

# **IASC Meetings**

*Hanover NH, USA*

*14-17 March 2007*



*draft*

## **Report**

**1. Strategy Groups** ..... 16 March 2007, 16.00 - 18.30

**2. Council** ..... 17 March 2007, 09.00 - 12.30

for internal IASC use only

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## **Strategy Groups**

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*draft* Report

## 1. INTENTION

These meetings are held to give Council and Regional Board members an opportunity to discuss IASC issues in a small group under the chairmanship of one of the IASC Vice Presidents.

## 2. AGENDA

The only agenda item for the Strategy Group Meetings was the report of the IASC Review and Strategy (R & S) Group and the consequent changes to the IASC structure and functioning proposed by the Executive Committee (see ANNEXES 4.1 and 4.2 to the Council Report).

Each Strategy Group discussed all recommendations of the R & S report and the corresponding suggestion of the Executive Committee. However, each group focused on a specific topic, i.e.

- (1) IASC structure, i.e. Standing Committees and Action Groups**
- (2) IASC instruments to support science development**
- (3) IASC outreach and relationship to other organizations**
- (4) The effectiveness of the Arctic Science Summit Week (ASSW)**

Group membership and focus for each group are given in the appended table.

## 3. REPORTING

The Vice Presidents who chaired the Strategy Groups provided a 10-minutes overview summarizing discussion results and questions to Council. The discussions were continued in the Council Meeting (see agenda item 4.2 in the Council Report).

## Members of IASC Strategy Groups

<b>Strategy Group I</b>	<b>Chair:</b> <b>Byong-Kwon Park, Vice President</b>	<b>E-mail:</b> <a href="mailto:bkpark@korp.re.kr">bkpark@korp.re.kr</a>
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Focus:

**Effectiveness of the Arctic Science Summit Week (ASSW)**

<b>Strategy Group II</b>	<b>Chair:</b> <b>Jackie Grebmeier, Vice President</b>	<a href="mailto:igrebmei@utk.edu">igrebmei@utk.edu</a>
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Focus:

**IASC instruments to support science development**

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Focus:

**IASC structure, i.e. Standing Committees and Action Groups**

<b>Strategy Group IV</b>	<b>Chair:</b> <b>Dieter Fütterer, Vice President</b>	<a href="mailto:dfuetterer@awi-bremerhaven.de">dfuetterer@awi-bremerhaven.de</a>
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Focus:

**IASC outreach and relationship to other organizations**

# **IASC Meetings**

*Hanover NH, USA*

*14-17 March 2007*



## **Council**

17 March 2007, 09.00 - 12.30

***draft* Report**

## Participants

### **Council Members**

Canada:	Grant Ingram
China:	Liqi Chen
Denmark/Greenland:	Hanne Petersen (alternate for Tom Greiffenberg)
Finland:	Kari Laine
France:	absent
Germany:	Dieter Fütterer (Vice President)
Iceland:	Kristján Kristjánsson (President)
Italy:	absent
Japan:	Hiroshi Kanda
Netherlands:	Louwrens Hacquebord (Vice President)
Norway:	Fridtjof Mehlum
Poland:	Alexander Guterch (alternate for Jacek Jania)
Korea:	Byong-Kwon Park (Vice President)
Russia:	Vladimir I Pavlenko
Sweden:	Magnus Friberg
Switzerland:	absent
UK:	absent
USA:	Jackie Grebmeier (Vice President)

### **Regional Board Members**

Canada:	Steven Bigras
Finland:	Paula Kankaanpää
Iceland:	Niels Einarsson
USA:	Karl Erb

### **Observers**

Hajime Ito (IASC R&S Group)  
Igor Krupnik (IASC R&S Group)  
Colin Summerhayes (SCAR Executive Director)

### **Secretariat**

Volker Rachold (Executive Secretary)  
Anna Sundin (Administrative Assistant)

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- ANNEX 4.4.1 New project proposal: Human Dimensions of Arctic Environments: A Multilingual Web Resource
- ANNEX 4.4.2 Discussion paper: Network for Arctic Archeologists
- ANNEX 4.5.1 Agenda and list of participants of the ICARP II Implementation Workshop
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## 1 WELCOME AND INTRODUCTION

The President welcomed everyone to the meeting and the participants briefly introduced themselves.

## 2 APPROVAL OF THE REPORT FROM THE 2006 MEETING

The report was approved.

## 3 ADOPTION OF THE AGENDA

The agenda was adopted.

## 4 MAIN ISSUES

### 4.1 IASC REVIEW AND STRATEGY

In early 2006, IASC had appointed a Review and Strategy (R & S) Group to evaluate IASC activities during the past 10 years. Members of the R & S Group were:

- Tom Pyle (Chair)
- Hajime Ito
- Anders Karlqvist
- Igor Krupnik
- Hanne Petersen
- Jörn Thiede
- Sara Bowden (Secretary)

➤ ***The final report of the R & S Group is given in ANNEX 4.1.***

Three members of the R & S Group (Hanne Petersen, Hajime Ito and Igor Krupnik) attended the Council Meeting. Hanne Petersen introduced the main recommendations given in the report. After the presentation, Council Members had the opportunity to discuss the R & S Report; questions were answered by members of the R & S Group.

## 4.2 IASC STRUCTURE AND STRATEGY TO SUPPORT SCIENCE DEVELOPMENT

Following up the request of the Council and considering the recommendations of the IASC R & S Group, the Executive Committee had developed a strategy paper on the new IASC structure and strategy to support science development.

➤ ***The strategy paper is given in ANNEX 4.2.***

The President introduced the strategy paper in a 10 minutes presentation and outlined the suggestions of the Executive Committee.

In addition to the proposed structural and strategic changes, the President also introduced the suggestions to improve the effectiveness of the Arctic Science Summit Week (ASSW). Based on the recommendations given in the R & S Report, the Executive Committee had agreed upon the following proposal to the Council:

- A major Arctic Science Summit Week should be held every second year. The responsibility for the organization should be in the hands of an International Planning Group chaired by IASC. This Planning Group should have at maximum 7 members, including one representative of the local host.
- In the years between the ASSWs, an Arctic Business Summit Week (ABSW) should be organized. The focus of this week should be on business meetings of the Arctic organizations and on coordinating their international activities.
- The ASSW location should be easily accessible, whereas the ABSW could be also organized at more remote locations.
- All IASC Meetings held during the ASSW and ABSW should be open to the public except for a short business section. This will allow for more transparency of IASC's procedures.

### 4.2.1 REPORTS FROM THE STRATEGY GROUPS

Under this agenda item the Vice Presidents, who chaired the Strategy Groups, provided 5-10 minutes summaries of the Strategy Group discussions. Each Strategy Group had been asked to discuss all recommendations of the R & S report and the corresponding suggestion of the Executive Committee. However, each group should focus on a specific topic.

(1) The effectiveness of the Arctic Science Summit Week (ASSW)  
(Group I, Vice President Byong-Kwon Park)

Members of the group agreed that the ASSW is a very valuable opportunity for several purposes. However, several suggestions to make it more effective and attractive for scientists were presented:

- If the ASSW will be organized every second year and focus on science it should be renamed;
- To make the ASSW more attractive for scientists, it should include a 3-day science program with invited presentations of the best scientists (the group noted that scientists from the universities and institutes in the Dartmouth area did not attend the ASSW 2007);
- Several participants that have to attend the business meetings at ASSW would benefit from a stronger science program;
- Early Career Scientist should be encouraged to participate, travel support should be available;
- Conference location should be easily accessible for all participants;
- Timing should consider the academic schedule;
- All scientific organizations participating in the ASSW should be involved in designing the scientific program;
- Outreach to the next generation, to the public and to indigenous Arctic peoples should be reinforced.

Finally, the group noted that the IASC Regional Board was not created by IASC.

(2) IASC instruments to support science development  
(Group II, Vice President Jackie Grebmeier)

This group suggested the following tools to support science development:

- Short-term workshop (including Early Career Scientists);
- 2-5 year assessments (a "Status of the Arctic Report" could become a regular IASC report);
- Programs (how much energy should be invested into long-term programs?);
- Networks (these could have an interactive webpage, a listserver and a portal to Arctic research and would require substantial support through the IASC Secretariat);
- Thinking Groups.

The general comments of the group were that IASC should strengthen the outreach to the next generation and that IASC as an organization should become more transparent.

(3) IASC structure, i.e. Standing Committees and Action Groups  
(Group III, Vice President Louwrens Hacquebord)

On behalf of the Strategy Group, Vice President Louwrens Hacquebord thanked the R & S Group for a very helpful report. The Strategy Group supported the suggestions of the R & S Group to

- Expand the function of IASC (include new technologies, human health etc.);
- Intensify the relationship to the Arctic Council and to other organizations (the joint SCAR-IASC Open Science Meeting, St. Petersburg, July 2008 was mentioned as a very good initiative);
- Reorganize the Arctic Science Summit Week.

The Strategy Group generally supported the suggested new IASC structure but also raised some issues that should be considered when the Terms of Reference for the IASC bodies (Standing Committees and Action Groups) are developed:

- The relationship between the IASC bodies has to be clearly defined;
- The role of the Chairs of the Standing Committees and the Vice Presidents has to be defined;
- The possibility of upgrading Action Groups to Standing Committees should be considered.

(4) IASC outreach and relationship to other organizations  
(Group IV, Vice President Dieter Fütterer)

The Strategy Group noted that the IASC Council is the decision-making body within IASC and should be on top of the new structure (see figure 1 in ANNEX 4.2). The Council could be strengthened by having two representatives for each country, one delegate and one alternate.

The following five Standing Committees were suggested: (1) Marine System, (2) Terrestrial System, (3) Atmosphere System, (4) Climate System and (5) Social (Human) System.

If there is a need to keep the Regional Board it should become a Standing Committee.

The following suggestions for the Terms of References of the Standing Committees and Actions Group were noted:

- *Standing Committees:*
  - Long-term (5 years) with regular evaluation;
  - Each country sends one or two (or even more) members, identified and paid by the country; one country – one vote;
  - SC Chair is an active scientists, preferably IASC Council Member, appointed for 4 years and paid (travel costs) by IASC;
  - Each related organization is invited to send one ex officio member;
  - If additional specialists are needed SC and Executive Committee decide and IASC covers travel costs;
  - SC should have better representation of Early Career Scientists;
  - Each SC will have an open meeting at ASSW and will also report to Council;
  - One meeting per year of SC Chair and Executive Committee would be helpful.
- *Action Groups:*
  - Responsible for developing IASC strategy concerning long-term activities and urgent needs
  - 2-year mandate, reporting to SC and Executive Committee, prolongation on separate decision by Council
  - Travel costs covered by IASC;
  - Membership identified by SC and Executive Committee (at least one Council member in each Action Group)

#### **4.2.2 REPORT FROM THE REGIONAL BOARD**

One recommendation of the R & S Group is to abolish the Regional Board (RB). The Executive Committee had discussed this recommendation and had proposed that in the new IASC structure the RB is transformed into a new body on Science Policy Issues.

The RB had discussed this suggestion during its meeting at the ASSW and the Chair, Steven Bigras, summarized the outcome of the discussions for the Council.

In general, the RB is open for a new position in the new IASC structure, which could be a Standing Committee, and also open for new members. The RB will

continue to discuss this option during the next year. RB Members are appointed on a national level and it has to be clarified how the RB could be abolished.

However, if an agreement between IASC and the Arctic Council will not be implemented there might be a need to keep the RB.

#### 4.2.3 DISCUSSION AND COUNCIL DECISIONS

Under this agenda item, Council Members discussed the suggestions presented under agenda items 4.1 and 4.2, focusing on the following issues:

- (1) IASC structure, i.e. Standing Committees and Action Groups
- (2) IASC instruments to support science development
- (3) IASC outreach and relationship to other organizations
- (4) The effectiveness of the Arctic Science Summit Week (ASSW)

**Decision: It was obvious that substantial structural changes require some time and a final decision was not reached. However, Council generally agreed that a proposal for a new structure considering the aforementioned suggestions and including Terms of Reference and Rules and Procedures should be developed by the Executive Committee and presented to the Council for final approval at the ASSW 2008 in Syktyvkar.**

**Action: Executive Committee**

#### 4.3 ONGOING IASC PROJECTS

During its last meeting, the Executive Committee had discussed the outcome of the ongoing IASC Projects. In light of the structural changes suggested by the R & S Group, the following recommendations to the Council had been agreed upon:

- The ongoing IASC Projects should be finalized. All Projects Leaders should be offered a final support of 5,000 EUR to wrap up their work and to prepare a final report to be published in the IASC Bulletin.

**Decision: Council discussed and approved the above suggestion.**

**Action: Rachold**

The Executive Secretary had been asked to forward a request from the IASC Working Group on Glaciology (WAG) for continued annual support amounting to 10,000 EUR.

**Decision: Council discussed the request from the WAG and agreed that the WAG has been very successful during the last years. It was decided that for the time being WAG should be dealt with as the other ongoing projects (see above). However, once the new IASC structure is in place, there could be another place for the WAG within IASC.**

**Action: Rachold**

#### **4.4 NEW INITIATIVES**

The initiative “Human Dimensions of Arctic Environments: A Multilingual Web Resource” had been proposed as a new information dissemination and outreach project for IASC by Niels Einarsson. IASC was asked for recognition and financial support in the amount of 25.000 EUR.

➤ ***The proposal is given in ANNEX 4.4.1***

**Decision: Council endorsed the initiative and decided to provide a financial support in the amount of 10,000 EUR.**

**Actions: Rachold**

A Network for Arctic Archeologists had been suggested as a new IASC activity. Vice President Louwrens Hacquebord had introduced this agenda item to the Executive Committee.

➤ ***A discussion paper is given in ANNEX 4.4.2***

**Decision: Council discussed the initiative and decided to endorse the Network for Arctic Archeologists without any financial support.**

**Action: Rachold**

#### **4.5 MAJOR PLANNING PROCESSES**

Under this agenda item short status reports of some major planning activities were presented. The Executive Committee had discussed these initiatives with the focus on IASC’s role and function and Council was asked for approval.

#### 4.5.1 2<sup>ND</sup> INTERNATIONAL CONFERENCE ON ARCTIC RESEARCH PLANNING – ICARP II (INTRODUCED BY KRISTJÁN KRISTJÁNSSON)

The ICARP II Conference in November 2005 was only the end of the beginning, as the ultimate goal of the ICARP II process is to create new knowledge by implementing the science plans through a number of focused and manageable projects.

With the purpose of taking the next and important step in the ICARP II process, i.e. implementing the science plans, IASC in cooperation with several organizations had arranged an ICARP II follow-up workshop, bringing together key scientists from the ICARP II working groups and potential sponsoring organizations. The workshop was held in Potsdam (Germany), 19-21 November 2006, and hosted by the Research Unit Potsdam of the Alfred Wegener Institute.

The following Arctic and global organizations were represented at the workshop and agreed to join forces in the ICARP II implementation process:

- Arctic Monitoring and Assessment Program (AMAP)
- Arctic Ocean Sciences Board (AOSB)
- World Climate Research Program (WCRP) Project Climate and Cryosphere (CliC)
- European Polar Board (EPB)
- International Arctic Science Committee (IASC)
- International Arctic Social Sciences Association (IASSA)
- International Geosphere-Biosphere Program / International Human Dimensions Program on Global Environmental Change: Land-Ocean Interactions in the Coastal Zone (IGBP/IHDP-LOICZ)
- International Permafrost Association (IPA)
- International Polar Year (IPY) Secretariat
- Northern Research Forum (NRF)
- University of the Arctic (UArctic)
- World Climate Research Program (WCRP)

Based on the 12 ICARP II science plans, breakout groups had been identified and each group met concurrently in thematic sessions. The goal was to identify priority, well-defined and manageable research projects for implementation over the next five to ten years. Research gaps identified in the ICARP II science plans, cross cutting concerns, input from sponsoring organizations and other major contributors to Arctic research (like IPY or global programs) were taken in account. The funding potential of the suggested projects, the critical infrastructure needed for their implementation and “show stoppers” if there are any were considered.

- ***The agenda and list of workshop participants is given in ANNEX 4.5.1.***

**Decision: Council decided to continue the efforts on implementing the ICARP II Science Plans. IASC has been the main patron of ICARP II and should maintain its leading role in the implementation process.**

**Action: Executive Committee**

#### **4.5.2 INTERNATIONAL POLAR YEAR – IPY 2007/2008 (INTRODUCED BY VOLKER RACHOLD)**

The last meeting of the IPY Joint Committee (JC) had been held in Paris, February/March 2007. The Executive Secretary had participated in the meeting and provided a short summary.

The IPY science and implementation document “The Scope of Science for the International Polar Year 2007/2008” is now available for download at the IASC website ([www.iasc.se/ipy.htm](http://www.iasc.se/ipy.htm)).

**Decision: Council noted the report.**

#### **4.5.3 INTERNATIONAL STUDY OF ARCTIC CHANGE – ISAC (INTRODUCED BY KRISTJÁN KRISTJÁNSSON)**

The International Study of Arctic Change (ISAC) is a long-term, multidisciplinary program to study the effects of environmental changes on the circumpolar Arctic System and the globe. ISAC was formally established by IASC and the Arctic Ocean Sciences Board (AOSB).

The latest activities concentrated on the scientific development of ISAC, an ISAC Scientific Council has recently been appointed, and two meetings of the ISAC Scientific Steering Group were held in Stockholm (August 2006 and February 2007).

Unfortunately, an ISAC Executive Director is not in place yet and at its last meeting the Executive Committee had noted that the development of the ISAC operational component had been slower than envisaged and had pointed out that an effort should be made to get ISAC off the ground shortly.

**Decision: Council noted the report and emphasized that the ISAC Secretariat should be established as soon as possible.**

**Action: Kristjánsson and Rachold**

#### **4.5.4 ARCTIC CLIMATE IMPACT ASSESSMENT – ACIA FOLLOW-UP (INTRODUCED BY VOLKER RACHOLD)**

The report of the ACIA Focal Point had been presented during the Arctic Council (AC), Senior Arctic Officials (SAO) and Ministerial Meeting in Salekhard (Russia), October 2006. The Executive Secretary had participated in the AC meeting and summarized the outcome.

