



Heavy rain over Marmara region due to a cut-off cyclone

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Marmara Region of Turkey has been hit by a number of storms between 06.09.2009 and 10.09.2009, resulting flash floods in Istanbul and Tekirdag. The precipitation amount was the highest in Istanbul for the last century, exceeding 180 mm in 24 hours. This study focuses on the meteorological analysis of the case. After sensitivity tests which are verified with the observations, WRF-ARW mesoscale model is used for the fine resolution simulation of the meteorological conditions. Ingredients for the flash flood and heavy rain are evaluated with respect to the model output. The storms formed on a cut-off cyclone in south of Istanbul, which is typical for extreme amounts of precipitation at the region. Moisture source was Black Sea in low levels and Mediterranean Sea at middle levels, CAPE values were moderate to high.