DRAFT Preparation Form for Proposed IPY Activity

This WORD template is to assist in developing an agreed document for submission to IPY by June 30, 2005. Submissions to the IPO are to be made ONLY via the online version of this form which will be available at www.ipy.org.

1.0 PROPOSER INFORMATION

1.1 Title of Activity

ICESTAR/IHY – Interhemispheric Conjugacy in Geospace Phenomena and their Heliospheric Drivers

1.2 Short Form Title of Proposed Activity

ICESTAR/IHY

1.3 Activity Leader Details

First Name	Surname	
Kirsti	Kauristie	
Affiliation		Country
Finnish Meteorological Institute		Finland

1.4 Lead International Organisation(s) (if applicable)

Scientific Committee on Antarctic Research	

1.5 Other Countries involved in the activity

Australia	Brazil	Canada	Finland
Italy	Japan	Malaysia	Sweden
UK	Ukraine	USA	

1.6 Expression of Intent ID #'s brought together in the proposed activity(Lead first)

554	172	12	14	72	99	118	155	159	163
250	259	274	352	422	547	550	551	555	587
603	648	803	894						

1.7 Location of Field Activities (Arctic, Antarctic or Bipolar)

Bipolar

1.8 Which IPY themes are addressed (insert X where appropriate)

1. Current state of the environment	x	4. Exploring new frontiers	x
2. Change in the polar regions	x	5. The polar regions as vantage points	x
3. Polar-global linkages/tele-connections	x	6. The human dimension in polar regions	x

1.9 What is the main IPY target addressed by this activity (insert X for 1 choice)

1. Natural or social science	x	3. Education, Outreach, Communication	
2. Data management		4. Legacy	

2.0 SUMMARY OF THE ACTIVITY *(maximum of 1 page A4)*

ICESTAR/IHY will coordinate multinational research on solar-generated events which affect the composition and dynamics of the atmosphere in the terrestrial polar areas. The activity brings together two complementary programmes: the International Heliophysical Year (IHY) (EoI 172) is an international programme to coordinate the use of current and forthcoming spacecraft missions with ground-based observatory instruments to study the Sun's influence on the heliosphere, including effects at the Earth; ICESTAR (EoI 554), endorsed by SCAR, aims to coordinate research on magnetospheric and ionospheric responses to solar inputs, with emphases on the networking of ground-based instrument networks and the study of inter-hemispheric relationships. The proposed joint project includes the collective effort of 24 international consortia which submitted their Expressions of Intent (EoIs) to the IPY call in January 2005. Between them, these groups already run a large body of instrumentation in both the Arctic and the Antarctic to support this research programme. Several consortia are also proposing to install new instruments in the polar regions to significantly improve the spatial coverage and resolution and to provide pairs of geomagnetically conjugate observations from both the hemispheres. The resulting observations and value-added data products will be used together with state-of-the-art models and simulations to improve our quantitative understanding of the near-Earth space environment.

The scientific goals of the 24 EoIs can be categorised under the following three main themes:
(i) Coupling processes between the different atmospheric layers and their connection with the solar activity: E.g. effects of mid-atmospheric circulation and extreme solar activity on the content of stratospheric ozone and minor constituents, variations of the cosmic ray fluxes above the polar areas and South Atlantic Anomaly, energy transfer from powerful weather fronts to geospace heights and using novel technology for stratospheric magnetic field measurements.
(ii) Energy and mass exchange between the ionosphere and the magnetosphere: E.g. multiscale and tomographic studies of ionospheric phenomena (auroral precipitation, convection, turbulence and electron content) as driven by magnetospheric and solar activity, remote-sensing of the radiation belts, and balloon-borne radio soundings of the ionosphere in conjunction with ground stations and satellites as pilot studies for future NASA missions.
(iii) Inter-hemispheric similarities and asymmetries in geospace phenomena: Science goals as above but under this theme special emphasis will be put on using both Arctic and Antarctic observations. In addition to several magnetometer and optical instrument networks bipolar data will be available also from HF-radars, riometers, digital ionosondes, dynasondes, dual-frequency GPS receivers and LEO satellite beacon receivers.

