ENSO Update
Eastern Region

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Climate Prediction Center / NCEP/ NOAA
29 November 2016

Summary

ENSO Alert System Status: La Niña Advisory

La Niña conditions are present.*

Equatorial sea surface temperatures (SST) are below average in the central and east-central Pacific Ocean.

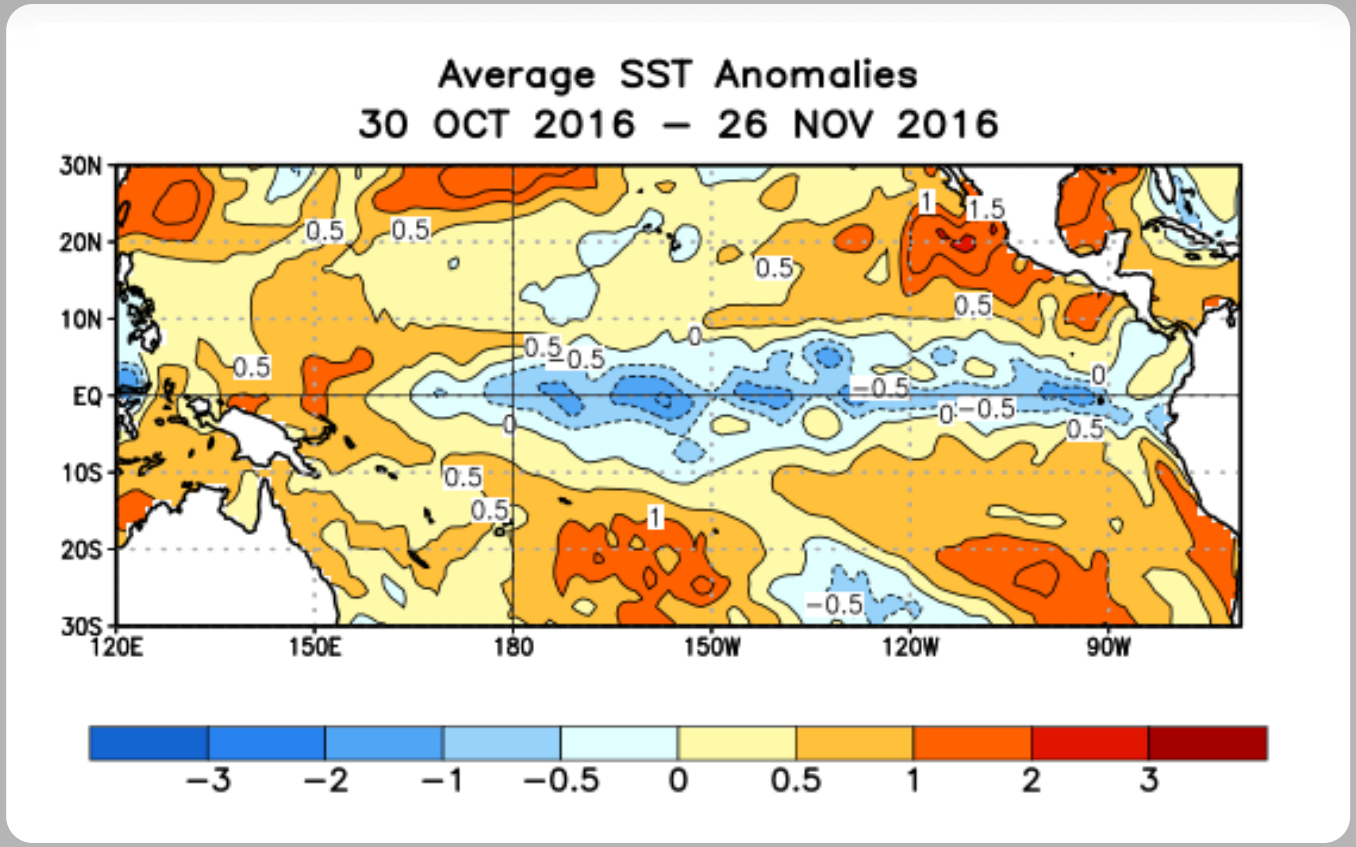
La Niña is slightly favored to persist (~55% chance) through winter 2016-17.*

Over New England, slight tilt toward above-average temperatures, which expands as the winter progresses. Precipitation outlook is dominated by "Equal Chances" (or Climatology), but slight tilt toward above-median precipitation toward western part of region and tilt toward below-median precipitation in the southeastern portion of region (Mid-Atlantic).

