch would have an executive member addressing issues of publication, newsletters, web-sites, and global outreach.

It became clear in the discussion that the obligations in this proposed new IAG unit would require an institutional commitment. The IAG Review Committee proposes that the IAG Executive Committee issues a "Call for Participation" for that purpose.

The new IAG Structure may, according to *Dickey (2000b)*, be viewed as having a section branch, a services branch, and an outreach branch. This view was accepted from the philosophical point of view, but it was clearly said that this view should *not* add an layer into the new IAG structure.

It was the Retreat participants view that Services, Commissions, and Communication and Outreach Branch should be directly “under” the IAG Executive Committee.