Each project in the combined proposal has a set of project-specific scientific objectives, but the interrelationships between the studied processes mean there is significant synergy between the projects. The result is that the overall proposal will be able to address topics with far-reaching scientific impact and of importance to society at large. For example, a practical benefit will be improved prediction of space weather phenomena which adversely affect spacecraft operations, humans in space, and satellite-based positioning systems; on the scientific side, global scale coordination of observing networks will allow us to study conjugate and multi-scale geospace phenomena in fundamentally new ways.

IHY will coordinate an overarching synoptic observation programme and will provide systems and assessment processes for coordinating and facilitating dedicated campaigns in order to reap the advantages of interdisciplinary observations. To facilitate data sharing, ICESTAR will lead an effort to establish a set of Virtual Observatories in accordance with concept of the Electronic Geophysical Year (eGY). Frequently updated web-pages will be the most effective way to disseminate the scientific results. Special sessions at international meetings and dedicated workshops will provide other channels to reach the broader community and to efficiently collect feedback. The public awareness of ICESTAR/IHY activities will be increased with popular articles and web-pages and with regularly coordinated media events.

2.1 What is the evidence of inter-disciplinarity in this activity?

The study of geospace phenomena is inherently interdisciplinary because it brings together solar, heliospheric, space, and atmospheric sciences in order to understand the chain of processes from the solar interior to the Earth. Moreover, since we are studying a natural system in which order arises spontaneously and which displays evidence of self-organized behaviour, the new multidisciplinary field of "complexity" is becoming relevant to our efforts. We observe using diverse state-of-the-art instrumentation, located both on the ground and in space, so requiring the involvement of experts in systems, electrical, computer, communications and optical engineering. In order to deal effectively with the heterogeneous TByte data sets we produce, we draw on the fields of image and signal processing, machine intelligence, and grid computing.

2.2 What will be the significant advances/developments from this activity? What will be the major deliverables, including the outputs for your peers?

ICESTAR/IHY will generate unique, continuous high-quality data sets which will be easily accessible via modern data-sharing systems. The scientific community will benefit from several new methods for creating value-added products from raw data and for remote sensing different geospace phenomena like gravity waves, ionospheric turbulence and magnetospheric plasma oscillations. ICESTAR/IHY will increase our knowledge especially on the coupling between solar-terrestrial phenomena and neutral atmosphere dynamics (chemistry and even some meteorological phenomena) and on the interhemispheric asymmetries of these processes. These research areas are still relatively young and thus have potential for multidisciplinary and widely refereed publication records.

2.3 Outline the geographical location(s) for the proposed field work (approximate coordinates will be helpful if possible)

Location(s)	Coordinates
Iceland and Greenland (including Kangerlussuaq, Daneborg)	
N.American Arctic (Nunavut, NW Territories, Yukon, Alaska)	
Fennoscandia (including EISCAT and Andoya facilities)	
Svalbard and Russia (including Franz Josef Land and the Kara Sea)	
Antarctic Peninsula (including Palmer, Brazilian station)	
South Pole, Halley, SANAE, Syowa	
Vostok, Mirny, Dome C, Argentina, Adelaide, King George islands	
McMurdo, Scott, Terra Nova Bay	

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

Arctic Fieldwork time frame(s)	**Antarctic** Fieldwork time frame(s)
06/05 – 12/11	11/05 – 08/12

2.5 What major logistic support/facilities will be required for this project? (see notes)

Existing field stations	Multi-instrumented platforms
Satellites	Stratospheric balloons
Snow terrain vehicles	Rockets

Further details –

All the proposals for observations and deployment of instrumentation from the original EoIs were drawn up with the involvement either of national polar agencies or of organisations already operating facilities in the polar regions. In most cases the satellite and facility operations and logistics are already under the control of proposing groups. It is therefore proposed to leave the details of logistic support and its provision to the groups involved in the individual programmes of work.

2.6 How will the required logistics be supplied? Have operators been approached?

Source of logistic support	X for likely potential sources	X where support agreed
Consortium of national polar operators	X	

Own national polar operator	X	X
Another national polar operator	X	
National agency	X	
Military support	X	
Commercial operator	X	
Own support	X	X
Other sources of support (details)	Some, but not all, groups have logistic support agreed	

2.7 If working in the Arctic regions, has there been contact with local indigenous groups or relevant authorities regarding access?

Each programme within the ICESTAR/IHY initiative is responsible for obtaining the necessary permissions from all relevant groups and government agencies. Project operators typically obtain governmental permission and negotiate directly with local stakeholders.

