

ČESKÝ
HYDROMETEOROLOGICKÝ
ÚSTAV

Project CarpatClim (presentation of the results)



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Czech Hydrometeorological Institute





Ministry of the Environment
of the Czech Republic

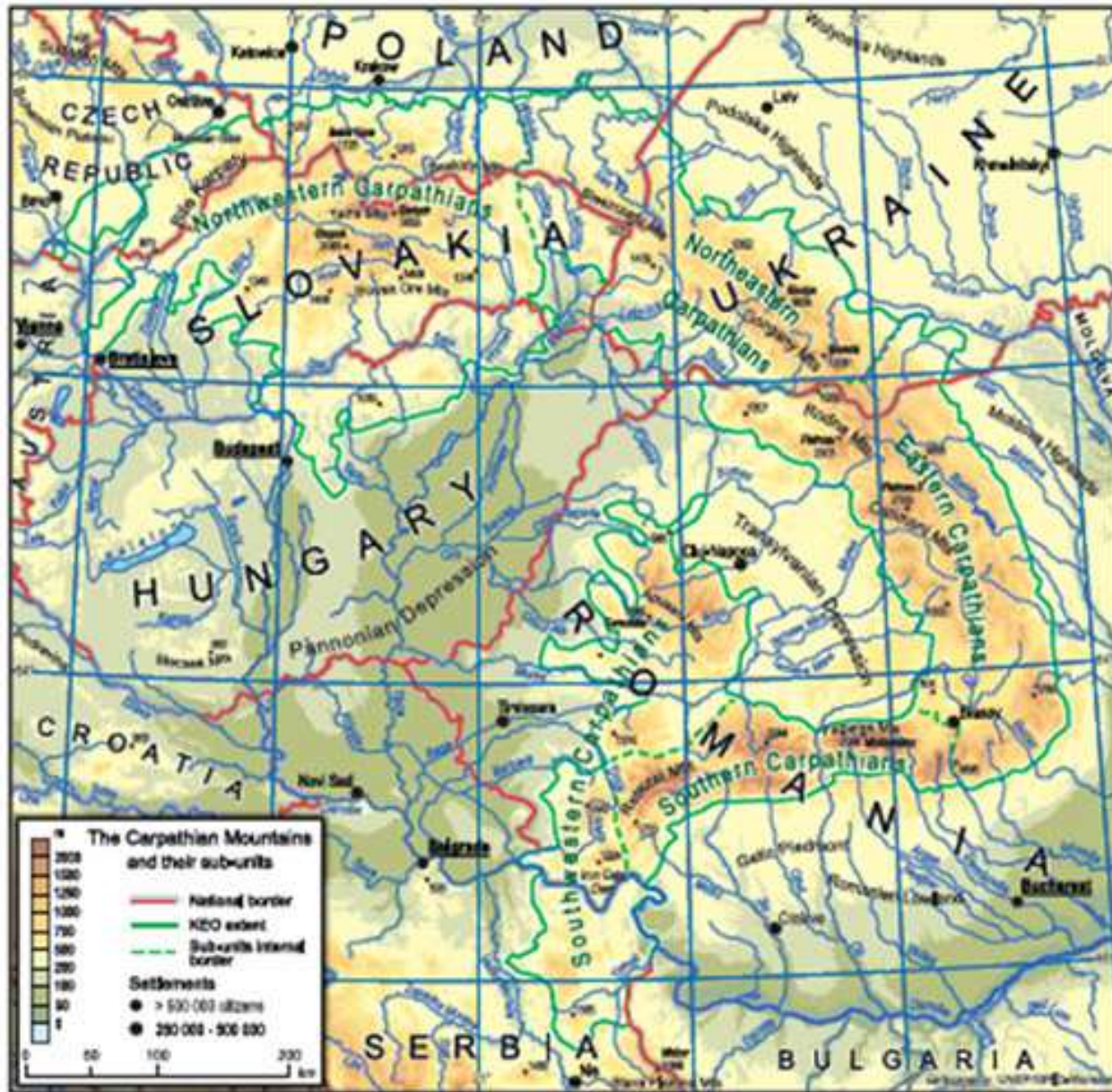


Climate Change Adaptation in Mountain Regions

World Environment Day Seminar

hosted by the Czech Presidency to the Carpathian Convention







Timeframe
1961-2010


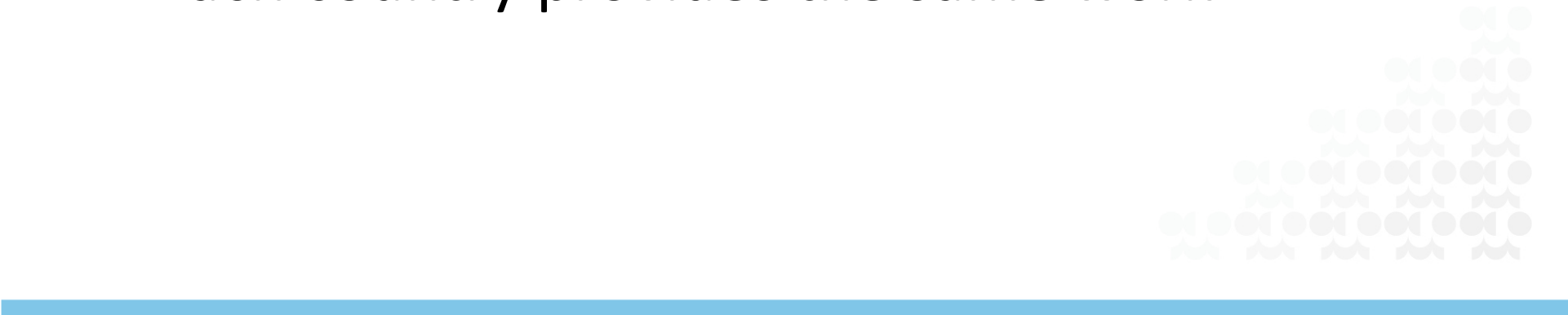
Spatial range
Climatological grids cover the area between latitudes 44°N and 50°N, and longitudes 17°E and 27°E




Temporal resolution:
1 day



Spatial resolution
0.1° x 0.1°

- 
- Hungarian Meteorological Service (leading organisation)
 - Joint Research Centre, Italy
 - Central Institute for Meteorology and Geodynamics, Austria
 - Meteorological and Hydrological Service of Croatia
 - Czech Hydrometeorological Institute
 - Institute of Meteorology and Water Management - National Research Institute, Poland
 - National Institute for Research and Development in Environmental Protection of Romania
 - Republic Hydrometeorological Service of Serbia
 - Slovak Hydrometeorological Institute
 - Ukrainian Research Hydrometeorological Institute
 - Szent Istvan University, Hungary
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- **Module 1:** Improve the availability and accessibility of a homogeneous and spatially representative time series of climatological data (data rescue, quality control, and data homogenization)
 - **Module 2:** Ensure Carpathian countries data harmonization with special emphasis on across-country harmonization and production of gridded climatology
 - **Module 3:** Develop a Climate Atlas
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- Respect the existing national data policies
 - Have access to the most possible data
 - Exchange the minimum needed data
 - Using common software for data quality/homogenization and interpolation/gridding
 - Each country provides the same work
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- Mean temperature, minimum and maximum temperature
 - Precipitation
 - Cloud cover
 - Relative humidity and vapour pressure
 - Sunshine duration and global radiation
 - Surface air pressure
 - Snow depth, snow water content
 - Wind speed at 2 m, wind speed at 10 m, maximum wind gust at 10 m, wind direction
- 
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- Number and percentage of
 - Severe cold days (TMI < -10 °C)
 - Frost days (TMI < 0 °C)
 - Ice days (TMA < 0 °C)
 - Summer days (TMA > 25 °C)
 - Hot days (TMA > 30 °C)
 - Extremely hot days (TMA >= 35 °C)
 - Wet days (PREC > 1 mm/day)
 - Wet days (PREC > 20 mm/day)
 - Maximum of 1 day total precipitation
 - Maximum of 5 days total precipitation
 - Potential evapotranspiration
 - Growing season length
 - Palfai Drought Index
 - SPI-3, SPI-6, SPI-12
 - SPEI-3, SPEI-6, SPEI-12
 - RDI-3, RDI-6, RDI-12
 - Palmer Drought Severity Index
 - Aridity Index
 - Moisture Index
 - Elenberg Index
 - Cooling Degree Days
 - Heating degree Days
 - Growing Degree Days
- 

