

CLIVAR-SPAIN contributions: Comparing recent precipitation trends in the Mediterranean in models and observations

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As a response of anthropogenic forcing, the main global climate models project a dramatic decrease in precipitation over the Mediterranean basin during the 21st century. These projected reductions, present in all seasons, are particularly strong in summer, when changes can reach values higher than 50% in some regions. We investigate whether these simulated changes are consistent with recent observed trends in terms of geographical and seasonal distribution and magnitude. Regarding observations, we find significant negative trends in annual mean precipitation for time periods beginning around 1960 over some regions of the basin and that this decrease is mostly due to rainfall reductions in late winter and, to lesser degree, late spring. Instead, in summer we still do not detect any significant trends. We then examine individual climate simulations in order to assess whether this observed trends are captured by models already in late 20th century.