

INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

MINUTES

of

**45th EXECUTIVE COMMITTEE MEETING
JANUARY 26 - 30, 1999
FLORENCE, ITALY**

IUGS Secretariat
Geological Survey of Norway
N-7491 Trondheim, Norway
Fax: +47 73 502230
E-mail: IUGS.Secretariat@ngu.no

**45th EXECUTIVE COMMITTEE MEETING
INTERNATIONAL UNION OF GEOLOGICAL SCIENCES**

**JANUARY 26-30, 1999
FLORENCE, ITALY**

AGENDA

- 0. WELCOME ADDRESSES**

- 1. APPROVAL OF AGENDA**

- 2. MINUTES OF 44th EXECUTIVE COMMITTEE MEETING HELD IN VIENNA, AUSTRIA, JANUARY 1998**
 - a) Approval of Minutes
 - b) Actions arising from these Minutes

- 3. ANNUAL ADMINISTRATIVE AFFAIRS**
 - a) President's Report
 - b) Past President's Report
 - c) Vice Presidents' Reports
 - d) Secretary General's Report
 - e) Treasurer's Report
 - f) IUGS National Committees
 - g) IUGS Permanent Secretariat

- 4. ANNUAL REPORTS OF IUGS BODIES AND FUTURE PLANS**
 - a) Advisory Boards for Research Development, Publications, and Finances
 - b) Commissions
 - c) Affiliated Organizations
 - d) Working Groups

- 5. REPORTS ON COOPERATIVE ENTERPRISES**
 - a) IUGS/UNESCO International Geological Correlation Program (IGCP)
 - b) IUGS/UNESCO Program on Geological Applications of Remote Sensing (GARS)
 - c) IUGS/UNESCO Deposit Modelling Program (DMP)

6. INTERNATIONAL GEOLOGICAL CONGRESS (IGC)

- a) 31st IGC
- b) 32nd IGC

7. INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS (ICSU)

- a) Relations with ICSU
- b) ICSU General Assembly
- c) World Science Conference
- d) Interdisciplinary ICSU bodies
 - 1. Committee on Capacity Building in Science (CCBS)
 - 2. Scientific Committee on the Lithosphere (SCL)
- e) Relations with other Unions of the ICSU family:
 - 1. International Union of Geodesy and Geophysics (IUGG)
 - 2. International Union of Geography (IGU)
- f) ICSU Grants
- g) IUGS Representatives on ICSU and ICSU Committees

8. IUGS POLICY AND STRATEGY MATTERS

- a) IUGS Statutes
- b) IUGS Nominating Committee
- c) IUGS Strategic Planning Committee
- d) IUGS Committee on Public Affairs

9. EXTERNAL RELATIONS

10. REQUESTS FOR FUNDS AND BUDGET FOR 1999

11. UPDATE

- a) Directory
- b) Brochure
- c) Increase of the membership dues

12. VENUE AND DATE OF 46th EXECUTIVE COMMITTEE MEETING

13. OTHER BUSINESS

CONTENTS

0. WELCOME ADDRESSES	1
1. APPROVAL OF AGENDA	1
2. MINUTES OF 44th EXECUTIVE COMMITTEE MEETING HELD IN VIENNA, AUSTRIA, JANUARY 1998	2
a) Approval of Minutes	2
b) Actions arising from these Minutes	2
3. ANNUAL ADMINISTRATIVE AFFAIRS	2
a) President's Report	2
b) Past President's Report	2
c) Vice Presidents' Reports	3
d) Secretary General's Report	4
e) Treasurer's Report	4
f) IUGS National Committees	5
g) IUGS Permanent Secretariat	7
4. ANNUAL REPORTS OF IUGS BODIES AND FUTURE PLANS	8
4.a. ADVISORY BOARDS	8
4.a.1. Advisory Board for Research Development (ABRD)	8
4.a.2. Advisory Board for Publications (ABP)	8
4.a.3. Advisory Board for Finances (ABF)	10
4.b. COMMISSIONS	10
4.b.1. Commission on Comparative Planetology (CCP)	10
4.b.2. Commission on Fossil Fuels (CFF)	11
4.b.3. Commission on Geological Science for Environmental Planning(COGEOENVIRONMENT)	13
4.b.4. Commission on Global Sedimentary Geology (GSGP)	14
4.b.5. Commission on the History of Geological Sciences (INHIGEO)	16
4.b.6. Commission on Igneous and Metamorphic Petrogenesis (CIMP)	16
4.b.7. Commission on Stratigraphy (ICS)	17
4.b.8. Commission on Systematics in Petrology (CSP)	20
4.b.9. Commission on Tectonics (COMTEC)	21
4.b.10. Commission on the Management and Application of Geosciences Information (COGEOINFO)	23
4.c. AFFILIATED ORGANIZATIONS	24
4.c.1. American Association of Petroleum Geologists (AAPG)	24
4.c.2. Association of Exploration Geochemists (AEG)	24
4.c.3. Association of European Geological Societies (AEGS)	24
4.c.4. Arab Geologist Association (AGA)	24

4.c.5.	American Geological Institute (AGI)	25
4.c.6.	Association of Geoscientists for Int. Development (AGID)	25
4.c.7.	American Geophysical Union (AGU)	26
4.c.8.	Association Internationale pour l'Etude des Argiles (AIPEA)	26
4.c.9.	Carpathian Balkan Geological Association (CBGA)	26
4.c.10.	Commission for the Geological Map of the World (CGMW)	27
4.c.11.	The International Center for Training Exchanges (CIFEG)	28
4.c.12.	Circum-Pacific Council for Energy and Mineral Resources (CPCEMR)	28
4.c.13.	European Association of Science Editors (EASE)	28
4.c.14.	European Mineralogical Union (EMU)	29
4.c.15.	The Geochemical Society	29
4.c.16.	Geological Society of Africa (GSA)f	29
4.c.17.	Geological Society of America (GSA)m	30
4.c.18.	Int. Assoc. of Engineering Geology (IAEG)	30
4.c.19.	Int. Assoc. of Geomorphologists (IAG)	31
4.c.20.	Int. Assoc. of Geochemistry and Cosmochemistry (IAGC)	31
4.c.21.	Int. Assoc. of the Genesis of Ore Deposits (IAGOD)	31
4.c.22.	Int. Assoc. of Hydrogeologists (IAH)	32
4.c.23.	Int. Assoc. of Mathematical Geology (IAMG)	33
4.c.24.	Int. Assoc. of Sedimentologists (IAS)	33
4.c.25.	Int. Assoc. of Structural/Tectonic Geologists (IASTG)	34
4.c.26.	Int. Federation of Palynological Societies (IFPS)	34
4.c.27.	Int. Mineralogical Association (IMA)	35
4.c.28.	Int. Paleontological Association (IPA)	35
4.c.29.	International Permafrost Association (IPA)	35
4.c.30.	International Society for Rock Mechanics (ISRM)	36
4.c.31.	Int. Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)	36
4.c.32.	Int. Union for Quaternary Research (INQUA)	36
4.c.33.	The Meteoritical Society	37
4.c.34.	Society of Economic Geologists Incorporated (SEG)	37
4.c.35.	Society for Geology Applied to Mineral Deposits (SGA)	37
4.c.36.	Society of Sedimentary Geology (SEPM)	37
4.d.	WORKING GROUPS	38
4.d.1.	IUGS Working Group on World Landslide Inventory	38
4.d.2.	UNESCO-IUGS Working Group on Global Geosites	38
4.d.3.	IUGS Working Group on Continental Geochemical Baselines	38
4.d.4.	IUGS Working Group on Geoscience Education and Training	38
4.d.5.	Proposed new Working Groups	39
5.	REPORTS ON COOPERATIVE ENTERPRISES	40
a)	IUGS-UNESCO International Geological Correlation Program (IGCP)	40
b)	IUGS-UNESCO Program on Geol. Applications of Remote Sensing (GARS)	41
c)	IUGS-UNESCO Program on Mineral and Energy Deposit	

Modelling (DMP)	41
6. INTERNATIONAL GEOLOGICAL CONGRESS (IGC)	42
a) 31st IGC - Rio de Janeiro - Status of planning	42
b) 32nd IGC	43
7. INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS (ICSU)	44
a) Relations with ICSU	44
b) ICSU General Assembly	44
c) World Science Conference	44
d) Interdisciplinary ICSU bodies	44
1. Committee on Capacity Building in Science (CCBS)	44
2. Scientific Committee on the Lithosphere (SCL)	44
e) Relations with other Unions of the ICSU family:	
1. International Union of Geodesy and Geophysics (IUGG)	45
2. International Union of Geography (IGU)	45
f) ICSU Grants	45
g) IUGS Representatives on ICSU and ICSU Committees	46
8. IUGS POLICY AND STRATEGY MATTERS	46
a) IUGS Statutes	46
b) IUGS Nominating Committee	46
c) IUGS Strategic Planning Committee	46
d) IUGS Committee on Public Affairs	50
e) Role of IUGS in Ocean Sciences	50
f) Proposal Policy	51
9. EXTERNAL RELATIONS	51
10. REQUESTS FOR FUNDS AND BUDGET FOR 1999	51
11. UPDATE	51
a) Directory	51
b) Brochure	52
c) Increase of the membership dues	52
12. VENUE AND DATE OF 46th EXECUTIVE COMMITTEE MEETING	52
13. OTHER BUSINESS	52

Appendix 1: President's report

Appendix 2: Secretary General's report

Appendix 3: IUGS Allocations to IUGS Bodies 1999

ATTENDEES

IUGS EXECUTIVE COMMITTEE:

Robin Brett	President (USA)
Attilio C. Boriani	Secretary General (Italy)
Zdenek Johan	Treasurer (France)
William S. Fyfe	Past President (Canada)
Wisam S. Al-Hashimi	Vice President (Iraq)
Gabor Gaál	Vice President (Finland/Hungary)
Francisco Hervé	Vice President (Chile)
LIU Dun-yi	Vice President (China)
Isaac O. Nyambok	Vice President (Kenya)
Ian Speden	Vice President (New Zealand)
Vilen A. Zharikov	Vice President (Russia)
Secretariat:	
Hanne Refsdal	IUGS Secretariat (Norway)
Alba Zappone	Secretary General's Office (Italy)

OBSERVERS:

John M. Aaron	IUGS Webmaster (USA)
Ernesto Abbate	(Italy)
Marco Amanti	Italian Geological Survey (Welcome address)
Carlos Berbert	Secretary General, 31st IGC (Brazil)
Enrico Bonatti	IUGS Representative to SCOR (Italy)
W.G.E. Caldwell	Chairman, ABP (Canada)
Umberto G. Cordani	President, 31st IGC (Brazil)
Wolfgang Eder	Director, Earth Science Div., UNESCO
Marie-Odile Gerault	Treasurer's Office (France)
Evelina Giobbi	EC Organizing Committee (Italy)
Bernice Graziani	Consultant, Toscana Tourist Bureau (Italy)
Alan Green	President, SCL (former ICL) (Switzerland)
ZHANG Hongren	Editor, EPISODES (China)
S. Loguercio	Assistant Secretary General, 31st IGC (Brazil)
Piero Manetti	CNR (Welcome address)
Ed de Mulder	Chairman, COGEOENVIRONMENT (Netherlands)
Jürgen Remane	Chairman, ICS
M. Schmidt-Thomé	Advisory Board for Finances (Germany)
Forese Wezel	(Italy)

NATIONAL COMMITTEE REPRESENTATIVES:

W. Janoschek	Austria
Bernard Biju-Duval	France
Peter Neumann-Mahlkau	Germany
G.B. Vai	Italy
Ruslan Volkov	Russia

OTHER UNION REPRESENTATIVES:

Peter Wyllie	President, IUGG (USA)
B. Messerli	President, IGU (Switzerland)

**45th EXECUTIVE COMMITTEE MEETING
INTERNATIONAL UNION OF GEOLOGICAL SCIENCES**

**JANUARY 26-30, 1999
FLORENCE, ITALY**

MINUTES

President R. Brett opened the 45th Executive Committee Meeting and said he was pleased to see the Committee members and observers in Florence. He thanked the organizer, IUGS Secretary General, A. Boriani of the University of Milan, and his Organizing Committee for the hospitality in arranging the meeting and for the unique field excursion prior to the meeting to view examples of the effects of geological processes and hazards in Italy. Before the formal Executive Committee meeting a full day had also been devoted to a workshop held outside Rome entitled: "Geosciences: Risk Assessment and Reduction" convened by Franco Barberi, State Deputy-Secretary of Civil Protection, and a panel discussion "Geosciences and Society", convened by F.C. Wezel. Brett also thanked all the sponsors who had made these events possible.

The participants then introduced themselves briefly. Brett stated that all participants should feel free to talk during the meeting; there should be no distinction between the Committee members and observers. The meeting participants also voted to prohibit the use of cell phones during the meeting.

A welcome address was given by Professor Piero Manetti of the Italian National Research Council (CNR), who presented a talk on geological research in Italy. He mentioned that in spite of financial cut backs during the last ten years, Italy has experienced a growth in scientific production. Dr. Marco Amanti of the Italian Geological Survey, gave a warm welcome to the Committee on behalf of the Directors of both the Italian Technical Services Department and the Italian Geological Survey.

Before turning to the agenda, Brett pointed out that this was the first IUGS Executive meeting to bring together the Presidents of ICSU's three Earth Science Unions: the International Union of Geodesy and Geophysics (IUGG), the International Geographical Union (IGU) and the International Union of Geological Sciences (IUGS).

1. APPROVAL OF AGENDA

Boriani distributed an order of business, suggesting to move the discussions of the Advisory Board for Publications till after its meeting, which should take place during the Executive Committee meeting.

The Agenda of the 4-day Executive meeting was approved in the order of business presented taking into consideration the observers present on the different days.

2. MINUTES OF 44th EXECUTIVE COMMITTEE MEETING HELD IN VIENNA, AUSTRIA, JANUARY 1998

2.a. Approval of Minutes

The Committee APPROVED and ADOPTED the minutes of the 44th Executive Committee Meeting held in Vienna, Austria.

2.b. Actions arising from these Minutes

The discussion of this item was postponed till all the Committee members had a copy of the Decision and Action list. Boriani then reviewed the decisions and actions resulting from the last Executive Committee meeting, noting that most of the actions were done or would come up later in the agenda.

3. ANNUAL ADMINISTRATIVE AFFAIRS

3.a. President's Report (Appendix 1)

Brett presented a written report. He said that all the activities mentioned in the report would be discussed in the course the meeting. He especially referred to a 1987 report from the late IUGS President, W.S. Hutchison, which described a proposal for a new IUGS Science Policy.

Brett concluded his report by offering a few words of thanks to the members of the Bureau, to Hanne Refsdal and the Norwegian Secretariat staff, Marie-Odile Gerault at the Treasurer's Office and Alba Zappone at the Secretary General's Office. Special thanks were extended to W.G.E. Caldwell, Chair of the Advisory Board for Publications, and John M. Aaron, IUGS Webmaster: Both these individuals are hardworking leaders within IUGS.

3.b. Past President's Report

W.S. Fyfe reported that in the past year he had represented IUGS in many activities: programmes in environmental education in Southern Brazil; a group in Geo-ethics led by Lidmilla Nemcova (Prague); a new interdisciplinary course on the Sea at his university, that included individuals from history, music, and all sciences; and a special meeting of the new Global Environment Education Group in Hamburg, Germany on sustainable, clean cities. He informed the Committee of his involvement in the European Union of Geology (EUG) symposium on "Eco-system and Health" to be held in Strasbourg, March 1999. He also mentioned his attendance to the meeting of an IUGS affiliated organization, the Arab Geologist Association, in Lebanon, where there has been a huge interest in the general topic of sustainable soils and food. He also commented on the growing world interest in combustion gas disposal.

Fyfe concluded with a remark on the World Conference on "Science for the twenty-first Century, a new commitment" to be held in Budapest, in late June, 1999. He had seen the

notes from the planning of the conference, which is sponsored by ICSU and UNESCO, but not IUGS. He wondered how it is possible to discuss “food security” without addressing topics such as soils, water and fertilizers.

The Committee ACCEPTED the Past President’s report.

3.c. Vice Presidents' Reports

Brett asked the Vice Presidents for their reports, and suggested that they focus exclusively on their IUGS-related activities.

W. Al-Hashimi reported that he had kept in touch with Z. Johan, the Treasurer and the IUGS Secretariat, and that he had been in contact with many countries in the Arab world and in Asia, concerning the IUGS membership payment. He informed the Committee that Iraq had been able to pay the dues. He had also contributed to EPISODES and been in contact with Caldwell concerning this. He had reviewed the IUGS Publication No. 35: International Lexicon of Stratigraphy (Republic of Yemen) and in his role as Vice President promoted IUGS and the International Geological Congress in 2000.

Speden commented that he had kept the geoscience organizations in New Zealand updated on major IUGS activities. He had maintained contact with New Zealand and Australian Earth Sciences National Committees and with the Geological Society of Australia. There had been no response from the Papua New Guinea and Philippines contacts. He had recently obtained the name of a contact in Fijian geoscience circles which will be followed up. His continued efforts to solicit articles had resulted in the submission of several manuscripts to EPISODES. Speden ended by noting that he had maintained contact with the IUGS Secretariat and Publication Board, and responded as necessary.

F. Hervé commented on a successful symposium he had attended in Cape Town, South Africa, in July. He said he had been in contact with the Latin American countries, reminding them to pay the membership fee, which will enable them to vote at the IUGS Council meeting to be held during the Geological Congress in Brazil in 2000.

