Geophysical Research Abstracts
Vol. 14, EGU2012-12037, 2012
EGU General Assembly 2012

Regional tendencies of extreme wind characteristics from measured, reanalysis and simulated time series over Hungary

Cs.N. Péliné (1), K. Radics (1), and J. Bartholy (2)

(1) HDF Geoinformation Service, Budapest, Hungary (peline.csilla@mil.hu), (2) Dept. of Meteorology, Eötvös Loránd University, Budapest, Hungary

It is widely known that changing global climate may trigger a disproportionate response in extremes. Therefore, it is a key issue to understand climate variability and climate change and analyze observed extreme events that could link to changing regional climate. Nowadays, there is a great interest to document and evaluate the extremes of near-surface wind that could assist in estimating the regional effects of climate change in Hungary. Our study, focused on observed wind speed and wind gust values, is based on 36-year-long (1975-2010) wind data set of 36 Hungarian synoptic meteorological stations. Complex analysis of wind climate was carried out, spatial and temporal (monthly and seasonal) distributions of mean and extreme wind characteristics were estimated. Measured and ERA Interim reanalysis data (1997-2010) were compared in order to prove the adaptability of contemporary climate simulation results in estimation of regional climate change effects. Finally, monthly and seasonal wind field projections of ECHAM regional climate model were mapped and analyzed (2021-2050 and 2071-2100) for the Carpathian Basin.