



The International Arctic Science Committee

The 1995 IASC Meeting

Report

24 - 26 April, 1995
Rovaniemi, Finland

This report gives a summary of the annual meeting held 24 - 25 April and decisions made by IASC Council 26 April. It should be sufficiently detailed for IASC representatives' internal reporting, and also for non-participants interested in information about the outcome of the meeting. In addition to this summary report, participants will receive a set of documents covering various contributions during the meeting.

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6.	INFORMATION SECTION	
6.1	SAM - Survey of Arctic Meetings	22
6.2	IASC Working Group for Geophysical Compilation and Mapping <i>Arcticgp: An Internet Mailing List</i>	22
6.3	Effects of Increased UV-Radiation in the Arctic	22
6.4	IASC Working Group on Arctic Glaciology: Scientific Programme	22
6.5	IASC Working Group on Marine Geology	22
6.6	ISIRA Working Group - Meeting Report	22
6.7	Proposal for a Workshop on Arctic Marine/Coastal/Riverine Systems	22
6.8	The ACSYS Secretariat	23
II.	IASC COUNCIL MEETING	
A.	REVIEW OF DECISIONS MADE BY THE EXECUTIVE COMMITTEE	24
B.	THE ISIRA WORKING GROUP	24
C.	STANDING ADVISORY BODIES	24
D.	ACTIONS AND DECISIONS AFTER THE ANNUAL MEETING	25
E.	CLOSING	29



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EXECUTIVE SUMMARY

The following IASC Meetings were held 22-26 April, 1995 in Rovaniemi, Finland:

- ICARP - Program Steering Committee, 22-23 April
- IASC Regional Board Meeting, 23 April
- The 1995 IASC Meeting (the Annual Meeting), and
- IASC Council Meeting

The two first meetings reported to the 1995 IASC Meeting, which is a joint meeting of the IASC Council and Regional Board, with some observers in addition.

The IASC Council, the decision-making and policy body within IASC, had their meeting the last day.



The *Annual Meeting* focused on a few *key issues*. A prepared introduction for each issue was given by 1-3 persons, followed by a discussion. The following issues were covered:

1. ICARP - INTERNATIONAL CONFERENCE FOR ARCTIC RESEARCH PLANNING 1995

This planning conference will be held 5 - 9 December, 1995 at Dartmouth College, New Hampshire, USA. It will be a milestone in IASC research planning, as science and implementation plans will be presented and discussed for all IASC priority projects.

In addition to scientists actively interested in the IASC priority projects, some other categories will be invited, such as funding agencies, key arctic research institutes and various organisations and *users*, or in other words those who can advise scientists on funding and other resources, and corrections necessary to get the research plans implemented. An *Arctic Science Managers and Users Forum* is also on the agenda.

2. REGIONAL IMPACT STUDIES

Regional impact studies cover physical, biological, and socio-economic impacts of global change. The Mackenzie Basin Impact Study (MBIS) is the only such major study in the Arctic. Using MBIS as a model, IASC will initiate two other studies:

- BASIS - The Barents Sea Impact Study, and
- BESIS - The Bering Sea Impact Study.

Both studies will include the seas mentioned and all adjacent lands and islands.

3. SUSTAINABLE DEVELOPMENT IN THE ARCTIC

A new research theme, *Arctic Resource Use/Ecosystems Dynamics* had been added to the IASC Science Agenda last year. A workshop had been held in September 1994, changing the name to *Sustainable Development in the Arctic*, and recommending that this initiative be focused on three projects:

- Dynamics of arctic populations and ecosystems;
- Sustainable use of living resources of high value to arctic residents, and
- Environmental and social impacts of industrialisation in the Arctic.

The Arctic Environmental Protection Strategy (AEPS) had established a Task Force on Sustainable Development and Utilization, and contact had been established with this group.

4. FUNDING

IASC has two major activities which require funding:

- International research planning, and
- Implementation of research projects.

Initially, all funding needs were supposed to be covered by national funds. This assumption had to be modified. First by establishing the IASC General Fund to cover common expenses, and secondly for implementation of major research projects. A closer dialogue with some key funding agencies was suggested, including discussions of priorities, as such communications could be mutually beneficial.

In order to familiarise participants with funding opportunities and structures, surveys of European and American research funding were presented.

5. INTEGRATING HUMAN AND NATURAL SCIENCES

IASC has given priority to interdisciplinarity in its science initiatives, i.e. identifying a scientific problem and addressing it by all sciences needed. The implication of this strategy is that sciences with different approaches and traditions would work closely together. Some examples of how this could be organised and implemented were introduced, leaving it open for discussion whether *integration* or *coordination* would be the best means to implement this cooperation.

This problem goes far beyond IASC, as both sciences and funding are usually divided according to disciplines.

6. KEY CHALLENGES AHEAD FOR IASC

IASC has been in operation for four years, and a few persons had been invited to take a critical look at past experiences and future challenges. Both the introductions and the discussion produced a number of ideas and views on priorities and future actions that will be further digested and used in the development of IASC.



Executive Summary, 1995 IASC Meeting Report

In the *Report from the Regional Board*, participants were informed about:

- Its proposal for *Ethical Principles for Arctic Research*,
- Its suggestion as to promoting IASC as the advisory scientific body to a future Arctic Council, and
- Ways of adapting electronic communications within IASC.

Other issues covered during the *Annual Meeting* were:

- Accounts and budget for the IASC General Fund,
- the AOSB - IASC relationship,
- membership in ICSU,
- Circumpolar Arctic Vegetation Map,
- Relation to MAB Northern Sciences Network, and
- IGBP-START



The IASC Council met on the last day, reviewed decisions made by the Executive Committee and made a number of decisions reported in part II of this report.



The 1995 IASC Meeting Report

Rovaniemi, Finland

24 - 25 April 1995

PARTICIPANTS

- Representatives:**
- Canada: Barrie Maxwell, Council
Gerald S H Lock, Regional Board
 - Denmark: Jens Peder Hart Hansen, Council
Gunnar Martens, Regional Board
 - Finland: Penntti Mälkki, Council
Markku Kanninen
Riita Mansukoski
 - France: Claude Lorius, Council
 - Germany: Dieter Fütterer, Council
 - Iceland: Magnús Magnússon, Council and Regional Board
 - Japan: Nobuo Ono, Council
 - The Netherlands: Louwrens Hacquebord, Council
 - Norway: Arnoldus Schytte Blix, Council
Olav Orheim, Regional Board
 - Poland: Krzysztof Birkenmajer, Council
 - Russia: Igor S Gramberg, Council
 - Sweden: Bert Bolin, Council
Anders Karlqvist, Regional Board
 - Switzerland: Anne-Christine Clottu Vogel
 - United Kingdom: David J Drewry, Council
 - USA: Oran R Young, Council
- Observers:**
- Canada: Franklyn Griffiths
Milton Freeman
 - CEC: Pierre Mathy
 - Denmark: Jørgen Taagholt
 - Finland: Manfred A Lange
Ludger Müller-Wille
Peter Kuhry
 - Poland: S Maciej Zalewski
 - Russia: Garrik E Grikurov
Margarita V Getsen
 - Sweden: Dick Hedberg
 - USA: Patrick J Webber
Loren Setlow
- Arctic Centre:** Marketta Leinonen
- IASC Secretariat:** Odd Rogne, Executive Secretary

A list of full names and addresses is included at the end of this report.

