

INTERNATIONAL ARCTIC SCIENCE COMMITTEE

IASC COUNCIL MEETING 1991

REPORT

Oslo, Norway

21-23 January 1991

**I A S C
The Secretariat
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NORWAY**

INTERNATIONAL ARCTIC SCIENCE COMMITTEE

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INTERNATIONAL ARCTIC SCIENCE COMMITTEE

Council Meeting 1991

Holmen Fjordhotell, Oslo, 21-23 January 1991

0. OPENING

- a) The meeting was opened on an ad hoc basis, until a chairperson could be chosen by Fred Roots, who had served as Chairman at the Founding Meeting in August 1990. He referred back to the Founding Meeting, drew attention to the Founding Articles and the Report of the Founding Meeting which had been distributed, and asked the Council Members and observers to introduce themselves. He then asked Odd Rogne, as Interim Secretary, to outline developments since the Founding meeting.

- b) Participants.

Those present at the meeting introduced themselves and briefly outlined their background and interests in relation to the expected work of IASC.

A list of participants and their addresses is attached (Attachment 1).

- c) Developments since the Founding Meeting

The Interim Secretary, Odd Rogne, reported briefly on the activities of the Secretariat since the Founding Meeting. Most of the activities were related to subjects that are summarized in the annotated agenda and meeting booklet, and would be dealt with under other topics of the Council meeting. One aspect that was of particular note was the widespread interest in IASC and its establishment, among the science community generally, and in the non- scientific circumpolar community. These different foci of interest, identified already by the interim secretariat, meant that IASC will have to consider carefully its communications activities and services.

Odd Rogne also introduced Maryanne Rygg, Administrative Secretary, who is the first employee of IASC.

I. OPERATIONAL ISSUES

1. Appointment of Chairperson and Rapporteur

To get the Council meeting started, it was necessary for the members of the Council to appoint one of their members as Chairperson for the first meeting only. Such appointment would be without prejudice to the selection of Chairperson or Executive for the first term of the Committee. In the absence of an appointed Executive Secretary, it also was agreed that two persons would be asked to serve as voluntary rapporteurs for the meeting, to help in recording discussions and decisions.

The following appointments were made, for the first Council meeting only:

Chairperson:	Fred Roots
Rapporteurs:	Dick Hedberg Odd Rogne

2. Adoption of Agenda

The proposed agenda (Attachment 2) was adopted, with the exception that it had been agreed in advance not to hold a formal meeting of the Regional Board (Item 4.2). Members of the Regional Board who were present, and others interested, had suggested that they might have an informal discussion over dinner.

3. Review of Proposed Rules and Procedures, Admission of New Members to Council

Only the eight members of Council appointed by countries which signed the Founding Articles took part in discussions and decisions under items 3.1 and 3.2.

3.1 Review of Rules 2-5 on procedures for admitting new members to Council

At the Founding Meeting in Resolute, draft rules 2-5, which deal with procedures for admission of new members to Council, had been approved in principle, but they needed formal confirmation by Council before they could become operational.

After minor discussion, Rules 2-5 were accepted as procedures for admission of new members to the IASC Council.

3.2 Applications for membership on IASC Council

Formal written applications for membership on the IASC Council had been submitted by national scientific organizations of France, Germany, Japan, Netherlands, Poland and the United Kingdom. Representatives from each of the countries supported their application with a brief statement of that country's interest in and contribution to arctic science, and its present activities and organization with respect to arctic research. Presentations were made by: (National organization applying for membership listed in parenthesis)

Dr. Claude Lorius, (Centre National de la Recherche Scientifique)
FRANCE;

Prof. Dr. Gotthilf Hempel, (Deutsche Forschungsgemeinschaft)
GERMANY;

Dr. Takao Hoshiai, (Science Council of Japan, National Committee
on Antarctic Research), JAPAN;

Prof. Dr. Johannes Oerlemans, (Netherlands Marine Research
Foundation), NETHERLANDS;

Prof. Dr. Rafal Rybicki, (Polish Academy of Sciences,
Committee on Polar Research), POLAND;

Dr. Eileen Buttle, (The National Arctic Research Forum),
UNITED KINGDOM.

The applicants then withdrew. After a brief discussion, Council accepted each of the applying countries as full members of IASC and its designated representative as a member of Council. A formal letter stating this decision will be sent to each of the organizations concerned. The representatives were welcomed back into the meeting as full members of Council.

The IASC Council henceforth comprises fourteen members, all of whom took part in all subsequent activities

3.3 Consideration of Definitions and Criteria, remaining Rules and Procedures

Council discussed and accepted in principle the definitions and criteria presented at the Founding Meeting (see Attachment 4 of the Founding Meeting, included for information with this report as Attachment 3).

The draft Criteria, Rules and Procedures tabled at the Founding Meeting (except Rules 2-5 which had already been approved) were opened for review. Some formal and informal comments and suggestions for revision were received. The draft procedures were accepted on a pro tem basis so that the meeting could proceed, and a Working Group appointed to review them and propose revisions. The Working Group on Criteria, Definitions, Rules and Procedures comprised: S. Abbott (USA); E. Buttle (U.K.); M. Magnusson (Iceland); V. Pavlenko (USSR); and J. Taagholt (Denmark - Chairperson). See Item 3.4 below.

3.4 Adoption of Rules and Procedures

The Working Group on Criteria, Definitions, Rules and Procedures (see item 3.3 above) held several sessions during the period of the meeting. Toward the end of the Council meeting the members presented a revised draft for discussion. Some further amendments were made during Council discussion, and the revisions, although not available in final form, were adopted by consensus as the operating rules until the next meeting of Council.

