



EXPRESSION OF INTENT FOR ACTIVITIES IN IPY 2007-2008.

Deadline for Submission - January 14, 2005

Email to jcel@bas.ac.uk or Fax to +44-1223-221270

1.0 PROPOSAL INFORMATION

1.1 Title of proposed activity

International Study of Arctic Change

1.2 Acronym or short form title of proposed activity

ISAC

1.3 Concise outline of proposed activity

The recently observed changes in the Arctic system are caused by interaction of multiple factors and already have significant impact on people and ecosystems. For example, changes in climate, biodiversity, land use, increased natural resource exploitation, and marine transportation are closely interlinked with social, cultural and economic activities. Significant pressure on the environment caused by human activities on all spatial scales significantly contributes to the observed changes and will lead to further, probably larger, changes in the future. Understanding the interaction of the human and environmental domains in the Arctic and its effects on the globe are the major focal points of the ISAC study.

In order to reach this goal ISAC aims to facilitate a better understanding of how the Arctic evolves over time on a system scale and how it relates to the Earth System. More specifically, ISAC will i.a.:

- i)* collect, analyze and disseminate data from an integrated Arctic system observing network based on existing and new long-term observing sites as well as observing methods;
- ii)* clarify interconnections between various system components in the Arctic, including atmosphere, oceans, cryosphere, biosphere, land, and anthrosphere;
- iii)* study the nature and magnitude of positive or negative feedback processes which are characteristic of the Arctic system;
- iv)* study natural variability in the Arctic region;
- v)* quantify current environmental changes and predict future changes in the Arctic system;
- vi)* suggest ways for the adaptation of human living conditions to changes in the Arctic environment; and
- vii)* suggest ways for sustainable use of Arctic natural resources, in harmony with future scenarios for socio-economic development.

1.4 Which IPY 2007-2008 theme(s) will be addressed by the project (see Note 1)

Theme 1 – The current state of the polar environment	Y
Theme 2 - Change in the polar regions	Y
Theme 3 - Polar-global linkages and interaction	Y
Theme 4 - Investigating new frontiers	Y
Theme 5 -The polar regions as vantage points	Y
Theme 6 - Human societies in polar regions	Y

1.5 What is the major target of the proposed activity (specify one – see Note 1)

Natural or social science research	Y
Education/Outreach and Communication	Y
Data Management	Y
Legacy	Y
Other Targets	

1.6 What significant advance(s) in relation to the IPY themes and targets can be anticipated from this project?

100 words max

ISAC with its broad scope will address all six IPY research themes as indicated by item *i*) to *vii*) under 1.3 above.

1.7 What international collaboration is involved in this project? (see Note 2)

The overall objectives of ISAC should be reached through a closely coordinated, multi-national, Pan-Arctic effort. ISAC is based on the SEARCH (Study of Environmental Arctic Change) initiative, will build upon the outcome of ACIA (Arctic Climate Impact Assessment) and AHDR (Arctic Human Development Report) and requires close collaboration with other Arctic research programmes and organisations.

A number of international and national projects are addressing topics relevant to the ISAC objectives and the intention is not to duplicate any of these initiatives, but rather to cooperate and foster communication between ongoing activities, such as the iAOOS or the CLIC ACP.

2.0 FIELD ACTIVITY DETAILS

2.1 Outline the geographical location(s) for the proposed field work (see Note 3)

The ISAC geographic interest area covers the whole Arctic sector.

2.2 Define the approximate timeframe(s) for proposed field activities?

Arctic Fieldwork time frame(s)
04/07 – 03/09
mm/yy – mm/yy
mm/yy – mm/yy

2.3 What significant logistic support/facilities will be required for this project?
Can these resources be usefully shared with other projects? (see Note 4)

ISAC goal is to cooperate and foster communication between planned and ongoing activities, thus optimizing the use of resources.

2.4 Will the project leave a legacy of infrastructure? (see Note 1)

Within the ISAC activities a suite of observation systems will be developed, optimized and deployed. These systems will be in place for the foreseeable future and benefit a wide range of future Arctic research activities.

2.5 How is it envisaged that the required logistics will be secured? (one or more options can be identified)

Consortium of national polar operators	Y
Own national polar operator	Y
Another national polar operator	Y
National agency	Y
Military support	Y
Commercial operator	Y
Own support	Y
Other sources of support	Y or N
The objective of ISAC is to coordinate the Arctic research and their use of scientific and logistic resources, regardless of their origin.	

2.6 Has the project been "endorsed" at national or international level (see Note 5)

N	ISAC was initiated and has been endorsed by the international bodies IASC and AOSB.
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3.0 PROJECT MANAGEMENT AND STRUCTURE

- 3.1 Is the project a component (established over the IPY 2007-2008 timeframe) of an existing plan, programme or initiative or is it a new autonomous proposal?

New Project	Yes	Component of an existing or planned activity	see below
<p>ISAC is a new initiative to facilitate a better understanding of how the Arctic evolves over time on a system scale and how it relates to the Earth System with the objective to cooperate and foster communication between ongoing activities.</p>			

- 3.2 How will the project be organised and managed? (see Note 6)

ISAC is sponsored by IASC and AOSB and its science will be based on an International Science Plan and implemented through an Implementation Plan, both developed by an International Science Steering Group. ISAC is planned to be managed through an international project office to be set up during 2006.

