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COMMISSION FOR BASIC SYSTEMS
OPEN PROGRAMMME AREA GROUP ON
INTEGRATED OBSERVING SYSTEMS

ITEM: 4.1, 4.2

**INTER PROGRAMME EXPERT TEAM ON
OBSERVING SYSTEM DESIGN AND EVOLUTION
(IPET-OSDE)
First Session**

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WMO INTEGRATED GLOBAL OBSERVING SYSTEM (WIGOS)

WIGOS PROGRESS RELEVANT TO THE ACTIVITIES OF IPET-OSDE

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SUMMARY AND PURPOSE OF DOCUMENT

The document provides an update on the status of various WIGOS implementation activities, as reviewed and discussed during the Third Session of ICG-WIGOS

ACTION PROPOSED

The Meeting is invited to note the information contained in this document when discussing how it organises its work and formulates its recommendations.

DISCUSSION

1. Status of WIGOS Framework Implementation

1.1 The Third Session of the Inter-Commission Coordination Group on the WMO Integrated Global Observing System (ICG-WIGOS), held in Geneva on February 10-14 2014, considered the status of the most critical WIGOS Implementation Activities of the Key Activity Areas (KAA) of the [WIP \(v.2.0\)](#), [Table 2](#), based on the evaluation of the progress provided by WIGOS-PO. In doing that, several issues and aspects were considered. The summary of the main issues/concerns is as follows:

1.2 ICG-WIGOS agreed that the development of the Guide to WIGOS and WIGOS Functional Architecture under 1.1.1, as well as activities under 4.1.1 and 6.1.1 cannot meet the original implementation deadlines of 2015; new target dates for their completion were suggested. The corresponding proposals are reflected in the updated WIP, v.2.8 to be submitted to EC-66 for consideration and approval.

1.3 Regarding the Rolling Requirements Review process, it was noted that the RRR had been GOS/CBS centred in the past; when broadening the scope to encompass all of WIGOS, it has to be updated accordingly to take into account the respective characters and requirements of the other component observing systems. ICG-WIGOS recognized that the RRR documentation produced by the IPET-OSDE Chair had been used as a basis for the RRR related regulatory materials under development by the TT-WRM for consistency with the current RRR process and terminology. ICG-WIGOS thanked the IPET-OSDE Chair for his contribution to this work, and agreed that such material could indeed be used. ICG-WIGOS agreed that the Observing System Network Design (OSND) principles drafted by the IPET-OSDE, reviewed by the ICT-IOS, and expected to be approved by the CBS-Ext(14) should be included in the Manual on WIGOS. The TT-WRM was requested to take it into account. Regarding the draft OSND principles themselves, ICG-WIGOS noted that that long term/medium term funding shall be assured for sustained observing systems.

1.4 IPET-OSDE is invited to consider how the RRR can be broadened to apply to new (non NWP-supported) application areas, and on whether the existing framework of an Expert Team, Rapporteurs and regular Impact Workshops is adequate to support the broader scope of WIGOS.

1.5 When considering the WIGOS Information Resource (WIR), the importance of [OSCAR](#) in particular was stressed, and it was noted that the launch of the OSCAR will mark the first time that all the information regarding requirements and observing systems are available in the same place (surface capabilities are missing for the time being). ICG-WIGOS agreed that the OSCAR should be the repository of a sub-set of the WIGOS metadata; in particular those on observing system capabilities that are required for the RRR process, and those which are requirement for operational use such as the planned evolution of WMO No. 9, Volume A. Most of the remaining metadata will have to be collected, maintained, and archived by Members. ICG-WIGOS requested the TT-WMD to clarify what metadata shall be included in the OSCAR, and which ones shall be mandatory.

1.6 IPET-OSDE is invited to consider the implications of this approach for OSCAR and make recommendations on whether or not this is a good approach.

2. Relevant Recommendations of ICG-WIGOS-3

2.1 Based on the consideration of the individual Agenda Items, ICG-WIGOS formulated its recommendations to EC-66 (see Item 9 of the Final Report). In particular, it was recognized that WIGOS will not be fully implemented by Cg-XVII in 2015, and it is proposed that the projects extends into a Pre-Operational Phase covering the 2016-2019 Financial Period. During this phase, the Guidance Material will be further developed and increased emphasis will be put on Regional and National Implementation activities.

3. Status of ICG Task Teams relevant to IPET-OSDE

3.1 ICG-WIGOS reviewed the activities of its three Task Teams.

Task Team on WIGOS Regulatory Material (TT-WRM)

3.2 The Chair of TT-WRM (Russell Stringer) informed ICG-WIGOS about the key achievements of this team since ICG-WIGOS-2 and put forth several recommendations for consideration. It was noted with appreciation that the members of the team and the Secretariat partners had applied themselves through two meetings (TT-WRM-2 in June 2013 and TT-WRM-3 in November 2013) and twenty WebEx meetings.