The Focal Point report had been noticed but no further actions had been approved by the SAOs.

**Decision: Council noted the report.**

#### **4.5.5 SUSTAINED ARCTIC OBSERVING NETWORK – SAON (INTRODUCED BY VOLKER RACHOLD)**

The Executive Secretary introduced a new initiative on developing a Sustained Arctic Observatory Network (SAON). This initiative was born during a side meeting at the ICARP II Implementation Workshop in Potsdam.

A first meeting of the SAON initiating group which included representatives from AMAP, AOSB, CliC, IASC, IASSA, IPY and the NSF was held in Tromsø, 23-24 January 2007.

- ***The SAON overview document developed at the Tromsø meeting had been sent to the Council Members and is given in ANNEX 4.5.5.***

**Decision: Council noted the report and agreed that IASC should be involved in SAON. The Executive Secretary was mandated to represent IASC's interests in SAON.**

**Action: Rachold**

## **4.6 RELATIONSHIP TO OTHER ORGANIZATIONS**

### **4.6.1 IASC-SCAR RELATIONSHIP**

An update on the IASC-SCAR relationship which included the planning of the SCAR/IASC Open Science Conference in 2008 and some other SCAR suggestions for joint activities was presented by Colin Summerhayes, SCAR Executive Director.

- ***The report is given in ANNEX 4.6.1.***

**Decision: Council thanked Colin Summerhayes for the overview and agreed that IASC and SCAR should continue the development of joint**

activities in particular concerning the legacy of IPY. A brainstorming meeting of the Presidents and Executive Directors should be arranged in the near future.

**Action: Kristjánsson and Rachold (with Rapley and Summerhayes)**

#### 4.6.2 IASC-IASSA RELATIONSHIP

In 1994, the International Arctic Social Sciences Association (IASSA) became an Advisory Body to IASC. However, in recent years not very much has happened and IASSA never attended the IASC Council Meetings even though according to the agreement they were invited.

IASSA appears to be interested in renewing the agreement with IASC which, however, might look a bit different from the old one because IASSA's position in the Arctic science community has changed. IASSA is an observer to the Arctic Council and represented on the IPY Joint Committee.

Following the recommendations of the R & S Group, the Executive Committee had discussed possible links to IASSA. It had been agreed that a closer cooperation with IASSA concerning Arctic Council issues would be helpful. If IASSA became a partner for the ASSW this would certainly help to get the social science community involved.

**Decision: Council agreed that a strategy paper on the IASC-IASSA relationship should be developed by Vice President Louwrens Hacquebord and Níels Einarsson.**

**Action: Hacquebord and Einarsson**

#### 4.6.3 IASC-WCRP RELATIONSHIP

The World Climate Research Program (WCRP) indicated their interest in a closer connection to IASC. The WCRP-SCAR relationship could be used as a model. SCAR has signed a Memorandum of Understanding with WCRP and is a sponsor of the WCRP Project Climate and Cryosphere (CliC). WCRP's suggestion is to make CliC a joint WCRP, SCAR, IASC Project with a Scientific Steering Group appointed and financed by the three organizations. The benefit for IASC would certainly be a better visibility on the global arena.

**Decision: Council agreed that the possibilities of linking IASC to global programs of WCRP should be explored. A strategy paper should be developed by the President and the Executive Secretary.**

**Action: Kristjánsson and Rachold**

#### 4.6.4 IASC-AOSB RELATIONSHIP

A clear recommendation of the R & S Group is that IASC and AOSB should merge. An informal meeting of the IASC and AOSB Presidents and Executive Secretaries has been organized during the ASSW.

**Decision: Council decided to mandate a task force consisting of the President, the Vice President Dieter Fütterer and the Executive Secretary to develop a strategy.**

**Action: Kristjánsson, Fütterer and Rachold (with Loeng and Bowden)**

#### 4.6.5 IASC/LOICZ/AMAP/IHDP/IPA COASTAL WORKSHOP

Land Ocean Interactions in the Coastal Zone (LOICZ), a core project of the International Geosphere-Biosphere Program (IGBP) and the International Human Dimensions Program on Global Environmental Change (IHDP), the Arctic Monitoring and Assessment Program (AMAP) and IASC have agreed to organize a workshop on Arctic Coastal issues which will be held in Tromsø (Norway), autumn 2007. The workshop is co-sponsored by the International Permafrost Association (IPA). The workshop program is built upon the ICARP II science plan of working group 3 (Arctic Coastal Processes), the IASC Projects Arctic Coastal Dynamics (ACD) and Arctic Coastal Biodiversity (ACBio) and LOICZ priority topics.

A Scientific Steering Group has been appointed which consists of:

- Christopher Cogan (ACBio Project Leader, ICARP II WG 3 Chair)
- Nicole Couture (ACD Project Leader)
- Götz Flöser (LOICZ)
- Louwrens Hacquebord (IASC Vice President)
- Georg Hansen (NILU Tromsø)
- Lesli King (IDGEC Chair)
- Hartwig Kremer (LOICZ)
- Jozef Paczyna (NILU)
- Volker Rachold (IASC)
- Lars-Otto Reiersen (AMAP)
- Jim Syvitski (University of Colorado)

➤ ***The second workshop flyer is given in ANNEX 4.6.5.***

**Decision: Council noted the latest development in the workshop planning and decided to approve an IASC financial contribution amounting to 15,000 EUR.**

**Action: Rachold**

#### 4.6.6 IASC/AMAP/CLIC CARBON WORKSHOP

The Arctic Monitoring and Assessment Program (AMAP), the Climate and Cryosphere (CLIC) project of the World Climate Research Program (WCRP) and IASC have organized a workshop to develop a scientific synthesis and assessment of the Arctic carbon cycle. The workshop was held in Seattle (USA), 27 February through 1 March 2007. IASC supported four Young Scientists to attend the workshop.

**Decision: Council noted the report.**

#### 4.7 ARCTIC DATA MANAGEMENT

The IPY Data Management Subcommittee is charged with ensuring the data legacy of the IPY. The Executive Committee had decided to support the latest meeting of this subcommittee which was held in Paris, 26-27 February 2007, with 5000 EUR.

Developing an Arctic-wide organizational structure for data management could be a key component of the IASC effort to coordinate and unify the diverse structures of Arctic research. It could also contribute greatly to closer linkage between the ICARP II, IPY, and other major Arctic initiatives such as the International Study of Arctic Change (ISAC) and the Sustained Arctic Observing Network (SAON). SCAR has identified the need for the Antarctic and has a Standing Scientific Group on Data Management.

**Decision: Council agreed that IASC should play a role in Arctic data management. An Action Group on “Data Management” should be considered in the new IASC structure.**

**Action: Executive Committee**

#### 4.8 IASC ECONOMY

##### 4.8.1 ACCOUNTS FOR 2006

The Executive Committee had scrutinized the Accounts for 2006 and had recommended them to Council.

➤ *The accounts for 2006 are enclosed (ANNEX 4.8.1)*

**Decision: Council accepted the accounts for 2006.**

#### 4.8.2 PROPOSED BUDGET FOR 2007

- *Please find enclosed the Proposed Budget for 2007 (ANNEX 4.8.2)*

The Executive Secretary introduced the proposed budget which follows the main strategy suggested by the Executive Committee.

**Decision: Council accepted the budget for 2007.**

#### 4.9 THE IASC MEDAL

At its last meeting, Council had supported the suggestion of an IASC medal and had directed the Executive Committee to move this forward. A medal committee consisting of the Council Members Julian Dowdeswell, Magnus Friberg and Jacek Jania had been formed.

Unfortunately, Julian Dowdeswell, UK Council Member, could not attend the Council to present the report of the medal committee because his flight arrived late due to bad weather.

**Decision: The medal committee will continue to work by email and make a final proposal to the Council at the ASSW 2008 for approval.**

**Action:** Dowdeswell, Friberg and Jania

### 5 ANY OTHER BUSINESS (INFORMATION SECTION)

#### 5.1 ASSW 2008

An update on the ASSW 2008 which will be held in Syktyvkar (Russia) was presented by the Russian Council Member, Vladimir Pavlenko.

- *The presentation is given in Annex 5.1.*

**Decision: Council thanked Vladimir Pavlenko for the invitation to Syktyvkar and for his presentation.**

## 5.2 ASSW 2009

Fridtjof Mehlum, Norwegian Council Member, extended an invitation to Council to host the ASSW 2009 in Bergen (Norway).

**Decision: Council acknowledged the offer and noted the invitation.**

## 5.3 IASC/ARCUS/AOSB JOINT ONLINE MEETING CALENDAR

The Arctic Research Consortium of the United States (ARCUS), the Arctic Ocean Science Board (AOSB) and IASC have agreed to combine their efforts on providing online calendars of Arctic meetings. A joint ARCUS/AOSB/IASC calendar of Arctic meetings which combines the IASC Survey of Arctic Meetings (SAM), the AOSB Calendar and the ARCUS Calendar will be available soon. The calendar will be jointly maintained by ARCUS, AOSB and IASC and technically operated under the ARCUS website ([www.arcus.org](http://www.arcus.org)). With this new calendar, a single and complete online resource for Arctic events will be available.

**Decision: Council noted the information.**

## 5.4 ISIRA

The International Science Initiative in the Russian Arctic (ISIRA) is organized as an international group advising the IASC Executive Committee. Currently, Canada, Finland, Germany, Japan, Norway, Russia, Sweden, the United Kingdom and the United States are represented on the ISIRA Group. The IASC Executive Secretary serves as secretary to ISIRA

The 2006 meeting of the ISIRA Group was held at the headquarters of the Russian Academy of Sciences in Moscow (Russia), 27 October.

The new ISIRA webpage has been set up under the IASC website ([www.iasc.se/isira.htm](http://www.iasc.se/isira.htm)).

**Decision: Council noted the information.**

## 5.5 PAG

The Pacific Arctic Group (PAG) is a regional initiative under IASC. PAG had its last meeting in Shanghai (September 2006). Vice President Jackie Grebmeier attended the meeting and provided a brief report of the PAG activities and plans at the last Executive Committee Meeting.

An update of the PAG activities will be given by the current PAG Chair Martin Bergmann during the ASSW 2007 Common Day.

**Decision: Council noted the information.**

## 6 NEXT MEETING

The next Council Meeting will be held during the ASSW 2008 in Syktyvkar (Russia).

# **International Arctic Science: A Look Forward**

**2007**

**An International Review and Strategy  
for  
the IASC Council**

## Summary and Recommended Actions

In early 2006, the Council of the International Arctic Science Committee (IASC) appointed an international group of experts to evaluate IASC activities over the 10-year period, 1996-2005, and recommend strategies for the future. This report is the culmination of their investigations and strategic thinking. The Review and Strategy Group (R&S Group) talked with many scientists knowledgeable about IASC and considered many proposals and ideas offered by the polar research community.

The R&S Group found a healthy organization, but one in need of revitalization; one which needs to better respond to environmental, social, economic and scientific changes taking place in the Arctic. The Group felt that the mission of IASC remains valid, but new realities, such as the emergence of new organizations engaged in scientific undertakings in the Arctic, rapid climate change as highlighted in the Arctic Climate Impact Assessment, and increased linkages to the global system, to name a few, demand that IASC embrace *a new vision*. This new vision is one in which IASC upholds a holistic and multidimensional perspective needed in the decades ahead and addresses the Arctic as part of the global process; and one in which IASC plays a central role as THE international organization in the North to harness the scientific expertise of the Arctic. The R&S Group believes that IASC must find a way to bring the full body of scientific knowledge of the Arctic together so that it can provide collective international advice on science issues in the North.

In accordance with this new vision, the R&S Group suggests four major initiatives:

IASC should consider:

- Adopting a new organizational structure to reflect the progressively more integrative nature of today's polar science.
- Expanding its functions to embrace various science policy issues such as new technology, data management, education and public outreach.
- Strengthening its relations with the Arctic Council, social science organizations representing constituencies in the North, and other global organizations interested in the science of the Arctic region.
- Reorganizing and revitalizing the Arctic Science Summit Week as a major cross-disciplinary venue.

In addition, the R&S Group suggests some changes internal to IASC to improve its public image and efficiency.

### Recommended Actions

Initiative 1: A new organizational structure to reflect the progressively more integrative nature of today's polar science.

- Given the changing landscape of science in the North and the need for integration of science across disciplines, the R&S Group suggests that the Council consider restructuring IASC activities along Working Group lines with an important integrative layer to ensure multidisciplinary efforts. (A draft organizational chart with explanation and further suggestions is included in Annex 1.)
- Install more transparent and better-publicized procedures for the establishment of Working Groups and post them on the IASC web site. More attention should be given to including early career, indigenous, industry and female scientists in these groups.
- Given the need to create a strong nexus of science in the North that includes the marine component, the R&S Group suggests that the Council enter into face-to-face discussions with the AOSB to discuss the possibility of merging the two organizations. Such a merger, the R&S Group feels, should be based upon mutual respect for the significant contributions both organizations have made to promote science in the Arctic. In order to balance the discussions between the organizations, a renaming of IASC and AOSB may be called for. Should that be necessary the R&S Group suggests: the International Committee on Arctic Research (or Science) (ICAR or ICAS).

**Initiative 2: Expand IASC's functions to embrace various science policy issues such as new technology, data management, education and public outreach**

- Create Working Groups to address critical science policy issues, keeping in mind new activities being generated during the preparation and implementation of the IPY 2007–2008. (See the proposed organizational chart in Annex 1 for further suggestions.)

**Initiative 3: Strengthen IASC's relations with the Arctic Council (AC), social science organizations representing constituencies in the North, and other global organizations interested in the science of the Arctic region.**

- Initiate an MOU between the AC and IASC. The MOU should define IASC's role as one of advisor, linking the science to the needs of the AC. IASC could develop, for example, a list of tasks and issues for cooperation.
- Revise the IASC mission statement to read:  
*The mission of IASC is to encourage, facilitate and promote basic and applied inter-disciplinary research in or concerned with the Arctic **and its residents** at a circumarctic or international level; and to provide advice on scientific issues **to the Arctic Council and other interested organizations.***
- To eliminate redundancy, IASC should consider abolishing its Regional Board.

- IASC should continually improve its outreach to global programs with an interest in the arctic region, especially ICSU and its sponsored programs. The Council should consider which ICSU-related unions should be invited to affiliate with IASC.
- Continue efforts to improve relations with SCAR with an emphasis on collaboration in areas of mutual interest and in support of creating an IPY legacy.
- IASC should put a renewed emphasis on the human dimension in arctic science by creating a scientific Working Group dedicated to human and social studies and a policy Working Group addressing the issues important to the residents of the North.
- IASC should reach out to IASSA and organizations representing indigenous residents of the Arctic to determine ways to improve communication and cooperation. Those organizations should be invited to participate in the planning of the ASSW and participate in science presentations as they see fit.
- The IASC Council should make every effort to include Arctic indigenous people in Working Groups and look to their leadership of Working Groups of particular importance to northern residents.

#### Initiative 4: Reorganize and revitalize the Arctic Science Summit Week (ASSW) as a major cross-disciplinary venue

- Organize major ASSW meetings every second year. These meetings should be aimed at attracting the larger scientific community by providing a science forum meeting, replacing the project and science days and serving as a kind of “mini ICARP” focused on strategic science issues. In the off years, a smaller ASSW focused on business of the various organizations should be held but with an emphasis on inter-organizational meetings (at least between the executive committees) to identify critical issues and common objectives and to plan for the next science-focused ASSW the following year.
- Move the responsibility for the organization of the biannual, science-focused ASSW to the international coordinating group chaired by IASC.
- Invite IASSA and organizations representing polar residents to take a more active role in planning for the ASSW and to hold their executive sessions during that time to facilitate interactions between scholarly community and polar residents.

## Internal Affairs: Positioning IASC as THE focal point for arctic research

- Update the IASC handbook to reflect changes made as a result of this review and strategy effort and make it available to the science community via the IASC web site.
- Define membership selection, even if it is different from country to country, and define membership terms and duration.
- Communicate an annual message from IASC to increase the visibility of IASC in member states.
- Reinstate Working Groups to harness the scientific talent of the IASC membership. Working Groups may establish Action Groups to deal with new, emerging issues on a term-limited basis. Working Groups and Action Groups should include both members and non-members of the Council.
- Consider with AOSB increasing national membership in a new organization with increased responsibilities and activities.
- Consider ICSU membership requirements when determining national membership.
- Address issues relating to perceived marginalization raised by new and emerging arctic science member nations. (See page 19.)
- Encourage early career scientists to participate in Working Groups and Action Groups, thereby empowering them for the future. Include an early career scientist on the IASC Council.
- Increase the size and funding for the IASC secretariat.
- Require all Working Groups and Action Groups to produce annual reports. When a Working Group is terminated, a final report should be published and made widely available through IASC.
- Encourage Working Groups and Action Groups to support activities that lead to peer-reviewed articles and journals and track all publications that are subsequently generated from their affiliation with IASC.
- Continue to improve the IASC web site by including publications, as well as adding information that heretofore has been not publicly available, such as how members are appointed by the member nations and internal procedures for the establishment of Working Groups.

- As much as possible, hold IASC meetings, except executive sessions, in public and encourage participation in IASC activities.
- Consider adopting a set of ethical standards on conducting research in the North or make an explicit statement on IASC's adherence to certain ethical policies and intellectual property rights guidelines.

## Background

The International Arctic Science Committee (IASC) appointed a review and strategy group (R&S Group) in November 2005. The Group was invited to study and evaluate the scope of IASC activities over the past decade (1996-2005), since the previous external review of 1996; suggest and justify any major changes to be undertaken; and, in particular, suggest forward-looking strategic actions to be taken for fulfilling the IASC mission. In addition the IASC Council asked that the R&S Group clarify issues such as project initiation, gender balance, inclusion of young scientists, and appointment procedures; consult the user community, and learn from the recent SCAR review; review the past; and present a strategy for the future. (The terms-of-reference for the R&S Group is attached in Annex 4. The full list of R&S Group members is included in Annex 5.)