The revised Criteria, Definitions, Principles, Rules and Procedures, adopted by consensus, are presented in Attachment 4.

4. IASC Organization

4.1 Secretariat

4.1.1 Executive Secretary.

A written report was presented to Council by the ad hoc Working Group on Review of Applications for Position of Executive Secretary (Karlqvist, Pavlenko, Roots, Untersteiner) which had been appointed following the Founding Meeting. Twenty-two formal applications had been received, from persons living in eight countries. These were rated and reviewed according to the criteria set forth in the advertisement for the position, namely:-

- I. Knowledge of arctic research
- II. Experience related to international co-operation
- III. Evidence of insight into science-related arctic issues
- IV. Administrative experience and demonstrated managerial ability.

By correspondence and telephone discussion, the Working Group reduced the applications to a "short list" of best-qualified candidates, and then met in Oslo (with Prof. Hoppe replacing Dr. Karlqvist) to select the three final names which, according to Norwegian practice for hiring senior persons using government funds, must be made public and ranked in order of preference, submitted to the Ministry of Environment for action.

The ad hoc Working Group recommended to Council that the names of O. Rogne (Norway), W. Westermeyer (USA) and M. Kingsley (Canada), in that order, be submitted to the Ministry of Environment, with the request for an appointment to the Executive Secretary position. It also recommended that Council establish a small Task Group to develop terms of reference and duties of the Executive Secretary and the IASC Secretariat, taking into account, where relevant, some factors noted in its report.

Council accepted the report and instructed the Chairman to forward the three names and appropriate documentation to the Norwegian Minister of the Environment for final decision. (This was done immediately after the close of the Council meeting.) It agreed that the "task group" to develop terms of reference should be the Chairperson and selected Executive Secretary, who would submit their draft "terms" to Council.

The ad hoc Working Group for Review of Applications was then disbanded.

4.1.2 Interim Secretariat functions.

With the engagement of Maryanne Rygg as Administrative Secretary, and the action by Council to set in train the final steps for appointment of a permanent Executive Secretary, the designation of Mr. Odd Rogne as "Interim Secretary" was no longer relevant. Mr. Rogne asked to be relieved of that designation, even though he would in fact continue to help in Secretariat functions by serving as co-rapporteur for the Council meeting and in other ways, if available, to help provide continuity. Ms. Rygg would "run the office" and look after routine matters until the Executive Secretary was appointed.

Council accepted the request that the Interim Secretary post be terminated, with sincere thanks to Mr. Rogne for his dedication, good judgement, and all that he had done to move IASC, (continuing the metaphor that he himself had used at Resolute) "from birth to the early toddling stage".

4.2 Regional Board

By exchange of correspondence between representatives of various countries, it had been decided in advance of the meeting that there would not be a formal meeting of the Regional Board. Only Denmark, Iceland, Norway and the USSR had appointed representatives, and of those, only three were in attendance. Canada had temporarily designated its Council member as an alternate Board member. However, it was agreed that it may be useful for Board members and alternates present to hold an informal meeting, without agenda, to exchange views on the role of the IASC Regional Board and the kinds of issues that might come before it.

A short informal meeting was therefore held on the evening of January 22 to discuss matters of concern to the Regional Board. Present were Board Members Hart Hansen (Denmark), Magnusson (Iceland), Rogne (Norway), plus Roots (alternate for Canada) and Untersteiner (observer from USA). Participants agreed that recent events, including the progress of the Finnish Initiative for Intergovernmental Co-operation for Protection of the Arctic Environment and the consideration being given to an international Arctic Council, as well as the course of development of international science itself, had somewhat changed the likely role and function of the Regional Board from what had been felt to be major needs when IASC was being established. Most of those at the meeting felt that the Regional Board, while still "ensuring that the activities of IASC are consistent with the interests of arctic countries" (Founding Articles, article D-1), will find itself, in operation, not so much a watchdog as a facilitator and communicator. There did not seem to be any present or impending contentious or delicate policy issues involving IASC (at least none that participants were willing to lay upon the table); but there were envisaged several areas where the Board could be seen to serve as an important link between IASC and governments of arctic countries.

Examples suggested were:

- the Regional Board members could be the logical interpreters of scientific needs or areas of scientific uncertainty to their respective governments in terms of potential policy implementation (e.g. the studies of global change in the arctic are important to policy development in different northern countries in different ways);
- the Regional Board could, at least in the initial stages, be the best route of communication between governmental science-related needs and activities in the arctic (e.g. the Finnish initiative) and the co-operative scientific programmes that IASC may be asked to co-ordinate to ensure that effective science is accomplished;
- the Regional Board may itself see a role in co-ordinating or proposing management-related scientific studies that involve national policies or practices and also international science (environmental assessment in the north is a possible example);
- the Regional Board could become a co-ordinator or facilitator for certain IASC activities of a regional nature that are of interest to several countries but not fully circumpolar (e.g. some studies in the North Atlantic region).

Even though the Regional Board represents directly only the eight arctic countries, some felt it could serve as a stand-by policy committee for all of IASC, useful to all countries.

The consensus of the informal meeting was that the Regional Board should remain low-key, to be called upon to assist IASC when needed. No need for assertive action or further planned activity was foreseen, although any member country could call for it.

