



# The International Arctic Buoy Programme

*Buoys on Ice for Science and Operations*

## Chairman's and Coordinator's Report for DBCP 24th Session

**Tim Goos** - Chairman IABP

*Meteorological Service of Canada, Environment Canada*

**Ignatius Rigor** - Coordinator IABP

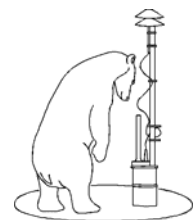
*Polar Science Center, University of Washington*

*Prepared by Edward Hudson, Tim Goos and Ignatius Rigor*

*Delivered by Bruce Bradshaw at DBCP 2008*

*photos courtesy Donald G. Barton*

# Status of IABP September 2008



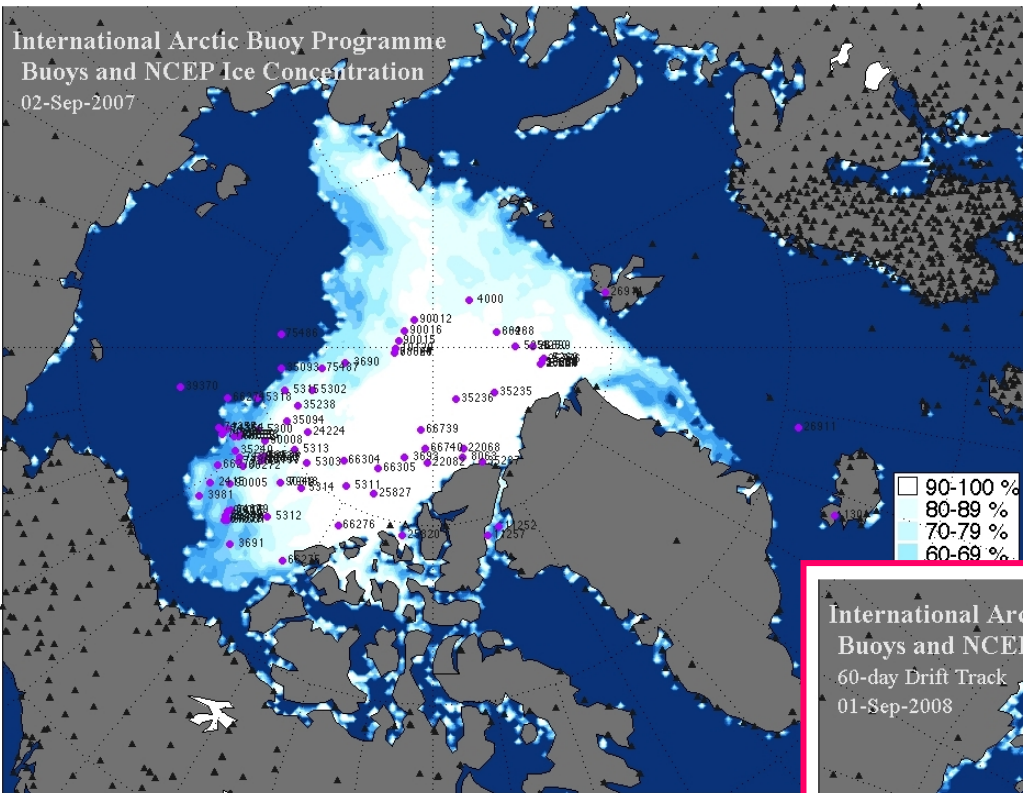
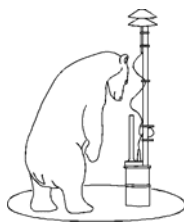
- Number of buoys in 2008 almost as high as in 2007 as result of and/or in support of International Polar Year activity
- There continues to be several ice thickness and oceanographic buoys in the array
- Number of buoys on the Eurasian side of the pole remains low

## 2009

- Number of buoys may decrease but remain higher than 2006
- Likely to see more buoys that can survive the freeze-thaw cycle such as AXIB
- Air deployments remain integral to program's success
- May see more buoys using iridium for communication in place of Argos

