

DATA SET DESCRIPTION

Daily mean near-surface (10 m) wind speed for Europe (project DecReg/MiKlip)

Version v002

Cite data set as: Brinckmann, S., Bissolli, P.: Daily mean near-surface (10 m) wind speed for Europe (project DecReg/MiKlip). version v002, DWD Climate Data Center (CDC), DOI:10.5676/DWD_CDC/DECREG0110v2, extended in 2017.

INTENT OF THE DATASET

This describes the freely available data of the DWD Climate Data Centre which were produced by project DecReg/MiKlip. The aim was to generate a dataset for validation of decadal regional climate prediction.

POINT OF CONTACT

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DATA DESCRIPTION

Spatial coverage	Europe (CORDEX domain)
Temporal coverage	01.01.2001 - 31.12.2016
Spatial resolution	0.044 degree, i.e., approximately 5 km x 5 km
Temporal resolution	daily
Projection	rotated regular grid, virtual North Pole at 39.25 N, 162.00 W (rotated coordinates)
Format(s)	netCDF
Parameters	Wind speed [m/s] at 10m above ground is given in files <code>sfcWind_*.nc</code> .
Uncertainties	Interpolation uncertainty is estimated by means of the kriging variance and regression uncertainties (see Brinckmann et al., 2015). Resulting inter-quartile ranges (IQR) are provided in separate files named <code>sfcWind_*.nc</code> . Depending on region and season the 1-sigma standard deviation varies between 0.6 and 2.0 m/s (estimated using the 5 % and 95 % quantile of all gridded IQR data in 2010).

DATA ORIGIN

Origin of the used station data is the MIRAKEL database of the Deutscher Wetterdienst (SYNOP), supplemented by station data from the European Climate Assessment and Dataset (ECA&D). We acknowledge the data providers in the ECA&D project (Klein Tank, A.M.G. and Coauthors, 2002; Data and metadata available at <http://www.ecad.eu>).

VALIDATION AND UNCERTAINTY ESTIMATE

See Brinckmann et al., 2015.

CONSIDERATIONS FOR APPLICATIONS

See Brinckmann et al., 2015.

ADDITIONAL INFORMATION

The topography used can be downloaded at https://opendata.dwd.de/climate_environment/CDC/help/DECREG_elevation_0.044.nc.gz

REFERENCES

Brinckmann, S., Krähenmann, S., and Bissolli, P.: High-resolution daily gridded datasets of air temperature and wind speed for Europe, *Earth Syst. Sci. Data Discuss.*, 8, 649-702, doi:10.5194/essdd-8-649-2015, 2015.

Klein Tank, A.M.G. and Coauthors, 2002. Daily dataset of 20th-century surface air temperature and precipitation series for the European Climate Assessment. *Int. J. of Climatol.*, 22, 1441-1453.

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REVISION HISTORY

Changes from the previous version concern firstly, newly added header information in netcdf files on the rotated grid used and secondly, reprocessing of predictor grid data of relative altitude used in the interpolation procedure (using conservative remapping instead of bilinear remapping to calculate relative altitude on the 0.044° grid), leading to slightly deviating grid data of wind speed in mountain regions. This document is maintained by the section Regional Climate Monitoring of DWD, last edited on 19.12.2018.