The R&S Group first met in Stockholm, Sweden at the Swedish Polar Research Secretariat in April 2006. Subsequent communications between the members of the Group took place over the summer and fall of 2006 and culminated in a meeting at the National Science Foundation in Arlington, Virginia, USA on January 3, 2007

The R&S Group determined at its spring 2006 meeting that in order to get more input from the broader arctic science community, a representative sample of the IASC “stakeholders” should be surveyed for perspectives on the issues critical to IASC performance, as well as on major achievements and gaps in the organization’s activities during 1996-2005. A short questionnaire was developed by the Group and sent in the summer of 2006 to approximately 25 past IASC members and an equal number of external organizations with an interest in arctic science and research. (The survey is attached in Annex 3). The individuals and organizations that responded provided valuable input to the review process; but the overall response rate was insufficient (eleven of 50) to provide meaningful statistical analysis. Therefore, wherever appropriate, remarks and citations from respondents’ written comments have been inserted into the text of the final document, but without attribution. The R&S Group is grateful to all individuals who did respond with detailed and thoughtful input and who contributed their experience to the evaluation of IASC activities over the review period.

During its deliberations the R&S Group made the observation that the arctic science landscape has changed substantially since IASC was created. In light of these many changes and believing that IASC has not kept up with the evolving nature of science in the Arctic, the R&S Group determined to take a prospective and bold outlook, hoping to move IASC into the next decade as a confident leader in arctic science. Some of the ideas and recommendations suggested below may require generating additional resources, beyond the current levels of IASC budget. The R&S Group believes that the benefits of expanded IASC activities far outweigh the prospect of increased costs of operation.

## Introduction

The mission of IASC is to *“encourage, facilitate and promote basic and applied interdisciplinary research in or concerned with the Arctic at a circumarctic or*

*international level; and to provide scientific advice on arctic issues.”* In 1996, when IASC underwent its first international review, that review group noted that “...the original concept of IASC was to create a non-governmental international scientific forum which would allow the engagement of the former Soviet Union with other arctic and some non-arctic nations in wider collaborative scientific ventures, recognizing that some 50% of the circum-arctic coastal fringe is former Soviet territory.”

While the IASC mission remains the same, the scientific, environmental, economic and political realities of the North have changed dramatically since IASC was founded fifteen years ago. One of the key findings of the Arctic Climate Impact Assessment, co-sponsored by IASC states that:

“The Arctic is extremely vulnerable to observed and projected climate change and its impacts. The Arctic is now experiencing some of the most rapid and severe climate change on earth. Over the next 100 years, climate change is expected to accelerate, contributing to major physical, ecological, social and economic changes, many of which have already begun. Changes in arctic climate will also affect the rest of the world through increased global warming and rising sea levels.”

In addition, in light of the recent multi-year efforts in planning and implementation for the International Polar Year (IPY) 2007–2008, more visibility than ever is now placed on the Arctic. The imperative, therefore, is that at this crucial junction some organization serves as a nexus of scientific information and knowledge for this critical region of the world. The R&S Group believes that IASC can be that central forum for arctic science but it must recognize and respond to its growing responsibilities. In the next decade, how IASC responds to this new environment where the scientific issues are critical to regional and global well-being and where international collaboration is the norm, not the exception, will determine whether or not it emerges as the scientific leader in the Arctic.

It is important to note that IASC is by no means an organization in crisis and that its role is generally very highly regarded within the arctic science community. As one survey respondent noted when asked if IASC is fulfilling its mission: “Yes. Without doubt the original vision and mission is being continued. Of special note is the maturing acceptance of the need for bridges between social and natural sciences and the need for a holistic view of the Arctic and its place in the Earth system. There is still much further to go but IASC, with its modest resources, has contributed to a positive paradigm shift in how arctic science must be done.” Other responses also pointed to the value of IASC and its role in promoting arctic science.

Among its many significant contributions to arctic research over the past decade (1996-2005) are the establishment of the Forum of Arctic Research Operators (FARO) in 1998, the Pacific Arctic Group (PAG) in 2003, the creation of the Arctic Science Summit Week (ASSW) in 1999, the co-sponsorship of the Arctic Climate Impact Assessment (ACIA), the coordination of the Second International Conference on Arctic Research Planning (ICARP II) in 2005, the creation of the International Study on Arctic Change (ISAC) in

2005, contributing to the initiation of the IPY 2007-08, the engagement of young scientists through workshops and participation in IASC projects, and an increased awareness of the importance of bringing together the social and natural sciences in arctic research. A by-product of the accomplishments listed above is that over its existence IASC has contributed substantially to raising the level of global knowledge and public awareness about the Arctic

Survey respondents overwhelmingly pointed to IASC's co-sponsorship of the seminal ACIA study and production of the final ACIA report (2004) as its most critical contribution to the development of international and interdisciplinary arctic scholarship over the past ten years. The second most often mentioned IASC success by external reviewers was the creation of the ASSW. Finally, survey respondents pointed to the recently completed ICARP II as a significant contribution to arctic science.

At the end of ICARP II, as part of its concluding statement, conference participants noted that: "Since the first Conference on Arctic Research and Planning held in 1995 in New Hampshire, there has been a paradigm shift to a more holistic and multidimensional perspective in the Arctic. This perspective includes more integrally the human dimension, the social sciences, and indigenous insights as well as a recognition that the Arctic is a system that can no longer be divided into traditional disciplines nor treated as separate from the planet as a whole and hence requires integration of Arctic processes into the earth system."

This widely recognized paradigm shift gives rise to the need for IASC to embrace *a new vision*, one in which IASC upholds the holistic and multidimensional perspective needed in the decades ahead and addresses the Arctic as part of the global process; and one in which IASC plays a central role as THE international and interdisciplinary organization to harness the scientific expertise of the Arctic. IASC must find a way to bring the full body of scientific knowledge of the Arctic together so that it can provide collective international advice on science issues in the North to the Arctic Council and other international organizations.

In accordance with this new vision, the R&S Group suggests four major initiatives for IASC's consideration.

- Adopt a new organizational structure to reflect the progressively more integrative nature of today's polar science.
- Expand its functions to embrace various science policy issues such as new technology, data management, education and public outreach.
- Strengthen its relations with the Arctic Council, social science organizations representing constituencies in the North, and other global organizations interested in the science of the Arctic region.
- Reorganize and revitalize the Arctic Science Summit Week as a major cross-disciplinary venue.

In addition, the R&S Group suggests some changes internal to IASC to improve its public image and efficiency.

## **Initiative 1: A new organizational structure to reflect the progressively more integrative nature of today's polar science.**

### **Critical Issue 1: A Return to Working Groups**

Over the past decade, the R&S Group found that IASC gradually has migrated, seemingly without a conscious decision, from a “working group” structure to a “science project” structure. If one looks at the IASC Founding Articles (1990), it states that the IASC organization includes the Council, Regional Board, Working Groups, the Arctic Science Conference and a Secretariat. However, only one Working Group remained in place by 2005. On the other hand, 25 projects have been initiated over the past decade and they have been of variable usefulness and significance.

The R&S Group, as well as many of the survey respondents, feel that establishment of new projects, by itself is of questionable value. The R&S Group found significant shortcomings in the current procedures for setting up such projects; in monitoring them; and in disbanding the projects when their work is concluded or no visible progress is being made. One survey respondent summarized the views of many with the statement that, “...[the organizational] seed money does not cover the full range of topics and is not as useful to the community as IASC might be led to believe.”

Annex 2 contains a spreadsheet prepared by the IASC secretariat that lists all IASC projects initiated over the past decade, including years in which the projects received funding. Overall, the R&S Group feels that the results are quite mixed. 25 supported projects over the past decade transforms into a surprisingly low turnaround, particularly since several projects lasted 7-8 years (some even more than ten years, like LOIRA and MAGICS), and many have been discontinued prematurely, without producing any substantial results, not even conference reports. In addition, while the geographical mix of scientists and inclusion of female researchers in IASC-sponsored projects was quite good on the whole, the inclusion of young scientists, an important role for IASC, has been less than 10 percent in the projects launched during the review period.

The R&S Group discussed the continuation of seed money and determined that eliminating this function and returning to its working group structure would better serve IASC. Seed money should be diverted to support meetings of the Working Groups and any Action Groups that may be formed to address issues on a term-limited basis.

### **Recommended Actions**

- Given the changing landscape of science in the North and the need for integration of science across disciplines, the R&S Group suggests that the Council consider restructuring IASC activities along Working Group lines with an important

integrative layer to ensure multidisciplinary efforts. (A draft organizational chart with explanation and further suggestions is included in Annex 1.)

- Install more transparent and better-publicized procedures for the establishment of Working Groups and post them on the IASC web site. More attention should be given to including early career, indigenous, industry and female scientists in these groups.

### **Critical Issue 2: The Role of Arctic Marine Sciences**

In the past few years, IASC has made significant strides in improving its relationship with AOSB but has not yet concluded an agreement on cooperation. Given that AOSB is actively initiating and promoting marine science in the Arctic Ocean and adjacent seas, it would behoove IASC to form an alliance with this organization. It is indeed difficult for IASC to call itself the “leading arctic science organization” when it does not have a clear role to play in the marine field. New members on the Council with marine backgrounds and with membership on the AOSB pave the way for a clear linkage with AOSB in the years ahead.

Therefore, the R&S Group believes that the partnership with AOSB would be enhanced if the two organizations consider merging to make a new organization, perhaps called the International Committee on Arctic Research (ICAR). Such a comprehensive science organization, with scientific Working Groups as defined above and policy Working Groups as outlined below, would enhance IASC’s ability to address critical gaps in knowledge as well as to respond to external requests for scientific advice on policy issues.

#### **Recommended Action:**

- Given the need to create a strong nexus of science in the North that includes the marine component, the R&S Group suggests that the Council enter into face-to-face discussions with the AOSB to discuss the possibility of merging the two organizations. Such a merger, the R&S Group feels, should be based upon mutual respect for the significant contributions both organizations have made to promote science in the Arctic. In order to balance the discussions between the organizations, a renaming of IASC and AOSB may be called for. Should that be necessary the R&S Group suggests: the International Committee on Arctic Research (or Science) (ICAR or ICAS).

### **Initiative 2: Expand IASC’s functions to embrace various science policy issues such as new technology, data management, education and public outreach**

#### **Critical Issue 3: A New Emphasis on Science Policy Issues**

While IASC has made significant contributions to the science of the North, it so far has applied little effort to addressing some crosscutting issues that many scientists face today in their work in the Arctic. These include: data management and data sharing; availability

of new technology; commercial development across the arctic regions; and relations with northern stakeholders. These and other issues related to science policies are in urgent need of a respected international discussion forum. IASC could make an instant and highly visible impact in this area by applying its available resources and human talent.

One such issue of growing importance that the R&S Group highlighted is the increase of commercial interests in the North. A key finding of the ACIA study is that reduced sea ice is very likely to increase marine transport and access to resources. This has profound effect on shipping, fisheries, oil and gas exploration and issues of sovereignty, security and safety. Increased industrial exploration of the North also has a growing impact on polar residents and on the arctic environment.

A second issue highlighted by the R&S Group is the need to maintain and increase infrastructure to support science in the Arctic. One need not look far to become concerned about the need for new research vessels to supplement an increasingly aged fleet. This is our responsibility to the future generation of scientists.

Finally, the R&S Group noted the important role that the IPY 2007–2008 is playing in addressing critical issues such as data management, education, and public outreach. But the span of IPY-generated research will be but two full years, after which most of the IPY-supported structures will cease operations. Therefore, IASC should position itself to become the legacy implementation vehicle for the important contributions which IPY 2007–2008 will make on these and other important policy matters. IASC can only do so if it takes the swift action to establish Working Groups to address these issues in close coordination with the groups involved in IPY planning and implementation.

Recommended Action:

- Create Working Groups to address critical science policy issues, keeping in mind new activities being generated during the preparation and implementation of the IPY 2007–2008. (See the proposed organizational chart in Annex 1 for further suggestions.)

### **Initiative 3: Strengthen IASC’s relations with the Arctic Council (AC), social science organizations representing constituencies in the North, and other global organizations interested in the science of the Arctic region**

#### **Critical Issue 4: Relationship between IASC and the Arctic Council**

The establishment of the AC and of its numerous working groups has created both a challenge and an opportunity for IASC. Over the past several years, the number of the organizations listed as “observers” to the AC has increased substantially, including IASC. Some members of the AC have repeatedly expressed confusion about the role of IASC and uncertainty about how IASC operates. For example, questions about IASC’s relationship to national governments and whether or not it is truly a bottom-up science

organization are mentioned in many survey responses. These are important constraints to IASC's ability to provide advice on scientific issues to the AC.

As it is today, it does not seem likely to the R&S Group that IASC will remain the only, let alone *the leading*, adviser on scientific issues to the AC, since active and well organized scientific communities exist in each of the eight arctic member states. There are other vocal science organizations not belonging to IASC. Furthermore, some of the Arctic Council working groups have managed to build scientific networks that recruit members based on upon recommendation from the member states directly, and these should not be ignored.

However, the R&S Group sees the potential for IASC to increase its role in the AC by linking the growing need for scientific knowledge in the AC and its working groups with the ongoing scientific research in the larger science community, even beyond the eight circum-polar nations. If IASC can position itself, through implementation of the recommendations found herein, it can become the nexus of international knowledge on science in the Arctic. Such a force will become a valuable tool for the AC and other organizations interested in the Arctic.

Even where there has been successful cooperation, as in the Arctic Climate Impact Assessment (ACIA) and Arctic Human Development Report (AHDR), there is a need for better communication and guidelines between the AC and IASC. For example, the lack of agreed guidelines on the roles of IASC and AC in the ACIA process led to confusion. As a result, the process has been presented in different ways to various audiences. In other similar jointly initiated studies (such as AHDR), the role of IASC was seemingly downplayed. Therefore, any project anchored in both IASC and AC should have an agreed terms-of-reference.

Finally, the R&S group believes that IASC's Regional Board is a remnant of history that has been made redundant by the very establishment of the Arctic Council. The R&S Group further believes that the RB may even create some difficulties for the IASC Council in its relationship with the AC. The Arctic Council now provides the much-needed political framework for discussions among the eight circum-arctic nations, for which the RB was once created. It is difficult for the IASC to be a truly independent science body as long as the RB has oversight. Therefore, the R&S Group advises that the RB should consider whether it does more harm than good.

#### Recommended Actions:

- Initiate an MOU between AC and IASC. The MOU should define IASC's role as one of advisor, linking the science to the needs of the AC. IASC could develop, for example, a list of tasks and issues for cooperation.
- Revise the IASC mission statement to read:  
*The mission of IASC is to encourage, facilitate and promote basic and applied inter-disciplinary research in or concerned with the Arctic **and its residents** at a*

*circumarctic or international level; and to provide advice on scientific issues to the Arctic Council and other interested organizations.*

- To eliminate redundancy, IASC should consider abolishing its Regional Board.

### **Critical Issue 5: IASC and its relations with Global Science Organizations**

As stated in the introduction, the R&S group believes a paradigm shift is occurring that will have a profound affect on how science in the North is carried out and perceived. Many global organizations such as the International Council for Science (ICSU), the World Meteorological Organization (WMO), and others are taking a leadership role identifying the Arctic as a region of strategic importance to the well being of the entire planet. IASC, therefore, needs to continually update and strive to improve its relations with global science organizations. Several survey respondents noted that in order for IASC to become a true contributor to the science of global change with a vision not limited by the polar circle, it has to develop true links with global programs and global research.

IASC has begun this process by affiliating with ICSU in 2004. This will help IASC form alliances with ICSU programs with interests in the Arctic. A continuation of this effort by inviting relevant ICSU scientific unions to join as affiliated members of IASC might be in order. Further, IASC should consider inviting global organizations with an interest in the Arctic to assist in the preparation of the Arctic Science Summit Week (ASSW) and to hold meetings in conjunction with those already planned for the ASSW.

Recommended Action:

- IASC should continually improve its outreach to global programs with an interest in the arctic region, especially ICSU and its sponsored programs. The Council should consider which ICSU-related unions should be invited to affiliate with IASC.

### **Critical Issue 6: IASC and the Scientific Committee on Antarctic Research (SCAR)**

In 2006, IASC and SCAR took an important step and signed a letter of agreement to strengthen their relationship by combining efforts in mutually selected fields and activities. To that end, in 2008, the two organizations will jointly sponsor an Open Science Conference in St. Petersburg. In addition, both organizations hold ex-officio seats on the Joint Committee (JC) for IPY 2007–2008, and several joint IASC-SCAR events have been discussed as the prospective vehicles for IPY implementation and for broader dissemination of the scholarly results produced by IPY research projects.

SCAR represents the science interests in the Antarctic in much the same way that IASC does in the Arctic. Issues facing the scientific community in the Arctic have a critical human dimension, which is not present in the Antarctic, but both organizations have similar goals and objectives. These are to promote international scientific cooperation in the regions they represent and provide objective and independent scientific advice to the

Arctic Council, in the case of IASC, and the Antarctic Treaty Consultative Meetings for SCAR. The R&S Group took careful note of the SCAR reorganization and has suggested an IASC reorganization strategy that will mesh nicely with the way in which SCAR is now organized. Both organizations will have standing science Working Groups as well as policy Working Groups. The recommendation of the R&S Group is that the science Working Groups in both organizations be organized around the same themes but with the inclusion of the social sciences in the North. This should simplify interaction between both organizations and make the pursuit of close cooperation a lasting legacy of IPY 2007-08.

**Recommended Action:**

- Continue efforts to improve relations with SCAR with an emphasis on collaboration in areas of mutual interest and in support of creating an IPY legacy.

**Critical Issue 7: IASC's involvement in Social Sciences**

Social and human science topics are featured prominently in many of IASC official statements and publications. The official IASC mission statement cites “encouraging cooperation and integration of human, social and natural sciences concerned with the Arctic” and “addressing the concerns of those who live in and near the Arctic.” IASC should be commended for making the cause of collaboration among scientists one of its key priorities and for advancing interaction among physical, natural, and social sciences in its many documents, events, projects, and forums over the last ten years.

