**WORLD METEOROLOGICAL ORGANIZATION**

**INTER-COMMISSION COORDINATION GROUP ON WIGOS**

**(ICG-WIGOS)**

**Task Team on WIGOS Data and Partnerships (TT-WDP)**

**FIRST SESSION**

***Geneva, Switzerland, 29-31 August 2016***

**FINAL REPORT**

DISCLAIMER

**Regulation 42**

Recommendations of working groups shall have no status within the Organization until they have been approved by the responsible constituent body. In the case of joint working groups the recommendations must be concurred with by the presidents of the constituent bodies concerned before being submitted to the designated constituent body.

**Regulation 43**

In the case of a recommendation made by a working group between sessions of the responsible constituent body, either in a session of a working group or by correspondence, the president of the body may, as an exceptional measure, approve the recommendation on behalf of the constituent body when the matter is, in his opinion, urgent, and does not appear to imply new obligations for Members. He may then submit this recommendation for adoption by the Executive Council or to the President of the Organization for action in accordance with Regulation 9(5).

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| **CONTENTS** |
| [AGENDA](#AGENDA) |
| [Executive Summary](#EX_SUMMARY) |
| [General Summary](#GENERAL_SUMMARY) |
| [List of participants](#Appendix_I)(Appendix I)[Terms of Reference for Task Team on Data and Partnerships (TT-WDP)](#Appendix_II)(Appendix II)[WIGOS Guidance on Data Partnerships – Draft outline](#Appendix_III) (Appendix III)[Draft timeline for further development of Guidance](#Appendix_IV) (Appendix IV) |

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**Agenda**

1. [ORGANIZATION OF THE SESSION](#Item_1)

2. [REVIEW OF OUTCOMES FROM ICG-WIGOS-5](#Item_2)

3. [GUIDANCE FROM EC-68](#Item_3)

4. [REVIEW OF TERMS OF REFERENCE](#Item_4)

5. [PHASE 1 - WIGOS DATA PARTNERSHIPS](#Item_5)

6. [PHASE 2 – WIGOS DATA GUIDANCE](#Item_6)

7. [ANY OTHER BUSINESS](#Item_7)

8. [CLOSURE OF THE SESSION](#Item_8)

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**Executive Summary**

The First session of the ICG-WIGOS Task Team on WIGOS Data and Partnerships (TT-WDP-1) was held at the WMO Secretariat in Geneva, Switzerland, from 29 to 31 August 2016. The session was chaired by Mr Mike Manore, chair, TT-WDP.

Based on the deep review of the discussion paper – Doc. 5.1 “*Externally-Sourced Data in the WMO Integrated Observing System (WIGOS)”*, the session developed the Draft outline of the Guidance on Data Partnerships ([Appendix III](#Appendix_III)).

It also reviewed and updated Terms of Reference for the Team ([Appendix II](#Appendix_II)) and developed its Work Plan for the development of the Guidance on Data Partnerships ([Appendix IV](#Appendix_IV)).

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**General summary**

**1.** **ORGANIZATION OF THE SESSION**

**1.1 Opening of the session**

1.1.1 The First session of the ICG-WIGOS/Task Team on WIGOS Data and Partnerships (TT-WDP) was held at the WMO Secretariat in Geneva, Switzerland, from 29 to 31 August 2016. The session was chaired by Mr Mike Manore, chair, TT-WDP, who also opened the meeting and welcomed the participants to the session.

1.1.2 On behalf of the Secretary-General of WMO, Dr. W. Zhang, Director of the Observing and Information Systems Department (OBS), opened the session and welcomed the participants to Geneva. In the context of WIGOS, he stressed the importance of national partnerships and the urgent need for the guidance to be developed by the Task Team.

1.1.3 Dr L. P. Riishojgaard, PM/WIGOS also welcomed the participants to Geneva. He referred to the Workshop for drafting "The Vision for WIGOS Surface-Based Observing Components in 2040", Offenbach, Germany, 23-25 August 2016, which emphasised the need for involvement of partners and its potential impacts.

