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Tornado activity in Greece within the 20th Century

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Tornado activity is associated with extreme convective weather which can cause extended damages and even more in some cases the loss of life. The complex inland terrain of Greece along with the Ionion Sea at the west and the Aegean Sea at the east appear to be a favorable area for fury phenomena such as tornado, waterspouts and funnel clouds.

In this study, the spatial and temporal variability of tornadoes activity in Greece for the period 1910-1999 are presented. The spatial distribution of tornadoes, waterspouts and funnel clouds reveals the vulnerability of specific geographical areas to tornado activity, such as the western Greece and the southern Aegean Sea. As far as the intra annual variability is concerned, the maximum of tornadoes activity dominates within the cold period of the year (October-March) while according to the daily distribution, tornadoes happen frequently during the warm hours of the day.

Furthermore, especially for the cases after 1957, the prevailing synoptic conditions during the tornado activity, based on the analysis of the 500 hPa Geopotential Heights from the archives of the European Centre for Medium-Range Weather Forecasts (ECMWF), were examined, in order to identify the weather patterns associated with the tornado genesis and development.

It is remarkable to mention that in Greece, within the 20th century, the tornado activity caused the loss of 4 lifes, the injury of 40 people and numerous damages on human constructions and cultivations.