



Instability and its relationship with precipitation dynamics over the Eastern Iberian Peninsula

I. Iturrioz (1)

P. Ribera (2)

E. Hernández (1)

S. Queralt (1)

1. Departamento de Física de la Atmósfera, Universidad Complutense de Madrid, Spain
2. Universidad Pablo de Olavide, Sevilla, Spain

A direct relationship between instability index and precipitation is established on several stations of the Iberian Peninsula. Humidity sources producing precipitation over each station are determined. Considering instabilities and humidity sources, a classification of the types of precipitation in the eastern Iberian Peninsula is produced for every season. Summer precipitation is better characterized by thermodynamic instability indices (NCAPE, CAPE, Lifted Index), when convection is stronger than during winter months. On the other hand, winter precipitation is better characterized by dynamic instability indices (vector Q divergence, potential vorticity anomalies). In this way a division can be produced between convective and stratiform precipitation. A climatology of the origin of the precipitation has been produced with thermodynamic and dynamic indices.