3.0 STRUCTURE OF THE ACTIVITY

3.1 Origin of the activity(X for one choice)

Is this a new activity developed for the IPY period?	
Is this activity the start of a new programme that will outlive IPY?	
Is this a pulse of activity during 2007-2009 within an existing programme?	X

If part of an existing programme please name the programme – National programmes of all participating countries, in some cases coordinated by international agreements.

The SCAR ICESTAR programme (2005-2009) and several other national and international research programmes

3.2 How will the activity be organised and managed? Describe the proposed management structure and means for coordinating across the cluster

The activity will be organised as a federation of subsidiary projects, each with a large degree of autonomy but with coordinating oversight from a steering committee. The constituent EoIs of ICESTAR/IHY will have their own management bodies typically consisting of the instrument PIs and representatives from the funding parties, so that the best available expertise is close to the everyday activities. The ICESTAR/IHY steering committee will consist of representatives from the EoIs, with the lead being taken by IHY and ICESTAR, and including experts for the scientific issues, for the data-sharing procedures and for public and educational outreach. Detailed oversight of each of these areas will be delegated to a series of working groups - between them ICESTAR and IHY already have a number of these that cover the requirements of the overall activity.

The steering committee will take an early role in identifying where constituent EoIs have the potential to collaborate on observations or logistics. Many of the EoI projects are already consortia with well-established procedures for coordination (e.g. ISPAM and SuperDARN, 159 and 250). Further inter-project coordination will be achieved principally using the structures and procedures of IHY; projects will be encouraged to register their activities formally with the IHY either as Coordinated Investigation Programmes (CIPs) or as Synoptic Programmes. All such proposals will be reviewed by IHY Science Working Groups, organised by discipline and consisting of experts in the field. For the projects coming together for IPY there is typically already a commitment of resources. The role of the SWGs will therefore, in this case, largely be confined to identifying synergies between proposals; in general, they will also liaise with observatory representatives and IHY national coordinators to assess the feasibility of proposals and negotiate the use of observatory facilities.

The lead on coordinating data archiving and dissemination will be taken by ICESTAR, with the construction of its data portal being the driver for ensuring good practice and interoperability; the ICESTAR Data Portal Working Group will work closely with representatives from all the

constituent projects. IHY has a committee in place for public outreach and this will be extended appropriately to incorporate the particular interests of the other projects. The various committees and working groups will largely operate remotely, using e-mail and other electronic means (e.g. newsgroups, wikis) for communication. Business meetings will also be arranged to be held during the large scientific conferences (EGU, AGU or IUGG).

3.3 Will the activity leave a legacy of infrastructure and if so in what form?

A wide range of instrumentation with anticipated lifetimes beyond 2007 is proposed for installation in both polar regions including: HF radars, magnetometers, riometers, auroral imagers, GPS scintillation and dual frequency receivers, a VLF beacon transmitter, MST radars, radiometers and balloon-borne radio sounders (EoIs 12, 72, 250, 259, 422, 551, 555, 587, 803, 894). Installation of HF radars at Inuvik and Rankin Inlet (250, 648) has entailed providing power lines and buildings, and there is the potential for housing additional instruments at these sites. Permanent data archiving, management and access systems will be left by many projects - ISPAM, SuperDARN, ISAP and CGSM are good examples (159, 250, 422, 648). ICESTAR (554) will leave an overarching web portal to a set of Virtual Observatories for geospace, in line with the activities of the Electronic Geophysical Year (EoI 150 in another cluster). IHY (172) will leave behind systems for improved collaboration and cooperation worldwide, and this applies to a greater or lesser extent to most of the original EoIs. Existing correlative data systems (e.g., CDAWeb, OMNIWeb, COHOWeb, ATMOWeb, ModelWeb, SSCWeb, HelioWeb) of the NASA Space Physics Data Facility (259) will support this effort.

3.4 Will the activity involve nations other than traditional polar nations? How will this be addressed?

A Malaysian group is participating directly through EoI 894, and the National Astrophysics and Space Science Programme of South Africa (in EoI 551) provides space-related research opportunities to students from across Africa. The IHY programme has a commitment to including developing nations; the UN Basic Space Science Initiative is dedicated to IHY from 2005 to 2008, with the aim of involving developing nations in deploying arrays of ground-based instrumentation. The importance of the polar regions in the solar-terrestrial system is expected to lead to these nations collaborating in several of the observational programmes of this proposal.