4.3 Officers

A discussion of what officers IASC should have led to some fundamental searching of the likely most useful potential role of IASC. Given that IASC itself would not have a direct operational role in arctic science, would it be most effective as a communicator and facilitator of what was happening or trying to happen, or as a strategist and planning co-ordinator? These questions had an important bearing on the role of the Council vis-a-vis the Working Groups, and on the need for and composition of an IASC Executive. It was recognized that these questions could not be answered with assurance until the Working Groups were in operation and IASC had some experience in substantive scientific activities; but it was also apparent that the choice and actions of its first officers would have a great influence on the future direction, style and effectiveness of IASC.

It was decided that Council should establish an Executive Committee, to serve for the next two years. This Committee would draft an IASC Strategy Statement to address the questions referred to above. The Executive Committee would make decisions as needed between Council meetings, provide the link to the activities of Working Groups, and when necessary serve as the senior contact body with other international arctic or science organizations.

After some discussion on the preferred size and composition of an initial Executive Committee, Prof. Gunnar Hoppe agreed to serve as a one- person nominating committee, to discuss with Council members in private or in groups and bring a recommended "slate of officers" back to Council for action.

4.4 Relationship with Other Scientific Organizations

Several international organizations had contacted IASC enquiring about affiliation or an agreed relationship of one kind or another. In view of IASC's stated principle that it would "take into account programmes and activities on Arctic Research advanced by other scientific organizations and co-operate with them whenever appropriate" (Founding Articles, paragraph A.2), a consistent policy was needed, before IASC entered into any arrangements with any organization.

Council discussed the proposals that had been received, and also the options, advantages, obligations and problems of affiliation (or the seeking of affiliation) at various levels with umbrella bodies such as the International Council of Scientific Unions (ICSU) or its various member bodies, or with more specifically subject-focussed organizations such as the International Union for Circumpolar Health, the International Permafrost Association or the Arctic Ocean Sciences Board. It was agreed that the question of an IASC policy regarding affiliation or a standing relationship with any other scientific body would have to be addressed explicitly in a "Strategy Statement" to be prepared in the near future. Some general ideas were put forth which may help to guide development of this policy:-

- (i) IASC should not in general enter into affiliation with any other body, if such affiliation implies a special relationship that excludes others in the same or related subjects;
- (ii) IASC will seek to avoid becoming related with or identified with any government organization or agency of any country;
- (iii) the degree of relationship that IASC or any body of IASC has with any other scientific organization should be decided by the scientific needs and advantages, rather than organizational factors;

- (iv) IASC as a body should endeavour to be open to, and to co-operate with and serve, genuine international scientific activities in the Arctic of all types, whether organized on a joint national basis, by international organizations, or through informal scientific initiatives. IASC will neither cultivate nor recognize "monopolies" in international arctic scientific activities;
- (v) As a general rule, it can be expected that the most effective level for liaison or relationships between IASC and other organizations will be through the Working Groups. Working Groups organized jointly with other scientific organizations, if accepted by Council, are a potentially effective way of facilitating co-operative international science in the Arctic.

The Chairman was instructed by Council to write to the organizations that had approached IASC with respect to potential affiliation, explaining the IASC position.

4.5 Information on Arctic Scientific Activities

An evening session devoted to brief informal reports and discussions on on-going and planned scientific activities in the polar regions included (the names of principal presenters or discussants are given in parenthesis):-

- The Finnish Initiative on Intergovernmental Co-operation for Protection of the Arctic Environment - (Roots, Magnusson);
- The European Science Foundation arctic activities:
 - Polar Science Network - EPOS, EPOS-II, PONAM - (Hempel);
 - The Greenland Ice Coring Programme (GRIP) - (Lorius);
- The European Programme on the Greenland Ice Sheet and Climate Change - (Oerlmans);
- The European Committee on Ocean and Polar Science (ECOPS) - (Hempel)
- The Nansen Centennial Arctic Programme - (Rogne);
- The Greenland Ice Sheet Programme (GISP) - (Roederer);
- The activities of the Arctic Ocean Sciences Board - (Buttle, Hoshiai);
- The UNESCO/MAB Northern Science Network activities - (Roots);
- The Solar-Terrestrial Energy Programme (STEP) - (Roederer);
- The ERS-1 and related satellite programmes - (Weller).

These reports and discussion served as background to consideration of the scientific activities of IASC.

II. SCIENTIFIC ISSUES

5. Reports on Status of "Resolute Initiatives" and other Related Activities

5.1 Inventory of Major Arctic Scientific Activities

A progress report prepared by Dr. Sherburne Abbott was presented to the Council for discussion (Attachment 5). In Dr. Abbott's absence, the report was introduced by the Chairman. The report pointed out the large number and diversity of science activities in the Arctic, and the absence of a comprehensive inventory or network of information about them that could be used for identifying needs or priorities, for planning, or for co-ordination of IASC activities. At the same time, the difficulties in organizing and compiling such an inventory were immense.

Major obstacles were (i) that science in the arctic, as elsewhere, encompassed many scales of operation, from global programmes to the studies of individual investigators; (ii) that the degree to which information could be compiled in a comprehensive or representative way differed greatly from country to country, and from subject to subject; (iii) that attempts to obtain responses from researchers would entail a great deal of effort from the organizers and could become a nuisance or chore for the researchers and their agencies, so that complete participation may be very difficult to achieve; and (iv) that the organizational and continuing financial costs could become very great. Different countries, and different subjects, varied widely in the state of organization or inventory of their arctic activities; paradoxically, it was likely to be those areas or subjects where present information is incomplete and most needed that would require the most effort and expense. Also, it was noted that the growing multi-disciplinarity of scientific activities in the arctic, perhaps even more than in most other regions, was making systematic organization of a comprehensive inventory of arctic research and monitoring activities very difficult. Most science inventory classification schemes developed in other parts of the world were not suitable for simple extension to the circumpolar arctic.

