Full Proposals for International Polar Year 2007-2008 Activities

Proposed IPY Activity Details

1.0 PROPOSER INFORMATION

(Activity ID No: 372)

1.1 Title of Activity
Polar View: The Polar Information Centre

1.2 Short Form Title of Proposed Activity
Polar View

1.3 Activity Leader Details
Charles Randell
C-CORE
Canada

1.4 Lead International Organisation(s) (if applicable)
C-CORE, Canada; FIMR, Finland; Met.No, Norway
British Antarctic Survey, UK;
WMO/IOC Joint Technical Commission for Oceanography and Marine Meteorology - Expert Team on Sea Ice (JCOMM - ETSI), Switzerland

1.5 Other Countries involved in the activity
France
Denmark
Sweden
Germany
Italy
USA
Russia

1.6 Expression of Intent ID #'s brought together in this proposed activity
317

1.7 Location of Field Activities
Bipolar

1.8 Which IPY themes are addressed
1. Current state of the environment

1.9 What is the main IPY target addressed by this activity
2. Data Management

2.0 SUMMARY OF THE ACTIVITY

The proposed activity will build on the Polar View network and infrastructure to develop a single point of access to ice-related information for IPY investigators.

Polar View is an international consortium of members from government, industry and academia that have formed a strategic partnership to effect the operational monitoring of polar environments using Earth Observation (EO) technologies. Satellite monitoring is a powerful tool for polar monitoring. It is the only operational method to provide information over large and often inaccessible areas in a cost-effective manner. EO-derived information can support monitoring and analysis related to sustainable development (e.g. transportation, resource exploration, site remediation, bio-productivity monitoring), the environment (e.g. climate change, pollution, animal populations and habitats), and public safety (e.g. activity monitoring, disaster management, search and rescue).

It is planned to provide expert control of the remotely sensed information collaboratively with responsible ice services on the basis of routine ice charts, in particular for areas experiencing higher probability for ambiguous interpretation, such as Antarctica, areas during melt season and the fast ice zone.

Funded under the European Space Agency (ESA)/European Commission Global Monitoring for Environment and Security (GMES) initiative, Polar View brings together service providers, researchers and most of the world's national ice services to provide operational information services related to polar environments to international, national and local stakeholders worldwide. Polar View maintains close links with the JCOMM Expert Team on Sea Ice, the International Ice Charting Working Group, and the European and Canadian Space Agencies to support its operations.

A dedicated web portal will be developed to deliver Polar View IPY ice information. It will include a standard suite of products consisting of ice information routinely produced by the national ice services and Polar View for both logistics (e.g. sea ice distribution information for shipping) and science (e.g. development and detailed spatio-temporal distribution of ice leads). In addition, the specialized, custom-tailored products will be offered in support of specific IPY activities. The products will be generated primarily, but not exclusively, using EO data. The portal will be a convenient, single (although not the only) access point for ice-related information.

Polar View will contribute its existing mechanisms to minimize EO data acquisition conflicts and coordinate with EO data providers. Access to the information on the Polar View portal will be open to all IPY researchers.

2.1 What is the evidence of inter-disciplinarity in this activity?
The Polar View portal will bring together a wide range of techniques and disciplines under one umbrella to deliver a coordinated range of sea ice navigation and polar information based on EO data. This approach has already been demonstrated in precursor activities supported by ESA, including The Northern View and ICEMON.

2.2 What will be the significant advances/developments from this activity? What will be the major deliverables? What are the outputs for your peers?
The Polar View portal will act to enhance the overall range of science and operational activities that benefit from satellite data. The most significant advance will be the provision from a single organisation, of sea ice information products derived from satellite data. This synergy is expected from the combined presentation of various kinds of multi-spectral remotely-sensed data and routine expert products like ice charts.

The deliverables are the Polar View portal as well as the information products delivered to users operating during IPY in waters affected by sea ice. Beyond navigation data, further satellite based polar information will be produced (e.g. snow water equivalent & glacier monitoring for

hydrology) for interested users.

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

Locations	Coordindates
Northern regions affected by ice	> 50 Deg N
Southern regions affected by ice	> 60 Deg S

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

Arctic Fieldwork time frame(s)	Antarctic Fieldwork time frame(s)
	MM/YY - MM/YY
	MM/YY - MM/YY
	MM/YY - MM/YY

2.5 What major logistic support/facilities will be required for this project?

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

Source of logistic support	Likely potential sources	Support agreed
Consortium of national polar operators		
Own national polar operator		
Another national polar operator		
National agency		
Military support		
Commercial operator		
Own support		
Other		

2.7 If working in the Arctic regions, has there been contact with local indigenous groups or relevant authorities regarding access?
Yes. During the precursor activity, The Northern View, ice edge information services were delivered to indigenous people. This involved discussion with user groups and the Arctic Council. These services will continue throughout Polar View, and all public domain products will become available via the Polar View portal.

3.0 STRUCTURE OF THE ACTIVITY

3.1 Origin of the activity
This is a pulse of activity during 2007-2009 within an existing programme

If part of an existing programme please name the programme – ESA GMES Services Element

3.2 How will the activity be organised and managed? Describe the proposed management structure and means for coordinating across the cluster
Overall management of the Polar View programme is the responsibility of C-CORE, Canada. Activities are structured across four regional nodes, each with a local node manager. These are outlined below.

