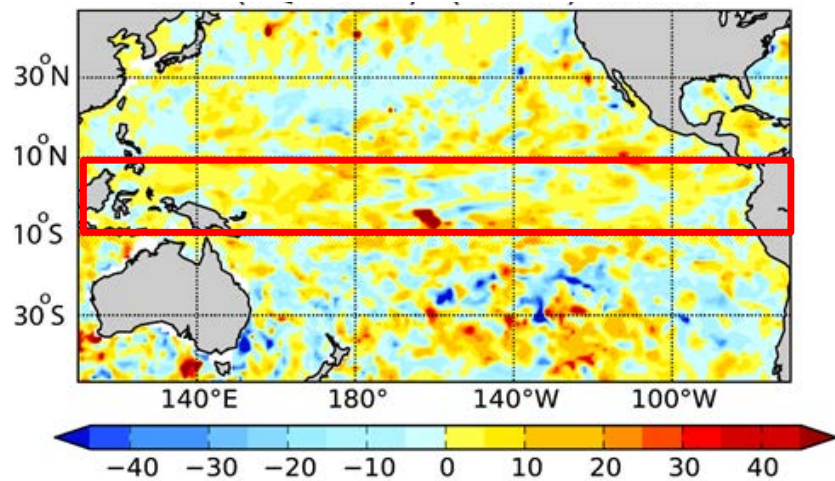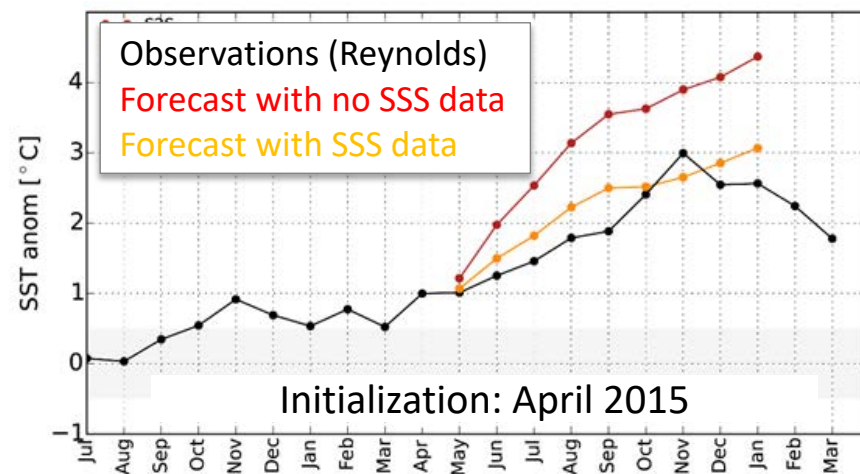# Beneficial Impact on ENSO Predictions of Assimilating Satellite Sea Surface Salinity Observations in GEOS S2S

Mixed-Layer Depth Difference:
With minus Without SSS assimilation

Sea-Surface Temperature Anomalies NINO 3.4 Region

Observations (Reynolds)
Forecast with no SSS data
Forecast with SSS data

Initialization: April 2015

LEFT: Differences in oceanic mixed-layer depth in the GEOS analyses with minus without assimilation of the Aquarius and SMAP SSS observations. **RIGHT:** NINO3.4 ensemble forecast plume average plots initialized from the April 2015 experiment that assimilates all available satellite SSS (gold line) versus no SSS assimilation (red line). The validating SST anomalies are in black.