Plinius Conference Abstracts,
Vol. 11, Plinius11-80, 2009
11th Plinius Conference on Mediterranean Storms

Lightning Location with LINET in Mediterranean Areas

H. D. Betz (1), V. Kotroni (2), and K. Lagouvardos (2)

(1) University of Munich, Physics, Garching, Germany (hans-dieter.betz@physik.uni-muenchen.de, and nowcast GmbH Munich, (2) National Observatory of Athens, Institute for Environmental Research, Athens, Greece

During the past years the lightning location network (LINET), developed at the University of Munich and operated by nowcast GmbH, has been expanded to a wide area in southern Europe with the inclu-sion of major centers of the Mediterranean Sea. The network presently comprises about 100 sensor loca-tions in 20 countries, and allows rep-resentative coverage of Mediterranean storms. Due to a somewhat incomplete sensor geometry in several countries and large baselines over water surfaces the detection efficiency is inhomogeneous; however, since the used network technology and data analysis is uniform, first order corrections can be applied. Additional scaling can be provided by long-range networks such as ZEUS, operated by NOA in Athens; this network – though less effective than LINET – exhibits smaller variations of detection efficiency when large areas over land and sea are considered. For a num-ber of storms lightning parameters will be extracted and discussed. Examples for characteristic storm cells will be shown and their displacement in space and time will be analyzed. Some additional data sources are taken into account and possibilities are scrutinized, which relate lightning observations with precipitation. Relations of this kind are especially useful when lightning data is the major source that is available in real time.