

**Minutes of the
Nineteenth Annual Meeting of the Participants of the
International Arctic Buoy Programme [IABP]**

Hosted by
**Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
Yokohama, Japan, 24 – 26 June 2009**

1. Meeting Opens – [Tim Goos]

The nineteenth annual meeting of the Participants of the IABP opened at 9:00 on 24 June 2009, at the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) in Yokohama, Japan. Tim Goos (TG), the Chairman of the IABP Executive Committee, called the meeting to order and thanked JAMSTEC for kindly hosting the meeting.

Tetsuo Ohata (TO) welcomed the participants to JAMSTEC, provided a short introduction to JAMSTEC, and noted that Japan wishes to join the Arctic Council (www.arctic-council.org).

Takashi Kikuchi (TK) provided logistics information for the meeting.

There were 19 Attendees, representing 12 of the 28 Participants. The list of Attendees is shown in [Attachment 1](#), and the list of Participants is shown in [Attachment 2](#).

2. Agenda Approval [Tim Goos]

The draft was reviewed, amended and approved ([Attachment 3](#)).

3. Review Action Items from Eighteenth Meeting [Ignatius Rigor]

Participants reviewed the Action Items from the eighteenth meeting (Status of Action Items taken are shown in *italics*):

- 3.1.** Finalize minutes of the eighteenth meeting and post on the IABP web pages.

IR will finalize these minutes by August 2009.

- 3.2.** Collect pictures and other material for an IABP CD/DVD for IPY. A “beta” version of this CD/DVD may be posted on the IABP web pages.

Ongoing. The pictures, video and animations for this meeting should be considered for the CD/DVD and IABP web pages.

- 3.3.** Follow up with Igor Polyakov (IP) regarding deployment of buoys in the Russian EEZ. Although they may not have a permit to deploy buoys in the EEZ during this cruise, they may be allowed to give the operational use of this data. More details

Ongoing. Ignatius Rigor (IR) asked IP if would be possible to deploy buoys in the Russian EEZ, and IP thought that getting permits to do this would be difficult. IR also discussed this with John Calder (JC), a USIABP program manager from NOAA, who suggested talking to Renee Tatusko (NOAA), who has worked out a memorandum of agreement (MOA) with AARI to maintain land stations in the Eurasian Arctic (e.g. Tiksi). These discussions led back to working with Sergey Priamikov (SP), who says this is possible, but funding would be necessary to get the permits.

DISCUSSION

TG noted that Canada does have opportunities to discuss such issues with the meteorological service of Russia at World Meteorological Organization (WMO) sessions although this may not be the best connection for the type of response necessary.

James Duke (JD) wondered how much these permits are? TG noted one earlier case of a German buoy whose permit cost equalled the cost of the buoy, effectively doubling the cost of equipment.

The attendees acknowledged the importance of the observations from the North Pole drifting stations, but expressed hope that AARI will also contribute buoys to the program.

ACTION ITEMS

TK proposed to contact Sergey Pisarev, who he collaborates with in the NPEO and who will be on the R/V Mirai this summer, regarding this matter.

- 3.4.** Ask Vladimir about getting a more prominent endorsement for the IABP from the WCRP/WMO similar to General Letter of Recommendation that the IPAB and is endorsed by the Scientific Committee on Antarctic Research. The IABP should solicit similar letters from Government and International agencies.

This still needs to be pursued.

- 3.5.** DAMOCLES buoys will all have barometers. IR will work with DAMOCLES to get data onto the GTS.

On going.

Some of their buoy data has been made available to the GTS, but given their desire to study improvements in NWP as observations are increased in the models, they did not release most of their observations to the GTS in real-time. IR will work with the various DAMOCLES programs to at least obtain this data for the IABP and GTS archives.

More discussion is provided in section 5.1 of the minutes of IAB 19

Ongoing. IR tried to get the data from the DAMOCLES buoys posted on the GTS in near real-time, but found that many of the researchers were reluctant to do this, and preferred to provide the data to the IABP after some delay. IR will continue to pursue collection of this data.

- 3.7.** Collect positions from Argos transmitters on animals, e.g. transmitters that have fallen off polar bears onto the sea ice. Christian Ortega (CO) offered to provide a list of Argos users who may have transmitters on animals in the Arctic.

Ongoing.

This was requested by Pablo Clemente-Colón (PCC), and emphasizes the need for as much ice motion data to track sea ice as possible.

IR contacted USGS biologists on this need, and they have offered to provide data as it becomes available, and will work with CO to pursue other possibilities.

ACTION ITEM

Bruce Bradshaw (BB) noted that this may be a good issue to bring up at the DBCP and JTA meeting in October 2009.

- 3.8.** Get data from Iridium GPS buoys deployed by the Scottish Association for Marine Sciences (SAMS) in Nares Strait in May 2008.

Done. Jeremy Wilkins (JW) and David Meldrum (DM) have been providing the data from these buoys, and new data from buoys deployed this year to IR.