3.5 Will this activity be linked with other IPY core activities? If yes please specify

The consortium includes groups (e.g. DEEVERT, EoI 12) which are concerned with coupling processes through the atmosphere, linking with core topics on clouds, atmospheric chemistry, weather and climate, and teleconnections between the poles and mid-latitudes. The effect of varying cosmic ray fluxes on the geoelectric circuit and cloud formation provides other links with these atmospheric topics. ICESTAR will work with the SCAR/COMNAP Joint Committee on Antarctic Data Management within the framework of eGY (150). Many of the groups run monitoring instruments in the Arctic, linking with the COMAAR (503) initiative to improve Arctic monitoring, and UAMPY (551) is closely connected with activities to extend the capabilities of Svalbard and SANAE as research bases (597, 825). IHY has a strong emphasis on public outreach, with specific links to the Peoples' Planet activity (841).

3.6 How will the activity manage its data? Is there a viable plan and which data management organisations/structures will be involved?

The research groups making observations will be offered three ways to join the ICESTAR/IHY data archiving and dissemination system: (i) to participate in the development of Virtual Observatories (ii) to join with the IHY Synoptic Programmes or (iii) to operate as a Coordinated Investigation Programme. The first option will naturally demand more work initially than the other options but in the longer run these efforts will be repaid by the ease with which data from multiple sources can be shared and combined. The third option is intended for some special cases where restricted access for a smaller group is required. Some research groups maintaining networks of widely-used instruments, like magnetometers, SuperDARN HF radars (EoI 250), and VLF Remote Sensing equipment (EoI 587) have already expressed their interest in a Virtual Observatory during the ongoing ICESTAR project sponsored by SCAR.

3.7 Data Policy Agreement (Place X in box for agreement)

Will this activity sign up to the IPY Data Policy (see website)	x

3.8 How will the activity contribute to developing the next generation of polar scientists, logisticians, etc.?

ICESTAR/IHY will be run mostly by universities and research institutes collaborating with them. The proposed project will together with space science centers provide plenty of material for interesting and challenging exercises and thesis works. Students will participate in the measurement campaigns and in the development of the modern data-sharing systems. The easily accessible data-archives will provide important reference material for observational and theoretical investigations.

3.9 How will this activity address education, outreach and communication issues outlined in the Framework document?

For direct communication with the general public ICESTAR/IHY will establish an outreach programme which aims to coordinate parallel semi-annual media events in all participant countries during the IPY years. These events will be realized as press releases and popular lectures summarizing the recent scientific findings of the project. For the audience keen on observing the environment several ICESTAR/IHY groups will put up web-interfaces to show real-time data from their instrumentation. The public understanding of geospace science will be expanded also in collaboration with national research councils. The IPY 2007 Space Science Symposium (EoI 14) and the "Life on Icy Worlds" conference (EoI 259) respectively planned to be arranged in Greenland and in Alaska will be important forums for educating national science administrators and teachers about historical and forth coming research activities with the perspectives from Arctic natives, Antarctic scientists, and solar system explorers.

3.10 What are the proposed sources of funding for this activity?

Research institutes and space agencies have already made investments for the project by establishing ground-based and space-borne instrumentation. Further support for salaries and for the maintenance of equipment will be applied for from national funding agencies and from international sources (EU). SCAR has given ICESTAR some seed funding for preparatory work (for workshops and for the development of prototype Virtual Observatories).

3.11 Additional Comments

In 1.5 we list the countries of the Lead Contacts of the contributing EoIs. Other countries involved with ICESTAR/IHY activities are: Argentina, Chile, China, Denmark, France, Germany, New Zealand, Norway, Russia, Poland and South Africa.

The agreement to the IPY Data Policy in item 3.7 is conditional on the final form of this policy. In particular, the question of proper acknowledgement of data producers must be addressed satisfactorily, along the lines indicated in the IPY Framework Document. Guidelines for the cases where private parts ask data for commercial purposes should also be included in the final document.