G. Gaál reported that after having moved from Hungary to Finland, his activities had been centered in northern Europe. In this region, IUGS seems to be in good shape and its activities appear to be shifting more towards environmental geology. Last year, he had spent some time in central Europe to organize a workshop for the IUGS/UNESCO Deposit Modelling Programme together with R. McCammon and A. Fabbri. He noted that the visibility of IUGS in Central Europe was high.

V. Zharikov mentioned that his report was brief due to the difficult situation in Russia. He informed the Committee that six international geological meetings had been held in Russia last year, three connected with IUGS and the other three with IGCP activities. He informed the Committee that he together with R. Volkov had been involved in the efforts of Russia being able to pay its membership dues for 1997 and 1998.

I. Nyambok reported on IUGS programmes and that he had tried to impress upon people the importance of IUGS, to encourage them to publicize in EPISODES and to be involved with the work of the Commissions, where the Union’s main scientific activity is.

Liu Dun-Yi reported that his main international activity had been focussed on organizing and holding the IUGS sponsored Conference on “Geochronology, Cosmochronology and Isotope Geology - ICOG 9”, which took place in China last year. The meeting had been a success with 280 participants, representing 24 countries outside China. He noted that the number of papers on global change have increased. The former IUGS President, U.G. Cordani, had attended the meeting. Liu mentioned that he had also been engaged in two other international meetings, but not related to IUGS.

Brett thanked the Vice Presidents for their work during the last year, and especially thanked Al-Hashimi for his efforts in the Arab world and Zharikov and Volkov for their work with the Russian membership dues.

The Vice Presidents asked for guidelines for their duties on the Executive Committee. Brett mentioned that IUGS Bureau members, when travelling abroad, attempt to meet with representatives from National Committees. Although some IUGS Vice Presidents already attempt personal contact with other national geological units, the President urged all Vice Presidents to do the same.

The Committee ACCEPTED the Vice Presidents’ reports, recommending that all Executive Committee members con-tact representatives of National Committees when travelling abroad.

3.d. Secretary General's Report (Appendix 2)

Boriani referred to his written report. He informed the Committee that three Bureau meetings had been held in 1998: one in Prague and two in Paris. He pointed out that for the first time, a synopsis of the Bureau minutes had been prepared and sent to the Committee members. He had been busy with the organization of the current Executive Committee meeting and with numerous requests from ICSU. Contact with ICSU on the many initiatives will be reported in detail later in the meeting.

The Committee ACCEPTED the Secretary General’s report.

3.e. Treasurer's Report

Z. Johan tabled the Treasurer’s report which showed the IUGS assets to be USD507,000, including the Hutchison Fund. He displayed a diagram of expenses, and compared the total monthly income and expenses; the IUGS balance was at its lowest in July and August. Johan reasoned that IUGS needs a reserve account to be able to prepay projects before income has arrived; such as, cooperative programmes with UNESCO, like IGCP. In reporting incomes, it is practice to report payments to accounts (dues, UNESCO and ICSU allocations) when they are received. Hence, payments received in 1998 for either 1997 or 1999, are reported as income in 1998. The 1998 statement depicted a positive balance, because Russia had paid its membership dues for two years: 1997 and 1998. USD60,000-70,000 will therefore be transferred to the reserve account, but he stressed that this is an exception and cannot happen every year.

Johan then commented shortly on the membership situation. IUGS has three countries in category eight and six in category seven. Most of the countries belong to category one. The income from the membership fees should have been USD240,000 in 1998 but IUGS received

USD200,800. A graph with active and inactive countries showed that members in three parts of the world were delayed in dues payment: Africa, the Arab countries, where the situation had improved thanks to the Vice President Al-Hashimi, and South America. Johan especially regretted the situation with the South American members because of the Congress in Brazil and many of the host countries will not be able to vote. He appealed to the representatives from South America (IGC organizers) to help.

U.G. Cordani commented that when the IGC organizers three months ago had received the Treasurer's warning, the countries had been notified by him personally and he was confident that the situation would change.

G.B. Vai stated that Europe deserved to host an International Geological Congress, because it is the most active region within IUGS.

W. Janoschek suggested that the Secretary General write to the Directors of the geological surveys of the new European countries, and ask them to join IUGS. Good geology is going on in these countries.

Brett remarked that the IUGS membership dues are considerably lower than other unions and that they have not been raised since 1989. He said he had talked to J. Reinemund, former IUGS Treasurer, about raising the dues. The Treasurer's (Reinemund?) graph indicates that the Union needs to substantially increase its reserve balance, and a bank loan is not recommended (by who?). IUGS should have the equivalent of one year's expenditures in reserve. He said he was opposed to reducing the reserves to USD 30,000 as suggested by one National Committee.

E. de Mulder informed the Committee that the Netherlands would increase its category from 3 to 4.

The Committee ACCEPTED the Treasurer's report.

3.f. IUGS National Committees

Boriani informed the Committee that 21 reports had been received from the 109 Adhering Members. Some of the reports had interesting comments, some were brief, others large and informative. Egypt, Byelorussia, Azerbaijan and Estonia had expressed satisfaction with the IUGS activities. The French, German, Italian and Russian reports had helpful comments and the South African report was very well written, very informative and contained details of its activities related to IUGS. Brett expressed that active National Committees are important for the success of IUGS and asked how the Executive Committee could act to achieve this. Brett assessed that the activity level of a Committee depended far less on the strength of geology in the countries than on the people on the committee. He wondered if there should be a Vice President appointed to look at the National Committees and welcomed any ideas to stimulate the these groups to work more closely with IUGS.

Brett asked the representatives of the National Committees present at this meeting to give some information about their Committees:

R. Volkov, Executive Secretary of the Russian National Committee, stated that the Russian National Committee for Geologists is a very active Committee. During the last 15 or 20 years

the Russian (previously USSR) National Committee has had excellent communication with the office of the IUGS Bureau and hoped that this would continue. The main difficulty the Russian National Committee had faced in 1998 had been the political and economical situation in Russia. In spite of this, they had held six international meetings in Russia, three of them sponsored by IUGS using the IUGS "Ruble account". Volkov explained that a lot of time and efforts had gone to searching for money to pay the IUGS annual membership fee. Almost 100 letters had been sent out in this respect, which had resulted the alleviation of the dues debt to IUGS for 1997 and 1998, and also for Commission on the Geological Map of the World. He further mentioned that the Committee had continued to subscribe to 50 issues of EPISODES. Volkov concluded with a few words about the probable closing of the Commission on Comparative Planetology, which he thought would be premature. A new programme of investigation of planetary bodies surrounding the Earth had been proposed in Russia, and a new plan for this Commission will be presented to the IUGS Bureau soon.

I. Speden reported that the New Zealand National Committee had changed its structure recently and therefore had not been able to submit a report.

C.O. Berbert reported that the National Committee in Brazil was set up mainly to serve the International Geological Congress to be held in Brazil in 2000 and it is now involved in the IGC Organizing Committee. This work is proceeding well. He remarked that the Brazilian National Committee, but also other Latin American National Committees do not know what their duties are. Except for the IGCP activity, the Committees come together to discuss the payment to IUGS. He therefore asked for some instructions or guidelines for the Committees. Boriani responded that guidelines have been sent out to the Committees, but with little feed back. They would be distributed again.

W. Janoschek reported that the Austrian National Committee experienced no problems last year. The membership had increased from three to five members. The Committee meets once a year and is dealing not only with IUGS matters but is also acting as a national committee for geology. The Ministry of Science is regularly paying the membership fee to IUGS.

P. Neumann-Mahlkau said that the German National Committee was alive and well.

B. Biju-Duval referred to a rather small French Committee, which had created a website at École de Mines, mainly for the national level, but also with links to other national committees. Biju-Duval suggested that IUGS use e-mail in order to quickly disseminate information to National Committees. The visibility of IUGS is very much dependant on the activities of the National Committees. He added that the French National Committee is combining both geology and geophysics, which is a problem. He would like to see a better relation between these two earth science fields.

G. Vai reported on the Italian National Committee, noting that when the National Committee began its work on preparing the invitation to host the International Geological Congress in 2004, little was known about IUGS and gathering of information about the Union had started. They had come to the conclusion that the first reason for IUGS being known, was the IUGS Commission on Stratigraphy and its establishment of important stratigraphic boundaries. The second was the visibility through IGCP, and the third had been the Inter-Union Commission on the Lithosphere, a cooperate program with ICSU and IUGG, but which now has been turned into a Scientific Committee of ICSU. Vai noted that the National Committee was

getting more and more busy with the preparations of the IGC in cooperation with the IGC Preparatory Steering Committee.

P. Wyllie, IUGG President, referred to the National Committees within IUGG and mentioned that the interaction and relationship with these Committees are not solved, but continuously dealt with. The information sent out is often not responded to. He thought that the IUGS National Committees were working closer with its main organization. To keep trying is the only way to solve this problem.

New members.

Boriani reported that Namibia, represented by the Geological Survey of Namibia, had applied for IUGS membership. A very good leaflet describing its geological survey had been submitted by Dr. G. Schneider. Brett mentioned that he had seen maps from the geological survey, and although it was a small country it would be soon starting a department of geology at the University of Namibia. The Bureau had welcomed this Survey to represent geologists in Namibia within IUGS. M. Schmidt-Thomé made some comments which supported the membership.

The Committee unanimously APPROVED Namibia as a new Member; pending ratification by the IUGS Council in 2000.

Boriani informed the Committee that also Gambia had applied for membership. The application had been submitted by Dr. White, Head of the Geological Unit of Gambia. This is a small geological survey with four geologists and a few geotechnicians. The Committee was informed that the Bureau was in favour of accepting the country. Nyambok added some information about the geological community in Gambia.

The Committee unanimously APPROVED Gambia as a new Member; pending ratification by the IUGS Council in 2000.

The Committee THANKED all the National Committees and Adhering Organizations that had submitted an annual report and thanked the representatives that had given an oral report at the meeting.

3.g. IUGS Permanent Secretariat

Refsdal reported briefly on the work completed by the Secretariat during the last year. The Secretariat continues to consist of an Executive Secretary and an office assistant. One of the main tasks in 1998 was the distribution of the new edition of the IUGS Directory. The address data base has been reorganized and has been continuously updated.

The allocation to the Secretariat continued to come from the same Ministry that supported the Geological Survey of Norway. From 1998 the Secretariat has had to pay rent for its facilities. The resulting decrease in revenue has reduced the Secretariat's ability to finance the maintenance of the two scientific databases: Geosites and Deep Drilling. At the same time, the administrative work has remarkably increased leaving little time for development of new activities.

4. ANNUAL REPORTS OF IUGS BODIES AND FUTURE PLANS

4.a. ADVISORY BOARDS

4.a.1. Advisory Board for Research Development (ABRD)

Boriani reported on the latest Bureau discussions concerning the next ABRD meeting, suggesting that it be held in connection with the EUG meeting in Strasbourg, France, in late March. This would allow IUGS to take advantage of people already in Strasbourg for the EUG. The decision of the Committee in 1998 was to review: COGEOINFO, COGEOENVIRONMENT and GSGC. The decision to review the Working Group on World Landslide Inventory will be cancelled, since its term ends in 2000. A representative of each Commission under review should be present at the meeting in addition to experts in the Commissions' geological fields.

The Committee AGREED to hold an ABRD meeting in connection with the EUG meeting in Strasbourg, and suggested several names of people to participate in the Board meeting, noting that the Bureau should ask about their willingness to serve.

A discussion followed on the role of ABRD, which has become an ad hoc group assigned mainly to review IUGS commissions. The former role of ABRD had also been to give recommendations on scientific management and policy issues. Some of the Committee members mentioned that it might be useful if the ABRD resumed its "old" and broader role under a permanent Chairman. Discussions among ABRD members could be conducted by e-mail. Speden added that recommendations for research directions for the Commissions are of great importance.

4.a.2. Advisory Board for Publications (ABP)

W.G.E. Caldwell, ABP Chairman, referred to the distributed reports of the two Board meetings in 1998, in Vienna and Washington D.C., and to the meeting of ABP held the previous day. He told the Committee that there were especially three components of the discussion that he wanted to present to the Executive Committee: new developments in EPISODES and in the IUGS Website, and the agreement by the Board to publish an abbreviated version of the Stratigraphic Guide.

Caldwell asked Zhang Hongren, Editor of EPISODES, and John Aaron, IUGS Webmaster for their reports. Written reports on EPISODES and the IUGS Web Site had been distributed.

EPISODES

Zhang reported that last spring there had been a major reform in the government of China. Former Ministry of Geology and Mineral Resources had merged into a new Ministry of Land and Natural Resources with a new Minister in charge. The support from the government is very important for EPISODES. During a visit to Beijing the IUGS President had met with the

new Minister, who had confirmed support to the production of EPISODES in China and further cooperation with IUGS.

In 1998, the Editorial Office had worked hard to improve both the scientific and the production quality of the journal, with the help and support of members of the Executive Committee and ABP. Last year, the work on EPISODES began to progress more smoothly. The journal started to come out at regular at quarterly intervals starting from the June 1998 issue. Altogether the journal has three people working at its editorial office working full time. In addition, outsourcing has been extensively used. An improvement of the print quality of the journal is expected, because a new printing office is now in charge. Art paper and colour prints will probably be used for the whole issue.

Zhang emphasized two important improvements of the journal in 1998. An Editorial Board, consisting of 21 Associate Editors, review and solicit articles, and Dr. Antony R. Berger, former Editor of EPISODES, accepted to act as Editorial Consultant, and does the final proof-reading.

Last year, Brett and the former IUGS Officers, U.G. Cordani and M. Schmidt-Thomé, had visited the Editorial Office and made comments and suggestions on the editing and distribution of the journal. Some Associate Editors had also been invited to the journal office during their business trips to Beijing.

Zhang mentioned that the last issue of 1998 had had contributions from 23 countries. At the turn of the century, he said he would like to invite the Chairmen of the IUGS Commissions to write papers on the retrospective of their geological field during the last century and a prospect of the next century.

Zhang concluded his report by commending the help and efforts to improve the journal by some of the IUGS officers. He also referred to the good agreements with contractors that had been made, and was sure that the production would be going smoothly with less problems.

The Committee THANKED Zhang Hongren for his oral report and his EPISODES staff for all the good work being done.

IUGS WEBSITE (<http://www.iugs.org>)

Aaron gave a brief report on the IUGS website, remarking that it had had an encouraging year and almost tripled in size since it started. The log of servers had more than doubled. 22 new countries had visited the website, among them Zambia and Armenia. Aaron said that the website is probably the most important tool for the Union; it is now no longer a novelty, it has become very important communication medium. He added that he could not be in charge of the website for ever, that someone else had to take it over and that this should be taken into consideration as a part of the strategic plan.

When questioned as to what the biggest concern was related to the website, Aaron responded that it was receiving information on a regular basis. He said he had offered the website to all the IUGS bodies as a tool to bring out information, but very little reaction. Speden remarked that a strong statement should go out to all the IUGS bodies, emphasizing the importance of the website and encouraging them to cooperate directly with the Webmaster.

The Committee COMMENDED and THANKED Aaron for his excellent work with the IUGS Website, and urged the IUGS bodies to cooperate with the Webmaster.

Caldwell further added a couple of items. He stated that one of the IUGS's most important publications has been the Stratigraphic Guide, which has been translated into many languages and now also has a request for translation into Japanese. The Guide has been printed by the Geological Society of America and the price of it is rather high. The editor of the guide has therefore suggested to print an abridged version to be widely spread. Caldwell informed the Committee that the abbreviation was of exceedingly high quality and the Board had proposed printing it in EPISODES. The Editor had agreed to print it on the basis that the preparations are done by IUGS.

Caldwell then brought attention to another important decision by the Board. He referred to the draft of the new International Stratigraphic Chart, compiled by the ICS and its Subcommissions. The Board had requested that the chart, along with explanatory notes, be published in EPISODES as an insert and with reprints. The Editor had agreed. The chart should also be available at the IUGS booth at the International Geological Congress in Rio. The chart would be printed in colors, using the CGMW colour scheme. Aaron mentioned that an earlier black and white version of the chart had appeared in EPISODES in 1989 as a single page and not as elaborate as the new one. Nevertheless, the 1989 version had been very popular.

The Committee APPROVED the ABP reports, AGREED to the ABP decisions and THANKED Caldwell for the enormous work done during the year.

4.a.3. Advisory Board for Finances (ABF)

Brett remarked that he had drafted the terms of reference for the Board, which had been distributed at this meeting.

4.b. COMMISSIONS

All the Commissions had submitted an annual report.

Also this year, a general discussion took place on the Commissions' role within the Union. Some of the Commissions were founded at a time when the geological field represented was new or needed support. The Committee questioned whether a commission should continue under the auspices of IUGS when the geology that it encompassed appeared to progress independently of IUGS.

4.b.1. Commission on Comparative Planetology (CCP)

Chief Accomplishments in 1998:

The Commission cosponsored 3 major international meetings on comparative planetology: the *29th Lunar and Planetary Science Conference*, held in March in Houston, Texas, USA, and 2 Microsymposia, one held in Houston in March and the other held in Russia in October.

Because of the difficult economic situation in Russia, it should be emphasized here that it is most important to support colleagues from Russia and from other east European and former SU countries.

This year the Vernadsky-Brown Microsymposium on Comparative Planetology was held in combination with the 3rd International Conference on the Exploration and Utilization of the Moon. This is why all papers related to lunar studies were reported in the frame of this conference and the microsymposium per se was the place to discuss all the planetary science except lunar studies. As a result the 28 V/B microsymposium was only one day long.

