|  |  |  |
| --- | --- | --- |
| . WEATHER CLIMATE WATER | **World Meteorological Organization**  **COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS**  **First Session (Third Part)** 12 to 16 April 2021, Virtual Session | **INFCOM-1(III)/ Doc. 5.1.3(3)** |
| Submitted by: Secretary-General  25.III.2021  **DRAFT 1** |

**AGENDA ITEM 5: TECHNICAL REGULATIONS AND OTHER TECHNICAL DECISIONS**

**AGENDA ITEM 5.1: Recommendations from INFCOM Standing Committees and Study Groups**

***AGENDA ITEM 5.1.3: Standing Committee on Information Management and Technology (SC-IMT)***

**MODERNIZATION OF CLIMATE DATA – OPEN CDMS PROJECT**

|  |  |
| --- | --- |
| **Summary** | |
| Reference: | [Resolution 22 (Cg-18)](https://library.wmo.int/index.php?lvl=notice_display&id=21440#.YEjj2WhKiUk) - Manual on High-Quality Global Data Management Framework for Climate |
| Strategic Objective: | 2.2 |
| Recommended by: | Secretary-General |
| Recommended for: | Adoption without debate  Adoption with debate |
| Financial implications: | Operating Plan 2021, Output 2.2.01 |
| Content: | 1 Recommendation |
| Related INF(s): | [INF 5.1.3(3)](https://meetings.wmo.int/INFCOM-1-III/InformationDocuments/Forms/AllItems.aspx) |
| Main changes to previous version: | *[For DRAFT 2, 3, etc. and APPROVED versions only]* |

# DRAFT RECOMMENDATION

## Draft Recommendation 5.1.3(3)/1 (INFCOM-1(III))

**Modernization of climate data – OpenCDMS project**

The Commission for Observation, Infrastructure and Information Systems,

**Recalling** the request of the Eighteenth Session of the World Meteorological Congress (Cg-18) to support the development of a reference open-source Climate Data Management System ([Resolution 22 Cg-18](https://library.wmo.int/index.php?lvl=notice_display&id=21440#.YEjj2WhKiUk) - Manual on High-Quality Global Data Management Framework for Climate),

**Noting** the collaboration between the Commission for Observation, Infrastructures and Information Systems (INFCOM) and the Commission for Weather, Climate, Water and Related Environmental Service Applications (SERCOM) on the Climate Data Management Systems (CDMS) as described in [INFCOM-1(III)/INF. 5.1.3(3)](https://meetings.wmo.int/INFCOM-1-III/InformationDocuments/Forms/AllItems.aspx),

**Considering** the progress made in implementing a collaborative framework for developing modern open-source climate data management system solutions for Earth system data, as described in [INFCOM-1(III)/INF 5.1.3(3)](https://meetings.wmo.int/INFCOM-1-III/InformationDocuments/Forms/AllItems.aspx), including through the OpenCDMS project,

**Recommends** to the Executive Council the adoption of the modernization of climate data – CDMS project, throughthe draft resolution provided in the [annex](#Annex_to_draft_Recommendation) to the present Recommendation.

\_\_\_\_\_\_\_\_\_\_

## Annex to draft Recommendation 5.1.3(3)/1 (INFCOM-1(III))

**Draft Resolution ##/1 (EC-##)**

**Modernization of climate data – OpenCDMS project**

THE EXECUTIVE COUNCIL,

**Recalling:**

1. [Resolution 22 (Cg-18)](https://library.wmo.int/index.php?lvl=notice_display&id=21440#.YEjj2WhKiUk) – Manual on High-Quality Global Data Management Framework for Climate,
2. [Resolution 4 (CCl-17)](https://library.wmo.int/index.php?lvl=notice_display&id=20408#.YEjkE2hKiUk) – Climate data modernization,

**Mindful of**:

1. The critical need to underpin modern management of climate, hydrological and other environmental data with a time series component including its regional and global exchange by up-to-date Climate Data Management Systems (CDMS) at national levels,
2. The basic and fundamental nature of CDMSs for managing and archiving climatological, hydrological and other environmental data, and facilitating the generation of high-quality time series data for understanding and monitoring the State of the Climate, and providing data services for various socio-economic sectors and related applications;

**Noting** that only twenty per cent of WMO’s Members consider themselves operating a CDMS that is fully compliant with the [*Climate Data Management System Specifications*](https://library.wmo.int/index.php?lvl=notice_display&id=16300#.YFxlk0BFyUl) (WMO‑No. 1131) (*Source:* WMO Community Platform, December 2019),

