

DATA SET DESCRIPTION

Most recent 10-minute station observations of pressure, air temperature (at 5cm and 2m height), humidity and dew point for Germany

Version recent

Cite data set as: DWD Climate Data Center (CDC): Most recent 10-minute station observations of pressure, air temperature (at 5cm and 2m height), humidity and dew point for Germany, version recent, 2019.

INTENT OF THE DATASET

These low time latency, high time resolution data are from automatic weather stations of DWD and legally and qualitatively equivalent partner stations. The data from directory "now" have not completed quality control yet.

POINT OF CONTACT

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DATA DESCRIPTION

Spatial coverage stations in Germany

Temporal coverage yesterday - today

Temporal resolution 10 minutes sampling interval

Format(s) The station observations (produkt_*.txt) are zipped for each station in one file. An overview over all stations with start and end dates is given in the station list: https://opendata.dwd.de/climate_environment/CDC/help/zehn_min_tu_Beschreibung_Stationen.txt. Note that for convenience, the list comprises not only stations given here, but also stations with more complicated copyright regulations which may be obtained for certain applications, requiring discussion with the point of contact.

Parameters The file produkt*.txt comprises following parameters:

STATIONS_ID	station identification number	
MESS_DATUM	measurement time	yyyymmddhhmi
QN	quality level of next columns	coding see paragraph "Quality information"
PP_10	pressure at station height	hPa
TT_10	air temperature at 2m height	°C
TM5_10	air temperature at 5cm height	°C
RF_10	relative humidity at 2m height	%
TD_10	dew point temperature at 2m height	°C
eor	end of record	can be ignored

The dew point temperature is calculated from the 10m air temperature and relative humidity measurements. All values relate to the one minute ending with the time stamp. The time stamp is given in UTC.

Uncertainties The stations are selected and operated according to WMO guidelines.

Quality information

The quality level "Qualitätsniveau" (QN) given here applies for the following columns. QN and describes the method of quality control applied to a complete set of parameters, reported at a common time. the individual parameters of the set are connected with individual quality bytes in the DWD data base, which are not given here. Values marked as wrong are not given here. Different quality control procedures (and at different levels) have been applied to detect which values are identified as erroneous or suspicious. Over time, these procedures have changed.

quality level (column header: QN)

1- only formal control during decoding and import

2- controlled with individually defined criteria

3- ROUTINE automatic control and correction with

QUALIMET

DATA ORIGIN

These data are from the station networks of Deutschen Wetterdienst. For details the measurement procedures VuB 3 Beobachterhandbuch (DWD, 2014a), VuB 3 Technikerhandbuch (DWD, 2014b) and VuB 2 Wetterschlüsselhandbuch (DWD, 2013).

VALIDATION AND UNCERTAINTY ESTIMATE

The data in directory "now" have not completed quality control yet.

CONSIDERATIONS FOR APPLICATIONS

Data sets with quality level QN=1 may contain significant errors. Users have to decide whether for their particular application the more error prone 10-minute data should be used or rather the higher quality data (hourly or daily values). When investigating long term changes or trends, consider the station specific metadata provided in Metadaten_Parameter*, Metadaten_Geraete* and Metadaten_Geographie*, which are stored according to parameter in the subdirectories ../meta_data/. When considering trends in temperature, note especially changes in station height (see ../meta_data/).

ADDITIONAL INFORMATION

The data covering yesterday and 500 days back in time are stored in subdirectory /recent/. Versioned data extending the data further into the past can be found in the subdirectory "historical/". For metadata see ../meta_data/. When using data from subdirectories "historical", "recent" and "now" together, the change in quality should be considered.

REFERENCES

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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.

Long, C. and Dutton, E.: BSRN Global Network recommended QC tests, V2.0, Tech. rep., available as PDF at: <http://www.bsrn.awi.de>, 2002.

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.

COPYRIGHT

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 in this directory are updated several times a day. This document is maintained by the National Climate Data Centre (NKDZ) of DWD, last edited 21.01.2019.