



WIGOS REGULATORY AND GUIDANCE MATERIAL

Summary and purpose of document

This document provides information on the status of the development of the WIGOS regulatory and guidance material.

ACTION PROPOSED

The Meeting is invited to take into account the information provided, and formulate recommendations to the WIGOS Editorial Board for the further development of the WIGOS regulatory material, with a special focus on:

- a. the transition of the Part III, "3. Equipment and methods of observation" of the Manual on GOS (WMO-No. 544) to the Manual on WIGOS (WMO-No. 1160),
- b. the review of and update, as necessary, sections 2.3, 3.3, 4.3 and 5.3 on "Instrumentation and methods of observation" of the Manual on WIGOS (WMO-No. 1160); and
- c. identification of any other parts of the WIGOS community that may need to review and update their own regulatory and guidance material to remain consistent with updates introduced in the Guide to Meteorological Instruments and Methods of Observation (WMO-No. 8).

Note that agenda item 4 considers the broader question of whether any other best practices described in the CIMO Guide need to be elevated to standard practices and procedures hence moved into the Manual on WIGOS.

Annexes: I - [Extract from the Introduction to the Guide to WIGOS \(WMO-No. 1165\);](#)

II - [Draft timeline for further development of the WIGOS Regulatory Material and the guidance material for the Guide to WIGOS.](#)

References:

[Resolution 2 \(EC-68\)](#)

3 WIGOS REGULATORY AND GUIDANCE MATERIAL

3.1 Background information

In accordance with the Plan for the WIGOS Pre-operational Phase ([Resolution 2 \(EC-68\)](#)), the key priority area 2 (WIGOS Regulatory Material complemented with necessary guidance material to assist Members with the implementation of the WIGOS technical regulations), the following key items with milestones were proposed:

- (a) Updates to Manual on WIGOS by EC-69 and/or EC-70; a new edition by Cg-18;
- (b) Initial version of the Guide to WIGOS, including guidelines on OSCAR/Surface, WIGOS Metadata, and Station Identifiers, by July 2016;
- (c) Guidance on National WIGOS Development and Partnerships, by end of 2016;
- (d) Guidance on RWCs, their capabilities and performance evaluation, by end of 2016;
- (e) WIGOS guidance on Data Partnerships, Lifecycle Data Management and Data Stewardship, including integration of observations from multiple sources, progressively from 2016;
- (f) Standards and recommendations supported by best practices and procedures for implementation of the RBON by all regional associations; developed by end of 2017;
- (g) Standards and recommendations supported by best practices and procedures for surface-based remote sensing (mainly weather radars and wind profilers) by end of 2017;
- (h) Standards and recommendations supported by best practices and procedures for improving observational data and products quality (WIGOS Data Quality Monitoring) by end of 2017;
- (i) Guidance on the transition of existing observing systems to meet WIGOS requirements and standards, by end of 2017;
- (j) Guide to WIGOS fully developed by Cg-18.

These items are being tackled in a context where the legacy of the WIGOS Implementation Phase (2011-2015) is to:

- A. Consolidate WIGOS regulations in the Technical Regulations (WMO-No. 49), Vol I, Part I and the Manual on WIGOS (WMO-No. 1160). This includes the full migration of material from the Manual on the GOS (WMO-No. 544) to the Manual on WIGOS, an action that has proceeded in steps and is approaching completion, as well as elevation of relevant CIMO material to this Manual rather than initiate separately a new Manual on IMO, and
- B. Develop the Guide to WIGOS (WMO-No. 1165) as a collection of new guidance about the new WIGOS regulations, while continuing all existing guidance material (such as the CIMO Guide) as companion documents. This "thin layer" approach is described in the introduction to the Guide to WIGOS with the words below and illustrated by a list of documents which is reproduced here in Annex 1:

"The development of this Guide takes a thin-layer approach, meaning that it aims only to publish additional, new material which complements the material in existing Guides. All guidance relating to observing systems in any of the WMO Guides or Manuals is effectively WIGOS guidance material."

