# DATA SET DESCRIPTION

## *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): 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 high time resolution data are from automatic weather stations of DWD and legally and qualitatively equivalent partner stations.

### POINT OF CONTACT

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### DATA DESCRIPTION

**Spatial coverage** stations in Germany

**Temporal coverage** rolling: 500 days before yesterday - until yesterday

**Temporal resolution** 10 minutes sampling interval

**Format(s)** The station observations (produkt_*.txt) are zipped for each station in one files. 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 "recent" data 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 most recent data are updated in subdirectory /now/ . For extending the time series into the past, see subdirectories ../historical/. For metadata see ../meta_data/ .

## 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.

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## COPYRIGHT



## REVISION HISTORY

The data in this directory are updated daily. This document is maintained by the National Climate Data Centre (NKDZ) of DWD, last edited 21.01.2019.