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| WEATHER CLIMATE WATER | **World Meteorological Organization**  **WORLD METEOROLOGICAL CONGRESS**  **Nineteenth Session** 22 May to 2 June 2023, Geneva | **Cg-19/Doc. 4.2(4)** |
| Submitted by: President of Infrastructure Commission  22.V.2023  **DRAFT 2** |

**AGENDA ITEM 4: TECHNICAL STRATEGIES SUPPORTING LONG-TERM GOALS**

**AGENDA ITEM 4.2: Earth system observations and predictions**

# Climate AND HYDROLOGY data management within the WMO INFORMATION SYSTEM 2.0

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| **Summary** |
| **Document presented by:** the President of the Commission for Observation, Infrastructure and Information Systems (INFCOM) in response to [Recommendation 19 (INFCOM-2)](https://library.wmo.int/doc_num.php?explnum_id=11575#page=845) - Climate Data Management in the WMO Information System 2.0, contained in document [INFCOM-2/Doc. 6.3(1).](https://meetings.wmo.int/INFCOM-2/English/2.%20PROVISIONAL%20REPORT%20(Approved%20documents)/INFCOM-2-d06-3(1)-IMPLEMENTATION-WIS-2-0-approved_en.docx?Web=1)  **Strategic objective 2020–2023:** 2.2  **Financial and administrative implications:** within the parameters of the Strategic and Operational Plans 2020–2023, will be reflected in the Strategic and Operational Plans 2024–2027.  **Key implementers:** INFCOM, SERCOM.  **Time frame:** 2023 – 2027  **Action expected:** review and approve the draft resolution. |

# DRAFT RESOLUTIONS

## Draft Resolution 4.2(4)/1 (Cg-19)

## Climate Data Management in the WMO Information System 2.0

THE WORLD METEOROLOGICAL CONGRESS,

**Recalling:**

(1) [Resolution 21 (EC-73](https://library.wmo.int/doc_num.php?explnum_id=11008/#page=363)) - Modernization of climate data – open-source Climate Data Management System,

(2) [Resolution 22 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008/#page=365) - WMO Information System 2.0 Implementation Plan, functional architecture and demonstration projects,

(3) [Resolution 22 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=95) - Manual on High-quality Global Data Management Framework for Climate (WMO-No. 1238),

(4) [Resolution 16 (Cg-16)](https://library.wmo.int/doc_num.php?explnum_id=3429/#page=213) – Climate Data Requirements,

**Having examined** [Recommendation 19 (INFCOM-2)](https://library.wmo.int/doc_num.php?explnum_id=11575#page=845) – Climate Data Management in the WMO Information System 2.0,

**Welcomes** the progress made in the development of a reference implementation of a Climate Data Management System (OpenCDMS) as reported in [INFCOM-2/INF. 6.3(1.4)](https://library.wmo.int/doc_num.php?explnum_id=11566#page=727),

**Endorses** the further development of a WMO Climate Data Model, its use in the OpenCDMS, and the integration in the WIS 2.0 technical framework as described in [INFCOM‑2/INF. 6.3(1.3)](https://library.wmo.int/doc_num.php?explnum_id=11566#page=721).

**Requests**:

(1) INFCOM in close collaboration with SERCOM to harmonize the technical regulations and guidance related to climate data and observations across the [*Manual on High-quality Global Data Management Framework for Climate*](https://library.wmo.int/index.php?lvl=notice_display&id=21686) (WMO-No. 1238), the *[Manual on the WMO Information System](https://library.wmo.int/index.php?lvl=notice_display&id=9254" \l ".ZGtU3XZBw2w)* (WMO-No. 1060), the *[Manual on the WMO Integrated Global Observing System](https://library.wmo.int/index.php?lvl=notice_display&id=19223" \l ".ZGtUQnZBw2w)* (WMO-No. 1160), the *[Manual on Marine Meteorological Services](https://library.wmo.int/index.php?lvl=notice_display&id=9784" \l ".ZGtVEnZBw2w)* (WMO-No. 558) and other related technical regulations and guidance; [*Secretariat*]

(2) SERCOM in close collaboration with INFCOM to draft a new section on climate services for inclusion in Part IV, Volume I of the WMO *[Technical Regulations](https://library.wmo.int/index.php?lvl=notice_display&id=14073" \l ".ZGtVdXZBw2w)* (WMO-No. 49). [*France*]

(3) SERCOM to support INFCOM in refining understanding of Member’s needs relating to climate data management, determining the priority of which climate and hydrology data should be managed within OpenCDMS, and the means that data should be made available for use in products and services. [*UK*]

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See [Cg-19/INF. 4.2(4a)](https://meetings.wmo.int/Cg-19/InformationDocuments/Forms/AllItems.aspx) and [Cg-19/INF. 4.2(4b)](https://meetings.wmo.int/Cg-19/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-19/InformationDocuments/Cg-19-INF04-2(4b)-ASSESSMENT-REPORT-WMO-CLINO-COLLECTION_en.docx&action=default) for more information.

