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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(6)** |
| Submitted by: Chair of SC-MINT  21.II.2024  **DRAFT 1** |

**AGENDA ITEM 8: TECHNICAL DECISIONS**

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

# future instrument intercomparisons

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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:** within the parameters of the Strategic and Operating Plans 2024–2027.  **Key implementers:** INFCOM, World Radiation Centre, and voluntary Members  **Time frame:** 2024–2027  **Action expected:** review and adopt the proposed draft decision |

# DRAFT DECISION

## Draft Decision 8.2(6)/1 (INFCOM-3)

**Future instrument intercomparisons**

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

**Underlines** the importance of instrument intercomparisons to assess the performance of different types of instruments, and related observing methods,

**Welcomes** the interest expressed by several expert teams and Members to conduct instrument intercomparisons,

**Recognizes** the challenges linked to the resources needed for the organization of global intercomparisons,

**Agrees** on the relevance of performing intercomparisons related to automatic weather stations, radiation instruments, upper-air instruments, non-catchment precipitation gauges, stream gauges, measurement algorithms, interlaboratory comparisons, and possibly other topics, taking into consideration the availability of resources;

**Recalls** that International Pyrheliometer Comparisons and International Pyrgeometer Comparison are organized at least every five years by the World Radiation Centre to ensure the stability of the World Standard Group and the World Infrared Standard Group and to disseminate the related references globally, the next intercomparisons being planned for 2025,

Invites Members represented on the commission, especially those hosting Measurement Lead Centres:

1. To share procedures related to the testing of Automatic Weather Stations (AWSs), in particular of all-in-one AWSs and lower-cost AWSs with SC-MINT;
2. To conduct experiments related to the implementation of the Siting Classification for Surface Observing Stations on Land that could quantify the impact of obstacles on the measurements, and to publish those results, or share them with SC-MINT in view of the update of this classification scheme;
3. To share results from experiments conducted on non-catchment precipitation gauges, and to possibly express interest to actively take part in an intercomparison of non-catchment precipitation gauges (e.g., providing a test site and/or calibration facilities, contribute to defining the scope and protocol of the intercomparison);
4. To publish results of instrument intercomparisons performed at national level for the benefit of other Members, possibly as [Instruments and Observing Method reports](https://library.wmo.int/records/?refine%5bSerial%5d%5b%5d=Instruments+and+Observing+Methods+%28IOM%29+Report);
5. To consider hosting future WMO instrument intercomparisons, being mindful of the resource implications on their services.

**Requests** SC-MINT:

1. To collaborate with potential intercomparison leads in reviewing the detailed plans/concept notes for instrument intercomparisons that would address Members needs and be conducted either as WMO activities, or as multi-lateral activities;
2. To prioritize intercomparisons, taking into account the SC-MINT workload and availability of resources, WMO priorities and the maturity of the proposals/plans that are submitted for review, and their potential/expected impact;
3. To develop guidelines for the intercomparison of all-in-one AWSs that could later be applied by Members in conducting a distributed intercomparison of all-in-one AWSs.

See [INFCOM-3/INF. 8.2(6)](https://meetings.wmo.int/INFCOM-3/English/Forms/AllItems.aspx) for more information.

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Decision justification: [Resolution 32 (EC-76)](https://library.wmo.int/idviewer/66258/1137) stresses the importance of the intercomparisons in planning for the anticipated radiation reference changes. WMO instrument intercomparisons have a strong impact on choices of instruments by Members and stimulate new developments. However, the organization of global intercomparisons are challenging because of the resources required for their organization. In view of the limited expert and Secretariat resources available, SC-MINT can oversee only a few global intercomparisons at the same time. Comparisons performed at national and multilateral level are also valuable and should be encouraged.

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