



A Regional Model Study of Synoptic Features Over West Africa (Paperback)

By Leonard M Druyan

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.Synoptic weather features over West Africa were studied in simulations by the regional simulation model (RM) at the NASA/Goddard Institute for Space Studies. These pioneering simulations represent the beginning of an effort to adapt regional models for weather and climate prediction over West Africa. The RM uses a cartesian grid with 50 km horizontal resolution and fifteen vertical levels. An ensemble of four simulations was forced with lateral boundary conditions from ECMWF global analyses for the period 8-22 August 1988. The simulated mid-tropospheric circulation includes the skillful development and movement of several African wave disturbances. Wavelet analysis of mid-tropospheric winds detected a dominant periodicity of about 4 days and a secondary periodicity of 5-8 days. Spatial distributions of RM precipitation and precipitation time series were validated against daily rain gauge measurements and ISCCP satellite infrared cloud imagery. The time-space distribution of simulated precipitation was made more realistic by combining the ECMWR initial conditions with a 24-hr spin-up of the moisture field and also by damping high frequency gravity waves by dynamic initialization. Model precipitation forecasts over the Central...



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