With regard to the genuine IASC contribution to the advancement of arctic social science in interdisciplinary research over the past decade, some of the efforts during the review period had very substantial social science input, whereas many others had few (if any) social scientists. This is also true with regard to indigenous participation. Low or purely symbolic representation of arctic residents has been a perennial problem at IASC-sponsored events because of the difficulty in mobilizing the indigenous participants. Perhaps some seed money could be used to fund their travel.

A substantial step to advance IASC's relationship with the arctic social science community would be a deliberate effort to bring more indigenous participation into IASC activities. Still another strategy would be to look beyond the areas of collaboration that have been promoted by the earlier IASC initiatives, such resource use, sustainability, local economies, contaminants and human health, in favor of some new venues, such as indigenous knowledge, ecological monitoring by polar residents, changing value systems, political and institutional response to societal and environmentally-induced change, and the like. The R&S Group, therefore, recommends that IASC initiate a re-evaluation of the issues it address to reflect the recent changes in the structure of multi-disciplinary arctic science and the growing competition from many new players and programs advocating collaboration with social sciences and northern residents.

IASC relations with the major professional association in the field of arctic social research, the International Arctic Social Science Association (IASSA), established in

1990 have never been close. Though official letters of collaboration were exchanged between the two organizations in the early 1990s, for most of the review period, IASSA, with over 500 members in 22 countries, has not been substantially represented in IASC activities. IASC also plays no role in a major new program in polar social sciences and humanities, BOREAS, established by the European Science Foundation, that has strong interdisciplinary and environmental focus. Fostering stronger institutional partnership with the most active professional groups and ongoing programs representing arctic social scientists is thus long overdue.

The same recommendation is even more salient regarding IASC relationships with arctic indigenous organizations and northern residents. Again, despite IASC's many efforts to promote the role of indigenous people in its many documents and conference statements, the IASC role in this field can be seen as modest at best. No indigenous person has ever chaired (or co-chaired) a project initiated by IASC.

#### Recommended Actions:

- IASC should put a renewed emphasis on the human dimension in arctic science by creating a scientific Working Group dedicated to human and social studies and a policy Working Group addressing the issues important to the residents of the North.
- IASC should reach out to IASSA and organizations representing indigenous residents of the Arctic to determine ways to improve communication and cooperation. Those organizations should be invited to participate in the planning of the ASSW and participate in science presentations as they see fit.
- The IASC Council should make every effort to include Arctic indigenous people in Working Groups and look to their leadership of Working Groups of particular importance to northern residents.

### **Initiative 4: Reorganize and revitalize the Arctic Science Summit Week (ASSW) as a major cross-disciplinary venue**

#### **Critical Issue 8: Reorganize and Revitalize the ASSW**

The IASC handbook states that IASC should “achieve its mission and provide additional value by: providing a forum in which other arctic science organizations may join in such effort.” One way in which IASC has effectively accomplished this is by partnering with other organizations such as the European Polar Board (EPB) and AOSB to create the ASSW. IASC organized the first ASSW in 1999. At that time, only a few other organizations joined the event. Seven years later, four other organizations routinely hold their annual meetings during the ASSW. A host of other organizations also hold side meetings. Additionally, science day, organized by the host country, and project day, organized by the International Coordinating Group (ICG) of which IASC is a member along with AOSB, EPB, PAG, FARO and EPB, are regular offerings during the ASSW.

Most people attending ASSW find it to be a very valuable opportunity for sharing information, forming alliances, and meeting collaborators.

The experience so far shows that the ASSW provides a very useful tool for enhancing cooperation but this opportunity is not used to its full potential. The week has become long and repetitive with many presentations being given multiple times to various organizations. Many of the meetings are closed, most notably IASC strategy groups, IASC Regional Board meetings, and IASC Council meetings. Some meetings are overlapping and there is not enough opportunity for sharing of information between the various organizations.

The idea of science day and project day was to increase the scientific content of the ASSW and hence to attract more of the active scientists (and the younger members of the community) to the meetings. However, this ambition has, in our opinion, been only partially successful. The quality of science day is not uniform as it is left to the host country, which does not always manage to identify critical issues to be addressed or to find speakers to present them.

As one of the founding organizations of the ASSW, IASC should play a role in revitalizing and redirecting the ASSW. A crucial step towards a more effective organization of the ASSW is to more clearly separate administrative issues from the scientific discussions and bring the science more closely together with all the members of ASSW involved. The week, while it leads to good inter-organization informal discussions, has no forum for all the organizations to sit together and decide on some common goals and directions for arctic science in the upcoming year. This is unfortunate. With so many arctic science policy makers in the same place at the same time, ASSW provides the opportunity for issues and initiatives to be discussed and jointly undertaken over the coming year. Mechanisms for sharing resources could be found and international multidisciplinary activities promoted.

While the ICARP conferences succeed in attracting a great number of scientists and hence become an important vehicle for the progress of arctic science, the ASSW attracts primarily scientists who are involved in the business of arctic science organization plus a few curious scientists from the local community. The difference between ICARP and ASSW is primarily time (approximately every ten years versus annually) and the amount of planning efforts and preparations. Taking note of this experience, the R&S Group suggests that a new model for the ASSW be explored, where the annual cycle of meetings is replaced with a bi-annual cycle, in the following way:

- 1) Organize major ASSW meetings every second year. These meetings should be aimed at attracting the science community at large by providing a science forum meeting, replacing the project and science days and serving as a kind of “mini ICARP” focused on strategic science issues. This science forum should be open and include all relevant arctic science organizations. It should be prepared and organized by an international coordinating group led by IASC. The R&S Group suggests that science be the primary focus of this biannual ASSW with three days

of science meetings. The days may be organized in such a way as to highlight science of the host country, discuss logistics issues, and highlight the science of international collaborative efforts. At the conclusion of the science program, meetings of the participating bodies may take place with identification of critical and common issues the emphasis.

2) On the off years, the ASSW should be restricted to a smaller format meeting primarily for business meetings of Arctic science organizations. To the extent possible, these should be open meetings.

Finally, the R&S Group feels that in recognition of the outcome of ICARP II indicating the strong movement toward a fully integrated science approach in the Arctic, the family of ASSW organizations should be extended to include social science (IASSA) and indigenous organizations. Further, the AC, SCAR, and others should be invited to the biannual science forum.

#### Recommended Actions:

- Organize major ASSW meetings every second year. These meetings should be aimed at attracting the larger scientific community by providing a science forum meeting, replacing the project and science days and serving as a kind of “mini ICARP” focused on strategic science issues. In the off years, a smaller ASSW focused on business of the various organizations should be held but with an emphasis on inter-organizational meetings (at least between the executive committees) to identify critical issues and common objectives and to plan for the next science-focused ASSW the following year.
- Move the responsibility for the organization of the biannual, science-focused ASSW to the international coordinating group chaired by IASC.
- Invite IASSA and organizations representing polar residents to take more active role in planning for the ASSW and to hold their executive sessions during that time to facilitate interactions between scholarly community and polar residents.

### **Internal Affairs: Positioning IASC as THE focal point for science in the Arctic**

#### **Critical Issue 9: Clarity of procedures**

A certain amount of opaqueness has crept into IASC’s operations, creating the appearance of a somewhat closed organization. For example, rules relating to membership are vague at best. While it is clear that each nation makes its own decision about how members are selected, this should be articulated clearly and where possible the selection process within a country should be identified and available for the general public. Membership terms are undefined which is unusual and leads to the perception of an “old boy’s network.”

In the founding articles for IASC, it is presumed that each national member organization has its own mechanism to provide ongoing contact between the Council and its own arctic science community. How this works varies from country to country, but the connections should be explained and transparent. In addition, while the science community in some member states is quite well informed and aware of IASC, this is not the case in all states. Therefore, to increase the visibility of IASC in member states, an annual message from IASC to the science community could be communicated.

As stated, procedures for establishing and terminating Working Groups are not well defined and transparent to the science community. In addition, most IASC meetings are closed during the ASSW and that lends a cloud of obscurity to the organization that the science community finds baffling.

Many IASC procedures will need to be re-written should the Council undertake the reorganization recommended by the R&S Group. When it does so, all procedures should be well publicized on the IASC web site and in an IASC publication outlining the organization, its mission and objectives.

#### Recommended Actions:

- Update the IASC handbook to reflect changes made as a result of this review and strategy effort and make it available to the science community via the IASC web site.
- Define membership selection, even if it is different from country to country, and define membership terms and duration.
- Communicate an annual message from IASC to increase the visibility of IASC in member states.

#### **Critical Issue 10: Mobilize human resources**

The SCAR reorganization of 2000 led to the definition of five strategic, interdisciplinary independent and internationally-reviewed research programs. With these five strategic research programs, SCAR was able to successfully improve the network of its members and utilize their valuable intellectual talent.

Like SCAR, IASC's greatest asset is its human and intellectual resources. With members from 18 countries and various disciplines, the organization has the ability to harness a significant amount of energy and expertise in order to fulfill its mission. The organization has been fortunate over the past decade to have a secretariat with a vision and with the skill to keep the organization moving forward. But the secretariat, at times, has received very little assistance from the large Council. Individuals on the Council seem to provide input and assistance only sporadically and mostly only in preparation for meetings. They are not called upon to provide time and talent between meetings and this has led to an ineffective use of this important resource.

In addition, because IASC has let the network of its Working Groups lapse, it has lost the ability to utilize the talent of a large number of active scientists to provide initiatives and directions for arctic research. This is an important loss to the organization in providing a leadership role in arctic science. IASC must reconstitute the Working Groups in an effective way in order to better utilize the human resources at its disposal. Each Working Group and Action Group must have an active liaison from the Council who is also providing direction and oversight. This will utilize the Council membership inter-sessionally.

If IASC seeks to reorganize itself as recommended by the R&S Group, an increase in membership is going to be necessary to fill the increased Working Groups and Action Groups which will be created and to address issues which it has not traditionally addressed, such as marine sciences. Council needs to consider in its reorganization, what would be the ideal size. Should it be one member and one alternate from each country, thus ostensibly doubling the size of IASC, or should it be some other variation on membership? This should be a topic on the table when IASC meets with AOSB to discuss a possible merging of the two organizations. Another consideration is ICSU rules for membership. If IASC wants to further align itself with ICSU, adhering to ICSU membership guidelines will be essential.

If IASC expands in the manner suggested by the R&S Group, it seems inevitable that the secretariat must grow with the organization. Even without the reorganization, the R&S Group feels that the size of the current secretariat is too small to undertake all the tasks required of it. The past and current executive secretaries have done an outstanding job with few resources, but should IASC move to establish itself as the premier scientific body of the Arctic, the secretariat is clearly going to need to expand to keep pace with its heightened visibility and responsibilities

With the addition of new member countries with little experience in arctic sciences, IASC faces the problem that some member countries feel marginalized. The R&S Group found that those countries that are relatively new to arctic research do not feel a close affiliation to IASC and do not feel that IASC has much bearing on their arctic activities.

The Asian Forum of Polar Science (AFOPS) was established in 2003, and has held three meetings. China, Korea and Japan form the core of the organization and members from India, Malaysia and Thailand have been asked to join. While AFOPS is still in its formative stage, IASC should consider forging a close relationship with it in order tap the growing pool of Asian arctic scientists. IASC should also actively court new members from countries beginning to show and interest in arctic research from other areas around the globe.

IASC successfully recruited many early career scientists to participate in ICARP II and to play a role in the development of many of its projects. But the effort to involve early career scientists has been unsystematic. There should be clearly stated rules on the involvement of early career scientists in IASC-supported activities like Working Groups

and international conferences, and IASC should consider having an early career scientist on its Council.

**Recommended Actions:**

- Reinstate Working Groups to harness the scientific talent of the IASC membership. Working Groups may establish Action Groups to deal with new, emerging issues on a term-limited basis. Working Groups and Action Groups should include both members and non-members of the Council.
- Consider with AOSB increasing national membership in a new organization with increased responsibilities and activities.
- Consider ICSU membership requirements when determining national membership.
- Address issues relating to perceived marginalization raised by new and emerging arctic science member nations.
- Encourage early career scientists to participate in Working Groups and Action Groups, thereby empowering them for the future. Include an early career scientist on the IASC Council.
- Increase the size and funding for the IASC secretariat.

**Critical Issue 11: Public image**

The secretariat has actively promoted IASC in the Arctic and in various bodies such as ICSU and IPY. However, it needs to do more to improve its visibility and public image. Opening meetings will be a good first step. Publication of clear membership procedures and clarified internal operating procedures will also help.

With a few exceptions, most of the science projects supported by IASC did not materialize in substantial summary publications. Several have been discontinued without any major deliverables (see Annex 2). The level of accountability in IASC-sponsored research is surprisingly low in terms of publications, particularly, in terms of books and edited peer-reviewed volumes. Some projects in the IASC annual catalogues enjoyed IASC financial support over 6-8 years; yet many produced no substantial publications over several years, or those publications have not been accounted and cannot be tracked via IASC reports.

This gives ground to a vision shared by many scientists that IASC-sponsored initiatives have limited impact upon the overall advancement of fundamental research and, therefore, IASC should be considered for networking, conferences, and travel funds only. The latter perspective naturally transforms into relatively modest science outcomes produced under the IASC funding in the long term.

In order to change this perception, the R&S Group suggests that the IASC require annual reports from all Working Groups and Action Groups, regardless of their longevity, and that these reports be made publicly available through publication and on the IASC web site. Where possible, IASC should support activities through its Working Groups which lead to peer-reviewed articles and journal issues, and it should make every attempt to track all publications that emanate from IASC activities. In addition to the newsletter "Progress," the Secretariat should produce an annual report. Finally, the R&S Group notes recent improvements to the IASC web site. Such improvements should be made regularly.

A major high visibility activity of IASC is the ICARP process. Not only does it engage many scientists in the field, but it also produces results that have implications for arctic science in the years ahead. IASC should make certain that as a principal promoter of ICARP (in terms of funding and organization) that its imprimatur is on ICARP.

To the R&S members' knowledge, IASC so far has not made a concerted effort to produce a statement on its governing ethical principles in promoting polar research. In addition, it has neither subscribed to nor endorsed any of the existing ethical science policies or guidelines on intellectual property rights that have been in place in several northern countries or internationally. Whereas some people may consider holding to certain sets of ethical guidelines in science a marginal issue, the R&S Group believes that a special clause or statement on ethical standards in IASC-sponsored research would be a great asset to IASC. Adopting guidelines will work strongly to improve the organization's public image among northern constituencies, the academic community, northern advocacy groups, and the general public.

#### Recommended Actions:

- Require all Working Groups and Action Groups to produce annual reports. When a Working Group is terminated, a final report should be published and made widely available through IASC.
- Encourage Working Groups and Action Groups to support activities that lead to peer-reviewed articles and journals and track all publications that are subsequently generated from their affiliation with IASC.
- Continue to improve the IASC web site by including publications, as well as adding information that heretofore has been not publicly available, such as how members are appointed by the member nations and internal procedures for the establishment of Working Groups.
- As much as possible, hold IASC meetings, except executive sessions, in public and encourage participation in IASC activities.

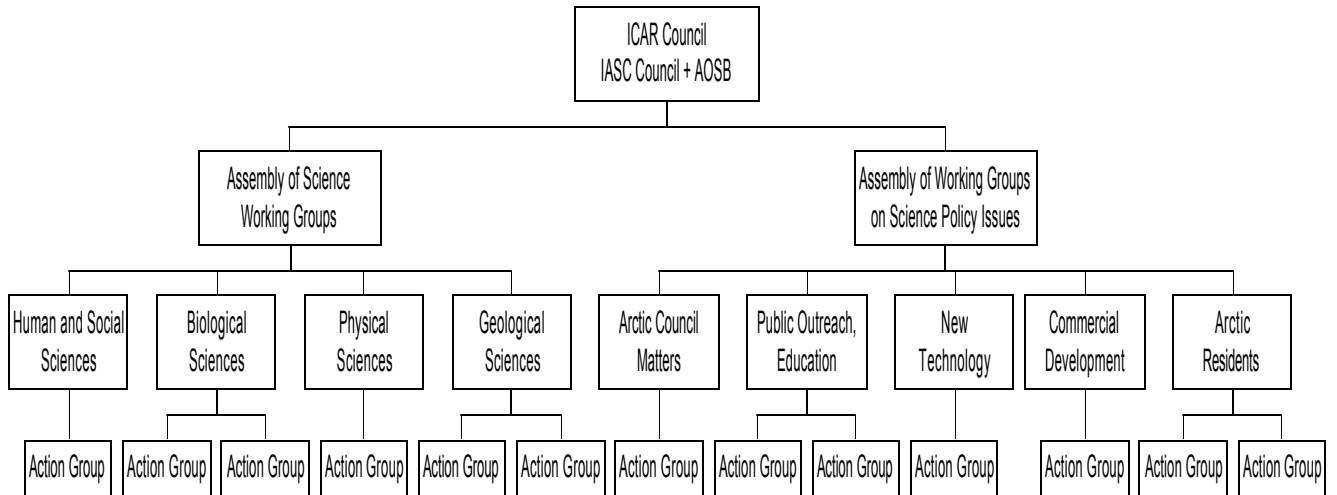
- Consider adopting a set of ethical standards on conducting research in the North or make an explicit statement on IASC's adherence to certain ethical policies and intellectual property rights guidelines.

**References**

ACIA. 2005. *Arctic climate impact assessment*. Cambridge: University of Cambridge Press

# Annex 1

## International Committee on Arctic Research



1. The structure proposed recognizes that science is developed along disciplinary lines, but that in the new environment of today, issues must be then considered from a multidimensional perspective. It is the intention of the R&S Group that this broader perspective would be considered at the Assembly level in the chart.
2. Science Working Groups would have the responsibility for identifying priority science issues in the Arctic. They would be standing committees with indefinite life spans. They should be required to submit annual reports to the Assembly and the Council. All reports should be made available to the public through IASC publications and on the IASC web site.
3. The Working Groups should have the capacity to address specific issues of scientific importance, either to address perceived gaps in knowledge or at the request of outside organizations. This can be done through Action Groups with limited life spans of no more than three years.
4. Science Policy Working Groups would have an indefinite life-span but should be required to submit a report to the Assembly and Council on an annual basis. All reports should be made publicly available through the IASC web site and in IASC publications. The Council may appoint new science policy Working Groups as needed and disband those that are no longer fulfilling a useful function.
5. The Science Policy Working Groups should also have the capacity to address specific issues of importance identified by the Council or at the request of outside organizations. This can be done through Action Groups with limited life spans of no more than three years.

