

WMO Catalogue for Climate Data

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WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

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Introduction

The WMO Catalogue for Climate Data:

- Is an online WMO Catalogue for Climate Data which holds and provides access to assessed datasets and related climate indicators;
- Was developed, along with a Manual (part of the WMO Technical Regulations) and an assessment Matrix (WMO SMM-CD), under the High-Quality Global Data Management Framework for Climate (HQ-GDMFC);
- Is hosted and maintained by The Royal Netherlands Meteorological Institute (KNMI) ;
- Is available at <https://climatedata-catalogue.wmo.int>

WMO CATALOGUE FOR CLIMATE DATA

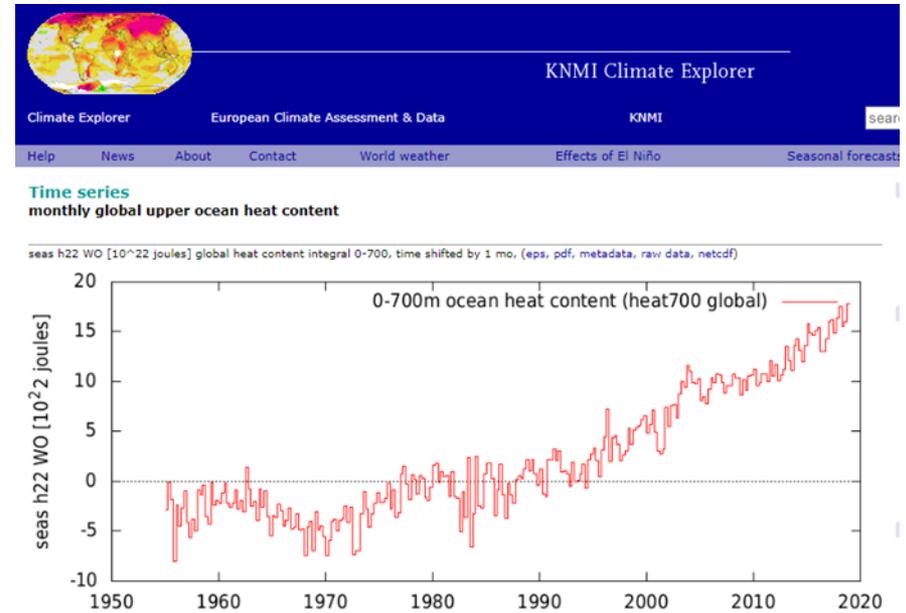
WMO Catalogue for Climate Data

The WMO Catalogue for Climate Data is a trustworthy source for climate data. The datasets have been assessed through an internationally agreed maturity evaluation process. An initial set of 18 global climate datasets has been so far submitted by the international domain Subject Matter Experts (SMEs) and assessed. The content of the catalogue is expected to expand quickly in the future with including other global data sets as well as regional and national climate datasets. Assessed maturity scores and landing pages of the datasets are available below.

Notes:

- (1) The datasets maturity evaluation process uses WMO Stewardship Maturity Matrix for Climate Data (SMM-CD) which is developed and applied under the auspices of the World Meteorological Organization (WMO).
- (2) The datasets linked landing pages are provided by the KNMI Climate Explorer and include data access, metadata and the completed assessment forms among others.

ASSESSED DATASETS	CLIMATE INDICATORS
Temperature: NOMGlobalTemp	Surface Temperature
Temperature: HadCRUT4	CO2 Concentration in the Atmosphere
Temperature: GISTEMP	Ocean Heat Content
Precipitation: GPCC	Sea Level
Precipitation: CoCoRaHS	Ocean Acidification
Sea level: GLOSS	Sea Ice
Sea level: CCI-SeaLevel	Ice Sheets
Sea level: C3S-SeaLevel	Glaciers
Sea Ice: SeaIce Index	Precipitation
Ice sheets: GLAS-DEM-500m	Extreme Indices for Temperature and Precipitation
Ice sheets: GLAS-DEM-1km	
Ice sheets: Antarctica-GRACE	
Ice sheets: Greenland-GRACE	
Glaciers: GLIMS	
Climate indices: HadEX 2	
Hydrology: GRDC	
Marine: WOD13	
Marine: ICOADS	



Assessed Dataset Maturity Score (Averaged)