ENSO Diagnostics Discussion http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.html

ENSO Blog http://www.climate.gov/news-features/department/enso-blog

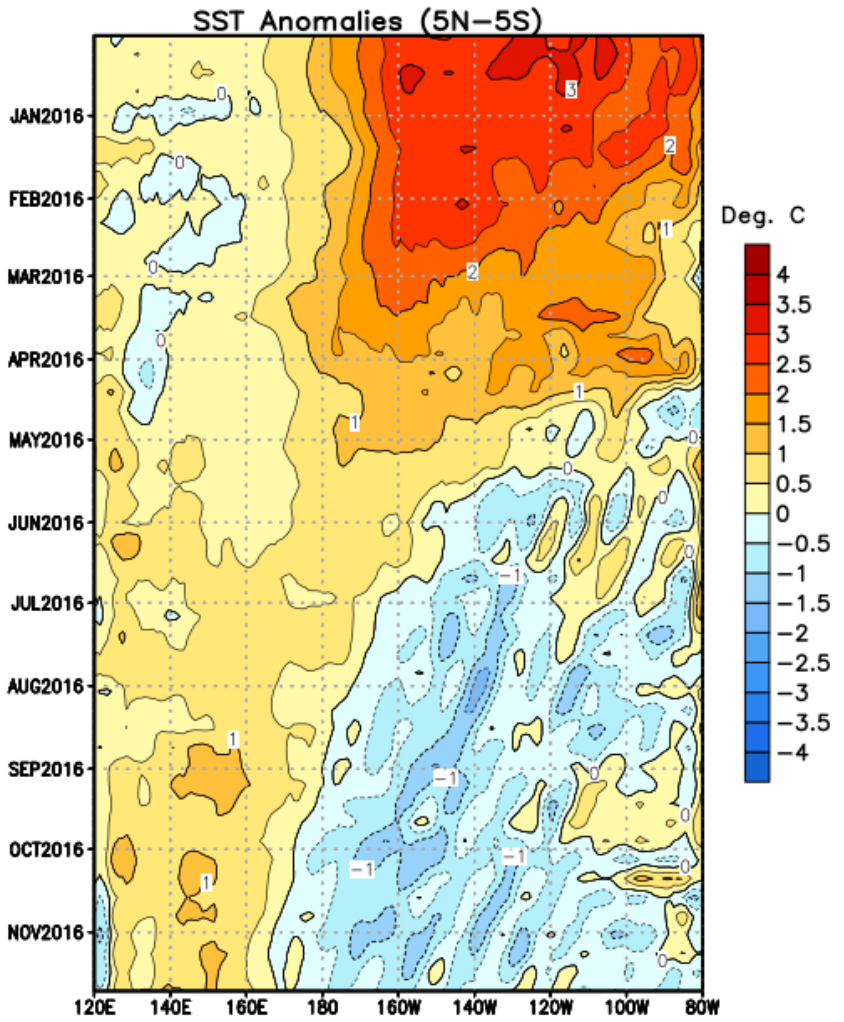
SST Departures (ºC) in the Tropical Pacific During the Last Four Weeks

