

Consultation on Homogenization

How to implement a homogenization process in a NMHS?
(Based on WMO-No. 1245 and community expertise)

Step 1: Prerequisites

- Efficient governance of observing network & data flow
- Compliance with WMO standards (WMO-No. 8)*
- Respect of GCOS Climate Monitoring Principles**
- Knowledge of datasets: metadata, QC, data rescue, Stewardship maturity matrix***

* Guide to Instrument and Methods of Observation

** <https://gcos.wmo.int/site/global-climate-observing-system-gcos/essential-climate-variables/about-essential-climate-variables>

*** Manual on the High-quality Global Data Management Framework for Climate (WMO-No. 1238)



WORLD
METEOROLOGICAL
ORGANIZATION



Step 2: Define Vision & Objectives

- Aligned with national, regional, and global priorities
- Objectives examples:
 - Contribute to climate change research
 - Provide reliable datasets to researchers
 - Develop products and services
 - Support user sectors (energy, health, agriculture, ...)

Step 3: Assess Resources

- Human: staff, expertise, training
- Technical: hardware, software, systems
- Financial: national funding, regional/global support

Step 4: Build a Pragmatic Plan

- Define tasks and responsibilities (who, what, teams)
- Identify required tools (hardware/software/stewardship)
- Ensure sustainability: human resource, security, storage & archiving, update frequency, regional/global data exchange

Key Implementation Tasks

- Strategy according the vision (regions, stations, parameters)
- Homogenize monthly, daily, subdaily, etc.
- Continuously expand dataset length, data completeness, knowledge on metadata (importance of data rescue)
- Update homogenized data regularly
- Make datasets available internally, nationally, regionally and globally
- Consider to qualify your homogenized datasets (quality level)
- Stay close to your users and their needs (webinars, forums, etc.)



Key Message

Homogenization is not a one-off project, It is an ongoing process requiring:

- Governance
- Clear vision and a strategy in place
- Resources
- Sustainability in your plan

