



## Weekly Soil Moisture Index (SMI) for Drought Monitoring Based on Land Information System (LIS)

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Among the four types of drought (meteorological, hydrological, agricultural and socioeconomic drought), agricultural drought may cause a substantial decrease in crop yield from even a short period of root-zone dryness during the growing season. The objective of this study was to develop an operational drought monitoring framework using a land surface model (Noah Land Surface Model v3.3 (Noah-LSM)) of the NASA Land Information System (LIS). We first assessed land surface states and fluxes in the selected five basins (Yangtze, Mekong, Mississippi, Murray Darling, and Amazon River basins) by comparing the water and energy budget components with Gravity Recovery and Climate Experiment (GRACE) and monthly gridded FLUX network (FluxNet), respectively. Here we present preliminary results and a further study suggesting on how the improvement of the performance of the proposed framework is made to provide a more reliable drought monitoring system. A potential approach could be a multi-model ensemble of LSMs which is one of the major favorable features of the LIS.