# **Annex 2**

## **List of IASC Projects 1996-2005**

# Annex 3

## Survey

Dear Colleague:

I hope you will be able to help the International Arctic Science Committee (IASC) and me by completing this questionnaire. Even a partial response will be helpful.

IASC has asked me to chair an international team of outside reviewers to assess progress and to suggest strategies for its future. Of course, we have our own ideas, but we want to be informed by other stakeholders, with experience in Arctic affairs, in general, and with IASC in particular. The views of both "insiders" and "outsiders" are sought.

There is now significant impetus to Arctic research, given increased attention to climate change, and there is support for many new Arctic programs under the IPY. As Arctic science plays an even bigger role on the world stage, Arctic programs may wish to expand to global partnerships or change ways we meet and/or do business. Your input in this process will help us provide strategies to IASC to address its role in the future. If you are unfamiliar with IASC programs and activities, please feel free to indicate, "I don't know" to any of the questions below.

Please complete the survey and send it via return email to Sara Bowden, Secretary to the Review and Strategy Group, by July 31.

I thank you in advance for your help

Sincerely,  
Thomas Pyle  
Chair, IASC Review and Strategy Group

\*\*\*\*\*

### International Arctic Science Committee (IASC) Performance Survey

- (1) In your opinion, what are three most critical contributions by IASC to the development of international and interdisciplinary polar scholarship over the past 10 years (1996–2005)? Please rank them, according to their value. (Feel free to put 'I don't know' if you are uncertain about the IASC role or unfamiliar with IASC major contributions).

- (2) Do you believe that IASC has mostly fulfilled its original mission, which is defined as “to encourage, facilitate and promote the full range of basic and applied research encouraging cooperation and integration of human, social, and natural sciences concerned with the Arctic at a circumarctic or international level; and to provide scientific advice on arctic issues (IASC Project catalogues for the years 1997–2005)?

You may respond ‘yes,’ ‘no,’ or ‘I don’t know’ – or, you may offer a more detailed perspective

- (3) If you were asked to trim and/or modify one particular current activity of IASC, in order to redirect the organization’s limited resources to other venues, what would be your first choice:
- a. Seeding funds for IASC research projects and project meetings
  - b. Supporting major discussion forums and big science conferences, like ICARP
  - c. Forging more integration among existing arctic science organizations through ASSW or other venues
  - d. Establishing expert groups to provide scientific insight on particular arctic issues (like climate change, human development, resource preservation, etc.).

Which of those (or other) activities have to be strengthened or improved, if money is redirected?

- (4) What science or policy priority for the Arctic would you consider the most critical for IASC to address over the next five years (next decade)?
- (5) From your perspective, should IASC improve its relationships with any particular organization(s) representing polar scientists, educators, funding agencies, and/or Arctic residents? Is there any reason to change the existing relationships between IASC and the Arctic Council (AC)?
- (6) How useful do you find the present format of the Arctic Science Summit Week and what, if any, actions would you recommend to improve it:
- Streamlining the ASSW agenda, so that more time is allocated to the discussion of science issues and/or to presentations by scientists
  - Putting ASSW science planning and agenda more firmly under IASC control
  - Rotating/alternating the focus of the ASSW, so that some meetings are more like agency ‘summits’, while other are more like ‘science days’
  - Other (please specify)

# Annex 4

## TOR

**TO: IASC EXECUTIVE COMMITTEE**  
**FROM: ODD ROGNE**  
**DATE: 25 NOVEMBER 2005**

### IASC REVIEW AND STRATEGY

In 1995, an IASC Review Group was appointed by Council and their report was delivered in the autumn of 1996. (A copy of the report is available on request from the IASC Secretariat.)

Taking into account the time that has elapsed since the last review, ongoing changes and challenges ahead, the Executive Committee suggests that a new “Review and Strategy Group” be appointed.

### TERMS OF REFERENCE (TOR)

The last review of IASC was undertaken in 1995 – 96 focussing on the first 5 years of IASC activities. Since then, several changes have occurred and many challenges and opportunities lie ahead.

The IASC Review and Strategy Group is invited to:

- Study and Review the IASC activities since 1996
- Suggest and justify any major changes to be undertaken, and
- in particular, suggest forward-looking strategic actions to be taken for fulfilling the IASC mission.

At the 2005 IASC Council Meeting the following additions were made:

- clarify issues such as project initiation, gender balance, inclusion of young scientists, appointment procedure
- consult the user community, and learn from the recent SCAR review
- two components: review of the past and a strategy for the future
- the mission of IASC to be re-visited

**TIMELINE AND OTHER ISSUES**

An interim report should be delivered by 1 March 2006, and be on the Council agenda for April 2006. Final report to be expected one year later, and be delivered for the ASSW 2007 meeting.

The Group is free to request information from any parts of IASC, including the Executive Secretary. However, the latter should not be involved in this work in any other way.

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# Annex 5

## R&S Group Members

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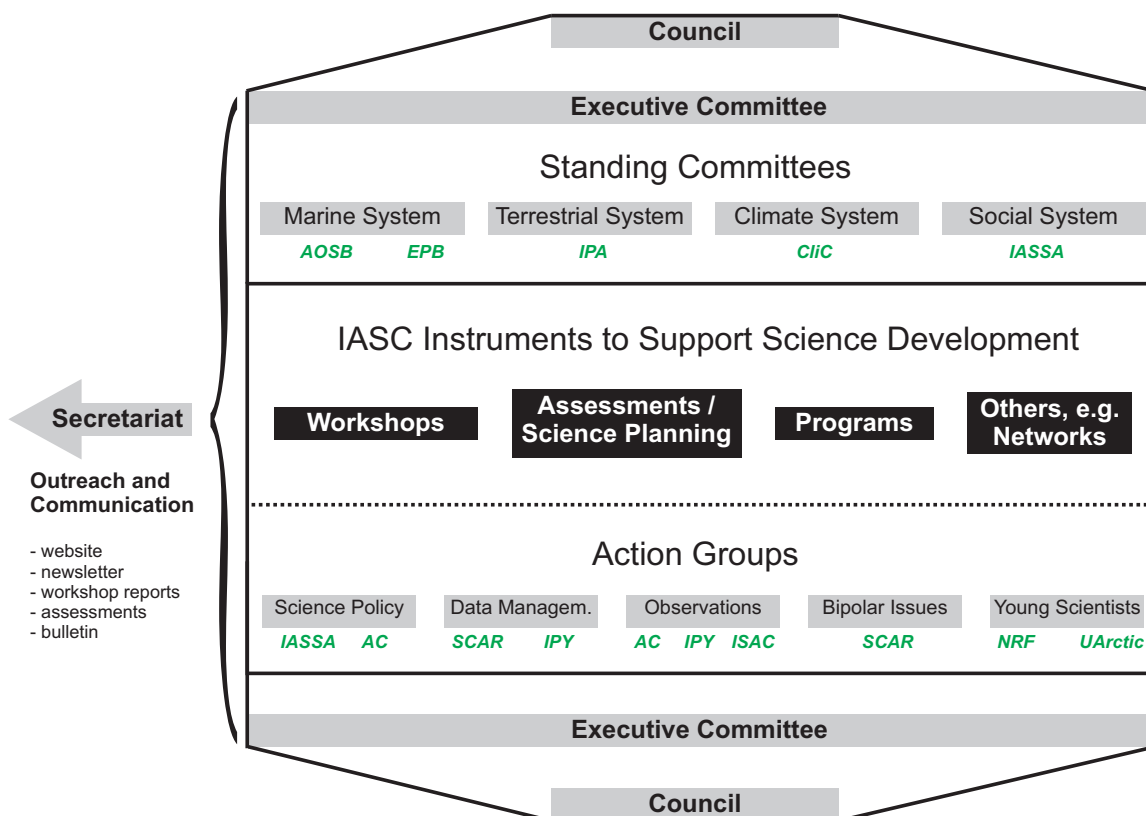
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## Strategy paper: IASC structure and strategy to support science development

During the ASSW 2006 in Potsdam, Council discussed IASC's general strategy to support science development and directed the Executive Committee to explore in this direction and to circulate an outline of the proposed IASC strategy to the Council members before the next meeting at the ASSW 2007. The outline should consider the recommendations of the IASC Review and Strategy Group.

The present strategy paper is based upon the discussions during the last two meetings of the Executive Committee (September 2006 and January 2007) and considers the recommendations provided in the report of the IASC Review and Strategy Group. The central part is a diagram explaining the proposed IASC structure.



**Figure 1:** The proposed IASC structure and strategy to support science development. (Acronyms are spelled out at the end of this paper)

## **(A) Main elements of the proposed IASC structure**

The following bodies are suggested in the IASC structure:

### **1. Council**

- No changes

### **2. Executive Committee**

- No changes

### **3. Standing Committees**

- Provide advice on scientific development
  - evaluate incoming proposals
  - guide IASC activities in their scientific field
  - assist in the establishment of Action Groups (see below)
- Long-term (> 5 years)
- Open for all Council Members
- Chaired by Council Member
- 1 ex-officio representative of each related organization (see Figure 1)
- 2-5 external experts (Council Members are asked for nominations, 3 year terms)
- Early career, indigenous, industry and female scientist should be considered
- Open meeting once per year at the ASSW (replace Strategy Groups)
- Financial needs: travel support to invite external experts to ASSW meeting (5,000 EUR per Standing Committee and year)

### **4. Action Groups**

- Responsible for developing IASC strategy concerning
  - long-term activities
  - urgent need for action
- Short-term (2 years or until job is done)
- Open for all Council Members
- At least one Council Member
- 1 ex-officio representative of each related organization (see Figure 1)
- Membership to be determined by Standing Committees and Executive Committee
- Action Group “Science Policy” could replace IASC Regional Board
- Financial needs: 10,000 EUR per Action Group and year

### **5. Secretariat**

- Responsible for communication and outreach
  - Annual report (Bulletin)
  - IASC reports
  - Website (including publication database)
  - Newsletter
- Needs a permanent home
- Has to increase

## **(B) IASC instruments to support science development**

The following instruments to support science development are proposed. The *General Criteria* for any IASC supported activity are:

- ✓ International
- ✓ Circum-Arctic
- ✓ Of interest to several IASC member countries
- ✓ Involves Early Career Scientists
- ✓ Produces IASC report (publication is in the hand of the IASC Secretariat)
- ✓ Peer-reviewed publications have to acknowledge IASC support, a copy to be sent to the Secretariat

### **1. Workshops**

- Single event
- IASC support max. 25,000 EUR (preferably travel costs for key scientists and Early Career Scientists)
- IASC could support 2-3 per year
- Decided by Executive Committee on recommendation by relevant Standing Committee(s)

### **2. Assessments/Science Planning Activities**

- Mid-term initiative (e.g. ICARP II)
- IASC support includes planning meetings, conference support and publication costs
- Decided by Council

### **3. Programs**

- Long-term program, initiated under the umbrella of IASC (e.g. ISAC)
- IASC provides seed money to launch the program
- Decided by Council

### **4. Other instruments without financial support, e.g. Networks**

- Decided by Executive Committee on recommendation by Standing Committee(s)

## List of Acronyms

**AC:** Arctic Council

**AOSB:** Arctic Ocean Sciences Board

**CliC:** Climate and Cryosphere

**EPB:** European Polar Board

**IASSA:** International Arctic Social Sciences Association

**ICARP II:** International Conference on Arctic Research Planning

**IPA:** International Permafrost Association

**IPY:** International Polar Year

**ISAC:** International Study of Arctic Change

**NRF:** Northern Research Forum

**SCAR:** Scientific Committee for Antarctic Research

**UArctic:** University of the Arctic



## Human Dimensions of Arctic Environments: A Multilingual Web Resource

### Introduction

The Stefansson Arctic Institute (SAI, [www.svs.is](http://www.svs.is)) in association with the Icelandic Tourism Research Centre and international partners is launching a project to develop the Human Dimensions of Arctic Environments - A Multilingual Web Resource. The web resource aims at disseminating information on Arctic cultures and environments moving beyond the image of the Arctic as a frozen wasteland and peopleless wilderness. The new web resource, built on the existing webpage, [www.thearctic.is](http://www.thearctic.is), will provide a venue for scientific collaboration, communication and dissemination, seeking to enhance understanding of key human dimensions of Arctic environments.

### Objectives

The project has the following key objectives:

- To become a major multilingual education, outreach and information component of the International Polar Year (IPY), starting 1st March 2007.
- To be a venue for information dissemination on Arctic issues, especially research results. Thus contributing to awareness raising and public education on Arctic issues, not least outside of the Arctic region.
- To provide curriculum content for college level studies, with emphasis on the integration of social dimensions with historical perspectives and environmental/biophysical processes.

### Background

The existing multilingual website [www.thearctic.is](http://www.thearctic.is) with introductory chapters in English, Icelandic, Danish, French and German (and plans to add Russian and Greenlandic) consists of information accessible to teachers and students, researchers and policy makers, academic tourists, specialists and the general public. Its mission is to enhance understanding of and contribute to an enlightened discourse on Arctic issues across the Internet using world. These include the topics of sustainable development and community viability, social and environmental policy and contemporary human and environmental dilemmas. The website has been well received and is visited regularly by a considerable number of Internet users around the world. The content has been used by e.g. the University of the Arctic for long distance learning, curriculum development and content.

The Stefansson Arctic Institute developed the website in 1999-2000 in collaboration with a number of international partners. These contributed with expert advice, the writing and designing of thematic introductory chapters and

general overview of the project, as well as providing numerous case studies linking global issues to local everyday realities. The co-partners are all institutions with excellent reputation in research and dissemination of information on Arctic issues and include the Arctic Centre in Rovaniemi, Scott Polar Research Institute at the University of Cambridge, Dickey Centre Institute of Arctic Studies at Dartmouth College in New Hampshire, the University of the Arctic and the Universities of Iceland and Akureyri. The project originally received generous funding from the European Commission's Raphael Programme and the Nordic Council of Ministers.

The interest in the Arctic region, its environment, inhabitants and cultural heritage has increased significantly in recent years, not least due to the role of the Arctic in the global climatic system. Research projects have been initiated that highlight the importance of understanding human dimensions of Arctic ecological systems. The trendsetting 2005 Second International Arctic Research Planning Conference (ICARPII) specifically points to a paradigm shift within Arctic research involving the productive communication between social and natural science. On another level, technical developments have increasingly turned the Internet into an interactive and highly dynamic tool for dissemination. In order for the website [www.thearctic.is](http://www.thearctic.is) to stay salient and relevant, there is a need for a continuous development and updating of content, form and structure. For this purpose the website needs to enter the second phase, moving from being information-based into becoming an interactive, accessible and user-friendly web resource. Part of this mission involves linking up, as separate frame, to an Arctic region focussed internet gateway called The Arctic Portal ([www.arcticportal.is](http://www.arcticportal.is)), thus providing valuable multilingual human dimension component to the gateway. The benefits of this arrangement relates to increased visibility and attention from a multi stakeholder user group attracted to a more general Internet portal. The Stefansson Arctic Institute has assembled an international board of highly prominent advisers, who will be concerned with facilitating the project's tasks.

## Human Dimensions of Arctic Environments Phase Two

The second phase of [www.thearctic.is](http://www.thearctic.is), pending on consultation with the board of advisers, will include the following key issues:

- **Human adaptation to climate change.** The web resource will provide a venue for current international research projects such as the IPY endorsed Community Adaptation and Vulnerability in the Arctic Regions (CAVIAR); the European Science Foundation BOREAS project Northern Narratives- Social and Geographical Accounts from Norway, Iceland and Canada (NORSAGA); Syntheses of Sea-Ice, Climate and Human Systems in the Arctic and Subarctic (SYNICE) which is supported by the US National Science Foundation, and other related projects. CAVIAR is led by Dr Grete K. Hovelsrud at CICERO in Oslo. NORSAGA and SYNICE are led by Dr Astrid Ogilvie at INSTAAR in Colorado and Senior Affiliate Scientist at SAI. Both are on the board of advisors. Niels Einarsson, the HAWP project's chair is involved in CAVIAR, NORSAGA and SYNICE as Principal Investigator.
- **Gender relations.** Feminist perspectives and the topic of gender relations have emerged as major research fields and matters of concern for Arctic studies. This thematic entry will include the revisiting of the discussion of the chapter on gender issues in the Arctic Human

Development Report (AHDR, 2004), and input from the board of advisers.

