



In search for relationships between lightning and rainfall

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Within the framework of Project FLASH, which is funded by the European Union (Sixth Framework Programme, Contract No. 036852), relations are sought between lightning activity, on the one hand, and rainfall associated with days with thundery activity over the area of Cyprus, on the other hand. The study area is the eastern Mediterranean, focusing on the island of Cyprus. The data used are rainfall measurements extracted from the archives of the Cyprus Meteorological Service, on the one hand, and lightning data originating from three sources, on the other hand. The lightning data were provided by the ZEUS lightning sensor network of the National Observatory of Athens, Greece, the LPATS, an Israeli lightning system, and from a standalone lightning sensor, operated by the Cyprus Meteorological Service. Meteosat Second Generation (MSG) satellite images were also used in this study. The area of the eastern Mediterranean was used to visualize and compare the hourly and daily total number of strikes, as retrieved from the various lightning data sets. Also, the area of the east Mediterranean was used in order to contrast the lightning data sets with the MSG imagery. Relations between lightning activity and precipitation were established over Cyprus. For this purpose, precipitation data from rain stations in Cyprus, were compared with lightning data distributed in circles of varying radius (2, 5 and 10km) around the rain stations and with several time lags (5, 10 and 15min).