

Working Group on Geology

Report to SCAR XXVI, Tokyo, Japan.10-14 July, 2000

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1. INTRODUCTION

1.1 The chief officer, R. Trouw, opened the session on July 10, 2000, at 10.45 a.m. Apologies for absence were received from the members of France (A. Giret), Argentina (R. del Valle), Bulgaria (B. Kamenov) and Chile (F. Hervé). The agenda was presented and approved.

Members present:

Australia: C. Wilson
Belgium: T. van Autenboer
Brazil: R. Trouw (Chief officer)
Canada: W. Pollard
China: X. Liu
Finland: K. Strand
Germany: H. Miller
Italy: C.A. Ricci (also IUGS)
Japan: K. Shiraishi
Korea: S. Chang
New Zealand: P. Barrett
Russia: E. Mikhalski
South Africa: S. McCourt
Spain: C. Sanz de Galdeano
Sweden: K. Larsson
UK: M. Thomson
USA: R. Powell

Observers:

P. Berkman
D. Fütterer
G. Kleinschmidt (alternate SCAR delegate)
J. López (SCAR delegate)

2. AGENDA ITEMS

2.1 Minutes of the previous meeting.

The minutes of the meeting in Wellington, on 4 and 7 July, 1999, were approved unanimously.

2.2 National reports to the Working Group on Geology

The members gave short reports on previous and future work in Antarctica, most providing written summaries. M. Thomson (UK) also reported that the SCAR Geoscience Map Database, can be obtained via the BAS web site: www.antarctica.ac.uk.

2.3 Report on SCAR Organization and Strategy

The Working Group on Geology agrees in general with the intent to revise SCAR and welcomes the work done by the Ad Hoc Group on SCAR Organization and Strategy. It thoroughly discussed the recommendations in the report, and wants to suggest some modifications that are explained in Appendix 1. The essential points are the following:

- i) It is proposed in Recommendation 9 that the present Working Groups "should be replaced by a system of Operating Groups". The WG on Geology considers that it is important for this change to be evolutionary, and with full consultative participation of the present WGs.
- ii) The WGs at present form the scientific base of SCAR, representing a wide diversity of disciplines. The WG on Geology considers that this quality should be preserved in some form so that new scientific opportunities can be recognised and realised.
- iii) At present the report proposes that all SCAR countries may propose a member for every Operating Group. The WG on Geology considers that SCAR should have the possibility of establishing small Operating Groups whose members are selected on the basis of their expertise and of balancing the composition of the group for the task at hand in order to guarantee the operational efficiency and scientific authority of the group.

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2.4 Reports of Groups of Specialists (GoS) and other groups.

i) Antarctic Subglacial Lakes

The present state of Lake Vostok research was outlined by P. Barrett and G. Leitchenkov. P. Barrett further explained "Guiding Principles for Sub-glacial Lake Exploration", and the way in which the exploration is to be staged. The WG fully supports the Science plan for the Exploration of Antarctic Sub-glacial Lakes, and urges that the recommendations in the report are put into effect as soon as possible. In response to a request from SCAR the WG proposes the names of P. Barrett and R. Powell for the Group of Specialists to be set up by SCAR.

ii) Victoria Land Coastal Transect

P. Berkman presented the aims and plans of an informal group to bring together geologists, biologists, glaciologists and oceanographers to study ecosystems and environments across the latitudinal gradient of the Victoria Land Coastal Biome.

iii) Antarctic Ice Margin Evaluation (ANTIME)

This group forms part of the GoS on Global Change in Antarctica (GLOCHANT), and considers changes in Antarctic environmental history over the last 200,000 years. R. Powell outlined the wide range of activities currently being undertaken, including a special session at the 8th International Symposium on Antarctic Earth Sciences in July, 1999. The WG strongly supports the continuing of

ANTIME to ensure that this work program continues.

iv) Age, Growth and Evolution of Antarctica (AGEANT)

C. Wilson presented an initiative for research on the tectonic evolution of Antarctic Continental Blocks with its main focus on the Precambrian basement. The objectives include defining ancient tectonic boundaries and understanding their origin. Scientists from about 15 nations expressed their interest in participating. Recognising the scientific value of this initiative and to plan for the establishment of a group to advance research in age, growth and evolution of Antarctica, the WG has requested \$10,000 from SCAR to support a workshop in Strasbourg in connection with the European Union of Geology meeting in April 2001.

