

THE JCOMM PILOT PROJECT FOR WIGOS (OUTLINE)

(31 January 2011)

“Integration of marine meteorological and other appropriate oceanographic observations into the WMO Integrated Global Observing Systems”

Project Name	JCOMM Pilot Project for WIGOS
Acronym	N/A
Project Type	Pilot
Project Status	<p>The pilot has defined a detailed implementation plan at the meeting of the joint Steering group for the IODE Ocean Data Portal (ODP) and the JCOMM Pilot Project for WIGOS (Geneva, 18-19 September 2008). The Project plan was defined at the <i>ad hoc</i> planning meeting for the JCOMM Pilot Project for WIGOS (Ostend, Belgium, 29 March 2008). The Implementation Plan was reviewed at the second meeting of the joint Steering Group (Ostend, Belgium, 15-16 October 2009). Mechanisms have been defined for reviewing WMO and IOC Publications, as well as and other appropriate JCOMM documentation. Specific review was conducted regarding the marine chapter of the CIMO Guide (WMO No. 8). A standards process for developing ocean data standards was established in cooperation with the IOC of UNESCO, and one particular standard has been proposed, reviewed, adopted and published; two other standards have been submitted, and are still under review while there is plan for submitting a fourth one. The development of a JCOMM Catalogue of Best Practices and Standards has been made with the help from a consultant funded by IOC. Thirteen key potential datasets have been identified (see below) for becoming interoperable with the ODP and the WIS; the partners holding these datasets have been approached and some already replied favorably. Three data management workshops were held in March 2009 in Obninsk, Russian Federation, in Seoul, Republic of Korea in September 2009, and in Istanbul, Turkey in December 2009 to address interoperability between ocean data systems in those regions and the ODP. The Obninsk workshop also addressed interoperability between the ODP and the WIS. The Pilot Project proposed establishing Regional Marine Instrument Centres (RMIC); JCOMM-III approved Terms of Reference for the RMICs, and three centres offered to act as such for the RA-I (Morocco), RA-II (China), RA-IV (USA). A successful workshop was organized in April 2010 at the RMIC for RA-IV to prove concept. The Pilot Project has engaged with the HMEI. The Pilot Project ended in December 2010. A Project Report has been finalized summarizing the achievements of the Pilot Project, pending issues, lessons learned, benefits and impacts on Members/Member States regarding the integration of marine meteorological and other appropriate oceanographic observations into WIGOS, as well as Pilot Project legacy recommendations.</p>
Project Overview	<p>Development of the Pilot Project was coordinated by a Steering Group, providing liaison with appropriate WMO Programmes and Technical Commissions, the WMO EC-WG on WIGOS-WIS (and its sub group), and the International Oceanographic Data and Information Exchange (IODE) of IOC. The Steering Group was responsible for producing the Pilot Project Plan and promoting the continued development and implementation of a system of interoperable systems that provides consistent, documented data and information of known quality from a sustained and coordinated global ocean observing system. Three components have been proposed in the development of the Pilot Project: (i) promote and document instrument best practices and related standards, (ii) build marine data systems that are interoperable with WIS, and (ii) promote quality management and standards. The Project recognized and respected the ownership of all partner organizations as well as</p>

	the WMO and IOC data policies.
Project Aims	<p>Enable the integration of marine meteorological and other appropriate oceanographic observations (<i>in situ</i>, surface marine and satellite), real time and delayed mode data and products (e.g. models) within the oceanographic marine community. The Pilot Project also considered assembled <i>in situ</i> fields, biochemistry, model outputs, surface and underwater marine climatologies and measurements.</p> <p>The Pilot Project aimed at making the appropriate identified datasets interoperable with the wider WMO and IOC communities. It developed and agreed on consistent standards to be used across the community. It increased accessibility of specific datasets; enhanced integration of standards and best practices and their publication in appropriate WMO and IOC Publications; as well as set guidelines regarding Capacity Building and training programme.</p>
Partners/Participants	<ul style="list-style-type: none"> • International organizations co-sponsoring GOOS: WMO, IOC, UNEP and ICSU • WMO and IOC Technical Commissions and Programmes (e.g. CIMO, CBS, GOOS and IODE) • WMO Information Systems and its Expert Teams, ICT-WIS • Ocean Data Portal and ETDMP Task Team on ODP/JCOMM Pilot Project WIGOS • ETDMP Task Team on standards process • IODE Ocean Data and Information Networks (ODINs) • JCOMM E2E prototype (Russian Federation NODC, Obninsk) • Instrument centres • Observing Panels • Association of Hydro-Meteorological Equipment Industry (HMEI) • Partners hosting relevant datasets (<i>in situ</i>, space based ocean observations datasets, as well as products) <ul style="list-style-type: none"> ○ Integrated datasets <ul style="list-style-type: none"> ▪ SeaDataNet; ▪ The Global Temperature and Salinity Profile Programme (GTSP); ▪ The Australian Ocean Data Network (AODN) ○ Data from specific networks <ul style="list-style-type: none"> ▪ Argo profiling float data; ▪ RNODC/DB (drifter data); ▪ XBT data; ▪ Instrument / platform metadata (META-T, ODASMS); ○ Remote sensing <ul style="list-style-type: none"> ▪ The Virtual constellation for Ocean Surface Vector winds; ▪ The Group for High Resolution SST (GHRSSST); ▪ Surface based remote sensing (e.g. HR Radar); ○ Climatologies <ul style="list-style-type: none"> ▪ World Ocean Atlas (WOA) ▪ Marine Climatological Summaries, e.g. Delayed-mode VOS data collected by the Global Collecting Centres (GCCs) ▪ Blended quality climatology products such as the International Comprehensive Ocean-Atmosphere Data Set (ICOADS) ○ Metadata about the platforms/instruments (e.g. META-T) • Additional participants and partners to be discussed and defined
Funding Source(s)	The project, to the maximum extent possible, made use of the expertise provided through the working structure of JCOMM, IODE, and its WIGOS partners. Additional support was required through the WMO budget and/or