The Council discussed these difficulties and debated whether it would be useful to pursue investigations into the need for such an inventory. All members felt that in general it would aid research, research funding, and policy development in the Arctic if there were available a comprehensive up- to-date circumpolar inventory of scientific activities. But there were major questions of who would use it and how; who would pay for it; how, by whom and under what authority should it be compiled.

The United Kingdom had recently completed a comprehensive inventory of British research in the Arctic; Denmark has maintained a running inventory of international investigations in Greenland for many years; and Canada has embarked on compiling an inventory of university and government science in the arctic. All of these can provide examples of different types of inventory, and their feasibility, and the cost of such an activity. But they also show the problems of compiling a comprehensive circumpolar inventory. Dr. Abbott proposed that the ad hoc working group should look further into the question of need, use and practicality. Her proposal was accepted by Council, with no decision at this time on whether or not IASC would support or urge the compilation of a comprehensive inventory of arctic research programmes.

Dr. Abbott was requested to continue to lead an ad hoc working group to investigate the feasibility of preparing a periodic international inventory of arctic research that was recently completed or in progress. The terms of reference proposed in her report were satisfactory. She would be asked to identify or suggest, on the basis of responses received and further discussions, a small number of persons from other countries who could be asked to join her on the ad hoc working group. The further studies should pay particular attention to user needs within the IASC science activities for such an inventory, and to consult with other IASC Working Groups, to help determine what scope, format, and degree of detail of any such inventory would make it most useful. Council did not, at this time, wish to enlarge the concept of an international inventory beyond that which would be useful for its own needs.

If Dr. Abbott agreed to continue the work as suggested by Council, she would be asked to report at the next meeting of Council. (Dr. Abbott attended the meeting the next day, and agreed to take on this task.)

5.2 Comparability and Compatibility of Arctic Scientific Data

At the Founding Meeting, Drs. Phil Smith and Fred Roots were asked to give initial consideration to the desirability and practicality of IASC becoming involved with the improvement of international and interdisciplinary comparability of arctic scientific data. A preliminary report, prepared with the assistance of Dr. Abbott, was tabled for Council discussion (Attachment 6).

It was noted that there are a large number of arctic data bases, particularly in the physical and applied sciences, and that there had recently been a number of meetings and initiatives to improve co-ordination and compatibility. The Arctic Monitoring and Assessment Programme (AMAP), part of the Finnish Initiative, had, like IASC, noted the need for international attention to circumpolar co-ordination of environmental data. The GRID (Global Resource Inventory Database) programme of the UNESCO/GEMS (Global Environmental Monitoring System) had set up a centre or "node" at Arendal, Norway, known as GRID-Arendal with responsibility for developing a reference database and directory on arctic environmental data.

At the same time, the ICSU Global Change Programme (the International Geosphere-Biosphere Programme and its associated activities) was giving careful attention to the problem of organizing, handling and compatibility of data, from many countries on a world basis; this work involves the ICSU World Data Centres and CODATA (the ICSU Committee on Data for Science and Technology). All IASC countries are participating in the Global Change studies in one way or another, and their scientists will want to ensure that the arctic data is part of the global data system.

Council agreed that these many developments made it clear that IASC should not strike out blindly in attempting to help improve the comparability of arctic data. Nor was there any merit in attempting to develop or identify an arctic data system specific to IASC. But it was not unlikely that other agencies, including some of those mentioned above, may wish to use IASC as a body to help achieve international co-ordination or compatibility between or among their own data systems. One useful thing IASC could do would be to compile an annotated inventory of arctic scientific data bases and systems.

Council decided that an ad hoc Working Group on Arctic Data be established, to consider the possible format and contents of an inventory of arctic data bases, and to identify and explore the contacts and procedures needed to compile such an inventory. Drs. Smith (with help from Abbott), Roots, and Rogne were asked to consult and propose members for such a working group.

5.3 Human, Social and Medical Sciences in Arctic Regions

A report from the ad hoc working group headed by Prof. Marianne Stenbaek was presented, in her absence, by the Chairman (Attachment 7). The report outlined recent and current trends in arctic science that related to human and social sciences; made a strong case that human, social and medical sciences be fully represented in the work of IASC; that particular attention be given to the participation of aboriginal people and northern residents in scientific activity in the arctic, including directing and carrying out their own research according to their own priorities; and that IASC recognize the underlying and evolving ethical aspects of all arctic research. It recommended that IASC set up a standing working group to represent the interests of social, human and medical sciences, and to develop and co-ordinate priorities for international research in this field.

Prof. Stenbaek's report led to a lively discussion among Council members. In some countries the draft report had been widely circulated within the national research community, and had led to comments and interest in IASC from researchers and institutions that had not previously been involved in discussion of international arctic research co-operation. Almost all Council members expressed a desire and intent to involve the social sciences in an important way in arctic research, and agreed that IASC had an opportunity and responsibility to encourage and facilitate good science and international co-operation in this field. But there were many difficulties, conceptual as well as practical that had to be faced frankly if IASC was to be truly effective in this subject area and remain scientifically credible. Among the points raised were:

- Most social science research has a political and educational aspect. In most countries these subjects are looked at and assessed or supported on a national basis. This fact does not mean that there is no place for IASC to be active from the international aspect, but it will require great care and sophistication on the part of IASC as an international non-government organization to be involved and yet retain its credibility and support from all arctic science countries;
- The criteria for what is excellent or leading research in the social or human sciences, as distinct from the much-needed descriptive and exploratory studies and monitoring, do not seem to have been as well developed or exchanged internationally among practitioners and literature of arctic social sciences, as they have been among the medical sciences and the natural sciences. (Or it may be that the medical scientists and the natural scientists have not learned to understand the criticism system used in the social sciences.) This makes it difficult for IASC to apply the same degree of rigor and judgement in the social sciences area that it fully intends to apply and to promote in the other areas of science, or to build genuine scientific links, as distinct from statements of intent to co-operate, between social scientists and medical or natural sciences. It was recognized that IASC itself should have an important future role in building those links; but such a role would have to be developed carefully and with considerable sophistication and sensitivity.
- the encouragement of aboriginal research in the Arctic, while strongly supported in principle by all, was an area where great care would have to be taken that involvement by IASC, as a non-government international group inescapably comprising mostly middle-latitude professional scientists, did not become counter-productive by appearing naive, meddlesome, or paternalistic. What will be the most effective support in one country could well be not at all helpful in another country. IASC will want to be supportive of international native organizations in this area, and help them build links with world science; but IASC is a science organization and must not become a tool for social or policy action.

It was pointed out that the area of social and human sciences was so broad that there would be little scientific value in creating a working group for the whole subject, just as there would be no point in an IASC working group for the natural sciences. What was urgently needed was identification of more specific areas of research within that broad field where direct IASC attention or co-ordination could be useful.

Council thanked Dr. Stenbaek for a useful and stimulating report. It decided:-

- (i) that IASC would not create a formal standing Working Group for the social and human sciences as proposed;
- (ii) that Dr. Stenbaek be requested to continue her exploration of this subject, with representation from a range of active researchers in the social and human sciences in a number of countries, to identify research projects or priority areas for international collaboration on focussed research, in which IASC might play a useful role;
- (iii) that working contact be made with other international science- oriented bodies in this subject field, such as the Inuit Circumpolar Conference, the International Arctic Social Sciences Association, the International Social Sciences Union, and the Northern Sciences Network of the UNESCO Man and the Biosphere Programme; and that their input and collaboration, where mutually beneficial, be included in proposals for IASC activity in this subject area;
- (iv) that legal and economic research or studies of geopolitical sciences not be included in the purview of the investigations of social and political sciences in the present context; and
- (v) that the medical and health sciences not be included in the considerations of the social and human sciences in the present context but that Dr. Hart Hansen, in conjunction as appropriate with the International Union of Circumpolar Health, investigate the need and opportunities for IASC to play a role in facilitating international co-operation in research in these subject areas. (Dr. Hart Hansen agreed to undertake this investigation.)

Dr. Stenbaek (if she accepts) and Dr. Hart Hansen are requested to report progress, and present recommendations for further action at the next meeting of IASC Council.

5.4 Global Change in Arctic Regions

(Discussion included consideration of Agenda item 5.5, "Arctic Climate System Study of the World Climate Research Programme.)

A short report from the ad hoc working group headed by Prof. Gunter Weller was presented.

Dr. Gunter Weller extended his presentation with an oral report, highlighted with illustrations, on his investigations since the Founding Meeting on the role that IASC could play with respect to the arctic components of the international Global Change (IGBP and associated studies) Programme being co-ordinated by ICSU. Copies of the report and the overhead illustrations used to support his presentation are reproduced in Attachment 8.

Dr. Weller's investigations revealed that IASC can play a useful role in co-ordinating and helping to implement Global Change studies in arctic regions. Preliminary discussion had revealed that such an activity by IASC would be welcomed by those concerned with Global Change researches in most northern countries. The IASC activity should be undertaken in close liaison with other Global Change co-ordinating agencies such as the International Geosphere-Biosphere Programme (IGBP) and the World Climate Research Programme (WCRP), and also with international arctic science advisory and planning groups such as the Arctic Ocean Sciences Board (AOSB) and the Northern Sciences Network of the UNESCO Man and the Biosphere (MAB) Programme, as well as with the various National Committees for Global Change of IASC member countries and their funding agencies.

The scientific priorities that would make the "core" studies for IASC attention would come from the 1990 International Conference on the Role of Polar Regions in Global Change, from the Arctic Climate Systems Study (ACSYS) being considered by the World Climate Research Programme of the World Meteorological Organization, from other international activities such as the Joint Global Ocean Flux Study (JGOFS) and the Global Energy and Water Experiment (GEWEX) as well as from the ESF Polar Programs reviews, from the US/Canada Arctic Systems Science (ARCSS) planning activity, and other on-going considerations of priority areas for global change research in the arctic.

Dr. Weller identified seven priority areas for arctic global change research that were emerging from these activities (See Attachment 8). In part because of the growing complexity and diversity of global change activities in the Arctic, there was a problem of linkage, and a risk of imbalance or that some important areas will be neglected. Thus IASC could be very valuable as a communicator and co-ordinator. Dr. Weller recommended that IASC organize a small workshop, in co-operation with Global Change National Committees and the ICSU International Committee on Global Change, as well as other key players, to explore the implementation of a coherent and balanced Global Change programme in arctic regions.

The discussion of Dr. Weller's presentation included an informative tour de table of the current status of Global Change research activities in each IASC country that pertained to the Arctic. Every country represented on Council was undertaking or planning research that contributed to the Global Change Programme, although the size and degree of development of activity in the Arctic, and the way it was organized, varied considerably. Participants felt that this brief informal summary provided a useful background to consideration of the IASC role.

