



GRUAN interaction with the WIGOS metadata task team

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Outline



Royal Netherlands
Meteorological Institute
*Ministry of Infrastructure and the
Environment*

- WIGOS
- GRUAN interaction
- Discussion

WMO Integrated Global Observing System

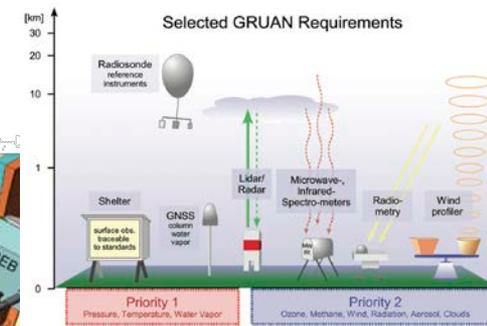
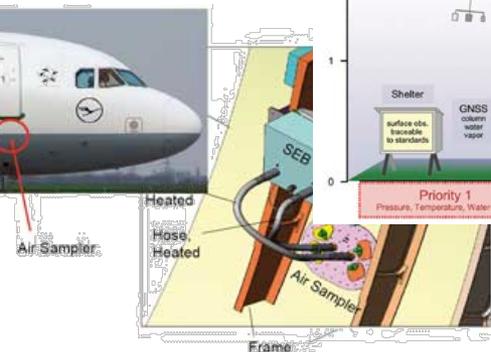
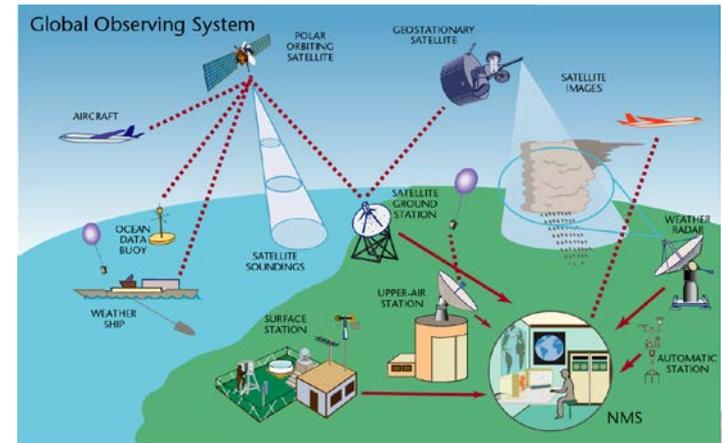
- A new framework for advancing, integrating and coordinating WMO and co-sponsored observing systems.
- WIGOS is one of the WMO five strategic priorities, and it lays the foundations for each of the other four, especially the Global Framework for Climate Services, Disaster Risk Reduction and Capacity Development.
- By strengthening the global monitoring of the Earth's atmosphere, ocean surface and hydrology, WIGOS will greatly improve the information and forecasts available to decision-makers and society as a whole.

WIGOS: A future observing framework for WMO



WIGOS Observing Systems

- Global Observing System (WWW/**GOS**)
- Observing component of Global Atmospheric Watch (**GAW**)
- WMO Hydrological Observations (including **WHYCOS**)
- Observing component of Global Cryosphere Watch (**GCW**)
- Pilot projects, include **AMDAR**, **GRUAN**





- The **WIGOS Framework Implementation Plan (WIP)** details the activities that WMO and its partners will undertake from 2012 to 2015 in order to establish an operational WIGOS by 2016.
- The plan focuses on integrating governance and management mechanisms, functions and activities among the contributing systems.
- Goals include:
 - improving the quality and availability of data
 - improving the quality and availability of metadata
 - developing capacity
 - improving access to data

Key Implementation activities



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- 1 Management of WIGOS implementation
- 2 Collaboration with the WMO co-sponsored observing systems and international partner organizations and programmes
- 3 Design, planning and optimized evolution
- 4 Integrated observing system operation and maintenance
- 5 Integrated quality management
- 6 Standardization, systems interoperability and data compatibility
- 7 The WIGOS Operational Information Resource (WIR)
- 8 Data discovery, delivery and archiving
- 9 Capacity Development
- 10 Communications and outreach

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GRUAN is a WIGOS pilot project (WPP)

Project Aims

- ... Provide an interface for GRUAN to the implementation of WIGOS, to WMO in general, and to other WPPs, the GSICS WPP in particular...