The 1995 IASC Meeting Report

I. IASC ANNUAL MEETING

1 OPENING SESSION

1.1 WELCOME AND PRACTICAL INFORMATION

The President, Professor Magnús Magnússon, welcomed participants to the 1995 IASC Meeting, which was a joint meeting of Council and the Regional Board. He extended a welcome to the representative of CEC, DG XII, Dr. Pierre Mathy, who expressed the CEC's appreciation for the invitation.

Participants were welcomed to Finland by Dr Pentti Mälkki, the IASC Council member for Finland. Dr Ludger Müller-Wille gave a brief introduction to the Arctic Centre, which was the venue for the meeting. Dr Müller-Wille is the acting director of the Arctic Centre.

1.2 ADOPTION OF THE AGENDA

The agenda as distributed in advance was adopted. However, some additional items were included under 5: *Other Business*.

1.3 PRESIDENT'S REPORT

The President reported briefly on his duties as President of IASC, and notably on a series of meetings he had initiated or attended. Most of the meetings were related to science policy, but some were also governmental meetings, such as AEPS. A copy of his report is included in the *Documentation for Participants*.

The 1995 IASC Meeting Report

2 KEY ISSUES

The structure of the Annual Meeting had been changed, compared to earlier years, and the focus was on a number of key issues. A few persons had been asked to give prepared introductions to these issues, which were then followed by discussions. The introductions and any specific proposal emerging from the discussions are given in this report from notes. Most introductions were based on a paper, which participants will receive in their documentation.

As for any actions to be taken or decisions be made, these were discussed by Council at its later meeting, and are reported in Section II, *Council Meeting*.

2.1 THE INTERNATIONAL CONFERENCE FOR ARCTIC RESEARCH PLANNING (ICARP) Hanover, New Hampshire, USA, 5-9 December 1995

In late 1993 a process was initiated to identify some IASC Priority Projects. The IASC Executive Committee invited national member organisations to comment on an initial list of priorities, and at the 1994 Annual Meeting these priorities were agreed, together with a set of general principles - see IASC Information Publication No. 2: *The IASC Science Agenda*, for further details.

At the 1994 meeting our US member organisation offered to host an international arctic research planning conference, and it was agreed that this conference should be used for the planning process needed for the agreed priority projects. A special Programme Steering Committee (PSC) was formed for the conference, whereas the planning process mentioned was overseen by the IASC Executive Committee.

The PSC had held their second meeting immediately prior to the Annual Meeting, and the chairman of the PSC - Dr Oran R Young - gave a report:

The **purpose** of the conference is to advance science planning of the IASC Science Agenda. There are 10 focused topics or projects.

The **approach** adopted in the initial planning was a system of **core groups** and **networks**. The **core groups** consist of 5-7 leading and interested scientists. They are requested to draft science and implementation plans. The **networks** consist of interested scientists, who should comment and review the core group draft. Some of this planning has been on-going for a few years, but some projects have been initiated recently. The follow-up of these projects can be undertaken by existing working groups, whereas new working groups will need to be established for other promising projects shortly after the Planning Conference. The **products** of the conference will be science and implementation plans for the next 5 - 10 years, and this material will constitute the basis for coordinated research programmes on the part of IASC members.

The 1995 IASC Meeting Report

2.1.1 STATUS OF THE CORE GROUP PROJECTS

(Numbers given refer to the IASC Science Agenda publication, which contains a brief description of each priority project).

Science Agenda Item 1.1: Effects of Increased UV-Radiation in the Arctic

The report with science plans (final draft distributed to Council and Regional Board members earlier) suggested research in 4 sub-themes (human health, terrestrial ecosystems, aquatic/marine ecosystems and social sciences). The PSC recommended that there should be **one** integral theme.

Science Agenda Item 1.2: Regional Impact Studies

The IASC Working Group on Global Change had suggested that there should be two such regional impact studies: BASIS - the Barents Sea Impact Study - and BESIS - the Bering Sea Impact Study. Both studies to cover the seas mentioned and adjacent lands and islands. The Mackenzie Basin Impact Study (MBIS) would serve as a model.

Dr Manfred A Lange, Finland/Germany, had been appointed as core group leader for BASIS, and Dr Vera Alexander, USA, as core group leader for BESIS.

Further information on regional impact studies under agenda item 2.2.

Science Agenda Item 2.1 Mass Balance of Glaciers and Ice Sheets

The IASC Working Group on Arctic Glaciology had recently finalised their scientific programme, which would constitute a sound basis for a science and implementation plan at the conference. A core group consisting of some working group members had been identified, with Dr Jon Ove Hagen, Norway as core group leader. Dr Hagen is also chairman of the working group.

Science Agenda Item 2.2: Terrestrial Ecosystems and Feedbacks on Climate Change

The core group headed by Professor Terry V Callaghan, UK had already had their first meeting, and a draft science plan had been sent to network members.

Science Agenda Item 3.1: Arctic Marine/Coastal/Riverine Systems

The main purpose of this project was to consider an international overall science plan for ongoing and intended projects in this field in the Russian Arctic. A workshop to be held in October 1995 in St Petersburg would be the next step in this process. An Organising Committee chaired by Dr Leonard Johnson, USA was being established.

Science Agenda Item 3.2: Disturbance and Recovery of Arctic Terrestrial Ecosystems

This project also focuses on the Russian Arctic. A workshop had been under planning for some time, and will be held in Rovaniemi, Finland in September 1995. Chairman of the Organising Committee is Professor Robert M M Crawford, UK. The 2-3 best cooperative project proposals will go forward to ICARP.

Science Agenda Item 4: Sustainable Development in the Arctic

This new theme on the IASC Science Agenda was agreed upon at the 1994 Meeting as *Arctic Resource Use/Ecosystem Dynamics*. At a workshop in the Autumn of 1994, it was suggested that the title be changed, and three project areas had been identified. The Executive Committee had approved these developments.

Further details on this new initiative will be found under agenda item 2.3

The 1995 IASC Meeting Report

Science Agenda Item 4.1: Dynamics of Arctic Populations and Ecosystems

The core group for this project will be chaired by Dr Kari Laine, Finland, and co-chaired by Dr David Klein, USA. Their first meeting is likely to be held in early June.

Science Agenda Item 4.2: Sustainable Use of Living Resources of High Value to Arctic Residents

The core group is headed by Dr Milton Freeman, Canada and they have planned to meet in late May 1995 in Bodo, Norway.

Science Agenda Item 4.3: Environmental and Social Impacts of Industrialisation on the Arctic

Dr Hanne Petersen, Denmark is chairing this core group, and their first meeting is expected to be held this Spring.

2.1.2 PARTICIPANTS

The core group members (about 70 persons) and some of the network members (about 40) will be the "basic" participants. In addition, representatives of key arctic research institutes, funding agencies, international science organisations, northern residents, the policy community and other selected "users" will be invited, in order to create a dialogue on our priority projects and advise on implementation. About 250 persons are expected to attend the conference.

