

Characteristics of Persistent Anomaly of the South China Sea Summer Monsoon and its Influence on the global atmospheric circulation: Numerical Experiment

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By using IAP T42L9 atmospheric circulation model, a serial of numerical experiments are done to see the characteristics of persistent anomaly of the South China Sea Summer Monsoon (SCSM) and its Influence on the Global Atmospheric Circulation. Not only the mean westerly trough and ridge, the distribution of the low both on the high and low levels and their seasonal change, but also the main systems associated with the Asian summer monsoon are all simulated well by the model. Under the heating on the area of the Asian summer monsoon and the tropic Pacific, the model successfully shows the characteristics of the persistent anomaly of the SCSM, the response of the extra-tropic circulation and the anomaly rainfall distribution on the area of the Asian summer monsoon. The atmospheric thermal forcing representing the strength of SCSM influences not only on the precipitation on the Yangtze River, but also on the circulation structure of mid- and high-latitudes of the northern atmosphere through the three-dimensional vertical circulation anomaly and the wave-train propagating, which reflects the transferring path of the energy.

Meteorology (Poster)