1.1.4 Importance of data partnerships and related challenges were highlighted several times during the opening.

1.1.4 The list of participants is given in [Appendix I](#Appendix_I).

**1.2 Adoption of the agenda**

 The session adopted the [AGENDA](#AGENDA)[[1]](#footnote-1) for the meeting, which is reproduced at the beginning of this report.

**1.3 Working arrangements**

1.3.1 The session agreed on its working hours and adopted a tentative work plan for consideration of the individual Agenda Items.

1. **REVIEW OF OUTCOMES FROM ICG-WIGOS-5**
	1. Dr I. Zahumensky, the Secretariat, briefed the session on subject relevant guidance from ICG-WIGOS-4 and ICG-WIGOS-5.
	2. It was underlined that WIGOS should be focussed on technical aspects of the integration of observations from multiple sources, including guidance on establishing partnership and data access/sharing arrangements with non-NMHS partners, and not become deeply involved in broader WMO issues regarding data policy (e.g. as established in Resolutions 25 and 40). The potential budget implications of taking additional priority items should be also considered carefully. ICG-WIGOS further recommended that all relevant technical commissions should be involved, with CBS, CIMO, and CCl providing technical leadership.
	3. ICG-WIGOS stressed the sensitivities around matters of data policy and licencing; and it was agreed that the TT-WDP should be very explicit in stating that the Team will not be prescriptive on matters regarding national data policies, but that it will rather seek to improve our understanding of the implications for WIGOS of existing data policies and offer guidance to Members on how best to treat external data.
	4. It was further emphasized that the subject matters to be dealt with by TT-WDP are of very broad interest across WMO, and it was therefore recommended that links be established to various existing bodies and ongoing activities (e.g. with CIMO on matters of data quality; with CCl/ IPET-CDMP; with CBS regarding the WIGOS Observing Network Design (OND) Principles).
2. **GUIDANCE FROM EC-68**
	1. Dr L. P. Riishojgaard, PM/WIGOS, briefed the session on guidance from EC-68 relevant to the work of Task Team.
	2. During the WIGOS Pre-operational phase, National Meteorological and Hydrological Services (NMHSs) are expected to become the key integrators at the national level, both by strengthening their own observing systems according to the guidance provided by the WIGOS framework, and by building national partnerships and providing national leadership based on their experience in the acquisition, processing and dissemination of observational data for environmental monitoring and prediction purposes.
	3. External (non-NMHS) observations have the essential role in supporting WMO Programmes and the associated application areas; therefore, it is important to establish partnerships with non-NMHS entities to increase the overall volume of observational data available in WIGOS. WIGOS national partnerships represents an opportunity for all Members, both to strengthen their national observing networks and to enhance their national leadership in relation to other WMO priority outcomes, such as GFCS and DRR.
	4. In accordance with the Plan for the WIGOS Pre-operational phase (2016-2019), approved by EC-68, guidance on Data Partnerships, Lifecycle Data Management and Data Stewardship, including integration of observations from multiple sources, should be developed, progressively from 2016.
3. **REVIEW OF TERMS OF REFERENCE**
	1. The session reviewed the Terms of Reference for the Team, taking into account the guidance from ICG-WIGOS and EC-68. Some minor changes were proposed to be submitted to ICG-WIGOS-6 (I.Q. 2017) for consideration ([Appendix II](#Appendix_II)).
	2. In the discussion, the importance of data sharing and exchange was highlighted specifically in case of hydrological observations. It is a challenge as they relate to the country security and commercial issues.
	3. It was further stressed that, in general, NMHSs cannot dictate to partners, but rather should collaborate through the exercising of leadership and competence, and through the establishment of appropriate arrangements and mechanisms.
4. **PHASE 1 - WIGOS DATA PARTNERSHIPS**
	1. The session discussed different aspects, issues and challenges on data partnerships and data management identified in the Doc.5.1 and its Annex, on which guidance for NMHSs has to be developed.
	2. The goal of the discussion was to develop a common understanding of the various aspects and concerns surrounding of external data and to assess where guidance is needed; consequently, it helped inform the scope of required guidance and its outline.
	3. It was agreed that the WIGOS principle of known data quality supported by WIGOS metadata is a critical foundation for external data as it is for NMHS-sourced observations. Therefore, there must be strong guidance regarding compliance to the WIGOS metadata standard, and that this is an area where NMHSs can provide leadership and assistance to external system operators. Guidance should be also provided on the WIGOS Data Quality Monitoring System (WDQMS) and its incident management procedures in order to provide feedback to external data producers, and, logically, to OSCAR/Surface.
	4. Special attention was given to different aspects of data quality; role of NMHSs; data types and sources; data access; private sector; supporting arrangements; and third-party liability, on which the participants shared their opinions.
	5. The session agreed that an initial focus of the guidance should be on access to surface-based observations to support operational applications. The guidance is intended to be expanded to other data types and applications in future versions.
	6. The session agreed on the Draft outline as reproduced in [Appendix III](#Appendix_III). The draft timeline for the development of the guidance is presented in [Appendix IV](#Appendix_IV).[[2]](#footnote-2)
5. **PHASE 2 – WIGOS DATA GUIDANCE**
	1. Mr M. Dell’Aqua briefed the session about the foreseen evolution of WIS (ver. 2.0) with new technologies, data volumes, and data types to be supported. This includes mobile applications, social networks, different products, etc.
	2. It was underlined that the guidance for the Phase 1 should be completed by the end 2017 as the input needed for the Phase 2.
6. **ANY OTHER BUSINESS**
	1. A. Rea, Chair, IPET-SUP briefed the session about IPET-SUP’s discussion on the issue of Essential Data from meteorological satellites, as defined under Annex 1 of WMO Resolution 40.
	2. The discussions have stemmed from concerns, particularly from the global NWP centres, around the potential commercialisation of meteorological satellite observations, specifically GPS-RO. Following discussion at IPET-SUP-2, a number of actions were taken including work on a WMO position paper on 'Essential Satellite Data' under Resolution 40 for communication to satellite operators (once cleared through CBS). This could take the form of guidance material for members and satellite operators to frame agreements with WMO relating to the definition of Essential Data.
	3. It was noted that when Resolution 40 was framed satellite data was mainly used by members directly for warnings, nowcasting and aiding human analysis. Today, however, satellite data underpins global NWP which is at the heart of the service offerings of most NMHSs. All members benefit from the satellite data freely exchanged between nations through this mechanism.
7. **CLOSURE OF THE SESSION**
	1. The session closed on Wednesday, 31 August 2016, at 11:30 hours.