- 3.9.** Contact David Barber (DB) to obtain and post the data from the 3 Calibs that may have been deployed in McClure Strait. IR should also seek permission to be “user on copy” for DB’s Argos program so that the data may become more readily accessible for the IABP.

Done. IR has been working with DB to post data from their buoys onto the GTS, and collect data from their buoys for the IABP databases.

- 3.10.** Bruce Bradshaw (BB), and IR will coordinate the IABP web pages with the development of the DVD using material provided by the Participants.

Ongoing.

- 3.11.** Contact Sun Bo (SB) regarding buoy deployments from the Xuelong

Ongoing. IR contacted SB, who is willing to collaborate and deploy buoys from the Xuelong. Last year, we declined to use this asset since DAMOCLES was planning to deploy a number of buoys from this ship. However, the data from

4. Status Reports from each Participant [Tim Goos]

- 4.1. Environment Canada (EH)
- 4.2. Canadian Ice Service (by EH)
- 4.3. Institute of Ocean Sciences (by EH)
- 4.4. University of Alberta (by EH)

ACTION ITEM

IR needs to update our tables to reflect the new GTS information for these buoys.

EH also suggested that IR make separate maps of Meteorological and Ocean GTS buoys.

- 4.5. WCRP/SCAR International Program for Antarctic Buoys (by EH)
- 4.6. Integrated Science Data Management (BB)

DISCUSSION

EH noted that some of the statistics may be not be appropriate, i.e. some of the buoy counts are much higher than the actual counts that we show on our web page. It was noted that by the DBCP definition the IABP covers all areas north of 60N, although we only deploy in WMO areas 25, 26, 47, & 48, and the appropriate statistics to use may depend on the use of these statistics.

- 4.7. Japan Agency for Marine-Earth Science and Technology (TK)

ACTION ITEM

EH noted that there was weather station deployed the NPEO, but that he was on able to find the meteorological data on the GTS. IR will work with PMEL to post this data onto the GTS.

- 4.8. International Arctic Research Center (IARC), University of Alaska Fairbanks (by TK)

DISCUSSION

Jenny Hutchings (IH) requested feedback on the development of a new Arctic

4.9. US Naval Oceanographic Office (JD)

4.10. Polar Science Center, & National Ice Center (IR)

4.11. Other Participants (by IR)

4.11.1. Arctic and Antarctic Research Institute: North Pole Stations

4.11.2. Alfred Wegener Institute

- Focus has shifted to oceanography, but the IABP (and IPAB) may use the Polarstern for buoy deployments.
- Presumably Ed with talk about Christian's Flights?

4.11.3. Chinese Arctic and Antarctic Administration, Polar Research Institute of China, Georgia Institute of Technology

- Purchased IMB and Ice Beacons from Metocean for Arctic?
- Xuelong cruise in 2010.

4.11.4. Christian Michelsen Research

- Built 7 ICEXAIR buoys for White Trident in 2008
- And 4 buoys for 2009

4.11.5. Cold Regions Research and Engineering Lab

- Transferred production of IMB to Metocean, but continue to provide science support for these buoys.
- 2008: Deployed 5 IMBs
- 2009: Deployed 1 IMB north of Barrow with SIZONET, 1 IMB with NPEO, and 1 IMB with CASIMBA. Plan to deploy 2 (?) IMBs with WHOI ITPs

4.11.6. McGill University

- 2008: 1 IMB in McClure Strait
- 2009: 1 IMB, 1 Stress Buoy in McClure Strait

4.11.7. Nansen Environmental and Remote Sensing Center & Nansen International Environmental and Remote Sensing Center

- Participate in DAMOCLES
- May be able to help IABP deploy buoys in the Eurasian Arctic?

4.11.8. Norwegian Meteorological Institute

- Jon Mostrom accepts EC ICEXAIR buoys.

4.11.9. Norwegian Polar Institute: Plan to purchase 2 Ice Beacon or PAWS buoys this year.

4.11.10. Pacific Marine Environmental Lab: Participates in PSC's NPEO.

4.11.11. Scottish Association for Marine Sciences, University of Cambridge

- 2008: Deployed 5 Tilt meter buoys deployed with DAMOCLES, & 4 Danish IPY GPS buoys.
- 2009: Deployed 3 SAMS IMB buoys, and 6 GPS buoys with GreenICE

4.11.12. Woods Hole Oceanographic Institute

- 2008: Deployed 9 ITPs in collaboration with AARI, AWI, DAMOCLES, IARC/UAF, IOS
- 2009: 7 ITPs in collaboration with AARI, IARC/UAF, IOS

4.11.13. European Meteorological Network

- 2008: 5 SVP-B buoys in collaboration Polarstern cruise
- 2009: 5 SVP-B buoys in collaboration with IARC/UAF NABOS cruise.