www.carpatclim-eu.org



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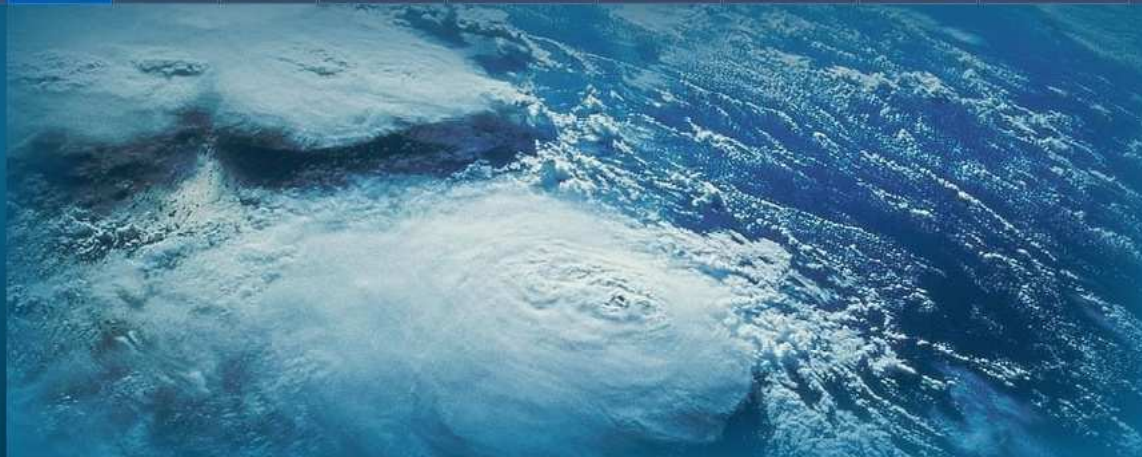
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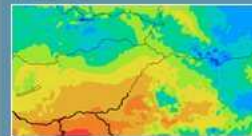


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Metadata

Identification info

Title	Mean air temperature monthly/yearly gridded dataset, CARPATCLIM area
Date	2012-10-23
Date type	Publication: Date identifies when the resource was issued
Code	http://www.carpatclim-eu.org/90c_30.Id
Presentation form	Digital map: Map represented in raster or vector form
Abstract	The grid shows Average mean air temperature values across interest area in the form of two-dimensional array data. The data represent The monthly/yearly means computed from the daily gridded datasets and cover the 50-year period 1961-2010. All input gridded data underwent a high degree of harmonization, homogenization and quality control before analysis. Gridded data were generated using the MISH (http://www.carpatclim-eu.org/docs/mashmish/mashmish.pdf). See STATEMENT below for more information.
Status	On going: Data is continually being updated

Point of contact

Individual name	Sandor Szalay	Voice	+3628522000 / 1824
Organisation name	CARPATCLIM	Electronic mail address	szalai.sandor@mkk.szie.hu
Position name	Manager	OnLine resource	www.carpatclim-eu.org
Role	Author: Party who authored the resource		

Maintenance and update frequency	As needed: Data is updated as deemed necessary
Descriptive keywords	gridded , climatology , meteorology , Climate Atlas (theme).
Descriptive keywords	Carpathian region (place).
Other constraints	Data is freely available for download. Please note that the copyright for any gridded datasets it is held by the CARPATCLIM and any use of the data shall give acknowledgement of the source in reference to the data. Please contact us (see Contact details) for more information.
Spatial representation type	Grid: Grid data is used to represent geographic data

Distance








Units of measure	DecimalDegrees
Distance	

.... Resolution, Quality Info, Reference System Contacts,

Deliverables



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-  **D1.6 - Report of data inventory of meteorological stations per month to be considered for the service, including the specification of existing data gaps and proposed methodologies to fill them, and of existing analogue datasets to be digitized**
[Get PDF](#)
-  **D1.10 - Final report on the documentation of the data rescue and digitization exercise, per country**
[Get PDF](#)
-  **D1.12 - Final report on quality control and data homogenization measures applied per country, including QC protocols and measures to determine the achieved increase in data quality**
[Get PDF](#)
-  **D1.15 - Implemented drafts version of metadata per country of meteorological stations selected for this project, including the length of record and observed parameters per station**
[Get PDF](#)
-  **D2.5 - Report with final results of the data harmonization procedures applied, including all protocols, per country**
[Get PDF](#)
-  **D2.8 - Final version of gridded datasets of all harmonized and spatially interpolated meteorological parameters, per country**
[Get PDF](#)
-  **D2.9 - Final report on the creation of national gridded datasets, per country**
[Get PDF](#)



