



DATASET DESCRIPTION

Daily grids of soil moisture under winterwheat for Germany

Version: v1.0

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Dataset-ID: urn:wmo:md:de-dwd-cdc:2bd8f441-a751-4dbe-aea7-ed2e672e9517

Dataset-URL: https://opendata.dwd.de/climate_environment/CDC/grids_germany/daily/soil_moisture/wheat/

ABSTRACT

The daily grids of soil moisture are calculated for 10 cm layers up to a depth of 2 meters and for predefined layer thicknesses of 0-30, 0-60 and 0-90 cm for three different agricultural crops using the AMBAV 2.0 V1.5 model. The meteorological data required for the calculation input fields must be in hourly resolution and are provided by interpolated weather station data. Furthermore, the model with soil information from the soil guide profiles of the usage-differentiated soil overview map (BÜK 1000 N) parameterized by the Federal Institute for Geosciences and Natural Resources (BGR). If the type of soil is the same, the soils differ depending on their use. In addition, the depth of the soil and the skeletal content (coarse soil > 2 mm) in the various soil layers are taken into account.

The data has a spatial resolution of 1 x 1 km and is completely comprehensive Germany from. Data outside of Germany or in settlement areas with sealed areas have an incorrect identifier -9999. All information about the grid is stored in the metadata of the netcdf file.

POINT OF CONTACT

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DATASET DESCRIPTION

Parameter	soil moisture
Unit(s)	% nFK
Statistical processing	daily value
Temporal coverage	1991-01-01 -- ...
Temporal resolution	1 day
Spatial coverage	Germany
Spatial resolution	1 km x 1 km
Projection	DHDN / 3-degree Gauss-Kruger zone 3 (EPSG:31467)
Vertical coverage	-200cm
Vertical resolution	-10cm

Format description [{YYYY}/grids_germany_daily_soil_moisture_winterwheat_{YYYY}_{UPPERDEPTH}-{LOWERDEPTH}_v{VERSION}.nc](#)
Filename:
- grids_germany_daily_soil_moisture_{Culture}_{Year}_{Upperdepth}-{Lowerdepth}_v{Version}.nc
- {Upperdepth} is the upper depth of the layer in cm (10, 20, 30, ..., 200)
- {Lowerdepth} is the lower depth of the layer in cm (10, 20, 30, ..., 200)
- {Year} is the year in YYYY-Format
- {Culture} Name of agricultural plant type
- {Version} Version number for dataset (e.g. 1)
Example:
- grids_germany_daily_soil_moisture_winterwheat_2021_20-30_v1.nc

DATA ORIGIN

The calculations are carried out using the model developed at the DWD's Centre for Agrometeorological Research (ZAMF), AMBAV 2.0 (Agrometeorological Calculation of Current Evaporation) version 1.5. The AMBAV 2.0 model can be operated in a fine grid with a resolution of 1 x 1 km over Germany in order to achieve better spatial representation. This improved spatial representation is further enhanced by the fact that the typical regional soils used in the calculation are taken from the soil overview map BÜK 1000N of the Federal Institute for Geosciences and Natural Resources (BGR) (BGR, 2007). More detailed information can be found in Herbst et al. 2021.

RESOURCE MAINTENANCE

The data for the current year is updated on the 3rd of each month.

LITERATURE

[BGR \(2007\): Bodenübersichtskarte der Bundesrepublik Deutschland 1:1.000.000 \(BÜK 1000\). Bundesamt für Geowissenschaften und Rohstoffe \(BGR\), Hannover](#)

[Herbst, M., Falge, E., Frühlauf, C. \(2021\): Regionale Klimamodellierung - Perspektive Landwirtschaft. In: Regionale Klimamodellierung II - Anwendungen. Deutscher Wetterdienst \(Hrsg.\), promet 104, 55-62.](#)

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REVISION HISTORY

This document is maintained by Deutscher Wetterdienst, KU31 Agrarmeteorologie, last edited at 2025-01-08.