



Strategic Action Plan

International Union of Geological Sciences

Version 27 April

1. Introduction

During its meeting on September 12-14, 1999 in Prague, Czech Republic, an ad-hoc Strategic Planning Committee (SPC) chaired by Dr. Peter Cook, tabled 32 recommendations on future directions for the IUGS, based on the results of an inquiry sent out to IUGS National Committees, Affiliated organizations, IUGS Commissions Committees, and IUGS Partner organizations. Together with explanatory notes, these recommendations were discussed in the IUGS Executive Committee meeting in Cairo, late January 2000, then published and distributed in March 2000. During its meeting on August 11, 2000, the IUGS Council approved the recommendations and requested the new IUGS Executive Committee to proceed with implementation.

In autumn 2000, a Task Group was formed consisting of six members of the Executive Committee (De Mulder (Chair), Boriani, Janoschek, Plant, Sato and Bobrowsky) with secretarial assistance by Refsdal of the Permanent IUGS Secretariat. The Chairman developed potential options for implementation—and in its meeting on December 15-17 in Catania, Italy, the Task Group selected from all (to the group) imaginable options the preferential option for implementation of these recommendations, and also proposed follow-up actions. The following brief report is the result of the above-mentioned meeting in Catania. Apart from one recommendation (19), which was kept pending and one other (23) which was postponed, the Task Group reached consensus for all preferred options for implementation.

The conclusions of the Catania meeting including the proposed Actions were drafted in a Draft Strategic Action Plan (DSAP) which was sent to all members of the Executive Committee for comments. The comments were received in January 2001 and incorporated in a second version of the Draft Strategic Action Plan. During the Executive Committee meeting in Hyderabad, India (26 February – 2 March 2001) one day (27 February) was entirely devoted to discussions on this Draft Strategic Action Plan. The discussions led to consensus over all the proposed Actions for implementation of the recommendations by the Strategic Planning Committee (SPC). These Actions are described in this report.

2. Implementation of recommendations; actions

For a detailed description of the recommendations and explanatory notes one is referred to the IUGS strategic planning document of March 2000. In the current report the recommendations are presented without motivation and some closely related recommendations are clustered.

IUGS's Mission

The (redefined) mission of IUGS is to unite the global geological community in

1. Promoting development of the earth sciences through the support of broad-based scientific studies relevant to the entire earth-system, and
2. Applying the results of these and other studies to preserving Earth's natural environment, using all natural resources wisely, and improving the prosperity of nations and the quality of human life.

IUGS' Goals

IUGS will emphasise the following goals, which are not in order of relevance and not exclusive:

Serve as an impartial, international scientific union addressing global issues that involve the earth sciences

Contribute to the advancement of geological research throughout the world, including both fundamental earth science aimed at understanding the global earth system (a plexus of geological, geophysical, geochemical, and biological processes and their myriad complex interactions), and applied earth-science that uses the developing understanding of the earth system to address problems of particular relevance to the welfare of the human population and the earth.

Represent the geological sciences in governmental and non-governmental forums to inform, advise and influence public policy and decision-makers

Encourage, in cooperation with other organizations, more interdisciplinary involvement within the broad spectrum of the geosciences in developing solutions to global problems

Foster collaboration between developed and developing countries in earth science research, capacity building and applications

Contribute to earth science education and the advancement of public understanding of the earth sciences and their significance in solving societal problems

Encourage the career development of young earth scientists

Increase the relevance of IUGS publications to issues of truly global earth science and make these publications more widely available

Enhance the visibility of the earth sciences and demonstrate their profound influence in planning for rehabilitation and preservation of the future planetary environment by seeking greater involvement in public affairs and by publicizing the critical role that only the earth sciences can play.

Since these goals are discussed more explicitly elsewhere in this document, no specific actions for implementation of the IUGS goals were required here.

SCIENCE

This topic includes new directions, new approaches and critical assessment of the science in IUGS. The related recommendations comprise primarily numbers 4 to 11, but have implications as well for recommendations 16, 17, 22 and 24.