2.5 Upcoming initiatives

i) Permafrost

The International Permafrost Association (IPA) has expressed its interest through a letter to the President of SCAR to establish links with SCAR. Several members of the WG expressed their interest in this topic, and assigned W. Pollard (Canada) to act as its contact person with IPA. The WG suggests that the president of SCAR respond to the president of IPA with a letter to establish links between the two organisations (a draft letter for consideration for this purpose is attached as Appendix 2). The WG also requests the president of SCAR writes letters to appropriate ministers of nations to provide endorsement for the Global Terrestrial Network & Permafrost Initiative.

2.6 Antarctic Map presentations

The recently published Bedrock Map of Antarctica (BEDMAP), and a new compilation of a Magnetic Anomaly Map, both supported by SCAR, were presented by M. Thomson.

The project on the development of a new Tectonic Map of Antarctica, by VNIIOkeangeologia (Russia), was presented by E Mikhalski. The Working Group considered this initiative, of scientific importance and international significance. It was also recognized that further compilation and involvement of other international groups are warranted, and will contribute to the International Geological Map of the World. E Mikhalski encouraged members to submit data and contributions to improve the compilation. The WG expressed the view that the map will form a valuable contribution to the International Geological Map of the World.

2.7 Private collection of Antarctic meteorites

R Powell (USA) drew members attention to US concerns that participants in certain private expeditions were going to Antarctica with the express intention of collecting meteorites for subsequent sale. The Working Group on Geology expressed its concern that the integrity of future meteorite collections for scientific research is at risk, and that many meteorites of important scientific value may find their way into private collections and be lost to science. The WG drew attention to Recommendation SCAR XXII-1 On Protection of Geological Specimens, accepted by SCAR Delegates at their meeting in Sao Paulo, 1990. SCAR forwarded the recommendation to the ATS where it was subsumed into ATS Recommendation XVIII-1 Tourism and Non-governmental Activities. Section E4 of that ATS Recommendation states:

Do not collect or take away biological or geological specimens or man-made artifacts as a souvenir, including rocks, bones, eggs, fossils and part or contents of buildings.

Members suggested that a suitable action might be for the US to write to IAATO, notifying them of the apparent non-compliance of some private expedition participants with this ATS

Recommendation. They further suggested that SCAR might remind ATS that their recommendation was not being fully complied with and requesting that they strengthened their position. The US representative to the CEP might also pursue this issue. Members then approved Recommendation XXVI-Geol 1

2.8 Ninth International Symposium on Antarctic Earth Sciences, Potsdam, Germany, 2003

H. Miller outlined the preparations for this meeting and distributed copies of the first circular. The WG approved his recommended levels of funding to be requested for 2002 and 2003

2.9 Any other business

Participants were urged to include Antarctic themes within thematic sessions of whatever geoscience congress.

3 Approval and closure

The session was closed after approval of the report and appendices on July, 14, at 5 p.m.

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RECOMMENDATION

Recommendation XXVI-Geol-1

Noting that members of certain private expeditions are apparently going to Antarctica with the expressed aim of collecting meteorites for subsequent sale,

Concerned that meteorites collected in this way will be lost to science, and

Mindful of Recommendation XVIII-Geol 1 that the collecting of geological samples and meteorites for barter or sale should be expressly forbidden, and that any specimens should be curated in institutes or museums with free access for study,

The WG Geology recommends that SCAR asks the ATCM to take a stronger position on Recommendation XVIII-Geol 1, and further asks that SCAR should bring these activities to the attention of the CEP through a working paper.

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APPENDIX 1 – Comments on the recommendations from the report on SCAR Organization and Strategy

The Working Group on Geology agrees in general with the intent to revise the organization of SCAR and welcomes the work done by the Ad Hoc Group on SCAR Organization and Strategy The WGG thoroughly discussed the recommendations given in that report and wants to suggest some modifications.