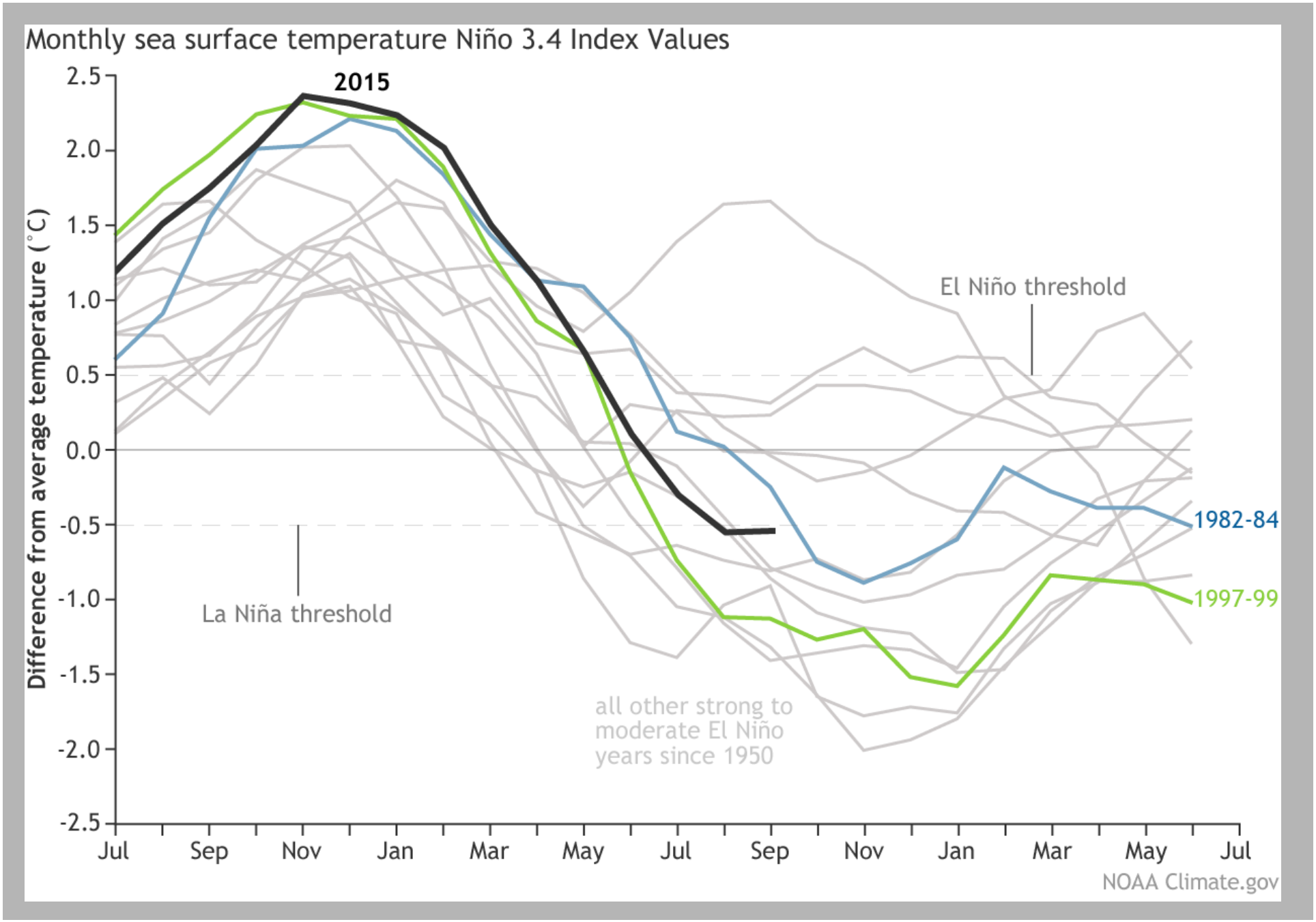


Recent Evolution of Equatorial Pacific SST Departures (ºC)

Since mid-April 2016, near-to-below average SSTs have expanded westward toward the Date Line.