3.2 Progress achieved

The progress achieved up to January 2018 can be summarized as follows:

- (a) Manual on WIGOS (WMO-No. 1160): EC-69 adopted all changes recommended by CBS-16; a special focus was given to the further development of the WIGOS Metadata Standard; now it is published as a stand-alone document (WMO-No. 1192);

Drafting a new edition of the Manual on WIGOS, including the transition of the Manual on GOS (WMO-No. 544) is under progress; in this regard, the Manual on GOS (WMO-No. 544) has been reviewed by the relevant staff of the Secretariat (OBS and CLW departments), ICG-WIGOS/WEdB and several CBS, CCI, CAgM and GCOS experts. Based on this review, related provisions have been proposed to be incorporated in the Manual on WIGOS (WMO-No. 1160) and updated as appropriate by February 2018.

- (b) Initial version of the [Guide to WIGOS](#) (WMO-No. 1165) was published;
- (c) Technical guidance "[Establishing a Regional WIGOS Centre in pilot mode](#)" was endorsed by EC-69, available under [WIR](#);
- (d) "Guidance on WIGOS Data Partnerships" was developed and will be incorporated in the 2017 update of the [Guide to WIGOS](#).

Draft timeline for further development of the WIGOS Regulatory Material for the Manual on WIGOS and the guidance material for the Guide to WIGOS is reproduced in Annex 2 to the document.

3.3 Requests for CIMO-EdBd-1 reviews and recommendations

To complete its work, the WIGOS Editorial Board would greatly benefit from reviews and recommendations from the CIMO-EdBd-1 as follows:

- (a) the transition of the Part III, "3. Equipment and methods of observation" of the Manual on GOS (WMO-No. 544) to the Manual on WIGOS (WMO-No. 1160):

This material is partly now duplicated and no longer necessary and partly intended to move to the Manual on WIGOS under the new section 5.3. The mark-ups in Part III Chapter 3 of [Reviewed Manual on GOS \(WMO-No. 544\)](#) indicate the intended treatment.

- (b) review and update as necessary of sections 2.3, 3.3, 4.3 and 5.3 on "Instrumentation and methods of observation" of the Manual on WIGOS (WMO-No. 1160), see [Draft Manual on WIGOS \(WMO-No. 1160\)](#):

In particular there are several entries under 2.3 and 3.3 indicating "The corresponding text from the Guide to Meteorological Instruments and Methods of Observation (WMO-No. 8) will be included as an appendix in a future edition of the present Manual". Such text is now needed for the next edition of the Manual on WIGOS.

- (c) Identification of any other parts of the WIGOS community that may need to review and update their own regulatory and guidance material to remain consistent with updates introduced in the Guide to Meteorological Instruments and Methods of Observation (WMO-No. 8).
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ANNEX I**Extract from the Introduction to the Guide to WIGOS (WMO-No. 1165):****List of related publications**

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Here is the list of the publications related to the Guide to the WMO Integrated Global Observing System (WMO-No. 1165). The most relevant are indicated by an asterisk (*) following the publication name. Publications are also referenced within sections of this initial Guide where there is a very specific point to be highlighted. All these publications are available at <http://library.wmo.int/opac/index.php>. The search can be done by filling in either the "WMO/No." or "WMO/TD-No." fields with the corresponding publication number.

