

Climatological Standard Normals (CLINO) 1991-2020

Briefings for WMO Regional Offices (June 2022)



WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

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*with input from many colleagues and experts
including from SERCOM ET DRC*

Outcome of WMO meeting on baselines and reference periods

An open discussion took place on the use of baselines and reference periods in WMO State of Climate reports and current (differing) Member practices were reviewed.

Suggestions were made to either use the Climatological Standard Normal (CLINO; currently 1991-2020) for all purposes including climate change assessment (with the caveat of its update every ten years) or to continue using the CLINO for all purposes except climate change assessment, for which the WMO Reference Period for Climate Change Assessment 1961-90 should be used.

A compromise might be to always use the CLINO and to add for climate change assessments information relative to 1961-90.

A sub-group of ET CMA is going to develop the final proposal.

Importance of Normals

Climatological Standard Normals originate from the recognition that climatological data should be processed over agreed uniform periods in order to ensure comparability between data collected at stations all over the world.

Climate normals are used for two principal purposes. They serve as a benchmark against which recent or current observations can be compared, including providing a basis for many anomaly-based climate datasets (for example, global mean temperatures). They are also widely used, implicitly or explicitly, as a prediction of the conditions most likely to be experienced in a given location.

Climatological Standard Normals underpin weather and climate research, monitoring, diagnostic studies, and climate and weather related applications and services including national norms (building standards etc.) and WMO flagship products such as the annual State of the Climate report.



Resolutions relevant to Climate Normals

Resolution 16 (Cg-17) includes the definition of Climatological Standard Normals

Resolution 81 (Cg-18) lists Climatological Standard Normals as mandatory WMO publication

Resolution 19 (EC-73) – Collection of Climatological Standard Normals initiates the calculation and collection of 1991-2020 Climatological Standard Normals (to be published in 2023)

Draft Decision 3.2(2)/1 (EC-75) – Accelerated Collection of Climatological Standard Normals suggests measures to promote and accelerate the calculation and submission of 1991-2020 Climatological Standard Normals

WMO Guidance material

Technical Regulations, Basic Documents No. 2, Vol. 1 – General Meteorological Standards and Recommended Practices (WMO-No. 49)

Guide to Climatological Practices (WMO-No. 100)

WMO Guidelines on the Calculation of Climate Normals (WMO-No. 1203;
English, French, Spanish, Russian, Arabic and Chinese versions available)

The Role of Climatological Normals in a Changing Climate (WMO/TD-No. 1377)

Arguez and Vose, The Definition of the Standard WMO Climate Normal, BAMS (2011) 92 (6): 699-704

WMO Website: <https://community.wmo.int/wmo-climatological-normals>

World Data Center for Meteorology Website:

<https://www.ncdc.noaa.gov/wdcmet/data-access-search-viewer-tools/global-climate-normals-1961-1990>

Collection status as of 23 May 2022

WMO call of 4 August 2021 to submit CLINO by 31 March 2022

Status as of 23 May 2022:

RA I: 10 (<25%)
RA II: 11 (<35%)
RA III: 5 (<45%)
RA IV: 8 (<40%)
RA V: 2 (<10%)
RA VI: 26 (<55%)

WMO: 62 (<35%)

>70% of all submissions require manual intervention including individual communication with Members.

Top 3 issues:

Incorrect station file names will delay or prevent data ingest at NCEI

Incorrect data formats including incorrectly filled templates will delay or prevent data processing at NCEI

Unrealistic data will undermine WMO's credibility

Measures to accelerate calculation and collection of Climatological Standard Normals (CLINO) 1991-2020

- 2nd WMO call to submit data as soon as possible but not later than 31 December 2022
- 2nd round of online CLINO consultations (28-30 June 2022)
- Draft EC-75 Decision to accelerate CLINO calculation and submission (to be communicated to Members)
- P/RAs to reach out to Members and promote CLINO calculation and submission
- P/TCs to highlight importance of CLINO among expert networks to provide expert support to Members
- **WMO Regional Offices to follow up with individual Members, who have not yet submitted their CLINO to WMO. WMO Regional Offices will receive regular monthly updates from SO/CMP (Peer Hechler)**

World Weather Records

WWR = decadal collection of monthly means (1st release in 1927); Res 14 (EC-64) implemented annual collection of WWR from 2011

Low Member participation and high rate of manual interventions, NCEI will stop annual processing after completion of 2011-2020 WWR

Collection of 2020 WWR (with focus on completion of 2011-2020 gaps) postponed into 2023 to facilitate 1991-2020 CLINO collection -> **WMO letter to Members**

Return to decadal collection from 2031 -> **SERCOM recommendation to Congress**

ET DRC-relevant SERCOM and INFCOM documents

Update of SC-CLI-4 decisions:

- Draft SERCOM Recommendation for updating Resolution 16 (Cg-16) to include items relevant to I-DARE, OPEN-CDMS and CLIMAT reports **and WWR by suppressing related open Resolutions and Decisions**
- Draft SERCOM Recommendation on Amendment of the Manual on HQ-GDMFC (WMO-No.1238); **second review needed**
- Draft SERCOM Recommendation on centennial stations
- *Draft Resolution of EC-75 on CLINO collection acceleration*
- *OpenCDMS -> INFCOM*
- *DAYCLI -> INFCOM*



Strengthening collaboration with INFCOM

-> Close collaboration with INFCOM ET IM and reflection of collaboration at SC-level to ensure full SERCOM and INFCOM participation in climate data-related issues ...



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Gracias!

Спасібо!

Thank you!

Merci!

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