STANDARD SETTING AND DOCUMENTATION

BACKGROUND MATERIAL

SUMMARY

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> **Appendix A:** Achievements, Progress and Recommendations regarding JCOMM-III priority activities for the Ocean Data Standards during the Intersessional Period

> **Appendix B:** The Ocean Data Standards Process: Summary

RELATED DOCUMENT:

> **JCOMM-4/Doc. 7.1**: Standard Setting and Documentation

**ACHIEVEMENTS, PROGRESS AND RECOMMENDATIONS
REGARDING JCOMM-III PRIORITY ACTIVITIES FOR THE
OCEAN DATA STANDARDS DURING THE INTERSESSIONAL PERIOD**

1.   The joint IODE/JCOMM Ocean Data Standards (ODS[1]) Pilot Project was established through the recommendations of IODE-XX and JCOMM-III. The IOC Committee on IODE (IODE-XX) adopted Recommendation IODE-XX.2 - The Ocean Data Standards Pilot Project which encourages all IOC Member States, Programmes and relevant organizations to submit standards for consideration, to contribute to the evaluation process, and to adopt recommended standards. JCOMM-III endorsed a number of priorities for the DMPA for the next intersessional period, including developing standards and best practices in the marine community through the IODE/JCOMM Standards Process. JCOMM-III also adopted Recommendation 4 (JCOMM-III) — Development of Data Management Standards which recommends Members/Member States (i) to submit their proposals to the JCOMM-IODE Ocean Data Standards Pilot Project for wide community adoption; and (ii) to implement the recommended standards in agencies in their own countries at the earliest possible date. The main goal of the ODS Process is to allow the easy exchange and interoperability of ocean data collected worldwide. This provides for an internationally recognized process for submitting proposed standards and their acceptance by the ocean community.

2.   The JCOMM-III recommendations on ODS were approved by the 43rd Session of the IOC Executive Council under Resolution EC-XLIII.5. The IOC Executive Secretary was further requested to assist Member States in the implementation of this recommendation. The improved development, adoption and implementation by Member States of ocean data and information standards would lead to improved quality of data.

3.   The JCOMM-III recommendations on ODS were approved by the 62nd session of the WMO Executive Council under Resolution 4 (EC-LXII). EC-LXII noted that the ODS Pilot project coordinated through the joint JCOMM/IODE Expert Team on Data Management Practices, was a significant activity to develop, encourage and recommend the wide adoption of standards and best practices in ocean data management. As part of this process, JCOMM/IODE had already prepared and published an online catalogue of existing standards material.

4.   The 8th session of JCOMM Management Committee concurred with the DMPA approach to coordinate the JCOMM-IODE Ocean Data Standards (ODS) process through the IODE-JCOMM Expert Team on Data Management Practices (ETDMP) under ODS Task Team (agenda item 4.2.1). The ODS process will endorse standards and common vocabularies for data discovery, access and retrieval (MAN-VIII (agenda Item 3.1.14)).

5.   The JCOMM-III recommendations on ODS were adopted during the 16th WMO Congress under the Resolution 24 (Cg-XVI) of the Marine Meteorology and Oceanography Programme (MMOP) under Agenda Item 4.4. The WMO Congress noted and supported the ongoing priority areas for JCOMM, as detailed in the Strategic and Operating Plans. The priority areas include developing standards/best practices in the marine community through the IODE/JCOMM Standards Process, as well as updating of the related manuals, guides, and catalogues, in support of the WMO Information System (WIS).

6.   The ODS Pilot Project coordinates the internal review of the standards at the "submitted" stage, testing of the Standards Process at the "submitted", "proposed" and "recommended" stages and provides the relevant follow-up management at the "use" stage as outlined in the ODS website. This process is coordinated by the JCOMM/IODE Expert Team on Data Management Practises (ETDMP), in compliance with its revised terms of reference, adopted by IODE-XX and JCOMM-III. The responsibilities of the ETDMP Task Team for ODS are outlined in the

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[1] : http://www.oceandatastandards.org/

JCOMM/IODE/ETDMP-II Report (see http://www.iode.org/etdmp2).

7.   Four proposals have been submitted for recommendation by ODS. They include the proposal to adopt (i) the International Standard Organization (ISO) 3166 for Country codes; (ii) the ISO 8601 for Date and Time; (iii) SeaDataNet Common Data Index (CDI) profiles based on ISO 19115; and (iv) GE-BICH's Quality Flag Scheme standard for exchange of oceanographic and marine meteorological data. The first two submissions have successfully passed through the review process and have been published in the IOC/UNESCO Manuals and Guides. One is the Recommendation to Adopt ISO 3166-1 and 3166-3 Country Codes as the Standard for Identifying Countries in Oceanographic Data Exchange published in the IOC/UNESCO Manuals and Guides No. 54(1) on 6 January 2010. The other is the Recommendation to Adopt ISO 8601:2004 as the Standard for the Representation of Date and Time in Oceanographic Data Exchange published in the IOC/UNESCO Manuals and Guides No. 54(2) on 2 February 2011.

8.   The SeaDataNet CDI passed the internal review process, but it had a number of shortcomings, which were highlighted by the technical reviewers at the "proposed" stage. The authors, the SeaDataNet Technical Task Team, decided to address the said shortcomings with a better and improved version of CDI most possibly in 2012. A revised version of the proposal would then be submitted in 2012.

