# DRAFT

# Minutes of the Eighteenth Annual Meeting of the Participants of the International Arctic Buoy Programme [IABP]

Hosted by
**Collecte Localisation Satellites (CLS)**
**Toulouse, France**
**16 – 18 June 2008**

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## 1. Opening of the Meeting

The Eighteenth annual meeting of the Participants of the IABP opened at 9:00 on 16 June 2008, at the Collecte Localisation Satellites, in Toulouse, France. Pablo Clemente-Colón (PCC), a member of the IABP Executive Committee, chaired and called the meeting to order.

Peter Dexter (PD), Co-President of Joint WMO-IOC (World Meteorological Office – Intergovernmental Oceanographic Commission) Technical Commission for Oceanography and Marine Meteorology (JCOMM) congratulated the group for their efforts to maintain the observing network on the Arctic Ocean.

Christian Ortega (CO) gave a presentation on CLS, welcomed meeting attendees, and provided logistics information for the meeting.

There were 22 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.

**Discussion:**

PCC asked if Argos transmitters (PTT) on polar bears can be made available to the IABP. These beacons may provide information on ice motion. Ignatius Rigor (IR) reported that he has been talking to Steven Amstrup at the USGS about transferring the PTTs for transmitters that have fallen off polar bears onto the sea ice to the US-IABP to track sea ice.

CO offered to provide a list of Argos users who may have transmitters on animals in the Arctic.

CO reported that in the scope of the maritime surveillance activity, CLS is contributing to the implementation of the Long Range International Tracking (LRIT) system being setup by International Maritime Organization, which aims to permanently track commercial ships world wide.

## 2. Agenda Approval

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

## 3. Review Action Items from Seventeenth Meeting

Participants reviewed the Action Items from the Seventeenth meeting (Actions taken are shown in *italics*):

**3.1.** Collect pictures and other material for an IABP CD/DVD for IPY. “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.*

**3.2.** Send buoys for NABOS cruise in 2007. Buoys may be shipped to Kirkenes through September. The USIABP will investigate sending SVP-B buoys.

*Assets were not available for 2007 cruise, but buoys will be provided to the NABOS cruise this summer.*

**Action Item:** Follow up with Igor Polyakov 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 given the operational use of this data. More details are provided in the discussion on section 8.

**3.3.** Post data from ocean buoys onto the GTS, i.e. to supplement Argo observations.

*Ongoing. Both JAMSTEC and WHOI have been supportive of this action. E.g. JAMSTEC POPS buoy ocean data has been made available to Argo, and WHOI*

*data is readily available online. We have contacted Rex Hervey at NOAA to help post the data on the GTS, and received email on June 16, 2008 that this is ready to be implemented. These oceanographic data from these buoys will be posted in FM64 format under the GTS header SOVD 83 KWNB.*

**3.4.** Improve zoom capabilities on the maps provided through the IABP web pages.

*Ongoing. IR has been working on improvements to the IABP web pages which will be presented during the Coordinator's Report (item 5 of agenda).*

**3.5.** 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.*

**3.6.** Review Participants List

§ CAAA has been inactive.

*During the intercessional period, IR has made contact with Jinping Liu of Georgia Tech, and Sun Bo of the Polar Research Institute of China. Both wish to become more involved in the IABP, and have provided data from the buoys they deployed in 2003. IR will continue to develop this relationship.*

§ Talk to David Meldrum (DM) about SAMS

*DM has been contributing data to the IABP and wishes to be a participant of the IABP. SAMS has been added to the list of IABP Participants.*

§ IR will remove Roshydromet in our list of participants.

*Done.*

§ DAMOCLES buoys will all have barometers. IR will work with DAMOCLES to get data onto the GTS. MD's buoys should also be posted on the GTS.

*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 of our list of Participants is available in section 5.1.

## 4. Status Reports from each Participant

### 4.1. Alfred Wegener Institute (AWI) and University of Alberta (UA) – C. Haas, presented by E. Hudson

- Need to paste in report.

This report is given as Attachment 4 and the PowerPoint presentation is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/AWI.ppt.

