

DATA SET DESCRIPTION

REGNIE grids of daily precipitation

Version recent

Cite data set as: DWD Climate Data Center (CDC): REGNIE grids of daily precipitation, last accessed: <date>.

INTENT OF THE DATASET

This describes the freely available data of the DWD Climate Data Center (CDC). The grids were derived from station measurements with the method REGNIE.

POINT OF CONTACT

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DATA DESCRIPTION

Spatial coverage	Germany
Temporal coverage	01.01.1931 - yesterday
Spatial resolution	1 km x 1 km
Temporal resolution	annual
Projection	There are 611 grid points along the west-east direction and 971 grid points along the north-south direction. The latitudinal resolution is 60 geogr. seconds, the longitudinal resolution is 30 geogr. seconds, see REGNIE description https://opendata.dwd.de/climate_environment/CDC/grids_germany/daily/regnie/REGNIE_Beschreibung_20170304.pdf , section 4.3, for formulas for the calculation of longitudes and latitudes.
Format(s)	The REGNIE grids are in one zipped ascii file (ra-yymmdd) per day. Unused grid points are marked with -999. All days of a year are packed into a common TAR archive (rayyyym.tar).
Parameters	precipitation height in 1/10 mm.

DATA ORIGIN

The method REGNIE determines gridding daily precipitation by interpolating observed station anomalies relative to multi-annual means and consists of two main steps: calculation of background fields and calculation of precipitation fields, details see section 4. of the REGNIE description https://opendata.dwd.de/climate_environment/CDC/grids_germany/daily/regnie/REGNIE_Beschreibung_20170304.pdf.

VALIDATION AND UNCERTAINTY ESTIMATE

see Rauthe et al., 2013.

ADDITIONAL INFORMATION

Based on the precipitation measurements at the stations, a preliminary daily product is produced routinely (observation span 5:50 UTC to 5:50 UTC next day), considering all automatically transmitted data. The remaining data are included afterwards when quality control is completed, resulting in the final REGNIE grids. Since 01.01.1971 precipitation height is attributed to the day which constitutes the bulk of the measurement interval (i.e., the day before the precipitation height reading is taken). Before 1971, the date on which the precipitation height reading was used as the time reference. To get a continuous time attribution, the grids related to times before 1971 have to be shifted one day back in time.

REFERENCES

DWD, 2017: Abteilung Hydrometeorologie: REGNIE (REGionalisierte NIEederschläge): Verfahrensbeschreibung & Nutzeranleitung, DWD internal report, Offenbach 2017.

Rauthe, M., Steiner, H., Riediger, U., Mazurkiewicz, A., Gratzki, A., 2013: A Central European precipitation climatology – Part I: Generation and validation of a high-resolution gridded daily data set (HYRAS) Meteorologische Zeitschrift Vol. 22 No. 3, p. 235 – 256, 2013. <https://doi.org/10.1127/0941-2948/2013/0436>.

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REVISION HISTORY

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