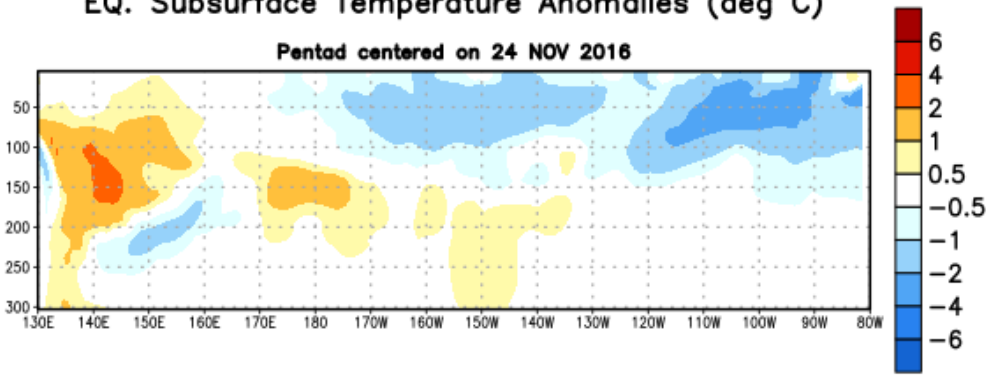
Negative SST anomalies have persisted in the central and east-central Pacific, while the SST anomalies have been more variable in the eastern Pacific.




Monthly sea surface temperature Niño 3.4 Index Values
2015
Difference from average temperature (°C)
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
El Niño threshold
La Niña threshold
1982-84
1997-99
all other strong to moderate El Niño years since 1950
Jul
Sep
Nov
Jan
Mar
May
Jul
Sep
Nov
Jan
Mar
May
Jul
NOAA Climate.gov

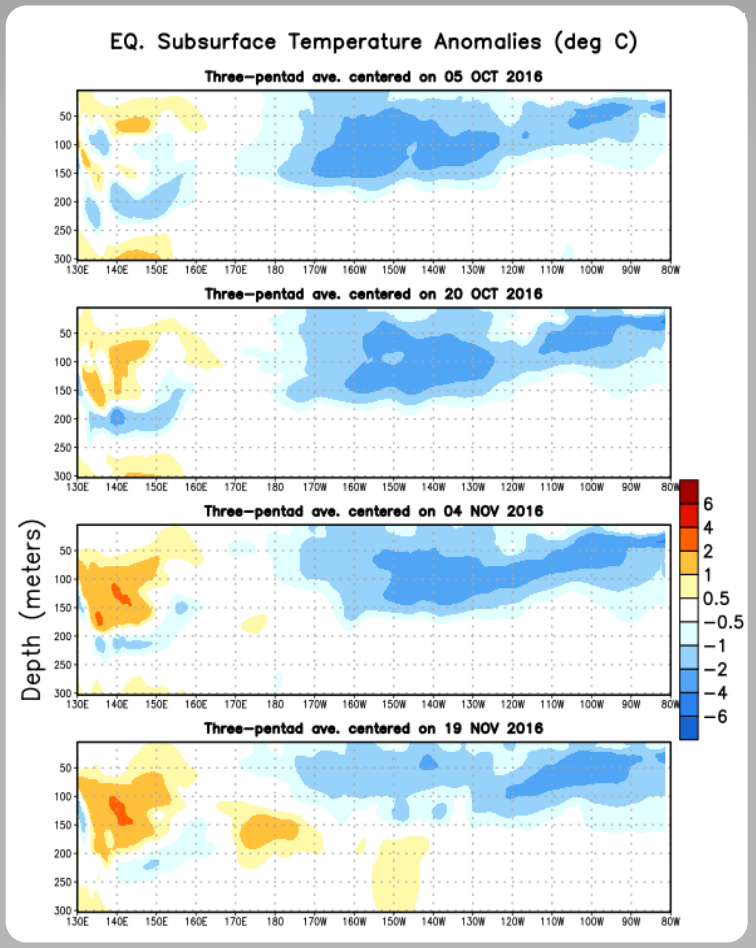
Sub-Surface Temperature Departures in the Equatorial Pacific

During the last two months, negative subsurface temperature anomalies have extended to the surface in portions of the central and eastern Pacific Ocean.