**Action Item:** Get data from Iridium GPS buoys deployed by Jeremy Wilkinson in Nares Strait in May. [IR]

### 4.2. Canadian Ice Service (CIS) – L. Desjardins

- Need to paste in report.

The PowerPoint presentation is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/CIS.ppt.

**Action Items:** Contact David Barber 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.

### 4.3. Christian Michelsen Research (CMR) – D. Peddie

- Need report.

### 4.4. Collecte Localisation Satellites (CLS-Argos) – C. Ortega

The PowerPoint presentation is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/Argos.ppt.

### 4.5. European Meteorological Network (EUMETNET)

- Purchased 3 Metocean Ice Beacons and 4 Metocean SVP buoys, which were deployed by the Polarstern during the summer of 2007.
- Purchased 5 SVP-B buoys which may be deployed during the NABOS cruise this

summer. These buoys are currently in Iceland and can be shipped as needed by the Coordinator.

- Plan to provide 10-20 SVP-B buoys for deployment in the Arctic starting next year.
- JR reported that The EUMETNET Scientific Advisory Team (E-SAT) recommended that “holes” in the Eurasian Arctic need to be filled to improve the operational forecast models.
- And recommended the development of buoys that can survive in open water and freeze up.

This presentation is available at….

**Discussion:**

DP asked if the checksum was being used in the decoding of the data. This may help identify the fliers in the pressure data.

### 4.6. International Arctic Research Center (IARC) – J. Hutchings, presented by T. Kikuchi

- Need report from JH.
- Deployed 3 clusters of GPS buoys in 2007 at the APL Ice Camp, and from the Louis S. St. Laurent. These were collocated with ocean and IMB buoy deployments.
- Plans to deploy SVP-B buoys during the NABOS cruise.

### 4.7. Integrated Science Data Management (ISDM, formerly Marine Environmental Data Service) – B. Bradshaw

- Need report.

**Make link to powerpoint.**

**Discussion:** IR noted that many of the pictures and videos of buoy deployments, and animations of data that we wish to collect for the CD/DVD would be nice additions to the IABP web pages.
**Action Item:** BB, and IR will coordinate the IABP web pages with the development of the DVD using material provided by the Participants.

### 4.8. Japan Agency for Marine-Earth Science and Technology Center (JAMSTEC) – T. Kikuchi

- Need report.

The PowerPoint presentation is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/JAMSTEC.ppt.

**Discussion:** IR asked if the cruise plan for the Polarstern would change depending on the ice conditions in the Eurasian basin. TK said that they would prefer to do their deployments on thicker sea ice.

PCC asked if a POPS (or ITP) ocean buoy can be deployed at the US Navy Ice Camp in 2009, and if JAMSTEC would help support the unclassified portion of the camp.

PCC discussed the possibility of providing sea ice support from NIC for the Mirai cruise.

### 4.9. LBI – P. Legnos

- Type in report.

**Discussion:**

PL solicited comments and suggestions for the design of an ice thermistor chain for the AXIB, and asked where the best place for the barometer is.

IR and EH thought the best place for the barometer would be low and in the hull. For the two test instruments, the barometers will be at the top of the mast.

PL will contact Frederick Vivier and Jackie Richter-Menge regarding their experiences with thermistor strings.

### 4.10. Meteorological Service of Canada – E. Hudson

This report is given as Attachment 6 and the PowerPoint presentation is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/MSC.ppt.

**Discussion:** PCC asked how the SVP wind buoy measured wind. Christian Ortega noted that these buoys (Iridium WOCE WSD) are designed for the open ocean and the wind vane for these buoys are “fixed” and will not provide good wind directions when the buoy is deployed on ice, since the buoy will not be free to rotate as it would in open ocean. The acoustic wind speed sensor may not also be an issue since it listens for “bubbles” from liquid water.