As to the **new directions**, the Executive Committee slightly modified recommendation 4 by adding a 6th statement. The recommendation now reads:

The IUGS should embark on new, high-priority earth-science activities of demonstrable relevance to society, including, but not limited to:

- Reducing vulnerability of communities to natural hazards
- Mitigating the effects of waste and pollution
- Understanding global environmental change
- Understanding biodiversity
- Managing resources and sustaining the environment
- Understanding the relationship between geological factors and health.

Since these new directions are of a very general nature and their implementation will be pursued through participation in current and new international scientific programs, no specific actions for implementation of the new directions in IUGS science are required.

As to the **Advisory Board for Research Development**, to which topic recommendations 5, 10, 16 and 17 are related, the Executive Committee concluded that IUGS needs a new Committee of internationally renowned geoscientists to maintain foresight of new directions in fundamental and applied geosciences and technology, and to make recommendations based on this analysis to the EC. This Committee should be named Committee for Research and Development (CRD) (as agreed in the Bureau meeting of March 23). In contrast to recommendations 5, 10 and 16 by the Strategic Planning Committee, the Executive Committee concludes and proposes that the CRD (ABRD in former terminology) should not act as an evaluating committee for submitted proposals seeking IUGS funding, nor should it review proposals for new programs or evaluate existing programs. The Executive Committee concluded that such tasks should not be charged upon a CRD which is seen as a think tank of eminent geoscientists in very senior positions. In contrast, evaluation and review of IUGS activities is considered as a primary task of the Executive Committee itself. Therefore, such tasks should be conducted through Ad-hoc Review Committees (ARC's, name agreed in the Bureau meeting of March 23) drawn primarily from members of the Executive Committee to which, for specific review tasks, external experts will be invited to participate. As a consequence of this split in tasks between the CRD and ARC, the Executive Committee concluded that the mandate of the CRD should not include the mandate of a Strategic Planning Committee (recommendation 17).

Actions:

- a. Create Task Group consisting of de Mulder (chair), Plant and Al-Hashimi (Task Group 1)
- b. Task Group to propose Terms of Reference for the Committee for Research and Development (CRD) and Ad-hoc Review Committees (ARC)
- c. Task Group to develop profile for successful candidate members of the CRD

- d. Task Group to propose nominees for leader and members of CRD
- e. EC to approve Terms of Reference and nominees of CRD

As to the ***new IUGS Proposal policy***, recommendation 6 reads:

Recognizing that the earth constitutes a system of interrelated physical, chemical, and biological processes and interactions, the IUGS programs should include an appropriate balanced mixture of both basic and applied earth science, as well as interdisciplinary and multi-disciplinary studies.

The Executive Committee concluded that successful project proposals for the IUGS grants should be distinct from those which comply with the IGCP regulations. In compliance with the above stated recommendation, successful proposals should cover both fields of basic and applied sciences. Keywords for successful proposals are scientifically excellent, social relevant and promote visibility of IUGS.

Actions:

- a. Create Task Group consisting of Brett (chair), Gaál, Sato and Speden (Task Group 2)
- b. Task Group to develop strict criteria (among which: broad significance, compliant with IUGS aims and objectives, publication of project results in IUGS media, clearly distinct from IGCP projects, limited in number) and to check criteria set for such proposals by ICSU, INQUA, etc.
- c. CRD to determine scientific fields open for tendering keeping a balance between pure and applied sciences
- d. EC to approve criteria
- e. EC to send out invitations for projects
- f. EC to approve project proposals

As to ***increase IUGS involvement in joint programs and projects***, recommendations 7, 22 and 24 are at stake. These read:

- 7. The IUGS should promptly enter in negotiations with other Unions, other ICSU entities, and other organizations to ascertain their willingness to participate as fully recognized team members in high-quality multi-disciplinary projects of obvious benefit to science or society and in which the expertise of the communities represented by these other Unions is needed.
- 22. Effective working partnerships should be forged with other ICSU Unions and greater emphasis placed on multi-disciplinary, society relevant studies; together these will enhance the image of the earth sciences within the International Council of Science (ICSU) and improve the IUGS's prospects for significant ICSU funding.
- 24. The IUGS should explore cooperation with other UNESCO entities besides the Division of Earth Sciences, and also other UN agencies.