Twenty papers were submitted on the microsymposium, of which 7 were orals and 13 posters. The papers considered analyses of new results gained by the Mars Pathfinder, Mars Global Surveyor, and Galileo-Europa missions, as well as a project of the Phobos Sample Return suggested by a number of Russian Institutions. Several talks were devoted to the results of photogeologic analysis of the Magellan data on Venus surface.

People giving talks represented scientific communities of Russia, Germany, USA, France, Ukraine and Holland. It is symbolical that among 20 papers 13 had authors representing two and more countries.

As in previous years the Vernadsky-Brown microsymposium was a place to discuss new findings of recent and current space missions and to consider the research results in a highly professional environment. For many representatives of the planetary science communities of Russia and Ukraine the Vernadsky-Brown microsymposium is the only possibility to attend the international scientific forum

The National Committee of Russian Geologists, which is a part of IUGS and used to support the previous microsymposia, had no funds this year due to severe financial crises in Russia which devaluated Russian currency and blocked banking operations for a few months.

General opinion of all participants of the microsymposium was a desire to continue these meetings in Moscow.

R. Brett (commentator) reported that the CCP had submitted a comprehensive annual report. He further referred to a decision by the Executive Committee last year that the Advisory Board for Research Development should examine the Commission. However, the Bureau had decided, mainly because of economical reasons, that Brett should attend the CCP meeting held in Texas, and talk directly to the Commission members. He had had a lengthy discussion with the CCP members, which led him to question if there was more for the Commission to do in this geological field. Planetology is currently a strong and growing field outside IUGS, but when the Commission was founded there was a need to publicize the importance of this topic to scientists and to the general public. The Commission has conducted a very useful program that allows Russian and American scientists to meet every year: This was especially important during the Cold War period. But the current main activity of the Commission is to cosponsor meetings that would happen anyway. Brett briefly mentioned the CCP's plans for 1999, which were mainly cosponsoring of meetings. The Commission will also present two symposia at the IGC in 2000.

A discussion followed.

The Committee APPROVED the CCP report, but stated that the Commission within 1999 had to propose a new field of activity. The Executive Committee will otherwise, with regret, recommend the Council to dissolve the Commission.

4.b.2. Commission on Fossil Fuels (CFF)

SUMMARY 1998

The Commission is currently working along the strategic directions presented in July 1995 to the ABRD.

During 1998 several officers meetings were held between J. Burrus and R. Sinding-Larsen in Paris in order to provide research plans, implementation plans and in-depth reviews of the Commission activities. Considerable attention has been given to ensure the overall coherence of the CFF activities, their priorities and their relationship to other programs and activities. In 1999, a highlight will be the arrangement of the annual International Conference of IAMG in Trondheim, Norway, with main theme the use of quantitative techniques in Fossil Fuels research and development. A technology transfer workshop will be held in Iran in 1999 in order to improve the scientific contacts between Iranian explorationists and their colleagues abroad. The commission will in 1999 bring together state of the art experiences in order to develop a decision support methodology in natural resources evaluation based on collaborative knowledge gathering from global Internet and Intranet data stores. This collaboration will be conducted both by using remote link techniques via Internet/ Intranet and by setting up intensive meeting periods and workshops. The Commission is organizing a special symposium on the evaluation of Petroleum Acreage and its use in Resource Management as part of the general topic energy and mineral resources for the 21st century session to be held at the 31st International Geological Congress in Brazil.

W. S. Al-Hashimi (commentator) referred to the Commission's lengthy annual report, which included its plans for training seminar in Iran and an international meeting in Norway devoted to mathematical geological problems related to the petroleum industry. The meeting is arranged jointly with the IUGS affiliated organization the International Association for Mathematical Geology. The Commission, which in the past has mostly benefited from financial support from national institutions, particularly oil companies, has now been looking for other funding sources. Al-Hashimi remarked that CFF is putting emphasis on mathematical geology, primarily as a scientific tool.

In the proceeding discussion, Brett questioned whether the Commission needed a review. Al-Hashimi said he had the impression that this is a Commission run by one or two persons. To improve, the Commission needs people with varied experiences and expertise. Brett remarked that although IUGS can influence the field of stratigraphy, it is not influential in the area fossil fuels research in the world. In this connection, Brett mentioned that a large affiliated organization, American Association of Petroleum Geologists, draws 30% of its membership from outside North America.

Fyfe conveyed that it was timely that IUGS had a commission on energy or future energy, including some of the new developments in this field that are based on plutonium and silicon. CO₂ disposal or waste disposal could be included, to make the topic more broader and interesting. Brett noted that it was preferable that the Commission continue, and suggested that it be renamed. IUGS could select some unripened energy topics, and request that the Commission closely define a specific problem, with geology preferably in the first place.

W. Eder drew attention to the World Science Conference to be held in Budapest in late June, where there will be a thematic meeting on energy, which IUGS could use as source of current energy topics.

Brett remarked that there are aspects of energy that are involved with economy and that he would not like to see IUGS involved in these problems. The Committee should clearly define what energy topic IUGS should focus on.

The Committee ACCEPTED the CFF annual report. However, the Committee questioned the Commission's necessity for the survival of

fossil fuels research and discussed how the Commission could broaden its scope by expanding it to include all energy topics. The Committee DECIDED that the Commission should be reviewed and given directions by the Advisory Board for Research Development.

4.b.3. Commission on Geological Science for Environmental Planning (COGEOENVIRONMENT)

SUMMARY 1998

COGEOENVIRONMENT has significantly increased its global environmental geology activities as evident in the number of targeted Action Items now addressed by the Commission (45 vs 33 in 1997). Greater external financial independence has been an important and problematic focus of the group. The Commission's international profile has improved considerably with an increase in Corresponding Membership to 214 and countries represented now at 80. The executive expanded its number to 10, representing 8 countries, with plans to increase to at least 12 during 1999. The intent of this increase is to adequately address the expanding global needs for active geosciences in environmental planning and management and in anticipation of 4 officer retirements. Products and activities of the Commission have fostered greater awareness and appreciation of environmental geology amongst public, private and government individuals. New liaisons were confirmed with the International Permafrost Association and IAVCEI to enhance cross-disciplinary communications within the IUGS. Several short courses (e.g. NATO course on Deposit Models in Hungary), workshops (Medical Geology in Uppsala), forums (Sustainable Development Forum in Malaysia), conferences (8th IAGG), and meetings were organized and/or co-sponsored on a variety of subjects ranging from environmental geology mapping, to GIS technology to geological hazards. Public and professional lectures as well as papers in journals on similar subjects were given and published by officers and members. COGEOENVIRONMENT Newsletters 13 and 14 were printed and distributed. An Urban Geology Newsletter published. New working group on Medical Geology held their first workshop in Sweden. Started new Working Group on Eco-geology. A prominent international publication on Aggregate Resources by the Commission was released through Balkema and another on Environmental Geology Mapping is to be released in 1999. Finally and most importantly, COGEOENVIRONMENT now has its own website (<http://www.agso.gov.au/cogeo/>) which is prominently linked to the IUGS site.

COGEOENVIRONMENT was the first Commission to be discussed at the first day of the meeting, to take advantage of the Chairman's presence.

E. de Mulder, the Commission Chairman, referred to the Commission's annual report and gave some additional remarks. He noted that the Commission now has ten officers and 215 corresponding members in 82 countries. The plan is to increase the number of officers, because these people are doing the work. The Commission has strong support in different countries of the world and it is in connection with a large number of geological bodies. A new relationship has just started with a medical society and ecological society.

De Mulder reviewed some of the 1998 achievements as listed above, mentioning that they attempt to supplement their income on book sales. In 1998, the royalties were USD900.

The main plans for 1999 are in addition to produce two issues of the newsletter, to publish the Cogeoindicator's brochure in Italian, Spanish and Arabic, and a book on Environmental Geology Mapping through A.A. Balkema. Four workshops will be held, to test Geoindicators in several global locations. The new Working Group on Medical Geology will hold a meeting in Sweden and also initiate and publish a new Medical Geology Newsletter. In 1999 a joint project will be initiated with the International Permafrost Association and also with IAVCEI. The Commission's 10th annual officers meeting will be held in Malaysia.

De Mulder concluded his report by pointing to some developments or concerns within the Commission. The environment has been once a singular, hot issue, but now is integrated into other topics, so the Commission must search for a new focus for the next ten years. Many of

the present officers, who have been well supported by their institutions, will leave the steering committee, which may mean financial loss. He mentioned that the Commission has discussed three options for the future: continuation, modification into a Committee, or cancellation.

Hervé (commentator) commended the Commission for its activity and being so creative and said he found the new Working Group on Medical Geology interesting. However, he was worried about the difficulty filling two vacant executive positions representing Africa and South America. De Mulder stated that there is one excellent applicant for new officer from Africa, and O. Berbert suggested a person from South-America.

Boriani brought up a semantic problem, asking what de Mulder meant by transforming into Committee, because according to the IUGS statutes only the Executive Committee and Nominating Committee are Committees. De Mulder responded that the Commission of course would be pleased to remain a Commission, but that the members had thought it would be more appropriate to change it into a smaller group with a shorter time frame. Brett stated that IUGS had always been pleased to have COGEOENVIRONMENT as a Commission, and suggested for the time being to leave it as it is.

The Committee ACCEPTED the COGEOENVIRONMENT report, thanking the Chairman Ed de Mulder for his supplementary oral report and congratulating the Commission on good results. The Committee referred to the decision at its last meeting that COGEOENVIRONMENT should be reviewed by the Advisory Board for Research Development at its meeting in late March 1999.

4.b.4. Commission on Global Sedimentary Geology (GSGP)

ACTIVITIES OF THE COMMISSION IN 1998:

The main activity of the Commission in 1998 was the organization of a major International Conference on PANGEA AND THE PALEOZOIC-MESOZOIC TRANSITION. It will be held 9-11 March, 1999 at the China University of Geosciences, Wuhan, Hubei, People's Republic of China. In addition to GSGP, this conference is sponsored by the Australia Geological Survey, the International Subcommittee of Triassic Stratigraphy, the International Paleontological Association, the China University of Geosciences (Wuhan), the National Natural Science Foundation Committee of China, and the International Subcommittee of Permian Stratigraphy. The Honourary Chairman of the Convention is Professor Yang Zunyi, Member of the Academy of China. Professor Yin Hongfu, Member of the Academy of China and President of China University of Geosciences (Wuhan) is the general Chairman of the Conference. The conference will be structured into four main themes: 1) Tectonics and dynamics of Gondwana break-up, Pangea integration and Tethys evolution; 2) Paleogeography, paleoclimatology and paleoecology during the Pangea interval; 3) Stratigraphy, sea level changes, high-resolution events, inter- and intra-system boundaries and refinement of geochronology; and 4) biotic crisis, mass extinction, recovery and evolution at the Paleozoic-Mesozoic transition. **Proceedings of the conference will be published in a special volume.** A series of pre- and post-conference excursions will also be offered to look at the classic Paleozoic-Mesozoic transitions in China. This conference falls under the umbrella of GSGP's Project Pangea.

Another activity that falls under Project Pangea was the production of a special edition of *Paleogeography, Paleoclimatology, Paleocology* by the current leaders of Project Pangea, Lars Stemmerik and Jorg Trappe. A dozen of manuscripts are currently being reviewed and edited, and should be published during 1999. These manuscripts form the proceedings of a Special Session that was held at the European Meeting of the International Association of

Sedimento-logists, in Heidelberg, Germany, September 1-4, 1997, also organized by Drs. Stemmerik and Trappe.

One of GSGP's major achievement for 1998 was the publication of Volume No. 6 in the SEPM (Society for Sedimentary Geology) series *Concepts in Sedimentology and Paleontology*. The volume is titled *Stratigraphy and Paleoenvironments of the Cretaceous Western Interior Seaway, USA*. It was edited by Walter. E. Dean and Michael A. Arthur. As noted in its introduction, this volume presents the results of a coordinated, multidisciplinary and broadly sponsored (academic, industry, USGS) study of Cretaceous carbonates and clastic rocks in cores collected along a transect across the old Cretaceous seaway in North America. This 255 page volume comprises thirteen papers that particularly focus on a series of units in cores from six drillholes from western Kansas., southeastern Colorado, and eastern Utah. Major objectives of the project covered in the collected papers include: 1) establishing the precise timing of sea level change, rates of subsidence, and facies change; 2) determining of controls of accumulation, burial and diagenesis of organic matter; 3) calibrating of depositional cycles using high-resolution stratigraphy; and 4) determining the paleogeography, paleoclimatology and paleoceanography of the Western Interior Seaway and immediately adjacent landmasses. The study was motivated by the research emphases outlined by the Cretaceous Resources, Events and Rhythms (CRER) Project of the Global Sedimentary Geology Program.

I. Speden (commentator) reported that major activity during 1998 was the organization of the International Conference on PANGEA and the Paleozoic-Mesozoic Transition to be held in Hubei, China, 9-11 March 9-11 1999. A special conference volume is planned. Other achievements were the reviewing and editing of manuscripts on Pangea for a special edition of *Paleogeography, Paleoclimatology, Paleoecology* to be published in 1999 and the publication of volume 6 of "concepts in Sedimentology and Paleontology". The volume is entitled "Stratigraphy and Paleoenvironments of the Cretaceous Western Interior Seaway, USA (A SEPM Publication).

For 1999, the conference in China and publication of the proceedings are major activities. The commissions projects on PANGEA and CRER (Cretaceous Resources Events and Rhythms) are being phased out, and a new project to be launched is one looking into the links between Tectonic events, the stratigraphic record and environmental turnovers. It is to be introduced by a special session at the 1999 International Congress of Carboniferous and Permian stratigraphy to be held in Calgary, Canada August 17-21 1999.

The commission has been preparing a GSGP Web Site. All the office expenses are covered by the Geological Survey of Canada.

Speden recommended that the commission communicate with and involve other relevant commissions, especially Tectonic.

Zharikov commented that IUGS is connected to three international organizations dealing with sedimentology and asked about the difference in these organizations. Speden said that it is difficult to give a clear answer. Brett noted that the Commission had bright ideas and did good work after it was launched in the 1980's. In the meantime, the sedimentology has grown into a very healthy field; hence, the questioning of the need for this Commission.

The Committee ACCEPTED the Commission's report. It was stated that the geological field of this group is very healthy world wide and that the Commission is therefore not necessary. GSGP will be reviewed by the Advisory Board for Research Development.

4.b.5. Commission on the History of Geological Sciences (INHIGEO)

Chief Accomplishments in 1998:

A section devoted to the history of geology was organized at the Congress of the Carpathian-Balkan Geological Association in Vienna in August/September by Hungarian Member, Dr. Endre Dudich. A much larger meeting was held in Switzerland shortly afterwards, organized by Swiss Members Professors Rudolf Trümpy, Jean-Paul Schaer, and Henri Masson. The first part of this meeting consisted of a field excursion organized by Professor Trümpy in the Glarus Canton and in the region of Lake Lucerne. He was reared in this Canton and knows its geology and the history of geological research in the region in extraordinary detail. (His early mapping had been done there back in the 1940s.) The main meeting was then held at the University of Neuchâtel, the conference themes being the history of tectonic theory ("From folds to nappes to plates") and the history of glacial theory. An excellent display of materials relating to the history of geology (and particularly Swiss geology) was organized by Professor Schaer in Neuchâtel's Natural History Museum, and he prepared for the occasion a substantial booklet on the history of geology at the University of Neuchâtel. Professor A.M.C. Sengör from Istanbul presented an invited address on the work of Emile Argand, and Argand's original hand-drawn map showing the tectonics of Asia, prepared for his famous address at the International Geological Congress in Brussels in 1922, was moved from Belgium to Neuchâtel to form part of Professor Schaer's exhibition. It will now remain permanently in Neuchâtel. Another important exhibit was a recently discovered model of the structure of the Alps in the Glarus region, according to Albert Heim's double-fold theory.

R. Brett (commentator) reported that INHIGEO was reviewed by the ABRD last year and was commended for doing excellent work, and for being strongly international. Its leadership is good.

Remane commented on the INHIGEO meeting in Neuchâtel and Janoschek on the Commission meeting held during the CBGA Congress in Vienna. Boriani noted that IUGS had received a paper from INHIGEO for EPISODES about the role of women in geology.

The discussion concluded that the Commission is alive and well.

The Committee ACCEPTED the INHIGEO report and reiterated its request that the Commission prepare articles on benchmarks of geology, with comments, to be published in EPISODES occasionally.

4.b.6. Commission on Igneous and Metamorphic Petrogenesis (CIMP)

SUMMARY 1998:

A decision was taken in 1998 to broaden the scope of the Commission. This decision was taken for two reasons: (a) it was recognized that during the past 5 years, most of the activities of the Commission had a strong geochemical foundation and it was thought that this should be indicated in the title of the Commission; (b) that the study of the solid Earth using a combination of petrology and geochemistry was a sufficiently focused research theme to merit the attention of an IUGS Commission.

The main activities of the Commission are similar to those of the earlier group:

1. To promote petrological and chemical investigation of the Earth's crust and mantle through the organization and support of symposia on the subject at international meetings throughout the world.

2. To publish the proceeding of sponsored conferences in return for royalties, which will be used to support invited speakers at future conference.

Chief accomplishments in 1998: The commission sponsored a very successful symposium at the eighth annual meeting of V.M. Goldschmidt conference in Toulouse, France. The symposium was called “Cosmochemistry and Origin of the Earth: Session dedicated to G. Wasserburg” and was convened by D. Weis, D. DePaolo and D. Papanastassiou.

The proceedings of a previous COPCSE sponsored symposia were published in *Chemical Geology*, v 145, p 153-492 (Geochemical Earth Reference Model). That of another “Geodynamics of Giant Magmatic Ore Systems” will appear in *Lithos* early 1999.

