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(of UNESCO)
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Report of the JCOMM/IODE Expert Team on Data Management Practices (ETDMP)

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Submitted by:	S. Belov
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ISSUES TO BE DISCUSSED

The Committee will be invited to evaluate the reported work of the JCOMM/IODE ETDMP and consider proposals for the work plan of future activities and the requested funds.

DECISIONS/ACTIONS REQUIRED FROM THE COMMITTEE

The Committee is requested to:

- evaluate the results of the JCOMM/IODE ETDMP work

- consider the work plan for the 2012-2014

APPENDIX: DRAFT TEXT FOR INCLUSION IN THE SUMMARY REPORT OF IODE-XXII

This agenda item was introduced by Dr Sergey Belov by referring to Document IOC/IODE-XXII/13 (Report of the JCOMM/IODE Expert Team on Data Management Practices (ETDMP)) which contains the details of ETDMP activities and work plan during the inter-sessional period. He noted that the report of the JCOMM/IODE ETDMP is based on the outcomes of the Third Session of the JCOMM/IODE Expert Team on Data Management Practices.

He informed that the ETDMP membership has been renewed by JCOMM-and following the IOC Circular Letter 2443 on 6 June 2012, IOC had elected additional members of the Expert Team. In accordance with the work directions the relevant ETDMP Task Teams were created and appointed at Third Session of the JCOMM/IODE Expert Team on Data Management Practices in October 2012 and their the work plans were agreed upon.

Dr Belov recalled that during the inter-sessional period the ETDMP activities were focused on fulfilling the recommendations of the IODE-XX (Recommendation IODE-XX.3), IODE-XXI

(Recommendation IODE-XXI.4) and JCOMM-III (Recommentations 1(JCOMM-III), 4(JCOMM-III)). Main ETDMP activity was concentrated on the following items: (i) conducting the IODE/JCOMM Standards Process (ODS); (ii) improving the metadata management; (iii) development of the IODE Ocean Data Portal (ODP) and establishment of interoperability with WIS, SeaDataNet and other projects.

Dr Belov informed about the outcomes of the progress made by the ETDMP Task Team for Ocean Data Standards (ODS): (i) best practices procedures agreed during Ad-Hoc ODS Meeting in April 2012;(ii)standard for 'Date and Time' has been published as an IOC/UNESCO Manuals and Guides No. 54(2); QC Flags standards submission was made by GE-BICH; additional standards (i.e. Latitude, Longitude and Altitude, Units, etc.) have been identified for submission (iii) ToRs for ODSBP drafted for consideration;

He informed also about ETDMP activity in field the metadata management. He noted that progress has been made with regard to defining a structure and performing profile comparisons. The Task Team was also instructed to consider ODAS metadata and META-T. Regarding the latter this work was completed and legacy recommendations were made.

Dr Belov noted further that the work on the IODE Ocean Data Portal has been focused on two main aspects: to invoke new data providers from NODCs, DNAs, and other IODE related projects and development of ODP V2. During the inter-sessional period four data providers were connected. Significant contribution has been made for the GTSPP and Argo projects by NODC (USA), ISDM (Canada). At present ODP is giving access to 100 datasets with over 1 000 000 profiles from NODCs/DNAs.

Dr Belov informed further that the National Oceanographic Committee of the Russian Federation adopted the decision to offer the establishment and hosting of the IOC Partnership Centre for IODE ODP at RIHMI-WDC/NODC of Russia in Obninsk. RIHMI-WDC prepared and submitted to Roshydromet the business plan for the Partnership Centre for the IODE ODP, including the budget for the creation of the centre and its operation starting in 2013. The business plan has been approved in the end of 2013. The official opening of the Office is planned for mid-2013.

ANNEX: DISCUSSION DOCUMENT

1. REPORT ON ACTIVITIES CARRIED OUT DURING THE INTER-SESSIONAL PERIOD

Third Session of the JCOMM/IODE Expert Team on Data Management Practices was held between 16-19 October 2012 in Oostende, Belgium (see agenda provided in Annex A).. Session started in its renewed membership. JCOMM-IV had elected 5 new members of the Expert Team (Jixiang Chen, Richard Crout, Paul Oloo, Paulo Polito and Anyuan Xiong) as well as a new Chair (Dr Sergey Belov). Subsequent to JCOMM-IV, and after issuing IOC Circular Letter 2443 on 6 June 2012, IOC had elected 4 additional members (Don Collins, Patrick Gorringe, Yutaka Michida and Tobias Spears). Following the offer from China to fully support extra members, Ms Ting Yu was added as an additional member of the Expert Team.