The Executive Committee concluded that all imaginable options for increasing IUGS' participation in programs with other Unions, other ICSU entities, UN bodies, and other organizations, should be explored at all levels to substantially increase IUGS involvement

in such programs. (cont. next page)

Actions:

- a. Each EC member to generate a list of potential projects and partners by consulting own networks (long list)
- b. EC to evaluate long list and make selection (by e-mail)
- c. Task Group, consisting of de Mulder (chair), Cadet and Nyambok (Task Group 3), to approach selected partners and invite them to participate in joint projects/programs
- d. Janoschek to approach other ICSU members (e.g. IUGG, IGU, IUSS, IUBS)
- e. All officers to present IUGS to relevant external bodies, as EuroGeoSurveys, CCOP, UNESCAP, FOREGS, ICOGS.
- f. Boriani & de Mulder take initiatives to become invited in meetings of other related Divisions in UNESCO

As to **Standardization** the recommendation (8) reads:

Standardization programs and projects continue to be an important part of the IUGS portfolio of activities.

The Executive Committee concluded that IUGS should become a source of information on international standards for the Geological Sciences, based on the findings of its own Commissions and those of other learned bodies

Actions:

- a. Boriani to request the IUGS bodies to provide detailed information on their recommended standards for posting on the IUGS website
- b. Offer the opportunity to Affiliated organizations to provide IUGS with information on recommended standards, or methods of accessing this information
- c. EC to review and approve internal IUGS standards and submitted other standards before posting on the web
- d. Standards on the web
- e. EC to identify activities requiring international standardization

As to **Technology transfer and Education**, the recommendation (9) reads:

Technology-transfer and geological education focusing on developing countries should continue to be key-activities of the IUGS.

The Executive Committee concluded that concerning technology-transfer no immediate action was considered necessary since the current activities through DMP, GARS, and IGCP address this issue adequately. With respect to education, the Executive Committee concluded that recent contacts with IGEO should be intensified by exploring the possibility to develop a joint initiative on geoscience education. (cont. next page)

Actions:

- a. Bobrowsky to explore possibilities for a joint IUGS-IGEO initiative for geoscience education
- b. Create Task Group consisting of de Mulder (chair), Plant and Speden (Task Group 4)
- c. Task Group to propose Terms of Reference for the new group
- d. Task Group to develop a profile for successful candidate group members
- e. Task Group to approach Fyfe, National Committees, IGEO, Affiliated & Partner organizations (UNESCO) to suggest nominees
- f. Task Group to propose nominees
- g. Nominees and Terms of Reference to be approved by EC
- h. Task Group on Education commences work

Concerning ***exposure of the results of IUGS supported scientific activities to the public***, recommendation 11 reads:

The results of IUGS supported scientific activities should be made public using appropriate formats and venues. These include, for example, mainstream scientific journals, book-length monographs, scientific meetings, thematic seminars and specialist conferences, and press conferences.

The Executive Committee concluded that the IUGS should give priority to promote itself and expose its products to a wider scientific and non-scientific public and media by utilizing all avenues available as well as search for new opportunities to achieve this goal

Actions:

- a. Create Task Group consisting of Bobrowsky (chair), Cadet, Gaál and Plant (Task Group 5)
- b. Task Group to explore all possibilities to increase exposure
- c. Task Group to collect position statements through Public Affairs Working Group (Applegate)
- d. Task Group to identify Press or PR Co-ordinator e.g. through Geological Surveys
- e. EC to approve Task Group recommendations
- f. Start exposure activities

ORGANIZATION & OPERATIONS

These issues were addressed by the SPC in recommendations 12-21, some of which have been addressed elsewhere, whereas other recommendations (27, 28, 31, 32) will be discussed here in connection with Organization and operations.

As to the ***involvement of scientists of under-represented groups in work of the Union***, recommendation 12 reads:

More effort should be made to involve scientists from under-represented groups, such as young scientists, women, and scientists from developing countries, in the work of the Union.

The Executive Committee concluded that all IUGS Task Groups implementing the Strategic Plan and dealing with new IUGS activities should involve scientists of under-represented groups

This conclusion can also be read as an action.