- (a) Technical Regulations (WMO-No. 49), Volumes I–III*
- (b) Manuals:
 - (i) Manual on Codes (WMO-No. 306), Volumes I.1 and I.2
 - (ii) Manual on the Global Telecommunication System (WMO-No. 386)
 - (iii) International Cloud Atlas (WMO-No. 407)
 - (iv) Manual on the Global Observing System (WMO-No. 544), Volume I*
 - (v) Manual on the WMO Information System (WMO-No. 1060)
 - (vi) Manual on the WMO Integrated Global Observing System (WMO-No. 1160)*
- (c) Guides:
 - (i) Guide to Meteorological Instruments and Methods of Observation (WMO-No. 8)*
 - (ii) Guide to Climatological Practices (WMO-No. 100)*
 - (iii) Guide to Agricultural Meteorological Practices (WMO-No. 134)
 - (iv) Guide to Hydrological Practices (WMO-No. 168), Volume I*
 - (v) Guide on the Global Data-processing System (WMO-No. 305)
 - (vi) Guide to the Global Observing System (WMO-No. 488)*
 - (vii) Guide to the Quality Management System for the Provision of Meteorological Service for International Air Navigation (WMO-No. 1001)
 - (viii) Guide to the Implementation of a Quality Management System for National Meteorological and Hydrological Services (WMO-No. 1100)
 - (ix) Guide to the WMO Information System (WMO-No. 1061)
 - (x) Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology (WMO-No. 1083), Volume I
- (d) Technical documents/technical notes:
 - (i) Baseline Surface Radiation Network (BSRN), Operations Manual, World Climate Research Programme Publication Series No. 121 (WMO/TD-No. 1274)
 - (ii) Global Atmosphere Watch Measurements Guide, GAW Report No. 143 (WMO/TD-No. 1073)
 - (iii) Guide to the GCOS Surface Network (GSN) and GCOS Upper-air Network (GUAN), GCOS Report No. 144 (WMO/TD-No. 1558; 2010 update of GCOS-73)
 - (iv) International Meteorological Tables (WMO-No. 188, TP 94)*

- (v) Manual on Sea Level Measurement and Interpretation, JCOMM Technical Report No. 31 (WMO/TD-No. 1339), Volume IV
- (vi) Note on the Standardization of Pressure Reduction Methods in the International Network of Synoptic Stations, Technical Note No. 61 (WMO-No. 154, TP 74)
- (vii) WMO Global Atmosphere Watch (GAW) Strategic Plan: 2008–2015 – A Contribution to the Implementation of the WMO Strategic Plan: 2008–2011, GAW Report No. 172 (WMO/TD-No. 1384)*
- (e) Guidelines and other related publications:
 - (i) WIGOS Metadata Standard (WMO-No. 1192)
 - (ii) Aircraft Meteorological Data Relay (AMDAR) Reference Manual (WMO-No. 958)
 - (iii) GAW reports
 - (iv) The GCOS Reference Upper-air Network (GRUAN) – Manual, WIGOS Technical Report No. 2013-02, GCOS Report No. 170
 - (v) The GCOS Reference Upper-air Network (GRUAN) – Guide, WIGOS Technical Report No. 2013-03, GCOS Report No. 171
 - (vi) Hydrology and Water Resources Programme (HWRP) manuals
 - (vii) JCOMM catalogue of practices and standards (WMO Manuals and Guides, and observation standards, such as manuals and guides of the Intergovernmental Oceanographic Commission)
 - (viii) Marine Meteorology and Oceanography Programme publications and documents
 - (ix) Sixth WMO Long-term Plan (2004–2011) (WMO-No. 962)
 - (x) Guidelines for the Education and Training of Personnel in Meteorology and Operational Hydrology (WMO-No. 258), Volumes I and II

ANNEX II**Draft timeline for further development of the WIGOS Regulatory Material and the guidance material for the Guide to WIGOS**

Time	Manual on WIGOS (WMO-No. 1160)	Guide to WIGOS (WMO-No. 1165)
March 2018	Draft Vol. I, Part I and Manual submitted to P-TCs for the "technical" review by all TCs, GCOS, GCW (by May)	
June 2018	Feedback from TCs incorporated	
June 2018 (EC-70)	Status (the draft as INF) submitted (for guidance/recommendations)	Draft update submitted for approval
June-Aug 2018	Draft Vol. I, Part I (WMO-No. 49) and Manual translated to all WMO languages	
Sept 2018	Draft Vol. I, Part I (WMO-No. 49) and Manual submitted to WMO Members for review (by Nov)	Further update
Dec 2018	Feedback from Members incorporated	
Jan/Feb 2019 ICG-WIGOS-8	Draft Vol. I, Part I (WMO-No. 49) and Manual approved by ICG-WIGOS-8	Draft approved by ICG-WIGOS-8
1 st Q 2019	New versions submitted for approval by Cg-18	Guide to WIGOS submitted for approval by Cg-18