DATA SET DESCRIPTION

Name of the data set: CarpatClim data set
Content of the data set: homogenized climate data series interpolated to grid points
Name of the data set files:

PredtandfilaGrid.dat

it contains the indices, coordinates, countries and height of the grid points

<parameter> DailyGrid.ser

<parameter>: name of the meteorological parameter

DATA SET CHARACTERISTICS
Spatial coverage: Area between N 50° and N 44°, E 17° és E 27°
Temporal coverage: from **1 January** 1961 to 31 December 2010
Temporal resolution: daily
Data formats:
PredtandfilaGrid.dat:
ASCII, matrix layout

1. row: header
2-5896. column: index, longitude, latitude, country, height

<parameter>DailyGrid.ser:
ASCII, matrix layout, 1 column contains 1 grid point in the following format:

1. row: indices of grid points defined in the PredtandfilaGrid.dat file (1, …, 5895)
i. row: gridded data series (i>1)
1. column: year
2. column: month
3. column: day
3+j. column: data series (j=1, …, 5895)

Parameters:

abbrev.	parameter	unit
Ta	Mean temperature	°C
Tmin	Maximum temperature	°C
Tmax	Minimum temperature	°C
Prec	Precipitation	mm
WindVV	Average 10 m horizontal wind speed	m/s
WindVV2m	Average 2 m horizontal wind speed	m/s
WindMax	Maximum 10 m horizontal wind speed	m/s
WindDD	Direction of the average 10 m horizontal wind speed	0-360°
Sunshine	Sunshine duration	hours
Cc	Cloud cover	tenths
Rglobal	Global radiation	MJ/m^2
Rh	Mean relative humidity	%
Pair	Surface air pressure	hPa
Pvap	Surface vapour pressure	hPa
Snowd	Snow depth	cm
Snowwe	Snow water equivalent	mm

Uncertainties:
In the case of gridding with MISH v1.03 software, the most important model statistics are generated for each grid point.

Data quality information:
The quality of the grid database depends on the number, time length, and quality of the homogenized data sets used for modeling, as well as the interpolation method itself. MISH is a software specifically developed for interpolating meteorological elements based on adequate mathematical formulas.

DATA ORIGIN, METHODOLOGY
The grid point data series are derived from the data of the measuring stations of CarpatClim project partners. First, the data were checked, homogenized, and supplemented using the MASH homogenization method, then we modeled the climate statistical parameters using the MISH modeling subsystem with the resulting checked and complete data series, without inhomogeneities. Then using the modeling results, the station values were interpolated using the MISH interpolation method. During both homogenization and interpolation, neighboring countries shared their border data with each other, and the final database was created by harmonizing these data.

VALIDATION AND UNCERTAINTY ESTIMATE

The evaluation and testing of the results is possible by cross validation on the basis of the interpolation errors or the representativity values for stations, which are generated automatically during the interpolation with MISH.

FURTHER INFORMATION

The data sets were produced as a result of the CarpatClim project. The homogenization (MASH) and interpolation (MISH) methods used, along with a detailed description of the variables, are available on the project website.

CITATION

Reports, articles, papers, scientific and non-scientific works of any form, including tables, maps, or any other kind of output, inprinted or electronic form, based in whole or in part on the data supplied, must contain an acknowledgement of the form:
CARPATCLIM Database © European Commission - JRC, 2013
as well as a reference to:
Szalai, S., Auer, I., Hiebl, J., Milkovich, J., Radim, T. Stepanek, P., Zahradnicek, P., Bihari, Z., Lakatos, M., Szentimrey, T., Limanowka, D., Kilar, P., Cheval, S., Deak, Gy., Mihic, D., Antolovic, I., Mihajlovic, V., Nejedlik, P., Stastny, P., Mikulova, K., Nabyvanets, I., Skyryk, O., Krakovskaya, S.,Vogt, J., Antofie, T., Spinoni, J.: Climate of the Greater Carpathian Region. Final Technical Report.www.carpatclim-eu.org.

TERMS OF USE

The data is freely available for download. Scientific results based on these data must be submitted for publication in open literature without any delay linked to commercial objectives.

POINT OF CONTACT

odp@met.hu