

Research initiatives developing within the International Polar Year 2007-2008.



Barry Goodison
Chair, CliC SSG

IPY 2007-2008 Concept

An intensive burst of internationally coordinated, interdisciplinary, scientific research and observations focussed on the Earth's Polar regions.

Time frame: 1 March 2007 to 1 March 2009

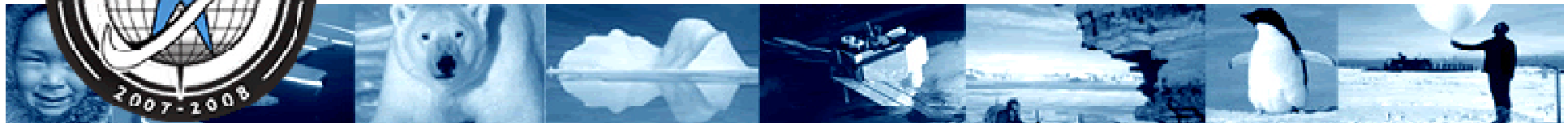
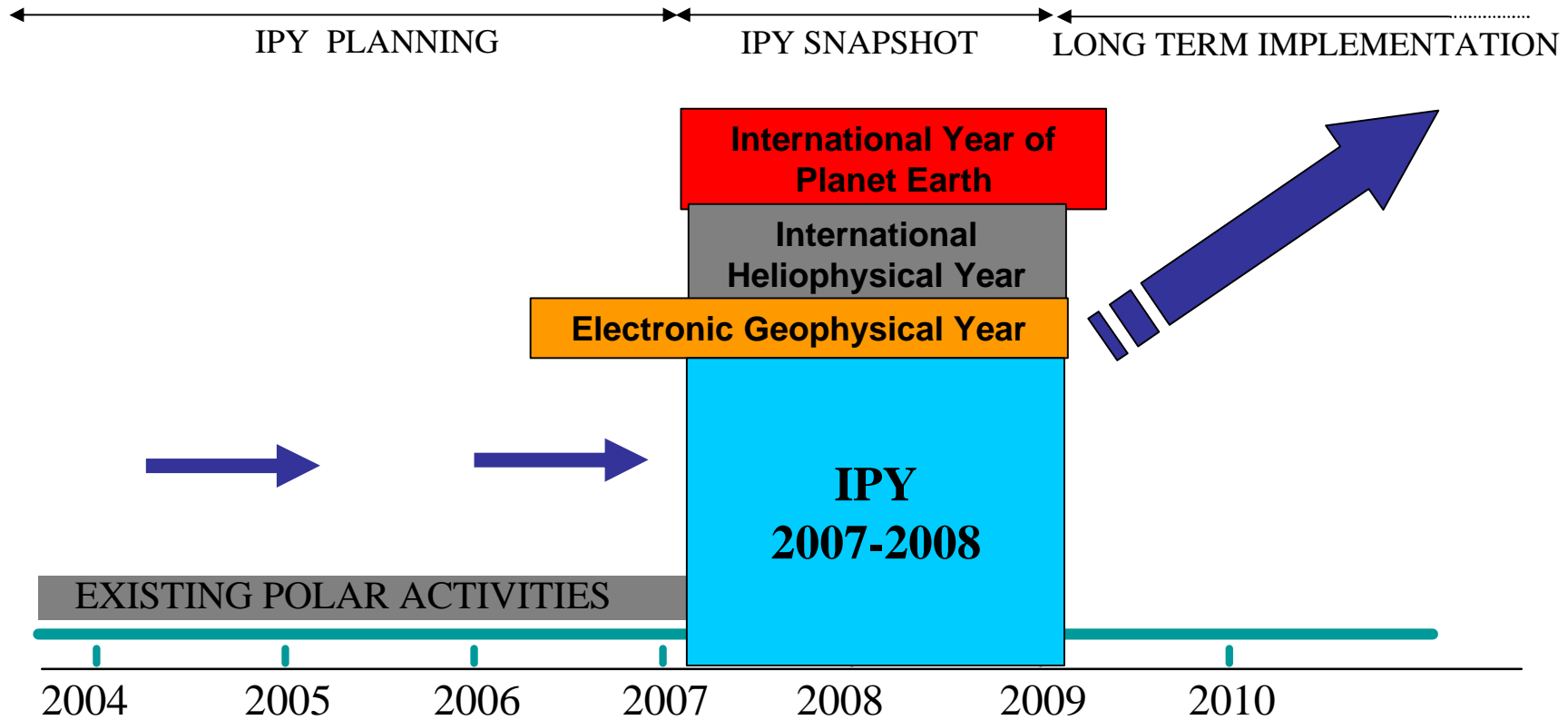
Co-sponsored by ICSU and WMO



