



Climate projections for the Pannonian Basin with focus on extreme events

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Pannonian Basin, a flat area surrounded by hills and mountains, is located in central Europe and has the type of climate that favours continental tourism but also food production. The Danube and the Tisza rivers as well as Balaton Lake are convenient for boat sailing and cruising. Food yields may be disturbed by more frequent and stronger extreme weather events that may happen in the future.

In this work, climate projections obtained by regional climate model RegCM4 are presented. RegCM4 was forced over EURO-CORDEX domain by HadGEM2-ES global climate model on two horizontal resolutions (50 and 12.5-km). Present climate is defined by 1971-2000 period. We considered two future time slices, near future 2011-2040 (P1) and the middle of the 21st century 2041-2070 (P2) obtained by using three different IPCC scenario: the lowest RCP2.6, the middle RCP4.5 and the highest RCP8.5 emission scenario.

The range of climate change in two different time slices, P1-P0 and P2-P0, will be presented for all three scenarios for temperature and precipitation. We will also look at several indices that define climate extremes. The consideration indices that include amount of precipitation can tell us about droughts or floods and their impact on food production. Indices that are more based on temperature can be considered to study heat waves and their influence on touristic season. Knowledge of the current situation and the change in the future is very important to maintain present resources in tourism and food production but even more in planning future adaptation and mitigation measures.