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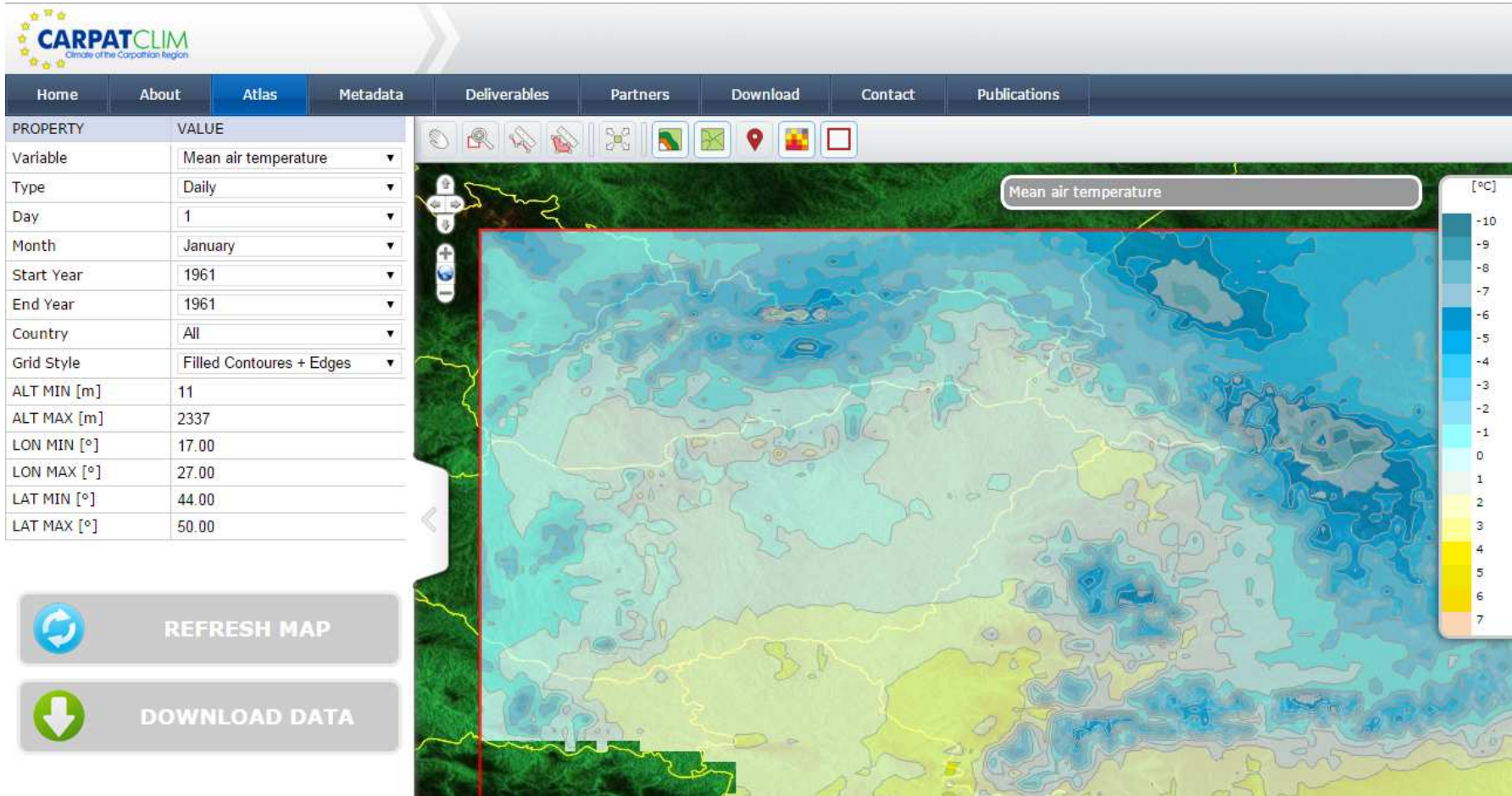
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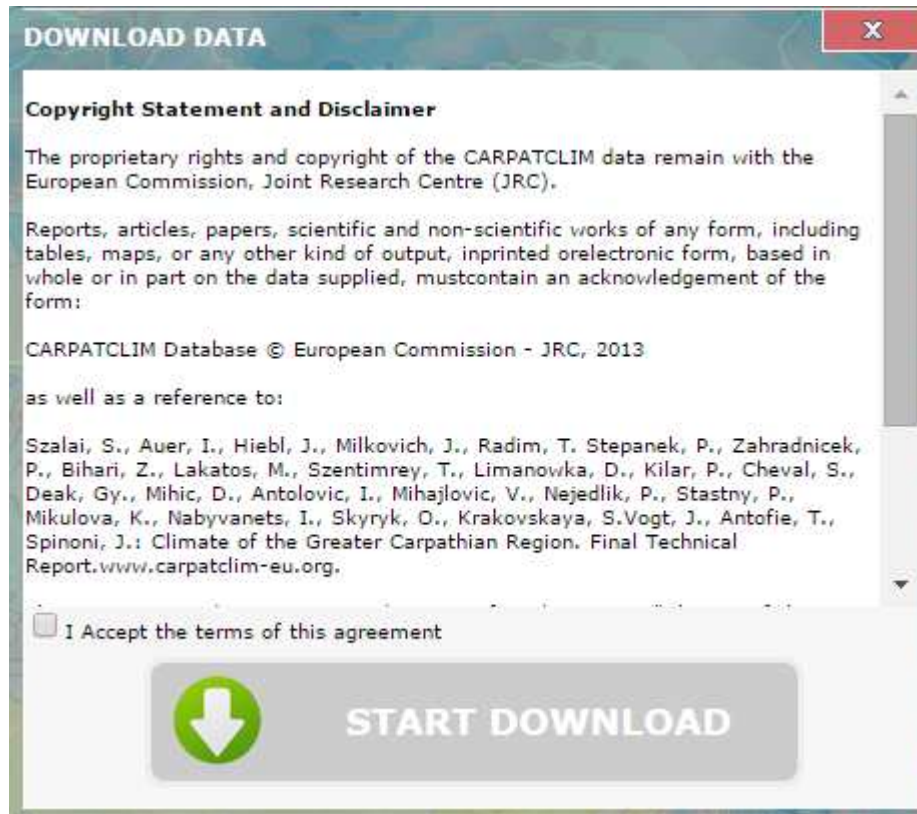
Publications






- Spinoni J., Vogt J., Szalai S., Szentimrey T., Lakatos M., Bihari Z., Mihic D., Cheval S.: Climate change in the Carpathian Region. 14th EMS / 10th ECAC Conference, 6-10 October 2014, Prague (Czech Republic).
- Spinoni J. and the CARPATCLIM project team (39 authors): Climate of the Carpathian Region in 1961-2010: Climatologies and Trends of Ten Variables. Int. J. Climatol, Article first published online:12 June 2014. 2014. DOI: 10.1002/joc.4059.
- Antofie T., Naumann G., Spinoni J., Vogt J.: Drought recovery in the Carpathian region. HESSD, published online and currently in open discussion, 2014.
- Szalai S., Spinoni J., Galos B., Bessenyei M., Molar P., Szentimrey T.: Use of regional database for climate change and drought. 5th IDRC Davos 2014: Global Risk Forum GRF Davos, 24-28 August 2014, Davos (Switzerland).
- Szalai, S., Konkolyné Bihari, Z., Lakatos, M. Szentimrey, T.,2013: The CARPATCLIM project. High-resolution database of the Carpathian Region. Seminar on Environmental Problems. Szent Istvan University. (in Hungarian)
- Szalai, S., Konkolyné Bihari, Z., Lakatos, M. Szentimrey, T.,2013: The role of the databases in the security. Conference on Climate Change and security. Budapest (in Hungarian)
- Lakatos, M., Szentimrey, T., Bihari, Z., Szalai, S., 2013: Creation of a homogenized climate database for the Carpathian region by applying the MASH procedure and the preliminary analysis of the data, Időjárás, Vol. 117., No. 1., 143-158
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- Szalai, S. 2013: CARPATCLIM A Climate change and adaptation in the Carpathian mountains. ECCA Conference Hamburg, Special Session on Climate Change Adaptation in mountain areas
- M. Lakatos, Z. Bihari, T. Szentimrey, S. Szalai and the CARPATCLIM project Team: Climate of the Carpathian Region - summary of the CarpatClim project, 3th EMS Annual Meeting & 11th European Conference on Applications of Meteorology (ECAM) | 09 – 13 September 2013, Reading, United Kingdom http://presentations.copernicus.org/EMS2013-501_presentation.pdf
- M. Lakatos, T. Szentimrey, Z. Bihari, S. Szalai: Investigation of climate extremes in the Carpathian region on harmonized data, International Scientific Conference on Environmental Changes and Adaptation Strategies 9th - 11th September 2013, Skalica, Slovakia <http://www.cbks.cz/SbornikSkalice2013/pdf/Lakatos.pdf>
- Antofie T., Naumann G., Spinoni J., Weynants M., Szalai S., Szentimrey T., Bihari Z., Vogt J.: A drought severity climatology for the Carpathian Region using Sc-PDSI. EGU 2013, Vol. 15, 7-12 April 2013, Vienna (AT).