2.1.3 CONFERENCE AGENDA

The agenda is focused on formulating and finalising the implementation plans for the priority projects. However, there will also be an *Arctic Science Managers and Users' Forum* to advise as mentioned under *Participants*. Some very prominent persons are invited to deliver keynote addresses, and if we are successful, their attendance will attract considerable media interest for the conference.

2.1.4 ICARP ACTION ITEMS FOR COUNCIL MEMBERS

- 1 Identify additional network members*
- 2 Suggest participants to December conference from following categories*
 - a. Key arctic research institutes in your country*
 - b. funding agencies in your country*
 - c. other relevant organisations (e.g. AEPS, CEC, Northern Forum, IUCN)*
- 3 Identify sources of funding to cover expenses of participants from your country*
- 4 Suggest contacts in your country to receive publicity/press releases*

2.1.5 DISCUSSION

Some points from the discussion:

- **Priorities:** Core groups should specifically be asked to define priorities in their plans. At the next level, IASC Council may need to advise on priorities between projects, as a guide for funding agencies. IASC Council should consider the outcome of the planning conference, to take an overall review of our projects including priorities and the need for new working groups to implement the plans. Core group leaders could be invited to this meeting.

The 1995 IASC Meeting Report

- **Users:** In addition to being relevant and timely, projects must convince some “user” in order to obtain funding. Such users can be governmental agencies, international organisations, regional authorities, science funding agencies, etc.
The PSC were complimented for inviting such representatives to the conference, but core groups could be asked to consider who could be “users” of their plan.

2.2 REGIONAL IMPACT STUDIES

The IASC Working Group on Global Change held a workshop on regional impact studies in October last year. The outcome was a proposal for such studies to be initiated in the Barents and Bering Sea Regions (the seas and adjacent lands and islands). These studies will use the Mackenzie Basin Impact Study (MBIS) as a model.

The Executive Committee agreed that these proposed studies should be included in the priority projects and the core group/network planning process.

As this was a new science initiative, it was added to this agenda both for information and for feedback/advice to the core groups.

2.2.1 INTRODUCTIONS:

Dr Bert Bolin briefly introduced the topic, and reminded that impact studies are only a small part of the Global Change research agenda. However, they can be important both with regard to focusing on relevant science and also in arousing public interest for global change research.

His main advice to the regional impact studies to be planned in the Arctic was to ensure that active, key scientists are engaged both in the planning and in the implementation.

2.2.2 THE MACKENZIE BASIN IMPACT STUDY (MBIS)

Mr Barrie Maxwell gave a survey of MBIS, which is a six-year study of regional impacts of global climate change. This study is now into its fifth year.

MBIS covers three categories of impacts, and focuses on the integration of all such impacts:

- Physical impacts
- Biological impacts and
- Socio-economic impacts

The goals are

- To define the direction and magnitude of regional scale impacts of global warming scenarios on the physical, biological and human systems of the Mackenzie Basin
- To identify regional sensitivities to climate, inter-system linkages, uncertainties, policy implications and research needs.
- To publish and disseminate the Study’s results.

The 1995 IASC Meeting Report

Organisation

MBIS is being conducted by the Climate and Atmospheric Research Directorate of the Atmospheric Environment Service, Environment Canada and a wide variety of partners have been involved since planning was initiated. They include federal, provincial and territorial departments and agencies; the university community; private industry; and indigenous peoples' organizations.

Policy Questions

MBIS identified a number of relevant policy issues:

- Inter-jurisdictional Water Management
- Sustainability of Native Lifestyles
- Economic Development Opportunities
- Design and Maintenance of Infrastructure
- Sustainability of Ecosystems
- Limitation Strategies

All of these, with the exception of the last one, are being addressed.

Integration

Specific projects which attempt to provide the integration component of MBIS have been initiated. They are as follows:

- Resource/Environmental Accounting
- Land Assessment Framework
- Water Management Instruments
- Community-Based studies
- Multi-Objective Programme Modelling

Funding

The total resources available to MBIS amount to about \$2 million spread over the six years. Approximately one-half of this is federal money used to fund, as seed money, the various projects undertaken within MBIS. The other half is mainly contribution in kind from the various partners.

Discussion/comments:

The intention of Mr Maxwell's introduction was to give a survey of an ongoing study, hence there were no comments to the study as such.

Copies of Mr Maxwell's transparencies and of an MBIS newsletter are included in the *Documentation* which participants will receive.

2.2.3 BASIS - THE BARENTS SEA IMPACT STUDY

The core group for BASIS has not yet met, but the chairman of the group, Prof. Manfred A Lange, gave an introduction based on some preliminary thinking.

The 1995 IASC Meeting Report

In his introduction he gave a **rationale** for this type of study, and other reasons why the IASC Working Group on Global Change had selected the Barents Sea and the Bering Sea Regions to be studied.

As to potential **objectives**, the following was mentioned:

- Assess the likely magnitude of global changes and their sub-regional to regional manifestations for the Barents Sea Region and its major biogeographical components.
- Predict/assess the consequences of these changes for the terrestrial and marine biosphere as well as for the major socio-economic units in the region, paying special attention to the interactions which may occur between these components.
- Determine the cumulative impact of global changes for all relevant components of the Barents System
- Investigate possible policy options for mitigating the most severe cumulative impacts of global changes for the Barents Sea Region. Determine likely predictive scenarios for the overall consequences of global changes for specific sectors of the national or regional economies and possible strategies to minimise economic losses.

The planning process is intended to cover:

- The Barents Sea System: Assessment of Present Situation
- Likely Manifestations of Global Changes in the Barents Sea Region
- Consequences for Regional Properties and Processes
- Research Priorities:
 - Impacts of Global Changes on fisheries
 - Impacts of Global Changes on reindeer husbandry
 - Consequences of Global Changes on forestry
 - Impacts of Global Changes on freshwater resources
 - Impacts of Global Changes on biodiversity
 - Possible impacts of Global Changes on permafrost
 - Finally, a suitable integration method has to be devised in order to combine impacts of global changes from different sectors.
- Political Priorities
- Economic Priorities

Finally, he introduced some thoughts on implementation and funding.

A copy of all transparencies with further details are included in the *Documentation for Participants*.

Discussion

There may be a need to identify what we can say something about and what not. The presentation comprised a very wide range of problems both thematically, geographically and politically. Consequently, there may be a need to narrow the study down somewhat. Identifying users at the initial planning stage should be encouraged (a lesson from MBIS).

The 1995 IASC Meeting Report

2.3 SUSTAINABLE DEVELOPMENT IN THE ARCTIC

Dr Oran R Young, USA, suggested at the 1994 Annual Meeting adding *Arctic Resource Use/Ecosystems Dynamics* as a new theme to the IASC Science Agenda. Council agreed to his proposal, and he was asked to develop this theme together with the science community and report on progress.