Full details on activities undertaken since the ETDMP-II session, 6-7 April 2010, can be obtained from the final meeting report of the Third Session of the JCOMM/IODE Expert Team on Data Management Practices.

The ETDMP activity was concentrated on the following items: (i) conducting the IODE/JCOMM Standards Process (ODS); (ii) improving the metadata management; (iii) development of the IODE Ocean Data Portal (ODP) and establishment of interoperability with WIS, SeaDataNet and other projects.

1.1 IODE/JCOMM Standards Process

During the ad hoc session of the JCOMM/IODE Steering Group for the Ocean Data Standards Pilot Project, 23-25 April 2012, a revision of the ODS process was decided and subsequently implemented. The revision has been published online.

The outcomes of the progress made by the ETDMP Task Team for Ocean Data Standards (ODS):

(i) best practices procedures agreed during Ad-Hoc ODS Meeting in April 2012;

(ii) standard for 'Date and Time' has been published as an IOC/UNESCO Manuals and Guides No. 54(2); QC Flags standards submission was made by GE-BICH; additional standards (i.e. Latitude, Longitude and Altitude, Units, etc.) have been identified for submission

(iii) ToRs for the Ocean Data Standards and Best Practices Project (ODSBP) drafted for consideration;

1.2 Metadata management

The Task Team had two major related tasks: 1) review and advise about a common (standard) metadata representation and 2) review and advise about vocabulary/thesaurus/ontology methodologies.

Summary review by task

Task 1. Review and become more familiar with ISO19115 and related standards. The Team reviewed standards documentation acquired by Ms Scott as well as other resources, including the wiki maintained in the US by the NOAA National Geophysical Data Center (https://geo-ide.noaa.gov/wiki/index.php?title=Category:ISO_19115). This

wiki site provides supplemental information about the ISO19115 metadata standard elements and best practices for using those elements.

As noted on the Ocean Data Standards website at http://www.oceandatastandards.org/index.php?option=com_content&task=view&id=4&Itemid=8, the ISO19139 schemas are now publicly available via the ISO and the Open Geospatial Consortium.

Task 2. Review SeaDataNet metadata management structure and techniques. Ms Scott discussed SeaDataNet metadata management structure and techniques with Mr Roy Lowry, BODC. Ms Chen provided a useful review comparing high-level components of the Marine Community Profile (MCP), SeaDataNet Common Data Index (CDI) and WMO Core Profile.

Task 3. The Team did not have the resources to investigate various semantic metadata management systems currently in use. As noted above, the Team reviewed some of the capabilities currently provided by SeaDataNet and the ODP, but did not develop a recommendation for this Task.

Task 4. The Team confirms that the ISO19115/19139 standards are becoming the de facto standard metadata representation for data discovery and exchange through common protocols. The ETDMP should continue to monitor the implementation of improved crosswalks from other standards and other developments for monitoring metadata management (e.g., the NOAA/NGDC 'rubric' for assessing ISO metadata completeness). Based on the efforts to assess vocabularies and ontologies management tools, the Team suggests that the ETDMP continue to be aware of existing and new resources, such as the SKOS implementation used by BODC/SeaDataNet.

1.3 Ocean Data Portal

The work on the IODE Ocean Data Portal has been focused on two main aspects: to invoke new data providers from NODCs, DNAs, and other IODE related projects and development of ODP V2.

Despite the slow growth of new data providers following contibutions have been made (listed by countries and projects):

(i) USA (US NODC): New GTSPP data according inventory update (for 2011 and 2012).

(ii) Canada (ISDM): Surface drifters data submitted.

(iii) Latin America: After the training courses held in the July 2011 (Buenos Aires, Argentina) and installation of the IODE ODP Argentina node (Integration Server, Light Data Provider, and Portal services) the Ministry of Science, Technology and Production Innovation (MINCyT) in Argentina took the lead in the establishment of the national data provider nodes and further contribution to the IODE. Future data providers will be presented by the Ministry's Information Systems Department and from other centres that produce sea data such as the National Research Institute on Fishery (INIDEP), the Argentinean Antarctic Institute, and some Research Institutes and Universities with oceanographic research activity. First Argentinean Data Provider in Patagonia (CENPAT) has been established. Process is pending due to the renovation of the hardware in the MINCyT and formal approval of the national programme on the governmental level.

(iv) EU: Argo data (IFREMER) data provided from GDAC FTP via IODE PO Light Data Provider.

(v) ODINBlackSea: MHI – drifter profile data has been submitted.

At present moment ODP user portal is giving access to 100 datasets with over 1 000 000 profiles from 9 NODCs/DNAs (13 data providers registered).