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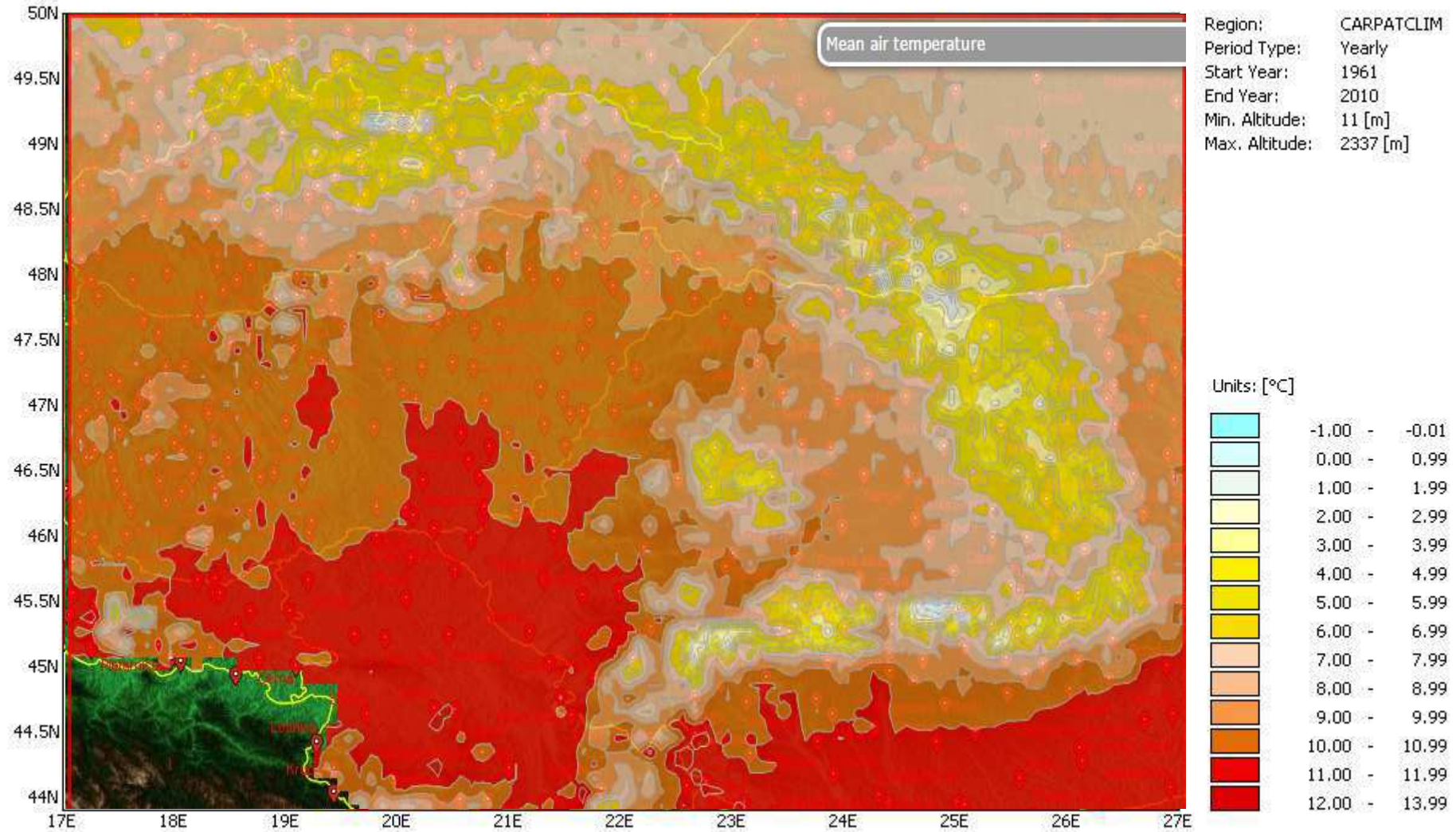
Download of data



-  CARPATGRID_TA_D_1_JAN_1961_1961.asc
-  CARPATGRID_TA_D_1_JAN_1961_1961.jpg
-  CARPATGRID_TA_D_1_JAN_1961_1961.pdf
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-  DISCLAIMER.txt