	<p>WIGOS-WIS Trust Fund.</p> <p>Implementation costs are met by the Members.</p>
Project Timescale	<p>2007 – Mid-2008: Establishment of the Pilot Project and proposal for its Steering Group Terms of Reference and Membership; Sept 2008: First meeting of the Pilot Project joint Steering Group; Adoption of the project implementation plan Nov. 2008: Reporting to the SG of the WMO EC WG WIGOS-WIS; End 2008 – 2009: discussions with partner observing programmes (DBCP, SOT, GLOSS, Argo, etc.) and organizations (IOC and IODE); Mar. 2008: Presentation of the Pilot Project at TECO-WIGOS May 2009: Reporting to the WMO EC WG WIGOS-WIS; Oct. 2009: Second meeting of the Pilot Project joint Steering Group; updating of the implementation plan; proposal to establish WMO-IOC Regional Marine Instrument Centres (RMIC) and to organize a workshop to prove concept; methodology proposed for reviewing WMO and IOC Publications regarding instrument practices; Oct. 2009: Reporting to the Sub-Group of the EC WG on WIGOS and WIS; Nov. 2009: Reporting to the third Session of JCOMM; 2010-2011: Implement the projects; End 2010: End of the Pilot Project and Project Report with legacy recommendations finalized.</p>
Expected Key Deliverables	<p>The Pilot Project addressed Result Based Management of WMO and IOC (i.e. it linked its deliverables to the Expected Results).</p> <p>The Pilot Project had the following deliverables:</p> <ul style="list-style-type: none"> (i) Project Plan; (ii) Implementation Plan; (iii) Project Report with legacy recommendations, to be used by the directors of NMHS and Oceanographic institutes to make the case at the national level for engaging in the necessary developments, funded nationally, to meet the requirements for the integration of marine meteorological and other appropriate oceanographic observations into WIGOS; <p>In addition, key concrete deliverables are:</p> <ul style="list-style-type: none"> (i) Documenting and integrating instrument best practices and related standards among the marine meteorological and oceanographic communities; (ii) Build marine and oceanographic data systems that are interoperable with the WMO Information System (WIS) in close cooperation with the IOC ocean community; (iii) Promote quality management and standards and establishing compliance with the WMO Quality Management Framework (QMF); (iv) Participation in the CBS Rolling Review of Requirements (RRR) process and provide input to the WMO Database (instrument performances and requirements). <p>This lead to some practical achievements listed in the summary below.</p>
Project Links	<p>http://www.wmo.int/pages/prog/www/wigos/marine_pp.html http://www.oceandataportal.org http://www.oceandatastandards.org http://bestpractice.iode.org</p>
Project Summary	<p>The Pilot Project was an interdisciplinary exercise seeking the integration of <i>in situ</i> and space based observing systems. The Pilot Project permitted to prove concept and pave the way for the integration of marine meteorological and other appropriate oceanographic observations into WIGOS. Integration efforts</p>

	<p>will be implemented and sustained by the WMO and IOC Members through JCOMM in order to make appropriate ocean datasets available in real-time and delayed mode to WMO and IOC applications through interoperability arrangements with the WIS and the IODE Ocean Data Portal (ODP). The datasets will be produced according to agreed upon instrument, data management, and quality management standards and the quality control procedures documented according to QMS principles. This integration will enhance the coherence and consistency of the datasets, the traceability of ocean data to international standards, and the availability of relevant instrument/platform metadata. More timely and better quality data will be expected while duplicates will be minimized.</p> <p>-1- Documenting and integrating best practices and standards. The goal is to define and agree on common standards between the meteorological (WMO) and oceanographic (IOC) communities for instruments and methods of observation as well as subsequent organization and handling of the data and information to serve consistent and better quality data to both the broad user and modeling communities.</p> <p>-2- Making marine data systems and WIS interoperable. The goal is to provide access to marine meteorological and oceanographic data and information to serve a number of applications, including climate. This shall be done in an integrated way via the WIS and thereby facilitating access to well documented and standardized data. The Pilot Project addressed the development of interoperability between the WMO and IOC communities at both the data discovery (metadata) and data level (compatible formats).</p> <p>-3- Quality Management. The goal is to coordinate the development of cost-effective Quality Management Systems by Members and to propose practical solutions or examples. At different steps of the data production line, it is expected that improved quality management will result in better, timelier data, minimized duplication, and an operational data delivery system. This will be achieved through the compilation of regulatory documentation in a way consistent with the eight Quality Management Principles developed under ISO/TC176/SC2/WG15 (User/customers focus, Leadership, Involvement of people, Process approach, System approach to management, Continual improvements, Factual approach for decision making and, Mutually beneficial supplier relationships).</p> <p>Practical achievements of the Pilot Project include:</p> <ul style="list-style-type: none"> - Establishment of a network of Regional Marine Instrument Centres in USA, China, and Morocco; - Review of marine chapters of WMO Publication No. 8 and 471; - Enhanced links with the Association of Hydro-Meteorological Equipment Industry (HMEI) and the manufacturers of ocean instruments; - Connection of key ocean datasets to the IODE Ocean Data Portal and/or the WIS; - Interoperability between the ODP and the WMO Information System (WIS); - Establishment of a standards process for ocean data management and submission of several standards through that process; - Organization of several training courses on instruments and data management.
Date of Last Update	31/01/2011
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