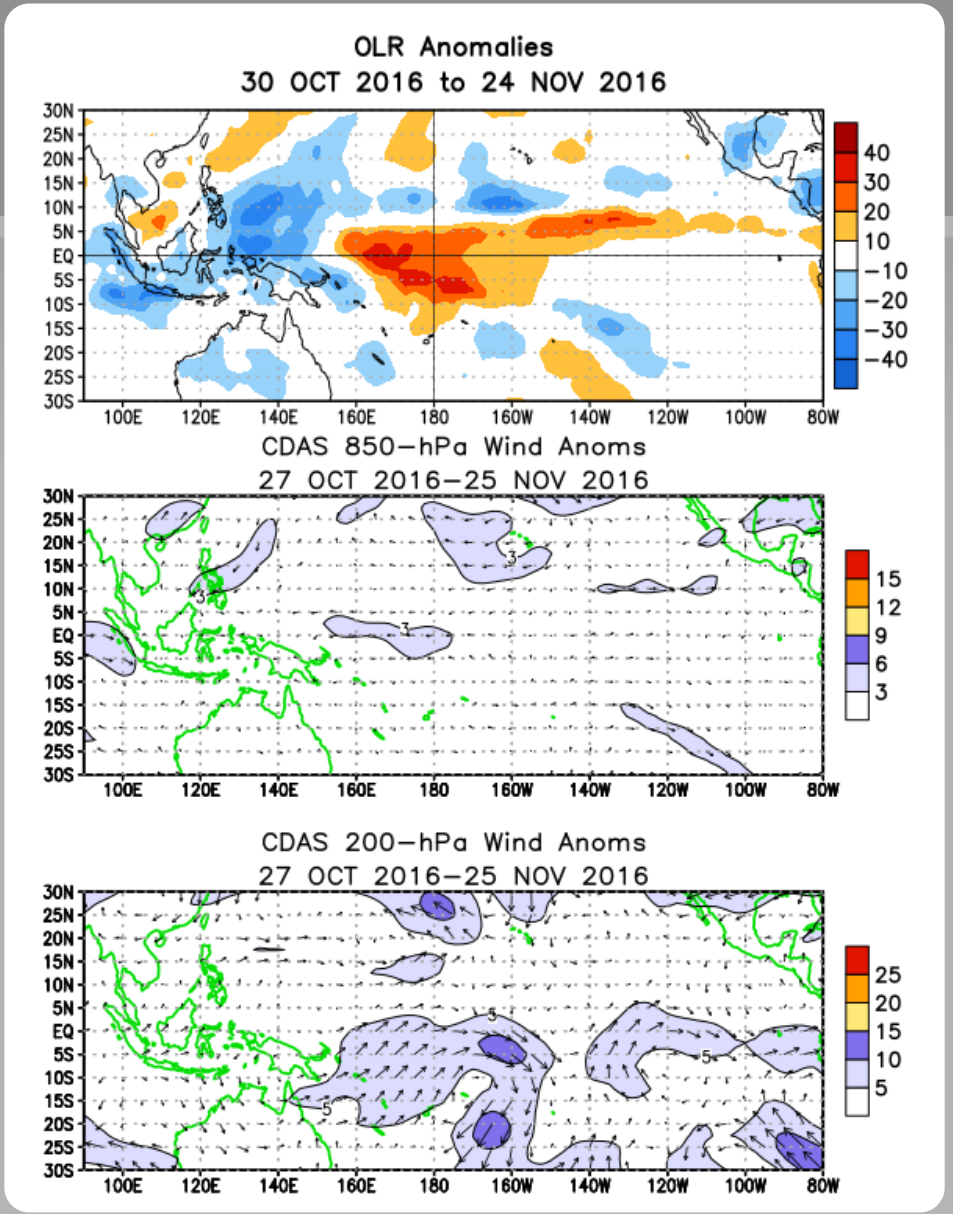


Most recent pentad analysis

During November, the negative subsurface temperature anomalies weakened in the central and east-central Pacific Ocean.



