

P21 High-resolution WRF hindcasts over Central Greece: Characteristics of simulated convective activity and model evaluation

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The aim of this research is to investigate the characteristics of convective activity simulated by the nonhydrostatic Weather Research and Forecasting model (WRF-ARW ver3.5.1) under different synoptic conditions in central Greece and evaluate the model performance. Three 2-way telescoping nests cover Europe - Mediterranean Sea (D01), Balkan Peninsula (D02) and central Greece (D03) at grid-spacings of 15km, 5km and 1km, respectively. WRF is integrated for selected cases with thunderstorm activity in central Greece from April to September. These cases are representative of the prevailing upper-air synoptic conditions associated with convective activity in the area and period of interest. The intensity and spatiotemporal characteristics of simulated storms are investigated and compared to the observed ones. Model results are evaluated using surface observations and mainly weather radar products. WRF exhibits a potential to represent the occurrence of moist convection, but not its exact spatiotemporal features.

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