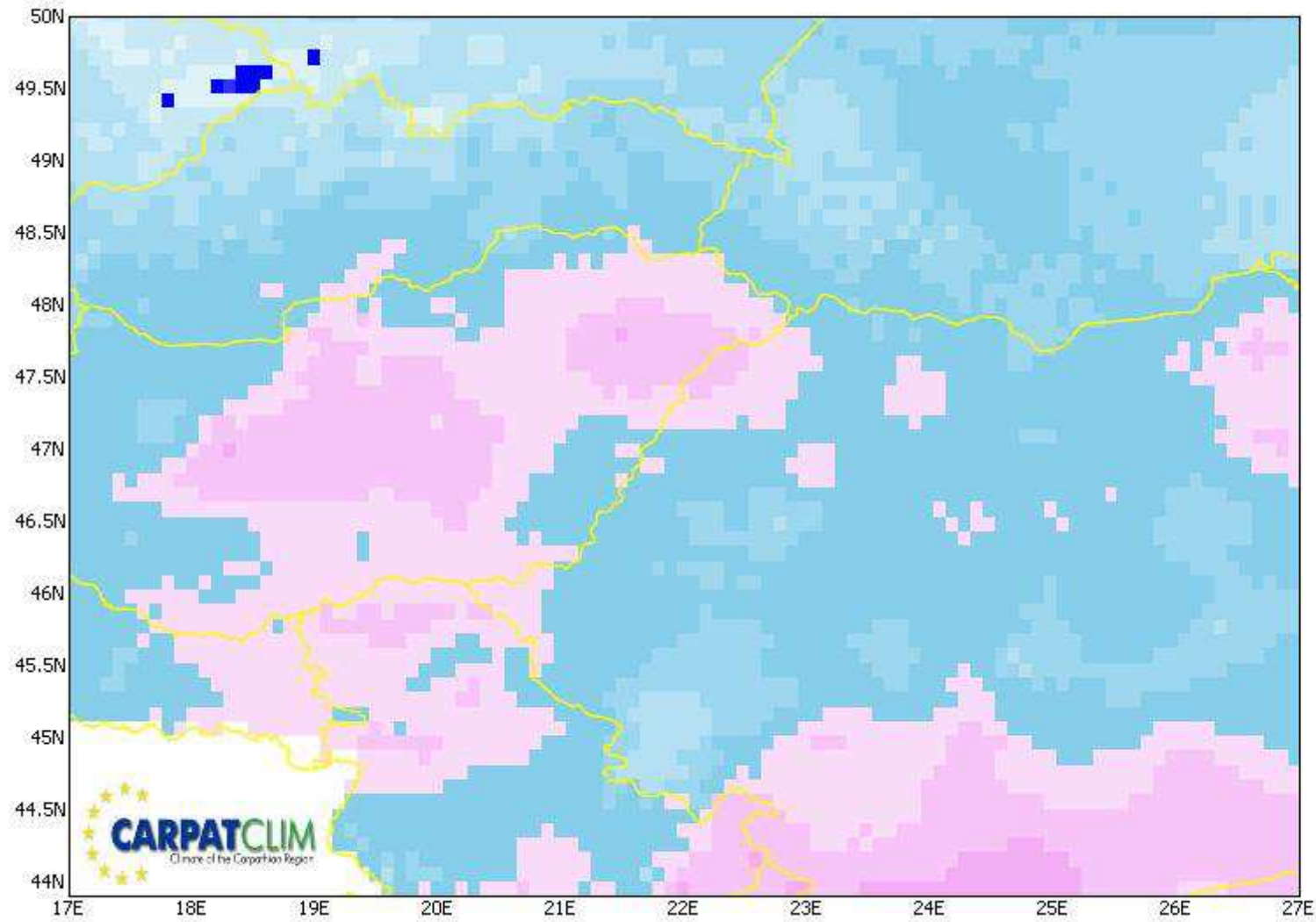


Mean air temperature





Precipitation



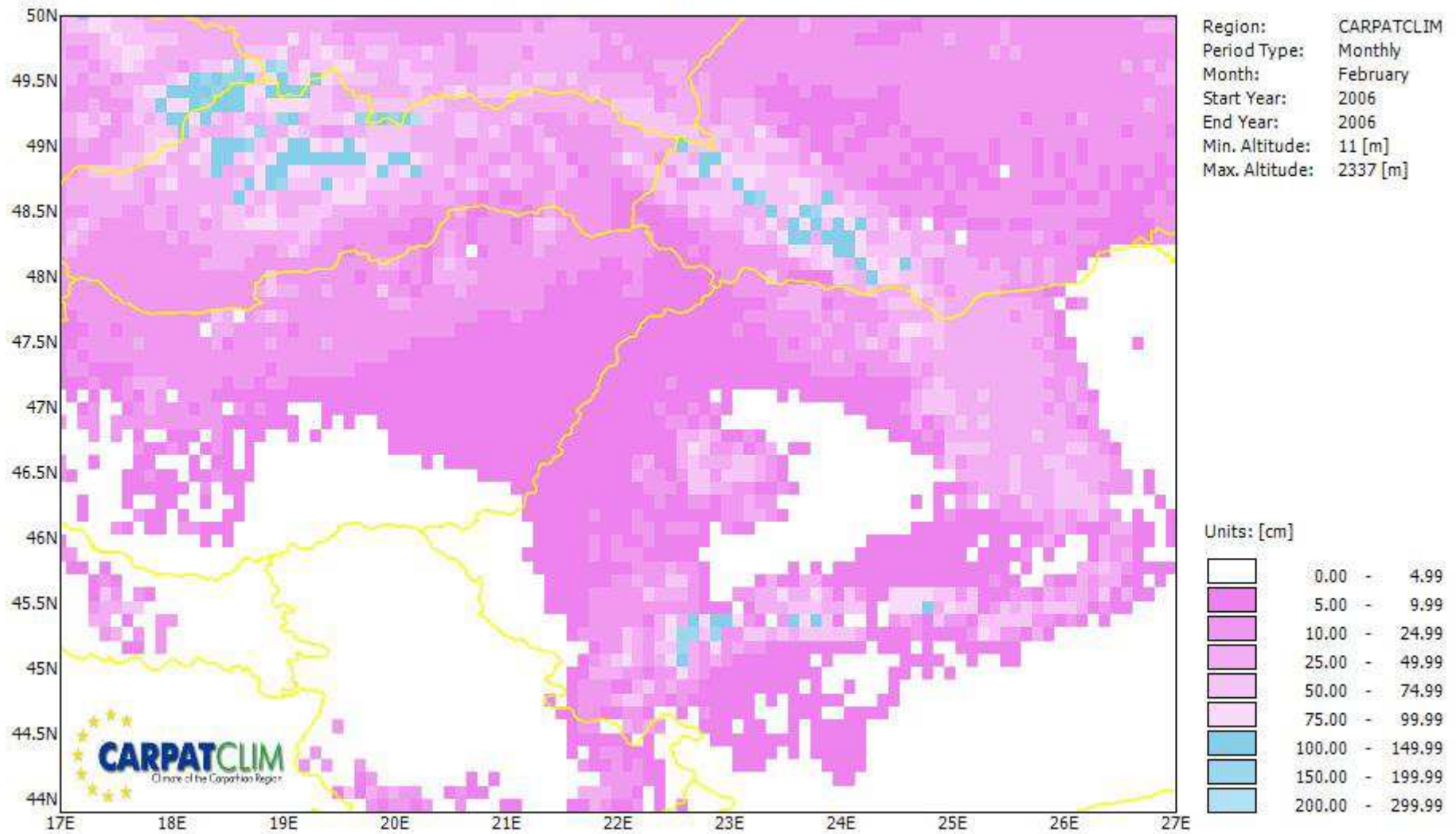
Region: CARPATCLIM
Period Type: Monthly
Month: July
Start Year: 1997
End Year: 1997
Min. Altitude: 11 [m]
Max. Altitude: 2337 [m]

Units: [mm]

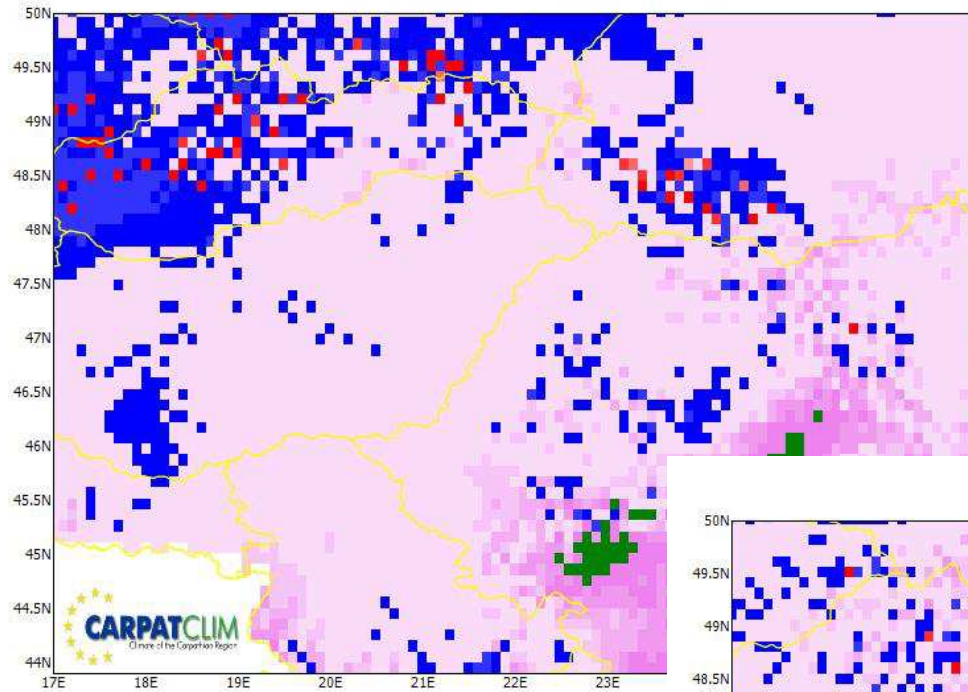
	25.00 - 49.99
	50.00 - 74.99
	75.00 - 99.99
	100.00 - 149.99
	150.00 - 199.99
	200.00 - 299.99
	300.00 - 399.99
	400.00 - 499.99
	500.00 - 599.99



Snow depth



Maximum 10m wind speed

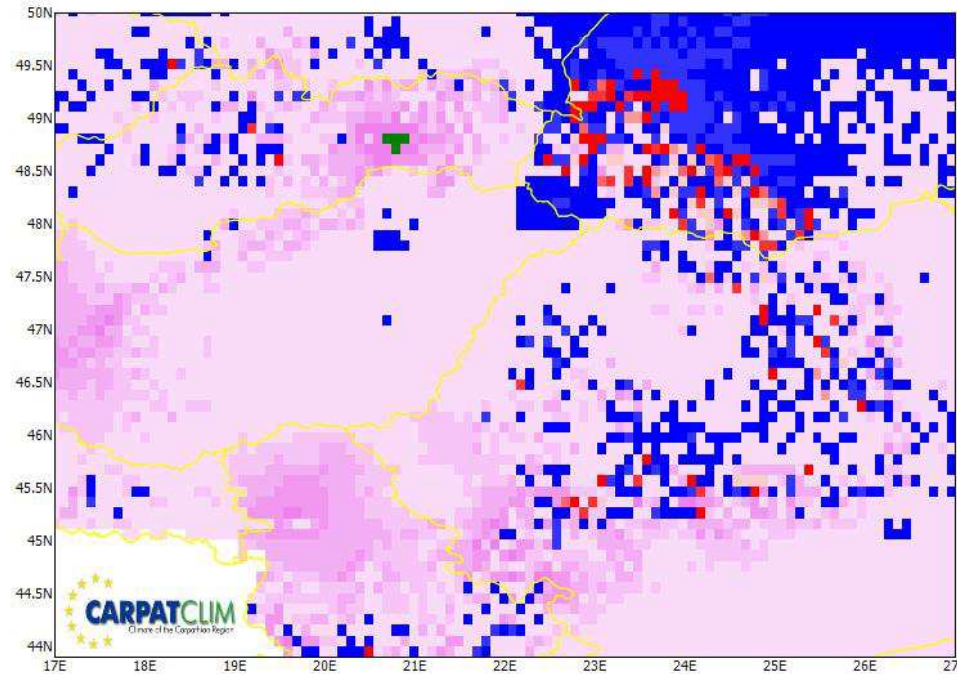


Region: CARPATCLIM
 Period Type: Daily
 Day: 19
 Month: November
 Start Year: 2004
 End Year: 2004
 Min. Altitude: 11 [m]
 Max. Altitude: 2337 [m]