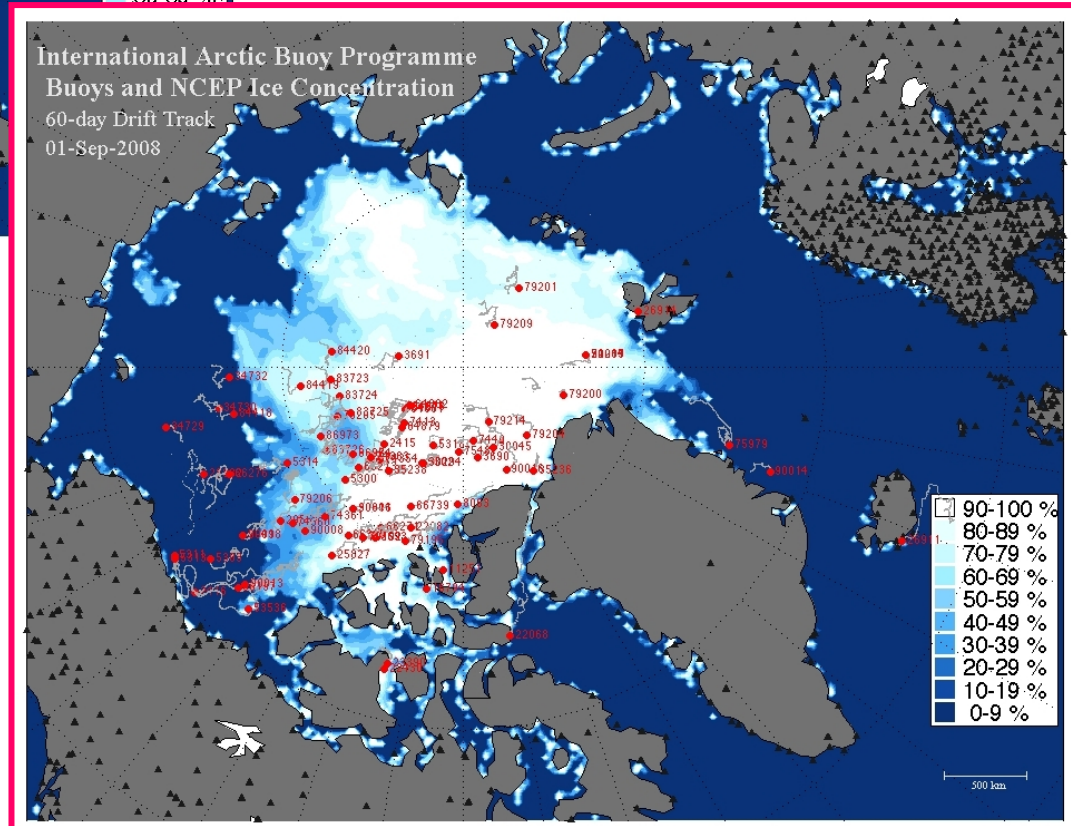


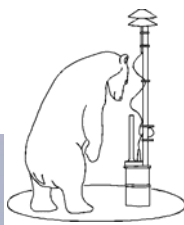
	2006 5 September	2007 29 August	2008 26 August
<b>Polar Ocean Profiling or Ice Tethered Profiling</b>	2	14	7
<b>Ice Mass Balance</b> with surface air temperature and surface air pressure	6	7	8
<b>Ice Mass Balance</b> with surface air pressure	1		1
<b>Surface air temperature and surface air pressure</b>	26	37	31
<b>Surface air temperature</b>	2	1	1
<b>Surface air pressure</b>	2	14	21
<b>Position only</b>	11	31	20
<b>Total Numbers of buoys</b>	<b>50</b>	<b>104</b>	<b>89</b>