### 4.11. National Ice Center – J. Woods

- The NIC co-manages the US Interagency Arctic Buoy Program (USIABP) with the PSC/APL/UW, and contributes to the funding of the Coordinator of the IABP.
- White Trident 2008: Buoy shipment coordinated through NAVO (James Duke POC). This year's shipment was much smoother than previous years. Recommend all future shipments go directly through NAVO.
- The USIABP purchased 30 SVP-B buoys under the barometer upgrade program of the Global Drifter Program (see Hester's report for more details), and 3 ICEXAIR buoys for the annual NAVO White Trident deployment. The SVP-B buoys will be spread out to the various deployment opportunities this year.
- Two Ice Beacons (and 2 SVP-B buoys) were sent to Ed Hudson to be deployed north of Alert by Environment Canada.
- USIABP Coordinator turn-over in JUL 2008. LTjg James Brinkley (NOAA Corps) will be taking over for LT John Woods. Improved SOP for USIABP coordinator will be developed b/w Ignatius, John, and James prior to Johns departure.
- AXIB Development being presented by LBI corp.

### 4.12. Naval Oceanographic Command (NAVO) – J. Duke

Upon the retirement of Elizabeth Horton in 2007, James Duke assumed responsibilities as head of NAVO's Drifting Buoy Program. For White Trident 2007, ten ICEXAIR buoys were successfully deployed. For White Trident 2008, seven ICEXAIR buoys will be deployed as well as six open-ocean WOCE (SVP TC-80) buoys supplied by NAVO. Also, NAVO's Memoradum of Agreement with the US Air National Guard, which facilitates aircraft availability for the deployments, expires in September 2009; a follow-on MOA, as well as other possible airlift options are actively being pursued for buoy deployments beyond 2009.

**Action Item:** IR needs Argos ID's and experiment numbers for these buoys.

### 4.13. Polar Science Center (PSC), Applied Physics Lab (APL) – I. Rigor

- PSC provides the Coordination and Data Management of the IABP, and co-manages the USIABP with the NIC.
- Jamie Morison also deployed 3 SVP-B buoys in the Beaufort Sea in March 2008.
- The PSC North Pole Environmental Observatory (NPEO) deployed 6 buoys at the north pole, and 3 SVP-B buoys at the ends of their CTD sections this spring.

- APL plans to have another ice camp in April 2009, which may be another opportunity to deploy buoys.

### 4.14. Other Participant Reports – I. Rigor

#### 4.14.1.Arctic and Antarctic Research Institute of Roshydromet

- Purchased a WHOI Ice Tethered Profiler (ITP, ocean buoy), which was deployed from the Federov along with other DAMOCLES buoys last summer.
- Provide buoy deployment logistics from Russian Ice Breakers, i.e. the Kapitan Dranitsyn for the NABOS cruise, and the Federov for DAMOCLES.
- Deployed North Pole Drift Station 35 at 81.5N 104E in September.
- SVP buoys are planned to be deployed from the Kapitan Dranitsyn this summer during the NABOS cruise in international waters.
- Plan to deploy NP-36.

#### 4.14.2.Chinese Arctic and Antarctic Administration

- Sun Bo of the Polar Research Institute of China (PRIC), and Jiping Liu, who is at Georgia Institute of Technology report that they are planning to deploy two or three ice mass balance buoys this summer in the Arctic during the cruise of the Xuelong. This ice breaker is also collaborating with DAMOCLES.

**Discussion:**

PCC noted that the Xuelong is not an ice strengthened vessel and asked if there will be an accompanying ice breaker?

**Action Item:** IR will seek more information on this cruise from Sun Bo and Jean-Claude Gascard (DAMOCLES).

#### 4.14.3. Cold Regions Research and Engineering Lab (CRREL)

Deployed 13 Ice Mass Balance (IMB) buoys in 2007 in collaboration with DAMOCLES, EC, IOS, McGill University, NIC, NOAA/PMEL, and PSC. Many of these buoys were collocated with ocean buoys to for ADS.

Plans for 2008 (provided by B. Elder):

- NPEO: **1 IMB** deployed ARGOS ID 30465 Early April
- DAMOCLES

- I will be deploying **3 IMBs** with Damocles Starting around 7 April 2008 out of Eureka Canada. The plan is to deploy between 83 and 87 N 130-180W. 3 CRREL/Metocean IMB's, ARGOS ID 07440, 30045, 30294.
- We will spread these out as far as possible in the box **8 or 9 Metocean Beacons** (Burghard Brummer - Germany) I think these might have some added sensors from the standard ice beacons as he mention a 4 inch hole for a wind mast.
- **8 or so Acoustic Ice Tethered Profilers** (Jean Claude Gascard- France).

