



Extreme Value Statistics in highly resolved Climate Change Simulations for the Jordan River Area

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Understanding and forecasting changing trends and frequency of extreme rainfall and temperature events are extremely important for optimal planning in many sectors including agriculture, water resource management, health and even economics. For people living in the Jordan River region of the Middle East such changes can have immediate devastating impacts as water resources are already scarce and over-exploited and summer temperatures in the desert regions can reach 45 degrees or higher. Understanding and forecasting shift in frequency and intensity of extreme events can provide crucial information for planning and adaptation. In this paper we present results from recently completed regional climate model simulations centered on the Eastern Mediterranean region and focused on changes in extreme temperature and rainfall events. We show that maximum daily summer temperature will increase by between 2.5-3 degrees Celsius with an increase in warm spell length.

Precipitation extremes will also increase with longer dry spells, shorter wet spells and increases in heavy rainfall (> 75% and 90% days). In addition, we notice that the chosen global model plays an important role in determining future temperature trends while the choice of regional climate model is critical for understanding how precipitation will evolve.