

Forum of Arctic Research Operators

FARO

FORUM OF ARCTIC RESEARCH OPERATORS

MINUTES OF MEETING

27 APRIL 2001

IQALUIT, NUNAVUT, CANADA

FARO Meeting
Iqaluit, Nunavut, Canada
27 April 2001

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MINUTES

from

The 2001 FARO Meeting, held on 27 April 2001 at Navigator Inn, Iqaluit,
Nunavut, Canada

PARTICIPANTS

See enclosed list – **Appendix I**

1. OPENING AND REPORTING SESSION

1.1 WELCOME AND INTRODUCTION

The FARO Chair, Ms Bonni Hrycyk, Canada, welcomed all participants, and reported some practical information.

1.2 APPROVAL OF THE MINUTES OF THE PREVIOUS MEETING IN 2000

The amended minutes were approved.

1.2 ADOPTION OF THE AGENDA

The Chair suggested some items for “Any Other Business”:

- 2.7.1 ASSW Review Group
- 2.7.2 COMNAP Overview
- 2.7.3 IGY: 50th Anniversary
- 2.7.4 FARO Reporting to IASC
- 2.7.5 Clean Energy

With these additions, the agenda was approved.

2 MAIN ISSUES

2.1 FARO EXECUTIVE

A FARO Executive was elected in 1999 consisting of Hrycyk (chair), Karlqvist, Orheim and Pyle.

At the meeting in 2000: "FARO decided that the present Executive should serve for one more year. Terms of Reference and Terms of Office should be on the agenda for the next meeting."

The following addition to the FARO Terms of Reference was agreed upon:

"FARO Executive is elected for a period of 3 years.

Members can be re-elected for a second term.

The main task for the FARO Executive is to discuss, develop and prepare FARO issues between main meetings."

With regard to FARO membership, it was suggested that FARO keep an informal forum, based on the following guideline:

"FARO consists of a representative from each member country. A member country should have active research programmes in the Arctic.

Members will be responsible for communicating with their own national communities as required; members will serve as information links between the FARO and operators within their own countries".

Please find enclosed an up-dated version of the FARO Terms of Reference, as **Appendix II**

2.2 FARO WEB SITE

A FARO web site was established in July 1999, and the address is:

<http://www.iasc.no/faro>

Last year we agreed that all members should provide relevant links etc. Please find enclosed a copy of the contents, see **Appendix III**.

Web site address:

The FARO web site was added on to the IASC web site address (for practical reasons).

The Executive Secretary was tasked to find a "clean" FARO web site address (i.e. without IASC in it).

Addition of links

- Links for Arctic Council and other relevant political bodies
- the ENVINET web site address

Action: Rogne

2.3 CEON: CIRCUM-ARCTIC ENVIRONMENTAL OBSERVATORIES NETWORK

The CEON concept was comprehensively introduced at the FARO meeting in 2000 by Dr Tom Pyle.

The FARO then decided:

- “A working group was established under the lead of Tom Pyle, USA, to develop a framework for CEON and decide on next steps.
- A working group will make plans for a workshop in the future to identify science requirements for CEON.
- Participants were encouraged to nominate candidates as soon as possible. The group could consist of: one representative each from the USA, Canada, ENVINET, Nordic network, and Russia”.

Members of the WG had been nominated, consisting of Tom Pyle (chair) with members from Canada (EMAN), Europe (ENVINET), and two Russians.

As Tom Pyle had been ill, the WG had not yet had a meeting.

Dr Pyle introduced the CEON with the **objectives** to

- Promote environmental observations in the Arctic,
- Promote dissemination of environmental observations to Arctic researchers using:
 - common parameters, format
 - continuous availability (if possible)
- Address gaps in environmental observations in the Arctic.

Regarding **possible models**, he suggested:

- LTERs
- EMAN
- ENVINET

The cooperation should be voluntary.