- WHOI – Beaufort Gyre cruise: Right now we are planning on 1 IMB to be deployed in August ARGOS ID 30006
- Don Perovich and Hajo Eicken have 2 IMB's for SIZONET but I am not positive where they are being deployed.
- ARGOS ID 29557 and 29892 are in production at Metocean, I think one may be going to Japan??? And one may be deployed through Christain Haas. Green-ice program North of Greenland.

**4.14.4.Institute of Ocean Sciences** and Woods Hole Oceanographic Institution is collaborating with CRREL and PSC to deploy collocated ITP, IMB and Metocean Ice Beacon buoys from the CCG Louis St. Laurent in the Beaufort Gyre.

**4.14.5.Nansen Environmental and Remote Sensing Center**

- Ola Johannessen wishes to continue being listed as a Participant of the IABP, and asked us to include the Nansen International Environmental and Remote Sensing Center (NIERSC) in St. Petersberg, Russia in our list of Participants.

**Discussion:**

PCC was noted that NIERSC may be able to help us deploy buoys in the Russian EEZ, and Vitaly Alexandrov at NIERSC may also be a good contact.

**4.14.6.Norwegian Meteorological Institute**

- Currently have 3 ICEXAIR buoys reporting in the IABP array, but did not contribute a buoy for this summer's White Trident deployment.
- NMI is one of the lead institutions of DAMOCLES.

**4.14.7.Norwegian Polar Institute**

- Currently has 1 ICEXAIR buoys in the IABP array, 2415 (which was deployed in 2004, and currently reports under NIC's Argos Experiment number).
- Sebastian Gerland has been named the new IABP Participant from NPI since Terje Loyning has taken a new position.

**4.14.8.Pacific Marine Environmental Laboratory** has been collaborating with the PSC and CRREL to deploy weather stations, radiometer and IMB buoys at the NPEO, and to enhance the IABP through NOAA's contributions to SEARCH.

**4.14.9.Scottish Association for Marine Science**

- Deployed 8 GPS drifters into the Lincoln Sea, to drift though Nares Strait. See report from Christian Haas (section ??).

**4.14.10. Woods Hole Oceanographic Institute (WHOI)**

Deployed 12 ITP's in 2007 in collaboration with AARI, DAMOCLES, IOS, PSC.

Plans for 2008 (provided by J. Toole):

- For the Louis St.Laurent Beaufort Gyre cruise, we will be shipping 3 ITP systems acquired from us by the UK ASBO program plus two of our own systems. One of the 3 UK units will have an O2 sensor in addition to CTD. One of the WHOI units will have O2, CDOM, fluoroescence, OBS and PAR. The 5th unit on the cruise (to be deployed only if there is time and appropriate ice) has an FSI CTD rather than the SBE of the standard system. In addition, as you list on the IABP web site, its my understanding that 3 UK and one CRREL IMB will be deployed, as well as 2 WHOI Polar Profiling Floats (Owens and Winsor).
- For Polarstern, we are sending two of our ITP systems to that cruise, along with a complete set of deployment apparatus. I believe there will be at least one JAMSTEC POPS scheduled for deployment on this cruise also.
- We are again planning to deploy ITPs from the Ak. Fedorov in late summer. The Fedorov cruise plan takes them from Murmansk north to recover NP-35, then off towards Rangle Is (to deliver supplies to a station there). Enroute, its hoped to locate an appropriate ice floe to support NP-36 which will then be deployed. We will probably send 3 ITPs on this cruise with plans to deploy them wherever the folks at sea think is appropriate. (Two WHOI technicians will be aboard.) After Rangle Is., I understand the Fedorov will work back west along the ice edge, and also drop supplies at various island stations along the way. Also on these legs of the voyage, 6 WHOI PPFs are to be deployed in the boundary current.
- WHOI is hoping to utilize on some if not all of these new systems a secondary floatation element (cone shaped) to hopefully make the ITPs better able to survive thin ice, melt/refreeze cycles and modest ridging episodes.

