



Spatial relationships of the monthly, daily and subdaily wind speed and maximum wind gust

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Spatial relationship of the wind speed is not the same everywhere. Some meteorological stations represent only the conditions of the surrounding, other measurements describe the wider area. Mostly it depends on the terrain. Different spatial relationships are also observed depending on the temporal resolution of data. Correlation coefficients of subdaily, daily and monthly wind speed between more than two hundred meteorological stations in the area of the Czech Republic were calculated. Correlation coefficients rapidly decrease with the greater distance and difference in altitude. Average correlation for each station was found and interpolated to the map. Next, differences were compared for the spatial relationships between monthly, daily and measurements in the 7, 14 and 21 observation hours. Differences were analyzed for each month and season. Spatial correlations were calculated for daily and monthly maximum wind gust as well and the results were again interpolated into the maps. Spatial relationship of the maximum wind gust is stronger in the winter months. In the summer major differences are due the storms. Analysis of the average wind speed for the Czech Republic was compared with the results for Slovakia and Lower Austria.

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