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| **World Meteorological Organization**  **Inter-Commission Coordination Group On WIGOS**  **Seventh Session** Geneva, Switzerland, 15-17 January 2018 | **Doc. 4.2(3)** |
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**4. PROGRESS TOWARDS IMPLEMENTATION OF WIGOS**

**4.2. Review of key achievements of the ICG-WIGOS Task Teams**

**4.2(3) TT-WMD-6 (27-29 Nov 2017)**

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| **Summary and purpose of document**  The document presents the recommendations, conclusions and actions from the 6th session of the ICG-WIGOS Task Team on WIGOS Metadata (TT-WMD-6) held at Zurich, Switzerland, from 27-29 November 2017. |

**Action proposed**

The session will be invited to consider the recommendations, conclusions and actions from TT-WMD-6.

**References:**

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# RECOMMENDATIONS, CONCLUSIONS AND ACTIONS from tt-wmd-6

**Agenda Item 2 - Report of the Co-Chairs**

1. Recommendation:

ICG-WIGOS to provide clarification about the transition phase for WIGOS Station Identifiers (WSIs); The session recommends that, in order to engage all the non-NMHSs contributors to WIGOS, a more flexible way of assigning WSIs should be adopted, e.g. “issuer of identifier” field could be delegated to Programmes/Network, instead of using Member countries’ code, for certain Programmes.

2. Recommendation:

The issue of the accuracy and maintenance of WIGOS metadata should be clearly considered, e.g. to be placed under the responsibility of Regional WIGOS Centres (RWCs).

**Agenda Item 4 – Feedback from the Various Communities**

3. Recommendation:

To consider ways to improve the PRs’ understanding of the scope of their mandate, which covers all observing networks including those outside the NMHS, particularly in relation to WIGOS and WIGOS metadata.

4. Recommendation:

To consider how to empower and resource the Regional Associations to allow them to raise awareness and to deliver training on the WIGOS Metadata Standard (WMDS) and OSCAR/Surface.

5. Recommendation:

To consider inclusion, by CBS, of Wind Profilers (WPs) metadata into the WMO Radar Database (WRD), as the operational authoritative source of metadata for Radars and WPs, while clarifying the governance of such expansion.

6. Conclusion:

It is recognized that several Members and Programmes, such as those under JCOMM, are facing competing resources priorities, e.g. between migration to BUFR and implementation of the WMDS.

7. Conclusion:

The scope of WMDS is broad, so very detailed metadata specific to a particular observing system should not be added to the WMDS, but rather specified within that community as an extension of the WIGOS metadata; Where to draw the line between the WMDS and the WIGOS metadata profiles/extensions is a case-by-case issue. The WIGOS Metadata Representation (WMDR) – MD exchange model and schema - could be used for such community specific fields.

8. Conclusion:

In the case of radio frequencies (used for sensing and for data communications) it was agreed to include them explicitly as part of element 5-03 Instrument Specifications.

9. Action:

TT-WMD (JCOMM representative) to review the specific metadata fields identified by JCOMM networks and to consider their inclusion or not as new additional elements of the WMDS - tentatively within one month.

10. Action:

Léa Freydier? to put the domain of observation together with the list of variables being discussed with IPET-OSDE and TT-ACV, since there is a need to know what is the context of each variable, e.g. “ice on the ground” versus “ice on sea water” – deadline ASAP.

11. Action:

GCW community to review and complete the definitions of the GCW related variables - tentatively by February 2018.

12. Recommendation:

In developing WHOS-2, expected for middle 2018, the connection to OSCAR/Surface using the WMDR should be ensured; The OSCAR/Surface development team should work with CHy experts, e.g. Silvano Pecora.

13. Action:

TT-WMD-6 welcomed the work of the Arctic-HYCOS project on ‘Arctic-HYCOS station attributes’. When these are finalised along with their definitions, they need to be mapped to existing WIGOS metadata standard elements and considered by TT-WMD.

14. Action:

TT-WMD co-Chairs and Secretariat to review the updated table of Attachment D.1, provided as part of document 4.7 submitted to the session – deadline February 2018.

15. Conclusion:

The session agreed with the 2nd recommendation from ET-ABO, i.e. to accept their offer to contribute a section on Aircraft Based Observations metadata to the Guide to WIGOS.

16. Recommendation:

The list of stations that have been recognized by WMO as long term observing stations should be available from OSCAR/Surface; The session recommended that the long term observing stations will be considered as “network affiliation” and that stations submitted by Members to such affiliation in OSCAR/Surface would create a request to be sent to Secretariat for follow-up on the approval process.

17. Actions:

To work with the Coordination Group for Meteorological Satellites (CGMS) towards further review of the WMDS – EUMETSAT representative, by middle 2018;

EUMETSAT to review the WMDR (Exchange model and XML schema), by middle 2018.

18. Conclusion:

OSCAR/Space is the natural home for metadata related to space-based observations, but currently it does not support ingestion of the metadata according to the WMDS – clarification is needed on the future plans of OSCAR/Space – IPET-SUP may provide more information about this.