Accessibility ★★★★★

Usability ★★★★★☆

Stewardship ★★★★★☆

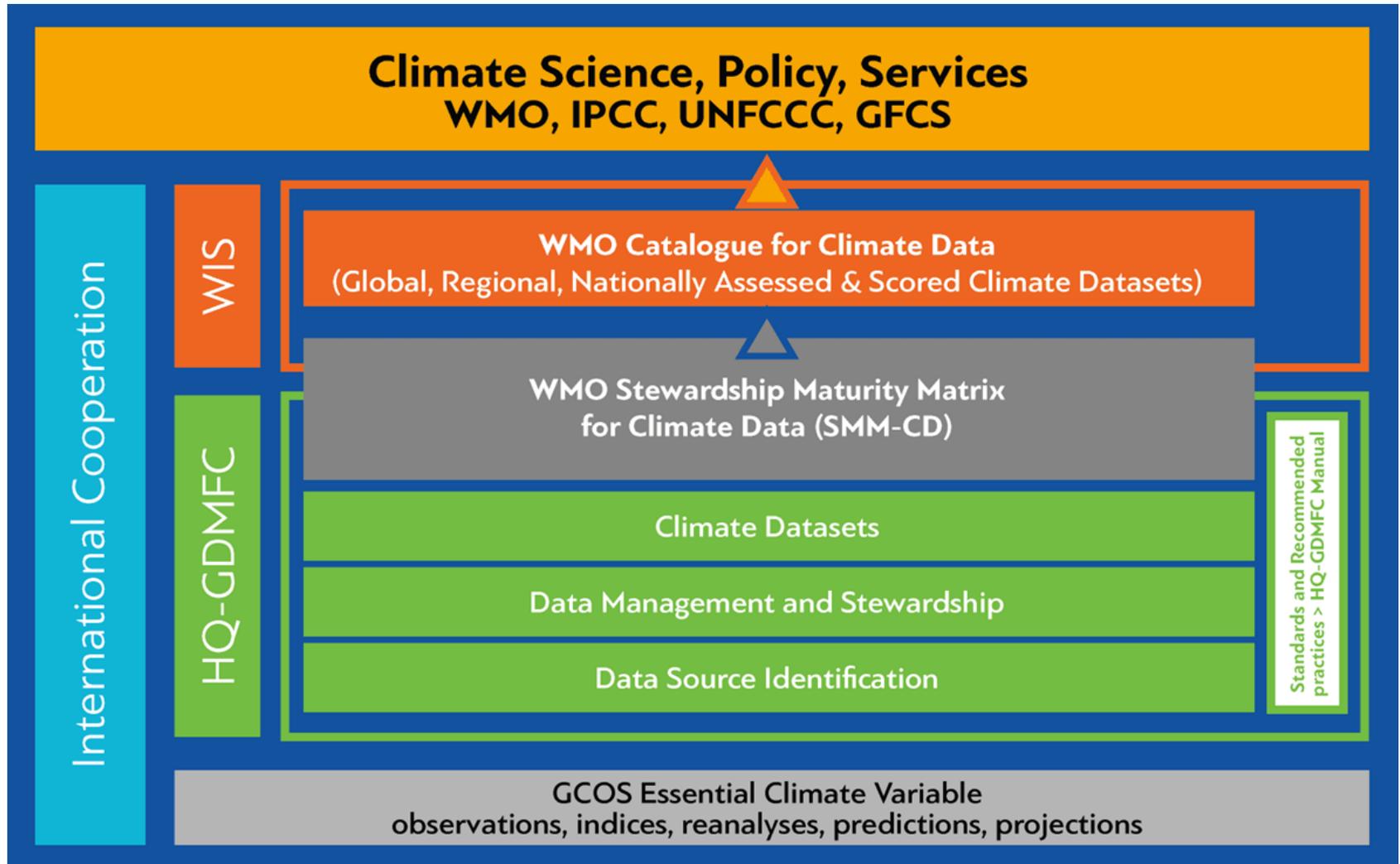
The High Quality Global Data Management Framework for Climate (HQ-GDMFC).

The HQ-GDMFC:

- Is a WMO collaborative initiative that establishes standards and recommended practices for sourcing, securing, managing, assessing and cataloguing climate data, and for sharing infrastructure and responsibilities;
- Enables the effective development and exchange of high-quality climate data, based on reliable integrated underpinning data infrastructure at the global, regional and national levels;
- Represents the first time that the climate community has defined such regulatory requirements through WMO, specifically for the management of climate data;
- Produced a Manual, assessment Matrix and Catalogue that were approved by the 18th WMO Congress in June 2019.



Architecture of the HQ-GDMFC



WMO Catalogue for Climate Data: 18 Initial Global Datasets

Temperature and Precipitation (ECVs) and Climate Indices	Hydrology and Marine Data	Sea Level ECVs	Sea Ice & Ice Sheets & Glacier ECVs
NOAAGlobalTemp	GRDC	GLOSS	Sea Ice Index
HadCRUT4	ICOADS	CCI-SeaLevel	GLAS-DEM-500m
GISTEMP	WOD13	C3S-SeaLevel	GLAS-DEM-1km
GPCC			Antarctica-GRACE
CoCoRaHS			Greenland-GRACE
HADEX2			GLIMS



The Assessment Process

- 18 initial global datasets (In situ, Space-Based, Reanalysis, Gridded, Model) were identified from a list of Essential Climate Variables (ECV) provided by Global Climate Observing System (GCOS) and assessed by International Subject Matter Experts part of the International Expert Group on Climate Data Modernization (IEG-CDM) team;
- All datasets were then reviewed by the Commission for Climatology (CCI) Expert-Team on Data Development and Stewardship (ET-DDS);
- After completion of assessment and review, the datasets were added to the WMO Catalogue for Climate Data portal and linked to the KNMI Climate Explorer where datasets are documented with metadata and can be visualized.



Concluding Remarks and a Way Forward

- Data holders might already have their specific Maturity Assessment tools focusing on relevant aspects and specific needs;
- The WMO SMM-CD matrix and WMO Catalogue for Climate Data focus are on data Accessibility, Usability and Stewardship;
- The interest for applying WMO SMM-CD to datasets has been surveyed in several conferences, workshops and meetings (ESIP 2018, EGU 2019, Climar-5, WGISS-46 & 47, 18th WMO Congress) . It turns out that it has been welcomed by several international and national entities;
- Some of these entities also find it useful as a tool to help audit in-house data-holdings and improve data management;
- The Catalogue is open to any datasets and the Manual defines simple process through a guidance book;
- Next steps include expanding the Catalogue to regional and national datasets. In this regards the CCI ET-DDS team will consider what the potential adjustments in the SMM-CD are to meet the new requirements at regional and national levels;
- We stay ready to collaborate and find synergies.

Thank you

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