EMAN: Ecological Monitoring and Assessment Network was then introduced by Dr Michael Wong, Canada.

EMAN is a Canadian network of observatories scattered over the various ecozones. It was established in 1994 “to conduct integrated monitoring and research – related to ecosystems”. At present there are 93 sites.

Some general information about EMAN is found in **Appendix IV**, and on EMAN-North in **Appendix V**.

“The Power of Networking”, a copy of an article in “Nature Canada” about EMAN is enclosed as **Appendix VI**.

LTER: Long-Term Ecological Research was briefly introduced by Dr Pyle.

LTER was initiated in 1980 by NSF to conduct long-term ecological research. In total, there were 24 sites with 2 Alaskan sites: Toolik Lake and Kuparuk River.

Each site was funded for 6 years. If they were scientifically productive they could continue for 20 – 30 years.

2001 Meeting Report

There was also an international network of LTER sites operating in about 30 countries.

ENVINET: European Network for Arctic-Alpine Multidisciplinary Environment Research (introduced by Dr Tom Pyle) is an international (European) Arctic-Alpine network.

Both IASC and AMAP are members.

Summary about ENVINET:

- Multidisciplinary
 - Atmospheric physics and chemistry
 - Air quality research
 - Marine and terrestrial biology
 - Geodesy/geophysics
- Objectives (in common with CEON)
 - Improve data sets and protocols
 - Measurements intercomparable
 - Implement new software and techniques
 - Basis for exchange of information
 - Validation/calibration of instruments, satellite observations and sampling procedures
- Organised with working groups, secretariat
- Meetings held in Norway and Switzerland (2000, 2001)

Dr Pyle suggested a CEON network consisting of the North American Arctic stations (2 Alaskan, 3 Arctic Canadian), ENVINET (Arctic stations) and with some Russian stations.

The discussion revealed a need for supplementary information about ENVINET, but support for exploring Dr Pyle's proposal, as ENVINET seemed to have developed common standards that were internationally acceptable.

More information is available at the ENVINET web site at:

<http://www.npolar.no/envinet>

Russian stations were briefly mentioned such as the Taimyr and Lena stations (Dutch support), Chukotka, the WWF station, etc., but this issue would have to be further explored as the Russian member(s) on FARO had been unable to travel to Iqaluit.

Conclusion: FARO will explore a CEON network based on the 5 North American stations (2 Alaskan, 3 Canadian), the ENVINET, and some Russian Arctic stations.

The ENVINET leadership to be invited to the next FARO meeting.

Action: Rogne

2.4 ASOF: ARCTIC/SUBARCTIC OCEAN FLUXES

A workshop on Arctic fluxes was held as a part of the Arctic Science Summit Week last year. A follow-up workshop was held 22 – 24 September 2000 and the workshop report was enclosed with the FARO agenda papers.

Prof. Olav Orheim summarised the present ASOF status on behalf of the ASOF Chair, Dr Bob Dickson, UK.

Monitoring of the Arctic/Subarctic ocean fluxes requires circumarctic cooperation. An International Scientific Steering Group had been established with Dr Bob Dickson as chair.

The plans had advanced rapidly, and it was intended that the ASOF would be launched in 2003. With regard to funding, substantial commitments had already been made, although some support was still lacking.

For FARO, the ASOF is regarded as a “Marine CEON”, and the FARO is supportive to its implementation.

FARO statement:

“FARO acknowledges the progress made in developing the ASOF concept for the implementation of a circum-arctic long term observing system on ocean fluxes..

FARO recommends national authorities and institutes to consider means of supporting ASOF, its goals and current elements of the ASOF observing network as well as new sites, until full implementation and funding can be achieved.”

Action: All FARO members

Dr Bob Dickson has kindly provided “The run-up phase of the ASOF Program” which is a post-Iqaluit summary; as well as a “Configuration of prototype ASOF Array”, see **Appendix VII**.

