

**Summary Report of the First Meeting
of the
International Arctic Buoy Program**

(Seattle, Washington, USA, 18 September, 1991)

1. Opening of Meeting
The meeting began at 1330, September 18, 1991. The list of attendees is given in Attachment 1. The list of original Participants in the Program is given in Attachment 2.
2. Election of Meeting Chairman and Approval of Agenda
Mr. O'Donnell was elected chairman of the meeting following nomination by Mr. Painting and seconding by Mr. Colony. The agenda as approved is given in Attachment 3.
3. Adoption of the Operating Principles of the IABP
The Operating Principles of the IABP as attached to this report were adopted. (Attachment 4)
4. Election of the Executive Committee
The following Participants were elected to the Executive Committee:

Chairman	-	Mr. B. O'Donnell (Canada)
Vice Chairman	-	Mr. T. Kvinge (Norway)
Member	-	Mr. D. Benner (USA)
Member	-	Dr. Ye. Nikiforov (USSR)
5. Appointment of Interim Coordinator
Mr. R. Colony (USA) was appointed as Interim Coordinator of the Program.
6. Next Meeting
The Executive Committee was charged with organizing the next annual meeting of the Participants in June 1992, offers of location were acknowledged from Norway, the USSR and Service Argos.
7. Other Business
The Chairman was requested to submit the operating Principles and a request for the Program to become an Action Group of the WMO/IOC Drifting Buoy Cooperation Panel at its October meeting.
8. End of Meeting
The meeting ended at 1415, September 18, 1991.

**List of Attendees
IABP Meeting
September 16-18, 1991
Seattle, Washington**

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**List of Original Participants in
the International Arctic Buoy Program**

The following organizations have indicated a willingness to participate in the International Arctic Buoy Program:

- .1 The Atmospheric Environment Service - Canada
- .2 The Navy/NOAA Joint Ice Center - USA
- .3 The Norwegian Meteorological Institute Norway
- .4 The Norwegian Polar Research Institute Norway
- .5 The USSR Committee for Hydrometeorology - USSR
- .6 The U.K. Meteorological Office - U.K.
- .7 The Marine Environmental Data Service - Canada
- .8 Alfred-Wegener-Institute for Polar and Marine Research Federal Republic of Germany
- .9 Institute of Ocean Sciences - Canada
- .10 Pacific Marine Environmental Laboratory - USA
- .11 Polar Science Center, University of Washington - USA
- .12 Scott Polar Research Institute - U.K.
- .13 Naval Oceanography Command - USA
- .14 U.S. Naval Oceanographic office - USA
- .15 Service Argos - France, USA
- .16 Chr. Michelsen Institute - Norway
- .17 Arctic and Antarctic Research Institute - USSR
- .18 Canadian Coast Guard - Canada

**The First Meeting of Participants of the
International Arctic Buoy Program**

AGENDA

1. Opening of the Meeting
2. Election of Meeting Chairman and Approval of Agenda
3. Adoption of the Operating Principles of the IABP
4. Election of the Executive Committee
5. Appointment of Interim Coordinator
6. Next Meeting
7. Other Business
8. End of Meeting

INTERNATIONAL ARCTIC BUOY PROGRAM OPERATING PRINCIPLES

1. This paper sets forth the principles and a set of operating procedures for the International Arctic Buoy Program (IABP).

2. **Objective**

The objective of the International Arctic Buoy Program is to establish and maintain a network of drifting buoys in the Arctic Ocean to provide data for real-time operational requirements and research purposes for meteorology and oceanography, including support to the World Climate Research (WCRP) and the World Weather Watch (WWW) Programs. The Program will build upon cooperation among those agencies and institutions with Arctic interests.

3. **Program Principles**

The IABP will:

- 3.1 Maintain an observational data network over the Arctic Ocean using drifting buoys;
- 3.2 Distribute basic meteorological data from the network in real-time over the Global Telecommunication System plus relevant additional real-time data approved for public dissemination;
- 3.3 Ensure data from the network are archived; and
- 3.4 Liaise and cooperate with other Arctic buoy operators.

4. **Observation Program**

4.1 **Operational Area:**

The operational area of the Program includes the central Arctic Basin and its marginal seas excluding the economic zones except where agreement of the Coastal State has been obtained.

4.2 **Variables:**

Basic meteorological data will be measured. Additional variables such as atmospheric pressure tendency, wind speed and direction, snow, sea ice properties as well as subsurface oceanographic variables are desirable.

- 4.3 **Basic Network Density:**
Requirements stated by the WCRP and WWW, are a basic network with observational points spaced between 400 and 500 km. As far as practicable sufficient buoys will be deployed to achieve and maintain this density over the operational area.

5. **Data Distribution**

- 5.1 **Transmitters:**
All buoys in the basic network will be equipped with transmitters to enable basic meteorological data to be transmitted in real time (synoptic and asynoptic mode). As a preferred approach, data will be collected and located via the Argos system using the TIROS-N series of satellites or their replacement.
- 5.2 **Coding:**
All basic meteorological data will be coded in the approved WMO code form for drifting buoys.
- 5.3 **Global Telecommunications System:**
Data will be inserted by Service Argos to the Global Telecommunication System. Data collected by Participants by other means may also be inserted into the GTS.

