

Draft

## FARO meeting minutes

ASSW 2007  
Hanover, New Hampshire  
March 17, 2007

### 1 Opening and reporting session

#### **1.1 Welcome**

The FARO chair, Simon N. Stephenson, welcomed the attendees and briefly outlined the intention of the meeting and suggested a brief round of introduction.

After this, he gave a brief characterization of FARO as a loosely organised group with the purpose of being a forum of Arctic logistic operators tending to operate at national level.

#### **1.2 Minutes of last year's meeting**

The chair asked for suggested changes to the minutes of last FARO meeting in Potsdam, Germany. The minutes were approved without comments.

#### **1.3 Adoption of the agenda**

The chair asked the attendees for additional items for the agenda. Hartwig Gernandt wanted to inform/discuss Polarstern. After this, the agenda was adopted.

#### **1.4 Report from the FARO Chair**

The chair gave a short update on the current activities of FARO. The executive committee had not been able to meet since last years meeting in Potsdam, primarily due to busyness with IPY.

#### **1.5 News from the secretariat**

Morten Rasch gave a short presentation of the FARO secretariat in Copenhagen.

## 2. Information session

### 2.1 Observing the Arctic for Environmental Change

#### 2.1.1 CEON

On behalf of Dr. Craig E. Tweedie, Morten Rasch, gave an update on the CEON network.

CEON's mission is to strengthen the capacity for emerging monitoring, research and policy needs at high northern latitudes by making data available that is adequate and suitable for addressing a series of well-defined large scale, key scientific questions and uncertainties.

CEON received a three-year NSF award in May 2006 to facilitate international science coordination and the development of key cyber infrastructures to improve transfer of knowledge, information and data between terrestrial network partners. Status: Some delays over past 12 months due to IPY, arctic field season, new teaching assignments, transition to new lab facilities, new server configured, staff hiring delays. Now the network is back on track.

The next three years CEON will, among other things, work on:

- Transition from developmental phase to implementation phase focused on improving information and data flow
- Participate and support ongoing observation efforts and establish synergies with other networks (e.g. AON and SAON)
- Establish a joint European and North American Science Coordination Office
- Develop an overarching information portal (CEON-IMS)
- Capacities for development of Regional information portals (e.g. BAID-IMS)

Dr. Pat Webber, US, added that CEON would be happy to help AON and SAON.

#### 2.1.2 SAON

Dr. Odd Rogne gave a presentation of SAON - the Sustained Arctic Observing Network.

SAON, which is based on an Arctic Council mandate, builds on existing networks. The objectives of SAON are, among other things, to combine observational efforts by national agencies, research communities, local residents and others with a view to creating Sustained Arctic Observing Networks. The intention is to establish initial panels to discuss ocean and sea ice, cryosphere/hydrosphere, social sciences and human health, atmosphere and terrestrial ecosystems.

The next step for SAON will be to

- involve all interested partners, bringing them together at a major workshop in November, 2007
- initiate a group to serve as workshop planning group
- identify clear user needs

Odd Rogne underlined the importance of bringing together the different network efforts and pointed out the need for better coordination (overlaps and synergies) and exchange of accessible, open and free data.

Paul Egerton, European Polar Board, suggested coordination concerning SAON on common day in the future Arctic Science Summit Weeks.

Decision: FARO appointed the Executive Secretary Morten Rasch, to represent FARO in relation to future discussions concerning SAON, AON and CEON.

## **2.2 Ship database and coordination during IPY**

During the ICARP II process, FARO discussed how to play an active role in ship coordination during IPY. AWI offered to make a website <https://www.asci-ipy.de>, which is continuously updated with information on ship plans. However, not all countries have provided AWI with information about their ship and icebreaker schedules. Simon Stephenson encouraged everybody to provide AWI with the information needed in order to get a fully updated website.

Dr. Michael Klages, Germany, had agreed to give a presentation of the website. Unfortunately he had a travel delay and was not able to attend the meeting. Instead, the content of the website was presented by Morten Rasch. Simon Stephenson noted, that links to the various projects is one of the most important functions of the website.