Following the IODE-XX recommendation to provide interoperability arrangements with the SeaDataNet project, draft technical specifications of the IODE ODP and SeaDataNet interoperability have been created. In the document it was proposed to focus the challenge of interoperability between SDN and ODP based on the portal to portal interaction scheme.

The most significant problem for ODP at this moment is the small number of data providers. In order to attract data providers and to build capacity in Member States for participation in ODP two expert missions were organized to Australia and Argentina. Argentina is in the process of adopting the ODP technology for national use.

ODP V2 has been released in June 2012 and presented at JCOMM-IV. ODP V2 toolbox is available for distribution.

The National Oceanographic Committee of the Russian Federation had agreed to offer to IOC/IODE to establish an IOC Project Office for IODE ODP. Taking account the formal requirements related to Project Offices as well as the offer of Russia the title of such "office" was changed to "IOC Project Support Centre for IODE ODP". The official opening of the Office is targeted in early 2013.

2. REVISED WORK PLAN AND TIME TABLE FOR THE CURRENT INTER-SESSIONAL PERIOD

2.1 Task Team on ODS

Action	Task	Deadline
1	Develop standards/best practices for submitted proposals in the marine community through the IODE/JCOMM Standards Process as outlined by JCOMM-IV and IODE-XXI	Continuous
2	Examine further the candidates of standards for 'Lat, Lon, Alt.' (based on ISO 6709); and units (based on SI), and seek appropriate persons and/or organizations that make proposals.	March 2013
3a	Encourage, by preparing and distributing an invitation for submissions, JCOMM and IODE communities to submit proposals of standards for, i) Thematic codes like platform type, Geo-Area (IHB) and instrument type; Standard vocabularies for parameters, institutions, platforms/platform types and instruments; unique data tag, data exchange format,	Continuous
3b	ii) Discovery metadata profile (e.g. MCP, CDI, WMO Core, NAP) which is ISO 19115/19139 compliant	Continuous
3c	iii) Quality controls being implemented by QARTOD	March 2013
4	Keep communication with ODP TT and Metadata TT respectively on standards process.	Continuous

5	Submit draft recommendation for ODSBP with its ToR to IODE-22 and JCOMM MAN	March 2013 (IODE), February 2013 (MAN)
6	Submit draft recommendation on standards that have passed review process to IODE-22 and JCOMM MAN.	March 2013, February 2013
7a	Continue work to finalize the review of the QC-flag proposal i) Report on the discussion on the proposal at ETDMP-III to the upcoming IODE QC Workshop in Oostende	October 2012
7b	ii) Ask the authors to modify the proposal as suggested by the ad hoc ODS SG, and circulate the revised version (V1.3) to IODE Member States for comments	tbd
7c	iii) Publish and promote the recommended standards and best practices as appropriate	June 2013
8	Review candidate standards submitted to ODSBP process	Continuous
9	Implement the first **meeting** of the ODSBP Steering Group	Late 2013/early 2014, tbd by IODE-XXII

2.2 Task Team on metadata

Action	Task	Deadline
1	Liaise with ODS and ODP Task Teams on a regular and repeating basis	Continuing
2	Review and compare priority vocabularies	Continuing
2(i)	Review and compare EDMO/SDN organizations list and ODP organizations list table structure; identify common elements; recommend required elements for identifying organizations; compare list contents, if resources allow	Dec 2012
2(ii)	Identify specific concerns related to platforms identification management between SDN, ICES, and ODP.	Dec 2012
2(iii)	Review and compare EDMO/SDN platforms list and ODP platforms list table structure; identify common elements; recommend required elements for identifying platforms; compare list contents, if resources allow	
2(iv)	Review and compare EDMO/SDN instruments list and ODP instruments list table structure; identify common elements; recommend required elements for identifying instruments; compare list contents, if resources allow	
2(v)	Review and compare EDMO/SDN keywords list and ODP keywords list table structure; identify common elements; recommend required elements for identifying keywords; compare list contents, if resources allow	

2(vi)	Review and compare EDMO/SDN projects list and ODP projects list table structure; identify common elements; recommend required elements for identifying projects; compare list contents, if resources allows	
3	Recommend ways to use XML-based vocabulary management tools (e.g., SKOS, MMI)	Continuing
3(i)	MD-TT members familiarize with functionality of SKOS, MMI and/or other xml-based frameworks.	Continuing
3(ii)	Identify which, if any, of priority vocabularies listed in 2 are represented using standard XML markup (in SKOS, OWL, etc.)	Concurrent with review for each vocabulary in 2.