- **Human security and human development issues.** This entry will follow up on the results and findings of the Arctic Human Development Report (AHDR), the first scientific assessment and overview of human conditions and welfare in the Arctic. A number of the members of the project's board of advisors took part in the making of this major Arctic Council initiative involving input from 90 international social scientists and experts. The AHDR has been adopted by the United Nations Development Programme as a Regional Report on Human Development. The co-chair of the AHDR, Oran Young will be on the board of advisors of [www.thearctic.is](http://www.thearctic.is).
- **Visual expressions.** This new entry will include Arctic visual and material culture representing expressions of Arctic realities. The expressions function as markers of cultural identity; a tool for knowledge transfer; a base and witness of the creative and innovative potential of Arctic inhabitants, and as an alternative viable source of income for residents. Visual expressions are tied to a proposed and upcoming international conference that will take place in Akureyri mid year 2008 titled Vital Rhythms - Northern Spaces, Art and the Environment (nicknamed The Artie Arctic). The web resource will provide a venue for the conference, which brings together scientists and artists in an effort to understand the role of material culture in organising human dwelling in the Arctic. Dr. Edward Huijbens, Director of the Icelandic Tourism Research Centre, is the initiator and organiser of this conference. The entry 'Visual expressions' will also include a virtual tour of the Friendly Arctic exhibit. The exhibit itself is touring the world with its message of respect and recognition for Arctic cultures and peoples, as laid down by anthropologist and explorer Vilhjálmur Stefansson. The goal is to make the exhibit available through the Internet as a living as well as to integrate the web resource into the exhibit itself as educational and awareness raising material on contemporary issues. The exhibit will be mounted at Bryggen in Copenhagen in 2007 (marking the joint launch of the IPY on March 1st in Denmark, Iceland, Faroe Islands and Greenland) and will from there travel to Cambridge, England, visiting the Scott Polar Research Institute in September.
- **Youth culture.** The issue of youth culture will highlight the role of youth in developing the globalness of Arctic cultures. The increasing presence of IT in education and Arctic youth culture in general encourages us to revisit the established propositions of inter-generational knowledge transfer in times of satellite TV, fast food and fashion trends.
- **The Status and Viability of Small Languages in the Arctic.** The circumpolar region is characterised by an impressive diversity of small languages struggling for survival while others are coping and looking for ways to endure. This component will look at the state and prospects of small languages in the Arctic, ranging from Greenlandic to Icelandic, and the interaction of language and culture. Recordings and graphic material will be applied in the presentation. Preliminary topics include:

- small Arctic languages and significance for personal and cultural identity;
  - globalization and impacts on small languages;
  - literature, oral tradition and small languages;
  - small languages, information technology and the digital divide;
  - language policy and minority rights;
  - small languages, gender roles and language preservation;
  - language vitality, education and capacity building.
- **The Funny Arctic.** This new entry looks at how northerners have used the human capital of humour in various forms to cope with and adapt to their natural and social conditions throughout the ages. The entry consists of a collection of stories and jokes told and visually presented by and about Arctic inhabitants and visitors.
  - **Arctic Social Indicators.** The Arctic Social Indicators (ASI) project will use the web resource as a meeting place for its partners. The ASI is a follow-up to the Arctic Human Development Report and was launched in January 2006. The ASI project seeks to devise indicators to facilitate the tracking and monitoring of human development in the Arctic, and is being developed under the auspices of the Sustainable Development Working Group (SDWG) of the Arctic Council. The project period is 2006-2008, with a final report being planned for late summer of 2008, and a presentation of results at the Sixth International Congress of Arctic Social Sciences (ICASS IV) in Nuuk, Greenland, August 2008.. One of the two project leaders of the ASI is Dr Joan Nymand Larsen, Senior Scientist at the Stefansson Arctic Institute.

## Implementation

The Stefansson Arctic Institute as hosting institute is responsible for the overall co-ordination and administration of the project and maintenance of the resulting web resource during and after the project. The institute will provide a base for the project while under construction, office space and equipment, as well as secretarial assistance. Interactive information on current issues and research findings requires constant updating and revision of content. The institute is committed to this task and will recruit specialized staff and contributors to work with the management and editing of the content of the web resource. The staff, consisting primarily of a highly qualified project manager with a research background in the Arctic, will work closely with the chair and co-chair of the project as well as with members of the advisory board (See appendix A).

## Appendix A:

<b>Project Lead and Board of Advisers</b>		
<p><b>Project chair</b> Niels Einarsson Director Stefansson Arctic Institute Akureyri, Iceland</p>	<p>Adriëne Heijnen Coordinator and Research Fellow Department of Anthropology and Ethnography, Univ. of Arhus, Denmark &amp; Stefansson Arctic Institute, Iceland</p>	<p>Michael Bravo University Lecturer Department of Geography with duties at Scott Polar Research Institute Univ. of Cambridge, UK</p>
<p><b>Co-chair</b> Edward H. Huijbens Director The Icelandic Tourism Research Centre Akureyri, Iceland</p>	<p>Hugh Beach Professor Department of Cultural Anthropology Univ. of Uppsala Sweden</p>	<p>Oran R. Young Professor Bren School of Environmental Science and Management, University of California, Santa Barbara, CA, USA</p>
<p>Gunhild Hoogensen Associate Professor Department of Political Science Univ. of Tromsø Norway</p>	<p>Kristján Kristjánsson Head of Research and Innovation Icelandic Centre for Research Information, and President, International Arctic Science Committee, Iceland</p>	<p>Paula Kankanpaa Director Arctic Centre, Univ. of Lapland Rovaniemi Finland</p>
<p>Ingibjörg Jónsdóttir Associate Professor Department of Geography Univ. of Iceland Reykjavík</p>	<p>Lawrence C. Hamilton Professor Department of Sociology University of New Hampshire USA</p>	<p>Piers Vitebsky Head of Anthropology and Russian Northern Studies Scott Polar Research Institute Univ. of Cambridge, UK</p>
<p>Astrid E.J Ogilvie Fellow, Institute of Arctic &amp; Alpine Research, University of Colorado at Boulder USA</p>	<p>Lenore A. Grenoble. Professor Department of Russian Program in Linguistics and Cognitive Science Dartmouth College, New Hampshire USA</p>	<p>Ross Virginia Director Dickey Center Institute of Arctic Studies Dartmouth College New Hampshire, USA</p>
<p>Bill Heal, Professor Emeritus Univ. of Durham, UK ----- Grete K. Hovelsrud Research Director CICERO, Oslo, Norway</p>	<p>Marina Kalinina Director Norwegian Pomor University Centre Arkkhangelsk Russia</p>	<p>Rune Fjellheim Director Arctic Council Indigenous People's Secretariat Copenhagen Denmark</p>

<p>Bruce Forbes Professor Arctic Centre, Univ. of Lapland Rovaniemi, Finland</p>	<p>Mark Nuttall Henry Marshall Tory Professor of Anthropology University of Alberta Canada, and Visiting Professor, Univ. of Oulu, Finland</p>	<p>Yvon Csonka Professor, Head of the Department of Social and Cultural History, Ilisimatusarfik - The University of Greenland Nuuk</p>
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Riku Lavia  
Scientific Communicator  
Finnish National IPY Secretariat  
Arctic Centre, University of Lapland  
Rovaniemi, Finland

## Time schedule

The duration of this project is estimated at 25 months. More specifically, the project will run between 1st March 2007 – 31st March 2009.

### 2007

- Secretariat to be established in March 2007 and based at the Stefansson Arctic Institute in Akureyri, Iceland.
- Redesign of content, graphical features and web technology. Updating of key chapters with authors, translations of updated key chapters. Consultations with Advisory Board.
- Project presented to international Arctic scientific bodies and funding agencies at the Arctic Science Summit Week (ASSW) at Dartmouth College, New Hampshire in March 2007. Meeting with Dickey Centre Institute of Arctic Studies and Dartmouth College Members of Advisory Board, also including other Advisory board member attending ASSW. Meeting with Dartmouth College Rauner Library, Stefansson Collection, on access to photographic and other material for the Virtual Friendly Arctic Exhibit.
- Work on applications for project funding, Nordic Council of Ministers Arctic Programme, The Nordic Institute in Greenland (NAPA), European Science Foundation BOREAS Programme, Icelandic Research Fund (RANNÍS), EU Culture Programme (2007-2013), US National Science Foundation, International Arctic Science Committee, Ford Foundation, Carnegie Foundation, Icelandic Ministries, etc.

### 2008

- Continued intensive work with website content, research and consultations with Advisory Board.
- Mid-project meeting of Advisory Board and HAWP presentations and HAWP organized conference session at the Sixth International Congress of Arctic Social Sciences (ICASS IV) in Nuuk, Greenland, August. Session title: Interdisciplinary communication, outreach across boundaries and the Internet in the International Polar Year.

- Full participation in the organizing, facilitating and dissemination of an international conference that will take place in Akureyri summer of 2008 titled Vital Rhythms - Northern Spaces, Art and the Environment.

**2009**

- Final phase of the project, thorough evaluation of results by Advisory Board.

## Budget

3<sup>rd</sup> January 2007. Currency in Euros (EUR).

<b>Secretariat</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>
Project Manager (75%), incl. 25% social exp (25% Own funding)	34654	41585	10396	86635
Travel and subsistence (project manager)				
1. Meetings with advisory board members	3239	3239	1080	7558
2. Conference participation/presentations	2159	3239	1080	6478
Secretariat office expenses (Telephone, mail, rental of premises, equipment, etc.) (Own Funding)	7557	9716	2699	19972
<b>Other Expenditures</b>				
Advisory group meeting (1)				
1. Travel and subsistence (participants)		16193 216		16193 216
2. Meeting room rental				
Translations, chapter revisions, research/information collection, copyright and other misc. expenditures	5398	5398	1080	11876
Webification, graphical design, programming	6477	2159	809	9445
Chair and co-chair salary costs and travel				
Chair salary (10 %, Own funding)	7579	9794	2448	19821
Travel (Own funding)	1619	2159		3778
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Co-chair salary (7%, Own funding)	4043	4852	1213	10108
Travel	1619	2159		3778
Indigenous and Russian participation (2)	6477	6477	1080	14034
<b>Total project expenditures</b>	<b>80822</b>	<b>107186</b>	<b>21884</b>	<b>209892</b>

Notes:

(1) Advisory group meeting: Estimated cost based on total of 15 participants

(2) Cost based on travel expenses to participate in advisory group meeting and to participate in assessment/consultation regarding project content and approach.

**The Stefansson Arctic Institute will cover secretariat office expenses, 25% of Project manager salary, the chair's salary and chair's travel costs, total 64.729 Euros. The Icelandic Tourism Research Centre will cover the co-chair's salary, total 10.108 Euros. This amounts to a total of 74.837 Euros as own funding during the project period, leaving 135.055 Euros to external funding.**

**Applications will be sent to the following:** Nordic Council of Ministers Arctic Programme, The Nordic Institute in Greenland, European Science Foundation BOREAS Programme, Univ. of Akureyri Research Fund, Icelandic Research Fund (RANNÍS), EU Culture Programme (2007-2013), US National Science Foundation, International Arctic Science Committee, Arctic Council, Ford Foundation, Carnegie Foundation, Icelandic Ministries, etc.

**IASC Arctic Archaeologists Network**

On the archaeological conference Tops of the World in Tromsø, Norway on October 30-31 and November 1 which I attended, the establishment of an Arctic Archaeologists Network (AAN) is discussed. In that discussion I have proposed to link this network to IASC.

I have tried to write down the ideas in a paper for the Ex Com meeting of IASC in January 2007 but some participants of the meeting had the opinion that a paper for the IASC Ex. Com. needed more discussion.

To inform you herewith some more details:

An international network for Arctic Archaeology (AAN) is being considered and planned, the founding meeting is scheduled to take place in connection with the Canadian Association of Archaeologists (CAA) meeting in St. John's New Foundland, Canada in May. The participants of AAN would like to hear a preliminary opinion of IASC about the establishment of such a network and a possible link with IASC. If desired, IASC may receive a full, written proposal at its next Ex. Com. Meeting in September 2007.

LH 08-01-2007.

**ICARP II Implementation Workshop  
Potsdam, Germany  
19 - 21 November 2006**

***Draft Agenda and Guidelines for the Participants***

**Workshop Venue**

Telegrafenberg, building H, Albert-Einstein-Straße, 14473 Potsdam, Germany

**Introduction**

The second International Conference on Arctic Research Planning (ICARP II), which was held in Copenhagen on November 10-12 2005, brought together over 450 scientists, policy makers, research managers, Indigenous Peoples and others interested in and concerned about the future of Arctic research.

The Conference was a culmination of a 24-month planning process involving over 140 scientists in 12 Working Groups developing science plans around twelve critical research themes identified by the Conference sponsors based upon input from the science and Arctic community at large. Conference participants were actively involved in modifying and improving these plans for future implementation.

The Conference was only the end of the beginning, as the ultimate goal of the ICARP II process is to create new Arctic knowledge by implementing these science plans through a number of focused and manageable projects. Since the Conference the process has continued with the revision of Working Group reports guided by the Conference discussions. All Working Group reports have now been revised and will be published in November 2006. The Working Group reports are the foundation element for the implementation of the ICARP II science plans.

The ultimate goal of the ICARP II process is to initiate and implement forward-looking research projects, and the main success of ICARP II lies in creating new knowledge by active research projects being attractive to funding agencies, and the outcome of the workshop is designed to guide international cooperation in Arctic research over the next 10-15 years.

With the purpose of taking the next and important step in the ICARP II process, i.e. implementing the science plans, IASC in cooperation with several organizations is arranging this ICARP II follow-up workshop, bringing together key scientists from the Working Groups and potential sponsoring organizations.

**The Workshop Objective**

The ICARP II Implementation Workshop will bring together two or three individuals from each Working Group (at least one is an Early Career Scientist) and representatives of ICARP II sponsoring organizations. Both Arctic organizations that had been involved in the ICARP II process and global organizations that are interested in contributing to its implementation will be present.

The main objective is to identify several focused and manageable projects which enjoy the

support of sponsoring organizations and to develop an implementation plan for each of the projects. Where possible, Working Groups will meet together to identify projects which cut across WG boundaries.

During the work of the ICARP II Conference in Copenhagen it became clear that the Arctic is a system that no longer can be divided into traditional disciplines. The linkages to other disciplines and other knowledge systems and to the global system are critical and must be addressed in the implementation of future projects. Integration of education and outreach is an element which must be addressed in each implementation process, as well as issues surrounding data management, interoperability and dissemination. It is clear that in light of the International Polar Year and implementation of ICARP II plans over the next decade that the research community must urgently address these issues.

### Organization and Structure of Workshop

The following twelve Working Groups form ICARP II:

- WG 1 – Sustainable development: Arctic economies
- WG 2 – Indigenous peoples and change in the Arctic: Adaptation, adjustment and empowerment
- WG 3 – Arctic coastal processes
- WG 4 – Deep central basin of the Arctic Ocean
- WG 5 – Arctic Ocean margins and gateways
- WG 6 – Arctic shelf seas
- WG 7 – Terrestrial cryospheric and hydrologic processes and systems
- WG 8 – Terrestrial and freshwater biosphere and biodiversity
- WG 9 – Modeling and predicting Arctic weather and climate
- WG 10 – Rapid change, resilience, vulnerability in social-ecological systems of the Arctic
- WG 11 – Arctic Science in the public interest
- Special Session - Contaminants in the Arctic region

Based on these Working Groups, breakout groups have been identified with each group meeting concurrently in thematic sessions. A moderator has been identified for each breakout group. The following groups are suggested:

<b>Breakout Group</b>	<b>ICARP II WGs</b>	<b>Sponsoring Organizations</b>	<b>Moderator</b>
Marine System	<b>4, 5, 6</b>	<b>AOSB, EPB, IASC</b>	Jean-Claude Gascard
Terrestrial System	<b>3, 8, contaminants</b>	<b>IASC, AOSB, AMAP</b>	Kristján Kristjánsson
Cryosphere System	<b>7, 9, Permafrost Forum</b>	<b>ClIC, IPA, IASC, EPB</b>	Barry Goodison
Social System	<b>1, 2, 10</b>	<b>IASSA, IASC</b>	Yvon Csonka
Education & Outreach	<b>11</b>	<b>UArctic</b>	David Carlson

The breakout groups will meet concurrently over the 2 ½ days. Plenary Sessions with all breakout groups will be held at the beginning of the first day and at the end of the second and third day (see below: Workshop Program).

**CHARGE TO THE BREAKOUT GROUPS:** Your goal is to identify priority, well-defined and manageable research projects for implementation over the next five to ten years. You will take into account research gaps identified in your working group reports, cross cutting concerns of other working groups, input from sponsoring organizations and other major contributors to Arctic research (like IPY or global programs) and priorities outlined within each WG report. You will consider the funding potential of the suggested project, the critical infrastructure needed for its implementation and “show stoppers” if there are any.

By the conclusion of the meeting you should have a draft science plan for each of the identified projects and have identified an individual to be responsible for representing and promoting that plan and for drafting an implementation plan.

### **Sponsoring organizations**

#### (a) Arctic organizations (confirmed)

- Arctic Ocean Sciences Board (AOSB)
- Climate and Cryosphere (CliC)
- European Polar Board (EPB)
- International Arctic Science Committee (IASC)
- International Arctic Social Sciences Association (IASSA)
- International Permafrost Association (IPA)
- University of the Arctic (UArctic)

#### (b) Arctic and Global organization (invited)

- Arctic Ministers for Education and Research
- Arctic Monitoring and Assessment Programme (AMAP)
- Earth Science System Partnership (ESSP)
- Forum of Arctic Research Operators (FARO)
- Indigenous Peoples Secretariat (IPS)
- Intergovernmental Oceanographic Commission - Global Ocean Observing System (IOC-GOOS)
- International Geosphere-Biosphere Programme (IGBP)
- International Polar Year Secretariat (IPY)
- Scientific Committee on Oceanic Research (SCOR)
- World Climate Research Program (WCRP)
- World Meteorological Organization (WMO)

The workshop will be hosted by the Potsdam branch of the Alfred Wegener Institute for Polar and Marine Research.

### **Funding:**

The sponsoring organizations have agreed to provide travel support for the Chair and one Early Career Scientist of each ICARP II Working Group.

## Annex 1: Workshop Program

### Day 1 (19 November)

- 14:00      *First Plenary Session*  
 Opening and practical information      *Hans Hubberten and Volker Rachold*  
 Introduction and charge to all breakout groups      *Kristján Kristjánsson*  
 ICARP II – a legacy for the IPY      *David Carlson*
- 14:30      *Breakout Groups – First session*  
 WGs make 45 minute presentations on their WG reports to their breakout group, including identification of at least two priority, well-focused projects.
- 20:00      *Icebreaker (at Hotel Mercure)*

### Day 2 (20 November)

- 09:00      *Breakout Groups – Second sessionI*  
 Sponsoring organizations present their plans for the future and priority areas of investigation. Linkages to IPY are identified as well as to multidecadal programs such as the ISAC (International Study of Arctic Change) program. WGs explore the cross-cutting issues. Where is the overlap? Which priority areas are individual to a specific WG and which cut across several? Are there other WGs that need to be involved? Who are the critical players in each priority area?
- 14:00      *Breakout Groups – Third sessionI*  
 Identify well-focused priority projects for development of science plans and begin drafting the science plans.
- 17:00      *Second Plenary Session*  
 Presentation by each breakout group on progress. Identify further cross-cutting issues with other themes.
- 18:00      *Adjourn*

### Day 3 (21 November)

- 09:00      *Breakout Groups – Fourth session*  
 Begin drafting science plans and where possible implementation plans. Identify follow-up action items and responsible parties.
- 14:00      *Third Plenary Session*  
 Concluding meeting of all breakout groups with workshop sponsors.
- 15:30      *Adjourn*

***Lunch breaks 13:00-14:00, Coffee breaks 11:00 and 15:30***

## Annex 2: List of Participants

## Working Group Chairs and Young Scientists

Name	WG	Adress	Telephone	Email
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## **Implementation of a Sustained Arctic Observatories Network (SAON).**

### **Note from the informal contact meeting held in Potsdam**

1: The Need for a well coordinated and sustained Arctic Observatories Network has been identified in several international policy and research fora.

