

International Polar Year



2007 - 2008

International and National Planning

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International
Polar Year



2007 - 2008

IPY Vision

An international program of coordinated research to explore the polar regions, deepen understanding of polar interactions including their role in global climate, expand our ability to detect changes, and extend this knowledge to the public and decision makers.

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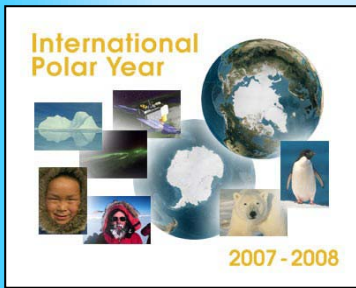
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IPY Period

March 2007 to March 2009



IPY Heritage

- First Polar Year – 1882/3
- Second Polar Year – 1932/3
- International Geophysical Year – 1957/8
 - Fostered International Cooperation during the Cold War
 - Raised Polar Science to a New Level
 - Many exciting discoveries (mid-ocean ridges to VanAllen belts)
 - Antarctic Treaty signed



ICSU IPY Planning Group

- **Membership**

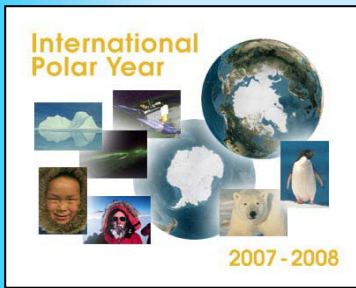
- Chris Rapley (UK, Chair)
- Robin Bell (USA, Vice-Chair)
- Ian Allison (Australia)
- Robert Bindschadler (USA)
- Steve Chown (South Africa)
- Gerard Duhaime (Canada)
- Vladimir Kotlyakov (Russia)
- Olav Orheim (Norway)
- Zhanhai Zhang (China)

- Eduard Sarukhanian (WMO)
- Michael Kuhn (IUGG)
- Werner Janoschek (IUGS)
- Prem Chand Pandey (India)
- Hanne Petersen (Denmark)
- Gino Casassa (Chile)

- **Support**

- Chris Elfring (US PRB)
- Cynan Ellis-Evans (BAS, UK)
- Tim Moffat (BAS, UK)
- Leah Goldfarb (ICSU)

ICSU/WMO Joint Committee assumed IPY planning in
October 2004



ICSU IPY Planning Group Outline Science Plan

- Science themes (6)
- Observational initiatives (6)
- Data management
- Education, outreach and communication
- Organizational structure
- Implementation process



IPY Themes

1. To determine the present environmental status of the polar regions by quantifying their spatial and temporal variability.
2. To quantify, and understand, past and present environmental and human change in the polar regions in order to improve predictions
3. To advance our understanding of polar - global teleconnections on all scales, and of the processes controlling these interactions.
4. To investigate the unknowns at the frontiers of science in the polar regions.
5. To use the unique vantage point of the polar regions to develop and enhance observatories studying the Earth's inner core, the Earth's magnetic field, geospace, the Sun and beyond.
6. To investigate the cultural, historical, and social processes that shape the resilience and sustainability of circumpolar human societies, and to identify their unique contributions to global cultural diversity and citizenship.

