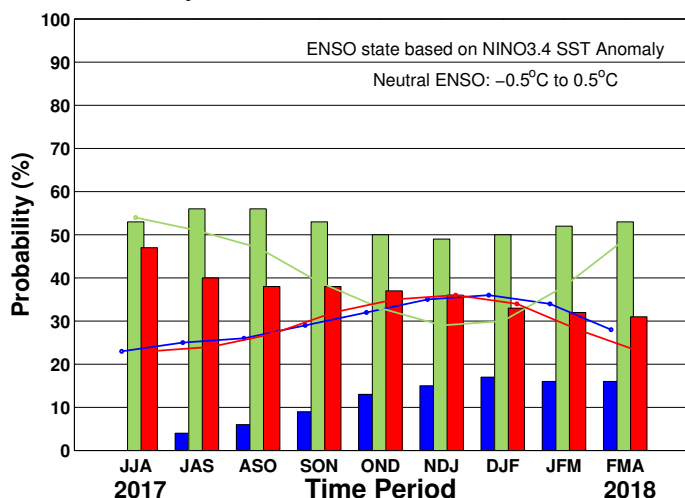


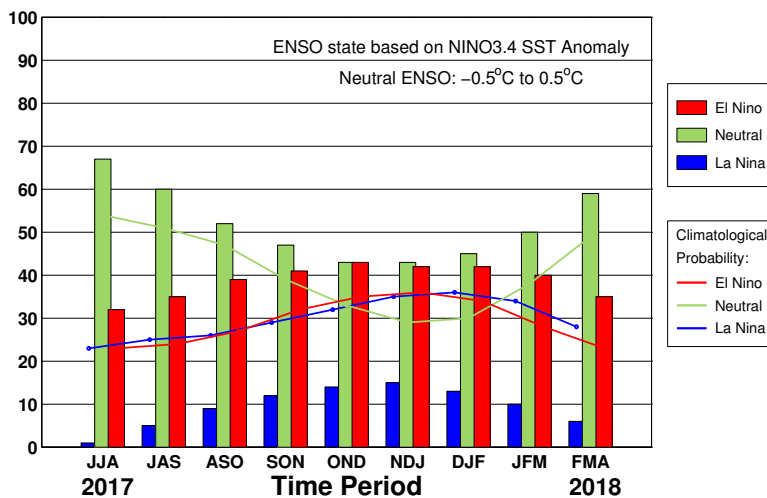
ENSO QUICK LOOK Jul 13, 2017 A monthly summary of the status of El Niño, La Niña and the Southern Oscillation, or “ENSO”, based on NINO3.4 index (120-170W, 5S-5N)

In mid-July 2017, the tropical Pacific remained in an ENSO-neutral state, with SSTs near the El Niño threshold in the east-central tropical Pacific but the atmosphere maintaining ENSO-neutral patterns. The collection of latest ENSO prediction models indicates ENSO-neutral as the most likely condition from Northern Hemisphere summer through fall and into winter, with chances for El Niño development at about 35-45 percent.

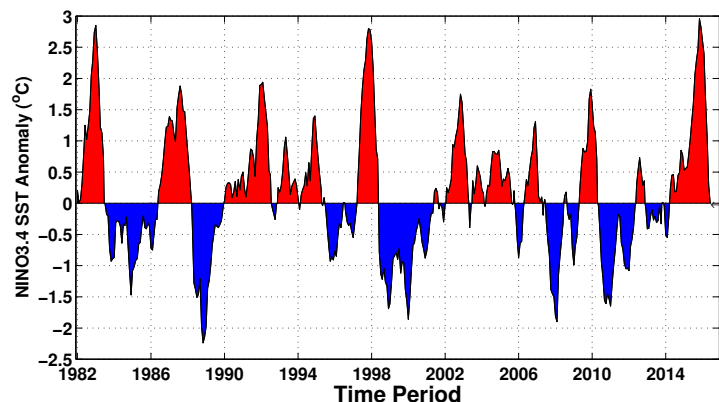
Early-Jul CPC/IRI Official Forecast¹



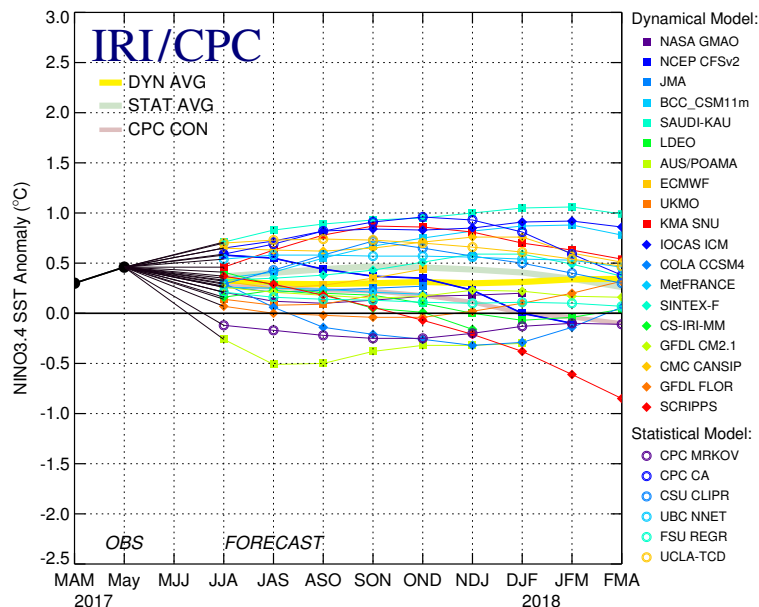
Mid-Jun IRI/CPC Model-Based Forecast²



Historical NINO3.4 SST Anomaly



Mid-Jun 2017 Plume of Model ENSO Predictions



Historically Speaking

El Niño and La Niña events tend to develop during the period Apr-Jun and they:

- Tend to reach their maximum strength during Dec-Feb
- Typically persist for 9-12 months, though occasionally persisting for up to 2 years
- Typically recur every 2 to 7 years

¹Based on a consensus of CPC and IRI forecasters, in association with the official CPC/IRI ENSO Diagnostic Discussion.

²Purely objective, based on regression, using equally weighted model predictions from the plume.