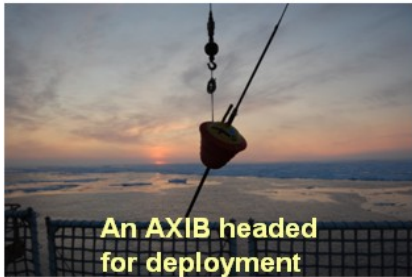
1 September 2008

2 September 2007





AXIB on Healy



An AXIB headed for deployment



Another AXIB headed for deployment



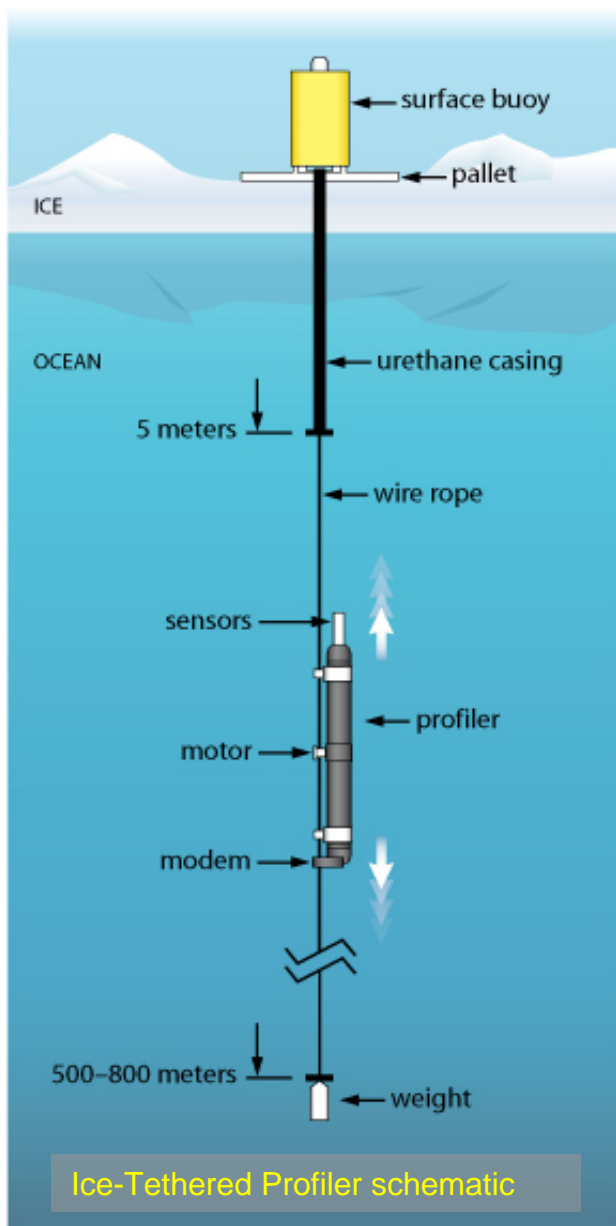
AXIB being deployed



Just after deployment from U.S. Coast Guard Cutter Healy, August 2008.  
A total of three AXIB were deployed in August from the Healy

## Airdroppable eXpendable Ice Beacon (AXIB)

This buoy is designed to drift in open water and to be able to survive freeze up."

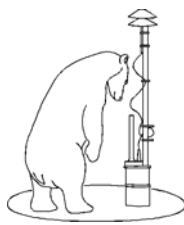


Ice-Tethered Profiler schematic

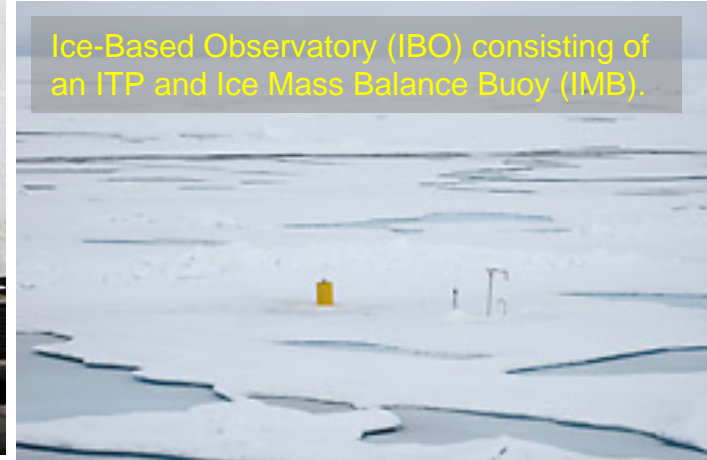


ITP underwater profiling unit being attached to the tether.

