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High resolution regional climate change simulations over the Mediterranean basin

X. Gao (1), F. Giorgi (2), J. S. Pal (2), X. Bi (2),

(1) National Climate Center, Beijing, China 100081, (2) Abdus Salam International Centre for Theoretical Physics, 34100 Trieste, Italy [gaoxj@cma.gov.cn]

Results are presented from a set of high resolution climate change simulations over the Mediterranean region using the ICTP Regional Climate Model version 3 (RegCM3). Two sets of simulations are performed at a grid spacing of 20-km: present day (1961-1990) and future (2071-2100) under the IPCC A2 and B2 emission scenarios. The boundary conditions are obtained from corresponding RegCM3 simulations at a 50-km grid spacing forced by HadAM3H/HadCM3 fields. The analysis focuses on means, variability, and extremes for surface air temperature, precipitation, and atmospheric circulations. The results are compared to the 50-km driving simulations to assess the added-value of the increase in resolution, particularly concerning the effect of enhanced topography and coastlines on the climate change signal.