



## Synoptic conditions during the occurrence of long series of storm days in Central and Southern Europe

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Storms accompanied by severe weather phenomena, including lightning, hail, heavy rains, strong winds, land-spouts and tornadoes, posing threat to human life and activities.

The aim of the study is to present the synoptic conditions that caused the long series of storm days in selected cities of Central and Southern Europe during the years 2005-2013. These cities are located in the area of moderate warm climate and subtropical climate. Brest (France) and Porto (Portugal) represent maritime climate, Warsaw (Poland), Prague (Czech Republic) and Naples (Italy) – transition, while Orenburg (Russia) and Thessaloniki (Greece) – continental.

The data used in the work relate to the number of storm days in the years 2005-2013 and analysis of synoptic situation which includes synoptic maps of daily meteorological bulletin IMGW.

Days of the storm may occur singly, at intervals of one, few or over a dozen days, but the phenomenon of the storm may also appear daily for a short period of time. At every station there were more single-day storm. The shortest sequence lasted 2 days (performed at all stations), and the longest 10 days in Naples.

Ranged ( $> 5$ ), periods of storm days occur very rarely - just a few times. This means that, synoptic conditions conducive to the formation of this phenomenon does not last long, ending at 1 or 2 storm days. This demonstrates the great dynamics of changes in the atmospheric circulation in moderate warm climate and subtropical climate. Ranged series of storm days can appear from May to September, but most often occur in the summer in Central Europe. Storms occurred frequently in autumn and winter in Southern Europe.

The long series of the storm appear in both frontal storms and thermal storms. Rarely, throughout this period there is one type of storm: only thermal or only frontal.

Keywords: storms, series of storm days, synoptic conditions, Brest, Warsaw, Prague, Orenburg, Porto, Naples, Thessaloniki