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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (OF UNESCO)

EXPERT TEAM ON SEA ICE – FIFTH SESSION

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

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SEA-ICE CLIMATOLOGY IN THE CONTEXT OF CMOC

Summary and Purpose of Document

This document provides for the ETMC Chairperson's reports on the development of the new JCOMM-IODE Marine Climate Data System (MCDS) and possible links to ETSI, as discussed within the last ETMC and DMCG sessions. Above all, strong links are desirable to ETSI's Sea–Ice climatology. This could be achieved by integrating its products in the MCDS as a Centre for Marine Meteorological and Oceanographic Climate Data (CMOC).

ACTION PROPOSED

The Team is invited to:

The Meeting is invited to note the information contained in this document when considering its recommendations.

References: Section 5.4 of the final report for the Fourth session of the Expert Team on Marine Climatology (ETMC-4), Ostend, Belgium, 26 - 28 November 2012, Section 5.4 (JCOMM MR No. 94) : available on the web at http://www.jcomm.info/publications

Appendix: none

DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

1. Sea-Ice Climatology in the context of the new JCOMM-IODE Marine Climate Data System MCDS

1.1 The Vice-Chair of the JCOMM Expert Team on Marine Climatology (ETMC), Gudrun Rosenhagen (Germany) presented the development of the new Marine Climate Data System (MCDS) as a follow up of the modernization of the Marine Climatology Summaries Scheme (MCSS) established in 1963. She gave an overview of the actual status of the new data system which will be one important element of JCOMM's contribution to the Global Framework for Climate Services (GFCS).

1.2 The primary objective of MCDS is to improve availability, recovery and archival of contemporary and historical data, metadata and products and obtain standardized quality of a high level in a more timely manner. Groups of CMOCs will operate within a given data domain (e. g. global, regional, atmospheric, surface and sub-surface oceanic) and provide complimentary functions. To achieve maximum continuity, reliability and completeness of data, metadata and products, specialized CMOCs will be established that mirror the processes, data and metadata across the CMOC domain.

1.3 Resolution of the future of the outdated Marine Climatological Summary (MCS) products from the MCSS is needed in particular through enhanced collaboration of ETMC and ETSI. Per JCOMM guidance, the ETMC is exploring how oceanographic and sea-ice climatologies could be coordinated with the marine meteorological data, so that the results could be viewed as an integrated product. This could be achieved by including the products eventually delivered through the future Centres for Marine Meteorological and Oceanographic Climate Data (CMOCs).

2. ICOADS International partnership

2.1 Furthermore she reported on the status of the collaboration within the 'International Comprehensive Ocean-Atmosphere Data Set (ICOADS, USA) Partnership' to ensure its long-term sustainability. The partnership is anticipated to facilitate possible future formalization of ICOADS as a Centre for Marine-Meteorological and Oceanographic Climate Data (CMOC) under the WMO-IOC MCDS.

BACKGROUND INFORMATION

1. Marine Climate Data System (MCDS) development

1.1 The Marine Climate Data System (MCDS) has been proposed at JCOMM-4 in order to respond to the need of Members/Member States for high quality marine meteorological and oceanographic historical data / metadata from the world oceans, to address the requirements of WMO and UNESCO/IOC programmes and co-sponsored programmes including climate monitoring, and the Global Framework for Climate Services (GFCS).

1.2 The MCDS is to modernize the Marine Climatological Summaries Scheme (MCSS) to take into account the development of new observing systems and corresponding surface marine-meteorological data systems in recent years, new techniques for data management

and quality control, and the current needs of end users for better statistical and graphical marine climatological products.

1.3 The MCDS is also meant to modernize management of surface drifter data, to rationalize the roles and functioning of the former IODE Responsible National Oceanography Centre for Drifting Buoys (RNODC/DB), the JCOMM Specialized Oceanography Centre for Drifting Buoys (SOC/DB) the Global Drifter Programme (GDP) Data Assembly Centre (DAC), and the JCOMM Ocean Data Acquisition System (ODAS) Metadata Service (ODASMS) management of metadata for the surface drifters.

1.4 The Vision for a Marine Climate Data System (MCDS) is to formalize and coordinate the activities of existing systems, and address gaps to produce a dedicated WMO-IOC data system operational by 2020 in the view to have compiled coherent met-ocean climate datasets of known quality, extending beyond the Global Climate Observing System (GCOS) Essential Climate Variables (ECVs). These would be of known quality collected from multiple sources to be served on a free and unrestricted basis to the end users through a global network of less than ten WMO-IOC Centres for Marine-Meteorological and Oceanographic Climate Data (CMOCs). Data, metadata and information will be fully interoperable with the WMO Information System (WIS) and the IOC/IODE Ocean DataPortal (ODP), and would be compatible with, and contribute to the High Quality Global Data Management System for Climate (HQ-GDMSC) that is being developed by the WMO Commission for Climatology (CCl).

1.5 The MCDS will cover different and specific JCOMM data domains (e.g. marine meteorology, physical oceanography, historical period(s), geographical coverage, specific procedures applied to the data) and enhance international partnerships within a new JCOMM framework, taking full benefit of the existing network of IODE NODCs, in the best manner of harmonizing with the work of IODE NODCs. The primary objectives are to improve availability, recovery and archival of contemporary and historical data, metadata and products and obtain standardized quality of a high level in a more timely manner. This will ensure the long-term stability of the data management system, permit the sharing of responsibility and expertise, optimize resources and help prevent loss from technological failures. Groups of CMOCs will operate within a given data domain (e. g. global, regional, atmospheric, surface and sub-surface oceanic) and provide complimentary functions. To achieve maximum continuity, reliability and completeness of data, metadata and products, specialized CMOCs will be established that mirror the processes, data and metadata across the CMOC domain.