As to ***decision-making in IUGS***, recommendation 13 reads:

The decision-making process of the IUGS is far too slow, and is a major impediment to the effectiveness of the Union; it should be changed to allow necessary decisions by the Council to be made and put into effect between the Council meetings.

The Executive Committee considers this issue top priority and concluded that decision-making should be significantly accelerated by developing an electronic voting procedure for both the Council and the Executive Committee. This necessitates change of Statutes number 24.

Action:

- a. De Mulder to propose change in Statutes 24 to the EC and, after approval, to the Council
- b. Introduce electronic voting system for both the Executive Committee and the Council

As to the ***Permanent Secretariat***, recommendation 14 reads:

The continued existence of a Permanent Secretariat is vital to the future of the IUGS; it should be maintained and, if possible, strengthened.

The Executive Committee concluded that the Permanent Secretariat is a very important resource for the IUGS and should be kept as strong as possible. IUGS greatly appreciates the recent actions taken by the Norwegian National Committee and Geological Survey to guarantee its continuation and further strengthening for the coming four years.

No immediate actions for implementation are needed.

With respect to the **Advisory Board for Publications and EPISODES**, recommendations 15, 27 and partly 28 are involved. These read:

15. The full range of functions performed by the Advisory Board of Publications is critical to the future of the IUGS. It should be redefined as a Publication Committee, its remit broadened, and it should be provided with additional resources as justified and required.
27. Episodes, the IUGS quarterly journal, is critical to the Union's communications and should be retained. Future emphasis should be placed on high-quality review articles, information about the IUGS's activities and programs, and the calendar of future international scientific events. (cont. next page)
28. The IUGS should seek greater visibility and better financial returns from its program of publications. Regardless of the publisher, all publications stemming from IUGS-sponsored scientific work should carry the IUGS logo and be clearly identified in all respects as IUGS-sponsored publications.

The Executive Committee concluded that IUGS should continue to publish the results of its scientific activities but outsource these through an external publication house. EPISODES should consist primarily of high quality review articles and IUGS news, and its editorial board should be better exploited and possibly reorganized

Actions:

- a. ABP to advise EC on IUGS publications
- b. Create new Committee on Publications (CP) consisting of Caldwell (chair), Bobrowsky, Janoschek, Brett, Zhang Hongren, Spilhaus, Aaron (Task Group 6).
- c. CP to modify Editorial Board of EPISODES
- d. CP to identify publication house for outsourcing non-serial publications and assure IUGS identity for publications
- e. CP to Identify publication topics
- f. EC to approve proposals made by CP

As to the **Advisory Board for Finances**, recommendations 18 and partly 28, 31, 32 are relevant. These read:

18. An Advisory Board for Finance should be formally re-established with a clear remit to seek for external funds.
28. The IUGS should seek greater visibility and better financial returns from its program of publications. Regardless of the publisher, all publications stemming from IUGS-sponsored scientific work should carry the IUGS logo and be clearly identified in all respects as IUGS-sponsored publications.
31. Through the Advisory Board of Finances, the IUGS should seek to significantly increase its level of funding by developing new sources. These should include recruiting more Associate Members and giving consideration to establishing a category of Individual Members.
32. The IUGS should increase its membership fees by a total of 10% over the next few years, and, based upon a relevant, standard measure of monetary inflation, then keep them at realistic levels from then on.

The Executive Committee concluded that this issue is top priority to IUGS and that possibilities exist to expand IUGS' financial resources by increased external funding through a new Task Group, consisting half of EC members and half of external experts. It also concluded that recommendation 32 was implemented already by the approval of the new fees by the Council.

Actions:

- a. Create Task Group on Finances consisting of Bobrowsky (chair), Janoschek and Speden and external experts (Task Group 7)
- b. Task Group to conduct fact finding mission + related entities
- c. Implement parallel pathways
- d. Develop recommendations for EC
- e. EC to approve recommendations

As to the **Executive Committee**, recommendation 19 reads:

The Executive Committee should be strengthened and made more effective. The composition of the EC is then described.