6. **Data Archiving**

- 6.1 **Operational Archiving:**
All basic meteorological data transmitted on the GTS will be archived by the Marine Environmental Data Service as the IOC/WMO Responsible Data Centre for Drifting Buoys.
- 6.2 **Research Data Base:**
A uniform quality controlled data base for ice motion and surface meteorology as required by the Arctic research community will be established. Periodically this database will be submitted to World Data Centers A & B: Glaciology, and to MEDS.

7. **Management Structure**

- 7.1 **Participants:**
Participants in the International Arctic Buoy Program will be operational agencies, meteorological and oceanographic institutes, research agencies and non-governmental organizations who are interested in the Arctic Ocean and who contribute actively to the Program. Participants will indicate their participation in the Program by means of a Letter of Intent (Appendix 1).

7.2 **Management:**

The Program will be coordinated by the Participants. The Participants will arrange for the implementation of the Program within the framework of the stated objectives. On an annual basis the Participants will elect a Chairman and Vice Chairman and appoint a Coordinator. The Chairman and Vice Chairman plus two other elected persons from the Participants shall form the Executive Committee.

Elections shall be held at annual meetings of the Participants. Elections shall be decided by a simple majority provided that a quorum of Participants is present. A quorum shall consist of at least nine Participants. In case a quorum is not present, at an annual meeting of Participants, elections shall be decided by unanimous vote.

A Participant who is unable to attend the annual meeting may register a proxy vote delivered by an attending Participant if such authority is signified in writing to the Chairman.

7.3 **Executive Committee:**

The Executive Committee will be responsible for the management of the program on a day-by-day basis within the guidelines set at the annual meeting of Participants. The Executive Committee is responsible for developing terms of reference for the Coordinator for approval by Participants. The Executive Committee will provide guidance and direction to the Coordinator who will act as the focal point for the Program during intersessional periods on matters related to the operation of the Program.

7.4 **Coordinator:**

Specific responsibilities and duties of the Coordinator are contained in Appendix 2, Terms of Reference for the Coordinator of the International Arctic Buoy Program.

7.5 **Funding Provisions:**

The Program will be self sustaining, supported by contributions in the form of equipment, services (such as communications, deployment, archiving, coordination, scientific or technical advice) or monetary contributions. As necessary the Participants shall establish a budget and make appropriate provisions for the management of this budget in order to implement the Program. Other funding arrangements made between Participants will be recognized as contributions to the IABP if they further the Objective of the Program.

7.6 **Program Review:**

The management structure and operation of the Program shall be reviewed at the annual meeting of Participants.

8. **Meetings**

An annual meeting of the Participants will be held at a time and location to be determined by them.

9. **Glossary**

Basic Meteorological Data- Atmospheric pressure, air temperature and buoy location.

Letter of Intent

Dear Colleague:

I propose that our agency will participate in the International Arctic Buoy Program to pursue the maintenance of a network of data platforms on the Arctic Ocean.

This participation is regulated by the terms of the Operating Principles of the IABP and other terms attached to this letter.

I expect that our Agency will contribute ... to the IABP for the first year of our participation and ... in subsequent years.

The contribution is made with the understanding that it be applied to the objectives of the Program.

Yours faithfully,

.....

Terms of Reference for the Coordinator of the International Arctic Buoy Program

The Coordinator shall facilitate the implementation of the International Arctic Buoy Program. The Coordinator will be elected at the annual meeting of the Participants and will be directed by the Executive Committee. Specific responsibilities include:

- 1) monitor and receive appropriate Argos and non-Argos data from the buoy network and prepare a monthly status report of buoy positions;
- 2) coordinate with operators of non-Argos buoy programs and other field operations;
- 3) liaise with Principal Investigators and managers of individual buoy programs in the Arctic Ocean;
- 4) arrange for the maintenance of a research quality data base of ice motion and surface meteorological data, and submit it to the World Data Centres A & B: Glaciology;
- 5) develop a deployment strategy to maintain an optimal buoy network in the Arctic;
- 6) coordinate opportunities for buoy deployment
- 7) liaise on technical aspects of buoy development;
- 8) prepare an annual summary of resources committed to the Program;
- 9) liaise with Technical Coordinator of the Drifting Buoy Cooperation Panel to ensure that arctic data are properly quality controlled and distributed over GTS;
- 10) arrange for the purchase of buoys and ancillary equipment as authorized;
- 11) arrange for the payment of expenses for Argos data acquisition and Argos processing fees as authorized;
- 12) prepare and distribute an annual data report;
- 13) maintain a distribution list for monthly status reports and annual data reports;
- 14) respond to requests from WMO, WCRP, and the International Arctic Science Committee (IASC) for reports on arctic climatology, global change, and design of experiments;
- 15) prepare and distribute a bimonthly newsletter of activities and plans;

- 16) organize the annual meeting of Participants, present a report of the preceding year's activities, and prepare a plan for the following year;
- 17) promote the International Arctic Buoy Program to potential participants.

NOTE: Specific contractual duties of the Coordinator will be approved through the Executive Committee.