



Sensitivity of Microphysics Schemes For Simulating Severe Rainfall Over Egypt

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Egypt faced heavy Rainfall starting from 26th October 2016 which caused flooding in Upper Egypt and Red Sea Coast especially Ras Gharib. In this Paper, Weather Research and Forecasting (WRF) model was used with one domain of 10-km resolution for three days starting from 26th October 2016 to simulate this severe rainy event in terms of Temperature, Wind Speed and Precipitation. In order to use the WRF model several schemes should be configured, one of them is the microphysics scheme. Microphysics is the process by which moisture is removed from the air, based on other thermodynamic and Kinematic fields represented within the numerical models.

In this study, the sensitivity of ten microphysics schemes were tested (Kessler, Lin, WRF single moment 3 and 5 class, Eta(Ferrier), WRF single Scheme 6 Class, Goddard, Thompson, Milbrandt-Yau Double Moment and Morrison 2 moment). The output Temperature and Precipitation from the model were compared with Satellite Data from Moderate Resolution Imaging Spectroradiometer (MODIS) and Tropical Rainfall Measuring Mission (TRMM), respectively.