Abstract

This paper focuses on one of the high resolution models used for weather forecasting at Kenya Meteorological Department (KMD). It reviews the skill and accuracy of the Weather Research and Forecasting (WRF)-Environmental Modeling System (EMS) model, in simulating weather over Kenya. The study period was March to May 2011, during the rainy season over Kenya. The model output was compared with the observed data from 27 synoptic stations spread over the study area, to determine the performance of the model in terms of its skill and accuracy in forecasting. The spatial distribution of rainfall and temperature showed that the WRF model was capable of reproducing the observed general pattern especially for temperature. The model has skill in forecasting both rainfall and temperature over the study area. However, the model may underestimate rainfall of more than 10 mm/day and displace its location and overestimate rainfall of less than 1 mm/day. Therefore, during the period of enhanced rainfall especially in the month of April and part of May the model forecast needs to be complemented by other models or forecasting methods before giving a forecast. There is need to improve its performance over the domain through review of the parameterization of small scale physical processes and more observed data need to be simulated into the model.