There are several observatories networks covering specific themes or regions. However, there is a need for:

- better *coordination* for avoiding overlaps, providing synergies etc
- ensuring *sustainability* through long-term funding and commitments,
- filling *major gaps* both as to themes/parameters and geographic coverage
- making the output (data) easily *accessible*.

There are more needs. However, the intention was to provide a short list as an introduction to this paper.

The *overall goal* for this initiative should be to create a system for delivering *high quality data* for all the Arctic and for all major parameters in an easy accessible form to peoples living in the Arctic, decision makers, industries, scientists and other societal needs.

### 2: Status

The most recent 'status report' is '*Toward An Integrated Arctic Observing Network*' published by the National Research Council, Washington DC, 2006. This study or report is the outcome of the work of a group with international participants, and the group also held international hearings.

Another important sources is:

*CEON*: the Circumarctic Environmental Observatories Network, which could be called 'an internet based network of Arctic terrestrial and freshwater observatories networks', and which you will find at:

<http://www.ceoninfo.org>

In short, the basic information for taking an initiative meeting the mentioned overall goal is there. However, the report mentioned offers no specific suggestion how to develop an implement an Arctic Observatories Network.

As to AMAP, they have since 1998 been aiming at integrated monitoring of contaminants in air, terrestrial, freshwater and health in 10 key geographical areas. The most developed areas (e.g. ongoing observation programmes) are in the Nordic countries, Greenland, eastern Canada, whereas there are large 'white areas' in Russia.

Another observation is that Arctic observational sites have decreased the last 10 years.

### 3: Implementation requests

There are at least three important fora who have requested a coordinated initiative to be taken:

3.1 *The Arctic Council* held its Ministerial Meeting 26 October, 2006 and their 'SALEKHARD DECLARATION' states in several places the need for such an initiative:

- under 'Climate Change in the Arctic':

*'Request the SAOs to direct the Arctic Monitoring and Assessment Program (AMAP) to cooperate with other AC working groups and relevant scientific bodies to continuously reviewing needs and gaps in climate monitoring in the Arctic so that coordinated action might be taken to ensure the full realization of a comprehensive Arctic observing network'*.

- under IPY:

*'Urge Member States and other entities to strengthen monitoring and research efforts needed to comprehensively address Arctic change and to promote the establishment of a circumpolar Arctic observing network of monitoring stations with coordinated data handling and information exchange for scientific data, statistics and traditional knowledge as a lasting legacy of the IPY (and as the evolving Arctic component of the Global Earth Observing System of Systems, GEOSS), and finally*

- under AMAP:

*'Urge all the Member countries to maintain and extend long term monitoring of change in all parts of the Arctic, and request AMAP to cooperate with other AC Working Groups, IASC and other partners in efforts to create a coordinated Arctic observing network, that meets identified societal needs'*.

As to the AMAP part of this initiative, they need to report a good progress at the Arctic Council Ministerial meeting in spring 2009.

3.2 *ICARP II* (The Second International Conference on Arctic Research Planning – a research planning process initiated by IASC and involving all other major research bodies)

Both in the first phase of this planning process, at the Conference itself and at the follow-up and implementation meetings *the needs for improved and sustained observations* have repeatedly been listed as a major requirement.

3.3 *IPY* is a major undertaking to provide new knowledge and data about the polar regions. One of the major legacies of the IPY is to create sustained, observational networks for the polar regions. Many IPY projects have co-ordinated observations as a major goal.

**In short, a well coordinated effort to implement these 'marching orders' is both highly needed and very timely.**

#### 4 : First steps:

Ongoing observations are numerous and complex. In order to succeed with such an initiative as mentioned above require first of all to get it well organised.

At a recent meeting in Potsdam (ICARP II Follow-up meeting), some circumarctic organisations consulted on initiating a SAON. We have tested the ideas discussed in Potsdam. The advice we have got is to start up with an **Initiating Group** (without going into details on organisational structure)

There are several possible venues for next steps, and/or major tasks to be undertaken. However, establishing the Initiating Group is the first important step and all members of the Initiating Group should be involved in discussing approaches and strategies.

Suggested members on the Initiating Group:

- AMAP (ref. the Salekhard Declaration)
- AOSB (marine sciences)
- CLiC (cryosphere, WMO)
- IASC (ref. their mission)
- IASSA (social sciences)
- IPY (influx of new data, legacies)
- NSF (follow-up to AON)

There are several other organisations who are good candidates. The intention at this stage is to have a broad representation with as few persons as possible, and discuss how this initiative best can be organised at the first meeting of this Group.

**Progress in Relations between SCAR and IASC  
Report to IASC Council, March 17, 2007  
Arctic Summit Science Week (ASSW)  
Hanover, New Hampshire**

## **Background**

In July 2006, following agreement by IASC Council and SCAR Delegates, the Presidents of SCAR and IASC signed a Letter of Agreement. The letter recognised that there are many common interests between SCAR and IASC in scientific research in the polar-regions, and that there is much to be gained from developing a synergy between SCAR and IASC in polar and bipolar research. Development of this link at this time was designed to enable the two organisations to make a more effective contribution than they might otherwise make to the success of the International Polar Year. SCAR and IASC agreed to combine their efforts in selected fields and activities (to be decided by mutual agreement) so as to raise the level of impact of both organizations in terms of making scientific advances and of advising policy makers (for example of the likelihood and likely effects of climate change), as well as to avoid duplication. The agreement will last for 5 years in the first instance.

To facilitate the process, SCAR and IASC agree:

- (i) **to invite each other to attend the meetings of their major bodies (SCAR Delegates' Meeting and IASC Council).** *Steve Bigras (for IASC) attended the SCAR Dfelegates' meeting in Hobart (July 2006), and Colin Summerhayes (for SCAR) attended the IASC Council meeting at ASSW in March 2007.*
- (ii) **to encourage appropriate linkages between the relevant existing SCAR and IASC scientific projects.** *Volker Rachold made a teleconference presentation on IASC to the SCAR Cross-Linkages meeting in Rome (November 2006), which led to (i) agreement for SCAR and IASC to co-sponsor the 2<sup>nd</sup> High Latitude Climate meeting (Seattle, October 21-24, 2007); (ii) discussions about a possible joint paleoclimate project (SCAR Contact Jane Francis of the ACE programme). In addition there is a possibility of linking SCAR and IASC marine biology projects (Guido di Prisco).*
- (iii) **to encourage their scientific communities to develop joint bipolar projects and approaches in appropriate fields.** *(a) Chris Rapley suggested to IASC in a 15 November 2006 e-mail to Volker Rachold that SCAR, IASC and CliC should develop a "Manhattan Project" on dynamic ice sheet models to overcome inadequacies in existing models to address the question of how much ice might melt, and when, to raise sea level by significant amounts. (b) Colin Summerhayes suggested at the IAC Council meeting that ocean acidification was another grand challenge that the two organisations could address together in future. (c) Colin Summerhayes suggested that IASC might like to join SCAR in its co-sponsorship of the International Partnership for Ice*

*Core Science (IPICS). (d) IASC has asked Colin Summerhayes to advise them on building links to the World Climate Research Programme (with which SCAR has a Memorandum of Understanding). (e) IASC may also follow the SCAR lead in developing a connection to SCOR for oceanic research. (f) in 2006 Colin Summerhayes invited Berry Lyons (Byrd Polar) to give a presentation in Hobart on the Arctic Observing Network (AON). This led to development by SSG-PS of a new Action Group, on a Pan-Antarctic Observing System (PantOS). AON (now Sustained AON, or SAON) and PantOS will together provide an observing system legacy for the IPY. (g) SCAR has been developing with CliC (WCRP) plans for a bipolar cryosphere observing system that IASC will benefit from.*

- (iv) **to work together in arranging workshops, conferences, and reports on topics of mutual scientific interest.** *SCAR and IASC have agreed to jointly sponsor the SCAR Open Science Conference in St Petersburg, Russia (8-11 July 2008). The title of the meeting is Polar Research – Arctic and Antarctic Perspectives in the International Polar Year. A Scientific Organising Committee has been formed with representatives from both organisations. It has SCAR and IASC co-chairs. The SOC will begin working shortly on developing the meeting programme, which will be arranged under the 6 themes of the IPY (Status, Change, Global Linkages, New Frontiers, Vantage Point, and Human Dimension). We expect to have some 50 sessions divided into 300 papers and 300 posters.*
- (v) **to exchange ideas on best practices in data and information management.** *Both organisations have interacted with the IPY Data Subcommittee. The Chair of SCAR's JCADM is advising IASC on the development of approaches to data and information management.*
- (vi) **to exchange newsletters and advertise each other's newsletters and web sites on their own web sites.** *Arrangements have been made to highlight IASC and the link to SCAR on the SCAR partnership web page.*
- (vii) **to develop combined approaches to communicating with the wider community on the significance of polar research to the solution of societal issues, including their respective experience in giving advice to the AC and ATCM.**
  - (a) *Chris Rapley suggested in a 4 January 2007 e-mail to the IASC President that SCAR and IASC should work together in discussions with ICSU to improve the representation and involvement of the cryosphere in the Earth System Science Partnership (ESSP).*
  - (b) *Colin Summerhayes suggested that there is scope for SCAR and IASC to work together to provide a statement for public consumption on the state of the polar climate and its implications; such a document would be informed by IASC's Arctic Climate Imp[act] Assessment, by IASC's plans being developed under the ICARP-II planning process, by SCAR's State of the Antarctic Climate document for ATCM, and lastly by the outcomes of the Seattle workshop on High Latitude Climate.*
  - (c) *IASC Council agreed that there is potential for SCAR and IASC not only to continue to work together in the Joint Committee for the IPY, but to*

*consider (with ICSU) how they may jointly manage the IPY legacy post March 1, 2009.*

- (d) *On March 16, 2007, SCAR and IASC gave a well-received joint talk to ASSW on “Antarctic and Arctic Research Partnership Opportunities”. This was an historic “first” – the first collaborative joint presentation of how we are working together, especially towards the St Petersburg meeting.*

## Organisational

### Call for abstracts

Please send abstracts per email to:

Ms Berit Modalen  
Norwegian Institute for Air Research (NILU)  
P.O. Box 100  
Instituttveien 18  
NO-2027 Kjeller

berit.modalen@nilu.no  
Tel: +47 63 89 80 71  
Fax: +47 63 89 80 50  
www.nilu.no

### Deadline:

**The deadline for application and for sending abstracts is June 15th, 2007**

### Scholarships:

Some scholarships are available for travel support in exceptional cases

Further details please have a look at the workshop homepage: [coast.gkss.de/events/arctic07](http://coast.gkss.de/events/arctic07)



[www.geo.uio.no/IPA/](http://www.geo.uio.no/IPA/)



[www.iasc.se](http://www.iasc.se)



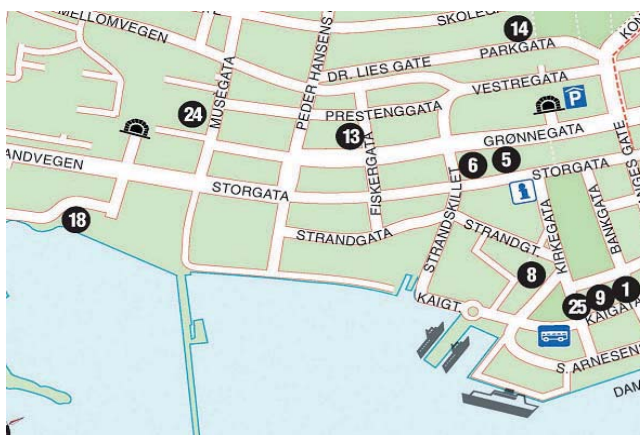
[www.amap.no](http://www.amap.no)



[www.loicz.org](http://www.loicz.org)



[www.ihdp.org](http://www.ihdp.org)



No. 1 SAS-Radisson-Hotel

No. 18 Polarmiljøseier Conference Centre

No. 25 Rica Ishavshotel

No. 6 Grand Hotel (Busstop Airport)

### How to get to the conference centre:

Hjalmar Johansensgt. 14; NO-9296 Tromsø

From the airport take the bus (Flybussen) towards the city centre and get off at Grand Nordic Hotel. Departure times are matched with major flight connections, you can find a detailed time table under [www.flybussen.no/tromso](http://www.flybussen.no/tromso). From the bus stop follow Storgata (main road) south for 5 min and you will reach the Polar Environmental Centre. Alternatively you can take a taxi. From the airport it takes approx. 10 min and should cost 100NOK.



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### More information about Tromsø:

[www.destinasjontromso.no](http://www.destinasjontromso.no)

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## SECOND ANNOUNCEMENT

# Arctic Coastal Zones at Risk



Photo © Ned Rozell

01. - 03. October 2007  
Polar Environmental Centre  
Tromsø



## Background

The Arctic organizations **IASC** (International Arctic Science Committee) and **AMAP** (Arctic Monitoring and Assessment Programme), together with **LOICZ** the Land-Ocean Interactions in the Coastal Zone research project and the International Human Dimensions Programme on Global Environmental Change **IHDP** are jointly organizing a scientific workshop aimed at the impact of Global Warming on Arctic Coastal Zones. The workshop is co-sponsored by the International Permafrost Association (**IPA**).

Of particular interest is the response of Arctic geophysical and ecosystem features to effects of Global Warming i.e., the decreasing sea ice cover, the destabilisation of permafrost systems and increased exposure of the coast to storms. Embedded in this context will be the important issue of reactions of human societies to these Arctic changes. This includes both adaptation to changing living conditions bearing threats and options for human welfare as well as new forms of land and sea use such as enhanced access to resource extraction, or the increasing ship traffic along the coast.

In the working groups, physical, biological-ecological as well as socio-economic perspectives will be addressed.

The physical perspectives of Global Change comprise changes in environmental forcing (by sea ice, wind and waves, rising sea level etc.), in permafrost stability, morphodynamics and river discharge into the Arctic Sea.

The biological-ecological perspective covers biodiversity issues, biogeochemical cycles including pollution, ecosystem functioning and thresholds, and ecosystem goods and services.

The socio-economic perspectives look upon new forms of land and sea use, governance systems linked to decision-making in the coastal zone (scales and participation), effectiveness of management, and adaptation strategies and frameworks.

## Workshop structure

### October 1st, 9-13

Introduction - Norwegian Minister of Fisheries and Coastal Affairs **Helga Pedersen**, to be confirmed  
Indigenous Peoples' Representative, **TBA**

- Keynote lectures on physical changes; **Steve Solomon**, Natural Resources Canada
- Keynote lectures on biological – ecological changes; **TBA**
- Keynote lectures on socio-economic changes and human dimensions; **Louwrens Hacquebord**, University of Groningen

**Gordon McBean**, University of Western Ontario

### October 1st, 14-17:30 and October 2nd, 8:30-10:30

Disciplinary working groups on:

- Physical perspectives; Chair: **Volker Rachold**
- Biological – ecological perspectives; **Chris Cogan**
- Socio-economic perspectives; **Leslie King**

### October 2nd, 11-13

Working group status report and definition of new working groups:

- Physical, biological-ecological, socioeconomic coupling; Chair: **Richard Bellerby**
- Prognosis, integrated assessment and modelling; Chair: **James Syvitski**
- Human responses: governance and adaptation; Chair: **Ken Sherman**, to be confirmed

### October 2nd, 14-17:30 and October 3rd, 8:30-10:30

Working groups

### October 3rd, 11-13

Working group reports and definition of writing teams

### October 3rd, 14-16

Writing team meetings

### October 3rd, 16-17

Conference closure; **Jozef Pacyna**, LOICZ chair

## Outcome

The **Workshop report** will comprise assessment, prognosis, and human responses of/to Arctic Change and thus be a link between and coastal focus update of the existing ACIA (Arctic Climate Impact Assessment) and AHDR (Arctic Human Development Report) reports, focused on Arctic coasts and people.

The report will be published as issue No. 30 of the LOICZ Report and Studies Series and will comprise 1) the work-group results and 2) Extended abstracts of the work-group members.

