AOGS 2006

Simulation of the 1998 East Asian Summer Monsoon Using the Regional Spectral Model

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The National Centers for Environmental Prediction (NCEP) regional spectral model (RSM) was used to investigate the Easter Asian Summer Monsoon (EASM) of 1998. A complex microphysical process（CLOUD3）and a one-way nesting 30 km horizontal resolutions were used in this study. Four-month-long simulations including May, June, July, August (MJJA), of 1998 are conducted. The two-time daily T62 and 28-level NCEP/NCAR AVN data are used for basic fields initial condition. The result indicated that the model was capable of simulating the over all characteristic of the 1998 EASM on the seasonal, intraseasonal characteristics and onset time scales. However, the model tended to produce more precipitation over the land and less precipitation over the ocean（during the South China Sea and the Philippine sea）. It appears that the model simulated subtropical high tends to be strong than observed. The seasonal change of the EASM and intraseasonal oscillation events propagation northward were reproduced well. The onset timing and dramatic changes before and after the onset were also captured well. It is suggested that this regional spectral model should be able to simulate the multi-scale features and their mutual interaction. It also correctly capture the monthly and seasonal structure of mean fields.