4.11.14. World Climate Research Program (by IR)

- A more detailed report will be provided as an appendix to the minutes

- WCRP Review by its Sponsors and International Group of Funding Agencies of Global Change Research
- Paving the way for future global and regional climate predictions and assessments
- Supporting impact assessment, adaptation and mitigation:
- Addressing challenges of observation, data collection, assimilation and reanalysis
- WCRP activities during the International Polar Year (IPY) 2007-2008

For the IABP specifically:

- WCRP remains interested in and supporting the IABP activities. WCRP values very highly the continuing efforts of IABP in maintaining a network of sea ice buoys in the Arctic Ocean.
- WCRP welcomes deployment of sea-ice buoys in the Southern Ocean and increased general cooperation between IABP and WCRP/SCAR IPAB.
- At the WMO Executive Council – 60 in 2008 a decision was made to establish a WMO EC Panel of Experts on Polar Observations, Research and Services (PORS).

5. Coordinator's Report [Ignatius Rigor]

5.1. Status Report on Membership and Letters of Intent

5.2. Status of Buoy Network and Deployment Plans

6. Report from Data Buoy Co-operation Panel (DBCP) [Hester Viola, presented by Ignatius Rigor]

7. New Business [Tim Goos]

7.1. DBCP Meetings [Ignatius Rigor]

7.1.1. DBCP-24 Meeting in South Africa, 13 - 16 October 2008

7.1.2. DBCP-25 Meeting in Paris, tentatively on 28 September - 1 October 2009

7.2. Location of 20th meeting [Tim Goos]

7.3. USCG Air and Ice Breaker Deployments [Pablo Clemente-Colón or Peter Legnos]

8. Summary of Participant Contributions [Ignatius Rigor]

9. Review and Approval of the IABP Operating Principles [Tim Goos]

10. Election of Officers [Tim Goos]

The Coordinator, IR, invited all Participants to nominate individuals to the executive in an email in May, 2009. IR also initiated contact with existing members of the executive to learn if they were willing/able to continue on the executive.

IR reported that he had received no nominations from Participants and that some existing members (CH, PCC, TK) were both able and interested in continuing on the executive. IR called for nominations from the Participants at the meeting.

Vice-Chair: Christian Haas
Member: Pablo Clemente-Colón
Member: Takashi Kikuchi
Member: Jean-Claude Gascard

DISCUSSION

Tim Goos noted that he has officially retired from Environment Canada, but that his long-term replacement has not been identified. TG is willing to continue serving on the committee. (TG noted that this was on the expectation that few/no incremental costs would be required.) PL nominated TG to continue on as the Chair, TC seconded this nomination, and it was accepted unanimously.

It was noted that Ivan Frolov has not attended an IABP meeting since IABP-14 in 2004. The Participants discussed the value in having representation on the executive that was balanced geographically and that European/Russian membership was very important. PL nominated Jean-Claude Gascard to be a member of the IABP Executive, TC seconded this nomination and it was accepted unanimously.

CH, PCC and TK accepted to continue serving on the committee, and their nominations were also accepted unanimously.

11. Technical Session [Ignatius Rigor]

- 11.1.** Metocean's polar product developments [Tony Chedrawy (Metocean)]
- 11.2.** Airdroppable eXpendable Ice Beaon (AXIB) Development [Peter Legnos (Lincoln Maritime LLC)]
- 11.3.** Argos-3 [Hidefumi Yatomi (Cubic-i/CLS)]
- 11.4.** Report from R/V Mirai IPY cruise in 2008 [Motoyo Itoh (JAMSTEC)]
- 11.5.** Report from North Pole Environmental Observatory in April 2009 [Takashi Kikuchi (JAMSTEC)]
- 11.6.** Freshwater content in the Arctic Ocean revealed by ice-drifting buoys and ship observations [Takashi Kikuchi (JAMSTEC), on behalf of Benjamin Rabe (AWI)]
- 11.7.** Ship-borne Electromagnetic Induction Sounding of Sea Ice Thickness in the Arctic during 2003-2005 and 2008 [Kazu Tateyama (Kitami-IT)]
- 11.8.** Impact of Depleted Arctic Drifting Buoy Network [Jun Inoue (JAMSTEC)]
- 11.9.** Weather Support for Arctic Basin Activities [Ed Hudson (Environment Canada)]
- 11.10.** DAMOCLES and new Hi Tech development such as AITP, ULS floats and gliders. [Jean-Claude Gascard (UPMC)]
- 11.11.** Outlooks for Summer Sea Ice [Ignatius Rigor (UW)]
- 11.12.** Measuring the Upper Layer Temperature of the Arctic Ocean [[Ignatius Rigor (UW)]

12. New Directions [Tim Goos]

- 12.1.** Sustaining the IABP beyond the International Polar Year. Challenges:
 - 12.1.1.** Increasing area of First-Year Ice and Open Water during summer.
 - 12.1.2.** Deploying buoys in the Eurasian Arctic

13. Review of Meeting, Recommendations, and Action Items [Tim Goos]

14. Draft and Approve Meeting Minutes [Tim Goos]