



Simulation of the late spring drought in East Asia with LMDZ model

X.G. Xin (1,2), L. Li (2), T.J. Zhou (1), and R.C. Yu (1)

(1) LASG/IAP/CAS, Beijing, China; (2) LMD/IPSL/CNRS/UPMC, Paris, France
(li@lmd.jussieu.fr)

LMDZ is a global climate model, but used here as a regional model to investigate the late spring drought in East Asia, trend observed during the last 50 years. Two periods of ERA dataset are respectively used to force the LMDZ: 1958/1977 and 1981/2000. Simulations begin on 1 March and last three months. An ensemble of simulations are performed to increase the statistical significance. LMDZ is revealed to be able to capture the "southern flood and northern drought" trend between the two periods, although the simulated drought locates slightly to the north of the observed one. This trend is believed to be the consequence of an upper tropospheric cooling, which induces anticyclonic anomalies in the lower troposphere. Sensitivity experiments are then conducted to verify the corresponding mechanism.