EMS Annual Meeting Abstracts,
Vol. 6, EMS2009-332, 2009
9th EMS / 9th ECAM

9th EMS Annual Meeting
9th European Conference on Applications of Meteorology
High resolution meteorology
- applications and services

Regional tendencies of extreme wind characteristics in Hungary

Dr. Radics (1,2), Dr. Bartholy (2), Péliné (1,2)

(1) Geoinformation Service, Hungarian Defence Forces, Budapest, Hungary (kornelia.radics@mil.hu, 00-36 1 3362160), (2) Eotvos Lorand University, Department of Meteorology, Budapest, Hungary (bari@ludens.elte.hu, 00-36 1 3722904)

Human activities have substantial effects on climate system. It has already accepted that change in the long-term climatic mean state will have significant consequences in the global economy and society, but 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 the extremes of surface wind that could assist in estimating the regional effects of climate change. The research presented is based on 34-year-long (1975-2008) wind (speed, direction, and wind gust) data sets of 36 Hungarian synoptic meteorological stations. After processing (including digitalisation of old instrumental records, quality control and homogenisation of wind time series) the measured wind data sets, time series and complex wind climate analysis were carried out. 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 reanalysed (ERA40) wind data were compared over Hungary, in order to verify not only the validity of ERA40 reanalysed data sets, but the adaptability of climate simulation results in estimation of regional climate change effects.