Brett referred to the Commissions wish to change its name to “Commission on Petrology and Chemistry of the Solid Earth (COPCSE)”, to better reflect the broader activities of the Commission. Boriani argued that a change of name had to be approved by the Council.

Z. Johan (commentator) reported that CIMP had been reviewed by the ABRD, which had commended for good work, but strongly recommended that it considered engaging in more multidisciplinary projects with other Commissions and affiliated organizations within IUGS. The Board also had encouraged CIMP to give more consideration to offering field courses. Following the ABRD recommendations, the scope of the Commission is now broader. Its main activity is still based on sponsored conferences, and publishing proceedings in return for royalties. The Commission has thus managed to be financially independent from IUGS. Johan referred to the above mentioned activities in 1998 and added that the plans for this year are to have COPCSE to organize a special workshop on “Melt Inclusions in Igneous Minerals”, noting this workshop was presenting a very modern approach to the study igneous rocks.

The Board had also asked CIMP to consider as objectively as possible the benefits that might be derived from merging CIMP with the “Commission on Systematics in Petrology”, probably with two Subcommissions. Johan approved of having only one commission of petrology within IUGS. Brett noted that there was no other international organization outside IUGS devoted to petrology. He felt a merger might be difficult, but necessary. In any case Commissions should not be forced to merge.

The Committee ACCEPTED the report from this Commission, which is rather peculiar compared to other Commissions. It commended CIMP for being active and doing good work and following the ABRD recommendations. The Committee would come back to the request for change of name.

4.b.7. Commission on Stratigraphy (ICS)

1998 Report of the ICS Bureau:

ICS includes 17 Subcommissions, the Committee on Quantitative Stratigraphy, and an Inter-commission Working Group, which has prepared the new edition of the Global Stratigraphic Chart in cooperation with the Commission on the Geological Map of the world (CGMW) and Unesco. All subcommissions of ICS taken together have about 400 titular members. If the correspondent members of Subcommissions and the members of the Committee on Quantitative Stratigraphy are added, nearly 2000 stratigraphers worldwide participate in the activities of ICS. The members of the Full Commission (i.e. the 5 members of the Bureau and the chairpersons of the 17 Subcommissions) come from 12 countries; USA (6), Italy (3) and 1 or 2 from Argentina, Australia, Belgium, Brazil, Denmark, France, Germany, South

Africa, Switzerland, and UK. If the other officers of ICS bodies are taken into account, also Botswana, Canada, China, Ireland, Russia, and Sweden are represented.

The annual meeting of the Bureau of ICS took place in Neuchâtel, from April 3 to 5: Main points were the ICS budget for 1998, the Global Stratigraphic Chart, and the Plio/Pleistocene boundary (PPB) problem.

Plio/Pleistocene boundary (PPB):

Confusion about the position of the PPB has been steadily growing in the last years. Since 1992, a certain number of Quaternary stratigraphers requested a lowering of the boundary from 1.8 to 2.5 Ma. Arguments brought forward in favor of a change were, however, often misleading and did not take into account the existence of formal international agreements. The PPB was formally defined by a GSSP in 1984, agreed upon by IUGS and INQUA. A scientifically substantiated demand which could have been voted upon in accordance with the statutory procedures of ICS was never presented. An independent Ad-hoc Committee instituted by IUGS met in spring 1997, but did not reach a conclusion. The problem was referred back to ICS, which was invited to organize a joint vote of the Neogene and the Quaternary Subcommission to decide about the definite position of the PPB. But one year later no formal submission was yet received by the ICS Bureau, while lobbying in favor of a change of the PPB outside the commission continued. Therefore the ICS Bureau decided on the above-mentioned meeting to set a deadline for the receipt of a formal submission. The deadline passed, any further demand for a change of the boundary would be considered as nil. In agreement with the President of IUGS, the deadline was fixed at August 31, 1998. The vote is now under way, but there are still considerable difficulties to be overcome.

Before discussing the overall Commission, two special items were presented. J. Remane (ICS Chairman) gave first some additional comments to the above summary of the Plio-Pleistocene Boundary problem and asked the Executive Committee to approve the result of a joint vote of the Subcommission on Quaternary Stratigraphy (SQS) and the Subcommission on Neogene Stratigraphy (SNS). Both Subcommissions had voted to reject the demand to lower the Plio-Pleistocene boundary. Remane indicated that both Subcommissions had agreed on a ballot, but there had been some arithmetic difficulties since some members are members of both groups. There had been an active debate on the voting procedure.

The Committee discussed the proposal to lower the boundary and the result of the vote of the SQS and SNS.

The Committee APPROVED, with one abstention, the Subcommissions' vote which supported the existing Plio-Pleistocene boundary, formally defined by a GSSP at Vrica in 1984.

Remane then raised another issue that needed some clarification by IUGS. He presented a large printout of the draft of the new International Stratigraphic Chart, compiled by the ICS Subcommissions. (See also discussion under the Advisory Board for Publications, p. 11.)

The chart depicts all the boundaries given by GSSP, with a short description of each. The first Global Stratigraphic Chart was published for the occasion of the 28th IGC. Since then fourteen new boundary definitions have been voted upon by the ICS and ratified by IUGS; several new stage names have also been introduced. The new version will give a clear picture of the state of the art in international chronostratigraphic nomenclature. This A-3 edition of the chart will be printed in colour, using the CGMW colour scheme.

Remane told the Committee that it was Dr. Repetto at UNESCO that suggested producing a new edition of the chart, which is why UNESCO was interested in publishing the chart and having its copyright. ICS is interested in a broad distribution and had suggested to print it in EPISODES. Remane asked the Committee to give comments on the details of the chart, how to handle the technical sides, and the agreement with UNESCO.

Vai spoke on the need a Commission like the ICS, that can give an international framework for a common language for geologists. In regard to the details of the chart, Vai noted the position of the different logos on the draft chart, and expressed that the organizations responsible for the scientific work should be the ones credited. He also pointed out that white boundary spaces on the chart could be reduced.

A discussion took place on the UNESCO contribution to the chart and its copyright claim. Speden stated that considering the incredible amount of work of the ICS Subcommissions, the copyright should at least be shared. W. Eder discussed how to share the copyright, noting that UNESCO is offering to print the chart as soon as possible.

Brett noted that the Committee would ask the Advisory Board for Publications to take charge of this item at its meeting the following day. The Board reported back to the Committee at the end of the Committee meeting.

The Executive Committee CONGRATULATED Remane on the new edition of the “Global Stratigraphic Chart” and AGREED to the Board’s recommendation that IUGS would pay for the costs of printing it.

I. Speden (commentator) then turned to the overall Stratigraphy Commission and reported that through its 17 subcommissions and two other working groups, with some 400 members and nearly 2000 other participants worldwide, the ICS has continued extensive investigation into many aspects of global and/or regional stratigraphy. Ten subcommissions produce regular newsletters and several others produce circulars. Numerous scientific papers were published and many meeting, workshops and conferences organized. Five Global Standard Stratotype-section and points (GSSP’s) were ratified and published in EPISODES. Progress proceeded steadily if slowly in some Subcommissions mainly due to scientific requirements or for national political reasons. Slow progress in the cases of the Cambrian, Carboniferous and Permian Subcommission is related to problems of provincialism, which could only be alleviated by intensive work and the promotion of new techniques. The Commission aims to have a least 3 GSSPs ready for ratification over 1999 and several biostratigraphic or taxonomic monographs prepared for publication.

Speden summarized the remainder of the major achievements last year, noting that the load of documents from the Commission is quite impressive. He mentioned that in addition to the two issues already discussed, the Committee should also be aware of that the Triassic Subcommission’s candidate section for a GSSP at Meishan, China, awaits a formal guarantee from the Chinese government on free access before it can be submitted for a vote. A supporting letter from the Executive Committee might help in obtaining a positive result. It was noted that ICS also recommends this.

Speden concluded by suggesting that all Subcommissions and Commissions should specify realistic work programmes and outputs for a financial year as part of their budget request; that

achievements could include a listing of publications, workshops and other appropriate activities; and that funding on Newsletters and directories should be reduced or eliminated.

Brett commented on the GSSP in China, and said he would discuss with Zhang Hongren on how to proceed.

Concerning newsletters, Remane remarked that he would advise the Subcommissions to use e-mail where it is feasible, in order to reduce costs.

The Committee ACCEPTED the ICS report, thanking the Chairman, J. Remane for his supplementary oral report and commending the Commission for good work and a high standard of reporting. Nevertheless, it was mentioned that at least some of the Subcommissions should be encouraged to expand its activities beyond work on boundary definitions, to make ICS more interesting to more scientists.

4.b.8. Commission on Systematics in Petrology (CSP)

Summary 1998:

The commission and its three active subcommissions continued their work on systematics, classification and nomenclature of igneous and metamorphic rocks in business and working meetings and with questionnaires, circulars and written discussions. Links between chairman or secretary and subcommissions are regular. Information and addresses can be obtained via the webpage at <http://www.uni-freiburg.de/minpet/IUGS-CSP.html>

The Subcommission on the Systematics of Igneous Rocks (SSIR) has completed its revision work on lunar rocks, high-Mg rocks and melilitites. The results will be incorporated into the 2nd edition of the widely accepted textbook "A Classification of Igneous Rocks and Glossary of Terms" by Le Maitre (ed.), Bateman, Dudek, Keller, Lameyre, Le Bas, Sabine, Schmid, Sørensen, Streckeisen, Woolley and Zanettin. The new book will be retitled "Igneous rocks: Classification and Glossary of terms" and published by Cambridge University Press. A meeting of the subcommission is planned in Prague in June 1999.

The Subcommission on the Systematics of Metamorphic Rocks (SCMR) was handicapped in its working progress due to the chairman's sickness for several months. However, some progress in the completion of the Glossary of terms could be achieved. The publication of three papers under the topic "Towards a unified nomenclature in metamorphic petrology" via www will be accomplished in 1999. A formal meeting of the subcommission in 1999 in Hungary or Italy is planned, on the assumption that sufficient funding can be provided. .

The Subcommission on Data Bases in Petrology (SDBP) made substantial progress in facilitating the on-line retrieval of data from both the sedimentary and the igneous data bases via world wide web. A meeting with a dedicated symposium "Use and Future Development of Geological Data Bases" is planned for the 31st IGC. This will also tackle the problem of updating, improving an enlarging the data bases. Data base versions in Chinese language are aimed at.

Boriani (commentator) reminded the Committee that in 1998, ABRD reviewers reported that much good and important work being undertaken by CSP. The Board recognized that the Commission had several subcommissions on classification and nomenclature and entirely approved of keeping some of these subcommissions dormant while others forged ahead to

complete their current projects. The Board had also asked CSP to consider as objectively as possible the benefits that might be derived from merging CSP and CIMP and possibly widening the mandate of the single 'Commission on Petrology' (presumably with several subcommissions) that would be the effective result.

Boriani reported that the Subcommission on the Systematics of Sedimentary Rocks is dormant. However, the Commission will try to restart the subcommission during the IGC in Rio. Concerning the other three subcommissions, he referred to the above summary, but had not very much to add, mainly because of the low activity in the Subcommission on the Systematics of the Metamorphic Rocks due to the Chairman's health problems.

Wyllie remarked that the Subcommission on the Systematics of Igneous Rocks has done an excellent job in the past and that IUGS's name is connected to the book "A Classification of Igneous Rocks and A Glossary of Terms".

The Committee ACCEPTED the CSP report, expressing hope that the Commission's activity level in 1999 will improve.

4.b.9. Commission on Tectonics (COMTEC)

Chief Accomplishments in 1998:

6.1 Subcommission on Tectonic and Surface Process Interactions (SOTSPI). 1998 has been a successful year for SOTSPI, with many of the activities that were initiated by SOTSPI funds in previous years now coming to fruition.

6.1.1 The HERACLES project researching coastal lowland responses to earthquakes, which benefited from start-up funds in 1997, continues with modest independent financial support; a funding application to the UK's Natural Environmental Research Council is pending.

6.1.2 A thematic set of research papers arising from the two-day international conference on *Coastal Tectonics* (18-19 June, 1997), partly funded by SOTSPI in 1997, is due for publication in October 1998.

6.1.3. Meetings. There was considerable SOTSPI presence at several international geoscience meetings during 1998, not least the SOTSPI-sponsored sessions on 'Active Fault and Earthquake Risk Mitigation (European Geophysical Society, 20-24 April, Nice, France) and the 'Summer School on Active Faulting and Palaeoseismicity' (see Appendix 2).

6.1.4. Symposium on 'Interactions between tectonic and Earth surface processes' Dr. I Stewart has been invited to coconvene this symposium at the 10th biannual meeting of the European Union of Geosciences, to be held in Strasbourg (28 March - 1 April 1999). The symposium will provide a forum at which SOTSPI research activities will be promoted and should provide opportunities to develop collaborative international research programs.

6.2 Subcommission on the Rheology of Rocks. A successful year saw activity in three projects:

6.2.1 Tectonics of the Sierra Pampeanas, Argentina: A collaborative project between the Argentina Geological Survey, Boston University, Brown University, University of Cordoba. The project involved detailed field mapping of high-grade metamorphic rocks, migmatites, and tonalite intrusions that form part of the Cambrian and Ordovician magmatic arcs of the Sierra Pampeanas. The purpose of the project is to map out the extent of the deformation zones, and to establish their absolute age and kinematics, so that the tectonic environment of the arcs and the emplacement of the Precordillera to the west can be better understood.

Field work in January 1998 concentrated on establishing kinematics and relative timing of deformation events, and local geologists were instructed in modern analytical techniques for working with mylonites and migmatitic rocks. The collaborative project will continue through at least 1999 (we hope it will extend to 2002) as we gather more field data.

This collaborative effort is of great advantage to both the North Americans and the Argentinians. Researchers in North America benefit from access to local unpublished geological maps and geophysical data, and the generally very open and welcoming attitude of the Argentinian workers in this area. The Argentinian researchers benefit from instruction in modern structural geology and tectonic, both in theory and in practice.

6.2.2 Working Group on Textural and Microstructural Tools to Understand Magmatic to Subsolidus Processes In Rocks (TAMTUMSPIR). COMTEC organized the inaugural meeting of this group on 29th May 1998 in Boston. 8 members attended and considerable support was expressed for the idea. The major interests of the group were outlined and expected outcomes were formulated, which included organizing a special session at EUG and possibly AGU in 1999, a major conference, and publications. Appendix 3 contains a report on this meeting.

6.2.3 Special session of AGU Boston Spring Meeting on “The Influence of Granite Emplacement on Tectonics”. This successful and well-attended session was organized by COMTEC. 15 papers were presented, and a special issue of Tectonophysics will be produced as a result.

Liu Dun-Yi (commentator) drew attention to the comprehensive and good report submitted by COMTEC. The mission of the Commission is to promote worldwide high-quality research in structural geology and tectonics. He referred to the chief accomplishments mentioned above and noted that a problem had been the change in the chairmanship, due to the passing away of the Chairman, Dr. Paul Hancock. Liu Dun-Yi commended the Commission for good work.

Boriani agreed that the Commission is performing excellent work, but questioned if these activities were sponsoring new branches of geology, suggesting that the same activities might have occurred without the Commission. Brett forwarded a slightly different opinion, noting that although structural geology is a strong field worldwide, the Commission seems to have found a its niche, concentrating on studies that are not done anywhere else. The Committee, however, should consider the areas of activity engaged by COMTEC, and if they should be supported in the future. If IUGS launches a new project proposal policy, the COMTEC activities might be appropriate for these proposals.

The Executive Committee deeply REGRETTED the passing away of Professor Paul Hancock, the past Chair of COMTEC.

The Committee unanimously APPROVED
Dr. Tom Blenkinsop from the University of Zimbabwe as the new
COMTEC Chairman.

The Committee ACCEPTED the comprehensive COMTEC report, agreeing that in general the activity of the Commission was good. Tectonics is a strong field outside IUGS, but it seems that the Commission has found a niche of its own.

4.b.10. Commission on Management and Application of Geoscience Information (COGEOINFO)

Chief Accomplishments in 1998:

- a) Major progress was made in regards to SANGIS, the UNESCO sponsored Southeast Asia Geologic Information System. Following the SANGIS scoping meeting at UNESCO Headquarters, a contract was signed between UNESCO and IUGS/ COGEOINFO for the implementation and follow-up of recommendations to begin the SANGIS network. Activities for SANGIS were separated by UNESCO between CIFEG (the bibliographical part of the program) and COGEOINFO which covered the following points:
 - a. Develop the plan of activities for SANGIS' implementation in the region,
 - b. Organize information sessions at international venues and
 - c. Prepare a home page describing the SANGIS project.
 Meetings and activities were organized in Paris; Orleans, France; Enschede, Netherlands; Kuala-Lumpur; and Subic Bay, Philippines where all implementation points of the contract were successfully addressed. Extensive reports were submitted to UNESCO and IUGS. In fact, the initial phases of SANGIS have been so successful that UNESCO is currently considering a new and larger contract with COGEOINFO to continue development of this program.
- b) The Pan African Geologic Information System (PANGIS) was also successfully continued in 1998. The "geological database management" training sessions are now organized alternating every year in English and French at the Royal Museum for Central Africa (Belgium). Fifteen geologists from Africa and Asia were present at the 1998 French session.
- c) IUGS/COGEOINFO entered into a license agreement with the European Union Geological Surveys to provide a geoscience term translator to address the problem that geoscience problems and terms cross national boundaries. The fifteen member Nations of the European Union Geological Surveys (GEXIS) have been collecting data for well over a century and are the primary sources of geoscience information in their respective countries.
- d) Members of the 11 Nations that participate in the COGEOINFO Working Group on Communications and Standards developed a plan to initiate a Global Earth Science Information Catalog.