Dr. Steven Peck, Canadian Coast Guard, presented the Canadian IPY plans and 7 research projects supported by the Canadian Coast Guard. Peck suggested that a polar chart, by month, be worked out - showing the virtual fleet of ships, aircraft, buoys and ice camps. Many projects already collate this information but not all. And for the time being, no map showing the entire field program exists. Peck also asked if opportunities for better integrating some research projects could be identified. This could lead to 1) iterative processes of combining projects or building on other data sets or logistical support; and 2) reduction of cost leading to reallocation of resources to support more research.

Dr. Hartwig Gernandt presented the scheduling of Polarstern during IPY. During the period March 2007 to March 2009, the ship is fully dedicated to IPY. To get an overview of the schedule, please visit the website.

FARO noted that different organisations (e.g. AWI, The IPY sub-office in Skt. Petersburg, The Canadian IPY office and VECO) have provided very useful information concerning ship and land based activities during IPY to secure a high mutual level of information. However, coordination between countries is still needed to secure coherent information. Stephen Peck (Canadian Coast Guard) suggested that he, Michael Klages (AWI) and Sergey Priamikov (AARI) could work together to accomplish this.

Decision: It was decided that Stephen Peck, Ursula Schauer and Michael Klages collaborate on producing a map with position of the different ships for the website.

The aim is to deliver information on charts concerning ship positions, month by month.

## **2.3 IPY sub office at AARI**

Dr. Sergei Priamikov gave a presentation of the Eurasian Arctic IPY Sub-Office in Russia. The main responsibility of the IPY EASO is to support, in full co-operation with the IPY IPO, the planning and implementation of IPY projects in the Eurasian Arctic, including the Russian area.

The main objectives of the sub office is to:

- improving co-operation and co-ordination of research, e.g. by establishing close communications with IPY participants, developing a web-portal for information purposes, consultancy support etc.
- carrying out pre-project studies focused on predicting the environmental and climatic conditions during IPY and their impact on research and logistics;
- collecting and distributing metadata on infrastructure facilities, logistics and observation programs;
- assessing the ability of the existing infrastructure to meet with IPY requirements

Dr. Martin Bergman congratulated Priamikov with the website. And Simon Stephenson encouraged everybody to supply the sub office with IPY schedules in order to keep the website updated.

## **2.4 Sharing other logistical project data**

### **2.4.1 ARMAP**

Dr. Diana Garcia-Lavigne gave a presentation of ARMAP – Arctic Research Mapping Application. ARMAP builds upon earlier efforts with projects database, static maps & data sharing with applications such as BAID-IMS, CEON-IMS.

The main objective of ARMAP is to show where researchers are working, aid logistics planning and reporting tools.

The goals of ARMAP is to maintain:

- additional layers (landing sites and weather stations are coming, so are AON and BOREAS layers)
- increased number of web services will be added as these are developed or are requested
- liaise with NSIDC to visualize and link to IPY-DIS
- transition to ArcServer 9.2 from ArcIMS
- develop auto-updates for .kml files for Google Earth
- develop prototype 3D applications
- maintain free access to data and customizations
- training and outreach
- educate students in web-based GIS development

In the future, ARMAP will work to expand the data and information available to users, increase speed and stability, and develop a 3D prototype application. Further, ARMAP will work to educate the next generation of web based information system developers.

## **2.4.2 Aurora Borealis**

Dr. Paul Egerton gave a short presentation of research icebreaker vessel Aurora Borealis. The strategic and scientific perspectives of the vessel have been developed by The European Polar Board.

Aurora Borealis is one of the 35 major projects included in the EC ESFRI Roadmap for FP7. The roadmap should describe the scientific needs for research infrastructure for the next 10-20 years. A consortium for the preparatory phase in FP7 is in development. Decisions will be taken during a 2-3 years process.

Timeline:

Preparatory phase: 2006-2008

Construction phase: 2008-2010

Operation: 2010 onward

Decommissioning: 2045 approx.

Coordination action:

Deadline for submission to EC is 2<sup>nd</sup> May 2007

Expected strat date of project is 1<sup>st</sup> January 2008

It is the intention to make information accessible on a website and to integrate the information into Google Earth.

## **2.4.3 IPY-API**

Dr. Kathleen Fischer gave a short presentation of the Canadian programs and Canadian collaboration with internationally endorsed IPY Projects. She also drew attention to two websites with Canadian projects: [www.ipy-api.gc.ca](http://www.ipy-api.gc.ca) and [www.ipycanada.ca](http://www.ipycanada.ca).