Units: [m/s]

0.00 - 0.99
1.00 - 1.99
2.00 - 2.99

10m wind speed

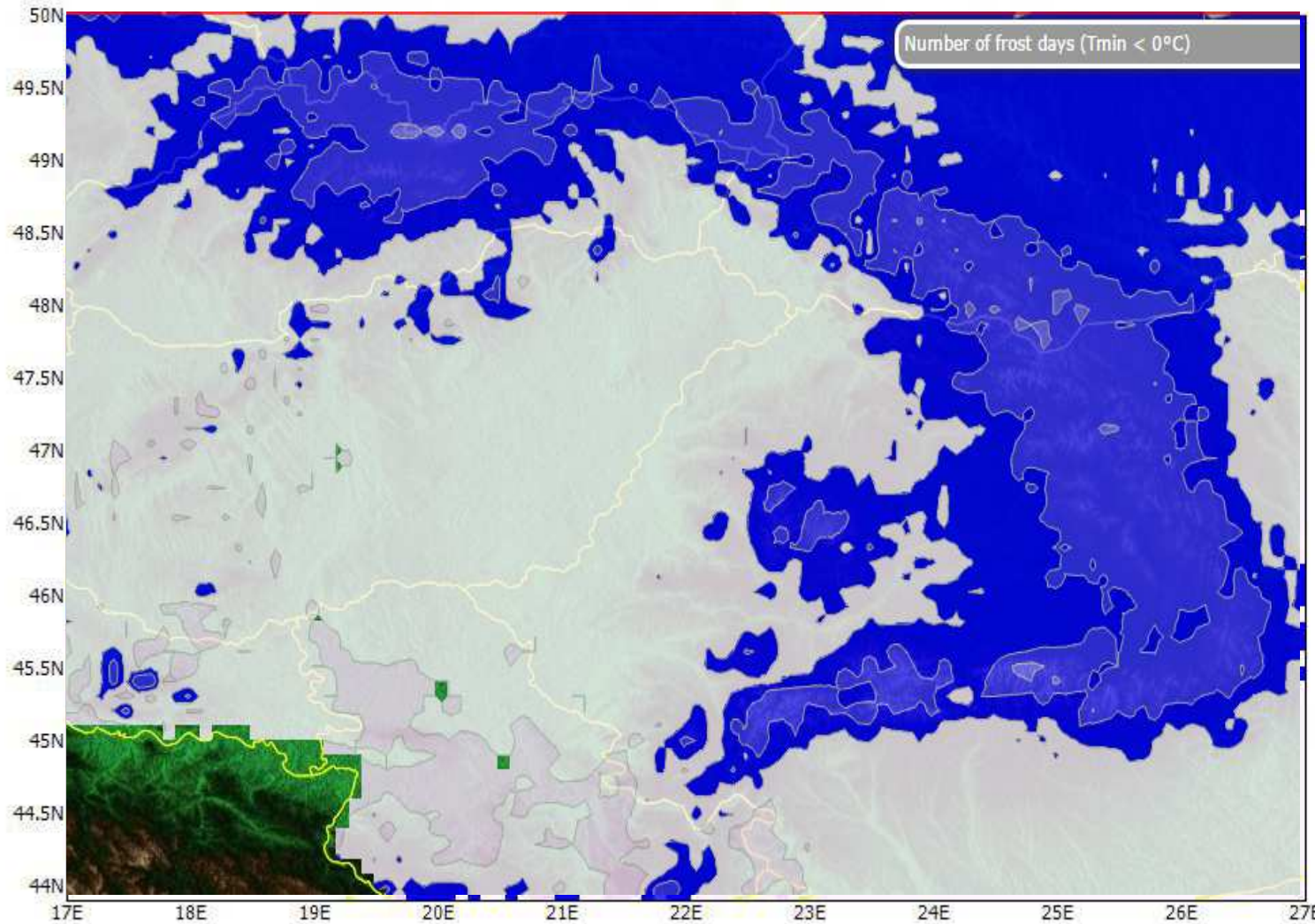


Region: CARPATCLIM
 Period Type: Daily
 Day: 19
 Month: January
 Start Year: 2007
 End Year: 2007
 Min. Altitude: 11 [m]
 Max. Altitude: 2337 [m]

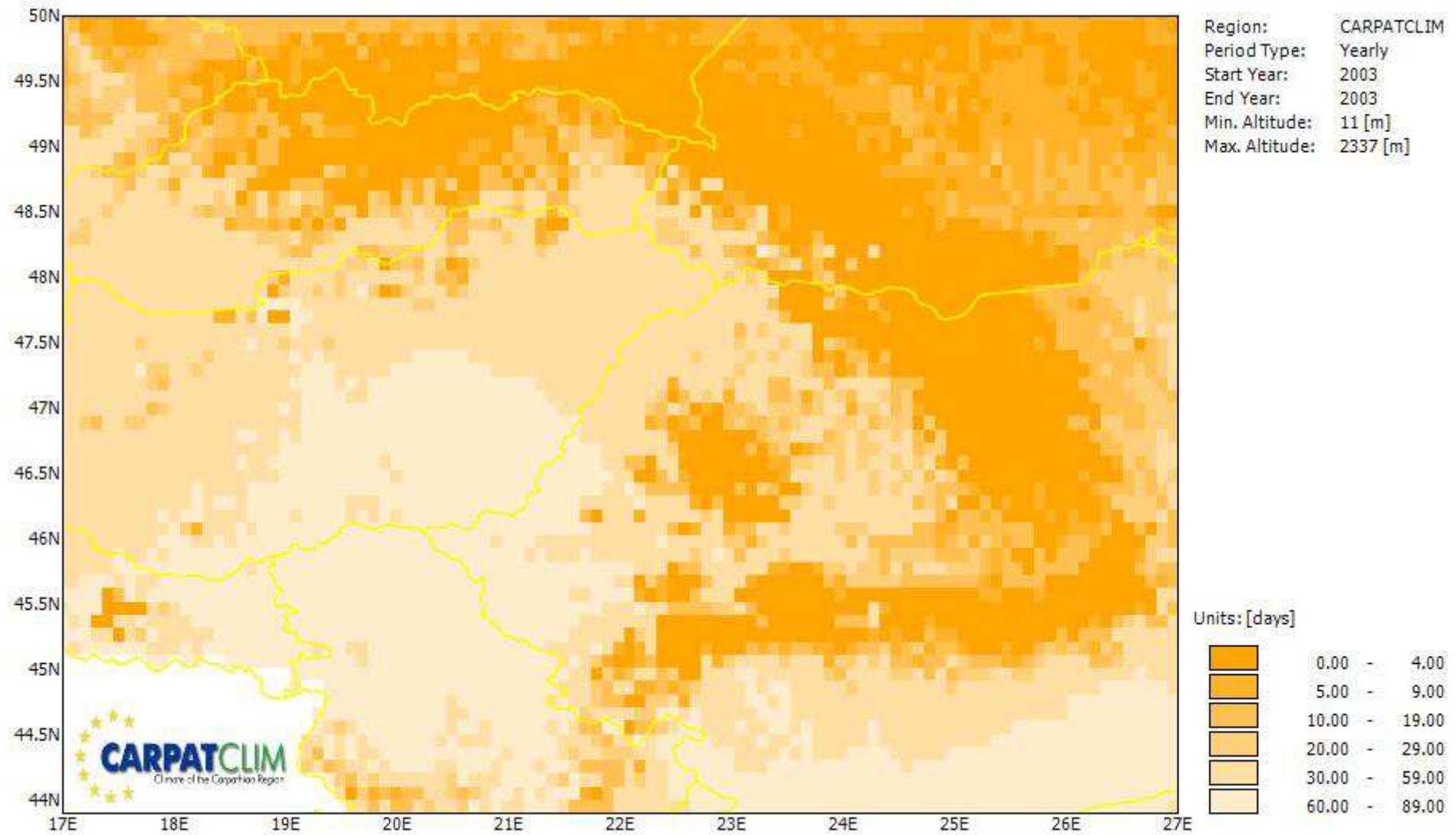
Units: [m/s]