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**Appendix I**

**LIST OF PARTICIPANTS**

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| **Mike Manore** Co-Chair | Meteorological Service of Canadamike.manore@canada.ca  |
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| Jose Arimatea de Sousa Brito (ICG-WIGOS, Expert nominated by EC) | Instituto Nacional de Meteorología, Braziljosearimateabrito@gmail.com |
| Anthony Rea (CBS Representative) | Bureau of Meteorology, Australiaa.rea@bom.gov.au |
| Joel Fisler (Expert) | MeteoSwiss, Switzerlandjoel.fisler@meteoswiss.ch |
| Aristide AguiaRepresenting D. Konate (EC Focal Point, RA I Vice-President)  | Direction de la Météorologie Nationale, Côte d'Ivoireaguia\_aristide@yahoo.fr  |

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**Appendix II**

**Terms of Reference for Task Team on Data and Partnerships (TT-WDP)**

Terms of Reference for theTask Team on Data and Partnerships (TT-WDP) are as follows:

***Phase 1:***

1. Maintain awareness of the evolving operational and policy context of integrating data contributed to WIGOS from non-NMHS sources, and
2. Develop WIGOS guidance material on Data Partnerships on:
* establishing and maintaining data partnerships
* integration of data from non-NMHS data providers
* data quality and data quality monitoring
* data sharing and data exchange
* commercial considerations
* other related matters