A workshop had been held in September 1994. This workshop had:

- recommended a new name: *Sustainable Development in the Arctic*
- recommended that this initiative should focus on three projects:
 1. Dynamics of arctic populations and ecosystems
 2. Sustainable use of living resources of high value to arctic residents
 3. Environmental and social impacts of industrialisation in the Arctic

2.3.1 PRELIMINARY OVERVIEW OF THE THREE PROJECTS:

1 Dynamics of arctic populations and ecosystems

This project should:

- Re-examine standard assumptions about: diversity, productivity, fragility and regenerative capacity at the following levels: genetic, species, system and landscape.
- Evaluate relative significance of anthropogenic and non-anthropogenic drivers of population and system dynamics (example: Barents Sea cod and capelin stocks)
- Integrate traditional environmental knowledge into research in this field.

2 Sustainable Use of Living Resources

This project could include:

- Detriments of sustainability and social equity in consumption of renewable resources (marine mammals, terrestrial mammals, birds, fish)
- Social driving forces/sources of variance
 - institutions (e.g. common property regimes)
 - ideas (e.g. taboos/cultural norms)
 - material conditions (e.g. technology, health)

3 Environmental and social impacts of industrialisation on the Arctic

- Sources/drivers
 - large-scale extractive industries in the Arctic (e.g. oil and gas, minerals, industrial fishing)
 - long-range transport of airborne and waterborne pollutants (e.g. acidification, POCs, radionuclides, heavy metals)
- Impacts and Resilience
 - environmental and social impact assessments
 - why are some systems more resilient than others

The 1995 IASC Meeting Report

- Responses
 - adaptation
 - mitigation
- Feedbacks on sources
 - insensitivity of exogenous sources

These brief descriptions are preliminary, as core groups will transform these ideas into science and implementation plans in the months to come. Like some of the other projects on the IASC Science Agenda, they are of potential interest to arctic governmental cooperation (AEPS) and for those living in the Arctic. AEPS has a Task Force on Sustainable Development and Utilization in the Arctic, and contact has been established with this Task Force. Further, indigenous scientists are involved in all these groups.

Dr Milton Freeman, attending as one of the Canadian observers at this meeting, is also chairman of the Core Group on *Sustainable Use of Living Resources of High Value to Arctic Residents*. Dr. Freeman deepened the description given by Dr. Young on this project. Dr Freeman's note: *A Conceptual Approach to Understanding Sustainable Resource Use* is included in the *Documentation for Participants*.

2.3.2 DISCUSSION

The discussion revealed general contentment with the developments since the last Annual Meeting. It was noted that all projects should be of interest to arctic residents.

2.4 FUNDING

At the time IASC was founded, it was intended that IASC should initiate research planning through regular scientific working groups, and implementation was supposed to be left to operational groups. For both activities, expenses were supposed to be covered by national member organisations.

After some years of experience it has become apparent that the assumptions mentioned need a number of adjustments, and therefore three persons were invited to make introductions.

2.4.1 GENERAL ON FUNDING

Mr Odd Rogne, the Executive Secretary of IASC noted that the earlier model for funding IASC projects (see introduction above) needed substantial revisions. IASC must become involved in funding questions, as funding opportunities influence the planning process.

IASC has two categories of activities to be funded:

- **Research planning** has so far been done through:
 - working groups, participation mainly funded by national sources, but the IASC General Fund has had to help a few participants
 - core groups (or other small, selected groups, in which not all IASC member countries could be involved) were covered by IASC General Fund and other sources, and
 - workshops, with a mixture of funding (national, international and the IASC General Fund)

The 1995 IASC Meeting Report

- **Implementation of projects** has so far been limited to a number of **smaller** projects, and was a combination of national and international funding. As to implementing **major projects**, some of these projects had not yet reached the implementation stage, but several projects would do so after the Planning Conference in Hanover, New Hampshire.

SUGGESTED ACTION:

Funding Sources

Mr Rogne had drafted an agenda paper on potential funding sources for arctic research, and he suggested that a small group of funding experts improve this draft to form a **survey of funding opportunities** with as much specific information as possible.

Funding Priorities

He emphasised that IASC must ensure that IASC priorities are identical to **funding agency priorities**. This could be achieved through:

- creating a dialogue and close links with some key funding agencies.
- involving funding agency scientists in the IASC planning process as advisers/observers

Copies of his paper and transparencies are included in the *Documentation for Participants*.

2.4.2 EUROPEAN FUNDING

Dr David Drewry gave an overview of joint European funding possibilities through EU-CEC and the European Science Foundation.

The Europeans have pooled some national research funding into joint European funds with the intention of achieving a European added value through cooperation. The significance of these European funds has increased, and national funding has decreased.

The use of these overnational funds is determined by European Framework Programmes, now the *Fourth Framework Programme*.

In the *Documentation for Participants* you will find his survey of available funds, activities which can be funded, and the research programmes (under the Fourth Framework Programme) of interest to arctic research.

In addition to funding research projects, there are also funds available for activities of interest to scientists, including the FAR Programme (support for Eastern Europe/Russia).

Dr Drewry also informed about **ESF** (European Science Foundation) which has been established by about 55 academies, research councils, or similar bodies in 20 countries. They mainly support planning and networking through workshops and the European Research Conferences (EURESCO), but they had also initiated other major scientific programmes, such as GRIP.

The 1995 IASC Meeting Report

Dr Drewry also commented on the *Role of IASC in Funding*.

He saw five potential roles:

- (i) Hold or distribute funds
- (ii) Seek funds
- (iii) Assist in accessing funds
- (vi) Identify funds
- (v) Set priorities for funding

He further listed some categories of funding:

- National/Supranational, (e.g. EU)
- Co-funding
- Sponsorship
- Commissioned science.

Dr Pierre Mathy, CEC (invited observer to this meeting) confirmed that CEC has several programmes (MAST, ENVIRONMENT) that are of interest to Arctic scientists. CEC is interested in increasing its efforts with regard to arctic research, and the IASC science planning process and approach fitted well into the CEC's field of interest.

It would be important for European members of IASC to actively work on their priorities to ensure that the next framework programme received their input. CEC would also be interested in a discussion to coordinate the development of science agendas.

2.4.3 AMERICAN FUNDING

Dr Patrick Webber had been invited to give the American perspective on funding. His presentation focused on two parts.

- Major sources and dimensions of US funding
- What should IASC's strategy be?

Conclusions from his introduction:

- NSF is the most likely source of support (private foundations and other government agencies are unlikely to be major sources of support consistently).
- Within NSF the Arctic System Science (ARCSS) Program within the Office of Polar Programs is the most likely source of funding for both planning and implementation. The FY 1996 proposed ARCSS budget is ca. 19 million US dollars and about 1 million is available for the support of international science. ARCSS currently supports some IASC planning efforts, such as the Hanover Conference and a number of international secretariats such as IGBP (PAGES), International Permafrost Association (IPA) and ITEX (International Tundra Experiment). ARCSS expects to continue support of planning efforts (travel and workshops).
- US IASC projects may be funded from within the balance of the ARCSS budget.
- For most intents and purposes IASC can only access NSF funding through the submission of competitively reviewed proposals from US institutions. The hallmark of successful proposals are excellence and priority science.

The 1995 IASC Meeting Report

- IASC is urged to consider the submission of “collaborative” proposals to the NSF ARCSS Program. Such proposals would be submitted simultaneously to some other national or non-governmental organisation as a cost-sharing venture. Funds for support of overseas personnel, travel, and equipment may be included in the request to NSF and it would be the responsibility of the US awardee to disperse the funds overseas.

