

# **New Climate Atlas of the Czech Republic - Temperatures**

**V. Kveton, M. Zak**

Dept. of Climatology, Czech Hydrometeorological Institute, Prague, Czech Republic  
(vit.kvetonk@chmi.cz)

The last Climate Atlas of the Czech Republic was published in 1958, and was based on period 1901-1950. In the last decade many maps of average monthly and annual air temperatures were done for periods 1961-1990 or 1971-2000 (constructed digitally).

The new Climate Atlas of the Czech Republic is supposed to be published in 2006. It is based on period 1961-2000. The Air Temperature section characterizes the temperature pattern in the territory of the Czech Republic. Average temperatures are given for a year, season, individual months and vegetation period, by means of which the annual course of temperatures and rate of thermic continentality and oceanity are expressed. Maps of the duration, beginning and end of periods with prevailing characteristic average daily temperatures as well as a map of annual daily temperature totals of at least 10°C are also included. The averages of annual and monthly maximums and minimums, monthly averages of daily maximums, minimums and their differences (temperature amplitudes), as well as the annual average numbers of days with specific maximum and minimum thermometer values, such as tropical, warm, frost, ice, and arctic days, days crossing 0 °C, days without frost, and average earliest and latest occurrence of frost days in a year are presented, too. An orientation map of the number of tropical nights and number of days with ground frost is also included.

Maps were made directly in digital form by help of GIS tools. If necessary, the data were transformed using a suitable function, so that possible non-linear dependence of temperature variables on elevation was eliminated before the data were entered into standard algorithms of spatial interpolation. During the corrections, large differences between observed temperatures and the expected values arrived at by means of regression were individually assessed with respect to particular weather situations (especially the occurrence of strong horizontal advection and non-linear dependence on elevation). Besides the wide spectrum of maps, the Atlas contains also many tables and graphs including their interpretation.

Some examples of maps and graphs are given.

The Atlas contains parallel Czech and English text.