Recommendation 9

The Working Group on Geology agrees with the intent to clarify and increase the number of possible types of operating groups. The initiative of the delegates to institute ad hoc groups to address scientific problems is well accepted. However, the WG considers that an abolition of the present or modified working groups as implied by the phrase "should be replaced by a system of operating groups" should be reconsidered in terms of an "evolution into a system of operating groups...". The

WG is convinced that the strength of SCAR is in its Working Groups, and that a broadly based scientific community should be maintained at the basis of SCAR. An apparent top-down revision like that proposed by the Ad Hoc Group must be accompanied by bodies working from bottom-up, similar to the present Working Groups. This is necessary for several reasons as has been proven in the past:

1. The present Working Groups form the scientific base of SCAR and guarantee wide representation of the diverse basic disciplines within it.
2. Working Groups, as existing or modified, are needed to assemble scientific proposals originating from the various nations and individuals within the SCAR, to discuss them, and to recommend them to the SCAR Delegates and Delegate Committees.
3. The national members of the Working Groups are those best informed to communicate decisions and planning activities of SCAR to the individuals and scientific groups of their countries.
4. The Working Groups provide a platform for continuum and transfer of scientific knowledge that would be lost if all Operation Groups were topic-specific.

A mechanism for the establishment of some Operating Groups, composed exclusively of members selected on the basis of their expertise only, should be maintained to guarantee the operation efficiency and scientific authority.

When establishing interdisciplinary Operation Groups, the Working Group on Geology urges SCAR to ensure appropriate scientific representation.

The Working Group on Geology is concerned that evaluation criteria need to be clearly defined at the formation of each group.

Points referring to other recommendations are:

Recommendation 2 - Committee on Outreach and Education

The WG is not convinced that the word "outreach" will be clearly understood by everyone.

The WG thinks that the four items considered in Recommendation 2 should be amplified by a paragraph, which emphasizes the mission of SCAR to promote Antarctic science within all areas of research.

Recommendation 4

The Working Group considers useful the formation of Delegate-level committees. However, the need for four as opposed to say, two or three, is not well made; four should be considered as provisional and reviewed periodically. Flexibility and co-operation between the committees on Scientific Affairs and Scientific Liaison are essential. The Committee on Scientific Affairs should represent the widest possible range of scientific research fields.

Recommendation 7

It was not clear to the Working Group who was meant by "SCAR officers".

All other recommendations were welcomed.

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APPENDIX 2 - Suggested letter to be considered as a formal response from the President of SCAR to the President of IPA

Dr. H. M. French
President, International Permafrost Association
Departments of Geography and Earth Sciences
University of Ottawa
P.O. Box 450, Station A
Ottawa, Ontario K1N 6N5
Canada

Dear Dr. French,

Permafrost and periglacial processes are of interest to many researchers represented by the SCAR Working Groups on Geology and on Biology within their Regional Sensitivity to Climate Change in Antarctic Terrestrial Ecosystems (RiSCC) Programme. We are pleased that IPA recognizes the importance of Southern Hemisphere permafrost and periglacial environments and welcome the activities of the new IPA Southern Hemisphere Working Group. We look forward to further discussions with your working group co-chairs (Drs Hall and Boelhouwers) regarding the development of an active-layer monitoring network in Antarctica.

Yours sincerely

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ACRONYMS

ADMAP Antarctic Digital Magnetic Anomaly Project

AGEANT Age Growth and Evolution of Antarctica

ANDRILL Antarctic Geological Drilling Consortium

ANTEC Antarctic Neotectonics (GoS)

ANTIME Antarctic Ice Margin Evolution

ANTOSTRAT Antarctic Offshore Acoustic Stratigraphy

ATS Antarctic Treaty System

BEDMAP Bedrock Mapping Project for Antarctica

CEP Committee for Environmental Protection

GLOCHANT Global Change in Antarctica

GoS Group of Specialists

IAATO International Association of Antarctic Tour Operators

IPA International Permafrost Association

ISAES International Symposium on Antarctic Earth Sciences

ODP Ocean Drilling Program

SCAR Scientific Committee on Antarctic Research

UBA Umweltbundesamt

WG Working Group