## Draft Resolution 4.2(4)/2 (Cg-19)

## Hydrological Data Management in the WMO Information System 2.0

THE WORLD METEOROLOGICAL CONGRESS,

**Recalling:**

(1) [Resolution 21 (Cg- XII)](https://library.wmo.int/doc_num.php?explnum_id=6033/#page=107) – Global Runoff Data Centre (GRDC),

(2) [Resolution 14 (Cg-XVI)](https://library.wmo.int/doc_num.php?explnum_id=3429/#page=207) – World Hydrological Cycle Observing System (WHYCOS),

(3) [Resolution 25 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827#page=103) Major hydrological Initiatives,

(4) [Resolution 3.2(20)/1 (EC-76)](https://meetings.wmo.int/EC-76/_layouts/15/WopiFrame.aspx?sourcedoc=/EC-76/English/2.%20PROVISIONAL%20REPORT%20(Approved%20documents)/EC-76-d03-2(20)-WHOS-OPERATIONAL-IMPLEMENTATION-approved_en.docx&action=default) – WMO Hydrological Observing System (WHOS) Operational Implementation,

(5) [Resolution 4 (Cg-Ext (2021))](https://library.wmo.int/doc_num.php?explnum_id=11113/#page=36) – Vision and strategy for hydrology and associated plan of action,

**Recognizing** GRDC, as a major centre for supporting the implementation of WHOS, the Global Hydrological Status and Outlook System (HydroSOS), and serving also the other major initiatives of the Organization, especially in the framework of the [WMO Plan of Action for Hydrology 2022 - 2030](https://www.hydroref.com/wmo/hcp/index.php),

**Reaffirming** the importance of WHYCOS as a priority activity supporting the observing components of the WMO Plan of Action for Hydrology, complemented [*Secretariat*] by the Global Hydrometry Support Facility (HydroHub), with the main objectives of:

(1) Strengthening technical, human and institutional capacities of Member States in sustainable and effective hydrological data collection and management and in the development and dissemination of data and information products,

(2) Promoting regional and international cooperation in the sharing of hydrological data and the management of shared water resources,

(3) Supporting the implementation of the Early Warning for All initiative,

**Also reaffirming** the ownership by WMO of WHYCOS and its Hydrological Cycle Observing System (HYCOS) components and the central role of the Secretariat as a provider of technical and scientific support with a view to ensuring the achievement of the programme goals, consistency among components, and the exchange of data, tools and expertise and the integration of hydrological monitoring into the Earth System Approach,

**Recognizing also** the diverse nature of hydrological data and the importance of implementing WHOS to support data sharing among National Meteorological and Hydrological Services (NMHSs), river basins, and other hydrological data providers) required by the implementation of the WMO Unified Data Policy ([Resolution 1 (Cg-Ext(2021))](https://library.wmo.int/doc_num.php?explnum_id=11113#page=9) - WMO Unified Policy for the International Exchange of Earth System Data, HydroSOS and Early Warning For All, and as a key activity in the [WMO Plan of Action for Hydrology 2022 - 2030](https://www.hydroref.com/wmo/hcp/index.php),

**Taking note** of the success of WHOS pilot in La Plata basin, Arctic HYCOS, and Sava River Basin and the alignment of WHOS with WIS2.0,

**Encourages** Members:

(1) To support the GRDC, through the provision of the hydrological data and related information that they need;

(2) To consider also providing support to the Centre in the form of staff, funding, and other resources;

**Urges** Members and regional institutions to support the implementation of WHOS within their territories, as a hydrological component of WIS 2.0;

**Requests** the Secretary-General:

(1) To invite other international and regional organizations to cooperate with WMO to contribute to WHYCOS and the HydroHub implementation, and to make use of its achievements;

(2) To provide all possible support to WHYCOS and the HydroHub development from available resources and to seek additional resources for this purpose from external sources.

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Note: This resolution replaces [Resolution 21 (Cg-XII)](https://library.wmo.int/doc_num.php?explnum_id=6033#page=107) - Global Runoff Data Centre (GRDC) and [Resolution 14 (Cg-XVI)](https://library.wmo.int/doc_num.php?explnum_id=3429#page=207) - World Hydrological Cycle Observing System, which are no longer in force.