0.00 - 0.99
1.00 - 1.99
2.00 - 2.99
3.00 - 3.99
4.00 - 4.99
5.00 - 9.99
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15.00 - 19.99
20.00 - 24.99
25.00 - 29.99
30.00 - 34.99
35.00 - 39.99

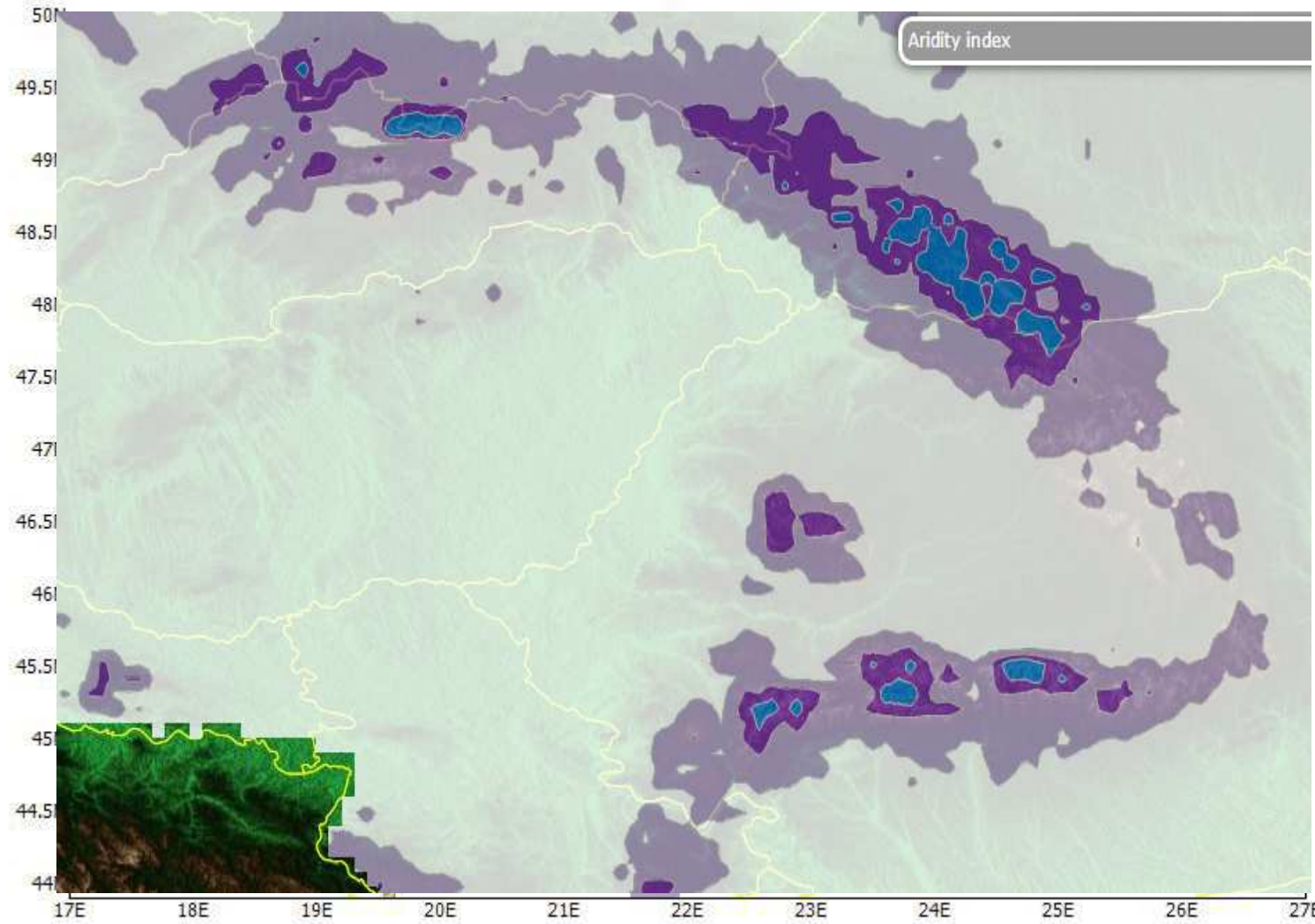
Number of frost days ($T_{min} < 0^{\circ}C$)

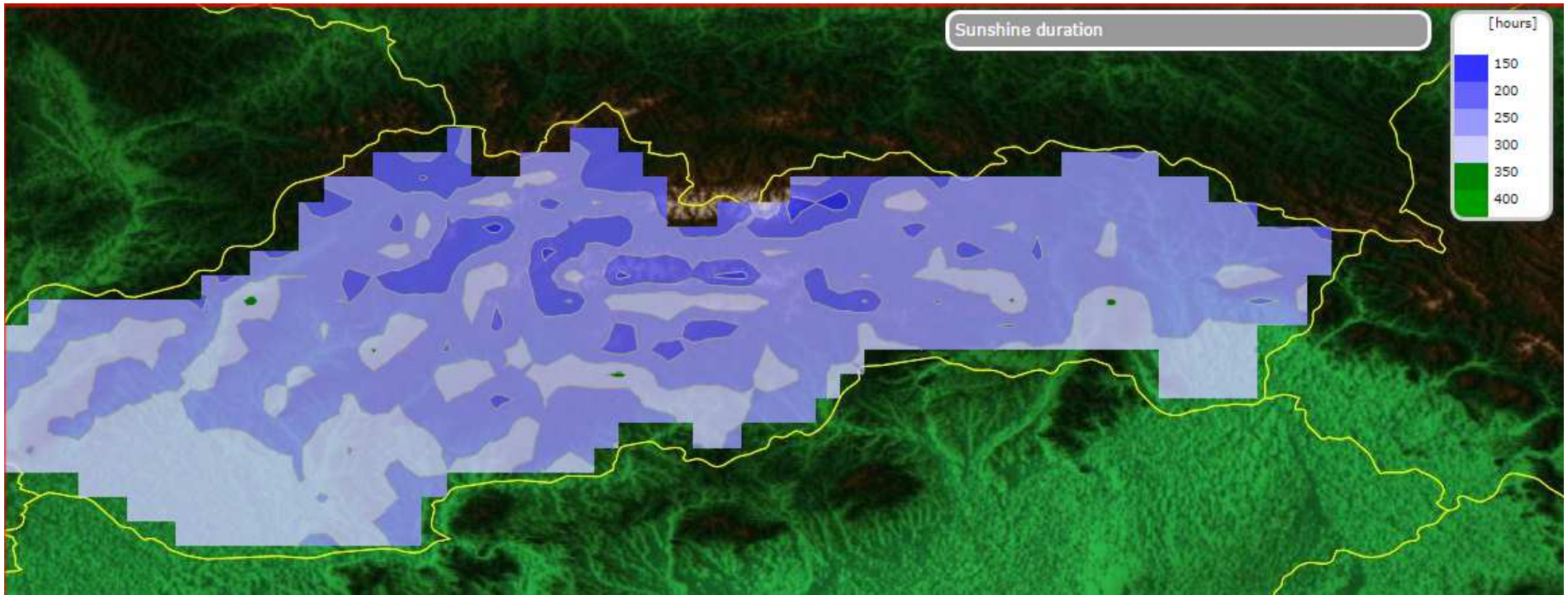


Number of hot days ($T_{max} > 30^{\circ}\text{C}$)

