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Conference on European Tornadoes and Severe Storms

Tornadoes and waterspouts in the Balearic Islands: phenomena and environment characterizations

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Some characteristics of the tornadoes and waterspouts observed in the Balearic Islands have been collected from 1989 to 1999. A total of 27 tornadoes and 51 waterspouts have been recorded.

We present a preliminary climatological study including the path, intensity, seasonal frequency and hourly distribution of the tornadoes. With respect to the waterspouts we restrict the study to the location, seasonal frequency and hourly distribution.

Working with soundings launched in Palma de Mallorca within the 3 hours time from the occurrence of the phenomena, a characterisation of the vertical structure of the atmosphere has been done. We consider separately the tornadoes cases from the waterspouts events. Even the waterspouts cases present a greater dispersion in the vertical profiles, they tend to occur in tropospheric environments colder than the tornadoes ones. Furthermore, humidity at low levels is found to be higher in tornadoes events than for waterspouts events.

A characterization of the synoptic patterns in which thunderstorms producing tornadoes and waterspout developed is presented using ECMWF analyses.