2.4.4 DISCUSSION

The strength of IASC - also in relation to funding - lies in its ability to identify timely and important science issues to be given priority, and formulating science plans.

Concerted actions between a few of the main funding agencies would be important both with regard to funding and also in order to identify long-term activities.

Lessons could also be learned by reviewing some of the earlier major arctic programmes (both successes and failures).

The secret is to work from the bottom, i.e. to create a science demand. Most funding agencies are created to respond to the needs of the scientists, and a recommendation by an international group of leading scientists - endorsed by IASC - has funding potential.

2.5 INTEGRATING HUMAN AND NATURAL SCIENCES

IASC has given priority to interdisciplinarity in its science initiatives, i.e. to identify a scientific problem and to address it using those sciences which can help to provide a solution. This approach implies that sciences with different approaches and traditions will work together.

Mr Barrie Maxwell, Canada, spoke from the viewpoint of an arctic climatologist, including his experience from the Mackenzie Basin Impact Study (MBIS). Studying impacts of climate change requires contributions from terrestrial and marine ecologists, and from social and economic sciences. Such impacts can be undertaken as a single-science or single-sector research, but in order to answer the policy questions these sections need to be integrated into a consistent totality.

They had tried the following approaches in MBIS towards such an integration:

- a methodology for resource/environmental accounting
- a land assessment framework
- a review of water management instruments
- a series of studies of the impacts on communities
- multi-objective progress modelling

Communication was the keyword for ensuring better integration, i.e. organising workshops and other opportunities for scientists with different science backgrounds to communicate.

At **international** level integration is less developed.

The major global change research programmes (IGBP and WCRP under ICSU, and HDP initiated by ISSC) have been developed in parallel, with HDP lagging behind. However, all three programmes are joining forces in START (Global Change System for Analysis, Research and Training)

The 1995 IASC Meeting Report

The need for integration has been recognised in global change, and modelling has been a vehicle for such efforts (IMAGE).

Within IASC there are several projects which require an integral approach (e.g. BASIS, BESIS, Sustainable Development projects, etc.), and the challenge is to achieve real integrated studies.

Mr Maxwell's paper on *Notes on Integration of Natural and Human Science Research for the Arctic* is included in the *Documentation for Participants*.

Dr Ludger Müller-Wille shared some of his experiences as an arctic social scientist, reminding that the social sciences represented a wide range of sciences. Scientists prefer to discuss with those scientifically close to them, and social scientists had mixed experiences with natural scientists (for instance losing the competition for funding). **Coordination** rather than integration would, in his view, be more realistic.

Dr Müller-Wille introduced briefly the IASSA (International Arctic Social Science Association) which was a "grassroot organisation with a flexible structure", and one of its major goals was to increase awareness of the arctic social sciences. He further explained some of the issues discussed within IASSA, such as western science vs. TEK (traditional ecological knowledge), ethical principles, etc.

In his concluding remarks, he mentioned that the goals and methods of natural and social sciences were rather different. IASC should actively seek cooperation between these sciences in its interdisciplinary projects, but expect coordination rather than integration.

Discussion

Obstacles to closer cooperation between human and natural sciences are often of an organisational nature. These sciences have been kept apart at all levels, and it is a challenge to break down the barriers.

Natural scientists have traditionally been better organised, and they have tended to exercise "an agenda control", i.e. tried to define the scientific agenda and thereafter asked social scientists for some input. They need to become equal partners if a real cooperation is to emerge.

Integration through modelling was another way to increase cooperation.

2.6 KEY CHALLENGES AHEAD FOR IASC

IASC has been in operation for four years. During this period the organisation as such has been fully established, and a number of actions have been carried out. At the same time, changes affecting the role of IASC have occurred, and the intention was to stimulate a discussion on what are the important issues ahead; what actions should be taken and which corrections should be made.

2.6.1 (DR. GRIFFITHS SUMMARY IN HERE)

Dr Franklyn Griffiths, Canada had been invited to give an independent view on this issue as seen from outside. Dr Griffiths is a leading political scientist with the Arctic as one of his specialities.

The 1995 IASC Meeting Report

Dr. Griffiths claimed that IASC was faced with two main challenges:

- Task expansion in a changing international context, and
- Making arctic science relevant to those who commissioned it.

He saw the first challenge in relation to the Arctic Council, which is expected to be established in the near future. He listed some possible strategies IASC could adopt regarding the Arctic Council, and some possible effects it could have on funding, the IASC Secretariat and the Regional Board.

As to making arctic science relevant to those who commissioned it, he saw no other alternative than making IASC programmes as socially responsive as possible. Interdisciplinary research was the first requirement. He found that IASC had moved vigorously towards responsive science (including big or mega-science), and he questioned whether this should always be the case.

He also made a plea for disciplinary science and the individual researcher, and suggested an IASC international prize for the investigator who had produced the most distinguished piece of arctic research.

Griffiths had the impression that while IASC had concentrated on interdisciplinarity and big science, he felt that IASC had underperformed where users were concerned. He raised the question of whether aboriginal and other northern residents, or *users* of arctic science should be directly represented in the Regional Board.

Dr. Griffiths' thought-provoking introduction is difficult to summarise briefly, but participants will find his paper in *Documentation for participants*.

2.6.2 ACADEMICIAN IGOR S GRAMBERG, RUSSIA

Dr Gramberg noted that IASC was established in a competitive environment, but had a number of accomplishments such as having:

- Become well-known and established in the scientific and policy communities
- Established relations with related science organisations and avoided confrontations
- Created several working groups to merge efforts of scientists from several countries to address acute arctic science challenges
- Chosen a wise approach to operational procedures through the national bodies of IASC
- Assumed a progressive attitude as to organisational forms, and promoted programmes of different natures effectively

Funding had been one of the main problems, and even more so in countries with substantial inflation. Financial limitations are likely to be one of our challenges also for the future.

As to future challenges, for some parts of the Arctic this would be linked to effects of industrial activities. The research challenges are likely to be linked to:

- Comprehensive ecological assessments, and developing scientific criteria for environmental control

The 1995 IASC Meeting Report

- Design of technologies which enable the development of natural arctic resources at sustainable level (environmental impacts) to be maintained.
- Health protection of indigenous and other peoples living in the Arctic.

In addition to these more regional challenges, global change studies should play a significant part; as should the scientific aspects of serious threats to the environment, such as consequences of nuclear tests, catastrophic pollutant discharges to the atmosphere, dumping of nuclear waste etc.

Academician Gramberg had prepared a paper which is included in *Documentation for the Participants*.

2.6.3 PROFESSOR BERT BOLIN, SWEDEN

Professor Bert Bolin, Sweden, advocated that **fundamental scientific questions** are the main business of IASC, and our future challenge lies in our ability to identify the critical scientific issues. Some potential examples:

- Fundamental ecology of arctic land and sea
- Evolution of the Arctic Sea: What can it tell us about the evolutionary history of the world? (with funding outside the arctic allocation)
- Changes of a global nature: What will the Greenland Ice Sheet contribute to sea level rise in the ten years to come?