The role of IASC in relation to Global Change research in the arctic was seen to be

- (i) to bring together information related to national Global Change activities and plans in the Arctic, with the plans and activities of international scientific bodies, and to sort out common or interactive elements, as well as to identify gaps or areas needing international attention;
- (ii) to help develop a common strategy for implementation of global change research in the arctic (and, together with SCAR, for the polar regions).

A note of caution was sounded that IASC must be in phase with developments and be action-oriented in this rapidly moving subject. The intention to compile an inventory of plans, and to develop a comprehensive coherent plan, was often an excuse to do nothing, particularly by those making funding decisions; and international attempts to help participation in those countries or subject areas that are less advanced must not in practice be a handicap to the activities that are progressing well. Several members felt that although this is a long-term programme - if IASC becomes actively involved it should expect to be so for one or two decades -, it will be most useful if it is "on its toes" and able to act quickly to facilitate timely funding decisions at the national and international level. For example, proposals for an arctic component of the WCRP ARCSYS will be the topic of international discussion in Bremerhaven next June; IASC members should keep in touch and be alert to the best role for the committee.

Council accepted Dr. Weller's report, and agreed that:-

- (i) A formal IASC Working Group on Arctic Global Change Research be established. Dr. Weller was asked to lead this Working Group, and he accepted;
- (ii) Dr. Weller should identify prospective members of the Working Group, who would provide a good representation of the countries, regions, and scientific disciplines involved, and to endeavour to ensure that they in turn were able to promote linkage with the national committees or most active research programmes for global change in various countries;
- (iii) Dr. Weller and his colleagues should prepare draft terms of reference and a tentative work plan for the Working Group, and submit it, together with the proposed membership of the Working Group, to the IASC Executive Committee for consideration;
- (iv) Preparations be undertaken with a view to holding an IASC Workshop on Global Change activities in the arctic. It was recommended that this be held at the same location, and immediately prior to, the next meeting of IASC Council. Dr. Weller was asked to bring more specific proposals to the Executive Committee well in advance of the next meeting.
- (v) The Chairman should inform the ICSU Scientific Advisory Council for the IGBP (formerly the International Special Committee for the IGBP) and the WMO World Climate Research Programme of the IASC interest and discussions, of the creation of the Working Group and IASC willingness to assist in development of Global Change research programmes in the arctic.
- (vi) IASC Council members should make contact, or assist Dr. Weller in making contact, with the national Global Change or IGBP committees or organizations in their respective countries.

6. IASC Scientific Initiatives

6.1 Recommendations from the Founding Meeting

a) The Finnish Initiative: Intergovernmental Co-operation for the Protection of the Arctic Environment.

At the Founding meeting it had been agreed that IASC would take steps to bring to the attention of those in various arctic countries who were concerned with the Finnish Initiative, the interest of IASC and our willingness to assist as appropriate with its scientific aspects.

Drs. Magnusson, Rogne, and Roots amplified the brief account of this activity given the night before (see Item 4.5). Two major recent developments of the Finnish Initiative process - the workshop on Arctic Monitoring and Assessment in Oslo in November 1990 and the planning meeting in Kiruna in January 1991 - had both mentioned IASC as a body that could assist with co-ordination of the scientific activities that will provide the basis for effective international protection of the arctic environment.

Discussion among Council members revealed that the most useful role for IASC would appear to be in co-ordination of scientific aspects of the long-term studies that will be needed when, as expected, the intergovernmental agreement is signed and implemented. IASC also will have a concern that scientific activities undertaken in connection with this expected agreement are designed not only for the agreement, but are of a quality and orientation such that they will be useful additions to world scientific knowledge about the arctic. The main IASC role will thus likely be subsequent to signing of the international agreement, expected in June 1991. In the meantime, Council instructed the Chairman:-

- (i) to write to the Finnish Minister responsible for preparations for finalization of the Initiative, confirming the interest of IASC and its willingness to assist in any way that is proper;
- (ii) to contact the leader of the teams drafting the final "strategy document" for the June meeting, to ensure that IASC and its interests are included in an appropriate way.

b) Environmental Assessment and Review in Arctic Regions

At the Founding Meeting, participants had agreed that a possibly important area of IASC attention was the need for attention to the distinctive international aspects of the scientific basis for environmental assessment and review in arctic regions; and had asked that this subject be brought before Council for its consideration. (Founding Meeting, Report, Attachment 6, paragraph 6, page 23). In support of this item, Dr. Roederer and Mr. Rogne tabled recent documents related to scientific issues of environmental assessment in arctic USA and Norway, respectively. Dr. Buttle noted some of the distinctive scientific questions encountered in environmental assessments in Antarctica, which had lessons for the Arctic.

After brief discussion, Council decided not to take any further action in this subject at this time. Most members agreed that environmental assessment in high latitudes posed difficult scientific problems for which assessment experience and methodologies developed in temperate latitudes may be inadequate; and that an international scientific approach would be beneficial. But northern countries differed greatly in their approaches to environmental assessment, and in some,

policy and political factors were hard to separate from environmental scientific factors. Besides, IASC had more than enough "on its plate" to keep itself occupied for a few years. The subject could be discussed again at a later date, when IASC had more experience.

6.2 Proposals for New IASC Science Initiatives

- a) Academician Gramberg distributed for information a list entitled "Soviet Proposals on Joint Research in the Arctic, Suggested for the International Arctic Science Committee as Top Priority Projects at the Initial Stage" (Attachment 10). This list, of 30 main topics grouped under six main categories (climate; environmental control and ecosystems; socioeconomic problems of economic development; geology and glaciology; technology; and upper atmosphere and space), was compiled from submissions and suggestions from a large number of institutions across the USSR who were asked to comment on areas where IASC could be most useful in helping to improve international co-operation in arctic science. Academician Gramberg hoped that council members would find it useful in their own considerations of national and international arctic research.

