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STATEMENT OF PURPOSE:

The Operational Probabilistic Drought Forecasting System (OPDFS) is an online tool recently developed at Portland State University for operational agricultural drought forecasting over the Contiguous United States. This is an integrated statistical-dynamical framework issuing probabilistic drought forecasts monthly for the lead times of 1, 2, and 3 months. Operational drought forecasting is a challenging work and has been discussed numerously in the literature. A current available operational tool is the NOAA's seasonal drought outlook (SDO) that issues monthly forecasts through four qualitative ordinal categories such as "drought persistence likely"or "drought removal likely". The OPDFS builds on the NOAA's SDO by offering drought probabilities instead of qualitative categories and provides the user with the probability maps associated with a particular drought category. The OPDFS offers a timely assistance to water managers, stakeholders and decision-makers to develop resilience against uncertain upcoming droughts.

DESCRIPTION OF DATA SETS:

The data sets used in this study include satellite soil moisture estimations of SMAP (Soil Moisture Active Passive) and atmospheric forcing variables from North American Land Data Assimilation System (NLDAS) both acquired from NASA. SMAP Enhanced L3 Daily data are collected from National Snow and Ice Data Center website for the Contiguous United States (CONUS) with a spatial resolution of 9 km. In addition, daily precipitation, maximum and minimum temperature, and wind speed are collected from NLDAS available via NASA GES DISC over 1/8˚ CONUS domain.