## **2.5 Emerging logistics ideas**

### **2.5.1 Combining to fund a Russian nuclear icebreaker in 2008**

Dr. Simon Stephenson gave a presentation of the new icebreaker for the Japanese Antarctic Program.

The vessel is a multi-purpose vessel:

- cargo transportation
- on board helicopter operation
- oceanographic observation

Environmental protection against marine pollution:

- double-hull structure

- SUS clad steel
- sewage treatment system

Efficient cargo handling system:

- 12 feet container
- Four cranes of 15 tons
- Two elevators for cargo movement

Intensification of ice-breaking

- Water spray for melting snow

New oceanographic survey instrument

- multi-narrow beam echo sounding

Construction phase is scheduled to 2009-2011.

### **2.5.2 Tiksi Atmospheric Observatory**

Dr. John Calder presented the International Climate Observatory - Tiksi Atmospheric Observatory in the Sakha Republic, Russia.

The scientific goals are

- provide multi-decadal cloud, radiation, aerosol, meteorological and flux data
- use observations to understand atmospheric and surface processes at regional scale
- apply data to improve model parameterizations
- support calibration, algorithm development and validation for satellite observations
- serve as logistics base for diverse science observations, e.g., permafrost borehole, etc.

Major events will be to

- modernize Tiksi weather station and initiate flask sampling for trace gases
- install "Clean Air Facility" and associated instruments
- install radar/lidar instruments at weather station
- probable phased implementation in this order

A new modular building is planned for installation near the existing set of buildings at the Tiksi weather Station. Also a clean air facility is planned at a remote site.

## **3 Other business**

### **3.1 PAG**

Dr. Martin Bergmann gave an update on the activities of the Pacific Arctic Group (PAG).

In 2006-2007, the Chinese icebreaker R/V Xuelong will be modified in order to improve its capability of navigation, scientific investigation facilities and living conditions. In 2008-2009, the icebreaker will carry out Arctic Ocean Cruise to support

China IPY programs, the priority of the Pacific Arctic Ocean, international cooperative program of PAG, as well as ICARP II Research themes.

The new state of the art Korean Research Icebreaker capable of penetrating into the Arctic will fulfill the needs of international polar research during the post-IPY period.

### **3.2 AOSB**

Dr. Jackie Grebmeier presented AOSB-CLIC Observing Plan for the IPY' in support of iAOOS.

### **3.3 Polish IPY activities**

Dr. Piotr Glowacki presented the Polish IPY activities on Svalbard.

19 Polish projects will be carried out during IPY, most from the Polish polar station Hornsund on Svalbard. Norwegian and Swedish research will participate in the projects. Polish research ship Oceania (Institute of Oceanology, Polish Academy of Sciences, Sopot) and training research ship Horyzont II (Gdynia Maritime University) will support the research.

### **3.4 New research aircraft at AWI**

Dr. Hartwig Gernandt gave an update on the new AWI research aircraft POLAR 5 (Basler BT-67). According to schedule, the aircraft will be delivered in Bremerhaven, Germany in September 2007.

The aircraft will be used in relation to research fields as glaciology and geophysics, atmospheric chemistry, meteorology and coastal research. It will open up for the establishment of new international partnerships in relation to both Arctic and Antarctic research activities. The first Antarctic mission will take place November 2007 to February 2008 and the first Arctic campaign will occur May to August 2008.

See further details of the aircraft at [www.awi.de](http://www.awi.de)

### **3.5 FARO as a membership organisation**

It has previously been suggested to transfer FARO into a member organisation. The subject was raised by Dr. Piotr Glowacki. It is the ambition to transfer FARO into a member organisation within a few years. However, no conclusions about when and how were made on this meeting. The secretariat will take initiative to establishment of a working group chaired by Piotr Glowacki to discuss this before the next FARO meeting at ASSW in Russia in 2008.

## **4. Closure**

The Chair Simon Stephenson thanked the audience for a constructive participation in the meeting. He concluded that FARO is still a very important mean (among others) to

secure maintenance of a high mutual information level between national Arctic research logistics providers.