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Climate services at the Hungarian Meteorological Service (OMSZ) based on gridded data series

HuClim – Hungarian climate data

Unit of Climatology in OMSZ update the Hungarian homogenized and interpolated climate data series at the beginning of each year (HuClim data) with the MASH and MISH software. The spatial resolution of the data series is 0,1°.

Produced daily data:

- Maximum, minimum and mean temperature (1901-)
- Precipitation (1901-)
- Air pressure (1961-)
- Relative humidity (1951-)
- Average wind speed and direction (1997-)
- Wind gust (2001-)
- Global radiation (2000-)

Produced sub-daily data:

- 6 hours temperature (1970-)
- 6 hours precipitation (1997-)

Derived values:

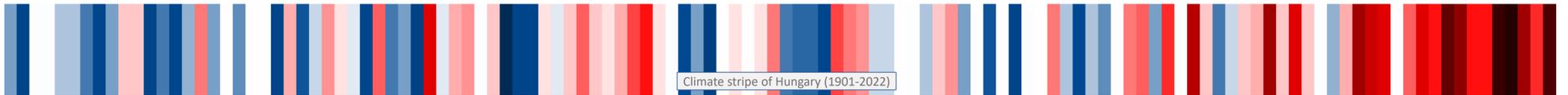
- Monthly, yearly averages and sums
- Climate indices
- Spatial averages (average of the grid point values)

Public Meteorological Database (odp.met.hu)

In accordance with European Union directives, the resources provided by the Hungarian Government enabled the OMSZ to implement an open meteorological data policy from 1 January 2021.

According to this, OMSZ provides its monitoring and measurement data, the forecasts of the models run by OMSZ, and other weather and climate information free of charge and available for free use via the open data server (Meteorological Database) odp.met.hu.

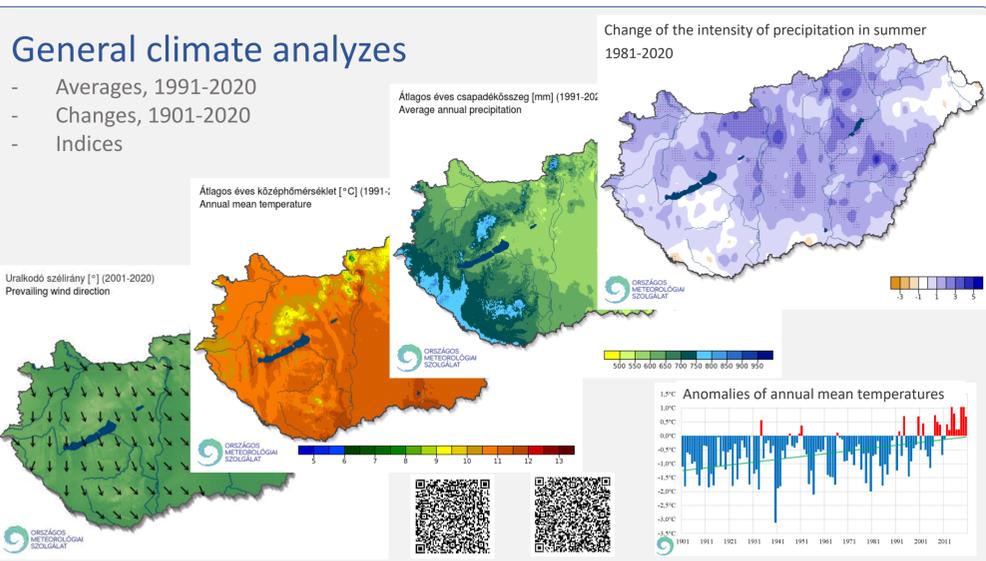
Among the others homogenized station data and gridded data series are also available.