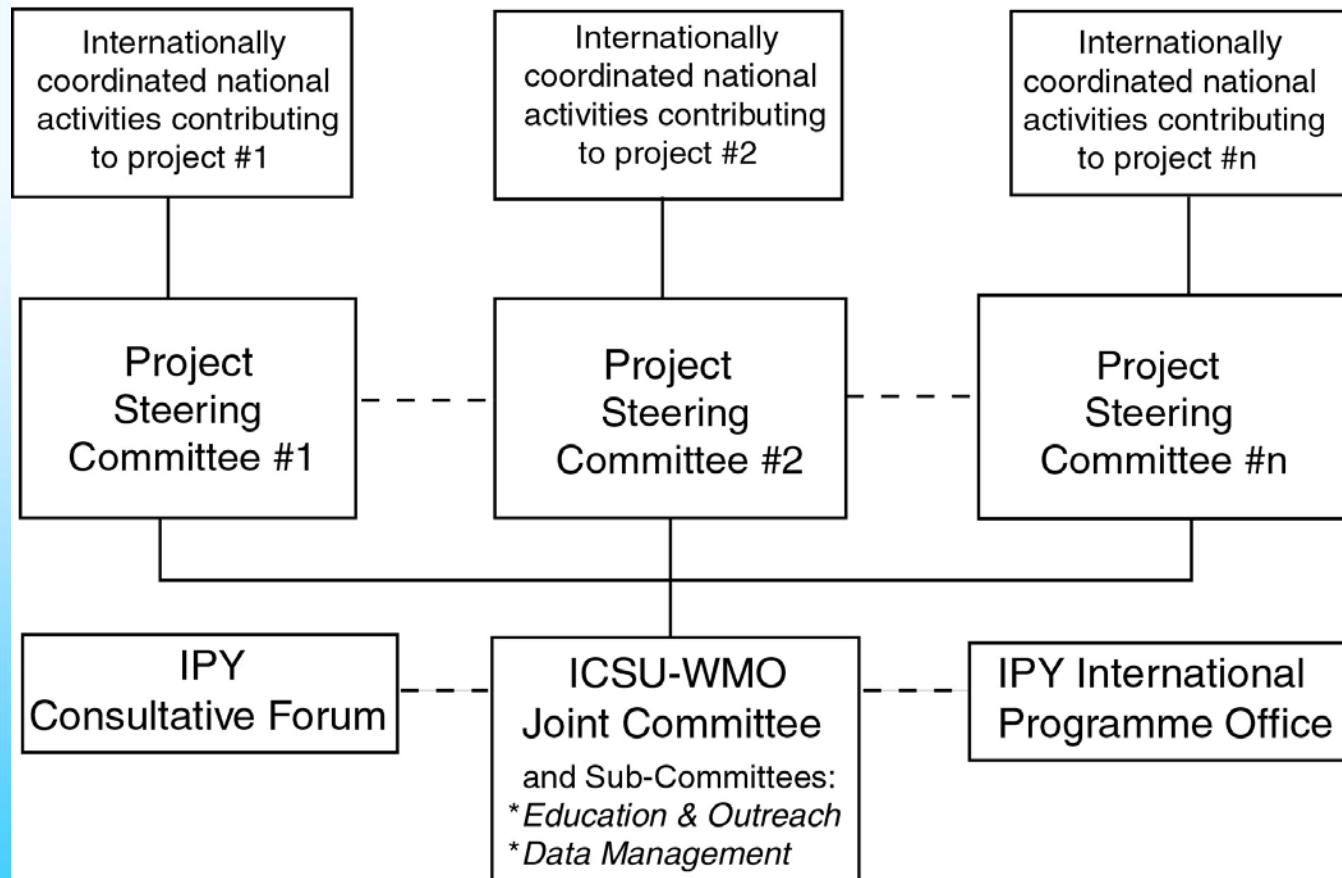


Observational Initiatives

1. A synoptic set of multidisciplinary observations to establish the status of the polar environment in 2007-2008
2. The acquisition of key data sets necessary to understand factors controlling change in the polar environment
3. The establishment of a legacy of multidisciplinary observational networks
4. The launch of internationally coordinated, multidisciplinary expeditions into new scientific frontiers
5. The implementation of polar observatories to study important facets of Planet Earth and beyond
6. The creation of datasets on the changing conditions of circumpolar human societies from the First IPY 1882-83 to the present



Organizational Structure





Implementation Timeline

Oct. 2004: ICSU/WMO IPY Joint Committee selected

14 Jan. 2005: Pre-proposals due to JC

Feb 2005: JC examines pre-proposals and provides feedback

March 2005: JC reports to Consultative Forum

June 2005: Full proposals due to JC

July 2005: JC announces IPY programme

March 2007: IPY begins



IPY Identification Criteria

1. Makes significant advances within one or more IPY themes;
2. Involves at least one polar region and takes place within the IPY timeframe;
3. Contributes to international collaboration that could include nations not traditionally involved in polar research;
4. Presents a viable management plan and organisational structure, including a time line when commitments (funding, logistic etc) can be expected;
5. Presents a viable approach for securing funding;
6. Proposes a viable plan for securing appropriate logistical support;
7. Signs up to the principles and aims of IPY data management and proposes a viable data management plan;
8. Proposes a viable plan or approach for education, outreach and communication activities;
9. Shows how it will foster the next generation of polar researchers;
10. Provides the opportunity for a legacy (observation sites, facilities, systems);
11. Builds on existing plans, programmes or initiatives or, at least, does not conflict with them;
12. Has interdisciplinary elements (team, project etc.);
13. Is “endorsed” by one or more National Committees.



