



Study of the temporal and spatial relationship between lightning and rainfall in thunderstorms over Greece

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The present study is performed in the framework of the EU funded project FLASH. The objective is to explore the relationship between the number of lightning flashes and rainfall amounts associated with thunderstorms. The lightning data were provided by the long-range lightning detection network ZEUS and the rainfall data from a network of automatic meteorological stations, both operated by the National Observatory of Athens. The selected cases refer to events associated with important rainfall amounts in Greece that occurred during the 12 month period from June 2008 to May 2009. The study aims to focus on the temporal and spatial relationship between lightning intensity and rainfall. For that reason, both data sets are compared on hourly basis within a defined area around each rain gauge. Various time lags between lightning and rainfall data as well as various area sizes around each rain gauge are considered in order to assess the combination that results in maximization of the correlation between the two data sets.