



## **Storms and Lightning Activity in Greece during the Warm Period of the years 2003-2006**

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The present work investigates the lightning activity over Greece during the warm season (May-September) of the years 2003 through 2006, and in relation with the synoptic meteorological conditions that prevailed in the region. The study is based on the use of Cloud-to-Ground lightning activity data from the UK-Metoffice ATD system, and of analyses from the European Centre for Medium-Range Weather Forecasts.

The highest number of flashes was observed in North and West Greece and in Central and West Peloponnissos. Although there was great day-to-day variability, there was a diurnal progression of lightning with a broad maximum from 1500 to 1700 Local Time. Additionally, there is a strong relationship between the flash number and elevation heights, as the flash number increases with elevation along the sides of terrain features. Further, the synoptic patterns related to lightning activity is analysed. For that reason 60 active and 60 inactive days in terms of activity over Greece have been selected. For the high lightning activity days at the 500-hPa level there was a well developed trough over the Ionian Sea. On the other hand for the no lightning days a northwest flow was prevailing over Greece. High lightning activity was correlated with high values of absolute vorticity, equivalent potential temperature and convective available potential energy (CAPE Index).