Climate stripe of Hungary (1901-2022)

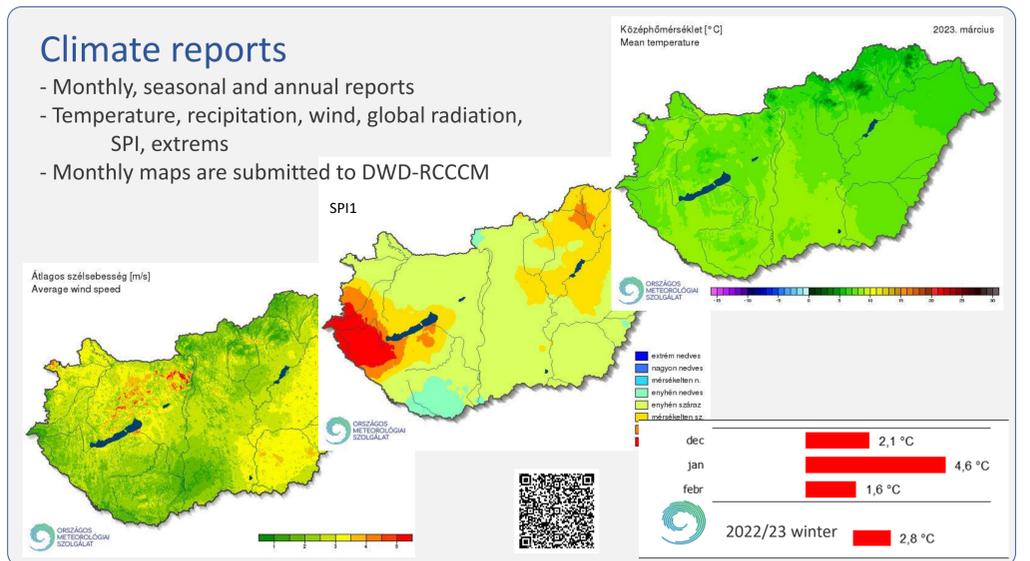
General climate analyzes

- Averages, 1991-2020
- Changes, 1901-2020
- Indices



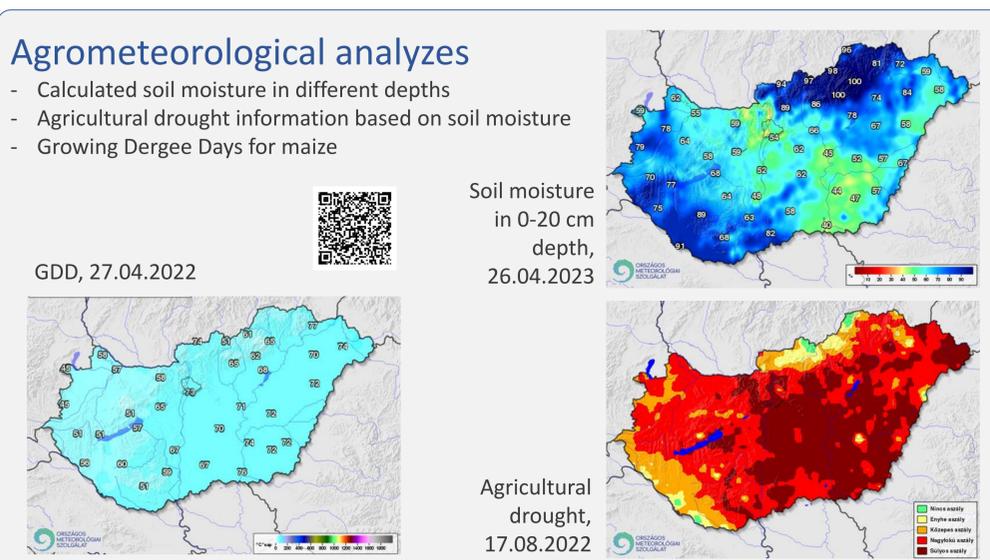
Climate reports

- Monthly, seasonal and annual reports
- Temperature, precipitation, wind, global radiation, SPI, extremes
- Monthly maps are submitted to DWD-RCCM