4.0 CONSORTIUM INFORMATION

4.1 Contact Details

	Lead Contact	Second Contact
Title	Dr	Professor
First Name	Kirsti	Richard
Surname	Kauristie	Harrison

Organisation	Finnish Meteorological Institute	CCLRC Rutherford Appleton Laboratory
Address		Chilton, Didcot, Oxfordshire.
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Country	Finland	United Kingdom
Telephone	+358-9-19294637	+44 1235 446884
Mobile		
Fax	+358-9-19294603	+44 1235 445848
Email	Kirsti.kauristie@fmi.fi	r.a.harrison@rl.ac.uk
Repeat Email	Kirsti.kauristie@fmi.fi	r.a.harrison@rl.ac.uk

4.2 Other significant consortium members and their affiliation

Name	Organisation	Country
Andy Breen	University of Wales	UK
Carine Briand	Observatory of Meudon	France
Jean-Louis Bougeret	Observatory of Meudon	France
Maurizio Candidi	National Institute for Astrophysics	Italy
Joseph Davila	NASA, Goddard Space Flight Center	US
Vladimir Papitashvili	University of Michigan	US
Richard Stamper	Rutherford Appleton Laboratory	UK
Barbara Thompson	NASA, Goddard Space Flight Center	US
Allan Weatherwax	Siena College	US
Howard Roscoe	British Antarctic Survey	UK
Robert Clauer	University of Michigan	US
Cesar Valladares	Institute for Scientific Research, Boston College	US
Ermanno Amata	National Institute for Astrophysics	Italy
Ingrid Sandahl	Swedish Institute of Space Physics	Sweden
Silvia Masi	La Sapienza University	Italy
Anthony van Eyken	EISCAT Scientific Association	Sweden
Ian McRea	Rutherford Appleton Laboratory	UK
Mervyn Freeman	British Antarctic Survey	UK
John Cooper	NASA, Goddard Space Flight Center	US
Philip Wilkinson	IPS Radio and Space Services	Australia
Akira Kadokura	National Institute of Polar Research	Japan
Eleri Pryse	University of Wales	UK
Takehiko Aso	National Institute of Polar Research	Japan
Lucilla Alfonsi	National Institute of Geophysics and Volcanology	Italy
Farideh Honary	Lancaster University	UK
Umran Inan	Stanford University	US
Emilia Correia	Mackenzie University	Brazil
George Sofko	University of Saskatchewan	Canada
Yury Yampolsky	National Academy of Science	Ukraine
Zainol Abidin Abdul Rashid	National University of Malaysia	Malaysia
Eric Donovan	University of Calgary	Canada
Yvan Orsolini	Norwegian Institute for Air Research	Norway
Oleg Troshichev	Artic and Antarctic Research Institute	Russia
Yasuhiro Murayama	Nat. Inst. of Information and Communication Tec.	Japan
Paul Stauning	Danish Meteorological Institute	Denmark
Valeriy Petrov	IZMIRAN (RAS)	Russia
Viyacheslav Pilipenko	Institute of Earth's Physics (RAS)	Russia

Notes for completing the WORD template for Proposed IPY Activities

** **The form is not for submission (that must be done online) - it is a tool for preparing the material required for completing the online form.**

** **This form is 7 pages long and the online form will match this length so if your completed WORD template is 7 pages you will have no problems in cutting and pasting to the online form**

** **We suggest you use 11 pt Times or Times Roman for text entry.**

Proposer Information

1.1 A full title for the proposed activity

1.2 Please provide a short title, ideally an acronym which will help with database searching.

1.3 This should be the person nominated to lead the activity. They may also be the primary contact with whom the IPO and JC will interact (see 4.1)

1.4 Where an international organisation is involved in the activity, they should be named (acronym is sufficient)

1.5 These are countries other than that of the activity leader. There will be more cells available on the web form. It is important that each activity demonstrate that there is internationalisation. Components of IPY activities can be operating at simply a national level but should synchronize with comparable groups in other nations activities to ensure internationalization at the IPY activity (core project) level.

1.6 The ID # for each EoI (from the Jan 14 exercise) involved in the activity should be named here. This will allow the IPO to track EoI's that have joined or left clusters identified in the original assessment.

