Plinius Conference Abstracts
Vol. 12, Plinius12-94
12th Plinius Conference on Mediterranean Storms
Corfu Island Greece, September 2010


# Characteristics of cyclones producing intense precipitation events at the Mediterranean coast

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This study considers intense precipitation events at the Mediterranean coast characterized as sequences of days with continuous precipitation and large accumulated values at the end of the rainy day sequence. Long periods with multiple precipitation maxima are split in sets of shorter events. The list of cyclones are provided by an tracking algorithm applied to the ERA-40 (ECMWF Re-Analysis) dataset for the period 1958-2002. Data for the analysis of daily precipitation are provided by the ECA (European Climate Assessment, hosted at Royal Netherlands Meteorological Institute, KNMI) dataset. The presence of cyclones when intense precipitation is recorded shows a clear link between the two processes and the link emerging from this analysis is much stronger that that deriving from the analysis of individual very rainy days. This analysis also shows that there is link between the precipitations events and the intensity of the cyclones, their velocity, and the amount of water vapor in the middle troposphere.