Images - Chris Linder  
WHOI [www.whoi.edu](http://www.whoi.edu)



Ice-Based Observatory (IBO) consisting of an ITP and Ice Mass Balance Buoy (IMB).



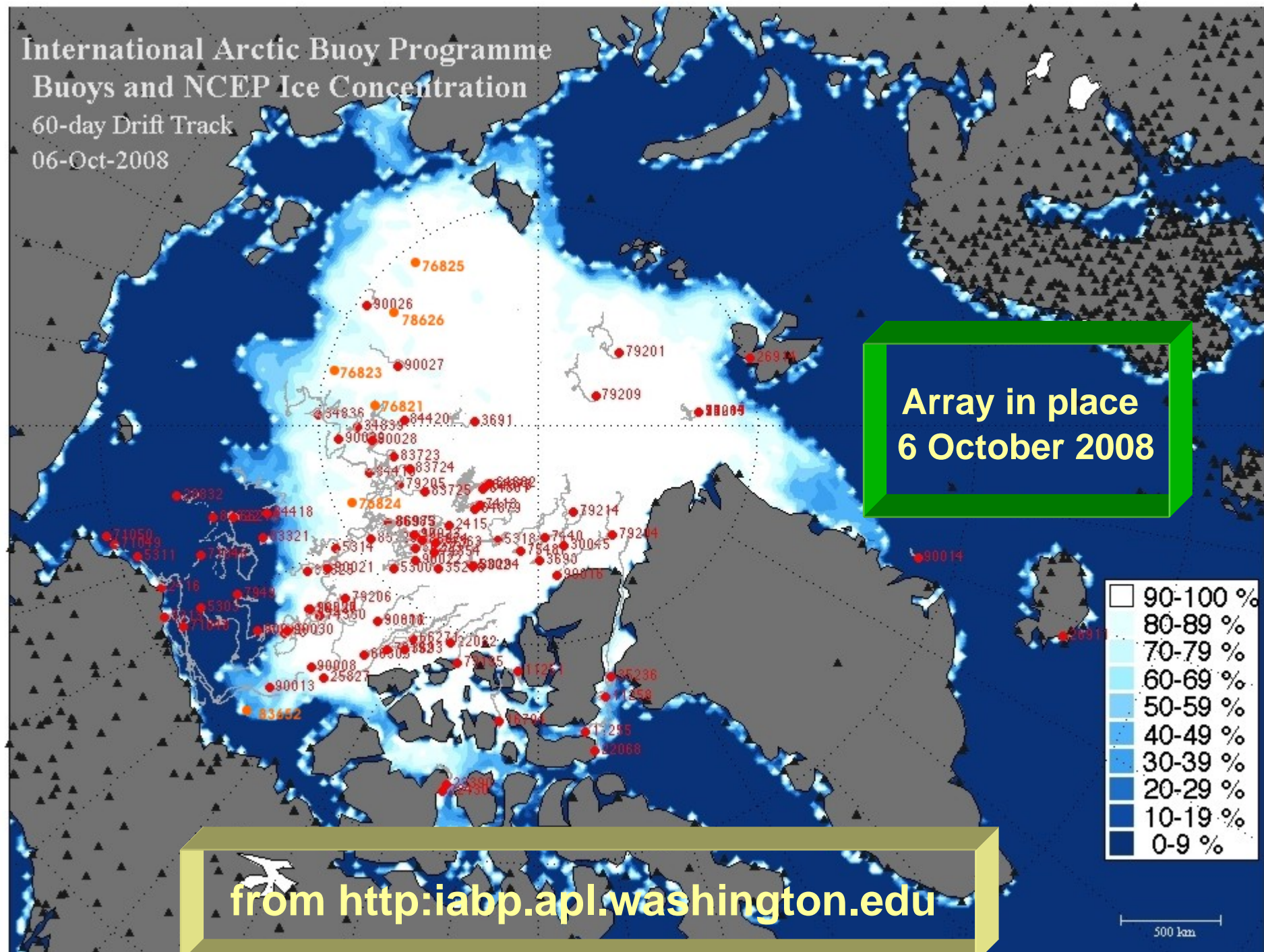
## Woods Hole Oceanographic Institute Ice Tethered Profilers - WHOI ITPs