1.7 Insert only one of the three choices.

1.8 Put an X against all of the themes for which the activity is relevant.

1.9 Put an X against one of the IPY targets which most closely describes the activity's main target

Activity Description and Time/Location Information

2.0 A description of what the activity entails and that includes reference to how the various component EoI's contribute to the overall activity. The description should focus on what will be undertaken within the activity and not how it will be organised. The text must not include graphics, equations or substantial formatting as these all cause problems for the database search engine. The JC only wants text entry in this field – leave the fancy presentations for the funding agency applications. Do not exceed 1 page.

2.1 The IPY is promoting interdisciplinary science and it is one of the IPY criteria that researchers should attempt to address.

2.2 This should focus on what will broadly emerge from the activity and if possible list some deliverables. It will be valuable to outline what outputs will be targeted at your peers – papers, workshops, e-media.

2.3 IPY activities should be polar-focussed (not necessarily located in polar regions. These fields should identify one or more areas where field activities will occur, e.g. West Antarctic Ice Sheet, Weddell Sea, Svalbard, Greenland. There is no need to include reference to Antarctica or Arctic (picked up in 1.7). If approximate coordinates are available this will allow distribution maps to be generated for IPY planning and promotional activities and assist logistic operators. An IPY activity does not have to include a field component but will do so in most cases.

2.4 IPY activities should occur during 2007-2009. Use the given format to define fieldwork periods.

2.5 This refers to major facilities and infrastructure and some examples (not comprehensive) are given below. Please use the fields to enter logistic requirements and use the text box to add further details.

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).

2.6 Mark X against the 1 or more support options you would anticipate using and place an X against those which have been agreed or are being considered by logistic operators.

2.7 Access to certain Arctic areas is subject to licensing and should not be assumed will be granted so a dialogue with relevant authorities will be necessary. The Canadian IPY Office is a useful start point.

Structure of the Activity

3.1 Identify if your activity is a new activity limited to the IPY period, a new one that may be running for many years but will use IPY to kick start its programme, or an existing programme that will undertake a pulse of activity to coincide with the IPY period. If the latter please name the programme.

3.2 A major IPY criterion is "evidence of a viable management plan" and this is an opportunity to outline how the cluster will organise itself and ensure there is proper coordination. 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.

3.3 Whilst IPY is envisaged as primarily a pulse of activity during 2007-2009, it is hoped that, as with many IGY initiatives, the initial activity leaves a legacy longer term which could be for example – an observational network, a field research facility, an accessible database, an education course or a health monitoring programme.

3.4 The IPY wants to broaden interest in the polar regions to include nations not traditionally involved in polar activities and has included this as one of its criteria. In some cases this may involve researchers joining clusters for field work but could also be, for example, through attendance of a workshop organised by the cluster.

3.5 The Joint Committee envisages a relatively small number of substantial core projects during IPY and it is anticipated that the JC will assist these projects to interact. Some activities are already considering formal and informal links with related clusters which will bring added value to these IPY activities.

3.6 IPY will generate enormous quantities of data and it should be accessible data so core projects will have to agree a data policy that will allow interaction across projects and early availability to the community. This field offers the opportunity to demonstrate that the components of the cluster have an agreed and valid approach to data management which can be considered alongside other approaches across IPY by the Data Management Sub-Committee to ensure effective coordination. Data organisations such as the World Data Centres, JCADM or national data centres.

3.7 IPY wishes all data to be freely available to the community (accepting certain exceptions e.g. human research) and all core projects will be expected to agree to sign up to the IPY Data Policy (which will be available on the website before the end of May 2005.

3.8 IPY has the development of the next generation of polar researchers as a high priority and IPY activities should show evidence of having considered how to address this issue.

3.9 All activities are expected to give consideration to addressing education, outreach and communication (mainly media focussed). Establishing a website will be a popular suggestion but interactions with schools, involving children/teachers in field activities, holding workshops, producing books or electronic media, collaborating with film-makers are all further possibilities.

3.10 It is recognised that many proposed activities will not yet have established funding lines but it should be demonstrated that valid sources of funding will be approached to support the activity.

3.11 This field can be used for any additional information that you feel is not addressed in the rest of the form or it maybe a specific piece of information that helps a national committee locate its nation's proposed activities.

Consortium Information

4.1 Details for the two primary people in each activity that the IPO can then contact where necessary on behalf of the consortium.

4.2 A list of other significant consortium members, their affiliation and country. The on-line form will also ask for email addresses. Up to 35 additional names can be added to this table, more will be available in the online version.