**Welcoming** WMO Members’ efforts to collaborate to develop a reference open-source CDMS (OpenCDMS) that is intended to be fully compliant with WMO standards and regulations including the [*Climate Data Management System Specifications*](https://library.wmo.int/index.php?lvl=notice_display&id=16300#.YFxlk0BFyUl) (WMO-No. 1131) and the [*Manual on the High-quality Global Data Management Framework for Climate*](https://library.wmo.int/index.php?lvl=notice_display&id=21686#.YFxmZUBFyUl) (HQ-GDMFC) (WMO-No. 1238),

**Having considered** draft Recommendation 5.1.3(3)/1 (INFCOM-1(III)),

**Decides** to endorse the OpenCDMS aims, scope and roadmap as outlined in the [annex](#_Annex_to_draft_1) to the present draft Resolution;

**Requests** the Commission for Observation, Infrastructure and Information Systems (INFCOM) in close collaboration with the Commission for Weather, Climate, Water and Related Environmental Service Applications (SERCOM) to:

1. Lead the development and implementation of OpenCDMS in accordance with the *[Climate Data Management System Specifications](https://library.wmo.int/index.php?lvl=notice_display&id=16300" \l ".YFxlk0BFyUl)* (WMO-No. 1131) [Republic of South Africa];
2. Ensure that OpenCDMS design principles are consistent with WIS 2.0 Strategy;
3. Update the [*Climate Data Management System Specifications*](https://library.wmo.int/index.php?lvl=notice_display&id=16300#.YFxlk0BFyUl) (WMO-No. 1131) in relation to Information Management;

**Urges** Members to support the evolution of OpenCDMS by providing expertise, human and financial resources;

**Request** the Secretary-General to support the development and implementation of OpenCDMS and assist in mobilizing financial resources for the relevant expert work and for the development of CDMS and implementation activities.

\_\_\_\_\_\_\_\_\_\_\_\_\_

## Annex to draft Resolution ##/1 (EC-##)

**Modernization of climate data – OpenCDMS project**

**1. OpenCDMS aims, scope and roadmap**

The effective management of climate, hydrological and other environmental data (referred to below as Earth system data) is critical for Earth system monitoring, analysis, modelling and prediction – at the national, regional and global levels – and is essential for the effective, timely provision of related services. One of the most important elements in being able to manage Earth system data effectively is having an effective (Climate) Data Management System (CDMS), where ‘Climate’ is considered to be inclusive of Earth system data with a time series component.

**2. OpenCDMS** – **a framework for working together** to improve the Earth system data management by:

1. Improving interoperability among existing CDMSs;
2. Supporting and collaborating with existing projects with the intention of ensuring CDMS users continue to benefit from their existing support structures and services;
3. Creating a reference implementation for a fully compliant next generation CDMS, with guidance from WMO expert teams and a broad range of implementers, adhering to the wider WMO data management approach and modern IT standards and practices.

OpenCDMS aims to address Earth system data management needs of developing and developed countries by setting and implementing global data management standards and good practices, thereby improving data management practices and triggering existing and upcoming data management solutions to adhere to these standards. An installable CDMS software package will be available as free and open-source software with technical assistance provided to Members who wish to use OpenCDMS in the future. The following roadmap reflects the proposed implementation approach and will be periodically reviewed to reflect the progress of the project and required adjustments due to the changing needs of the users.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2019–2020** | **2021–2022** | **2023–2024** | **2025** | **2026-** |
| Eighteenth Session of the World Meteorological Congress requested development of a reference open-source CDMS  OpenCDMS as a framework for collaboration established as a project of the Open WIS Association | User stories, functional requirements and acceptance tests for reference implementation  Development of a next generation data model to be adopted as a WMO standard | OpenCDMS reference implementation presented to the Nineteenth Session of the World Meteorological Congress for endorsement  CDMS data model to be endorsed by Cg-19  Software testing in focus countries | OpenCDMS installable open-source software package available  Start of implementation and training | Continued implementation and training  Maintenance and further development of the OpenCDMS software package |
|  | OpenCDMS prototyping and development | | OpenCDMS implementation | |
| **-> -> Increased collaboration with CDMS developers and user communities, resource mobilization, establishment of a community of practice applying open-source principles ->** | | | | |

\_\_\_\_\_\_\_\_\_