3.3 Extensive drafting efforts had successfully resulted in a key milestone being achieved, that is preparation of a consolidated version of the WMO Technical Regulations (WMO-No. 49), Volume I, PART I – WIGOS, as well as the first edition of the Manual on WIGOS. It was noted that further refinement is needed (in particular the sections for Definitions, Observational Metadata, and the Space-Based Sub-system). It was also noted that significant progress had been made in capturing advances of WIGOS in the Technical Regulations, while further advances that are still under development will be captured in future updates and editions.

3.4 ICG-WIGOS considered the recommendations suggested by Chair, TT-WRM and decided to adopt the plan to obtain endorsement of the WIGOS relevant Technical Regulations through Presidents of Technical Commissions rather than at full sessions of all Technical Commissions, after noting that it had been explained and accepted at the PTC-2015 meeting.

3.5 The need for a smaller (smaller than the full set captured in the current draft) set of core of mandatory metadata elements garnered some support from ICG-WIGOS and was referred to a breakout group.

3.6 ICG-WIGOS noted that extensive documentation and instructions on the WIGOS Operational Information Resource (WIR) and its OSCAR tool would need to be published as separate guidance material with only key points to be included in the Manual on WIGOS.

3.7 ICG-WIGOS noted the intention for a "thin layer" approach to the future WIGOS Guide, providing pointers to all the related information available from other sources.

Task Team on WIGOS Metadata (TT-WMD)

3.8 ICG-WIGOS was briefed by Dr. J. Klausen, representing the Chair, TT-WMD, on the key achievements of the Team since ICG-WIGOS-2. Dr. Klausen also put forth several recommendations for consideration.

3.9 Regarding classification of WIGOS metadata (as mandatory, complementary and optional), the president of CIMO suggested proceeding with a two-stage process as follows:

1. During the first stage, a decision should be made on which WMD are mandatory, i.e. on “the minimum set of required WIGOS core metadata”, minimum both in the sense of being necessary to use an observation, and in the sense of “achievability” by all (or most) Members worldwide, i.e. be available in real time. It has to do with the less demanding specifications and metadata required for observations dedicated to security issues, now-casting and short-term weather forecasting.
2. During the second stage, a complete set of WMD relevant for climate applications, expressing uncertainty, etc. shall be available by Members. In order to achieve this, the criteria for distinguishing between these two levels of metadata and applying them to the current proposal should be specified.

3.10 A system for WIGOS Station Identifiers was presented. ICG-WIGOS acknowledged that the proposed system has capability to meet the request by EC-65 to instigate procedures for expanding the range of station identifiers for use with Table Driven Code Forms, so that Members could assign these numbers to stations operating in their territories, including stations operated by intergovernmental and international organizations.

3.11 In general, ICG-WIGOS agreed with the principles of the proposed structure for WIGOS station identifiers. However, it was noted that there are many technical issues to be further considered and solved. Therefore, ICG-WIGOS requested CBS to deal with this issue and submit the proposal for Cg-17.

Task Team on WIGOS Quality Management (TT-WQM)

3.12 A short presentation was made by J. Zimmermann, Chair, TT-WQM, on the TORs, composition and work plan of the Team.

3.13 ICG-WIGOS noted that some confusion remains regarding WIGOS QM, its purpose and scope, and how it should be reflected in WIGOS regulatory material.

3.14 ICG-WIGOS agreed that more dedicated work is needed to improve the current quality control and monitoring practices and procedures, including availability of monitoring results in real-time and feed-back to the data providers; the team should build on experiences and lessons learned by EUMETNET, AMDAR and other observing systems, as well as on the relevant sections on QM in the CIMO Guide. in the future.

3.15 ICG-WIGOS requested that the following tasks/actions to be undertaken (actions for TT-WQM):

1. Review of the current practices in the observational data monitoring system, and recommendation on the way forward, which must include:
 - modernisation of the monitoring system
 - near-real time reporting
 - quality evaluation leading to quality improvement
 - fault management with feedback mechanisms
 - extension of the observational data monitoring to non-weather areas (i.e. beyond the GOS), where appropriate and possible
 - documentation of how revision of the observational data quality monitoring system will be coordinated by TT-WQM and which teams would be responsible for what aspects;

2. ICG-WIGOS further requested that a meeting of TT-WQM be held in the March-April timeframe.

3.16 IPET-OSDE is invited to follow the developments around the WIGOS Quality Management framework very closely, and to make recommendations about the approach taken to monitoring and reporting of observational data quality control in particular.

Future Work Program

3.17 The need to develop a “Vision for the WIGOS in 2040” was discussed. ICG-WIGOS recommends this development and request CBS to take the initial lead on it, with involvement of the other TCs. The target for approval should be Cg-XVIII.

3.18 IPET-OSDE is invited to discuss how to approach this task, with the aim of making a recommendation to ICT-IO8 that can then be taken forward to CBS (Ext)15.
