



Fourth Session of the Joint WMO-IOC Technical Commission
for Oceanography and Marine Meteorology (JCOMM-4)

23 - 31 May 2012, Yeosu, Korea Rep.

Data Management Programme Area
Report
Achievements and Future Priorities
by
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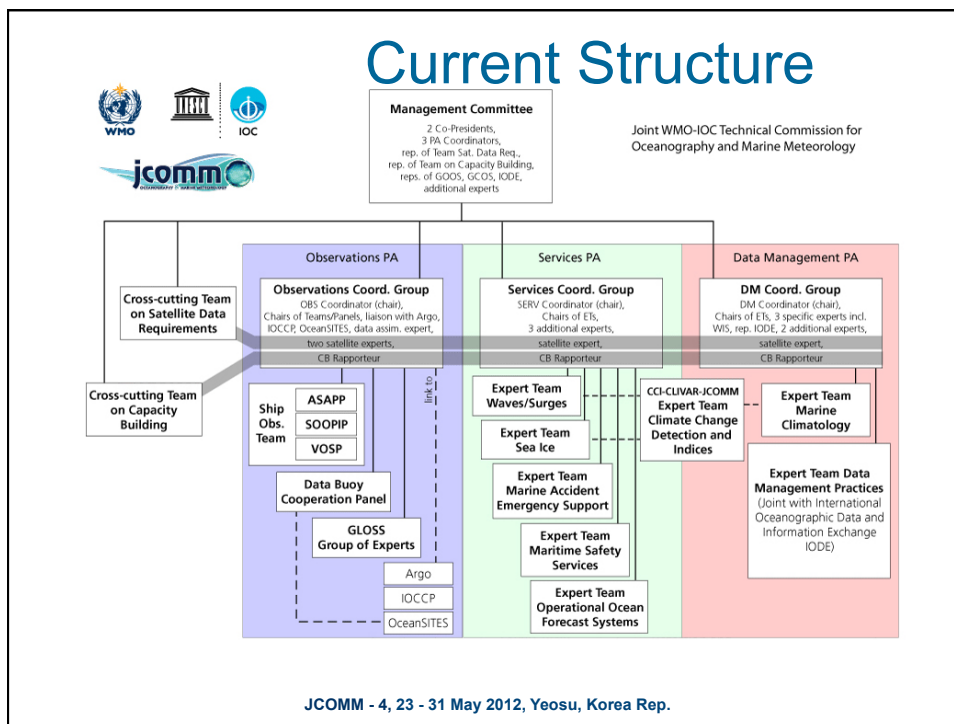


Our Primary Goal

To build an integrated global marine meteorological and oceanographic data infrastructure driven by common data management practices and procedures to support the JCOMM Strategy

By close collaboration between the IOC International Ocean Data and Information Exchange (IODE) and WMO Information System (WIS)

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- ## Focus on JCOMM-III Priorities
- (i) Develop standards/best practices in the marine community through the IODE-JCOMM Standards Process;
 - (ii) Continue to work under the JCOMM Pilot Project for WIGOS to make the ODP and WIS interoperable as well as other ocean data systems interoperable with ODP and/or WIS;
 - (iii) Upgrade present BUFR encoding for marine variables to include instrument/platform metadata;
 - (iv) Complete Meta-T and Ocean Data Acquisition System (ODAS) implementation and capture of instrument/platform metadata;
 - (v) Modernize the Marine Climatological Summaries Scheme (MCSS);
 - (vi) Review and update the Data Management Plan;
 - (vii) Update the Catalogue of Standards and Best Practices and contribute to the implementation of Quality Management System (QMS) in compliance with the WMO Quality Management Framework (QMF);
 - (viii) Review and update the DMPA website;
 - (ix) Organization of the third International workshop on Advances in the Use of Historical Marine Climate Data (MARCDAT-III) and fourth JCOMM Workshops on Advances in Marine Climatology (CLIMAR-IV)
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Outline

PART A.

- DMPA Key Achievements and future plans

PART B.