ICSU/WMO Joint Committee

- Ian Allison (Co-Chair: Australia)
- Michel Beland (Co-Chair: Canada)
- Robin Bell (USA)
- Kjell Danell (Sweden)
- Eberhard Fahrbach (Germany)
- Edith Fanta (Brazil)
- Yoshiyuki Fujii (Japan)
- Grete Hovelsrud-Broda (Norway)
- Vladimir Kotlyakov (Russia)
- Igor Krupnik (USA)
- Jeronimo Lopez-Martinez (Spain)
- Tillmann Mohr (Germany)
- Qin Dahe (China)
- Chris Rapley (UK)
- Ex-Officio
- Keith Alverson (UNESCO)
- Leah Goldfarb (ICSU)
- Eduard Sarukhanian (WMO)
- Colin Summerhayes (SCAR)
- Odd Rogne (IASC)



U.S. Planning Activities for International Polar Year 2007-08

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USNC for IPY

Mary Albert, *Chair*, ERDC CRREL
Cecilia Bitz, Washington
John Kelley, Alaska- Fairbanks
Douglas Wiens, Washington at St.
Louis
Igor Krupnik, Smithsonian Institution
Louis Lanzerotti, Bell Labs/ Lucent
Technologies
Philip Smith, McGeary & Smith
Jerry Bowen, CBS News
Richard Glenn, Arctic Slope
Regional Corporation
George Somero, Stanford
Cristina Takacs- Vesbach, New
Mexico

Robert Bindshadler, NASA - GSFC
David Bromwich, Ohio State
Gunter Weller, Alaska- Fairbanks
Jacqueline Grebmeier, Tennessee
Peter Schlosser, Lamont- Doherty
Earth Observatory
Chuck Kennicutt (Ex- officio) Texas
A& M
Terry Wilson (Ex- officio) Ohio State
Patrick Webber (Ex- officio)
Michigan State
Robin Bell (Ex- officio) Lamont-
Doherty Earth Observatory
Chris Elfring, NRC
Paul Cutler, NRC
Rachael Shiflett, NRC

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USNC IPY Facilitation

- USNC initial study of IPY: Aug 2003-Dec. 2004
- Community interaction sessions at AGU and other scientific meetings
- Secured US agency buy-in and ownership
- Used web site to discuss IPY and collect ideas
- Responded to ICSU IPY Planning Group
- Developed and articulated the IPY vision
 - *“A Vision for the International Polar Year 2007-2008” (NRC, 2004)*
- Hosted interagency-PRB meeting to begin implementation discussions
- Nurturing congressional action to recognize and support IPY

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U.S. Agencies Actively Planning for IPY

- **NSF** (designated by the White House as the lead US federal agency)
- **NOAA**
- **NASA**
- **USGS**
- **Dol**
- **DoD**
- **DOE**
- **EPA**
- **NIH**
- **Smithsonian**
- **State Department**
- **OSTP**

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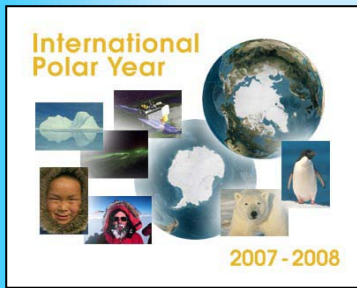


USNC IPY Report Summary

IPY 2007-2008 should:

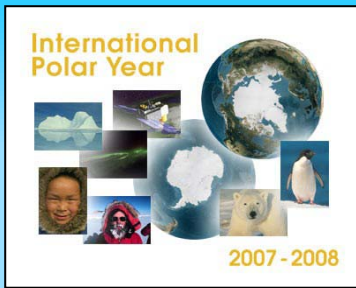
- **Initiate sustained effort to assess environmental change and variability**
- **Study coupled human-natural systems**
- **Explore new frontiers**
- **Create observing networks and improve science infrastructure**
- **Engage and excite the public**
- **Leverage IPY to advance polar science (do new things and move current priorities ahead)**
- **Do more than any one nation alone could do**

**The US should participate as a leader
in International Polar Year 2007-2008**



IPY: An Early Component of CCSP and IWGEO Implementation

- CCSP specifically identifies “polar feedbacks” as one of top three key processes to understand
 - Polar changes are accelerating
 - Global implications must be addressed
- IWGEO implementation emphasizes need for global, coordinated satellite and in-situ networks
 - IPY will focus on observations (coordinated, multidisciplinary, innovative technology and space-based)
 - IPY initiation in 2007 is early in IWGEO 10-year implementation strategy



Questions?

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