**4.14.11. World Climate Research Programme (WCRP) – Presented by I.**

## Rigor

1. WCRP remains an interested Partner in IABP.
2. At present, WCRP experiences financial difficulties, which make it impossible for a WCRP representative to participate in IABP 2008 meeting.
3. WCRP is very pleased to observe that IABP has been able to significantly increase the number of buoy deployments during the IPY and congratulates IABP on this achievement.
4. Changes in WCRP administration and leadership:
    a. Dr Ghassem Asrar is the new Director WCRP. He started his duties at the end of March 2008.
    b. Dr Antonio Busalacchi is the new Chairman of the WCRP Joint Scientific Committee (JSC), Dr. David Griggs is the JSC Vice-Chairman. They were elected by JSC at its 29-session in Arcachon, France, on 31.03-04.04.2008.
5. WCRP is planning to change its structure. Until 2013 all four current core projects (CLIVAR, GEWEX, CliC, SPARC) will continue their work focussing on leaving legacy, and working on identification of science issues that will need to be addressed after the end of the projects. The Coordinated Observation and Prediction of the Earth System (COPES) will remain WCRP strategy for this intermediate period. After 2013, there will be a new WCRP that not only will continue fundamental climate research but will also support climate information services. Its structure will be totally different from the existing one.
6. WCRP/CliC has completed, together with SCAR, the report of the IGOS Theme on Cryosphere. The report is downloadable from the http://igos-cryosphere.org. It was approved by IGOS Partnership in May 2007. The IGOS Theme on Cryosphere recommendations will be partially implemented by various IPY activities. The new WMO initiative of creating a Global Cryosphere Watch (GCW), which was aired by Canada and prepared by WCRP/CliC, will be the main mechanism for implementing most of the Theme recommendations.
7. IABP is invited to participate in a Workshop on creating a Global Cryosphere Watch as an IPY Legacy. This workshop will be organised by WMO, GEO and WCRP in Geneva, at the WMO Secretariat, on 3-5 December 2008.
8. On 8-11 September 2008, WCRP, together with WMO and WMO/IPY is planning a seminar on polar climate services. It will be held in St. Petersburg, Russia.
9. WCRP/CliC is represented on the Initiative Group of the Sustained Arctic Observing Networks (SAON) activity, and it is our strong opinion that IABP will represent a key contribution to SAON. WCRP/CliC expresses its support to IABP. IABP is one of most efficient and valuable contributions to polar observations which benefits both weather prediction and climate research.
10. A recent WCRP JSC decision is that WCRP will be planning to initiate an

integrative study of polar regions, which will focus on their roles in climate system and its predictability spanning the full cope of domains, from stratosphere to cryosphere, from physics to (biogeo-) chemistry.

11. WCRP has stimulated more than twenty IPY projects. It strongly affected the scientific program of IPY. It is possible to say that IPY agenda has a marked climate change research focus. On the diagram, which is a part of WCRP set of slides send to Ignatius, WCRP-affiliated and stimulated IPY projects are indicated by pink colours.
12. Vladimir Ryabinin sends his apologies to IABP for being unable to join the meeting in Toulouse and, as well, his wishes of a successful meeting. He will remain WCRP's contact point for IABP.

A powerpoint of this presentation is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/WCRP.ppt.

## 5. Coordinator's Report

Ignatius Rigor (IR) reported on: 1.) the status of the buoy array, 2.) deployment plans and opportunities including IPY, and 3.) the progress of data management and publications related to the IABP.

The Coordinator's report is given in Attachment 8, and is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/Coord.ppt.

**Discussion:** LD noted that the scientific deployments in the Canadian Archipelago (#13) for this summer have been cancelled since the permits from the Nunavut Research Institute (NRI) were not obtained. Permits must be obtained 4 – 6 months in advance for research deployments in the Nunavut province. Also see sections…

**Action Item:** IR should discuss possibility of deploying buoys in the Russian EEZ during the NABOS cruise with Igor Polyakov. See section 8 for more details.

### 5.1. Status Report on Membership and Letters of Intent – I. Rigor

We now officially list 26 Participants from 8 different countries, and 2 international organizations, the EUMETNET and the WCRP.