North American Node – C-CORE, Canada
Russian/Arctic Node – Met.No, Norway
Baltic Sea Node – FIMR, Finland
Antarctic Node – British Antarctic Survey, United Kingdom

Coordination across the cluster is managed by C-CORE through a series of set work plans and service agreements with users. Communication is maintained through frequent email, weekly conference calls with the regional node managers and regular programme collocation meetings. The European Space Agency also maintains an involvement to ensure best outcome of the programme.

Advice on programme strategy and direction is provided by a Service Strategy Group, consisting of Mary Simon (Canada), Joan Eamer (Norway) and Pentti Malkki (Finland).

3.3 Will the activity leave a legacy of infrastructure and if so in what form?
Polar View will establish a service delivery infrastructure in the organisations within each regional node. Whilst the programme is funded by ESA for three years, effort is currently underway to ensure sustainability of this important ESA programme. The Polar View portal will remain in existence after the end of IPY, and further funding will be sought to ensure that updated information will be accessible through the portal in the future.

3.4 Will the activity involve nations other than traditional polar nations? How will this be addressed?
Delivery of services will be by traditional polar nations because of their experience and operations in polar regions. However the use of these services is open to other nations if they have a requirement for such information.

3.5 Will this activity be linked with other IPY core activities? If yes please specify
Using existing channels of communication, Polar View will work closely with ESA's principal IPY activity, GIIPSY. While GIIPSY aims at coordinating various space segments to provide information for IPY, Polar View will contribute its experience and mechanisms in coordinating user requirements and feeding information from users back to ESA.
Through its membership, Polar View will maintain links to a number of other approved or intended IPY activities, including DAMOCLES, EUROGOOS Arctic Task Team, GLABENAP, GLICOPEN, GLACIODYN and KINVIKA.

3.6 How will the activity manage its data? Is there a viable plan and which data management organisations/structures will be involved?
The provision of Polar View services is user need driven. Therefore, issues related to data formats, delivery, turn-around time, etc. vary considerably across Polar View's expansive portfolio of services. Within Polar View, data management has been the purview of its service providers. A plan will be developed to harmonize service delivery and data management across the network, where applicable.

3.7 Data Policy Agreement
Will this activity sign up to the IPY draft Data Policy (see website)
Yes

3.8 How will the activity contribute to developing the next generation of polar scientists, logisticians, etc.?
The Polar View portal will represent an opportunity for students and interns associated with Polar View member institutions to collaborate in the development and delivery of information services. The material accessible through the Polar View portal will also be available for teaching and training purposes.

3.9 How will this activity address education, outreach and communication issues outlined in the Framework document?
Outreach and communication are key functions of Polar View. Printed, web-based and video

materials will be produced to communicate information about how ice conditions are monitored in the Arctic and Antarctic through Polar View and the relationship of ice conditions to sustainable development, environment and public safety. Many Polar View services provide information that is used to adapt to day-to-day and year-to-year variations in ice and snow conditions – and this information is valuable for developing policies and actions to adapt to the consequences of climate change. Polar View will produce annual plain language reports that present data summaries and explore the issues around regional climate change impacts and adaptations in relation to selected Polar View Services. These outreach and communications products will be made available through the Polar View portal.

3.10 What are the proposed sources of funding for this activity?
Polar View is funded for the next three years, including IPY, by the ESA. It is the ultimate goal of Polar View to find economically sustainable solutions for all its activities. Accordingly, work is ongoing to identify suitable funding opportunities through national and international venues. National ice services have agreed to make their ice information products available via the proposed portal.

3.11 Additional Comments

4.0 CONSORTIUM INFORMATION

4.1 Contact Details

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4.2 Other significant consortium members and their affiliation

Name	Organisation	Country
Helge Tangen	Mat.No	Norway
Ari Seina	FIMR	Finland
Kim Partington	Vexcel	UK
Peter Wadhams	University Cambridge, DAMTP	UK

Leif Toudal Pedersen	Danish Technical University	Denmark
Ian Brown	University Stockholm	Sweden
Stefan Nilsson	SMHI	Sweden
Keike Bach	VISTA	Germany
Sari Metsamaki	Finnish Environment Institute	Finland
Jouni Pulliainen	Helsinki University of Technology	Finland
Karkko Koskinene	Finnish Meteorological Institute	Finland
Joan Eamer	UNEP/GRID-Arendal	Norway
Georg Heygster	University Bremen	Germany
Eric Buch	Danish Meteorological Institute	Denmark
Flavio Parmiggiani	ISAC-CNR	Italy
Harvey Goodwin	NPI	Norway
Robert Ezraty	IFREMER	France
Tom Hirose	Noetix Research	Canada
David Arthurs	HAL Corporation	Canada
Tom Boivin	Hatfield Consultants	Canada
John Falkingham	Canadian Ice Service	Canada
Matthias Braun	University Bonn	Germany
Robin Berglund	VTT	Finland
Mike Robson	MDA Corporation	Canada
Jon Styles	ESYS	UK
Vasily Smolyanitsky	JCOMM ETSI/AARI	Russia
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