



## **Mediterranean Precipitation Changes in IPCC Model Simulations: Relative Role of Dynamic and Thermodynamic Processes**

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Recent observational analyses show that large precipitation decreases occurred in the last 20 years in the Mediterranean region and were larger in the western parts of the basin. An analysis of IPCC model predictions for the 21<sup>st</sup> century finds a continuation of this precipitation trend, with precipitation decreases that extend throughout the Mediterranean region and reach values as high as 20% of the current mean precipitation by the end of the century. Decreases of similar magnitude are found in both the winter and summer seasons. In this study the relative influences on Mediterranean precipitation changes of dynamic and thermodynamic processes is examined. Model precipitation variability is correlated with changes in sea level pressure, the North Atlantic Oscillation (NAO) index, and temperature and humidity changes, and the correlations are performed separately for the stratiform and convective components of the precipitation field. Preliminary results indicate a large spread among the models in the way that they partition Mediterranean precipitation into stratiform and convective rain and in the relative strength of the precipitation dependencies on dynamical and thermodynamical parameters. Current work is focusing on deriving observational constraints for the precipitation dependencies derived by the IPCC models.