

Asian Monsoon Years (2007-2012) Impact study of land surface process on intraseasonal and interannual variation of rainfall in Northeast Asia

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Northeast Asia is a region where precipitation is strongly influenced by local and remote forcing. In this study, dynamical downscaling experiments are conducted using WRF/ARW to investigate an impact of land surface processes on intra-seasonal and interannual variations of warm season precipitation. The experiments revealed that the dynamical downscaling for Mongolia is very effective to reproduce detailed spatial structure of precipitation from the low resolution reanalysis data in case SSiB is used as a land surface scheme. Large bias in precipitation is found to be reduced very much by adopting realistic soil moisture data as an initial condition. This soil moisture correction is also important for improving intra-seasonal variation of southerly flow in lower troposphere, resulting in successful simulation of intra-seasonal variation of precipitation due to Asian summer monsoon.