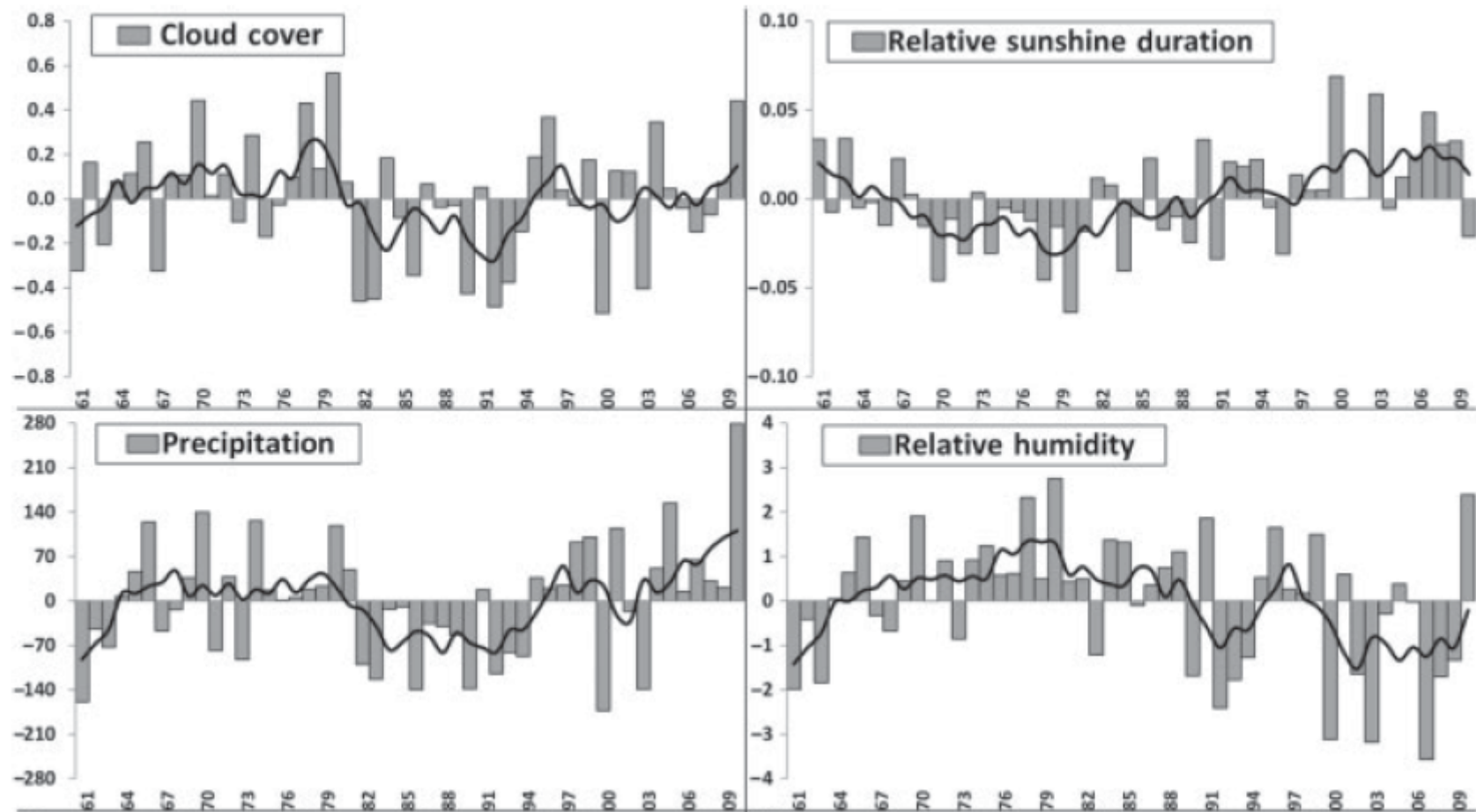


Aridity index

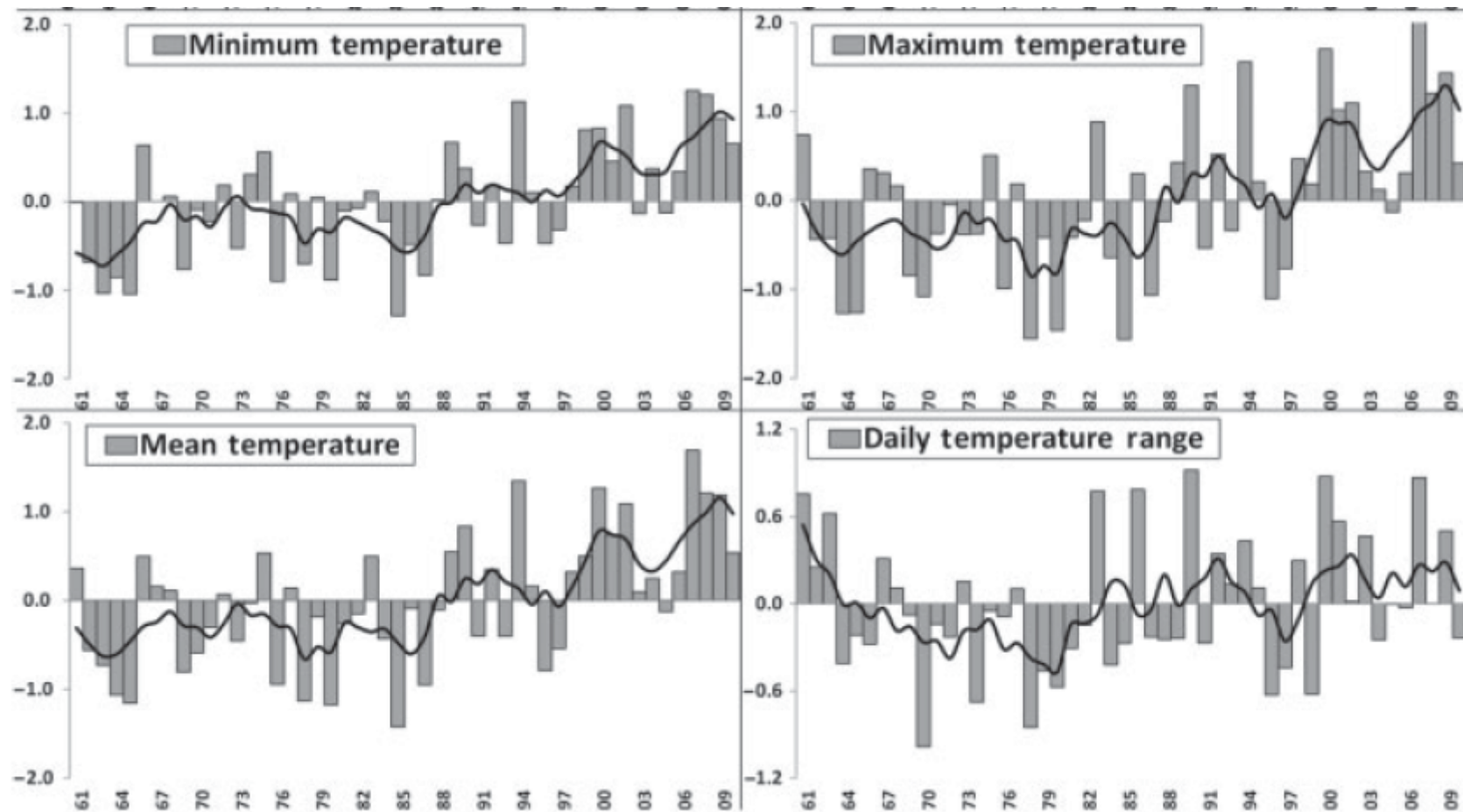




Annual average series of selected variables (in anomalies) for the period 1961–2010 over the entire Carpathian Region with the 5-year moving average



Annual average series of selected variables (in anomalies) for the period 1961–2010 over the entire Carpathian Region with the 5-year moving average



Mean air temperature

