



## Cyclones producing floods in Italy in the second half of twenty century

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In this study the link between cyclones and floods in North and South Italy is explored. The analysis considers the second half of the 20th century. Data for the analysis of the cyclones are provided by the ERA-40 (ECMWF Re-Analysis) dataset for the period 1958-2002. Data for the analysis of floods are provided by SICI (Sistema Informativo Sulle Catastrofi Idrogeologiche) . This study shows the presence of cyclones when floods occurs. A tracking algorithm is used for following the whole development of cyclones and shows that intensity of the circulation (Slp minimum, Laplacian, slp gradient, depth,size) , the average speed of the cyclone centre and moisture content of the middle troposphere are important characteristics explaining the severity of flood.