Liu Dun-Yi (commentator) reported on the activities of the Commission, stating that COGEOINFO is an active and productive Commission. It received a lot of support from other sources than IUGS.

Janoschek made some additional comments to the agreement between COGEOINFO and the EuroGeoSurveys. The latter is composed of the geological Surveys of the European Union, and Norway. The project was launched by the end of last year, and has been extended also to non-member countries like Hungary, Bulgaria, Armenia, Poland, Estonia, Lithuania and Latvia, and the St. Petersburg region. The program seems to be becoming increasing international. Brett mentioned that the Commission is doing work with developing countries.

The Committee ACCEPTED the COGEOINFO report,
commending the Commission's work last year.

4.c. AFFILIATED ORGANIZATIONS

Before the comments from the Executive Committee on the Affiliated Organizations, Brett pointed out that at the current meeting the discussion on the future of the Union has highest priority. For the 36 Affiliated Organizations of IUGS he asked the commentators to only report on matters of concern to IUGS, or if they have requested money. If desirable, the reports can be requested from the IUGS Secretariat. Reports from 31 organizations had been received.

4.c.1. American Association of Petroleum Geologists (AAPG)

W.S. Al-Hashimi (commentator) regretted that no report had been submitted. Brett commented that only 35% of the Association's members are North Americans. The organization is alive and well.

4.c.2. Association of Exploration Geochemists (AEG)

Summary 1998:

The AEG had an active membership roster of approximately 1,000 during 1998.

The AEG is continuing preparations to host its biennial International Geochemical Exploration Symposium, the 19th IGES, in Vancouver, B.C. in April 1999. The Association sponsors the publication of the Journal of Geochemical Exploration and publishes a monthly newsletter, EXPLORE, which is distributed throughout the world and contains timely articles on a variety of exploration geochemistry topics as well as environmental geochemistry topics related to the minerals industry. The AEG also produces special publications and conducts short courses on topics of concern in the fields of exploration and environmental geochemistry. The Association supports a web site: <http://www.aeg.org/aeg/aeghome.htm>.

Gaál (commentator) reported that this international association is active and healthy.

The Committee ACCEPTED the AEG report.

4.c.3. Association of European Geological Societies (AEGS)

Chief Accomplishments in 1998:

After MAEGS-10 (Challenges to Chemical Geology), held in Carlsbad (Karlovy Vary), Czech Republic from 1st -5th September 1997, the meeting of the Executive Committee was held on 29th May 1998 in Madrid (Spain in order to prepare next MAEGS-11 (23rd - 25th September 1999, Alicante, Spain). The proceedings of MAEGS-10 with the title "Challenges to Chemical Geology" were published in 1998 by the Czech Geological Survey.

Johan (commentator) reported on this association, which is holding a meeting every second year and publishing proceedings.

The Committee ACCEPTED the AEGS report.

4.c.4. Arab Geologist Association (AGA)

Chief accomplishments in 1998:

Scientific Meetings: AGA managed to hold its first symposium on Geological Correlation between Arab countries: the Paleozoic, parallel with the 4th Conference on the Geology of the Arab World which was organized by Cairo University and held in Cairo between 21-25 Feb. 1998.

A fruitful cooperation between AGA and the Lebanese National Geological Committee culminated in the successful organization of the 4th Geological Conference on the Middle East,

which was held in Beirut, Lebanon from 9-12 Nov. 1998. The IUGS Past President attended the meeting as a keynote speaker.

AGA organized and held successfully a 2nd Symposium on Geological Correlation between Arab Countries parallel with the Geological Conference on the Middle East held in Beirut in November 1998.

AGA continued its training courses on seismic exploration and structural geology applied to petroleum exploration.

Despite financial problems and shortage of technical papers, AGA managed to go on with the publication of its Newsmagazine "Geoscience and Arab Development". Because of fear of imminent missile and air strikes on Baghdad, AGA had to evacuate its headquarters twice during 1998, which caused severe disruptions to AGA activities.

W. S. Al-Hashimi (commentator) reported that the Association had been very busy in 1998 in spite of many difficulties. AGA is trying to give visibility to IUGS, IGC and Episodes and is holding an exhibit in Cairo and Libya to promote Episodes and IGC in Brazil. The COGEOENVIRONMENT brochure is translated and printed in Arabic with the IUGS logo.

The Committee ACCEPTED the AGA report.

4.c.5. American Geological Institute (AGI)

The IUGS Secretariat regrets that because of e-mail problems the report was received after the Executive Committee meeting. Brett (commentator) said he knew that the organization was flourishing.

4.c.6. Association of Geoscientists for International Development (AGID)

ACTIVITIES IN 1998:

While AGID has lent support in kind and advice to a wide range of activities in developing countries, resources for direct financial aid are limited. Nevertheless it has been possible to make some disbursements to projects and in this context the grant from IUGS for 1998 was particularly valuable.

- Assistance and funds were provided to both initiate and help support an 'International Seminar on Geoscience and Urban Development' held in Dhaka, Bangladesh from 24-26 February 1998. The seminar was jointly organized by AGID and the Geological Society of Bangladesh and attracted approximately 300 participants, mainly from Bangladesh, India and Nepal.
- Under AGID's William Greenwood Scholarship scheme grants have recently been awarded to a further five postgraduate students to assist the field aspects of their research projects.
- Funds were allocated to assist in the distribution of books via the AGID Canada book and journal donation scheme. This scheme, operated from Toronto by AGID Canada collects and stores donated geoscience books and journals and distributes them on request to libraries and institutions in developing countries worldwide. Publications

A double issue of AGID's official journal, Geoscience and Development, was printed and distributed in 1998. This represented the July 1996 and May 1997 issues and the delay in publication was due to lack of resources.

Nyambok (commentator) remarked that despite the reduced financial resources, AGID has maintained a few important strategic activities. These are indeed successful activities.

The Committee ACCEPTED the AGID report.

4.c.7. American Geophysical Union (AGU)

ACTIVITIES IN 1998:

Membership at August 31 was 36,522, up 4% over the same date a year ago. These members reside in approximately 115 different countries. The Atmospheric, Ocean, and Planetary Sciences Sections are growing fastest at about 7% each. All other signs are also ones of growth.

Hervé (commentator) reported on an interesting organization. For some time now AGU has been developing capabilities in electronic publishing. However, during this last year the pace has become feverish and exciting things are happening. In addition, good things are happening at AGU meetings in the education and public information programs, and on other fronts.

The Committee ACCEPTED the AGU report.

4.c.8. Association Internationale pour l'Étude des Argiles (AIPEA)

SUMMARY 1998:

AIPEA aims at the worldwide promotion of clay science and clay science related activities. It promotes scientific interaction between clay scientists. A Council, which meets every two years is ruling the body. The next Council meeting will be held in 1999. The chief accomplishment in 1998 is an edition of the newsletter.

Johan (commentator) commented on a short report, noting that the association is alive and well.

The Committee ACCEPTED the AIPEA report.

4.c.9. Carpathian Balkan Geological Association (CBGA)

XVI Congress of CBGA:

The XVI Congress took place from August 30 to September 2, 1998 in Vienna. 500 Scientists and 45 accompanying persons from 26 countries participated in the Congress. One 6-days and two 1-day Pre-Congress Field Trips were organized with altogether more than 60 participants. An abstract volume with more than 700 abstracts (lectures and posters as well) and printed field trip guidebooks have been prepared. INHIGEO and PANCARDI organized Special Symposia.

The Congress was jointly organized by the Geological Survey of Austria, the Geological Society of Austria, and the Austrian National Committee of Geology. The Congress was financially supported by IUGS, by the Austrian Federal Ministry of Science and Transport, Vienna Tourism Office and City of Vienna, The Austrian Academy of Sciences and PANCARDI-EUROPROBE. It was possible to financially support more than 200 participants from Central and Eastern European countries.

Gaál (commentator) reported on a healthy Association. Janoschek spoke of the CBGA Congress in 1998 in Vienna. The leadership had been transferred to Slovakia, which will arrange the congress in 2002.

The Committee ACCEPTED the CBGA report.

4.c.10. Commission for the Geological Map of the World (CGMW)

Chief Accomplishments in 1998:

MAPS PRINTED

1. *Mineral Atlas of the World at 1:10 M scale*, sheet No. 9 (Europe); the first sheet of this Atlas, a CGMW-NGU co-publication, was issued in 1998.
2. *Tectonic Map of Europe at 1:5 M scale*. The printing of this five sheet map was finally completed in St. Petersburg during the Summer 1998, not without hardship and with a run lower than the contractual one.

MAPS IN PRESS

1. *Geological Map of the World at 1:25 M, 2nd edition*. The dummy of this edition was entirely reviewed as concerns the legend and the representation of the onshore area.
2. *Maps of the world environments during the last two climatic extremes (Last Glacial Maximum and Holocene Optimum) at 1:25 M scale (CLIMEX)*. The digitized dummy was completed and the whole set of maps is being printed. Mention is made on the map that: "This project was carried out within the framework of the *Climates of the Past (CLIP) Programme of the International Union of Geological Sciences*
3. *Geological Map of South America at 1:5 M scale*. The digitized dummy of this map was presented in Beijing during the last IGC. It seems that the publication of this map (a CGMW/CPRM co-publication) should not be expected before the 31st IGC in Rio.

ONGOING CARTOGRAPHIC PROGRAMMES

1. *Tectonic Map of Africa at 1:5 M scale*. Although this compilation represents a considerable sum of work, a dummy of the whole map should be presented during the next IGC in Rio.
2. *Tectonic Map of Asia at 1:7.5 M scale*. This project covers geographic areas of three CGMW Continental Subcommissions (South and East Asia, Northern Eurasia, and Middle East). The work of compilation is progressing well.
3. *Geological Map of Europe at 1:5 M*. This cartographic programme is coordinated by the BGR (Germany) and includes, for the first time, the geology of the offshore areas.
4. *Metamorphic Map of North America at 1:5 M*. The Geological Survey of Canada ensures the general coordination of the compilation of this map. So far, two dummies of two main provinces have been completed (the Canadian Shield and the Appalachian Orogen). The compilation of the third and last region (the Cordillera will probably be completed before the next General Assembly in August 2000.)
5. *Metallogenic Map of Africa at 1:5 M scale*. This programme is advancing very satisfactorily. The digitized print out of the dummy of sheet No. 5 (Western S. Africa) was achieved in 1997 and that of sheet No. 6 (Eastern S. Africa) has been completed in 1998.
6. *Seismotectonic Map of the World at 1:25 M scale*. This new program has been launched in 1998 and will be modeled on the base map of the 2nd edition of the Geological Map of the World. It will be carried out in cooperation with the Geological Survey of Iran.
7. *Visibility of the CGMW*. Thanks to our computer equipment and the acquisition of new software, the visibility of the Commission has been improved with the creation of a web site (<http://www.club-internet.fr/perso/ccgm>) that includes, among others, links with IUGS's web site.

Gaál (commentator) said that the Commission is doing well although there were some reasons for financial concern.

The Committee ACCEPTED the CGMW report.

4.c.11. International Center for Training and Exchanges in the Geosciences (CIFEG)

Boriani (commentator) noted that the annual report was received very late, due to change in CIFEG administration. The new Director of CIFEG is Dr. Alan Colleau. All the usual CIFEG activities, workshops in Africa and training in different institutions in France, have been carried out excellently.

The Committee ACCEPTED the CIFEG report.

4.c.12. Circum-Pacific Council for Energy and Mineral Resources (CPCEMR)

SUMMARY 1998:

During the past year the Council has undergone some restructuring and redefinition. The Board of Directors is being enlarged and will consist of 17 Directors from ten countries. The scope and objectives of Council activities have been redefined and will focus more on sustainable utilization of resources.

The current activities are:

- Completion of the Circum-Pacific Map Series.
- Completion of the East Asia Geographic and Geotectonic Map Series.
- Completion of the Geospatial Data Project in East Asia and development of a similar project in Latin America.
- Organizing special symposia to address timely and important scientific problems.
- Conducting workshops and training sessions for developing countries.
- Facilitating and sponsoring specialized scientific projects needing international support.
- Publishing important results of its activities in the Earth science Series.

Speden (commentator) referred to the above summary, noting that the Council's future emphasis will be on the sustainable utilization of resources.

Over two or three years, the USGS will complete the publication of the remaining maps of the Circum-Pacific Map Project for a total of 60 maps. The USGS will also publish the remaining eight maps of East Asia Geographic Map Series.

He further noted that the Council will review its activities and achievements since 1972 together with an analysis of future geoscience needs and possible initiative at the Pacific Science Association Congress in July 1999 in Sydney, Australia, with the aim of fostering collaboration with the PSA in the future.

The Council is also planning a major international conference in 2001 entitled "Living on the Edge", which will cover environmental and resource factors related to the growth of major urban centres along the Pacific Rim. The plans are to coordinate this conference with the activities of the "Megacities" project of the International Lithosphere Commission.

The Committee ACCEPTED the CPCEMR report.

4.c.13. European Association of Science Editors (EASE)

Accomplishments etc. for 1998

- EASE members represented one-third of a total of 230 delegates to the joint meeting of CBE, AESE and EASE, "Science editing and information management" held in Washington DC, 10-14 September 1998.
- A joint workshop was held for journal editors, with the BMF at the Frantour Hotel, Paris, 22-23 October 1998, with approximately 55 participants.

- Membership rose from 930 to 963, in some 46 countries; the breakdown of membership remains unchanged at about 25% of members from countries outside Europe and about 33% working in the UK.
- A project for funding courses in scientific writing in Eastern European countries continued. EASE will provide funds for up to three courses planned for 1999, in Eastern European countries. The Association continues to seek and provide sponsors who pay a special subscription rate on behalf of 50-60 members from countries with currency exchange problems.
- EASE Web site: <http://www.ease.org.uk>

Zharikov (commentator) reported on a good and active organization.

The Committee ACCEPTED the EASE report.

4.c.14. European Mineralogical Union (EMU)

Boriani (commentator) mentioned that the annual report had arrived during the Executive Committee meeting because of secretarial problems. The report was informative and the Union is doing well. It was noted that EMU was providing twenty libraries in Eastern Europe with free journals. The idea of providing free geological journals to countries with difficulties could be suggested to other IUGS affiliated organizations.

The Committee ACCEPTED and was pleased with this first annual EMU report.

4.c.15. The Geochemical Society

Liu Dun-yi (commentator) regretted that no report had been submitted this year.

4.c.16. Geological Society of Africa (GSA)f

Chief Accomplishments in 1998:

- Business meetings of the Society were held in Botswana at the conference to mark the 50th Anniversary of the Botswana Geological Survey, and in Cape Town at the Gondwana 10th conference GSA was well represented at these meetings, members presented papers and new members were recruited.
- GSA President chaired the PACSICOM conference in Maputo and represented the Society at the 10th Latin American Geological Congress in Buenos Aires, to establish links between African and Latin American geological societies and further the development of scientific collaboration between the two continents. GSA members submitted papers for presentation at the congress.
- GSA was represented at the Harare International Symposium on "The role of African Geological Surveys beyond 2000 and members presented papers.
- Efforts continued to develop new "National Chapters" and the Geological Society of Cameroon held its inaugural meeting.
- Planning for the Society's 11th International conference (GSA 11), Cape Town, June-July 1999, was activated and preliminary planning for the 18th Colloquium of African Geology, to be held in Europe, was initiated.
- Africa Geonews, issue 4, was published. Discussions took place with Elsevier/Journal of African Earth sciences (JAES) regarding the future wider distribution of the newsletter under JAES aegis, and the establishment of a GSA home page on the JAES Website.
- GSA and UNESCO worked to promote an exchange programme of geoscientists between African institutions. GSA has also established potentially valuable working relationships with external organizations such as the Organization of African Unity, the Economic Commission for Africa, the United Nations Environment Programme and DAAD.

Nyambok (commentator) reported that the Society had increased its activities and was very active. GSA 11th International Conference will be held in Cape Town in June-July 1999 and it was hoped that an IUGS representative could be present. Nyambok remarked that it is a drawback that the hosting of the Colloquium of African Geology is being returned to Europe, ideally it should be in Africa.

The Committee ACCEPTED the GSA report.

4.c.17. Geological Society of America (GSA)m

Chief accomplishments in 1998:

The Geological Society of America experienced a very constructive year in 1998. Several new initiatives were implemented. These include: approval and funding for a new strategic plan, implementation of near complete digital processing for Abstracts with Programs, and consideration of new international activities. GSA membership increased to over 16,000, and registration at the annual meeting in Toronto again surpassed 5,000.

GSA awarded \$309,315 in graduate research grants in 1998 to 187 recipients. GSA continued to publish monthly issues of its newsletter and two primary journals. New co-publishing agreements were reached for "Environmental and Engineering Geology" and "Hydrogeology Journal" and the first sheet of the Geologic Map of North America, a digital DNAG product, should be available in 1999.

Brett (commentator) referred to the annual report and said he had nothing more to add.

The Committee ACCEPTED the GSA report.

4.c.18. International Association of Engineering Geology (IAEG)

Accomplishments in 1998:

In 1998, the three main activities of the IAEG were: Publications, meetings, and commission work.

Publications: Three issues of the IAEG Scientific Bulletin were published. The new periodicity started in June 1998 (4 issues per year). The 1998 papers reflected as usual the broad spectrum of topics and authors which characterize the IAEG: the 34 papers came from: Canada-Greece, France, France-Senegal, France-Turkey, Germany-UK, Ghana, Greece, Israel, Italy, Italy-UK, India, Jordan, Japan, Saudi Arabia, South Africa, Spain, Sri Lanka, Sweden, Taiwan, the Netherlands, Turkey, and UK, which shows the reality of the international influence of the Association, including developing countries. One Newsletter was also published since the last report to IUGS (no. 25).

