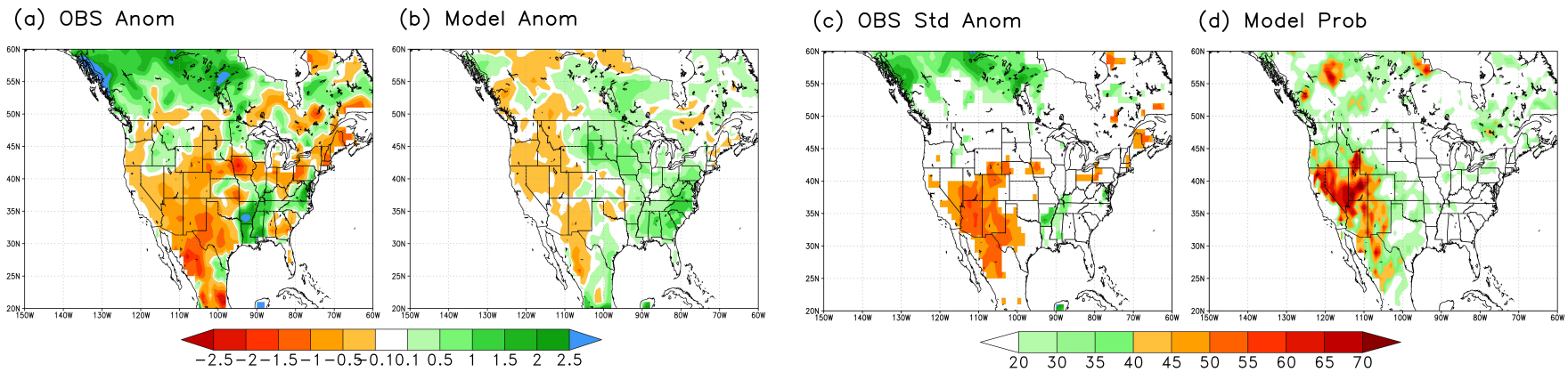
GEOS-S2S Predicted 2020 Summertime Precipitation Anomalies Three Months in Advance



The summer of 2020 marked the onset of a prominent La Niña event. General characteristics of a strong La Niña include reduced precipitation and warmer than usual temperatures in the southwest U.S. and an amplified jet stream. The GEOS Atmosphere-Ocean General Circulation Model and Data Assimilation System S2S_V2. GEOS-S2S predictions captured the La Niña and dry anomaly more than three months in advance of the event. *Images: a) Observed precipitation anomaly for June, July and August (JJA) and b) Model precipitation anomaly for JJA from the March forecast.*

GEOS-S2S also predicts the probability of an event's occurrence, interpreted as the forecast confidence. The model's low probability suggests low confidence in forecasting less prominent events. The higher probability of the dry anomaly in the western U.S. was well predicted by GEOS-S2S, as was the low probability in the dry anomaly that occurred south of the Great Lakes and the wet anomaly that occurred in the southeastern U.S. *Images: c) Observed standardized precipitation anomaly; d) Model probability forecast for higher/lower than normal.*