2.5 RECENT DEVELOPMENTS

FARO members have previously been invited by e-mail, to make brief presentations of recent developments in national programmes of interest to other participants.

The presentations should preferably focus on operational/logistical issues. This year it was suggested the focus should be on icebreakers and possibilities for cooperation regarding the use of icebreakers.

Members from Canada, Norway, Sweden and the USA had been asked for prepared presentations.

CANADA

Ms Bonni Hrycyk gave an overview of the many agencies involved in Arctic logistics in Canada, the partnerships among them, and the trends and transitions they as a collective in Canada are coming to grips with. Further, she briefly introduced the Polar Continental Shelf Project (PCSP), see **Appendix VIII**. **Dr Martin Bergmann** briefed about The Canadian Coast Guard (CCG), which had supported the following programmes during the last year:

- Nares Strait Program (Canada, Denmark, Germany)
- Arctic Ocean Monitoring Program
- CASE (Canadian Shelf Exchange Program)
- Western Arctic Program (Canada, Japan, USA)

CCG, while not having a dedicated research vessel, icebreakers are available opportunistically for research activities – 2 and maybe 3 science programmes will be supported by CCG in 2001.

Copies of Dr Bergmann's slides are enclosed as **Appendix IX**

NORWAY

Prof. Olav Orheim reported that a new 106 m. long icebreaker (Coast Guard) was being built, mainly for surveillance around Svalbard and will be in operation in 2002. A group consisting of research directors had been appointed to guide the Coast Guard on ways of using the icebreaker for research purposes (a number 2 priority).

Prof. Orheim also gave an account of two potential major environmental threats north of mainland Norway, namely the new oil province there with potential conflicts between the production and export of the oil industry and environmental and fishing interests.

The second environmental threat is nuclear waste, both the potential risk from stored waste within Russia and the new plans for transportation for reprocessing in Russia.

SWEDEN

Prof. Anders Karlqvist mentioned that the Swedish icebreaker "Oden" was available for research during the summer, thereby presenting an interesting opportunity for use in the high Arctic.

New laboratories were now being built, and a considerable up-grading of computer networks were ongoing.

2001 cruise: Arctic Basin (meteorology, biogeochemistry)

2002 cruise: Drilling at the Lomonsov

See also their web site at:

<http://www.polar.se>

USA (Simon Stephenson)

- **Icebreakers** “Healy” (owned by the US Coast Guard) is now operative, and she will be used for 90 days for scientific cruises this year. (The first cruise is joint with Polar Stearn). The official schedule is posted on the UNOLS website at:

http://www.gso.uri.edu/unols/schedules/Healy/Healy_01.html

A *Healy* cruise planning manual is at:

<http://www.mlml.calstate.edu/unols/cruiseplanman/USCGCHEALYCRUISEPLANNINGMANUAL.htm>

More information will be found at:

<http://oceanic.cms.udel.edu/ships> (and then search for “Healy”)

- **Polar Technology and Development**

A call for proposals by NSF was made last year.

54 proposals had been received, from which 11 had been funded. USA 6 mills. is in the budget for this item. Most projects were specific to discipline, but one of the more generally applicable projects was for a new automated weather station, building on the network in place in Greenland and Antarctica. The principal investigator is Edwin Eloranta, e-mail at:

eloranta@lidar.ssec.wisc.edu

- **ALIAS: Arctic Logistic Information Access Service**

This web site – initiated by the NSF – had been taken over by ARCUS. The new ALIAS web site will be ready by the end of May, and you will find it under the ARCUS site:

<http://www.arcus.org/ALIAS/index.html>

- **Safety:** NSF is supporting 600 people engaged in fieldwork in the Arctic. Steps have been taken to improve safety for them. This will include reviewing medical screening policy and developing training courses. In developing this safety approach, NSF is interested in learning about the approaches used by other FARO partners.