1.6 Governance for defining the functions and adoption of CMOC is proposed by JCOMM and endorsed by the WMO Executive Council and UNESCO/IOC Executive Council or Assembly.

1.7 The MCDS data flow diagram is provided in figure 1 below.

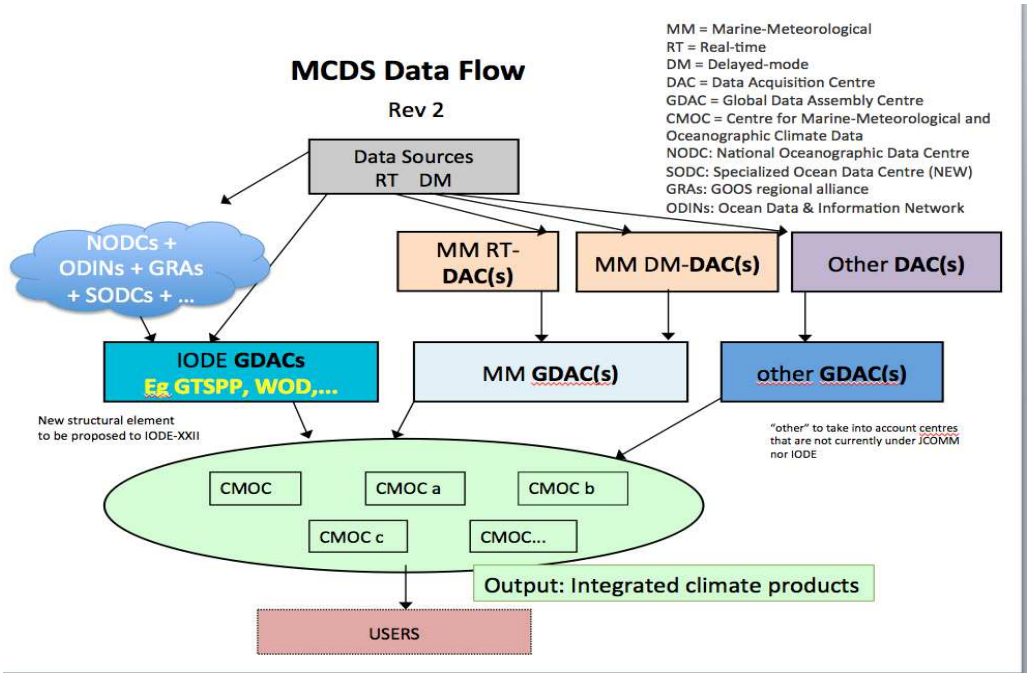

Figure 1: MCDS data flow diagram

1.8 The Fourth Session of the Expert Team on Marine Climatology (ETMC-4, Oostende, Belgium, 26-28 November 2012) reviewed JCOMM-4 decisions and guidance with regard to the MCDS and reviewed the MCDS Vision and Strategy, as well as the Implementation Plan for the Marine Climate Data System (MCDS). The draft Strategy was then submitted to the JCOMM Data Management Coordination Group (DMCG) (consultation by email), the Management Committee (Paris, Jan. 2013), and then to the IODE-22 (Ensenada, Mexico, 11-15 March 2013) for their review and approval. ETMC-4 also reviewed JCOMM-4 Recommendation 2 on the MCDS in order to clarify a number of cases where the text was considered insufficiently clear and too open for interpretation. It reviewed the data-flow diagram for the MCDS, and agreed with a new version, which better highlights the role of the IODE.

1.9 ETMC-4 also reviewed and clarified the potential contributions and roles of the various actors and stakeholders in the MCDS, particularly concerning foreseen Data Acquisition Centres (DACs), Global Data Assembly Centres (GDACs), and Centres for Marine Meteorological and Oceanographic Climate Data (CMOCs), as well as the network of IODE National Oceanographic Data Centres (NODCs) and the ICSU World Data System (WDS). ETMC-4 agreed that the Terms of Reference for the DACs and GDACs could be proposed at a later stage, and eventually included in a revised version of the MCDS Implementation Plan, and submitted to JCOMM-5. ETMC-4 advised on the DAC and GDAC establishment, including process and evaluation. ETMC-4 reviewed the tasks of the CMOCs (esp. mirroring, Summaries), and discussed the evaluation of candidate CMOCs, including evaluation criteria, and performance indicators for CMOCs once established. The ETMC-4 clarified the scope of the CMOCs.

1.10 IODE-22 noted that a number of IODE projects such as GTSPP, WOD, GOSUD, etc could establish IODE GDACs (Global Data Assembly Centres) while NODCs, ODIN regional data centres (where established), GOOS GRA data centres (where established) and the

proposed IODE SODCs (Specialized Ocean Data Centres) could operate at the same level as the marine meteorology DACs (Data Acquisition Centres).

1.11 Taking into account the importance of JCOMM, regular meetings of Meteorology Organizations and Oceanographic Institutes of the member states of IOC is recommended to establish a framework for providing common oceanographic data and information in each country.

1.12 IODE-22 approved the MCDS Strategy, agreed on CMOC Evaluation Criteria, and adopted Recommendations IODE-XXII.13 (IODE Global Data Assembly Centres (IODE GDACs), and IODE-XXII.14 (The Marine Climate Data System (MCDS)). It decided to establish an *ad hoc* team to review the Implementation Plan during the coming intersessional period.

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