9.   The quality flag scheme proposal is already at the final stages of the review process. A consolidated response from the existing major ocean data management systems including Argo, EUROGOOS/MyOcean, GTSPP, OceanSites and SeaDataNet indicated that the proposal needs major revision before it can be published.

10.   A fifth standards proposal for latitude, longitude and altitude (ISO 6709) was to be submitted by December 2010, but has been delayed.

11.   Some of the achievements of the ODS process have been highlighted in the final report of the JCOMM Pilot project for the WMO Integrated Global Observing System (WIGOS) under deliverables 1 and 3. The WIGOS pilot project emphasized the need to complete the review of any pending standards, necessity for submission of additional standards through the Standards process (Recommendation 4 (JCOMM-III)), and seeking wide community review. WIGOS integration calls for (i) harmonizing standards between the different disciplines contributing to WMO Programmes and Co-sponsored Programmes, (ii) promoting the use of the recommended standards, and (iii) making data traceable using those standards. This, together with regular inter-comparisons of the various instruments measuring the same variables will permit to produce coherent and bias-corrected datasets. This will provide (i) better use of the data for the production of consistent quality products, as well as (ii) facilitating data quality monitoring activities through feedback of better quality information from data users back to data producers in order to make corrective action on those platforms reporting erroneous or biased data (item 5.3.5). WIGOS's legacy recommendations included the necessity of WMO and IOC to promote the IODE/JCOMM Standards process, seek harmonization of standards between WMO and IOC, and make sure that processes are documented.

12.   Some of the standards which have been identified for submission are documented in the ODS website. They include Latitude, Longitude and Altitude based on ISO 6709, Units (based on SI), Platform Types, Geoarea (IHB), Instrument Types, Parameters, Institutions, and Cyclic Redundant checks (CRC). The Commission needs to encourage Members/Member States to participate actively in reviewing the candidate standards.

13.   Other standard proposals from the IODE Ocean Data Portal (ODP) and ETDMP Task Team for Metadata will also be considered. The SeaDataNet Technical Task Team has been requested to consider submitting the Sea Level Quality Control, Cruise Summary Report (CSR), SeaDataNet device categories -L05 and ODV4 in ASCII format standard submissions.

14.   The IODE (GE-BICH) Workshop on QC/QA of Chemical Oceanographic Data organized at the IOC Project Office for IODE, Oostende, Belgium in February 2010 agreed to submit a schema for five data processing levels for data management to the ODS process. The ODS needs to follow up with SeaDataNet and GE-BICH to ensure these proposals are submitted. ODS could also play a more proactive role in soliciting standards submissions.

15.   The process of receiving recommended standards from Member States has been very slow. The success of this process is highly dependent on active participation of all WMO/IOC Members/Member States, Programmes and related organizations by submitting suitable standards for consideration.

16.   A Meeting of the ODS Pilot Project has been scheduled to take place at the IOC Project Office for IODE, Oostende, Belgium, 5-7 March 2012, in order to try and address the various challenges and problems in the implementation of the ODS process. The meeting was scheduled to discuss the instrument best practices guidelines.

17.   There is need to urge Members/Member States to submit their common practices in collecting, managing and exchanging oceanographic and marine meteorological data though the IODE/JCOMM Standards Process. Other issues would include the assessment of the ODS process and agreement on priority standards proposals for submission during the biennium 2012/2013.

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THE OCEAN DATA STANDARDS PROCESS: SUMMARY

1.   The main goal of the ODS Process is to allow the easy exchange and interoperability of ocean data collected worldwide. ODS provides for an internationally recognized process for submitting proposed standards and their acceptance by the ocean community.

2.   The priority activities for the JCOMM/IODE Ocean Data Standards (ODS) Pilot project during the last intersessional period were decided by JCOMM-III, and the following achievements should be noted:

3.   Regarding priority (i), Development of Data Management Standards which recommends Members/Member States to submit their proposals to the JCOMM-IODE Ocean Data Standards Pilot Project for wide community adoption: The ODS Task Team received standards submissions on Country codes from the National Oceanographic Data Center, NOAA, USA and World Data Center for Oceanography, USA; the Date and time proposal was submitted by the IODE Committee Co-chair from Australia; the Common Data Index (CDI) metadata profile was submitted by the SeaDataNet Technical Task Team, while the quality flag scheme was submitted by the IODE Group of Experts on Biological and Chemical Data Management and Exchange Practices (GE-BICH). In particular, two standards have been published through the JCOMM/IODE Ocean Data Standards (ODS[2]) process: (dates/times, and country codes). The CDI metadata profile was returned to the authors for revision while the QC flags scheme is in the community review process under further revision. The Commission requests Members/Member States to participate actively in submitting standards proposal through the ODS process. Additional standards have been identified for submission through the process: Latitude, Longitude and Altitude (based on ISO 6709), Units (based on SI), Platform Types, Geo area (IHB), Instrument Types, Parameters, Institutions, and Cyclic Redundant checks (CRC). The Commission requests Members/Member States to participate in identifying standards proposal for submission through the ODS process for wide community adoption. The Commission encourages Members/Member States to participate actively in reviewing the candidate standards.

4.   Regarding priority (ii), Development of Data Management Standards which recommends Members/Member States to implement the recommended standards in agencies in their own countries at the earliest possible date: The Commission needs to follow-up on the implementation of the recommended standards by Members/Member States.

5.   The submission of recommended standards to the ODS has been very slow. A meeting of the ODS Task Team has been scheduled to address some of the challenges.

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[2] : http://www.oceandatastandards.org/