His advice was to identify a few such key issues, obtain consensus within the scientific community and define it in a project concept.

IASC should not engage in offering scientific advice to governments, etc. Governments could turn to their own agency scientists or others. He was also sceptical to involving users too much. They should be involved in some projects, but scientific discussions go far beyond their interests, and they should not be allowed to limit such discussions.

2.6.4 DISCUSSIONS

A few issues should be studied with a bi-polar approach, and mass balance/ice sheets is a good example for a bi-polar workshop.

IASC should develop a relationship with the future Arctic Council, which would represent regional concerns. The IASC Regional Board would be the logical body within IASC to discuss this relationship to the Arctic Council. IASC as such should consider a role similar to that of SCAR as to ATCM (Antarctic Treaty Consultative Meeting).

IASC will apply for membership in ICSU, and its main thrust should be in science. But IASC must be prepared to take on an advisory role to the Arctic Council. This role does not exclude excellence in science. Quality in science means that governments receive good advice.

IASC in general has to focus on global scientific issues in its priority research agenda; that is the common denominator for all its members.

The 1995 IASC Meeting Report

3 REPORT FROM THE REGIONAL BOARD

The IASC Regional Board had held their meeting immediately prior to the Annual Meeting, and Dr Gerald Lock, Chairman of the Regional Board gave an oral report focusing on the following issues:

3.1 ETHICAL PRINCIPLES

At the 1994 Annual Meeting the Regional Board had accepted the task of developing a Code of Ethics governing arctic research.

This task had evolved into a set of ethical principles, mainly concerned with individuals and communities which are affected by or are the subject of research.

A draft copy of these ethical principles was distributed and further discussed at the IASC Council Meeting.

A copy is included in *Documentation for Participants*.

3.2 CIRCUMPOLAR LIAISON

The Regional Board had started exploring how IASC should develop further circumpolar liaison. At this meeting they had focused on the Arctic Council. They had concluded that the Regional Board was probably the body within IASC which could best promote IASC as an advisory body to a future Arctic Council, and that members should initiate some lobbying to achieve such a role.

3.3 ARCTIC SCIENCE AND TECHNOLOGY POLICIES

Some countries did have an arctic science policy, while most of them had fragments. It had been agreed that Canada would present a model for such a policy document to the next Regional Board meeting.

Dr Lange mentioned the Rovaniemi Code of Conduct (principles related to the conduct of business operations in the circumpolar North).

3.4 ELECTRONIC COMMUNICATION

The Regional Board had also discussed the need for IASC to become more involved in adapting electronic communications such as:

- electronic mail
- data retrieval from data banks
- dedicated systems for internal use

They had noted that the IASC Secretariat was well into these developments, and they were advised to contact the COMNAP and SCAR Secretariats for exchange of experiences. Further, some tutorial lessons for IASC representatives had been suggested, and an interactive demonstration was likely to be offered at the Planning Conference in Hanover, N.H.

The 1995 IASC Meeting Report

4 ADMINISTRATIVE ISSUES

4.1 ACCOUNTS 1994 AND BUDGET 1995 - IASC GENERAL FUND

The IASC General Fund was initiated in 1993 to cover expenses which could not be referred to a single country.

The development of the General Fund had been as follows:

1993: Income had been uncertain until late 1993, but as almost all countries had been able to contribute, the year ended with a considerable surplus.

1994: We were closer to a balance for this year. However, we were successful in obtaining support for some of our projects from others, and one workshop had been postponed until 1995. Consequently, a surplus also resulted for this year.

For 1995 we have initiated a number of core group meetings in addition to regular activities. The 1995 budget proposal showed a **deficit** of \$40,000 which was suggested to be covered by earlier surpluses.

A copy of IASC General Fund 1993-1995 and Draft Budget for 1995 are included in the Documentation for Participants.

Discussion

All decisions are to be made by Council. The discussion consisted mainly of questions to be considered by Council.

As the money was kept in a Norwegian bank (in NOK), it was proposed that the budget should be in NOK.

The question of whether the General Fund could cover some travel expenses for ICARP was raised.

Initial draft budgets for 1996 and 1997: The Executive Committee should consider making budgets for 1-2 years ahead. Follow-up expenses to ICARP should be included in the 1996 budget (inviting core group leaders to a meeting).

The IASC Secretariat is overloaded with tasks and needs to be strengthened. An Arctic Council may increase the workload further, as well as if the Secretariat takes an active role in funding.

The 1995 IASC Meeting Report

5 OTHER BUSINESS

5.1 AOSB - IASC RELATIONSHIP

Last year IASC had invited AOSB to become an advisory body to IASC on **arctic oceanography**. The IASC Executive Secretary had been invited to the AOSB Annual Meeting to report on IASC activities.

A paper from AOSB was tabled (see *Documentation for Participants*) giving a brief statement about the AOSB, followed by three proposed options for relationships. Briefly summarised these options were:

- (i) Arctic oceanography “defined” as ocean sciences
- (ii) Special relationship (Memorandum of Understanding to define it)
- (iii) Complementary relationship (exchange of information and views)

Comments

AOSB advice is appreciated, but “exclusive rights” on arctic ocean sciences may not be the solution. Some comments supported option 2, but the division of labour needs to be defined. AOSB may not fit so well into the IASC “standing advisory body system”, and some other type of relationship may need to be considered. A MoU must include the mechanism for how the relationship should work.

5.2 MEMBERSHIP IN ICSU

Council decided at the 1993 Council Meeting *to apply in due course for associate status with ICSU, noting the general ICSU rule that an associate organisation should have been in existence for six years.*

As IASC was established in 1990, an application to ICSU could be made in 1996, i.e. preparation for this should commence now.

This item was on the agenda for Council to confirm the earlier decision, and to request the Executive Committee to prepare and send an application.

Comments

We should obtain further information on what we gain/lose by this membership. The IASC Regional Board may not fit into an ICSU system, but this problem could be solved by a twin arrangement as for SCAR/COMNAP. IASC would be exposed to reviews by ICSU. General consensus was that IASC should approach ICSU, but consider types of membership and possible pros and cons.

The 1995 IASC Meeting Report

5.3 CIRCUMPOLAR ARCTIC VEGETATION MAP

An international group of scientists had initiated cooperation on a *Circumpolar Arctic Vegetation Map* (see *Documentation for Participants* for further details).

The Annual Meeting recommended that Council endorse this initiative.

5.4 NEXT IASC MEETING

5.4.1 EXECUTIVE COMMITTEE MEETING

The next meeting of the Executive Committee will be held 2 - 3 October 1995 at the IASC Secretariat.

5.4.2 1996 IASC MEETING

Time: Last week of April suggested, with Wednesday and Thursday for the Annual Meeting, giving Regional Board and Council an opportunity to have their meetings on regular weekdays before/after the Annual Meeting.

Tentative dates: 23 April: Regional Board Meeting

24 - 25 April: Annual Meeting

26 April: Council Meeting

Place: Germany or United Kingdom

5.5 RELATION TO MAB NORTHERN SCIENCES NETWORK

The chairman of the NSN Advisory Group, Dr Fred Roots, had suggested that the IASC - MAB/NSN relationship should be based on exchange of reports and other information. No comments from the Annual Meeting.