Members accepted the list with gratitude. It will be a helpful "check- list" against which to compare priorities in other countries, and a basis for future discussion. The "objectives for collaboration" column, in particular, was useful in particular in helping to focus thinking about what could be or should be the role of IASC in many of these areas.

- b) Dr. Roederer, Chairman of the U.S. Arctic Research Commission, informed the Council that he was sending IASC a letter, through the U.S. representative on Council that will outline some suggested criteria and principles for effective international co-operation in arctic science. He also distributed copies of a recent publication of the U.S. Arctic Research Commission, entitled "Goals, Objectives and Priorities to Guide United States Arctic Research".

The Council welcomed this development, and asked the Executive Committee to respond in an appropriate way when the letter is formally received.

- c) A tentative suggestion from the Nansen Drilling Project concerning IASC involvement in a study of sediments and tectonics in the Arctic Ocean Basin has been withdrawn by the project planners. Several proposals are "in the air" concerning co-ordination of studies of Arctic Ocean sedimentation, geological history, and multi-discipline geophysical programmes. Some members felt that this general subject was one where IASC could in due course be very useful; but no proposals were specific enough or far enough advanced to be looked into seriously at this time. Academician Gramberg undertook to prepare for the next meeting some documents dealing with the need for international co-ordination of studies of geological and geophysical phenomena near the Poles.

- d) It was agreed that the IASC Strategy Statement, to be prepared by the Executive Committee, should make clear the process by which new proposals for IASC scientific initiatives can be brought before the Council.

7. Mechanisms for Action

7.1. Identification of Working Groups

After recapitulating its foregoing discussion, Council confirmed:

- i) Dr. Abbott will be asked to continue to lead an ad hoc group to investigate the feasibility of preparing a periodic international inventory of arctic research activities, for IASC needs;
- ii) Drs. Smith, Abbott, Rogne and Roots were asked to identify an ad hoc group that could investigate in more depth the need for and feasibility of compiling a running international inventory of arctic data bases and data systems;
- iii) Prof. Stenbaek be asked to continue exploration of opportunities and needs for international co-ordination and communication in social and human sciences in the arctic, with a view to identifying focussed areas of research that may be appropriate for IASC involvement. She should identify an internationally and inter-disciplinary representative ad hoc group to help with this, and develop liaison with other international science organizations in this subject field;
- iv) Dr. Hart Hansen, together with an ad hoc group he may wish to assemble in liaison with the IUCH, should give consideration to the possible future role of IASC in connection with medical and health-related research in the arctic;
- v) An IASC Working Group on Global Change studies in the Arctic is established. The Working Group is to be chaired by Dr. Weller, who will propose other members of the Group and draft Terms of Reference, for consideration by the Executive Committee. The Working Group will establish liaison with ICSU, WMO and other international bodies, as well as with Global Change or IGBP national committees.

7.2 Arctic Science Conference

A periodic Arctic Science Conference, organized by IASC, is provided for in the Founding Articles (Section F), and figured prominently in early discussions of the need for and potential activities of IASC. Council was obliged to give consideration to this matter.

Council members felt that because of the large number of conferences in preparation during the next two years that will deal with arctic science issues in many disciplines at all scales, an attempt by IASC to develop another broad conference involving the international arctic scientific community would be difficult and perhaps not helpful to arctic sciences. It was decided that no action would be taken at this time.

The question of whether IASC could or should respond favourably if asked to co-sponsor or collaborate with another organization that was holding a conference of interest to IASC was discussed. A case in point was the plans now being made for an international conference on arctic scientific information systems tentatively to be held in Whitehorse, Yukon, in 1993. It was decided that any such proposals or opportunities be dealt with by the Executive Committee on a case-by-case basis until some experience had been gained. In due course it may be useful to have an IASC policy on this subject.

8. Evening Session

This session was used by the drafting groups, the Rules and Procedures Committee, the Nominations Committee, and for informal discussions of the Regional Board (See Item 4.2).

9. Other Business

9.1 Officers and Executive Committee

Prof. Hoppe reported the results of his discussions with all Council members regarding an Executive Committee and nominations for officers. He recommended that for an initial two-year period, the IASC Executive Committee be composed of the Chairman and four vice-chairmen. This would give the regional and country balance, discipline representation, and knowledge of other organizations that was considered necessary to get IASC off to a good start. It was emphasized that the size of the Executive Committee for 1991-93 should set no precedent for future Executive Committees. Prof. Hoppe proposed a slate of names for the proposed Executive Committee.

Council accepted Prof. Hoppe's report and recommendation. The officers of IASC for 1991-93 are therefore:

Chairman:	Fred Roots
Vice-chairman:	Igor S. Gramberg
Vice-chairman:	Gotthilf Hempel
Vice-chairman:	Anders Omholt
Vice-chairperson:	Norbert Untersteiner
Executive Secretary (ex-officio):-	to be confirmed.

The duties and functions of the Executive Committee were confirmed as set forth in item 4.3 of this report. Council requested that the "Strategy Document" to be prepared by the Executive Committee be completed in draft form for circulation to Council by December 1991. It should be based on the Founding Articles and on the "Concept of IASC" set forth in the report of the Founding Meeting. It should include:-

- criteria for IASC projects
- guidelines for IASC collaboration with other bodies or activities
- procedures for future elections, etc. where not dealt with under the IASC Rules and Procedures
- an indication of IASC priorities.