- **GIS:** A major workshop on the use of GIS in Arctic research was held some months ago. A report (about 50 pages) from this workshop “Recommendations for a Geographic Information System to Support Arctic Research” is available at:

<http://www.arcus.org/gis>

GERMANY (Hartvig Gernandt) reported that:

- A medium-sized ice-strengthened research vessel is under construction in Germany
- A proposal for a European icebreaker intended for use in the high Arctic is under discussion. This 130 m long ship will be fitted out for drilling, have dynamic positioning etc.
- German Arctic terrestrial operations are mainly at the Koldewey Station (Ny-Ålesund, Svalbard) and bilateral cooperation in Russia.
Please find a brief survey enclosed as **Appendix X**.

2.6 TECHNOLOGY SEMINAR (REPORTED BY ROBERTO AZZOLINI)

The intention is to hold this seminar in Kiruna during the 2003 ASSW. One theme under discussion is **alternate energy** as some field stations need clean energy not polluting ongoing experiments.

Comments given during the discussion were a recommendation that the group identified a leading expert to give a state of the art report.

A workshop on clean energy had been held in the USA. No report had yet been published, but some information is available at the web site:

http://geodynamics.jpl.nasa.gov/workshop/autonomous_systems/

2.7 ANY OTHER BUSINESS

2.7.1 ASSW REVIEW GROUP

AOSB, EPB, FARO and IASC had each been invited to nominate a person for a group to review our experience with the ASSW, and to suggest future improvements.

An initial meeting had been held earlier during the ASSW, and Bonni Hrycyk had represented FARO. Dr Drewry was invited to report from the initial meeting. This group will continue the dialogue by e-mail, and also review the present ASSW guidelines.

Comments during the discussion:

More focus on new, interesting scientific findings, and issues requiring circumarctic actions (and less status reporting for various projects). **Further**, invite representatives from funding agencies.

The FARO noted the information and comments received, and agreed that the Chair, Bonni Hrycyk, should continue in the ASSW Review Group, as the FARO representative.

Action: Hrycyk

2.7.2 COMNAP

Ms Bonni Hrycyk had given a FARO presentation at the last COMNAP meeting (in Japan).

The Chair of COMNAP had been invited to the Iqaluit meeting, but she had been unable to attend. Dr Gérard Jugie, France, gave a presentation on her behalf.

He focussed on the need to identify common interests that COMNAP and FARO share. Clean energy for field stations could be a good example of common needs. The Technology Seminar (at the ASSW) 2003) could be a good venue for cooperative efforts, and as COMNAP had existed longer than FARO, they should be encouraged to suggest themes.

Action: Rogne

2.7.3 IGY – 50TH ANNIVERSARY

In a few years there will be a 50th Anniversary of the IGY. In several fora the question had been raised as to an IGY activity. At the European Polar Board meeting, a report was given relating to an ICSU discussion, which was less forward-looking. However, the opportunity still remains.

Comments made were that an activity should be forward-looking (not history). An attractive scientific vision is what is required.

Action: Rogne

2.7.4. FARO REPORTING

The Chair raised the question of whether FARO should be reporting to IASC (as COMNAP does to SCAR).

The FARO agreed that the Minutes from the FARO meeting should be circulated to AOSB, EPB and IASC.

Action: Rogne

2.7.5 CLEAN ENERGY

Announced as an “Any Other Business” item at the beginning of the meeting, but already covered by item 2.6 and 2.7.2.

2.7.6 FARO LOGO

Some ideas for a FARO logo were briefly discussed.

The FARO nominated Hrycyk, Mälkki and Rogne to make a proposal for the next meeting.

Action: Rogne

2.8 ELECTIONS

The FARO agreed that all members of the Executive should be re-elected for another year, and then introduce a staggered system (to allow for both continuity as well as “fresh blood”).

2.9 NEXT MEETING

will be held as a part of the ASSW in Groningen, The Netherlands, during the last week of April 2002.

2.10 CLOSURE

The Chair thanked all those present for their active participation, and wished them a safe journey home.