WORLD METEOROLOGICAL ORGANIZATION

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

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

ST PETERSBURG, RUSSIAN FEDERATION
1 TO 5 MARCH 2010

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (OF UNESCO)

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ITEM 2.9

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Polar Decade Activities

(Submitted by the Secretariat)

This document contains a summary of activities related to initiatives for the Polar Decade to provide background for a discussion by the Expert Team.

ACTION PROPOSED

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

(a) Take note of the information following and in appendices; and,

(b) Discuss how the ETSI might contribute to Polar Decade activities.

Appendix 1 Advancing Weather, Ice and Environmental Predictions in the Polar Regions: An IPY Legacy - D Carlson (IPY International Programme Office) et al.

Appendix 2 Global Cryosphere Watch (GCW): A WMO Initiative – presentation to IICWG by Barry Goodison

Appendix 3 WMO Press Release on Global Cryosphere Watch – 20 January 2010

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DISCUSSION

1. At the Fifteenth Session of the WMO Commission for Atmospheric Sciences (CAS) (Incheon, November 2009), the CAS discussed several vision papers including one entitled “ADVANCING WEATHER, ICE AND ENVIRONMENTAL PREDICTIONS IN THE POLAR REGIONS: AN IPY LEGACY” (Appendix 1). The following is an excerpt from the approved (but not yet released) record of the meeting dealing with this paper:

8.4 ADVANCING WEATHER, ICE AND ENVIRONMENTAL PREDICTIONS IN THE POLAR REGIONS: AN IPY LEGACY (agenda item 8.4)

8.4.1 The Commission noted that research activities of CAS will help improve weather and climate prediction in polar regions, which will benefit all Members.

8.4.2 The Commission noted that the Executive Council Panel of Experts on Polar Observations, Research and Services decided that the design and development of polar prediction systems is an important task that will require effective collaboration across the relevant Technical Commissions along with other partners as appropriate. The Commission recommended that efforts be made to further polar prediction for weather and climate and to extend efforts to snow, ice, carbon and ecosystem modelling and analysis.

8.4.3 It was agreed that the successful development of polar prediction systems requires the involvement within the Commission of WWRP including THORPEX, GAW and WCRP. The Commission also agreed that collaboration and cooperation with other WMO technical commissions and their programmes as well as WMO Member support is essential.

8.4.4 As important steps forward in the polar analysis and prediction, the Commission noted in particular:

(i) the success of the THORPEX IPY cluster including a high-resolution sea-ice modelling system in Canada;

(ii) the success of the JCOMM IPY Ice Logistics Portal;

(iii) the European GMES Marine Core service and its polar prediction and sea ice information provision services; and

(iv) the scientific and operational advances in satellite data assimilation.

It agreed, given the scarcity of in-situ observations in the polar regions, that these achievements will result in improvements in numerical weather prediction, the accuracy of the climate record and improvements in other modelling systems that will use atmospheric and surface fields in their initial conditions.

8.4.5 The Commission concurred with the Executive Council Panel of Experts on Polar Observations, Research and Services on the requirement for effective collaboration and therefore recommended that any efforts to develop a future prediction system include outcomes from the IPY-THORPEX cluster of projects, and from the planned THORPEX Legacy Project.

8.4.6 The Commission recommended support by Members of the concept of the International Polar Decade with the following main tasks in mind:

(a) Long-term integrated monitoring of changes in the physical, chemical and biological state of polar regions;

(b) Study of large-scale and local changes in the environment of polar regions and their role in global climate processes;

(c) Improvement in the predictions of severe and high impact events in polar regions, and the development and establishment of systems of hydrometeorological safety for population and territories.

2. At the International Ice Charting Working Group meeting (Geneva, October 2009), Vladimir Ryabinin (WMO) gave a presentation prepared by Dr. Barry Goodison on the Global Cryosphere Watch (GCW) (Appendix 2). In his presentation, Dr. Goodison noted potential contributions that national ice services could make to the GCW including:

   - *Development of Guidelines and Standards of Observation and Measurement of Sea Ice*
     - *For in-situ, airborne and satellite products for operational and research use*
     - *Compilation of existing guidelines and procedures (IICWG, JCOMM, WCRP/CliC, GOOS etc. and consolidation/development as required)*
   - *•Development of GCW portal*
     - *Test of interoperability between ice logistics portal and GCW and possible provision of IICWG products to GCW*
   - *Evaluation/validation of sea ice products for climate analyses, model validation and initialization*
     - *Intercomparison of commonly used algorithms and the resulting products*
     - *Define "reference data sets"*
     - *Develop intercomparison protocols and metadata requirements*
   - *Contribution/development of ice climatologies from operational ice charting initiatives*

3. At the meeting of the Arctic Council Ministers (Tromsö, April 2009), Ministers agreed to:
   - *Recognize the valuable contribution of the Sustaining Arctic Observing Networks (SAON) process as an IPY legacy to enhance coordination of multidisciplinary Arctic data acquisition, management, access and dissemination, encourage the continuation of this work with emphasis on improving sustained long term observation and welcome the participation of indigenous organizations in future work; AND*
   - *Decide to take the lead in cooperation with IASC and other relevant partners in the continuation of the SAON process, including to consider ways to develop an institutional framework to support circum-Arctic observing and the preparation and implementation of a workplan for the next two years to initiate work on priority issues including sustained funding and data management.*

4. At the meeting of Senior Arctic Officials (SAO) of the Arctic Council (Copenhagen, November 2009), officials discussed the Legacy of IPY. From the meeting report: "*Some SAOs supported the WMO initiative on the Polar Decade, suggesting that the discussion should be taken up separately at a later SAO meeting. With the reference to the Ministers' Tromsø decision "to consider the proposal to arrange an International Polar Decade" and noting the growing support of the IPD idea in WMO and other international organizations organizations, Russia suggested that this proposal be studied by AMAP together with IASC and WMO and the outcome of the study reported at the next SAO meeting* ...". SAOs also noted that "*Some focus areas, such as data, observations issues are being addressed through the SAON and other related initiatives such as IPY Data Management.*" The decision by the SAOs was that "*the Arctic Council would continue to contribute to the legacy of IPY by asking the working groups to make use of the most up-to-date research results in ongoing assessment processes, as well as through contributions to, inter alia, SAON.*"