



Sensitivity and predictability analysis of Advanced Research WRF Model (WRF-ARW) in Eastern Mediterranean Region

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With its mid-latitude geography, complex topography, and interesting climatic conditions, Eastern Mediterranean Region is a perfect area for the sensitivity analysis of mesoscale models. In this study, physical and dynamical parameterizations of Advanced Research WRF model (WRF-ARW) are tested with a number of cases in different resolutions and domain choices, in order to see how different approaches work with different meteorological phenomena of different scales. A polar front moving from Balkan Mountains into Western Anatolia, a typical winter-time Mediterranean front in Egean Sea, a summer time convection over high terrains of Anatolia, a squall line over Turkey, and an orographic rain over Eastern Black Sea Region are the cases studied for experiments. The results indicate that WRF-ARW is successful in simulating the meteorological conditions in the region, but options must be chosen carefully with respect to the properties of the meteorological phenomena.