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Projected Changes in Temperature and Precipitation for the southeast European region

Efthimios Tagaris (1,2), Andreas Sotiropoulos (3), Ioannis Spanos (3), Panayiotis Milonas (4), and Antonios Michaelakis (4)

(1) NCSR DEMOKRITOS, ATHENS, Greece (tagaris@ipta.demokritos.gr), (2) University of Western Macedonia, Kozani, GR, (3) Terra Nova Ltd., Environmental Engineering Consultancy, Athens, GR,, (4) Benaki Phytopathological Institute. Kifisia, GR

WRF model is used to dynamically downscale NASA GISS GCM ModelE simulations over southeast European region at a 9 km by 9 km resolution for five current (2008-2012) and future (2058-2062) years following the IPCC A1B emissions scenario. Simulations suggest a future warmer climate with decreased cool and increased warm days. More days with daily average temperature above 30 °C are simulated for future summer (JJA) and spring (MAM) while warmer days appear in future autumn (SON). Spatial distribution plots suggest annual temperature increases in the range of 1.0 to 1.5 degrees to cover the major part of the domain. Higher temperature increases are found during summer and autumn compared to winter (DJF) and spring. Precipitation trend suggests an increase of the dry days in future winter, spring, autumn and a decrease in future summer as well as an increase in extreme precipitation rates. Spatial distribution plots suggest an annual precipitation change in the range of -40 – 40% for the major part of the domain.

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