

WORLD METEOROLOGICAL ORGANIZATION

**INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)**

JOINT WMO/IOC TECHNICAL COMMISSION FOR
OCEANOGRAPHY AND MARINE METEOROLOGY
(JCOMM)
EXPERT TEAM ON SEA ICE – FOURTH SESSION

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STEERING GROUP FOR THE PROJECT GLOBAL DIGITAL
SEA ICE DATA BANK (GDSIDB) – TWELTH SESSION

ITEM 2.4.2

ST PETERSBURG, RUSSIAN FEDERATION
1 TO 5 MARCH 2010

Original: ENGLISH

REPORT OF THE INTERNATIONAL ICE CHARTING WORKING GROUP

(Submitted by the IICWG Secretariat)

Summary and Purpose of Document

This document summarizes the last meeting of the IICWG (IICWG-X, Geneva, October 2009) and provides information about the previous meetings (that were held during the past ETSI intersessional period (Frascati, October 2007; Luleå, October 2008)).

ACTION PROPOSED

The Expert Team on Sea Ice (ETSI) is invited to:

- (a) Note and comment on the information contained in the report, as appropriate;
 - (b) Take the report into account in relevant agenda items;
 - (c) Take actions on the issues raised in the report, as appropriate.
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DISCUSSION

1. The IICWG is an ad-hoc working group open to the ice charting nations of the world. It has been meeting approximately annually since 1999 to address issues of coordination of products and services among the ice charting services. It serves as an advisory body to the Expert Team on Sea Ice.
2. The 10th meeting of the International Ice Charting Working Group (IICWG) was held at the headquarters of the World Meteorological Organization in Geneva October 12-16, 2009. Forty-three attendees representing 26 organizations from 12 countries participated in the meeting.

3. The theme adopted for the meeting was “Expanding Domains and Services” to help focus discussion on the increasing ship traffic in new regions and new seasons in the Arctic and the resulting increase in the need for ice information services. A Science Workshop was held on October 12 followed by three days of open meetings divided into 6 thematic sessions – Expanding Arctic Knowledge, Expanding Arctic Shipping, Expanding Arctic Services, Ice Charting Systems Management, Interactions with WMO Programs and an Earth Observation Update. The final day was devoted to a business meeting of the Ice Service heads and invited guests to decide on the action plan for the coming year.
4. Significant outcomes of the meeting included the following:
 - a. Arctic METAREA Coordination - Substantial progress is being made on the implementation and coordination of ice information services for the new Arctic METAREAS to become operational in 2011. The initial service will concentrate on an ice edge broadcast with more detailed information in areas with greater marine traffic. The challenges of communication in the Arctic still present a significant hurdle but efforts are underway to address them with HF narrow-band communications. The group took action items to exchange operational contact information among the issuing services of Canada, Norway and Russia and the supporting services of Denmark and the United States. A potential gap in information for METAREAs XX and XXI was identified and will be discussed at JCOMM-IV and the upcoming meeting of the METAREA coordinators.
 - b. Ice Information in Electronic Navigation Chart Systems - The working group was updated on the substantial progress that has been made by the Arctic and Antarctic Research Institute, in cooperation with Transas, to develop mechanisms to display ice information on Electronic Navigation Charts. Evgeny Anashkin gave a demonstration of the capability to merge Canadian and Russian ice chart information in the S-57 standard format in an ENC System. An action was taken to consider amendments to the Ice Objects Catalogue.
 - c. Ice Logistics Portal - The Ice Logistics Portal was developed as an IPY initiative to provide a convenient point of access to ice charts globally. It has been operated successfully for the past three years by PolarView but on-going funding is not assured. It was agreed that, because the Portal provides a valuable service and is a good platform to further develop global ice information, it should be continued in operation in a more stable environment. The German Ice Service offered to assume operation of the Portal for the next 5 years. During this time, discussions will be held with the WMO Information Service towards integrating the Portal into the WIS for the long term.
 - d. Ice Analysts' Workshop - Two workshops for ice analysts have been held by the IICWG in the past two years. The purpose of these workshops, in addition to providing training and sharing best practices, is to develop a method of quantifying the errors inherent in ice charts and standardize the practices as much as possible. While progress is being made in understanding how analysts extract information into ice charts, there is still much work to be done. It was agreed that a third workshop should be held which will be hosted by the Danish Meteorological Institute.
 - e. IICWG News Release - Following reports on regional ice conditions from the ice services, the IICWG issued a news release warning of continuing navigation hazards due to ice. The news release stated, in part, that “Sea ice and icebergs present a significant marine hazard that, considering the increase in the number and size of ships venturing into the Arctic and Antarctic, should be considered serious.”

- f. Ice Information for NWP Centres - The IICWG is working to standardize the format of gridded ice chart information that its members provide to NWP Centres with the intention of making it easier for NWP centres to incorporate ice chart information. While not yet finalized, it is likely that a NetCDF implementation will be adopted.
 - g. Antarctic Ice Charting - Recognizing the large number of tourist cruise ships that are venturing into Antarctic waters without the benefit of regular ice charts, the IICWG discussed the possibility of implementing such a service. Since there is no obvious single institution that could assume this responsibility, further study of the implications is required. Jürgen Holfort of the German Ice Service was asked to raise the issue at the upcoming Meeting of Experts on Ship-borne Tourism to be held in Wellington in December, 2009.
5. A number of action items were adopted by both the IICWG plenary group and its two standing committees (Applied Science and Research; Data, Information and Customer Support). Of note:
 - efforts to consult with the World Climate Research Program towards developing a mechanism for inter-comparison of climatological ice products for verification of ice modules in NWP models
 - modification to the SIGRID-3 ice chart archiving standard to make visualization easier for users
 - interventions to reduce the turn-around time of Sentinel-1 data from the proposed 3 hours to 1 hour
6. Across all of the presentations and discussions, the importance of cooperative partnerships like those being developed within, and by, the IICWG was reinforced again and again.
7. The 9th meeting of the IICWG was held in Lulea, Sweden October 20-24, 2009 hosted by the Ice Service of Swedish Meteorological and Hydrographic Institute. The 8th meeting was held in Frascati, Italy hosted by the European Space Agency.
8. All of the meeting records and documents of the IICWG can be found on the IICWG website which is hosted by the National Snow and Ice Data Center at <http://nsidc.org/noaa/iicwg/>.
9. It is planned to hold the next IICWG meeting in Washington at the invitation of the National Ice Center during the week of October 18, 2010.