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| WEATHER CLIMATE WATER | **World Meteorological Organization**  **COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS**  **Third Session** 15 to 19 April 2024, Geneva | **INFCOM-3/Doc. 8.2(7)** |
| Submitted by: Chair of SC-MINT  23.II.2024  **DRAFT 1** |

**AGENDA ITEM 8: TECHNICAL DECISIONS**

**AGENDA ITEM 8.2: WMO Integrated Global Observing System - measurements**

# Upper-air instrument intercomparison follow-up

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| **Summary** |
| **Document presented by:** Chair of Standing Committee on Measurements, Instrumentation and Traceability (SC-MINT)  **Strategic objective 2024–2027:** 2.1: “Optimize the acquisition of Earth system observation data through the WMO Integrated Global Observing System (WIGOS)”  **Financial and administrative implications:** Strategic and Operating Plans 2024–2027.  **Key implementers:** INFCOM, Members and Instrument Manufacturers  **Timeframe:** 2024-2027  **Action expected:** Review and adopt the proposed draft decision |

# DRAFT DECISION

## Draft Decision 8.2(7)/1 (INFCOM-3)

### Follow-up to the 2022 Upper-Air Instrument Intercomparison

**The Commission for Observation, Infrastructure and Information Systems,**

**Noting** with appreciation the recent publication of the Report of WMO 2022 Upper-Air Instrument Intercomparison Campaign, as well as the publication of the software code that was used for the data analysis,

**Underlines** the critical role of upper-air measurements for several application areas, and the importance of knowing the quality of these measurements;

**Recalling** that upper-air measurements comprise a significant part of the data being exchanged through the Global Basic Observing Network (GBON),

**Invites** instrument manufacturers to follow up on the recommendations for improvements of upper-air observing systems as provided in the intercomparison report (e.g. calibration of humidity sensors, time lag behaviour of humidity at low temperatures between -40 C and - 85 C), and to continue their efforts to reduce the environmental impact of those systems;

**Invites** Members to use the intercomparison report, while cautioning that other sources of information are also relevant for selecting observing systems that meet their requirements, and that systems that did not take part in the intercomparison should also be taken into consideration;

**Urges the Standing Committee on Earth Observing Systems and Monitoring Networks (SC-ON) to ensure** that the Observing Systems Capability Analysis and Review tool (OSCAR) requirements include clear references on their justification and on how they were derived;

**Decides:**

1. To request the Standing Committee on Measurements, Instrumentation and Traceability (SC-MINT) to update the relevant chapters of the [*Guide to Instruments and Methods of Observation*](https://library.wmo.int/records/item/41650-guide-to-instruments-and-methods-of-observation?language_id=13&back=&offset=4) (WMO-No. 8), taking into account the results of the intercomparison;
2. To request SC-MINT and the Standing Committee on Information Management and Technology (SC-IMT) to facilitate the access to existing radiosonde codes (including their documentation) and facilitate the attribution of codes to newly developed radiosonde systems;

**Recognizing** the importance of conducting regular upper-air instrument intercomparisons to stimulate innovation and to demonstrate the performance of new systems,

**Invites** Measurement Lead Centres and Members represented on the Commission, in collaboration with INFCOM:

1. To help in verifying the correctness of the binary universal form for the representation of meteorological data (BUFR) data generated by new radiosonde systems;
2. To consider hosting future upper-air instrument intercomparisons, building on the experience gained through this intercomparison.

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Decision justification: The Report of the WMO 2022 Upper-Air instrument Intercomparison Campaign has been published recently and includes a number of recommendations to WMO, Members and manufacturers.

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