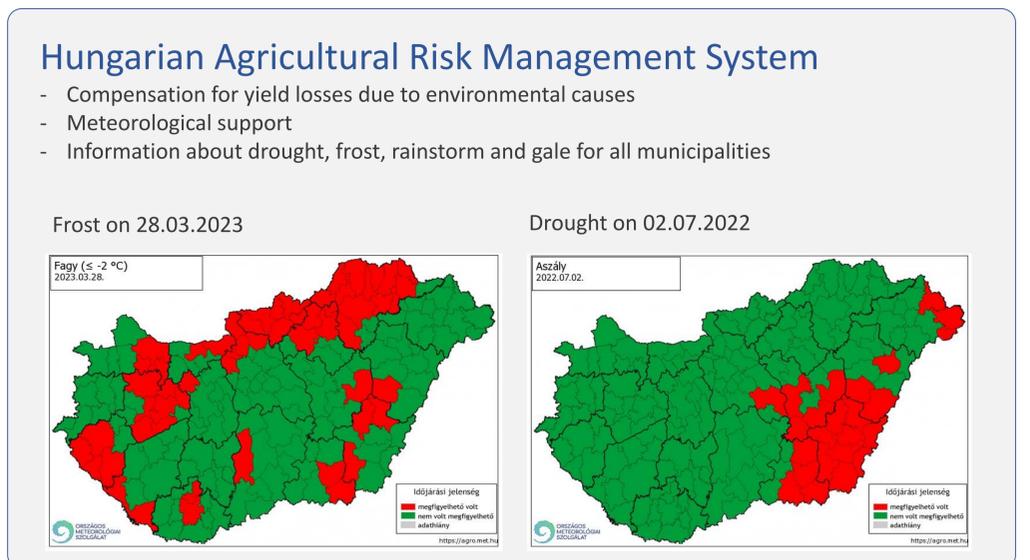
Agrometeorological analyzes

- Calculated soil moisture in different depths
- Agricultural drought information based on soil moisture
- Growing Degree Days for maize



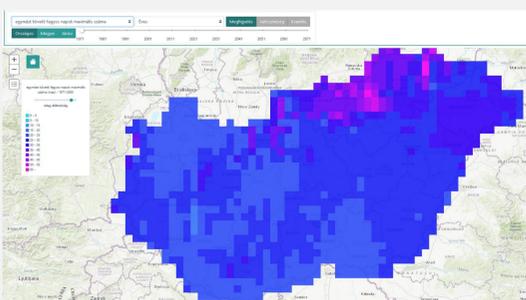
Hungarian Agricultural Risk Management System

- Compensation for yield losses due to environmental causes
- Meteorological support
- Information about drought, frost, rainstorm and gale for all municipalities



KlimAdat

- Geo-information system supporting climate change impact studies
- Both measured and modelled climate parameters
- 1971-2071

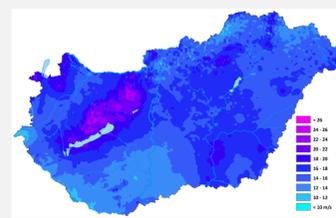
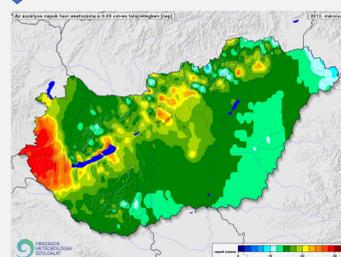


Maximum number of consecutive frost days

Individual requests

Some interesting examples:

- Gridded values of relative humidity at different times of day
- Number of days with dry soil (soil moisture $\leq 40\%$)
- Selection of areas with favourable climate for the reproduction of different frog species
- Wind speed calculated over a 50-year return period



Future plans

- New climate.met.hu webpage
- New climate atlas (1991-2020)
- Interpolation of 10 minutes values by MISH for the website
- Continuation of CARPATCLIM

