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Variability of green and blue water consumption of wheat cultivated in different locations of Europe

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In this paper, the impact of future climate on wheat production and its water consumption was assessed for four different European locations.
The four locations considered are characterized by different climates, based on Köppen classification, more specifically warm Mediterranean (Italy), warm continental (Serbia), temperate continental (Slovakia) and temperate maritime (Belgium).
For each location, the impact of climate change and variability on green (GW) and blue water (BW) consumption and on crop water footprint (WF) were analysed by means of the simulation model AquaCrop. AquaCrop is the FAO model for the simulation of yield response to water and it is applied on a wide range of experimental studies. The model was run by using a dataset of soil and crop data collected in the four locations and covered a period of 30 years for baseline and 2 climate future scenarios.
The spatial and temporal patterns of wheat production and of the assessed water-related indicators under the three climatic conditions was investigated and discussed.