

## **An introduction to the coupled model FGOALS2-s and the simulated East-Asian Summer Monsoon**

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The spectral version 2 of the Flexible Global Ocean-atmosphere-land System (FGOALS2-s) model was developed in the State Key Laboratory of Numerical Modeling for Atmospheric Sciences and Geophysical Fluid Dynamics at the Institute of Atmospheric Physics (LASG/IAP), and it has been used to achieve for CMIP5 experiments. The four major components of FGOALS2-s are atmospheric component (SAMIL), oceanic component (LICOM), land components (CLM3) and sea ice component (CSIM5). The results from historical simulations indicate that the simulated global climatology with FGOALS2-s is fairly reasonable; the phenomenons of ENSO (interannual variability) and Pacific Decadal Oscillation (interdecadal variability) in FGOALS2-s are quite realistic except for the peak season of ENSO; additionally, FGOALS2-s is capable of capturing the major features of the climatological mean state and seasonal march of the East Asian Summer Monsoon, and its climate trend in the recent 60s years. Finally, the results from future projections also will be introduced.