9.2 Financial and business concerns

a) Financial

Council members recognized that, except for the expenses of the Secretariat which were provided for by the government of Norway, IASC was designed to operate without an identified budget. Each adhering country is responsible for the costs of participation of its scientists on Council, the Regional Board, and Working Groups. The "appropriate national scientific organization" that is the adhering organization for each country bears the main responsibility for ensuring that there are resources for that country's participation. For a non-government scientific organization this situation presents problems, which each country must deal with in its own way. These problems have been foreseen; but the conviction that IASC is necessary and worthwhile as an independent non-government body has led to a determination that IASC should be structured as it is, without a base of financial support that would imply dependence on government agencies. Now that IASC is in operation, and will be appointing members of Working Groups who should be chosen for their scientific expertise and not according to whether they can obtain travel funds, there is an additional responsibility upon Council members to ensure that there is support for all the necessary contributions of that country in IASC activities.

It was also felt by some to be likely that before long there would be a need in IASC for some common funds, or moneys that can be transferred from one place to another, beyond those that can be met by the Secretariat in Norway. Such funds might be needed for workshops, for travel of a special expert, for temporary decentralized secretarial functions, etc.

Council briefly discussed these and related issues. It was noted:-

- Council members have a special responsibility, each in their own country, to make it clear to their respective funding authorities that IASC is a non-government international organization whose activities are pursued in the national and international scientific interest. It must be made clear that Council members are national representatives, and members of Working Groups are serving an international activity endorsed by that national representative and by an approved international body, not an individual pursuing her or his private scientific career. Attendance at Council meetings, Working Groups, or IASC workshops should not be confused by the funding agencies with attendance at scientific conferences.
- The Secretariat and the Executive Committee should give attention to the legal and administrative aspects of setting up a means to accept or dispense "core money" (one member called it a "mini-endowment fund") in which could be deposited funds from any country in support of IASC, or where any surpluses, for example from workshops, could be deposited. The experience of ESF and SCAR may be helpful in this respect.
- All IASC activities should be run on the user-pay or pay-as-you go principle. But there will inevitably be some deficits and surpluses, however small. There should be a clear understanding, in advance, of the accountability of the Executive Secretary, the Chairman, and the leaders of the Working Groups (perhaps with legal advice from Norway ?) in such cases. It was suggested that the model of ICSU should be examined in this respect.

b) Decentralization

Several countries had enquired about the possibilities of supplementing the Secretariat in Norway with decentralized secretarial assistance in other parts of the world. There was a possibility of saving costs, not only in communication but possibly in travel for Council members, and of facilitating the dissemination of IASC information to scientific communities whose working language is other than English. Other members pointed out the opportunity to make more use of newly developed arctic science facilities that would welcome IASC activities in their premises as a window on international arctic science - examples mentioned were in Rovaniemi, Arendal, Fairbanks.

Council decided to take no action on any of these points, but to keep informed and alert to any possibilities for improving its administrative and financial effectiveness.

9.3 Information

It was agreed that:

- Council members bear the main responsibility for disseminating information about IASC to the scientific and polar community.
- The IASC Strategy Statement, when approved by Council, should be published.
- There was need for a brief general statement or brochure about IASC to be prepared and printed as soon as possible. It should be directed not primarily at scientists but at executives and agencies or institutions who want to know what IASC is and what it does (and does not do). Members felt that when the Executive Secretary is appointed, one of his first activities, together with the Chairman, should be to draft such a brochure or statement which after approval by the Executive Committee should be published promptly.

9.4 Next Meeting

Council agreed that, given the amount of work to be done and the probable pace of other science-related arctic developments, the next meeting of Council should be rather more than one year but less than two years from the first. As a general rule for selecting time for IASC meetings, Council agreed to avoid Arctic or Antarctic field seasons.

After consideration of available dates and conflicting events, it was decided that the second meeting of IASC Council should be held in the week of April 27 - 1 May, 1992 (1992 week 17).

Members endorsed with enthusiasm the offer of Prof. Magnusson to explore the possibility of holding the meeting in Iceland. Prof. Magnusson will report his findings to the Executive Committee. The Executive Committee will be responsible for overseeing arrangements for the meeting, or if Iceland should prove not to be feasible, for finding another location.

It was agreed in principle that the Working Group on Global Change will, if plans go ahead as hoped, hold a scientific workshop of about three days duration, for not more than about 40 people, just before the Council meeting. Dr. Weller will report to Council members and the Executive Committee in due course whether these tentative plans should be confirmed or modified.

10. Report of the Meeting

It was not possible to produce a written report of the meeting on the final day, but Council confirmed a verbal recapitulation of the main decisions, which form the basis of this report.

11. Closing of the Meeting

The 1991 Meeting of IASC Council was adjourned at 12:30 on 23 January 1991.

Attachments: 9

IASC Council Meeting 1991

Attachments

1. List of Participants, with address lists attached.
2. Agenda
3. Definitions and Criteria (from Attachment 4, report of the Founding Meeting 1990)
4. IASC Rules and Procedures (latest edition)
5. Preliminary report, Inventory of Arctic Programs
6. Preliminary report, Involvement by IASC in improving comparability and Compatibility of Arctic Scientific Data
7. Report of the ad hoc working groups on Arctic Human Sciences
8. Preliminary report and illustrations related to the IASC role in Global Change
9. Soviet Proposals on joint research into the Arctic, suggested for the International Arctic Science Committee as top priority projects at the initial stage.