The keynote lectures will be condensed into a **Special Issue of "Polar Research"**

### Scientific Committee

Chris Cogan (IASC)	Jozef Pacyna (LOICZ)
Nicole Couture (IASC/IPA)	James Syvitsky (LOICZ)
Louwrens Hacquebord (IASC)	Georg Hansen (local)
Volker Rachold (IASC)	Lars-Otto Reiersen (AMAP)
Götz Flöser (LOICZ)	Leslie King (IHDP)
Hartwig Kremer (LOICZ)	Oran Young (IHDP)



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**IASC General Fund - Accounts 2006**

<b>Income in €</b>			
Incoming balance	\$159 440,00	(1\$ =0.7916€)	126 219,12
	<i>Budget</i>	<i>Result</i>	
Member contributions <sup>1</sup>	139 400,00	132 764,28	132 764,28
Bank interest <sup>2</sup>	2 384,00	1 723,46	1 723,46
Other income <sup>3</sup>		96,00	96,00
<b>Total income</b>			<b>259 079,40</b>
<b>Expenses in €</b>			
	<i>Budget</i>	<i>Result</i>	
Travel Claims from 2005	-2 452,00	-2 452,00	-2 452,00
Science Development <sup>4</sup>	-70 000,00	-24 891,58	-24 891,58
ICSU	-420,00	-500,00	-500,00
ISIRA	-800,00	-408,32	-408,32
Young Scientists <sup>5</sup>	-30 000,00	-12 669,09	-12 669,09
IPY 2007-2009	-3 500,00	-1 839,22	-1 839,22
IASC Council Meeting	-2 000,00	-2 087,60	-2 087,60
Other travel support	-7 500,00	-6 632,77	-6 632,77
R&S Support	-20 000,00	-5 800,66	-5 800,66
Reports	-1 000,00	0,00	0,00
Diverse	-1 000,00	-83,08	-83,08
Sum	-136 220,00	-54 912,32	-54 912,32
<b>Total expenses</b>			<b>-57 364,32</b>
<b>Balance as of 2006-12-31</b>			<b>201 715,08</b>

<sup>1</sup> USA will pay the dues (9000 €) for 2006 in 2007

<sup>2</sup> Bank interest for 2006 is paid in Jan. 2007 and will be in the 2007 accounts

<sup>3</sup> Return of double payment in 2005 missing; ~200 €, carried forward to 2007

<sup>4</sup> One travel claim missing; ~650 €, carried forward to 2007

<sup>5</sup> Three travel claims missing; ~3000 €, carried forward to 2007

**IASC General Fund - Proposed Budget for 2007**

<b>Income in €</b>			
	<i>Budget 2006</i>	<i>Result 2006</i>	<b>Proposed 2007</b>
Member contributions	139 400,00	132 764,28	<b>214 000,00</b>
Member contribution from USA 2006			<b>9 000,00</b>
Bank interest	2 384,00	1723,46 <sup>1</sup>	<b>2 200,00</b>
Other income		96,00	<b>300,00</b>
<b>Total income</b>	<b>141 784,00</b>	<b>132 860,28</b>	<b>225 500,00</b>

<b>Expenses in €</b>			
	<i>Budget 2006</i>	<i>Result 2006</i>	<b>Proposed 2007</b>
Travel Claims from 2006:			<b>-3 650,00</b>
Restructuring			<b>-70 000,00</b> <sup>2</sup>
Science Development	-70 000,00	-24 891,58	<b>-90 000,00</b> <sup>3</sup>
ICSU	-420,00	-500,00	<b>-500,00</b>
ISIRA	-800,00	-408,32	<b>-2 000,00</b>
Young Scientists	-30 000,00	-12 669,09	<b>-30 000,00</b>
IPY 2007-2009	-3 500,00	-1 839,22	<b>-3 500,00</b>
IASC Council Meeting	-2 000,00	-2 087,60	<b>-2 000,00</b>
Other travel support	-7 500,00	-6 632,77	<b>-7 500,00</b>
R&S Support	-20 000,00	-5 800,66	<b>-14 200,00</b>
Communication and Outreach			<b>-40 000,00</b> <sup>4</sup>
Data management			<b>-5 000,00</b>
Reports	-1 000,00	0,00	<b>0,00</b>
Diverse	-1 000,00	-83,08	<b>-1 000,00</b>
<b>Total expenses</b>	<b>-136 220,00</b>	<b>-54 912,32</b>	<b>-269 350,00</b>

<b>Result in €</b>			
	<i>Budget 2006</i>	<i>Result 2006</i>	<b>Proposed 2007</b>
	5 564,00	77 947,96	<b>-43 850,00</b>

*Balance as of 2006-12-31:* 201 715,08

<sup>1</sup> The bank interest for 2006 is paid in Jan 2007 and will be in the accounts for 2007

<sup>2</sup> Four Standing Committees each 5 000 € and five Action Groups each 10 000 €

<sup>3</sup> 40 000 € for IASC projects (5 000 € each); 15 000 € for LOICZ/IASC/AMAP workshop;  
35 000 € for other science development (ICARP II etc.)

<sup>4</sup> IASC Bulletin + other reports



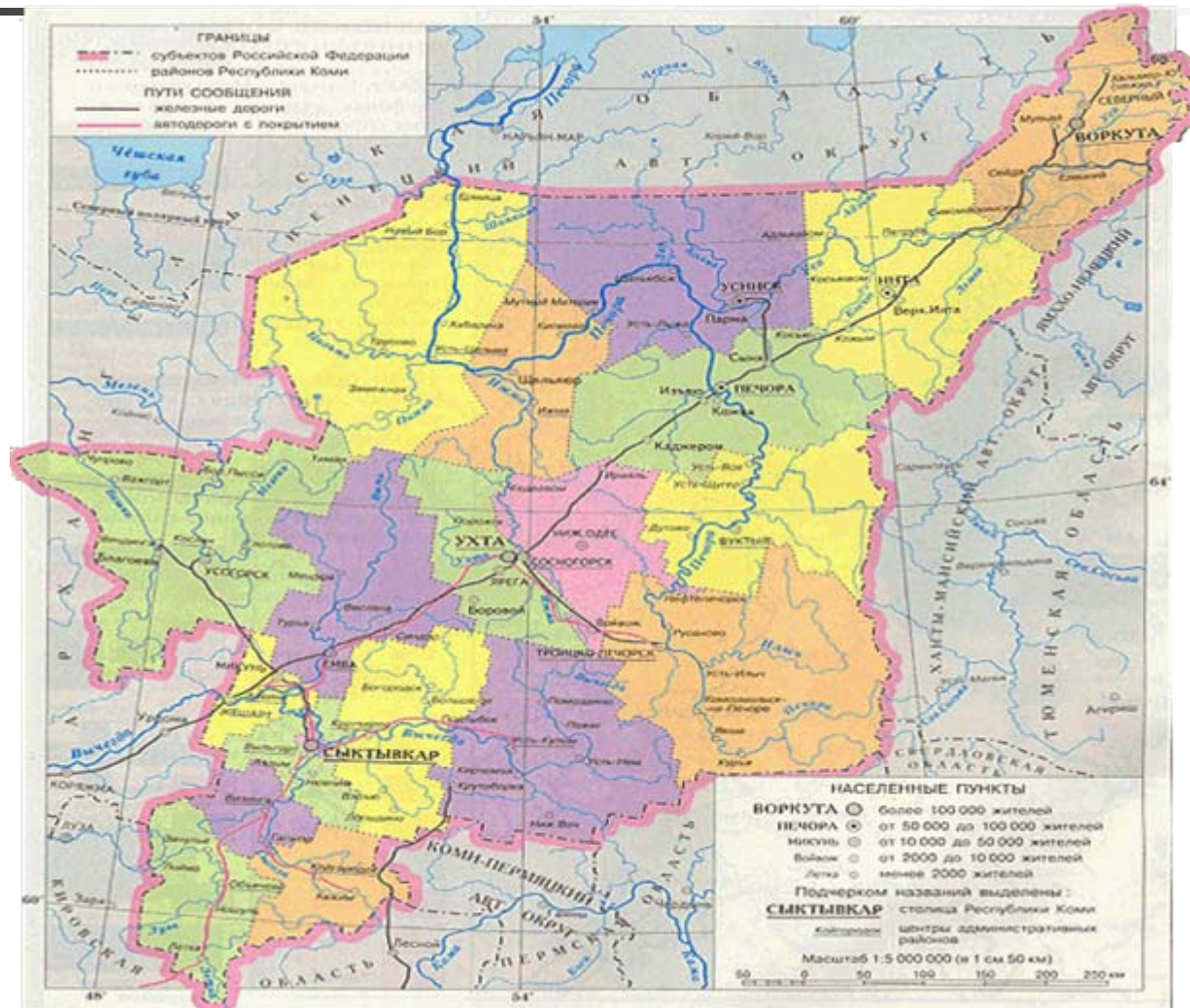
# Russian Federation

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## Republic Komi

## Syktyvkar

# Map of Republic Komi

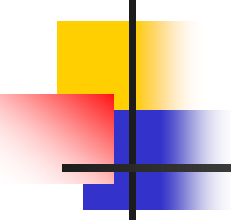


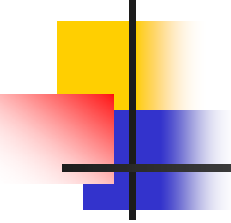


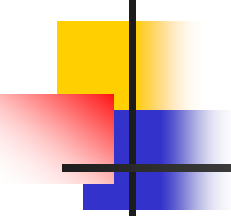
## KOMI REPUBLIC AT A GLANCE

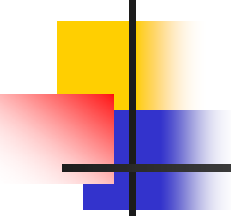
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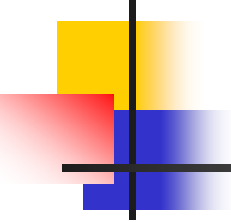
- **Komi Republic** is located in the north-western extreme of the Russian part of Europe, within the boundaries of the Pechora and Mezen-Vychegda lowland, Mid- and Southern Timan, the western slopes of the Urals (Northern, Pre-Polar and Polar Urals).
- In the west, north-west and north, Komi Republic borders on Archangel Region and Nenets AO as its sub-area, in the east on Yamalo-Nenets AO and Khanty-Mansi AO as sub-areas of Tyumen Region, in the south-east on Sverdlovsk Region, in the south on Perm Region and Komi-Perm AO as its sub-area, in the south-west on Kirov Region. The republic's total borderline length is 4,415 km.

- 
- The distance between Moscow, the Russian capital, and Syktyvkar, the metropolitan area of Komi Republic, is 1,410 km.
  - **The territory** of Komi Republic, in terms of space, is 416,800 km<sup>2</sup>. The greatest length from the south-west to the north east is 1,275 km, from the north to the south - 785 km, from the west to the east — 695 km.
  - A considerable part of the territory is a hilly plain. The Ural Mountains serve as an Eastern border, the Timan ridge crosses the republic from the North-West to South-East. There are the Pechora lowlands between the Urals and Timan, and the Mezen-Vycheгда plain in the West.

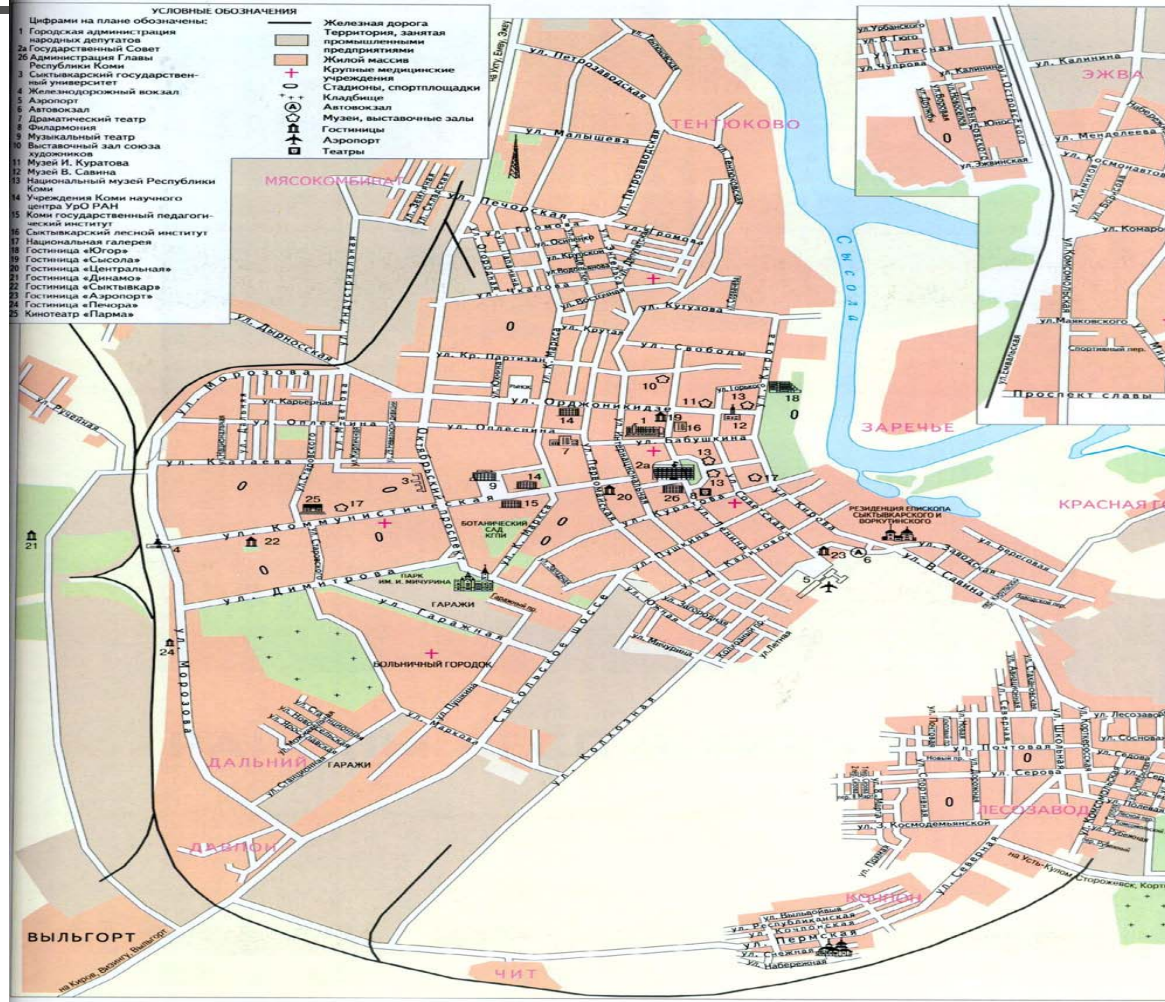
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- In terms of the republican land stock, forests and shrubs account for 74.5 %, marshland — 9.8 %, water reservoirs — 1.5 %, arable land — 1 %. 22.8 % of the total land area is used for reindeer pastures.
  - **Climate.** The location within the sub-arctic (in the northern extreme and north-east) and, mostly, within the moderate climate zones provides for a harsh climate with long and very severe winters and short, comparatively cool, summers. In January the average temperatures in Komi vary from minus 14° C in the South to minus 23° C in the North-East, in July from plus 19° C in the South to plus 12° C in the North-East.
  - The territory of the republic is within an excess moistening. A considerable predominance of atmospheric precipitates over an evaporation, a specific relief and geological structure lead to an increased swamping and developed hydrographic network.

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- **Population.** The republic is multi national — the population is a little more than 1 mln people of more than a hundred nations and nationalities. Russians (59.6%) and Komi (25.2%) prevail in the national population structure. The average age of people is 35 years. 75.5% of the republican population inhabit cities, 24.5% are village inhabitants.
  - **Key historical dates.** The territory of the current Komi Republic started to be inhabited presumably about 300,000 years ago. Indisputable proofs have been discovered that the area was initially inhabited around 40,000 years ago. In the 60-s of XIII century, the Komi land had been referred to as Perm and Pechora in the records of the Novgorod volost, and from 1478 this area became an inseparable part of the Russian state. The Komi had rendered habitable the upper Vychegda, Mezen basin and Pechora alongside with Russians since XVI century. Structurally, the territory was divided into lands, volosts and pogosts. In 1708, the initial territorial provinces inhabited by the Komi were incorporated in the structure of Archangel and Vologda uyezds. At the end of XIX century, the current Komi land was finally formed. From January to March, 1918, the soviet power was finally proclaimed. By March, 1920, the Civil War ended.

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- Since August, 1921, Komi Autonomous Oblast had been formed as a part of the Russian Soviet Federative Socialist Republic, and due to this fact the Komi people who had been separated for a long time territorially got a chance to be added to the central powers as a separate national division for the first time in its history. Administratively, the region was divided into 4 large uyezds.
  - In 1936, Komi Autonomous Oblast was renamed to Komi Autonomous Soviet Socialist Republic. On 29 August, 1990, The Supreme Council of the Komi ASSR adopted the declaration of the state sovereignty of the Komi ASSR at its extraordinary second session. Later on, on 23 November of the same year, the Republic was renamed to Komi Soviet Socialist Republic; and since 26 May, 1992, Komi SSR has started to be called Komi Republic. According to the Constitution of Komi Republic enforced at the extraordinary 18 session of the 12<sup>th</sup> Supreme Council of the Republic of Komi in 1994, " The state of the Komi Republic a RF full-fledged subject. Komi Republic enjoys at its whole territory the entire state authority excluding those powers of the Russian Federation and the common powers of the Russian Federation and the RF subjects which are related to the authority of the Russian Federation».

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- **Administrative structure and state authorities.** Komi Republic consists of administrative territorial units: republican districts and towns including the subordinate territories, the largest of them being Syktyvkar, Vorkuta, Ukhta, Sosnogorsk, Usinsk and Inta.
  - The state power in Komi Republic is divided into legislative, executive and legal which are represented by the State Council of Komi Republic; the Head of Komi Republic, the Government of Komi Republic and other executive organs of Komi Republic; Constitutional Court of Komi Republic and Justices of Peace.
  - Local self-governance is recognized and guaranteed in Komi Republic. It is exercised independently within its competence areas.
  - Local self-governance bodies can be endowed with individual state authority backed materially and financially. Appropriate state bodies control their power endowment. The local self-governance bodies are not related to the state authorities in Komi Republic.

# Map of Syktyvkar





## **SYKTYVKAR – CAPITAL OF REPUBLIC KOMI**

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- **The population** - 244,5 thousand person (for January, 1, 2005)
- On territorial division includes: area Ezhvinsky, 3 settlements of city type, 3 rural settlements.
- Syktyvkar develops as administrative, business, cultural and a centre of science of Republic Komi.
- **GEOGRAPHIC LOCATION OF SYKTYVKAR**
- Syktyvkar is located in northeast of the European part of Russia in 1410 km to northeast from Moscow. The general area of city - 152 km<sup>2</sup>. The city settles down in coast of two rivers - Sysola and Vychegda and is surrounded with woods. About 72% of territory of city it is borrowed with woods, 11% of the general area are borrowed under agricultural land, 5% - under reservoirs and bogs.



## SCIENCE AND EDUCATION

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- Syktyvkar - the scientific and educational center of republic. Conducting{leading} scientific institutes - Komi a centre of science of Ural branch of RAS, in his structure institute of geology, institute of biology, institute of language, the literature and a history, institute of physiology, institute of chemistry, institute of economic and social problems of the North, etc.
- The important event in a cultural life of capital became opening in 1972 Syktyvkar of the state university. In city some higher universities, including Komi the state pedagogical institute, Syktyvkar wood institute, Komi Republican academy of civil service and management, branches of educational institutions of other regions Russian Federations.