19. Action:

TT-WMD to check with IPET-OSDE about the required accuracy of key metadata for requirements of observations from different application areas (Rolling Review of Requirements – RRR – process) – deadline February 2018.

20. Recommendation:

TT-WMD reviewed the contents of Doc.4.10 submitted by ET-SBO and responded as follows:

1. proposed that metadata should be updated on a monthly basis for international purposes;
2. a document summarising the assumptions made in the conversion from Vol. A to OSCAR/Surface should be provided as part of support documentation;
3. considering that many NMHS staff entering metadata will be from a non-English heritage, that WMO consider making OSCAR/Surface available in multiple languages;
4. observations metadata for lightning networks provide a unique challenge in terms of the WMDS;
5. OSCAR/Surface should consider some basic real time quality control of user input fields;
6. the WIGOS Guidance document should indicate the acceptable accuracy for fields such as latitude, longitude, elevation and dates;
7. guidance needs to be provided concerning the acceptable or minimal metadata required for third party sites, particularly where data is provided for gratis.

**Agenda Item 5 – Review of the WIGOS Metadata Standard**

21. Conclusions:

WIS is not able to provide the schedule of international reporting – one of the main reasons is that there is no way to know which parameters are contained in the reports exchanged, therefore, a metadata element is needed in the WMDS to capture that.

22. Recommendation:

It is recommended to include a field in OSCAR/Surface to accommodate the link pointing to the corresponding WIS metadata which will include the “fileID” in the URLs; Members are responsible to provide and insert them into OSCAR/Surface.

23. Conclusions:

One new element was agreed to be added to the WMDS: “Schedule of International Exchange”.

One new element previously agreed to be added was now specified how to be included as part of the next edition of the WMDS: “Stations/platforms cluster”.

One existing element 3-05 “Station Model” was agreed to be eliminated from WMDS.

24. Recommendation:

The NFPs for WIGOS and OSCAR/Surface should work together to develop their national policy for assignment of WIGOS Station Identifiers including the facilitation of issuing WIGOS Station Identifiers for non-NMHS stations at national level.

25. Action:

Code table 1-01 “Observed variable” is being reviewed for consistency with other communities, via an ad hoc group which includes representatives from TT-WMD, IPET-OSDE and TT-ACV. MeteoSwiss to check the variables in use by OSCAR/Surface against the extended list under discussion – deadline ASAP?.

26. Conclusions:

The following revised code tables were approved: 1-02 “Units”; Code tables under 4-03 “Topography or Bathymetry”.

“Geometry of observation” agreed to have a new code table.

Code table 5-02 “Method of Observation” to be circulated for further review by TT-WMD.

**Agenda Item 6 – Status and development of the WIGOS Metadata Exchange Model**

27. Recommendation:

The session recommends ICG-WIGOS to consider the lack of human resources with expertise in data modelling for the further development and finalization of the WMDR.

28. Conclusion:

The next candidate release 1.0RC7 of the XML schema will be compatible with the new proposed changes of the WMDS, including the fields to capture the instruments frequencies.

**Agenda Item 7 – OSCAR/Surface**

29. Action:

The OSCAR/Surface development team is recommended to add one or more additional fields, which will be needed to capture the output from the WDQMS, i.e., to reflect the real performance of the stations. The details are still to be discussed with the TT-WDQMS – deadline February 2018?.

30. Conclusion:

The session acknowledged the following milestones planned in relation to the XML schema and the API: December 2017 = tentative date for the test versions to become available; May 2018 = ambition date to have the first versions ready for users.

The session recognized that developing countries will benefit from less complex tools to deal with OSCAR/Surface, but additional human resources will be needed to develop “intermediate tools”, e.g. for converting XLS/flat files into XML.

**Agenda Item 8 – Guidance Material**

31. Recommendation:

The section 3.3.5. of the Guide to WIGOS about “Stations on ice” needs to be drafted – it is already part of the Guide, but having no content.

A new section 3.4 “WIGOS Metadata exchange format” should be drafted and included in the Guide to describe the WMDR and the XML schema and to provide guidance on how to use it.

The current edition of the Guide itself should be revised in terms of the WMDS implementation phases, and all the machine sources of metadata, e.g., GAWSIS, WRD, should be mentioned.

32. Action:

TT-WMD to review the definitions of the metadata elements of the WMDS, as well as their notes and examples – deadline March 2018?.

**Agenda Item 9 – Training Events on WMDS and OSCAR/Surface**

33. Recommendation:

ICG-WIGOS members are invited to consider hosting OSCAR/Surface training events in their Regions and countries, with priority for RA I (two events, one in English and one in French), RA II/RA V, RA IV (in Spanish).

**Agenda Item 10 – Conclusions and Recommendations**

34. Recommendation:

Since the launch of OSCAR/Surface in 2016, and following the regional workshops and training events, mainly in 2017, more and concrete feedback has been received from the various “WIGOS communities”.

ICG-WIGOS is recommended to consider extending the TT-WMD mandate and reviewing its Terms of Reference, e.g. to include the revision, improvement and further development of the WMDS and its representation model, as well as corresponding guidance material, taking into account the feedback being received and expected for 2018.

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