

Simulation of 1961-2000 summer monsoon onset over Vietnam using a regional climate model

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This study aims to investigate summer monsoon onset dates over Vietnam and surrounding regions by using the Regional Climate Model version 4.2 (RegCM4.2) driven by the ERA-40 reanalysis data. Comparison of the 1960-2001 averages of wind fields at 200 and 850 hPa shows the consistency of RegCM4.2 with ERA-40. However, there are large differences in air temperature at the low level of 850 hPa, which are mainly attributed to the resolution difference between RegCM4.2 and ERA-40. Over Vietnam, monsoon onset date varies considerably among the regions. During the 1960-2001 period, the earliest onset generally occurs around April 15 in the western part of the Highland region and the latest onset occurs early June in the north. A long-term trend analysis shows that the monsoon onset dates over South Vietnam (North Vietnam) have shifted to approximately 0-10 days earlier (0-15 days later) in recent decades.

Keywords: Asian summer monsoon, monsoon onset, regional climate model, trend analysis