

DATA SET DESCRIPTION

Recent daily station observations (temperature, pressure, precipitation, wind, sunshine duration, etc.) for Germany

Version recent

Cite data set as: DWD Climate Data Center (CDC): Recent daily station observations (temperature, pressure, precipitation, wind, sunshine duration, etc.) for Germany, version recent, recent date.

INTENT OF THE DATASET

This document describes the freely available station data of the DWD Climate Data Center (CDC). These measurements and observations are derived from DWD stations and legally and qualitatively equivalent partner stations operated for climatological and climate related applications. Comprehensive metadata (station changes, instruments, times of recordings, algorithms) are included. The data in the directories 'recent' have not yet passed the full quality control.

POINT OF CONTACT

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DATA DESCRIPTION

Spatial coverage Germany

Temporal coverage rolling: 500 days before yesterday - until yesterday

Format(s) Three *.txt, one general and several parameter-specific *.html files are zipped according to station: produkt_*.txt contains the daily means, Protokoll_*.txt lists bad or missing data, Stationsmetadaten*.txt contains the station coordinates and heights, Beschreibung_klima_Element*.html contains the parameter portfolio and additional information as metadata on parameter units, time units, and algorithms for averaging, Beschreibung_*_Detail_*.html contains instrument specific metadata (instrument, measurement procedure). An overview over all stations is given here: [Stationsliste](#).

Parameters The parameter portfolios differ between various stations, comprising following parameters in produkt*.txt :

STATIONS_ID	station id	
MESS_DATUM	yyyymmdd	
QUALITAETS_NIVEAU	see below	
STRUKTUR_VERSION	network id	
LUFTTEMPERATUR	daily mean in 2m above ground	deg Celsius
LUFTTEMPERATUR_MAXIMUM	daily maximum temperature	deg Celsius
LUFTTEMPERATUR_MINIMUM	daily minimum temperature	deg Celsius
LUFTTEMP_AM_ERDB_MINIMUM	minimum temperature at the ground	deg Celsius
DAMPFDRUCK	vapor pressure	hPa
BEDECKUNGSGRAD	cloud cover	1/8
LUFTDRUCK STATIONSHÖHE	air pressure at station height	hPa
REL FEUCHTE	relative humidity	%
WINDGESCHWINDIGKEIT	daily mean of wind speed	m/sec
Tageswindspitze	maximal wind gust	m/sec
NIEDERSCHLAGSHOEHE	daily precipitation height	mm
NIEDERSCHLAGSHOEHE_IND	precipitation form	

	no precipitation	0
	only rain (before 1979)	1
	unknown	4
	only rain (from 1979)	6
	only snow	7
	rain or snow (or 'Schneeregen')	8
SONNENSCHNEINDAUER	daily value sunshine duration	h
SCHNEEHÖHE	daily height of snow cover	cm

Note that within the time series, the time definition changes, depending on parameter and station. Check Beschreibung*Element*.html to find out which dates are given in local solar time, MEZ or UTC. Missing values are marked as -999.

Uncertainties

The stations are 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.

Quality information

QUALITAETS_NIVEAU describes the method of quality control, with which erroneous or suspicious values are identified and set to -999.

QUALITAETS_NIVEAU

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

DATA ORIGIN

These climate data are regularly observed with the station networks of Deutscher Wetterdienst (DWD). They are collected in the central MIRAKEL data base and archived, see Behrendt et al., 2011, und Kaspar et al., 2013. For details on the operational measurement and observation procedures see VuB 3 Beobachterhandbuch (DWD, 2014a), VuB 3 Technikerhandbuch (DWD, 2014b) and VuB 2 Wetterschlüsselhandbuch (DWD, 2013). Details on measurement procedures, averaging algorithms, observation interval definitions and time units can be found in Beschreibung*Element*.html in the column Datenquelle(Strukturversion).

VALIDATION AND UNCERTAINTY ESTIMATE

Quality control of data in this directory "recent" is not completed yet. Several steps of operational automatic quality control are applied (see Kaspar et al., 2013). Procedures completed depend on age of data. Automatic test include tests for completeness, temporal and internal consistency, and against statistical thresholds based on the software QualiMet (see Spengler, 2002).

CONSIDERATIONS FOR APPLICATIONS

Versioned data, which cover the historical time series up to the end of the previous year, are stored in the directory '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, refer to the relevant aspects of uncertainty discussed in the data set descriptions within the directories 'historical/'.

ADDITIONAL INFORMATION

Description of measurement and observation principles are maintained in the DWD Beobachterhandbuch.

REFERENCES

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

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

Behrendt, J., E. Penda, A. Finkler, U. Heil, C. Polte-Rudolf: Beschreibung der Datenbasis des NKDZ. Version 3.5, Offenbach, 15.02.2011.

Freydank, E.: 150 Jahre staatliche Wetter- und Klimabeobachtungen in Sachsen. Tharandter Klimaprotokolle Band 21, 2014.

Kaspar, F., G. Müller-Westermeier, E. Penda, H. Mächel, K. Zimmermann, A. Kaiser-Weiss, T. Deutschländer: 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.

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The instructions in ftp://ftp-cdc.dwd.de/pub/CDC/Terms_of_use.pdf should be followed. The DWD website provides comprehensive copyright information.

REVISION HISTORY

The data are provided in approximately annual intervals as versioned data sets to take into account the historical data rescued in the meantime and with improved flagging of known data quality issues. This document is maintained by the National Climate Data Centre (NKDZ) of DWD, last edited 05.02.2016.