Meetings: The main event of the IAEG was of course its 8th International Congress in Vancouver. In spite of the distance, more than 500 delegates from 65 countries took part in the Congress, which was successfully organized by the Canadian Geotechnical Society. Most of IAEG acting Commissions met during the Congress. The totality of the IUGS financial support was used to help several colleagues from developing countries to take part in the Congress.

The efforts of the IAEG towards the developing countries, are expressed by:

- The organization of the 1999 IAEG Executive Committee and Council meetings in Nepal.
- The maintenance of fees for developing countries at low level whereas they are substantially increased for developed countries.

Zharikov (commentator) reported on an active and healthy Association with a close cooperation with COGEOENVIRONMENT.

The Committee ACCEPTED the IAEG report.

4.c.19. International Association of Geomorphologists (IAG)

Chief accomplishments in 1998:

Editorial work on a vast volume of almost 200 papers delivered for post-congress publications is under way. Although neither of paper collections has yet been published, it is expected that as many as 14 different conference outlets will be published either in a book format or as supplementary issues to various internationally recognised journals. A proposal from Brazil to organise the IAG Regional Conference in Rio de Janeiro in July 1999 has been accepted.

Hervé (commentator) noted that the IAG conference in Bologna had been very successful and that the COGEOENVIRONMENT Chairman had been present.

The Committee ACCEPTED the IAG report.

4.c.20. International Association of Geochemistry and Cosmochemistry (IAGC)

Chief Accomplishments in 1998:

- Membership has increased to over 550 from a low of 500 in 1997
- Two new National Members (Vietnam and Slovakia) have joined the IAGC
- The Ingerson Distinguished Lecturer Award was given to Dr. Denis Shaw in recognition of his many contributions to geochemistry over the years
- The Annual IAGC Council Meeting was held in Toronto on October 25, 1998 in conjunction with the Geological Association of America Meeting.
- Several international meetings and symposia have been planned and held this year through the IAGC's Working Groups.

This year has seen the start of a bi-annual Newsletter instead of the usual single issue in the fall.

The Association had asked IUGS for advice on a membership fee problem. Many geochemists in developing countries would like to join the IAGC, but, because of currency restrictions imposed by their country of origin, they are not able to send the membership fee (USD10) out of the country in order to join. The Committee suggested that: 1) In each country, there could be one collector who sends the money to IAGC. Paying to a local collector will save bank charges; or 2) UNESCO coupons or postal coupons could be used.

The Committee accepted the IAGC report.

4.c.21. International Association of the Genesis of Ore Deposits (IAGOD)

Chief Accomplishments in 1998:

Scientific meetings and other activities:

2. The National IAGOD Group organized a symposium "Genesis of the Mongolia's Ore Deposits", Ulaanbaatar, May 15-16, 1998
3. IAGOD CODMUR co-organized the 8th International Platinum Symposium with the theme "Platinum – Genesis to Benefication" with excursions to Great Dyke, Zimbabwe, Bushveld Complex, South Africa, 29 June – 2 July 1998.
4. IAGOD CTOD / IGCP-354 held an international workshop "The role of mantle-rooted structural discontinuities in the concentration of metals – a 3-dimensional approach", Ballarat, Victoria, Australia, August 22-24, 1998.

5. IAGOD WGTT co-sponsored and co-organized the IGCP-373 field conference “Anatomy and textures of ore-bearing granitoids of Sikhote-Alin (Primorye region, Russia) and related mineralization, Vladivostok, Russia, September 1-12, 1998.
6. IAGOD WG on Skarns held a skarn short course before the 1998 Geological Association of Canada meeting in Quebec City, may 18-20, 1998.
7. IAGOD WGTT co-sponsored the IGCP-373 international conference “Genetic significance of phosphorus in fractionated granites”, Perslak, Czech Republic, September 21-24, 1998.
8. IAGOD COFFI co-organized the international symposium “Mineral forming fluids and ore genesis” in conjunction with the Second APIFIS Symposium, Tashkent, Uzbekistan, October 28-30, 1998.
9. The Slovak National IAGOD Group has initiated a proposal of a new IGCP Project – Magnesites.

Johan (commentator) noted that the Association is doing well on a limited budget, organizing workshops around the world, cosponsoring meetings, and publishing books and several guides. Membership fee is USD10 a year.

The Committee ACCEPTED the IAGOD report,

4.c.22. International Association of Hydrogeologists (IAH)

Summary 1998:

This year has been a further successful year for IAH.

During the year membership has declined to around 3300. The number of new members joining IAH has not reduced but the Association has put in place more disciplined procedures for man-aging membership as part of the business efficiency plan. This has led to a higher number of members being suspended through non-payment of membership fees. IAH is happy that its developing country membership has continued to grow supported by the sponsored membership scheme.

Hydrogeology Journal has now completed its 6th year of publication, this year being the first year with our new publisher, Springer. The journal with an improved production and format, has been very well received. IAH now offers the journal on-line to its members. The number of pages has increased to 600 per year and, from 1999, will increase frequency of publication to six issues per year. The Journal continues to be supported by the Geological Society of America.

Other publishing ventures were the first two books in the series International Contributions to Hydrogeology published by Balkema and the launch of our annual hydrogeology journal in Spanish, produced by ITGE, Spain in conjunction with IAH and UNESCO.

The 1998 IAH Congress was held in Las Vegas, USA on the subject of Physical, Chemical and Biological Aspects of Aquifer Stream Interrelations.

A major part of the IAH mission has remained the promotion of hydrogeology in developing nations. It does this, by maintaining a very low membership fee, by running a sponsored membership scheme, by offering financial support through the Burdon Fund, by collaborating in projects in the International Hydrogeological Programme of UNESCO and by support to congresses and other meetings. The membership in Latin America has shown strong growth with new and growing Chapters in Argentina, Mexico and Chile.

Nyambok (commentator) reported that the International Association of Hydrogeologists had been quite active during the last year and had maintained its valuable programmes. It had held

an important congress on aquifer-stream inter-actions in response to the problem of the worldwide decline of fresh water resources.

The Committee ACCEPTED the IAH report.

4.c.23. International Association of Mathematical Geology (IAMG)

SUMMARY 1998:

The organization held its Fourth IAMG Meeting, IAMG'98, 5-9 October 1998, in Ischia, Italy. Fourteen technical sessions were held 6-8 October; 215 attendees saw more than 150 papers and posters. Three workshops were conducted for 21 attendees. Four excursions and field trips were provided. A two-volume proceedings containing 160 papers 969 pages was published.

IAMG co-sponsored or supported three other meetings during the past 12 months:

- a) NATO ASI on "Deposit and Geoenvironmental Models for Resource Exploitation and Environmental Security", 6-17 September, Matrahaza, Hungary.
- b) Fourth International Symposium "Application of Mathematical Methods and Computer Technologies in Geochemistry and Environmental Protection", 22-25 September, Kiev, Ukraine.
- c) Pribram Symposium on Geoethics, 12-14 October, Pribram, Czech Republic.

IAMG sponsored and presented a session (in cooperation with the American Statistical Association), "Advances in Geostatistics", at the Joint Statistical Meetings, 11 August 1998, in Dallas, Texas.

The Best Paper award for papers published in "Computers and Geosciences" during 1997 was presented to T.R. Smith, B. Birnir, and G.E. Merchant, all from the University of California, Santa Barbara.

The Education Committee has established a series of publications: Studies for Students. These papers are not published in IAMG journals, but in journals that are related to the subject matter of the applications. Two articles have been published, others are in press or review, and authors have committed to write others.

The journal Nonrenewable Resources is being reconstituted under the new name "Natural Resources Research". Dan Merriam becomes the Editor-in-Chief as of 1 January 1999, replacing Richard McCammon.

Zharikov (commentator) reported on the Association's main events, mentioning numerous 1998 publications. Brett referred to a letter from IAMG, expressing re-gret that the 1998 Executive Minutes had created such a disturbance. The Executive Committee agreed that this was a misunderstanding and that there was no evidence to support the view IAMG has been "drifting towards pure mathematics". IUGS apologizes to IAMG.

The Committee ACCEPTED the IAMG report

4.c.24. International Association of Sedimentologists (IAS)

Accomplishments in 1998:

- IAS membership is around 2000.
- The IAS held the 15th International Sedimentological congress in Alicante, Spain, from April 13 to 17. About 700 participants from 54 countries attended. Fourteen fieldtrips were run before and after the Congress, and 3 short-courses were organized. Special sessions for IGCP and GSGP programmes were held. Prof. R.N. Ginsburg received the

Sorby Medal for "Distinction in Sedimentology". This year, there was a change in several officers of the IAS and a new logo of the Association was presented.

- IAS published 6 issues of its journal *Sedimentology*, comprising over a 1000 pages. It has an impact factor of 1.475.
- The IAS friendship scheme for scientists and libraries in less-developed countries continues. In 1998, about 100 individuals and 30 libraries benefit from it.
- IAS homepage: <http://www.blacksci.co.uk/uk/society/ias>

Al-Hashimi (commentator) reported on a very healthy organization.

The Committee ACCEPTED the IAS report.

4.c.25. International Association of Structural/Tectonic Geologists (IASTG)

Summary 1998:

The IASTG, launched in 1990, encourages international communication among structural and tectonic geologists. Membership is open, without a fee, and current enrolments stand at 1165. Communication among IASTG members is achieved by the "International Newsletters", published in the "Journal of Structural Geology", bringing news about activities in structural geology and tectonics from all over the world. The Newsletter is open to contributions from everyone, and is currently twice yearly. This International Newsletter" is also available on the World Wide Web through the IASTG Homepage: <http://www.man.ac.uk/Geology/IASTG>

The main initiative in 1998 was producing a 3rd Edition of the IASTG membership booklet, and mailing this to all members free of charge. The IASTG Coordinator is currently trying to recoup the costs (£2400) through block donations from national and regional groups. Some of these costs were supported by Elsevier Science Ltd., who arranged the printing and mailing in conjunction with some marketing material about the "Journal of Structural Geology" and the "Journal of Geodynamics."

Hervé (commentator) stated that IASTG is a very active and alive Association.

The Committee ACCEPTED the IASTG report.

4.c.26. International Federation of Palynological Societies (IFPS)

Chief Accomplishments of 1998:

- Publication of PALYNOS Volumes 21.1, 21.2.,
- Planning for IPC-10, June 24-30, 2000, Nanjing, China
- Collection of dues and membership directories from affiliate societies
- Updating of World Directory of Palynologists
- Maintenance of Web Page <<http://geo.arizona.edu/palynology/ifps.html>>

Goals for 1998:

- Publication of PALYNOS Volume 22
- Planning for IPC-10, June 24-30, 2000, Nanjing, China
- Collection of dues and membership directories from affiliate societies
- Updating of World Directory of Palynologists
- Maintenance of Web Page

Speden (commentator) reported on an active organization.

The Committee ACCEPTED the IFPS report.

4.c.27. International Mineralogical Association (IMA)

Summary 1998:

The 17th General Meeting of IMA took place from 9th-14th August on the campus of the University of Toronto. Attendees amounted to 631, representing 43 countries. Two business meetings, and meetings of the outgoing and incoming councils were held in conjunction with this meeting. The scientific programme included 3 2-day symposia, 24 working sessions, 9 plenary lectures, 1 short course and 8 field trips. All commissions and working groups of IMA held business meetings in conjunction with the meeting.

Johan (commentator) referred to the report, noting the important meeting held in Toronto in 1998, which IUGS supported through ICSU.

The Committee ACCEPTED the IMA report.

4.c.28. International Palaeontological Association (IPA)

Al-Hashimi (commentator) regretted that no report had been submitted, but assumed that the Association was alive and well.

4.c.29. International Permafrost Association (IPA)

1998 Accomplishments:

Essentially all activities focused on preparation and participation in the VII International conference on Permafrost held in Yellowknife, Canada, 23-27 June 1998. Austria was accepted as a new Member. Twenty-two paper sessions and two poster papers and poster abstracts were published in the program book. Meetings of participants in the Circumpolar Active Layer Monitoring (CALM) Network and Permafrost and Climate in Europe (PACE) programs were convened during the Conference.

The final proceedings volume published by Laval University contained 188 papers. A report of the conference was submitted to Episodes. Several other publications were released during the conference; the twelve language glossary of permafrost and ground-ice terms and the CD-ROM on Circumpolar Active-Layer Permafrost System (CAPS); the latter produced and available from the National Snow and Ice Data Center, Boulder Colorado. CAPS contained the digital version of the IPA permafrost map published in 1997 by the USGS.

Major changes to the Constitution were approved including expansion of the Executive Committee from four to six members. A new Executive Committee was elected. The new international Secretariat will be located in Denmark.

Recognizing the importance of data and information activities, the existing working group was re-established as a permanent standing committee. Two new working groups on coastal and offshore permafrost and the Southern Hemisphere were established. Three task forces on rock glacier dynamics, mapping mountain permafrost, and isotope geochemistry were established for a period of 2-3 years to assess current status and plan future activities. Two resolutions were passed concerning global monitoring of permafrost and active layer and their relationship to other international programs including WMO/GCOS/GTOS, WCRP, and SCAR.

See IPA Web site for further details: www.soton.ac.uk/ipa

Zharikov (commentator) referred to the above report summary and commented on an important association.

The Committee ACCEPTED the IPA report.

4.c.30. International Society for Rock Mechanics (ISRM)

Nyambok (commentator) regretted that no report had been submitted this year.

4.c.31. International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)

1998 SUMMARY:

The Board of ISSMGE met in Atlanta in April 1998. The (French Speaking) African Transnational Society of Geotechnique had been admitted as a new Member Society of ISSMGE, which now has 71 Member Societies with a total membership of about 16,500. A task force was set up to pursue the possibility of ISSMGE supporting one or more heritage museums. It was confirmed that ISSMGE and the Swedish Geotechnical Institute had signed a cooperative agreement giving ISSMGE access to the SGI Line Information Retrieval Systems at a 40% reduction on the normal price.

Dr. R.H.G. Parry, will retire as Secretary General of ISSMGE in June 1999. Professor R.N. Taylor of City University, London will take over.

Three new Technical Committees have been set up, namely TC32 on Risk Assessment and Management, TC33 on Scour of Foundations and TC34 on Deformation of Earth Materials.

Nyambok (commentator) noted that ISSMGE is a large and active organization with several activities planned for 1999. Currently, its operational structure includes 34 technical committees that steer the society's activities.

The Committee ACCEPTED the ISSMGE report.

4.c.32. International Union for Quaternary Research (INQUA)

Chief accomplishments in 1998:

INQUA has eleven scientific Commissions and two inter-congress Committees. The main INQUA activities are connected to these thirteen scientific bodies. It was decided at the INQUA congress in Berlin in August 1995 that the activities of these bodies should be project oriented. Guidelines for submitting project proposals were distributed in January, and in March 1998 around 6 new projects were approved. Around 50 projects have been funded by INQUA during this inter-congress period. The project activities will be evaluated by the INQUA Executive Committee's vice-presidents at the next Executive Committee meeting in 1998.

The INQUA Internet Home Page (<http://inqua.nlh.no/>) has undergone a full editorial updating in 1998 and contains a directory of the Union.

INQUA has encouraged all its commissions and committees to publish their newsletters on Internet and to move over to e-mail correspondence. The INQUA Administrative Secretariat is located in The Netherlands.

Speden (commentator) referred to the annual report from this important and professional international organization. He noted that the work of INQUA commissions and committees is project-oriented based on written guidelines. Six new projects were approved during 1998 and 50 projects had been funded over the past four years. A work plan for 1999-2003 is being developed including new leadership for commissions.

The 4th INQUA Congress is to be held in Durban South Africa in August 1999. Substantial funds have been allocated to enable young scientists and students to attend the Congress. No information is reported on scientific activities or achievements.

The Committee ACCEPTED the INQUA report.

4.c.33. The Meteoritical Society

Chief Accomplishments in 1998:

Award of the Leonard and Barringer medals to Dr Stuart Ross Taylor and Dr Boris A. Ivanov, respectively. Presentation of the Nier Prize for young scientists (under 35) to Dr Gopalan Srinivasan. Election of 10 new Fellows.

Held a major international conference in July in Dublin, Eire.

The Society sponsors its own journal, "Meteoritics and Planetary Sciences" (MAPS; formerly "Meteoritics"), published bi-monthly, and also (jointly with the Geochemical Society) the journal "Geochimica Cosmochimica Acta (GCA)", published twice monthly.

Brett (commentator) commented that the report was describing a well developing and healthy organization.

The Committee ACCEPTED the Meteoritical Society report.

4.c.34. Society of Economic Geologists Inc. (SEG)

Gaál (commentator) regretted that no report had been submitted this year.

4.c.35. Society for Geology Applied to Mineral Deposits (SGA)

1998 SUMMARY:

The SGA was established in 1965 by an international group of economic geologists. Mineralium Deposita has been recognized as a premier international mineral deposit journal. Society home page: <http://www.immr.tu-clausthal.de/sga.html>

Co-sponsored Scientific Meetings:

- 7th International Kimberlite Conference, April 13-17, 1998, Cape Town, South Africa
- 8th IAGOD/CODMUR International Platinum Symposium, June 29-July3, 1998, Rustenburg, South Africa
- Symposium in Honour of the retirement of Prof. A.J. Naldrett of the University of Toronto, August 9-14, 1998, Toronto, Canada
- IGCP 373 field conference, September 1-12, 1998, Primorye region, Russia

Johan (commentator) commented on the SGA report, noting that the quality of its journal now is top level.