www.ipy.org



IPY Snapshot and Legacy



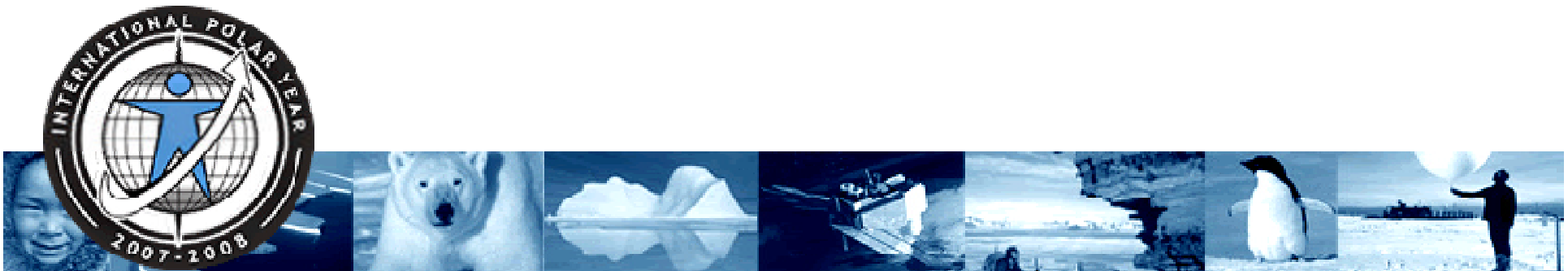
IPY Themes

1. Current Status of Polar Regions
2. Change in the Polar Regions
3. Global Linkages
4. New Frontiers
5. Polar Regions as Vantage Points
6. The Human Dimension
(Human Dimension also runs through first 5 Themes)

Observational Initiatives

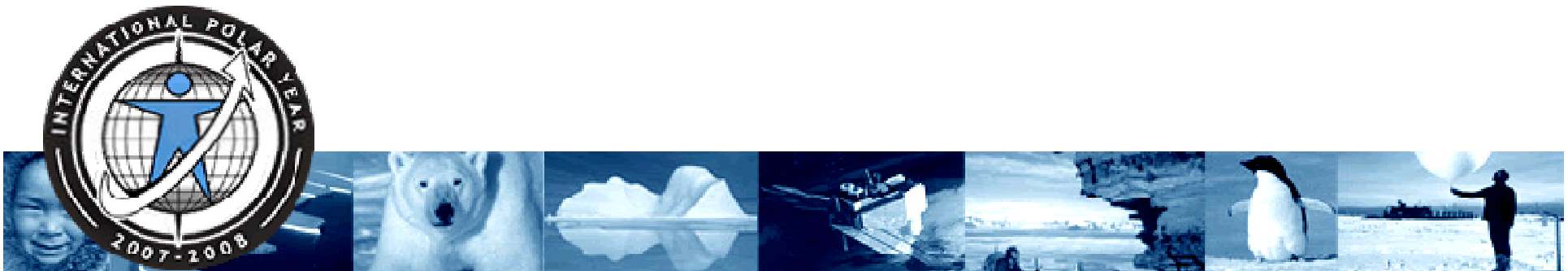
Data Management

Education, Outreach & Communication



Expanded proposals for IPY activities

- More than 220 full proposals reviewed by JC for:
 - Adherence to IPY goals
 - Level of integration/coordination with related activities
- 139 proposals given full endorsement
 - 114 scientific
 - 1 Integrated data management
 - 24 Outreach and Education
- “Final opportunity” for submission of IPY projects was:
January 31, 2006





