DATA SET DESCRIPTION

Seasonal grids of sum of drought index (de Martonne) over Germany

Version v1.0

Cite data set as: DWD Climate Data Center (CDC): Seasonal grids of sum of drought index (de Martonne) over Germany, version v1.0, 2018.

INTENT OF THE DATASET

The grids are derived from DWD stations and legally and qualitatively equivalent partner stations in Germany run for climatological and climate related applications.

POINT OF CONTACT

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DATA DESCRIPTION

Spatial coverage	Germany
Temporal coverage	01.01.2000 - last season
Spatial resolution	1 km x 1 km
Temporal resolution	seasonal
Projection	3-degree Gauss-Kruger zone 3, Ellipsoid Bessel, Datum Potsdam (central point Rauenberg), EPSG:31467, see http://spatialreference.org/ref/epsg/31467/. o define the spatial projection in GIS, the file https://opendata.dwd.de/climate_environment/CDC/help/gk3.prj can be used. Help is given on importing into ESRI ArcGIS in https://opendata.dwd.de/climate_environment/CDC/help/Hilfe_Gauss-Krueger-Raster2GIS.pdf.
Format(s)	The file in ESRI-ascii-grid-format has in the header the coordinates for the lower left grid cell, including the definition of its center [XLLCENTER],[YLLCENTER] or its corner [XLLCORNER],[YLLCORNER]. It contains a table of 654 x 866 numbers. Each row goes from West to East. The first row is the northernmost one (654 values with 4 digits). Missing values are marked with -999.
Parameters	Seasonal drought index after de Martonne, unit: mm/°C.
Uncertainties	Uncertainties are caused by the interpolation method, and erroneous or missing observations. When comparing grid fields for different periods, it should be considered that the measurement network has changed over time.

DATA ORIGIN

The grids are based on the DWD station data [Kaspar et al., 2013]. The seasonal grid is the sum of the three monthly grids, in accordance with the WMO-Standard [WMO, 2012].

VALIDATION AND UNCERTAINTY ESTIMATE

The annual drought index (from de Martonne) dMI is calculated with: dMI = P/(T+10) using the values T (in degree Celsius) from temperature grids and P (in mm) from precipitation grids. For quality considerations refer to the quality of the input data (temperature grids, precipitation grids).

CONSIDERATIONS FOR APPLICATIONS

The grids are visualized from the year 2000 onwards at the DWD website http://www.dwd.de/DE/leistungen/klimakartendeutschland/klimakartendeutschland.html.

ADDITIONAL INFORMATION

When using the drought index after de Martonne, note that the class definitions known from literature (arid/humid) apply only for the annual values.

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REVISION HISTORY

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