The Committee ACCEPTED the SGA report.

4.c.36. Society of Sedimentary Geology (SEPM)

R. Brett (commentator) regretted that no report was submitted, but assumed that the Society was alive and well.

* * * * *

A discussion followed on Affiliated Organizations and their relationship with IUGS.

4.d. WORKING GROUPS

4.d.1. IUGS Working Group on World Landslide Inventory

A. Boriani (commentator) reported on an active Working Group, noting especially its support of the Directory of the World Landslide Inventory and the preparation of a field manual that will appear with the IUGS logo.

Brett said that a review of this Working Group had been requested by the Committee, but had been cancelled because the group will be dissolved in 2000. A review had been requested because the information IUGS received from this group had been incomplete. However, Brett remarked that landslides are one of the natural hazards that threatens society. He therefore asked the Committee to suggest that this Working Group be asked to continue its work, but in closer cooperation with IUGG and ICL on “Megacities”.

Wyllie agreed with Brett, stating that subjects such as “Geology and Society” would be good for the two sister Unions, IUGG and IUGS, to join forces on.

The Committee ACCEPTED the Working Group’s report, suggesting it be asked to continue its work.

4.d.2. UNESCO-IUGS Working Group on Global Geosites

F. Hervé (commentator) indicated that, unfortunately, the annual report had not arrived at the Secretariat before the Committee meeting. Boriani said that he had been in regular contact with W.A. Wimbledon, the Chairman. UNESCO had wanted IUGS to join the programme on Geoparks. The Committee had decided at its 1998 meeting that Wimbledon should be the IUGS spokesman in this matter.

Nyambok noted that there will be either a workshop or conference on Geoparks in Nairobi in February. UNESCO had not approved the programme last year, but will probably do so in 1999. It was noted that it will be supported with extra budgetary funds.

The Committee AGREED to wait and see if the proposed programme really develops into a programme, before any further decisions are made.

4.d.3. IUGS Working Group on Continental Geochemical Baselines

Liu Dun-Yi (commentator) reported on the activities of the Working Group over the past year, noting that the group has a good programme with enthusiastic people and its own Website. Its main problem is lack of funding, even though it receives support from geological surveys. J. Aaron mentioned that it has changed its name into WG on Global Geochemical Baselines.

The Committee ACCEPTED the Working Group’s report.

4.d.4. IUGS Working Group on Geoscience Education and Training

SUMMARY 1998:

- 1) In 1998, W. Fyfe took part in a special meeting on chemical education for N. American schoolteachers. The meeting with over 2000 teachers took place at the University of Waterloo, Canada. The meeting was organized by the American Chemical Society, Canadian Chem. Soc., who provided very substantial funding. He was invited speaker on geosciences in sustainable development.
- 2) In 1998 the science teachers association of Ontario held a huge meeting (5000+) in Toronto. Teachers at all levels were involved. All sciences were involved, again great interest in interdisciplinary studies.
- 3) With Waddington of the UK and support of the British Council, the Working Group is organizing a discussion meeting on the needs for new curriculum for science. Fyfe has been in contact with Leon Lederman on the same matter (a test case, U.K. Canada, USA, Brazil).
- 4) Dr. Chris King of Keele University, U.K. is actively involved in the recent International Geoscience Education Newsletter. He is very interested in possibilities of a special session in Rio-2000.
- 5) During the GSA Annual meeting in Toronto, 1999, a special session was organized on education for sustainable development. Following this a special working group has been organized. Fyfe showed the first IUGS education posters for schools, which were received with great enthusiasm. The GSA groups have offered to help in the preparation of future posters with expertise and money.
- 6) With the first IUGS poster on water cycle (for 10-12 year olds), Fyfe has the results from a test study with 1000 children in Wuhan, China, and London Ontario. He will write a report on this for Episodes shortly. The ignorance of children on the two continents is similar.

W.S. Fyfe (commentator) referred to his written report and said it had been a very busy year. He noted that it was clear that globally there is increasing recognition that there must be more integration of the sciences to solve past, present and future problems of development towards truly “sustainable” systems. The organization World Data also recognizes that universal, quality education is the key to survival and quality of life.

Fyfe concluded by stressing that IUGS must plan a session on education for Rio 2000: “Education for a sustainable 21st Century”. This will be the first big meeting of the Working Group. People from politics, economics, education, law and Geo-ethics must be included. The time is right!

Brett supported Fyfe’s idea of an IGC session on education in Rio and asked Fyfe to keep the Bureau informed. He drew attention to the poster on water, noting that it had had more impact than the work of most commissions. It has been translated into several languages, and the French geologists have asked if the poster could be available on Internet. Brett said he was pleased that GSA had agreed to help with posters in the future.

The Committee ACCEPTED the Working Group’s report and
COMMENDED Fyfe for the poster on water inserted in EPISODES.

4.d.5. Proposed new Working Groups

The establishing of two new working groups were discussed:

Isotope Geology - Decay Constants

Brett presented the proposal by Professor Paul Renne and Dr. Igor M. Villa and summarized the comments, both the positive and negative, received from scientists who had been

contacted on this matter. The goal of the working group should be to produce new specific recommendations for decay constants and isotopic abundance, and their uncertainties. The question was whether IUGS should sponsor this as a working group and if so, would other Unions be involved. Green mentioned that there are more than 30 laboratories in the world that could be involved and therefore be contacted.

The Committee DECIDED to sponsor this as an IUGS Working Group on Isotope Geology, asking the group to contact the major laboratories in the world.

Arctic Geology

Brett presented a proposal by Dr. Nikita Bogdanov to establish a new working group on arctic geology. A series of letters to Brett had supported the programme. Volkov remarked that, unfortunately, neither the Russian National Committee, nor a special institute on arctic research in St. Petersburg had been contacted concerning this proposal. It was noted that the Northern European countries all have institutes dealing with arctic research. Brett explained that the proposal was presented just before the Executive Committee meeting and therefore there was little time to announce it. The proposal makers should be asked to revise the proposal before re-submitting it to the Executive Committee.

The Committee DECIDED that the establishing of a new Working Group on Arctic Geology should be postponed. The matter should be looked at more carefully and the Bureau should circulate the documents on the proposed new working group to the National Committees in countries that are involved in Arctic Geology, asking for their opinion.

5. REPORTS ON COOPERATIVE ENTERPRISES

5.a. IUGS/UNESCO International Geological Correlation Program (IGCP)

W. Eder, UNESCO, conveyed greetings from Dr. V. Babuska, the IGCP Secretary, who thanked for the cooperation on the programme. Eder reported that the IGCP operations had been running quite smoothly in 1998, in comparison to 1997, the year the programme experienced serious financial crises. The United Kingdom had returned as a full member of UNESCO in 1997, which also meant withdrawal of the UK funds channeled via IUGS to the IGCP.

The IGCP Scientific Board of 16 members will be partly changed. Two members ended their term in 1998, Prof. Chris Powell (Australia) and Prof. Elen Roaldset (Norway). In September 1998, the head of UNESCO and IUGS appointed two new Board members for starting their term in 1999, Dr. I.W. Dalziel (USA) and Prof. M. Gaetani (Italy).

Eder mentioned that a new brochure had been published, summarizing the activity of IGCP as a joint programme of IUGS and UNESCO. The minutes of the last year's meeting are ready and will be distributed at the next IGCP meeting.

He further noted that UNESCO is providing administration and staff to run IGCP. V. Babuska will leave his position in the beginning of 1999 and the Director of the Earth science Division will take over, with the help of a professional assistant.

Nyambok asked if UNESCO was to continue decentralizing IGCP activities, a process initiated three or four years earlier. Eder responded that the decentralization of IGCP projects to the UNESCO regional offices in Cairo, Nairobi, Jakarta and Montevideo has been heavily debated, but continues to be practiced. Eder explained that the goal of decentralization was to increase the interest in IGCP activities in different regions.

Some Committee members expressed their concern that IGCP has been viewed as a UNESCO project; its relationship to IUGS has been more hidden to geologists worldwide.

The Committee THANKED W. Eder for his oral report.

5.b. IUGS/UNESCO Program on Geological Applications of Remote Sensing (GARS)

F. Hervé (commentator) expressed satisfaction with how the programme is developing. GARS had opened its membership to new people and is entering a new phase towards addressing global needs. It will change its name to “Geohazard Assessment using Remote Sensing Data”. The re-orientation of the GARS-Program awaits the formal approval of UNESCO and IUGS. Under this programme the geological application of remote sensing to landslide hazards, risks from active faults, volcanic risk, lahar risk, inundation, and tsunami hazards can be dealt with. After its formal approval of new name, contacts will be made with IGCP projects and institutes around the world pursuing similar goals.

The Committee ACCEPTED the GARS report and suggested the Bureau to contact the Chairman and discuss the future of the Programme.

5.c. IUGS-UNESCO Program on Mineral and Energy Deposit Modelling (DMP)

G. Gaál (commentator) noted that the lack of annual report was mainly due the change in leadership. He, however, reported on a successful meeting in Hungary, which had created a useful international network and will result in a book published by Kluwer, the Netherlands in 1999.

Brett thanked Gaál for his comments, remarking that the programme has been broadened to include mine restoration and environments. He noted that this is a type of programme where experts are brought in to look at certain regions of deposits and to hold workshops. The local geologists will learn from the experts and the experts will benefit from seeing new deposits that can be included in their data base. It is an inexpensive programme.

Nyambok expressed disappointment for the lack of information about the DMP achievements, and also about GARS. Secondly, he pointed out that the only reported DMP activity is one meeting a year. Gaál argued that the Programme does publish its results, but that dissemination could be a problem. Concerning the second note there is generally only one meeting, last year it was devoted to deposit modeling, but with an environmental aspect,

which is new for DMP. The DMP Steering Committee meets once a year in Paris in January. Johan also stated that good books are coming out of the DMP meetings.

Nyambok continued questioning the maintenance of this programme, which in his view has little impact and shows little activity. Al-Hashimi supported Nyambok's view.

Brett noted that some of the Committee members had expressed their view and a review of the programme will be asked for when necessary. Johan stressed the importance of keeping the programme.

The Committee DECIDED to ask the DMP Chairman to write a report on the activity of the program and publish it in EPISODES.

6. INTERNATIONAL GEOLOGICAL CONGRESS (IGC)

6.a. 31st IGC - Rio de Janeiro - Status of planning

Present at the Executive Committee meeting giving reports were U.G. Cordani, President of the 31st IGC; C.O. Berbert, Secretary General; and S. Loguercio, Assistant Secretary General.

Cordani reported on the plans for the 31st IGC to be held from 6-17 August 2000 in Rio de Janeiro. Although he was certain they were on the right track, he asked for advice from the Executive Committee. Copies of the first circular had been distributed in 1998 and the 2nd circular will be ready for distribution in April 1999. The organizing committee will give some exhibition space to international organizations, among them IUGS, which will have 30 square meters.

Berbert presented overheads that showed the two buildings of the convention center to be used for the Congress and explained the programme. Loguercio spoke of the colloquia, with nine subjects related to the theme of the Congress. He further mentioned the general symposia, the special symposia and the workshops. The affiliated organizations had been invited to make suggestions for workshops or short courses. The poster sessions will be held in 400 booths, with equipment for computers.

The 31st IGC's Internet address is: <http://www.31igc.org>.

A lengthy discussion followed. In reply to a question by Fyfe, Berbert stated that there would be some arrangements for school-age participants. He also remarked that the GEOHOST programme will be conducted in the same way as in previous congresses. Berbert urged the Executive Committee to take advantage of the free space offered to IUGS for an exhibit to increase the visibility of the Union.

Brett mentioned one concern, namely the one hour commuting time to and from the congress center: this may be a problem. Cordani remarked that Rio de Janeiro is like other big cities, reminding the Committee that in Kyoto the commuting time was about 30 minutes and in China, 30-40 minutes. In Rio, the commute will be 30-40 minutes in good conditions, but during rain and rush periods, about one hour or more.

The Committee THANKED the IGC organizers for their oral presentation of the preparation of the 31st Congress that seemed to be in good hands. The Committee appreciated the IGC organizers' offer to provide free space for an IUGS exhibit during the Congress.

Following a discussion on the IUGS exhibit, F. Hervé and I. Speden volunteered to organize the exhibition and contact the IUGS Commissions, Working Groups, and other relevant IUGS bodies to make preparations.

The Committee THANKED the Vice Presidents F. Hervé and I. Speden, who volunteered to organize the IUGS exhibition during the IGC.

6.b. 32th IGC

W. Janoschek presented Austria's offer to host the 32nd IGC in Vienna. The Austrian organizing committee will give the justification for choosing Vienna to the Congress in Rio. He invited the Committee members to recall their experience at the Vienna 1998 Executive Committee meeting, pointing out the congress center, airport, hotels, and public transportation system. He drew attention to the cultural life of Vienna, the city of Mozart, Beethoven, but also Schönberg, Freud and "Heurigen". He also asked the Committee to consider Vienna's position in Europe and reported strong support from East European National Committees who view an IGC in Vienna as an opportunity to "finish" the Prague Congress in 1968. Janoschek listed various supporters of a Vienna Congress: The Mayor of Vienna (a former scientist working on amphibia), the Austrian government, and the transport system in Vienna. The transport carrier will be Austrian Airlines. Janoschek underlined that in Kyoto in 1992, Austria was first to submit its offer to host the 32th Congress; Italy submitted its offer in Beijing, 1996.

G. Vai presented the Italian offer to host the 32th Congress in Florence. He gave the main lines of the programme of the IGC organizing committee, noting that the committee was very busy making the preparations for the field trips and workshops. He described the congress center, mentioning all the hotels within walking distance. National and local support are guaranteed, including the Civil Defense System, and the Italian CNR is deeply involved in the organizing of the IGC. The suggested title of the Congress is: "Geology, natural hazards, sustainable development and cultural heritage in the Mediterranean area: a Global Perspective". After explaining the title, Vai pointed to the highlights of the Italian bid: a variety of scientific and applied geological processes available for research and development on both the domestic and international level; central location in the Mediterranean; involvement from a large domestic and international geological community; centrally located congress centre and numerous one-day bus trips on classical geological and historical sites.

Brett asked that Executive Committee members share their meeting experiences in both Florence and Vienna with their own countries. Unlike any other group, including the IGC Steering Committee, the Executive Committee has had the opportunity to see both places. Brett mentioned that both Austria and Italy were considered excellent choices by the Steering Committee. However, when a straw vote had been taken in September 1998, the majority of members were in favour of recommending Italy to the General Assembly of the Congress in Brazil.

A short discussion followed on accommodation for students and the Geohost programme, which both countries would be willing organize. In reply to a question by Speden, Vai remarked that August would be a good time to arrange a congress in Florence because there will be fewer tourists.

The Committee THANKED W. Janoschek and G. Vai for their excellent oral presentations of the offer to host the 32nd IGC in respectively Vienna and Florence. The final decision on the venue of this session will be taken by the General Assembly of the 31st IGC in Rio de Janeiro in 2000.

7. INTERNATIONAL COUNCIL OF SCIENCE (ICSU)

7.a. Relations with ICSU

Brett reported that ICSU had revised its statutes and changed its name to International Council for Science. Its acronym was maintained. The changes reveal that Unions have less influence in ICSU than national committees.

7.b. ICSU General Assembly

It was noted that the 26th General Assembly of ICSU and associated meeting will be held in Cairo from September 25 to 26, 1999.

7.c. World Science Conference

W. Eder reported on the ICSU-UNESCO World Conference on Science: "Science for the Twenty-First Century, A New Commitment", which will be held end of June 1999 in Budapest, Hungary. He distributed a summary of the latest draft programme, noting that five months before the meeting; it was not clear where the contribution of geoscience would be inserted. UNESCO had assured that the presence and visibility of the Earth sciences will be good at the conference. However, the political aspect of this conference is the most important.

The Committee expressed its concern over the lack of information available about the conference and its attendees. It was stated that it had been difficult to include Earth sciences in the conference.

7.d. Interdisciplinary ICSU bodies

7.d.1. Programme on Capacity Building in Science (PCBS)

Improved cooperation between the Unions was discussed and that a proposal on science education could be presented to ICSU.

7.d.2. IUGS-IUGG-ICSU Inter-Union Commission on the Lithosphere (ICL) - New Name: Scientific Committee on the Lithosphere (SCL)

Alan Green, SCL President, presented an informative report on the activities related to the Megacity problem. New Executive Members may be installed at the next IGC Congress. As requested by the Chair of the Advisory Board of Publications, ILP members had received an explanation of the value of reporting their activities in EPISODES.

The Committee THANKED A. Green for his oral report. Both IUGG and IUGS were pleased with the way ILP is performing.

7.e. Relations with other Unions of the ICSU family

Brett noted that it was the first time the Presidents of the three ICSU Earth science Unions, IUGG, IGU and IUGS, were gathered at an IUGS Executive Committee meeting. The leaders anticipated that the fostering of closer co-operation between the three Unions would strengthen the position of Earth sciences within ICSU. Since geographers are often the teachers of geology at pre-university levels, a closer contact with IGU would be pertinent, apart from the common interest shared by the practitioners and Unions.

7.e.1. International Union of Geodesy and Geophysics (IUGG)

P. Wyllie, the IUGG President, reported on a pleasant relationship between IUGG and IUGS. The leaders seek to identify where the activities of the two Unions intersect and discuss their future, especially in relation to the situation with ICSU. Both Unions strive to put Earth science on the agendas of governments and other decision making groups.