***Phase 2:***

1. Consider current and emerging information and communications technologies (ICT), best practices for strategic data management and emerging trends in data and its use, and
2. Develop WIGOS guidance material on Data Management and Data Stewardship on:
* the role of WIS, NMHS and partner systems in the data lifecycle
* best practices for data integrity and data preservation
* the challenge and opportunities of ‘Big Data’ and associated emerging trends in relation to data and its use
* models and best practices in data stewardship (roles, responsibilities for data governance)
* matters of compatibility among the legacy and emerging data management practices of the various WMO Programmes and Commissions (e.g. CBS, CIMO, CCl, CHy)
1. On emerging data issues (e.g., ‘Big’ data, crowdsourcing, commercial data, etc.), maintain awareness of the activities and align guidance material with the direction of the Executive Council Task Team on Data Policy and Emerging Issues (EC/TT-DPEI), the perspectives of Technical Commissions, and subsequent actions by CBS.

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**Appendix III**

**WIGOS Guidance on Data Partnerships**

**Draft outline**

**Executive Summary** *(Responsible: TTM & Secr)* ***[[3]](#footnote-3)***

**1.0 Introduction** *(Responsible: TTM & Secr)*

**2.0 Purpose and Scope** *(Responsible: TTM & Secr)*

* Purpose and Scope of Guidance
* Intended audience
* Status of guidance
* Links to other WMO activities

**3.0 Principles** *(Responsible: TTM &Secr)*

* Data partnerships for mutual benefit *(Responsible: TTM & Secr)*
	+ potential benefits – NMHS/Partners
* WIGOS data quality principles *(Responsible: TTM & Secr)*
	+ ‘known’ data quality
	+ importance of WIGOS metadata
* Role and Obligations of Members in supporting the exchange of data and metadata *(Responsible: TTM & Secr)*
	+ application of Resolutions 40 and 25 (65)
	+ management of constrained data
	+ interactions with commercial data suppliers
* ‎Roles and responsibilities *(Responsible: TTM & Secr)*
	+ NMHSs
	+ Expected roles of RAs and RWCs
* Legal considerations (liability) *(Responsible: TTM & Secr)*

**4.0 General Guidance** *(Responsible: TTM & Secr)*

* External data of relevance to WIGOS and national observing systems *(Responsible: TTM & Secr)*
	+ national use
	+ international use
* Assessment of external data opportunities *(Responsible: TTM & Secr)*
	+ factors/considerations
* External data relationships *(Responsible: TTM & Secr)*
	+ characteristics of high value relationships
	+ establishing and sustaining
	+ mechanisms

**5.0 Technical Guidance** *(Responsible: TTM & Secr)*

* WIGOS Station IDs *(Responsible: TTM & Secr)*
* Metadata *(Responsible: TTM & Secr)*
	+ requirements – national, international
	+ collection and maintenance
* OSCAR/Surface - data entry and maintenance *(Responsible: TTM & Secr)*
* Mechanisms for exchange of external data *(Responsible: TTM & Secr)*
* Data quality assessment and monitoring, incl. incident management *(Responsible: TTM & Secr)*
	+ national
	+ regional
* Management of data constraints *(Responsible: TTM & Secr)*
	+ data processing system implications
* Cyber security *(Responsible: TTM & Secr)*

***Supplementary Documents/Outreach Material***

* statements of potential benefits (for adaptation by NMHSs)
* vignettes of successful partnerships
* example of best practices
	+ establishing and maintenance of data relationships
	+ supporting arrangements
	+ Decision Process for the Integration of External Data Sources into National Meteorological Organisations
	+ Acceptance procedures for external data
	+ example agreements
* other supportive/supplementary material