The Executive Committee concluded that the composition of the EC has been approved by the Council. As to the responsibilities within the EC the Committee concluded that:

The Executive Committee shall carry out the administration of the IUGS as defined by the Council and shall hold at least one full meeting of the EC each year. The Bureau is responsible for the day-to-day operations and will consult the Executive Committee members on other issues, and will circulate agendas and minutes of Bureau meetings to all Executive Committee members. All members of the EC shall be entitled to participate in Bureau meetings at their own expense. Vice-Presidents (under the new statutes) shall be entitled to attend one Bureau meeting each year at IUGS's expense in addition to the annual Executive Committee meeting. The Bureau shall formally meet at least four times each year to administer the business of the Union and implementation of the decisions of the Council and the Executive Committee.

No further actions was deemed necessary for this issue.

As to the **Commissions and Working Groups**, both recommendations 20 and 21 apply. These read:

20. Scientific work within the IUGS should continue to be carried out primarily by Commissions and Working Groups. However, the number of such enterprises should be strictly limited by the funding available to provide adequate support to enable these bodies to achieve significant results within the time frames specified for their respective endeavors, and their duration staged so as to create regular opportunities to redirect funds to new earth-science enterprises.
21. Commissions should be established (or continued) for important scientific undertakings, the nature of which clearly requires long-term (8-12 years?) attention and funding. Working Groups should be project-oriented enterprises of shorter duration, typically funded for no more than 4 years. All funded

entities annually shall transmit to the Executive Committee a report summarizing their activities and accomplishments.

The Executive Committee concluded that appropriate and clear rules for Commissions and Working Groups in IUGS are lacking. No fixed termination dates nor absolute numbers for IUGS Commissions and Working Groups are considered necessary once such rules become available and the EC would be responsible for regular reviews of these essential scientific IUGS bodies.

Actions:

- a. Create Task Group of members of the EC for developing rules for Commissions & Working Groups, including accession and abandonment criteria. Task Group to consist of: Gaál (chair), Boriani, Nyambok and Speden (Task Group 8)
- b. EC to approve rules

IUGS PARTNER ORGANIZATIONS

These issues were addressed by the SPC in recommendations numbers 22-26, some of which have been discussed elsewhere (nos. 22 & 24).

As to the ***International Geoscience Programme, IGCP, previously the Geological Correlation Program***, recommendation 23 reads:

The International Geological Correlation Program (IGCP) has been an outstanding success; IUGS support and involvement should continue as it is critical to the future success of the IGCP. However, a rigorous external review is now desirable as a basis for setting future aims, directions and emphases. Such external review should also consider ways and means to ensure that the IUGS receives a fair share of recognition of its support of the IGCP and its significant, long-term contributions to the success of the Program.

The Executive Committee concluded that IUGS should receive greater recognition of its contributions to IGCP. However, in view of the excellent relations between IUGS and UNESCO and the professional way IGCP is operating at the moment, no further action for reviewing the IGCP was deemed necessary now.

As to the ***International Geological Congress***, recommendation 25 reads:

The IUGS should receive more recognition for its role as scientific sponsor of the quadrennial International Geological Congress (IGC); it should also receive a significant financial return for its role through the imposition of an IUGS levy on the proceeds of all future IGC's.

The Executive Committee not only has concerns about the visibility of its role in IGC but recognizes problems with the confusing organizational relationship between IGC and IUGS. IUGS considers solving this confusion as top priority and concluded that the relationship between IUGS and the International Geological Congress (IGC) should be changed and that IGC should be merged with IUGS as soon as possible. The Organizing Committee of the 32nd IGC has approved an IUGS levy of 20 USD per delegate.

Actions:

- a. Create Task Group consisting of Sato (chair), Boriani, de Mulder, Cordani and Zhang Hongren (Task Group 9).
- b. Task Group to seek recommendations from the IGC Steering Committee
- c. Task Group to develop position paper
- d. Position paper to be discussed and approved by EC
- e. Task Group to seek recommendations from the National Committees

As to **increase co-operation with IUGS' Affiliated organizations**, recommendation 26 reads:

Current arrangements between the IUGS and its Affiliated Organizations are thoroughly unsatisfactory and should be drastically revamped. The present arrangements confer little benefit on the IUGS and even less on the Affiliates. New and financially more realistic arrangements are required, for example, to involve the Affiliated Organizations (albeit on a gradual rotational basis as funding permits) in joint scientific endeavors with the Union. Other avenues of involvement of the Affiliates should also be investigated.