- IODE/Ocean Data Portal demonstration

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Standards

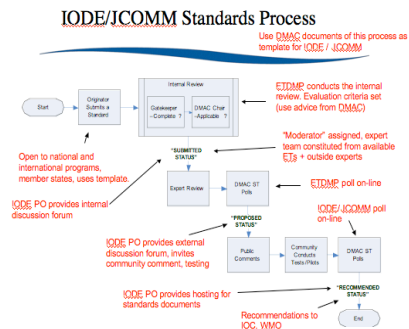
- Setting and adopting standards is a crucial activity to streamline all of the components of data management activities.
- DMPA contributed through:
 - The Ocean Data Standards (ODS) Process to recommend standards
 - Developing standard practices on codes and metadata management

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JCOMM-IODE/ODS Pilot Process

- DMPA in partnership with IODE, held a “Standards Forum” in January 2008
- Developed a process for managing the submission, evaluation and recommendation of standards to the IODE and JCOMM communities.
- ETDMP plays a key role as moderator of this process and this is reflected in new ToRs for ETDMP
- The process of receiving recommended standards from Member States has been very slow



<http://www.oceandatastandards.org/>

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JCOMM-IODE/ODS Project Status

- Contribution on the improvement of standardization for ocean data management
 - Two recommended standards (dates/times and country codes)
 - One metadata discovery profile proposal (SeaDataNet CDI) is under revision
 - the QC flags scheme is under the community review.
- Meeting of the Joint JCOMM-IODE SG-ODSPP (23-25 April 2012) to **review** and **improve-speed up** the process
 - Ocean Data Standards and Best Practices Project (ODSBP)

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Code Issues

- Use of BUFR will be required for all data circulating on the GTS by end of 2012.
- Individual OPA Panels created templates that had overlaps in content.
- DMPA created a Task Team to coordinate with OPA members to manage the updates
- Updated forms will reconcile inconsistencies in reporting the same information across templates, and improve metadata content.
- Status:
 - good progress on Migration to Table Driven Codes, including BUFR templates and ocean variable common sequences
 - a document has been prepared by B. Keely for the IODE OceanTeacher digital library and explain in detail how to encode ocean data into the existing template
 - finalization of MT10 for Oceanographic Data

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JCOMM/IODE WIGOS PP

- This was the JCOMM response to WMO call
- Pilot project had 3 deliverables:
 - Documentation and integration of best practices and standards among the marine meteorological and oceanographic communities.
 - Interoperability of marine data systems with the WIS in close cooperation with the IOC ocean community.
 - Compliance with the WMO Quality Management Framework (QMF).

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JCOMM/IODE WIGOS PP

- Supported WIGOS by:
 - **developing Ocean Data Portal (ODP)** and making ODP and WIS interoperable
 - making other ocean **data systems interoperable** with ODP and/or WIS.
 - ODP now 12 data providers, from nearly 60 data sets with more than 1,000,000 profiles.
 - Further development of ODP by the offer of the Russian Federation to establish a **National Support Centre for IODE/ODP** in Obninsk.

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Documentation and Compliance with the QMF(WMO and IOC/ IODE)

- Supported WIS implementation by:
 - updating **manuals** (e.g. GTSP manual),
 - **JCOMM catalogue of standards and BP**
 - updating the **JCOMM Data Management Plan and its Implementation Details**
 - in order to meet the SFSPA and OPA requirements
 - to support the JCOMM objectives
 - to include the results of the OceanObs'09 conference, Venice, Italy, September 2009
 - updating the **Data Cookbook**

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Global Integrated Observing System

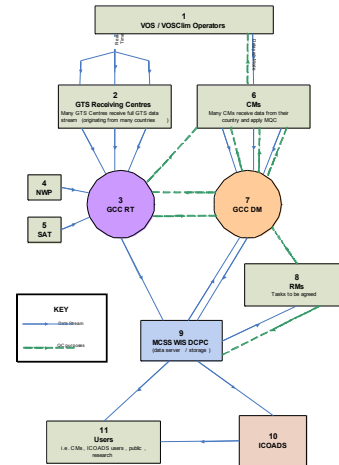
- Contribution to the development of a global integrated observing system by making steps towards an integrated in-situ/satellite data management system:
 - A workplan was drafted during and after MARCDAT-III Workshop, Frascati, Italy, May 2011 to:
 - define the strategy and the work plan