The list of Participants is shown in Attachment 2 and updated on the web site.

**Discussion:** IR noted that our Operating Principles are not specific as to how a Letter of Intent to join a program may be sent, i.e. email or hard copy. It was decided that email would suffice to become a member, but hard copy on the letter head of the institution should follow.

**Action Items:** IR should contact Peter Wadhams about participation of the University of Cambridge, and Sun Bo as to how to list CAAA and PRIC.

### 5.2. Summary of Participant Contributions

Contributions further the objectives of the IABP and are defined in the Operating Principles of the IABP, section 6.5.
The Participant contributions table is given in Attachment 9.

## 6. Report from Data Buoy Co-operation Panel (DBCP) – H. Viola

Hester Viola (HV) presented a report on the activities of the DBCP since the IABP-17 meeting and the status of global buoy programmes was presented. Details regarding current DBCP activities can be found at http://www.jcommops.org/.

This report is available on the web at http://iabp.apl.washington.edu/IABP-18/Reports/DBCP.ppt.

**Discussion:**

IR noted that the ice breakers may also be able to deploy Argo floats in the North Pacific.

HV stated that Russia has also not been active in the DBCP.

CO mentioned that there is a project to deploy buoys on sea ice in the Sakhalin area of the Sea of Okhotsk.

**Action Items:**

IR should contact Steve Riser about deploying Argo floats in the North Pacific using the Healy and Polar Sea.

IR should request that the DBCP identify an appropriate contact to help support operation meteorology and oceanography.

## 7. New Business

### 7.1. DBCP Meetings

**7.1.1.** DBCP–23 was be held on October 2007 in Jeju, Korea.

IR represented the IABP at the meeting. ETH prepared the report and updated brochures.

IR reported that SVP-B buoys may be purchased for the Arctic through NOAA's Global Drifter "Barometer Upgrade" Program. Basically, interested parties may buy barometers (~$1000 US) for SVP buoys purchased by NOAA, and deploy these in areas they are interested in. For more details, please visit http://www.jcommops.org/dbcp/svpb_upgrade.html.

IR also agreed to help stock and deliver SVP-B buoys for deployment in the North Pacific from the Healy if the need and opportunity arises.

Thanks were given to ETH and EH for preparing and presenting last years report. The full text of this report is given in Attachment 10.

**7.1.2.** DBCP–24 is tentatively scheduled for October 13-17 in South Africa.

**Discussion:** PCC asked who may be able to represent the IABP at the DBCP-24 meeting. BB may be able to attend this meeting to represent both ISDM and the IABP. If BB can not attend, HV or CO may be able to represent the IABP.

### 7.2. Location of 19th meeting

Takashi Kikuchi offered to host the IABP-19 in Japan at either the JAMSTEC facility in Yokosuka, or the new facility in Tokyo. May 2008 is probably the best month to hold the meeting.

PCC asked attendees if we can plan tentative locations for future meetings. EH offered to host IABP-20 (2010) in Canada, DP offered to host IABP-21 (2011) at CMR in

Norway, and PL offered to host IABP-22 (2012) at LBI in Groton, Connecticut.

The Executive, Coordinator and TK will set a date for IABP-19 by the fall of 2008 and communicate to all Participants.

## 8. New Directions

8.1. Sustaining the IABP beyond the International Polar Year. Challenges:

8.1.1. Increasing area of First-Year Ice and Open Water during summer.

8.1.2. Deploying buoys in the Eurasian Arctic.

**Discussion:**

- The EUMETNET Scientific Advisory Team (E-SAT) recommended that “holes” in the Eurasian Arctic need to be filled to improve the operational forecast models.
- Can we get a similar requirement letter from NOAA and other national agencies? JW mentioned that NOAA has a Memorandum of Understanding with Russia and the WMO that they will cooperate to maintain a meteorological observing system.
- JR noted that E-SURFMAR/EUMETNET plan to provide 10-20 SVP-B buoys to the IABP to help fill this hole.
- PL suggested making a request through the WMO/IOC.
- HV noted that the Law of the Sea may permit deployment of buoys in EEZ for operation weather prediction. IR should verify this with the IOC.
- TK suggested contacting Leo Timokov at AARI.
- IR also noted that Hugues Lantuit (HL) at AWI leads a project to study flaw leads in along the Russian coast. HL has offered to deploy buoys while they are in the field.
- DP noted that his collaborator Kjersti Bruserud at Statoil can introduce us to their Russian contacts.

