



The Climate Change Impacts on the regional crop yield in Turkey

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Abstract

This paper emphasizes the relationship between climate change and crop yield in Turkey and discusses how the variables representing the climate change impacts affect the regional crop yield in Turkey. The impacts of climate change are represented as the function of vulnerability for the period of 1980-2010. There are 2 steps in this research. Firstly, regional climate modeling is conducted for obtaining to the climatic parameters, namely total precipitation and mean air temperature. We focus on the role of those climatic variables on the crop yield. The projections were performed according to the scenarios of IPCC, namely RCP4.5 and the RCP8.5. According to the regional model results, it is seen that there will be an increase up to the 4 °C in mean air temperatures of Turkey for the period of 2020 – 2050 with respect to the period of 1970 – 2000 and also precipitation climatology of Turkey shows a decrease up to 1.2 mm/day. In the second part of the study, climatic parameters are combined and interpreted together through the panel data analysis and we examined that how the variables representing the climate change impacts have an influence on the crop yield in the some crucial regions for the crop production of Turkey. Estimated risks for crops in the panel data analysis differ from each other resulting from increase in temperature and decrease in rainfall.