2.3 Task Team on ODP

Action	Task	Deadline
1	Review the ToR for SG-ODP and Partnership centre for IODE ODP	February 2013
2	Liaise and collaborate with other groups in order to establish strong links with existing regional and global initiatives	Continuous
3	Describe the profile (responsibilities, tasks and competences) of the ODP project manager, For consideration at IODE-XXII and IOC GA	December 2012
4	Monitor progress on the ODP 2012-2013 work plan and advice the SG-ODP on changes if necessary	Continuous
5	Assess the deployment of the ODP nodes with assistance of the Partnership Centre for IODE ODP	1Q 2014
6	Liaise with ODS TT on standards and best practices related topics; identify, prioritize, and assign work activities resulting from discussions	Continuous, Quarterly webex calls
7	Liaise with Metadata TT on vocabularies and metadata related topics; identify, prioritize, and assign work activities resulting from discussions	Continuous, Quarterly webex calls
8	Revise and distribute the document on interoperability and migration of the ODP metadata into the ISO 19139 encoding in coordination with ETDMP TT for Metadata	January 2013
9	Identify and network with potential new data providers (projects, programmes and other communities)	Nov 2012, and continuous
9(i)	Identify and assess the contribution of the data from SeaDataNet	February 2013
9(ii)	Identify and assess the contribution of the data from EuroGOOS	February 2013
9(iii)	Identify and assess contributions from: NMDIS, NODC of Russia, US NODC, ISDM, IMOS, OBIS and other existing data providers	February 2013
9(iv)	Prepare a document “Technical specification on interaction with SeaDataNet, WIS, EuroGOOS, OBIS and ESIMO”. Distribute the document within IODE, JCOMM, SeaDataNet, WIS, EuroGOOS and ESIMO.	March 2013

10	Identify and interact with the ODP user community (feedback/bug tracking)	Continuous
11	Provide specifications for the ODP portal interface (features, functionalities, appearance, and user-friendliness – manual on how to use the portal)	December 2012
12	Revise and distribute the technical documentation on the ODP V2 toolkit components	March 2013
13	Identify and prioritize ODP training requirements	March 2013
14	Prepare "Manuals and Guides on IODE ODP"	Draft version should be presented at IODE-XXII (March 2013) Final version, June 2013
15	Develop documentation and guidance material for the training courses on ODP regional nodes for ODINs with assistance of the Partnership Centre for IODE ODP	End of 2013

3. REQUESTED FUNDING FOR THE NEXT INTER-SESSIONAL PERIOD

Deadline date	*Action item description*	*To be implemented by*	*Requested from UNESCO RP*
2014	*ETDMP-IV session*	*ETMDP chair, IODE PO*	*15,000 USD*

Annex A to IOC/IODE-XXII/13

Agenda of the Third Session of the JCOMM/IODE Expert Team on Data Management Practices (ETDMP)

1. OPENING OF THE SESSION

1.1. Adoption of the Agenda and Timetable
1.2. Working and practical arrangements

2. ETDMP PROGRESS REPORT 2010-2012 (Sergey Belov)
3. OCEAN DATA STANDARDS (Yutaka Michida)
    3.1 OCEAN DATA STANDARDS PROCESS
    3.2 PROGRESS REPORT
    3.3 FUTURE ACTIONS
4. METADATA MANAGEMENT (Don Collins)
    4.1 INSTRUMENT/PLATFORM METADATA
    4.2 OTHER METADATA NEEDS AND INTEROPERABILITY ISSUES OF METADATA MANAGEMENT
    4.3 PROGRESS REPORT
    4.4 FUTURE ACTIONS
5. OCEAN DATA PORTAL (Sergey Belov)
    5.1 PROGRESS REPORT
    5.2 ODP V2 STATUS AND IMPLEMENTATION
        5.2.1 ODP V2 overview
        5.2.2 ODP V2 distribution
        5.2.3 ODP V2 capacity building
        5.2.4 ODP requirements and evaluation criteria IODE QMF for NODC's (Nick Mikhailov)
    5.3 ODP AND OBIS (Ward Appeltans)
    5.4 ODP AND WIS
    5.5 ODP AND SEADATANET
    5.6 COLLABORATION PROCESS WITH OTHER PROGRAMS AND ACTIVITIES (GEOS, GOOS, DBCP, etc.)
6. Potential collaboration with EuroGOOS (Patrick Gorringe)
7. OUTCOME OF JCOMM-IV
8. IOC/IODE Partnership Centre for ODP – status and tasks (Nick Mikhailov)
9. WORK PLAN FOR NEXT INTER-SESSIONAL PERIOD
    9.1 ETDMP TASK TEAM FOR ODS
    9.2 ETDMP TASK TEAM FOR METADATA
    9.3 ETDMP TASK TEAM FOR ODP
10. DATE AND PLACE OF NEXT SESSION
11. CLOSING OF THE SESSION