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Appendix IV

**TT-WDP ACTION PLAN FOR THE PERIOD XI.2016 TO V.2019**

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| --- | --- | --- |
| **Version** | **Date** | **Comments** |
| **1** | **01/09/2016** | **Action plan developed by WIGOS-PO and M. Manore, as part of drafting the Final Report** |
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| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Task** | **Deliverable/Activity** | **Deadline (if not stated, then end of month)** | **Responsible** | **Status\*** | **Comment** |
|  | Investigate system level compliance checks (is a complete data record required to register an OSCAR Station?; i.e. check on what are mandatory fields in OSCAR/Surf) *(Action from TT-WDP-1)* | INF | X. 2016 | L. Nunes |  |  |
|  | Check adequacy of WIGOS Metadata for WHOS *(Action from TT-WDP-1)* | INF | X. 2016 | H. Lins |  |  |
|  | … (if needed … ) *(Action from TT-WDP-1)* |  |  |  |  |  |
|  | … (if needed … ) *(Action from TT-WDP-1)* |  |  |  |  |  |
|  | Development of the “zero” (incomplete) draft  | Draft v.0.0 | IX. 2016 | M. Manore |  |  |
|  | Further elaboration of draft v.0.0 | Draft v.0.1 | Mid X. 2016 | All Members (Webex mtgs) |  |  |
|  | Further elaboration of draft v.0.1 for CBS-16/TECO | Draft v.0.2 | X. 2016 | M. Manore |  |  |
|  | Further elaboration (based on feedback from CBS-16/TECO and other inputs) | Draft v.0.3 | Mid I. 2017 | All Members(Webex mtgs) |  |  |
|  | Submission the draft 0.4 to ICG-WIGOS/WEdB |  | Mid I. 2017 | Chair/TT-WDP |  |  |
|  | Further elaboration (based on feedback from WEdB and other inputs) | Draft v.0.4 |  |  |  |  |
|  | Submission the draft 0.4 to ICG-WIGOS-6 with the Progress Report  | ICG-WIGOS-6/Doc.X  | I. 2017 | PM/WIGOS |  |  |
|  | Further elaboration based on guidance from ICG-WIGOS-6 | Draft v.0.5 | II. 2017 | All Members (Webex mtgs) |  |  |
|  | Submission the draft v.0.5 to ICG-WIGOS/WEdB |  | Mid III. 2017 | Chair/TT-WDP |  |  |
|  | Further elaboration (based on feedback from WEdB and other inputs) | Draft v.0.6 |  |  |  |  |
|  | Submission draft 0.6 to EC-69 | EC-69/Doc.X | III. 2017 | PM/WIGOS |  |  |
|  | Organization of TT-WDP-2 (special focus on Phase 2) | TT-WDP-2 | X. 2017 | PM/WIGOS, Chair/TT-WDP |  |  |
|  | Submission the draft Guidance to ICG-WIGOS-7 with the Progress Report | ICG-WIGOS-7/Doc.X | I. 2018 | PM/WIGOS, Chair/TT-WDP |  |  |
|  | Submission Draft Guidance on Data Partnerships, Lifecycle Data Management and Data Stewardship, including integration of observations from multiple sources to EC-70 | EC-70/Doc.X | III. 2018 | PM/WIGOS |  |  |
|  | Translation to all official languages; submission to CBS-Ext.(2018) | CBS-Ext./Doc.X | Mid 2018 | PM/WIGOS |  |  |
|  | Submission the Guide to WIGOS for approval | Cg-18/Doc.X | Early 2019 | PM/WIGOS |  |  |
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\* STATUS column entries will be one of the following descriptors, as determined by the Chair TT-WRM based on consultation with the responsible party (in each case, elaborative comments can be added after the standard descriptor or in the "Comment" column):

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| On-Track | Under-Stress | Overdue |

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1. For more details, see <https://www.wmo.int/pages/prog/www/WIGOS-WIS/meetings/TT-WDP-1/TT-WDP-1.html> (Doc.1.2) [↑](#footnote-ref-1)
2. Note: as agreed at the session, the draft timeline was developed after the session as part of the drafting the Final Report by WIGOS-PO and Chair of the Task Team. [↑](#footnote-ref-2)
3. TTM & Secr : Task Team Member supported by WMO Secretariat staff [↑](#footnote-ref-3)