Analysing the links between the present trends of precipitation and cyclone activity

Prof. P. Lionello
Dep. Material Science, Via per Arnesano, Lecce, Italy, email: piero.lionello@unile.it

It is well known that cyclones play a role in precipitation events, however a systematic analysis of the relation between cyclone activity and precipitation variability has not been systematically carried out. This study uses, on one hand, the storm track evaluation and cyclone tracking based on the ERA-40 fields and, on the other hand, the CRU precipitation dataset for investigating this link on the monthly scale. The analysis is integrated by the daily ECA-KNMI for the analysis of intense precipitation events. The analyzed area includes the North Atlantic, Europe and the Mediterranean. It shows the correlation between precipitation and cyclones and a substantial agreement between the behavior of the storm track and that of precipitation.