The Executive Committee considered this issue as a top priority and concluded that Interaction with Affiliated organizations should be improved while incorporating the many suggestions **offered** in the meeting with these organizations in Rio de Janeiro.

Actions:

1. Create Task Group, consisting of Brett (chair), Bobrowsky, and selected representatives of IUGS Affiliates (Task Group 10)
2. Task Group to explore the needs and wishes of various types of Affiliated organizations
3. Task Group to develop proposals to make IUGS more attractive to Affiliated organizations
4. Task Group to report their recommendations to the EC
5. EC to approve recommendations and charge EC officer with implementation of the recommendations

COMMUNICATION AND PUBLICATIONS

This issue was addressed by the SPC in recommendations 27-30, several of which have been addressed elsewhere, i.e. those on EPISODES and IUGS benefits and profits from the visibility of its publications (recs. 27 & 28).

As to the **IUGS website**, recommendation number 29 reads:

The IUGS website must be adequately supported and encouraged to continue its admirable growth in breath and usefulness. It should become the electronic 'hub' of the Union, and, as such, will contribute enormously to improving communications within the Union; disseminating data, information, reports, and policy positions; and reaching out **to** the general public and the education community world-wide to promote understanding of earth science matters, especially those of societal relevance.

The Executive Committee commends Aaron's work completed for the website. It considered this issue as a top priority and concluded that the website is a vital instrument for IUGS' visibility and should be maintained properly and incrementally be expanded.

Actions:

- a. Aaron be invited to continue as the IUGS webmaster
- b. Invite Aaron to incrementally change the website into a web portal, possibly through COGEOINFO
- c. Brett to act as the EC contact person with the webmaster
- d. Explore possibilities through National Committees to provide translations of select information on the website

8	GAAL	Commissions & WG's															
9	SATO	IGC															
10	BRETT	Affiliates															
11	MULDER	National Committees															

4. Finances

The Executive Committee recognizes that not all proposed actions can be conducted without spending money. In this table an indication of the estimated costs to the IUGS is given in USD.

Number	Recommendation	Costs for 2001	Annual costs for 2002-2004	Total cost until mid 2004
1,10, 16,17	Develop new ABRD	7,000	6,000	25,000
6	Proposal policy			
7,22,24	Joint programmes			
8	Standardization			
9	Education			
11	Exposure	15,000	10,000	45,000
12	Under-rep groups			
13	Decision-making			
14	Perm. Secretariat			
15,27,28	ABP & EPISODES	5,000		5,000
18	Fund raising	6,000	2000	12,000
20, 21	Commissions			
25	IGC			
26	Affiliates			
29	Website	2,000	1,000	5,000
30	National Committees			
	Expected total costs to IUGS	35,000	19,000	92,000

In conclusion, implementation of the Strategic Action Plan will cost the IUGS initially some 35,000 US dollars for 2001 and some 20,000 US dollars per year thereafter. It is to be expected, however, that these investments will be profitable and will generate more income to IUGS than the anticipated costs involved.

5. Follow-up & Performance

This Strategic Action Plan (SAP) is a next step to the implementation of the recommendations of the SPC. The following scheduled steps are described below:

Nr	Activity	As by
1	Task Groups commence work	April 1, 2001
2	SAP submitted for comments of Council members	April 27, 2001
3	SAP on the web	April 27, 2001
4	Comments received from Council members	June 27 2001
5	Special EC meeting for monitoring progress	September, 2001

For management reasons, the Executive Committee agreed to monitor the performance of the results achieved through the actions by the Task Groups. Most of such results can be

measured quantitatively through performance indicators. The work of the Task Groups themselves will not be monitored this way but rather the output of the body created, the number of programs established, the number of projects proposed for IUGS funding, the downloads of the improved website, etc. This instrument provides a means of communicating the progress performances on a regular basis within the EC, with its Commissions and Committees, the National Committees, the Affiliated organizations and the IUGS Partners. A list of such performance indicators will be produced in the future.