5.6 ADD - THE INTERNATIONAL ARCTIC ENVIRONMENTAL DATA DIRECTORY

The following nominations had been received:

- Canada: Dr George Miller
- Denmark: Lise Walsted Kristiansen
- Finland: Dr Manfred A. Lange
- Norway: Rasmus Hansson
- USA: Douglas Posson

Nominations were expected from Germany, Iceland and Russia (or any other IASC country interested). They were reminded to make their nominations in the near future.

The 1995 IASC Meeting Report

5.7 IGBP - START

The President had taken an initiative to clarify the relationship between IASC and IGBP. He had visited the IGBP Secretariat in Stockholm, and had had discussions with the IGBP Executive Director and Deputy Executive Director.

The next step had been a visit by the President and the Executive Secretary to the START office in Washington, DC. A follow-up letter from the START office was enclosed with the agenda (and also in the *Documentation to Participants*).

Dr Gunter Weller, Chairman of the IASC Working Group on Global Change had drafted *A Proposal for an Arctic Regional Research Network for Global Change Research* to be submitted to START. This draft had been circulated prior to the Annual Meeting as a late paper.

Finally, a paper was tabled from the Arctic Centre, Rovaniemi, proposing that the IASC Global Change Programme Office be expanded into a RRC (Regional Research Centre) on Arctic Global Change Research under some specific conditions, including financial contribution from IASC to the Arctic Centre to cover operating costs.

The proposal for an Arctic Regional Research Network was introduced to the Annual Meeting by Dr Manfred A Lange, as Dr Weller was unable to attend.

Discussion

Most comments were made in connection with the WG proposal, recommending that the science contents/planning should be more advanced than they are at present before a proposal on RRN/RRC was sent to START. The Reykjavik report was felt to be too general to serve as a science plan. IASC has a number of Global Change projects at the initial planning stage. Hopefully, we will have some specific science plans after ICARP, and also an initial network of interested scientists.

The 1995 IASC Meeting Report

6 INFORMATION SECTION

This section contained reports on recent IASC events and progress, as well as on issues of potential interest to IASC. These items were **not intended to be discussed** at the meeting.

6.1 SAM - SURVEY OF ARCTIC MEETINGS

The IASC Secretariat had initiated a database on planned arctic meetings. Access to this database is through Internet via ordinary e-mail or through World Wide Web. Further information is given in *IASC-Progress 1-95*.

6.2 IASC WORKING GROUP FOR GEOPHYSICAL COMPILATION AND MAPPING: ARCTICGP: AN INTERNET MAILING LIST

arcticgp is the name of an International Mailing List designed to provide a forum for investigators who are concerned with arctic geophysical data. If necessary, the group will also consider alternative means of disseminating this information.

Two e-mail messages were enclosed with the agenda papers: One about this new activity of the Working Group, and a second one on *Recent Activities*, which also served as an update from this WG.

6.3 EFFECTS OF INCREASED UV-RADIATION IN THE ARCTIC

The IASC/SCOPE report was mailed separately in *draft* form to Council members during March, 1995. Council members had been asked to consider which groups they were interested in, and to nominate scientists for these groups. The report will be printed in May.

6.4 IASC WORKING GROUP ON ARCTIC GLACIOLOGY: SCIENTIFIC PROGRAMME

Enclosed with the agenda was a report on the scientific basis or programme for this WG after their discussions over the last two years. It will be used for formulating more specific work plans/implementation plans by the Core Group, to be discussed at ICARP in December 1995.

6.5 IASC WORKING GROUP ON MARINE GEOLOGY

An update from the chairman to the WG members was enclosed with the agenda papers. Please note that this group will meet in October 1995, and they wish to establish an electronic newsletter similar to that of the geophysical WG. Some arctic marine geology news was also included.

The 1995 IASC Meeting Report

6.6 ISIRA WORKING GROUP - MEETING REPORT

A report from the ISIRA WG meeting in November, 1994 was enclosed as an agenda paper.

6.7 PROPOSAL FOR A WORKSHOP ON ARCTIC MARINE/COASTAL/RIVERINE SYSTEMS

A copy of the proposal by Dr Leonard Johnson was enclosed with the agenda papers. For a broader description of regional workshops leading up to this proposed international workshop in St Petersburg, please refer to page 3 of the *Meeting by correspondence* of the Executive Committee.

6.8 THE ACSYS SECRETARIAT

The Arctic Climate System Study (ACSYS) is the arctic research programme of WCRP (WMO's and ICSU's World Climate Research Programme). The ACSYS secretariat/offices will be established adjacent to the IASC Secretariat this Autumn.

The 1995 IASC Meeting Report

II. IASC COUNCIL MEETING

This meeting was attended by Council members only, except for Chairman of the Regional Board who is a member of the IASC Executive Committee.

A. REVIEW OF DECISIONS MADE BY THE EXECUTIVE COMMITTEE

The purpose of this item was to give Council members an opportunity to comment on decisions made by the Executive Committee. Enclosed with the agenda papers were: *Report from the 1994 IASC Executive Committee Meeting* and *Meeting by correspondence No. 1-95, Annotated Agenda*. Conclusions from the last meeting had been as suggested in the Annotated Agenda.

Comments to the 1994 Executive Committee Meeting:

3.9: The acronym ADD is used by a similar Antarctic directory (later investigations revealed that the acronym referred to is ADDS - Antarctic Data Directory System)

B. THE ISIRA WORKING GROUP

A paper entitled *Role and Tasks of the ISIRA Working Group* was tabled (Enclosed in *Documentation for participants*). The paper suggested a revision of this group's terms of reference, namely that it mainly should act as an administrative body to:

- sort out potential project ideas;
- facilitate improved access to the Russian Arctic;
- provide a forum for linking together ongoing or planned bilateral projects;
- advise on funding and organising.

Decision: The Executive Committee was asked to draft new terms of reference for this group. This draft should be circulated to Council members for comments and thereafter confirmed by the Executive Committee.

C. STANDING ADVISORY BODIES

There was no decision on how these advisory bodies should be involved in the work of IASC, except that they would be asked for advice when needed.

Decision: Standing advisory bodies to IASC should receive an invitation to the IASC Annual Meeting and reports from the meeting. Such bodies are encouraged to advise IASC both when asked and when they see a need for joint action.

Action: Rogne

The 1995 IASC Meeting Report

D. ACTIONS AND DECISIONS AFTER THE ANNUAL MEETING

The discussions at the Annual Meeting are exploratory, as decisions and actions rest with the Council. The following numbers and titles refer to agenda items at the Annual Meeting (see Contents and the text earlier in this report)

2.1 ICARP

i. Action items for Council members:

- Identify additional *network* members.
- Suggest participants in the Hanover conference from following categories:
 - a) Key arctic research institutes in your country
 - b) Funding agencies in your country
 - c) Other relevant organisations including the policy community (e.g. AEPS, CEC, Northern Forum, IUCN)
- Identify sources of funding to cover expenses of participants from your country.
- Suggest contacts in your country to receive publicity/press releases.