Currently 5 of 11 Argo like profilers reporting on the GTS from surface buoy profilers on Arctic ice.

Tesac data is reported under the header SOVD83 KWNB in FM64 format with WMO ID's 49013NN. To distinguish them from Argo buoys there is no Q prefix.

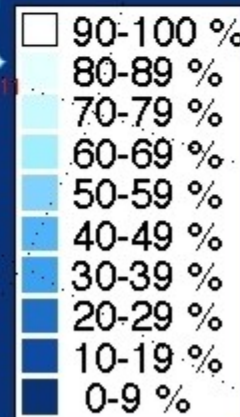
# International Arctic Buoy Programme Buoys and NCEP Ice Concentration

60-day Drift Track  
06-Oct-2008



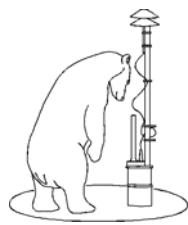
Array in place  
6 October 2008

from <http:iabp.apl.washington.edu>



500 km

# IABP Participants Annual Meeting



Members of the International Arctic Buoy Programme met 16-18 June 2008 in Toulouse, France

- hosted by CLS – Argos (Collecte Localisation Satellites) [http://www.cls.fr/welcome\\_en.html](http://www.cls.fr/welcome_en.html)  
[www.argos-system.org](http://www.argos-system.org)
- 22 attendees representing 12 of the 28 Participants



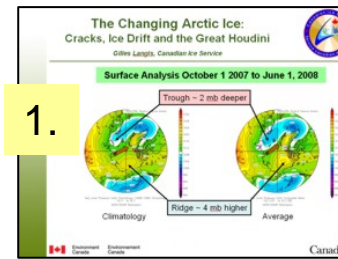
## Discussion / Issues

- **Challenges to sustain IABP network beyond the IPY:**
  - Increasing area of First-Year Ice and Open Water during summer
  - Deploying buoys in the Eurasian Arctic
- **How does the IABP fit into the Sustained Arctic Observing Network (SAON)?** — IABP Participants believe that the IABP supports a sustained Arctic observing network and see it as the foundation of such a network, since it is the longest, continuously standing observing program for the Arctic.
- **Buoys on ice / in water but not on GTS** — Efforts to have all those putting buoys on ice / in water the arctic basin to have the data posted to GTS in real time is ongoing.

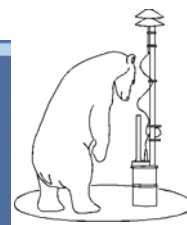


# IABP-18 Technical Session

1. **Changes in sea ice in the Beaufort Sea**  
[G. Langis, presented by L. Desjardins]
2. **Argos-3** [C. Ortega]
3. **DBCP Iridium Pilot Project: Progress and Findings** [H. Viola]
4. **Iridium Processing Center at CLS**  
[C. Ortega]
5. **Ice-T Float** [F. Vivier]
6. **Airdroppable eXpendable Ice Beacon (AXIB) Development** [P. Legnos]
7. **Environment Canada weather products for IPY Arctic Basin activities** [E. Hudson]
8. **Treatment of sea ice in the global 1/4° Mercator Ocean forecasting system**  
[G. Garric]
9. **Some thoughts on sea ice retreat in 2007**  
[T. Kikuchi]
10. **Outlook for Summer Sea Ice Extent 2008**  
[I. Rigor]



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