

Thesis Title	Sensitivity Test Microphysics Parameterization of WRF Model for Simulation of Rainfall over Thailand
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Abstract

In this research, the Weather Research and Forecasting (WRF) model version 3.4 was used to simulate rainfall over Thailand with three nested domains, with the innermost domain of $4 \times 4 \text{ km}^2$ grid spacing. The periods of rainfall simulation were 0000 UTC 28 March 2011 to 0000 UTC 29 March 2011 (summer season), 0000 UTC 10 September 2011 to 0000 UTC 11 September 2011 (rainy season) and 0000 UTC 23 November 2011 to 0000 UTC 24 November 2011 (winter season). This study used sensitivity analysis to select one of fourteen different microphysics parameterization schemes available in the WRF model that appropriated over Thailand. The results of the simulations were compared with the observed rainfall over Thailand given by Tropical-Rainfall Measure Mission (TRMM, 3B42, V7) data. The mean absolute error shows that SBU-YLin scheme gives a better result than other schemes, compared with TRMM dataset in the summer season 2011, rainy season 2011, and winter season 2011.

Keywords : Microphysics / Rainfall over Thailand / Rainy Season / Summer Season / Tropical-Rainfall Measure Mission / Weather Research and Forecasting model / Winter Season