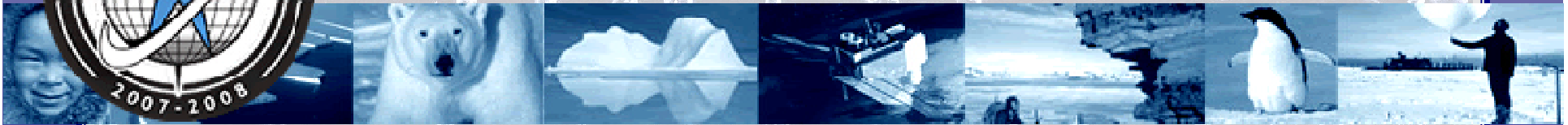
STATUS

Present Status, as of February 2006:

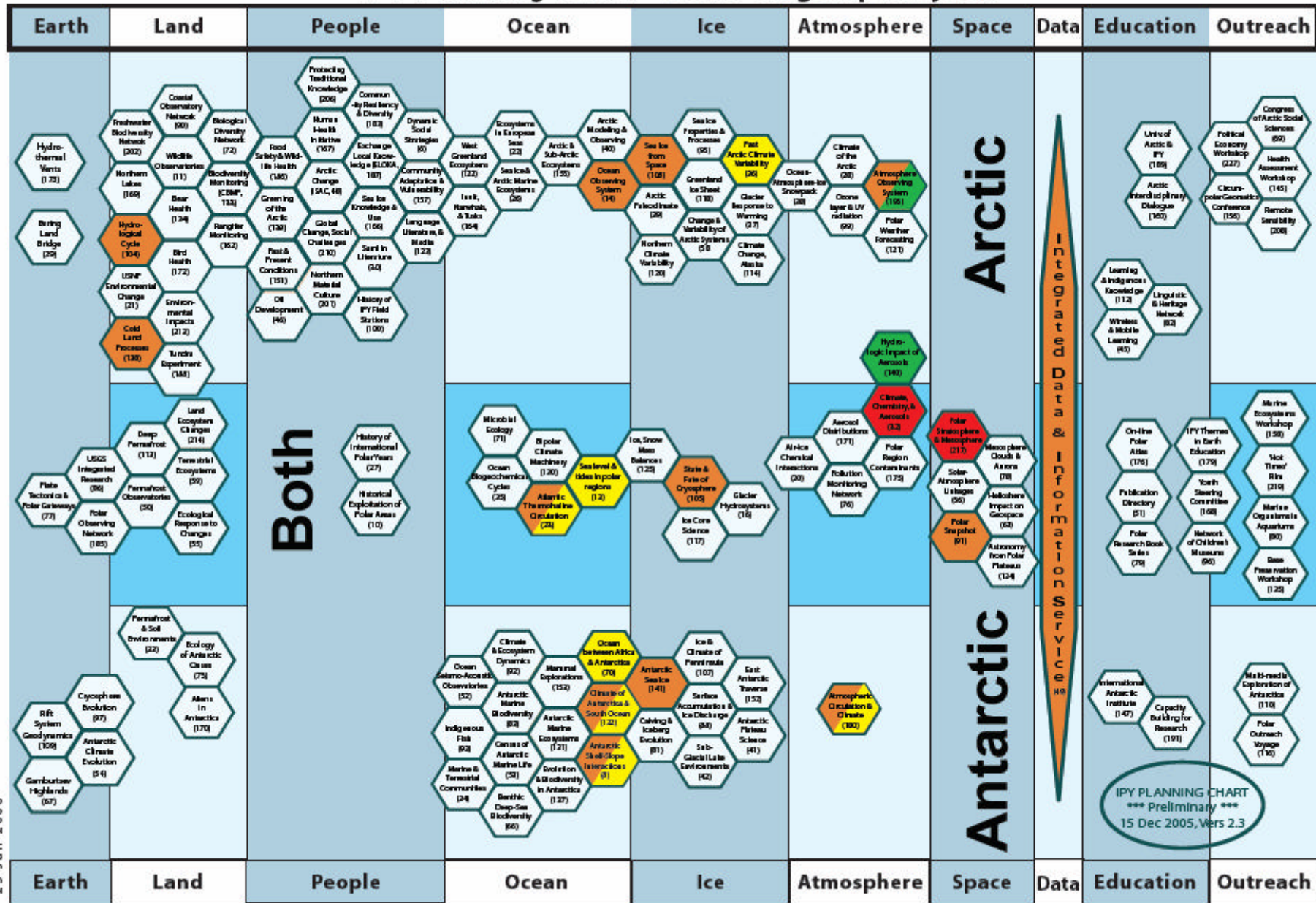
420 total submitted by **January 31, 2006** (210 new ones since second call).