Brett suggested approaching the National Committees with the concern about ICSU's recent policy changes that could be problematic for Unions. As a result of the changes, ICSU Member Countries could have greater influence while the Scientific Unions could have lesser.

The Committee THANKED P. Wyllie for his oral report and his participation in and comments during the Committee meeting.

7.e.2. International Union of Geography (IGU)

B. Messerli, the IGU President, commented on the human science, which is becoming more and more important within the geosciences. He therefore underlined the importance of interdisciplinary cooperation, mentioning that 1998 had been the "Year of the Ocean", involving programmes on coastal areas and Megacities. Environmental and health sciences are also cooperating to solve critical problems. He drew attention to the session on food security to be held during the ICSU meeting in Cairo, noting that this was another field where Unions could interact. Messerli remarked that he wanted to intensify the interaction with the IUGS Commissions dealing with Megacity problems.

The Committee THANKED B. Messerli for his oral report and valuable comments during the Committee meeting.

7.f. ICSU Grants

Boriani reported that the ICSU Grant policy changed two years ago. There are now two categories of grants: Category I (over USD 50,000) and Category II (under USD 50,000).

1. ICSU grants for 1999

Boriani mentioned that for 1999, IUGS had received USD 7,000 to split between two proposals. ICL had received USD 60,000.

2. Proposals for ICSU grants for 2000

Boriani further reported that IUGS had received four proposals for grants for 2000, two in Category I and two in Category II. The deadline for submission to ICSU was 31 March 1999. The Committee chose the Bureau to examine the proposals. If there were high quality proposals, other Unions should be approached for cosponsoring. It was noted that a proposal for Category I should be supported by at least two or three interdisciplinary bodies or Unions.

7.g. IUGS Representatives on ICSU and ICSU Committees

Few of the IUGS Representatives on ICSU Committees had been present at the Committee meetings, partly due to lack of funds but also due to the lack of meeting information from the Committees. IUGS should ask the Committees to notify the IUGS Representatives of their meetings.

Please refer to the 1998 IUGS Directory for the list of IUGS representatives to ICSU Committees.

8. IUGS POLICY AND STRATEGY MATTERS

8.a. IUGS Statutes

G.B. Vai, who is in charge of the recommendation for changes in the IUGS Statutes, reported that these will be distributed to the IUGS Adhering Bodies in due time before the IUGS Council meeting during the IGC in 2000.

8.b. IUGS Nominating Committee

Fyfe reported that notices requesting nominations for the IUGS Executive Committee had been sent to all national groups in April 1998. A reminder had been sent in August 1998. Nominations had been received from 18 countries including several excellent candidates.

The members of the Nominating Committee are the following:

W.S. Fyfe (Canada), Chairman
F. Hervé (Chile)
Liu Dun-Yi (China)
V. Babuska (Czech Republic)

B. Ratanasthien (Thailand)
P. Affaton (Niger)
T.C. Partridge (South Africa)

8.c. IUGS Strategic Planning Committee

(The following discussion on the future role of IUGS in a modern, rapidly changing society took place on Friday 30.01 and Saturday 31.01.99)

Brett introduced the item, pointing out that in 1996 the IUGS Council resolved that the Executive Committee prepare a Strategic Plan for IUGS.

Locating extra funds for a Strategic Planning meeting had been difficult. In the end the Bureau decided to use the Union's own money to organize a meeting in 1999. This would assure that the results could be presented to the Executive Committee in January 2000 and then on as recommendations to the IUGS Council in August 2000. Brett informed the Executive Committee that Dr. Peter Cook agreed to chair the meeting and that a Committee would soon be established.

Brett said he thought all scientific Unions were suffering. During the Cold War the Unions were extensively supported to enable the scientists of both sides to communicate. Those barriers have disappeared and international communication is much easier. Politics and values have changed, as reflected in the re-organization of ICSU, where ICSU's member countries now seem to play a more important role than the Unions. Some countries are questioning the role of Unions and Brett stated that the time has come to look at IUGS, its weaknesses and strengths, and see where it should be going in the future. He viewed this as a tremendous opportunity to try to change the Union into a more responsive and useful organization, as it was 15-20 years ago, and try to get the world community more strongly involved. To achieve this goal there must be a road map. Brett suggested that the Executive Committee could give some clues to the Strategic Planning Committee rather than beginning a general discussion of the Union.

Nyambok referred to a decision at the last Committee meeting, and questioned whether the National Committees and Commissions had been invited to give comments on the reorganization of the Union. Boriani said that they had been asked, but few responded. The South African National Committee and COGEO-ENVIRONMENT had submitted the most complete documents.

Aaron noted that anyone present at a recent Executive Committee meeting would have recognized the need of reconsideration and redefinition of what IUGS is about. The role of the Union has changed and the environment in which it operates (political, budgetary and scientific) has changed fundamentally. The question to be asked and answered is: "What is IUGS all about and what plan do we build to make that new redefined road a reality?"

Caldwell agreed with what Aaron had said, but thought one should begin by looking at how the science and its application has changed. Then, one should look at how the sciences should be applied in the next millennium in terms of preservation of the planetary environment, the biosphere, and the welfare of the human population. He thought he would reduce this to two considerations.

Firstly, there has been a much sharper focus in recent years, principally, since the publication of the well-known US document by the US National Research Council in 1993 and similar documents by other countries, on the need to better understand the Earth system and to focus more efforts on Earth system science than on Earth science. To achieve a better understanding of how the Earth system works, he thought it was necessary to look closer at the interdisciplinary, integrated changes that are needed.

Secondly, from this basis of a better understanding of how the Earth works, to proceed to what has to be done; that is, to apply this new understanding to the developing facts in order to help science, society, and the welfare of the ever increasing human population. Many of the problems of mankind are going to stem from the magnitude of the increase of the human population and right down to the environmental pollution, and all other matters following this.

Geologists have gone to a much higher level of understanding of how the various disciplines of geology and sub-disciplines integrate to promote an understanding of how the Earth works. How could this understanding of what drives the Earth system be extended to applied Earth sciences for the benefit of human kind?

Caldwell noted that he, like Aaron, had been sitting as an observer at the Executive Committee meetings for the last two or three years. He had listened to the arguments of the merits of the Commissions, and to his hearing the Committee has been inconsistent in its handling of the Commissions. One may be strengthened and another perhaps disbanded. However, this should be done within an understanding of the overall goals of IUGS given two basic primary requirements. The first scientific, what is the assessment and how does a modern system work, and the second, how it should be applied. We cannot only do applied geology, even if that would appeal to politicians, because geologists must do their share of advancing the basic science on the international front to avoid stagnation.

Caldwell illustrated this with two examples of Commissions. He mentioned that some individuals would like to eliminate the Commissions, but from the way he views IUGS, this should not be allowed to happen. It could resist calling them Commissions, and call them some other names. Regardless of what they are called, IUGS needs to have bodies doing the work that some of the present Commissions now are doing.

He mentioned the need for a body that strives to develop world stratigraphy, because so much of the understanding of the Earth hinges on having an accurate time scale. In his opinion, the Stratigraphy Commission over-emphasizes global stratigraphic sections and points to the extent that, unfortunately, people outside the Commission perceive that this is all that it does. He would like to see the Commission take up the whole question of sequence stratigraphy; for example, event stratigraphy, which he thought would lead automatically to a desirable kind of integration, with sedimentology and paleontology, essential to understanding the aspects of the Earth system. He would like to see that all being done together by one body.

IUGS has another Commission that has met some criticism, COMTEC. Caldwell said that although he was not a tectonist, if he had to put forward one that answers the question "What drives the Earth system?" even taking into consideration the biologic system and the life system, that word would be Tectonics. Hence, it was fundamental to have some central body working on tectonics and its role in the Earth system, but not necessarily the kind of Commission on Tectonics, which the Union has today. Tectonics is essential to geology and this is the approach he would like to see this body take.

Caldwell concluded his comments by advising the Strategic Planning Committee to look to where the science is going. If this is not done, it will be impossible to understand where the applications of the science go or should go on a worldwide basis. This should be extended to consider what are the most urgent applications. When this is addressed and laid down in its essential elements, the present IUGS structure should be looked at. A restructuring might lead

to a combination of some of the IUGS bodies and even bodies of all the Earth science Unions. IUGS should strive for a rational sharing of responsibilities with IUGG, IGU and IUSS; that is, they should strive to work more collaboratively as a consortium of Unions.

Boriani said that he continues to be very skeptical about the Strategic Planning Committee. At the Beijing Council meeting, the strategic planning proposal had been presented by group of representatives that were mainly from geological surveys. Their surveys were suffering big crises, the basic research being cut and most of them are trying to find a new role, since the traditional one was nearly over. He agreed IUGS should change and needed new program and goals. However, where IUGS should go would also depend on where it is coming from. This means that an external group of strategy makers will have difficulties, because of their lack of knowledge of the past IUGS activities. Boriani said that the Executive Committee should play the most important role within Strategic Planning. A good document for the Strategic Planning Committee should come from the Executive Committee. The Strategic Planning Committee could then develop the suggestions from the Executive.

A discussion followed on how to proceed. It was agreed that when IUGS again is approaching its bodies to get some feedback, it should be in a structured way, asking them to respond to specific questions and issues. Zhang Hongren believed it was important to attain opinions from the different parts of the world, because the situation is different in different places. Aaron remarked that the thoughts and comments would probably therefore go in every direction and a strong committee to sort the responses would be necessary. In response to Boriani's view of the Executive Committee's role, Aaron said that the Committee is an important part of the planning process, regardless of their input in IUGS's Strategic Plan because the Committee is directly responsible for the health and the welfare of the Union.

Speden expressed his concern that there was little time to establish new guidelines for IUGS. He quoted the Beijing Council minutes: "The Council asks the Executive Committee to commence development of the strategic plan for IUGS and requests that it present its agenda and procedural plan no later than the end of 1996, with a target for completion of this 5-year strategic plan no later than the end of 1997."

Messerli drew attention to the ICSU publication ASCEND 21 (Agenda for Science in the 21 Century) resulting from the conference of all scientific Unions that had been held before the UNCED conference (AGENDA 21). He suggested that this would be a useful document for strategic planning. Messerli felt that the work of several Unions would draw nearer in the coming years and that this would require more cooperation. Brett mentioned that the "Wyllie Report" from the National Academy of the US would be useful.

Al-Hashimi agreed that basic science is essential to understanding the Earth system. Concerning applied science, he spoke of various pressing issues for society that should be emphasized in the future. Applied sciences should focus on issues like diminishing water resources, alternative energy sources, environmental changes, increases in population and pollution, and mineral resource depletion. He also mentioned the newer branches of Geoscience, like medical geology.

Gaál remarked that funds for basic research are diminishing and that this is a problem for every research organization, not only geological surveys. The question is how to make IUGS into a useful umbrella Union providing basic guidelines.

Brett stressed that the Union is not doing research. The present role is to facilitate research and especially communication between groups and different countries in the research.

Schmidt-Thomé posed the question: Who needs IUGS? He referred to a planning instrument that he showed to IUGS almost ten years ago. He presented a simple diagram on the board and stated that there was a problem and the problem was IUGS. The reason for the problem, and why there has been all call for an examination of IUGS, is that there exists an old fashioned policy of the geological community. This had also been expressed during the last days. The outcome was that nobody has been interested in giving support to, or receiving advice from IUGS -- people do not care. He thought these were the main problems that the Union has been facing and said that guidelines are necessary for the Strategic Planning Committee to define the reasons for IUGS, or geosciences in general, has not been as public as it should be.

P. Wyllie presented some answers to the question: Why Unions? Unions are bringing “disciplines” together on process; bringing countries together on problems; bringing young scientists into the international arena. Unions that are international and multidisciplinary would have the best chance to focus science on the society. Are there other alternatives?

Brett read a document “Proposals to Improve IUGS Standing and Scientific Contributions” by Speden.

The Committee URGED the Bureau to arrange for a Strategic Planning Committee meeting as soon as possible. By the end of 1999, recommendations on a new strategic plan for IUGS should be tabled for discussion to the Executive Committee. The Committee proposed a list of names of scientists to be present at the planning meeting.

8.d. IUGS Committee on Public Affairs (WG)

Brett reported that he had written the draft terms of reference for the Public Affairs Group that had been distributed to the Committee. He would work on its composition.

The Committee stated the importance of establishing this group as soon possible. Communication could be done by e-mail.

8.e. Role of IUGS in Ocean Sciences

Dr. Enrico Bonatti, the IUGS Representative to SCOR, expressed some thoughts about ocean geology. The geology of the oceans is exciting, but there have been big changes in this field. Since the technical instruments are becoming increasingly expensive, countries can no longer afford to single-handedly carry out major programmes – they are forced to cooperate with one another. A problem is that developing countries are not able to keep up with the work, and the importance of disseminating the results of the ocean research was emphasized.

The Committee THANKED E. Bonatti for his report and asked him to examine the Ocean Sciences activities to find out if there is a field for IUGS to be useful. If so, the Bureau could launch a working group.

8.f. Proposal policy

Following a discussion, the Committee strongly recommended a focus on subjects, global in scale but dealing with a key problem. It agreed to call for proposals for two projects, with guidelines on topics, in order to have a couple of examples and some experience by the next IGC. The projects should be allocated USD10,000 each. It was proposed to use the Executive Committee members to review the proposals.

The Committee DECIDED that the Bureau should call for project proposals.

9. EXTERNAL RELATIONS

UNESCO: W. Eder reported on UNESCO, pointing out that the organization is working for peace and sustainable development, education, sciences, culture and communication. It is trying to increase the understanding of the factors controlling the global environment so that human living conditions may be improved. Within the Earth sciences UNESCO is also moving toward building a platform for natural hazards reduction and to develop more effective ways to find and assess mineral and fossil fuel resources.

IDNDR: A. Green emphasized the importance of continuing the work of IDNDR, after the Decade ends in late 1999. This was an accelerating activity where the Earth sciences could make a great impact, and it was appealing for funding agencies. The program should be concentrated on larger urban areas.

The Committee DECIDED that the Commissions that could be interested in this geological field should be contacted.

10. REQUESTS FOR FUNDS AND BUDGET FOR 1999

1999 budget, see appendix 3.

11. UPDATE

11.a. Directory

Refsdal reported that a new edition of the IUGS Directory had been distributed to all the IUGS bodies in April 1998. Many changes had occurred since, and an updated supplementary directory had therefore been distributed to the Committee members and observers at the current Executive Committee meeting.

11.b. Brochure

It had been agreed to publish a short IUGS brochure in connection with the Rio IGC. The brochure had been completed last year, but in the meantime it needed updating. Caldwell offered, at the current meeting, to go through the one-page brochure once more and the Brazilian organizers of the 31st IGC offered to publish it for no cost for IUGS for distribution at the IGC.

11.c. Increase of membership dues.

This item will be discussed at the next Executive Committee meeting in order to present a recommendation to the IUGS Council in August 2000.

12. VENUE AND DATE OF 46th EXECUTIVE COMMITTEE MEETING

Brett reported that the venue of the next Executive Committee meeting is still unknown. After two meetings in Europe it is time to meet in sub-Saharan Africa, but the Committee was open to any practical suggestions. It was emphasized that the time to arrange a meeting is quickly running out.

The Committee DECIDED that the BUREAU should discuss probable suggestions for an Executive Committee venue in 2000 and inform the Committee members.

13. OTHER BUSINESS

Shipping of electronic equipment

Nyambok called on everybody with a computer that is not completely up-to-date and who was willing to ship it to Africa. This could be done through the Geological Society of Africa, himself, or UNESCO, which ships them to its Nairobi office, or directly to universities. Janoschek noted that Austria is sending electronic equipment to Albania and Bosnia.

Associate Membership Fee

The Committee decided to lower the Annual Membership Fee for Category D from USD100 to USD 50. This is a category applicable to individuals with IUGS-related interests. The Statutes read that Associates are entitled to receive all Union activity information normally circulated to adhering organizations, etc.; this means Episodes, EC meeting minutes, Directory and other information.

The Committee AGREED to refer their decision to lower the associate membership fee for Category D to the Council.

Hutchison Young Scientists Fund

Johan reported on the Fund, which was established by the late IUGS President W. Hutchison in 1987. The fund was used for the first time in 1989 to bring young scientists to the Washington Congress. In the last 10 years, the fund has been allowed accumulate. Johan suggested using a portion of the fund, now for a second time, for fund attendees to Rio Congress in 2000. The question was whether the interest or capital should be spent. The approximate interest over four years was estimated to USD8,000.

The Committee AGREED to use 90% of the interest of the Fund for Young Scientists for attending the Rio IGC.

A Hutchison Fund Committee was set up consisting of F. Hervé, I. Nyambok, J. Reinemund and M. Schmidt-Thomé. The Committee should look at the scientific merits of the applicants and agree on the young scientists to be funded. The work should be done by e-mail with a

probable telecom conference to finish the decisions. An applicant under 30 would qualify as a young scientist. Speden proposed that the application should be required to provide:

1. A statement which indicates: how they would benefit from attendance at the Rio IGC; what they will contribute to the Congress; how they will apply the benefits of attendance in their own country on return.
2. A concise reference from their supervisor (Professor, Group Leader, etc.)

The decision must be advertised in EPISODES and other geoscientific magazines and newsletters.

* * *

R. Brett thanked A. Boriani for the excellent organization of the Executive Committee meeting in Florence and thanked the Committee members and other attendees for their participation.

The 45th session of the IUGS Executive Committee meeting closed at 13:00 on Saturday, January 30.

August, 1999
Secretariat
International Union
of Geological Sciences
Trondheim, Norway

(The preceding minutes are subject to approval and adoption by the Executive Committee.)

NOTES