8.2. How does the IABP fit into the Sustained Arctic Observing Network (SAON)?

The IABP supports a sustained Arctic observing network and sees itself as the foundation of such a network, since it is the longest, continuously standing observing program for the Arctic.

8.3. USCG Air and Ice Breaker Deployments

PCC reported that the US Coast Guard has been flying C-130s into the Arctic from Kodiak, Alaska twice a month. We may request buoy deployments from these flights.

**Action Items:**

IR will investigate the range of these flights.

JD suggested that a USCG representative should be invited to the next IABP meeting.

## 9. Review and Approval of the IABP Operating Principles

The Operating Principles (Attachment 11) were reviewed and revised as follows:

- The number of members on the Executive Committee was increased from 2 to 3 to broaden the expertise and international representation on the Committee. This motion was made by IR, seconded by EH, and passed unanimously.
- The reference in section 5.1 to "Responsible National Oceanographic Data Centre (RNODC)", was removed since this term is not used by JCOMM any more.

## 10. Election of Officers

The Coordinator reported that Tim Goos, CH and PCC were willing to continue serving on the Executive Committee.

Nominations were solicited from other attendees. IR nominated Takashi Kikuchi to be the 3rd Member of the Executive Committee. EH seconded this nomination and it was passed unanimously.

In accordance with the IABP Operating Principles, the following officers were elected:

**Chairman:** Timothy Goos, Canada
**Vice Chairman:** Christian Haas, Germany/Canada
**Member:** Pablo Clemente-Colón, USA
**Member:** Ivan Frolov, Russian Federation
**Member:** Takashi Kikuchi, Japan

Ignatius Rigor was re-appointed as the Coordinator of the IABP.

**Discussion:** IR noted that Ivan Frolov has not attended a meeting since 2004. PCC contacted Vasily Smolyanitsky (VS) via email asking if he could provide some insight on this issue. VS replied that Igor Ashik (IA) has been assigned to represent AARI at IABP since 2007.

**Action Item:** IR will invite IA to the next IABP meeting.

## 11. Technical Session Presentations

11.1. Changes in sea ice in the Beaufort Sea [G. Langis, presented by L. Desjardins]
11.2. Argos-3 [C. Ortega]
11.3. DBCP Iridium Pilot Project: Progress and Findings [H. Viola]
11.4. Iridium Processing Center at CLS [C. Ortega]
11.5. Ice-T Float [F. Vivier]
11.6. Airdroppable eXpendable Ice Beaon (AXIB) Development [P. Legnos]
11.7. Environment Canada weather products for IPY Arctic Basin activities [E. Hudson]
11.8. Treatment of sea ice in the global 1/4° MercatorOcean forecasting system[G. Garric]
11.9. Some thoughts on sea ice retreat in 2007 [T. Kikuchi]
11.10. Outlook for summer sea ice extent 2008 [I. Rigor]

## 12. Review of Meeting, Recommendations, and Action Items

12.1. Review of Meeting

PCC thought the meeting was a resounding success and thinks we should do this again, blah, blah, blah,

12.2. Recommendations
12.2.1.....

12.3. Action Items
12.3.1. Send Peter Dexter an email reviewing the issues of maintaining the buoy array in the Eurasian Arctic.
12.3.2. Follow up with Igor Polyakov 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 given the operational use of this data. More details are provided in the discussion on section 8.
12.3.3. Need to develop and deploy new buoy types.

## 13. Draft and Approve Meeting Minutes

Participants reviewed the draft minutes. The draft minutes will be available to all participants for final comment, and will be approved by sometime soon in 2008.

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**Attachment 2 - Membership and Letters of Intent**
(Last revised June 2008)

**Attachment 3 – Agenda**

**Attachment 4 – Participant's Report from …**