**Last batch (January 31, 2006) will be reviewed by JC WEB teleconf.
March 2nd:**

- Adherence to IPY goals
- Level of integration/coordination with related activities
- 50 are EOR, 100 are small projects, and 50 are strong science; this includes one big Chinese proposal, and 50 Russian proposals.
- Canada submitted 51 new proposals.
- The EOR will be dealt with by the EOR Subcommittee.



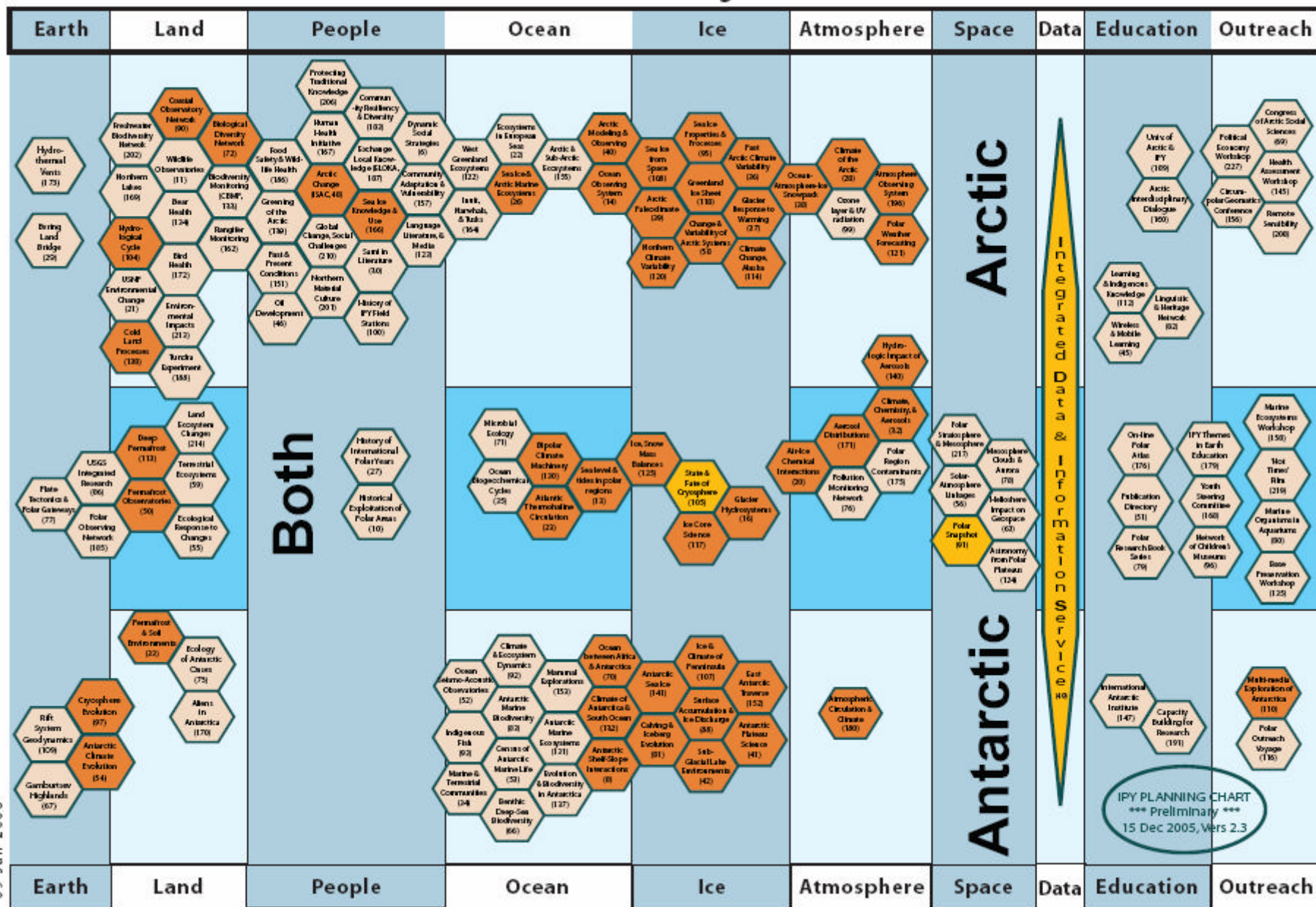
IPY Planning Chart - WCRP Flagship Projects



