



DATASET DESCRIPTION

Recent monthly station observations (temperature, precipitation, sunshine duration, wind and cloud cover) for Germany, quality control not completed yet

Version v22.3

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Dataset-ID: urn:x-wmo:md:de:dwd.cdc::obsgermany-climate-monthly-kl-recent

ABSTRACT

These data originate from the stations of the DWD and legally and qualitatively equivalent partner networks. Extensive station metadata (station relocations, instrument changes, change of reference time, changes in algorithms) are included in the download. Quality control has not yet been completed for the data.

POINT OF CONTACT

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DATASET DESCRIPTION

Parameter	air temperature at 2 m, precipitation height, sunshine duration, wind gust, wind force, cloud coverage
Temporal coverage	2022-01-01 - ...
Temporal resolution	1 month
Spatial coverage	stations in Germany
Projection	WGS 84 (EPSG:4326)
Format description	<p>The station observations (produkt_*.txt) are provided together with the station metadata per station as a zip file *_[station_id]_akt.zip.</p> <p>Within the zip file, the station metadata information is provided as both *.txt and *.html.</p> <p>The Metadata_Parameter* file contains a list of parameters measured at this station (the parameter portfolio), with start, end, associated units, measurement rules, formulas, dates, and time units associated with the station_id and current station name.</p> <p>The device history is sorted according to the meteorological parameters (see file Metadaten_Geraete*). There, the history of sensor height, type of instrument and measurement procedure is given, together with the historical station names. The station ID is unique and does not change over time.</p> <p>For a convenient documentation of station name change, see Metadaten_Stationsname*. The geographical metadata of the station (longitude, latitude, height) is listed in Metadaten_Geographie*.txt together with the Stations_id and the current station name.</p> <p>The parameter portfolios of the individual stations vary in size.</p>

application schema

csv dialect description

delimiter line terminator header quote char

; \\r\\n true \"

csv content description

column name	description	uom	type	format
STATIONS_ID	DWD station identification number		VARCHAR2	
MESS_DATUM_BEGINN	begin of interval		NUMBER	YYYYMMDD
MESS_DATUM_ENDE	end of interval		NUMBER	YYYYMMDD
QN_4	quality level of the data in the following columns		NUMBER	numerical code
MO_N	monthly mean of cloud cover	1/8	NUMBER	
MO_TT	monthly mean temperature 2 m above ground	°C	NUMBER	
MO_TX	monthly mean of daily temperature maxima at 2 m above ground	°C	NUMBER	
MO_TN	monthly mean of daily temperature minima in 2 m above ground	°C	NUMBER	
MO_FK	monthly mean of daily wind speed	Bft	NUMBER	
MX_TX	monthly maximum of daily temperature maxima in 2 m above ground	°C	NUMBER	
MX_FX	monthly maximum of daily wind speed	m/s	NUMBER	
MX_TN	monthly minimum of daily temperature minima in 2 m above ground	°C	NUMBER	
MO_SD_S	monthly sum of sunshine duration	h	NUMBER	
QN_6	quality level of the data in the following columns		NUMBER	numerical code
MO_RR	monthly sum of precipitation height	mm	NUMBER	
MX_RS	monthly maximum of daily precipitation height	mm	NUMBER	

Quality Information

The QUALITAETS_NIVEAU (QN) shows the quality control procedure applied for a data report (of several parameters) for a certain reporting time.

Data before and including 1980 can reach as best quality check level QN=5. Data after 1980 can reach QN=10 as best quality check level.

QN = 1 : only formal control;
 QN = 2 : controlled with individually defined criteria;
 QN = 3 : automatic control and correction;
 QN = 5 : historic, subjective procedures;
 QN = 7 : second control done, before correction;
 QN = 8 : quality control outside ROUTINE;
 QN = 9 : not all parameters corrected;
 QN = 10 : quality control finished, all corrections finished.

The QUALITAETS_BYTE (QB) denotes whether the value was objected to and/or corrected.

QB = 0 : denotes not flagged,
 QB = 1 : had no objections (either checked and not objected, or not checked and not objected, this can be interpreted only when considering QN);
 QB = 2 : corrected;
 QB = 3 : confirmed with objection rejected;
 QB = 4 : added or calculated;
 QB = 5 : objected;
 QB = 6 : only formally checked;
 QB = 7 : formal objection;
 QB = -999 : quality flag does not exist.

DATA ORIGIN

The monthly means are calculated for each month from the respective daily values, and only in the case the daily values are complete. If daily values are missing, no monthly mean is given. This climate data are from the station network of DWD, operationally collected in the central MIRAKEL data base and archived, see Behrendt et al., 2011, and Kaspar et al., 2013. For details on current measurement and observation procedures see VuB 3 Beobachterhandbuch (DWD, 2014a), VuB 3 Technikerhandbuch (DWD, 2014b) and VuB 2 Wetterschlüsselhandbuch (DWD, 2013).

VALIDATION AND UNCERTAINTY ESTIMATE

The quality of the monthly values depends on the quality of daily values, the quality level (Qualitätsniveau) is deduced accordingly.

UNCERTAINTIES

The stations are nowadays selected and operated according to WMO guidelines. Though these guidelines aim at minimizing possible local effects, still some applications of certain parameters may require the consideration of local and regional effects.

CONSIDERATIONS FOR APPLICATIONS

For any data analysis, the metadata available in the *.zip files should be taken into account.

ADDITIONAL INFORMATION

For extending the time series into the past, see subdirectories ../historical/. When data from both directories "historical" and "recent" are used together, the difference in the quality control procedure should be considered. For the long term stability consider the uncertainties explained in the data set descriptions within subdirectories /historical/.

LITERATURE

Behrendt, J., et al.: Beschreibung der Datenbasis des NKDZ. Version 3.5, Offenbach, 15.02.2011.

Kaspar, F., et al.: Monitoring of climate change in Germany – data, products and services of Germany's National Climate Data Centre. Adv. Sci. Res., 10, doi:10.5194/asr-10-99-2013, 99–106, 2013.

Spengler, R.: The new Quality Control- and Monitoring System of the Deutscher Wetterdienst. Proceedings of the WMO Technical Conference on Meteorological and Environmental Instruments and Methods of Observation, Bratislava, 2002.

DWD Vorschriften und Betriebsunterlagen Nr. 3 (VuB 3), Beobachterhandbuch (BHB) für Wettermeldestellen des synoptisch-klimatologischen Mess- und Beobachtungsnetzes, März 2014a.

DWD Vorschriften und Betriebsunterlagen Nr. 2 (VuB 2), Wetterschlüsselhandbuch Band D, Nov 2013.

DWD Vorschriften und Betriebsunterlagen Nr. 3 (VuB 3), Technikerhandbuch (THB) für Wettermeldestellen des synoptisch-klimatologischen Mess- und Beobachtungsnetzes, März 2014b.

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REVISION HISTORY

This document is maintained by Deutscher Wetterdienst, CDC - Betrieb, last edited at 2022-09-16.