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Marine Climatology- MCSS

- The Marine Climatological Summaries Scheme needed modernization to reflect present technology and capabilities.
- Two Task Teams formed:
 - TT-DMVOS
 - TT-MOCS



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MCSS modernization

- The cross cutting Task Team on Delayed Mode VOS Data (TT-DMVOS), made significant progress with regard to the definition of the data flow part of the modernization of the Marine Climatology Summaries Scheme (MCSS), including higher level quality control, and the use of co-located first guess field data from Numerical Weather Prediction (NWP), as well as satellite data.
- A Workshop for a new MCDS took place in 28 November to 2 December 2011, Hamburg, Germany

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A new MCDS

- A Vision & Strategy is proposed for a New Marine Climate Data System which will address the WMO-IOC requirements for climate monitoring, forecasting and services
 - interoperable with the WIS, and will contribute to the WIGOS implementation
 - will integrate data streams and metadata management not only for VOS data, but also for drifters, profiling floats, buoys, satellite data, etc
 - will provide approaches for dissemination of bias adjustments and corrections alongside marine climate observations for coherent date-sets available to users.
- Proposal for the establishment of a network of mirrored WMO-IOC Centres for Marine-meteorological and Ocean Climatological Data (**CMOCs**)-Key component of the new system

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MARCDAT-III Workshop

- ESA, Frascati, Italy, 2-6 May 2011
- Objectives
 - How to enhance and improve ICOADS;
 - better integrate in situ and satellite marine observations;
 - link marine and land surface data; develop multidecadal, homogeneous gridded datasets for climate applications;
 - and characterize data and product uncertainty and bias.
- Primary Outcome
 - a 10-year action plan for improved integration and accessibility of climatological observations

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Capacity Building

- **Objectives**

- To improve the Members capabilities on ocean data management
- to increase their contribution to the global data system
- Through the **IOC facilities** and the IOC Regional Ocean Data Information Networks (**ODINs**).
- **IODE training courses** to support the DMPA and contribute to the establishment of the **ODP at national, regional and international level**:
 - Training Course on the Establishment of National OceanDataPortal nodes in the Black Sea region (ODINBlackSea) for Georgian and Turkish NODCs, December. 2009, Turkey
 - IODE OceanDataPortal national technical meeting, October 2010, Tianjin, China
 - Advisory mission to Argentina, July 2011, Argentina

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Emerging Needs

- Harmonization of the data management practices among the different data systems:
 - Instruments and methods of observations
 - Quality procedures
 - Data and metadata formats exchanges
- Standardization of the DM practices to ensure the reliability, compatibility, and coherence of the delivered data and products of the highest quality;
- Improvement the data flow from the observing systems to the operational applications and the end users;
- Integration of data from different sources
- dedicated training activities and collaborative work on WMO and IODE training tools to support the DMPA work implementation

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Future Priorities

- Continue to **adopt standards/best practices** for use by the marine meteorological and oceanographic community through the IODE-JCOMM Ocean Data Standards Process in support of the Global Framework for Climate Services (GFCS), the IOC-WMO-UNEP-ICSU Global Ocean Observing System (GOOS), IODE¹, and the WMO Integrated Global Observing System (WIGOS) implementation;
- Assist in the further development of the **IODE Ocean Data Portal**, its linkages with other ocean data systems (e.g. SeaDataNet, IMOS, OBIS, GEOSS), its **interoperability** with the WMO Information System (WIS), and its capacity development activities to ensure full participation of Members/Member States

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Future Priorities

- Develop a strategy and implementation plan in the next two years for achieving a vision for a new MCDS and start implementation preparation of the **new JCOMM Marine Climate Data System (MCDS)**;
- Improve the management of **instrument/platform metadata** ensuring thus the high quality of the exchanged marine data in support of the climate services ;
- Organize the fourth JCOMM Workshop on Advances in Marine Climatology (**CLIMAR-IV**), possibly in 2014, and the fourth International workshop on Advances in the Use of Historical Marine Climate Data (**MARCDAT-IV**), possibly in 2015.

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