



Adaptation of Mediterranean agriculture to future climate change scenarios: investigations on agronomic, productive and economic impact nexus in an irrigated and rain-fed farming district.

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This study describes the processes of choice of farmers considering that they plan their activities based on an awareness of the inherent variability in the changing climatic conditions. A comprehensive and integrated methodology analysis, by means of climatological, agronomic, livestock and economic evaluations, to represent the production and economic dynamics of an agricultural Mediterranean district under the effects of climate change has been implemented. The studied district includes an irrigated lowland served by a water user association and a hilly land area where rainfed farming is practiced.

Farmers' expectations on climatic variability, and the consequent new conditions for crop and livestock, are represented in terms of probability distributions resulting from cropping system and animal modelling run with the climatic conditions in the years prior to the time of planning considered in the study. The choices due to those expectations are simulated with a supply territorial farm-type model of Discrete Stochastic Programming (DSP). The different impacts in irrigated and rain-fed areas and the options for adaptive responses are discussed.