



Regional tendencies of extreme wind characteristics over Hungary

Kornélia Radics (1,2), Csilla N. Péliné (1,2), and Judit Bartholy (2)

(1) Geoinformation Service, Hungarian Defence Forces, Budapest, Hungary (kornelia.radics@mil.hu, +36-1 3362161), (2) Department of Meteorology, Eötvös Loránd University, Budapest, Hungary (bari@ludens.elte.hu, +36-1 3722904)

Human activities have substantial effects on climate system and climate change will directly influence the global economy and society in the near future. While change in the long-term mean climatic conditions will have significant consequences, the most important effects of climate change may come from changes in the intensity and frequency of climatic extremes. It is therefore of great interest to document and evaluate the extremes of near-surface wind that could assist in estimating the regional effects of climate change.

Recently a research started on specifying the possible changes of wind characteristics over Hungary. The study is based on 33-year-long (1975-2007) wind (speed, direction, and gust) data sets of 36 Hungarian synoptic meteorological stations. Spatial and temporal distributions of mean and extreme wind climate characteristics were estimated, wind extremes and trends were interpolated and mapped over the country. Finally, measured and reanalysis (ERA-40) wind data were compared over Hungary. This might be important in order to check the adaptability of climate simulation results in estimation of regional climate change effects besides the direct validation of ERA-40 reanalysis data sets.