23 Jan 2006

IPY PLANNING CHART
 *** Preliminary ***
 15 Dec 2005, Vers 2.3

IPY Planning Chart



09 Jan 2006

IPY PLANNING CHART
 *** Preliminary ***
 15 Dec 2005, Vers 2.3

● ClIC core projects
 ● ClIC-related projects
 ● Other (non-ClIC)

CliC IPY Proposal: The State and Fate of the Cryosphere (“Cryos”) Goals

In the process of enhancing our ability to measure and monitor the cryosphere, we propose to coordinate activities that will create a “snapshot” of the cryosphere and evaluate its current (IPY) state in the context of past states. We will

1. **assess the current state** of the cryospheric parameters in the polar regions,
2. **formulate the observational requirements** of cryospheric variables for weather and climate monitoring and prediction,
3. **strengthen international cooperation** in the development of cryospheric observing systems.

CliC will provide over-arching coordination of smaller-scale IPY projects and national activities, both within and outside of the IPY scope (as appropriate), linking them together in a way that increases the benefit to the IPY effort. The project will not only be a key element within IPY but will also support the new Integrated Global Observing Strategy (IGOS) Cryosphere Theme, which is being developed by CliC and SCAR (Scientific Committee on Antarctic Research).

Deliverables

1. A **near real-time integrated product** on the current state of the global cryosphere during IPY,
2. a global, quantitative assessment of the current state of cryospheric parameters based on a **snapshot of the cryosphere** during IPY, presented in report and data set forms with estimated error bars,
3. an evaluation of the current (IPY) state of the cryosphere in the **context of past states** through comparison with existing data, providing a benchmark for future evaluation,
4. a detailed compilation of the **observational requirements** of cryospheric variables for weather and climate monitoring, prediction and projection with an identification of gaps in the current observing system,
5. an **assessment of future** cryospheric conditions through regional and global climate modeling,
6. the **establishment of the initial elements** of the Arctic Ocean and Southern Ocean observing systems and start of the implementation of the Arctic HYCOS project,
7. **the establishment of multidisciplinary “supersites” that would include cryospheric observations in their set of measurements with CEOP as main means for data integration,**
8. an assessment of **cryospheric-climate linkages and feedbacks** that can be used to understand and explain the observed cryospheric variability and change,
9. an assessment of the **ecological and human implications** of the observed/predicted changes.

Coordinated Enhanced Polar Observing Period

- *Use of existing quasi-global CEOP capabilities as a launching pad for cold climate region studies.*
- *IPY offers the opportunity to expand*
- *Need for CEPOP clearly evident at Second International Conference on Arctic Research Planning (ICARP, Copenhagen, 10-12 November 2005) as a contribution to earth system studies*
- *Through a polar CEOP, using the occasion of IPY, the CliC and GEWEX will build an international database of common measurements from both in situ and satellite remote sensing measurements, as well as matching model output that includes Model Output Location Time Series (MOLTS) data along with four-dimensional data analyses (4DDA; including global/regional reanalyzes) for the IPY 2007-2008 period.*
- *To be submitted for Jan 31 2006*

Relation between CliC, CEOP2 and IPY

IPY(2007-2008) framework: CEPOP, State and Fate, Arctic HYDRA, others

CliC-OBS
Land In-situ measurements (long-term)
Land In-situ measurement (temporary(2007-2010)),
Ocean cruises, buoy
Enhanced observations (ex. Radio-sonde, others -----, 2007-2008(2010))

Future network

CliC(2005-2015) SCIENCE
Surface processes, Large northern drainage hydrology, high-altitude Arctic water budget, frozen ground degradation.

CEOP2(2007-2010) CliC data
Satellite derived product Cryosphere data
Reanalysis product (Detail for polar areas north of 45(50)N)

Issues ahead:

Coordinating IPY processes with national processes

Strengthen connections within clusters

Build connections among clusters

Coordination & mutual support in:
Data & information;
Observations;
Education & outreach; and ???

Used by permission, © Bryan & Cherry Alexander Photography



HOPEFULLY, NOT THE END...