The Pilot Project has the following deliverables:

- (iv) Develop proposal to define data dissemination among all GRUAN partners, including GRUAN Metadata congruent with WIS metadata standards (Mar'10)

Terms of Reference for **Task Team on the WIGOS Metadata (TT-WMD)**

Last updated: 10/16/2013

- (a) To identify the information that is needed to allow the majority of users to use WIGOS observations in appropriate contexts and in a defensible way;
- (b) To create the WIGOS Core Metadata Standard that allows the essential information to be exchanged unambiguously, regardless of the format used for the transfer;
- (c) To define a mechanism for maintaining the WIGOS Core Metadata Standard, including how metadata might be provided that is additional to the Core and coordinate with the ICG-WIGOS Task Team on Regulatory Material (TT-WRM) on any appropriate documentation as needed for WIGOS related Manuals and Guides;
- (d) To implement within the WIGOS Core Metadata Standard, and the WMO Core Metadata Profile, a standard method of providing users with an indication of the quality of the data, and to do so in a way that distinguishes with the quality management of the data (“quality of the observation”) and ensuring that the user is able to identify which applications the data are suitable for (“classification” of the observation”);
- (e) To coordinate regularly with the ICG-WIGOS as needed and report at least annually to the ICG-WIGOS on the progress;
- (f) To complete its tasks and hand over additional requirements to its successor (if required) in time for approval by Cg-17.

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Preparation of document

WIGOS Core Metadata – Semantic Standard, Draft Specification

Discovery metadata

- Information that facilitates data discovery, access and retrieval. These metadata are WIS metadata and are specified and handled as part of WIS.

Interpretation metadata

- Information that enables data values to be interpreted in context. These latter metadata are WIGOS metadata and are the subject of this specification, which provides a WIGOS-wide standard for the minimum interpretation metadata set (the '**core**' **metadata set**) required for the effective interpretation of data from all WIGOS observing sub-systems by all data users.

This document is a **semantic standard**, not an implementation guideline. It does not specify how the information shall be encoded and exchanged.

Elements are classified as either

- **Mandatory**
Important for all WMO Technical Commissions
- **Conditional**
Must be reported under certain conditions
- **Optional**
Provide useful information that can help to better understand an observation. As is to be expected for a 'core' metadata standard, very few elements are considered optional. Optional elements are likely to be important for a particular community, but less so for others.

Core Metadata Categories



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1	observed quantity	The specification of a measurand requires knowledge of the kind of quantity, description of the state of the phenomenon, body, or substance carrying the quantity, including any relevant component, and the chemical entities involved. [VIM3, 2.3].	M
2	purpose of observation	Specifies the main application area of an observation and the observation program an observation is affiliated to.	M
3	data quality	Specifies the data quality and traceability of an observation or dataset	M
4	environment	Specifies the geographical setting within which an observation was made	M
5	data processing	Specifies how raw data are transferred into the reported physical quantities	M
6	sampling and analysis	Specifies how the observation was made or a specimen collected	M
7	station/platform	Environmental monitoring facilities, including fixed stations, moving equipment or remote sensing platforms, at which an observed quantity is measured using an instrument.	M
8	instrument	Specifies characteristics of the instrument used to make the observation	M
9	ownership and data policy	Specifies who is responsible for the observation and owns it	M
10	contact	Specifies where information about an observation or dataset can be obtained	M

Summary



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- WIGOS implementation is under way
- GRUAN is involved as a pilot project
- GRUAN is involved in WIGOS Meta Data Task Team
- A specification of core metadata has been drafted
- Involved in review
- Link with GRUAN data streams