- 3.3 What are the initial plans of the project for addressing the education, outreach and communication issues outlined in the Framework document? (see Note 7)

Important parts of ISAC include communication with indigenous communities and education of young scientists. Various channels will be used to disseminate information to a wide range of audiences, including presentations at conferences, lectures to the public, preparation of material that can be integrated into curricular material, and through the web. It is anticipated that several initiatives of summer schools, PhD student courses, etc. will be performed within the scope of ISAC.

- 3.4 What are the initial plans of the project to address data management issues (as outlined in the Framework document)? (see Note 8)

As the main objective of ISAC is the Earth System view, including the human dimension, it is essential to have a smooth flow of data between different groups. Hence ISAC is aiming for data being managed according to international data and metadata standards (leaning on experience by present successful data managers) and made available to the public.

- 3.5 How is it proposed to fund the project? (see Note 9)

ISAC being an international program of broad interdisciplinary scope will seek funding from suitable agencies at national and international levels.

3.6 Is there additional information you wish to provide?

100 words max

4.0 PROPOSER DETAILS

4.1 Lead Contact for the Expression of Intent

Title Professor
 First Name Leif
 Surname Anderson
 Organisation Department of Chemistry, Göteborg University
 Address 1
 Address 2
 Address 3
 Postcode/ZIP SE-412 96 Göteborg
 Country Sweden
 Telephone +46 31 772 27 74
 Mobile
 Fax +46 31 772 27 85
 Email leifand@chem.gu.se
 Repeat Email leifand@chem.gu.se

4.2 List up to six other project members and their affiliation.

Name 1 Torben Christensen
 Organisation Lund University, Sweden
 Name 2 Klaus Dethloff
 Organisation Alfred Wegener Institute for Polar and Marine Research, Potsdam, Germany
 Name 3 Bjorn Gunnarsson
 Organisation University of Akureyri, Iceland
 Name 4 Seymour Laxon
 Organisation University College London, UK
 Name 5 Rasmus Ole Rasmussen
 Organisation Roskilde University, Denmark
 Name 6 Peter Schlosser
 Organisation Lamont-Doherty Earth Observatory, USA

Accompanying Notes for submission of IPY 2007-2008 Expressions of Intent

Note 1 – IPY projects can take a number of forms.

a) 1.4 - They may address one or more of the IPY 2007-2008 themes and if so will be expected to have component activities addressing education, outreach, data management and possibly legacy.

b) 1.5 - The main focus can be on science or on one or more aspects of education, outreach and communicating the Polar Year, an activity that addresses data management or that explicitly leaves a legacy (such as building a new polar facility or establishing new systems).

Note 2 - An important characteristic of IPY 2007-2008 projects will be their international structure in order to facilitate research impractical for a single nation to undertake. Whilst project components are likely to be primarily funded at a national level, the projects are expected to be established and coordinated internationally. The Joint Committee will be looking for evidence of international collaborations developing in the Expressions of Intent and established by the June 2005 full proposal deadline.

Note 3 – The geographic locations need not be precise but logistic operators will want to broadly know where activities will occur, e.g. West Antarctic Ice Sheet, Weddell Sea, Svalbard, Greenland, etc. If you have more detail please supply. An IPY project can also be one that involves no field activities.

Note 4 - This refers to major facilities and infrastructure and some examples (not comprehensive) are given below.

Ice-breaker	Multi-instrumented platforms	Snow terrain vehicles
Ice strengthened research ship	Helicopters	Existing field stations
Ship-based drilling capability	Fixed wing geophysical aircraft	New field station
Ship recovery of buoys etc	Fixed wing transport aircraft	Observatories
Submarines	Rockets	Fuel depots
Autonomous Underwater Vehicle	Satellites	Ice drilling capability
Remotely Operated Vehicle	Radars	Rock-drilling capability

Please note if your project will share facilities with other IPY activities, or if there is capacity to support other projects as part of your activity (e.g. a marine biodiversity cruise could feasibly offer to deploy or recover buoys, moorings, etc., for an ocean/climate project)

Note 5 - All IPY projects will ultimately be subject to assessment by National (and/or International) funding agencies. However it will be important to establish coordination of IPY 2007-2008 at the national and international level. Both National IPY Committees and International bodies supporting IPY 2007-2008 will have an important role in this. Contact with these bodies may occur before January 14 2005 but should certainly take place before the June 2005 deadline for full proposals.

Note 6 – The Joint Committee for IPY 2007-2008 will be overseeing Polar Year activities but will not be managing the individual projects. It is anticipated that IPY projects will be self-managed, free-standing activities or be part of a planned or existing programme that has an established management structure. The JC will need to be satisfied that all proposals have realistic plans for structuring and managing activities. For the larger proposals the JC anticipates that a Project Steering Committee will be established.

Note 7 – It will be a requirement of IPY proposals that there is a clear plan for Education, Outreach and Communication (EOC) activities in the full proposal for the June 2005 deadline. If initial ideas for EOC have been established these can be outlined in the Expression of Intent.

Note 8 – It will be a requirement of IPY proposals that there is a clear plan for the management of project data, including its early availability to the community, presented in the full proposal for the June 2005 deadline. Initial ideas for data management should be outlined in the Expression of Intent, including which data organisations are likely to be involved, e.g. ICSU World Data Centres, Joint Committee for Antarctic Data Management, WCRP, etc.

Note 9 – It is anticipated that funding for IPY 2007-2008 will be primarily obtained through national funding agencies but in some cases will involve international funding agencies (e.g. European Union) and in some cases will come from private sources. Certain projects will be part of programmes already funded and if so these can be identified here.