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Climate change impacts on agriculture in Apulia

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This study describes the evolution of climate from recent past to the next decades in Apulia, a region in Southern Italy, and estimates its future impacts on its main agricultural products. The analysis is based on instrumental data, on an ensemble of climate projections and on a linear regression model linking typical Mediterranean products (wheat, olive oil and wine) to seasonal values of temperature and precipitation. In the past decades, wheat, olive oil and wine production records (the three main agricultural products in Apulia) show large inter-annual variabilityand an important fraction of it is explained by past climate variability. Regional Climate Model simulations show a large acceleration of the warming rate and a decrease of precipitation in the period 2001-2050. Results (considering no adaptation of crops) suggest that climate evolution in the first half of the 21st century would decrease wine production, have a small effect on wheat and increase olive oil production.