Council members to advise/suggest names during or shortly after the meeting.

Action: All Council members, Rogne

ii. UV Core Groups

The UV report is in printing; a pre-print draft was circulated to Council members. The report suggested research to be initiated in all four scientific disciplines. The Program Steering Committee, at its meeting prior to the Council meeting, had suggested a research proposal to be on an integrating theme.

Decision: Council members to provide any missing nominations as soon as possible. The four UV-groups listed should form one UV-group and identify one integrative theme to be given priority.

Action: Rogne

iii. Guidelines to core group leaders

Decision: All core groups should be asked to suggest priorities and to draft implementation plans. Further, they should be asked to identify users.

Action: Young, Rogne

iv. Priorities

Following the ICARP conference, there should be an overall review of the IASC Science Agenda and other activities by the IASC working groups.

Decision: Council requested the Executive Committee to identify a small group to review our total activity (both core groups and working groups) and to advise on future priorities and future organisational needs.

Action: Magnusson, Rogne

The 1995 IASC Meeting Report

2.2 REGIONAL IMPACT STUDIES

Council appreciated this initiative and the work done.

Decision: *Council asked the core groups to:*

- *draft an initial and realistic concept;*
- *identify users (similar to MBIS), and*
- *involve users in further planning developments.*

Action: Lange, Alexander/Weller

2.4 FUNDING

The role of IASC as to funding had earlier been given the following options:

- a. Holding or distribute funds
- b. Seek funds
- c. Assist in accessing funds
- d. Identify funds.

Decision: *Council decided that options a and b should be sought for international research planning.*

Council decided that options c and d should be used both for planning and implementation.

There was an exchange of ideas on possible actions to be taken to develop our relations with funding agencies. One general strategy conclusion was that **we should place ourselves as an adviser to major funding agencies on arctic research.**

Council was informed that a *European Polar Science Board* was being planned, and it was proposed that the **European members of IASC and this new board should consider a funding strategy for CEC as to IASC priority projects, and promoting an arctic component on the Fifth Framework Programme.**

Council was further informed that as a member of ICSU, there would be some funding possibilities.

Decision:

- *Representatives of some key funding agencies should be invited to the IASC annual meeting when we have an agenda of potential interest to them. The Executive Committee is to consider this issue each year.*
- *IGFA, the Global Change funding agencies, to be informed about IASC and our global change projects.*
- *IASC will engage a small group of specialists to work out advisory documents as a guide to identifying and accessing funds for arctic research. The group would consist of 5-6 persons from Europe, Japan, Canada, USA and Russia).*

Action: Rogne

The 1995 IASC Meeting Report

2.5 INTEGRATING HUMAN AND NATURAL SCIENCES

A challenge to be addressed in all our work when we nominate members to groups and when working out implementation plans.

Decision: The integration issue needs to be addressed specifically in the implementation plans being developed by each core group. Maxwell to provide some suitable wording for instructions to core group chairs to the chair of the ICARP org. committee.

Action: Maxwell, Rogne

2.6 KEY CHALLENGES AHEAD FOR IASC

Several of the ideas and thoughts expressed under this item will be further considered for future actions and decisions. However, some initial decisions were made:

Decisions:

- *IASC intends to represent the arctic component of major international science programmes and to provide an interdisciplinary link and coordination. To this end the Executive Committee was asked to use a day at its next meeting to have discussions with representatives of IGBP, WCRP/ACSYS, HDP, AOSB to discuss fundamental research needs in the Arctic, what issues are not covered, what should be given priority etc., with a view to further developing a regional research agenda.*

Action: Magnusson, Bolin, Rogne

- *Arctic Council: IASC Council asks the Regional Board to promote IASC as their future scientific advisory body.*

Action: Regional Board members, Rogne

3. REGIONAL BOARD

Ethical Principles:

There were several comments to the draft presented to Council by the Regional Board, mostly to the preamble. Council was also informed that IUCH will discuss arctic ethical principles.

Decision: An ad-hoc group consisting of Blix, Hart Hansen and Young was appointed to advise the Regional Board on a new draft.

Action: Lock, Blix, Hart Hansen, Young

Electronic Communications:

Decision: Council supported the recommendations from the Regional Board to encourage internal use of electronic communication, to offer tutorial lessons to IASC representatives at ICARP, and an interactive demonstration of arctic data sources at ICARP involving ADD and others.

Action: Young, Rogne, Webber

The 1995 IASC Meeting Report

4. ACCOUNTS 1994 - BUDGET 1995 - GENERAL FUND

Decisions:

- *Council approved the accounts for 1994.*
- *Council also approved the budget for 1995. If savings are achieved in relation to the budget, this money may be used for ICARP travel (i.e. key participants without any other option).*
- *Finance Committee: the Executive Committee was asked to appoint two persons for this purpose.*
- *Council decided that in the future, budgets should be in \$ (not in NOK as suggested at the Annual Meeting).*
- *Budget for coming years: The Executive Committee should consider making budgets for 1-2 years ahead.*

Action: Rogne

5.1 AOSB - IASC RELATIONS

Covered by the first decision under 2.6.

5.2 MEMBERSHIP IN ICSU

Decision: Council confirmed in principle the earlier decision to apply for membership in ICSU. The Secretariat was asked to explore forms of membership with the ICSU Secretariat, and potential implications for IASC. Thereafter, members of Council and the Regional Board are to be informed about and asked to comment on the outcome, and the Executive Committee is to decide on the next steps.

Action: Rogne

5.3 CIRCUMPOLAR ARCTIC VEGETATION MAP

Decision: This initiative was endorsed by IASC Council.

Action: Rogne

5.4 NEXT IASC MEETINGS

Council confirmed proposals at the Annual Meeting as follows:

- 2 - 3 October, 1995: Executive Committee to meet in Oslo.
- 23 April, 1996: Regional Board Meeting, Germany or UK.
- 24 - 25 April, 1996: IASC Annual Meeting, Germany or UK.
- 26 April, 1996: Council Meeting.

5.5 MAB - NORTHERN SCIENCE NETWORK

Decision: Relation to MAB - NSN to be based on exchange of reports and information.

Action: Rogne

The 1995 IASC Meeting Report

5.6 ADD - INTERNATIONAL ARCTIC ENVIRONMENTAL DATA DIRECTORY

Decision: Missing nominations to be provided as soon as possible.

Action: Rogne, Fütterer, Gramberg, Magnusson

5.7 IGBP - START

Decision: Council commended Dr. Weller and others involved for the draft proposal, which should be discussed at a meeting of the WG. However, Council decided that a proposal to START should wait until science plans are ready for our priority projects concerned with global change issues (themes 1 and 2 on our science agenda), as scientists involved in implementation of these projects should discuss needs for RRC/RRN. Council will submit a proposal to START when the mentioned science plans have been completed.

Action: Rogne, Weller, Lange

E. CLOSING

Our Finnish members and the local host represented by Dr. Müller-Wille and Ms. Marketta Leinonen were heartily thanked for all assistance and service during all IASC meetings held in Rovaniemi during this week.



**1995 IASC Meeting
Rovaniemi, Finland
24 - 26 April, 1995**

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(Executive Committee members in bold type)

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