

# **Climate change and extreme weather hazards in the Mediterranean Region**

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The intensity of extreme cyclones is associated with many hazardous and disruptive phenomena, such as strong winds, high ocean waves, storm surges and intense precipitation. It is therefore important to identify changes of cyclone extremes affecting their intensity, and spatial and seasonal distributions in future climate conditions. This study is based on a set of simulations carried out at ICTP in Trieste with a regional climate model (called RegCM) in the Mediterranean region. The extreme weather events for A2 and B2 scenario during the period 2070-2100 are identified, analyzed and compared with a CTR simulation based on the 1960-1990 green house gas concentration. These simulations provide directly the precipitation data and their results are processed by an cyclone tracking procedure for the identification of the most intense storms. The RegCM simulations are integrated by simulations of the ocean wave fields, carried out with the WAM model, and of the storm surge, carried out with the HYPSE model.