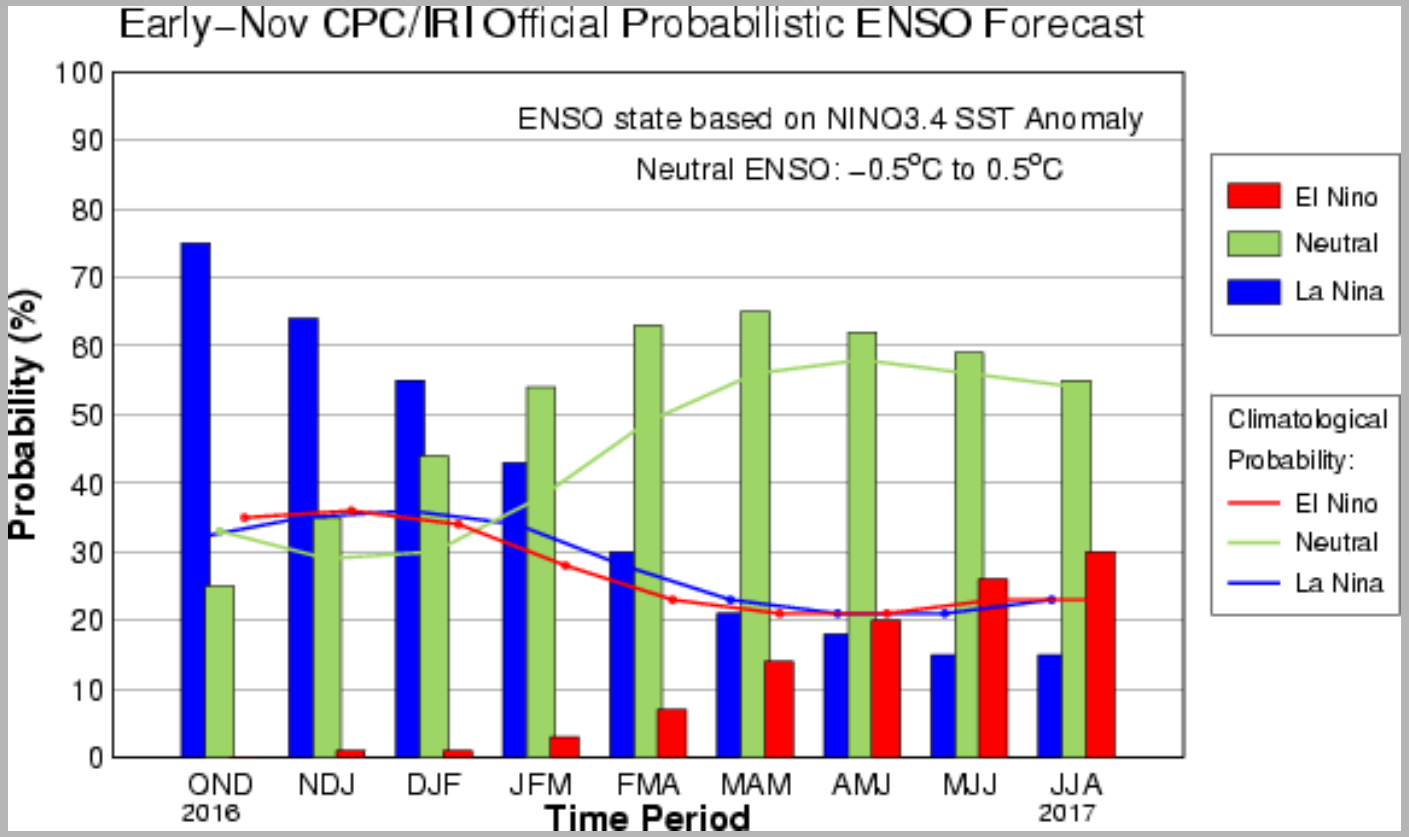
Tropical OLR and Wind Anomalies During the Last 30 Days

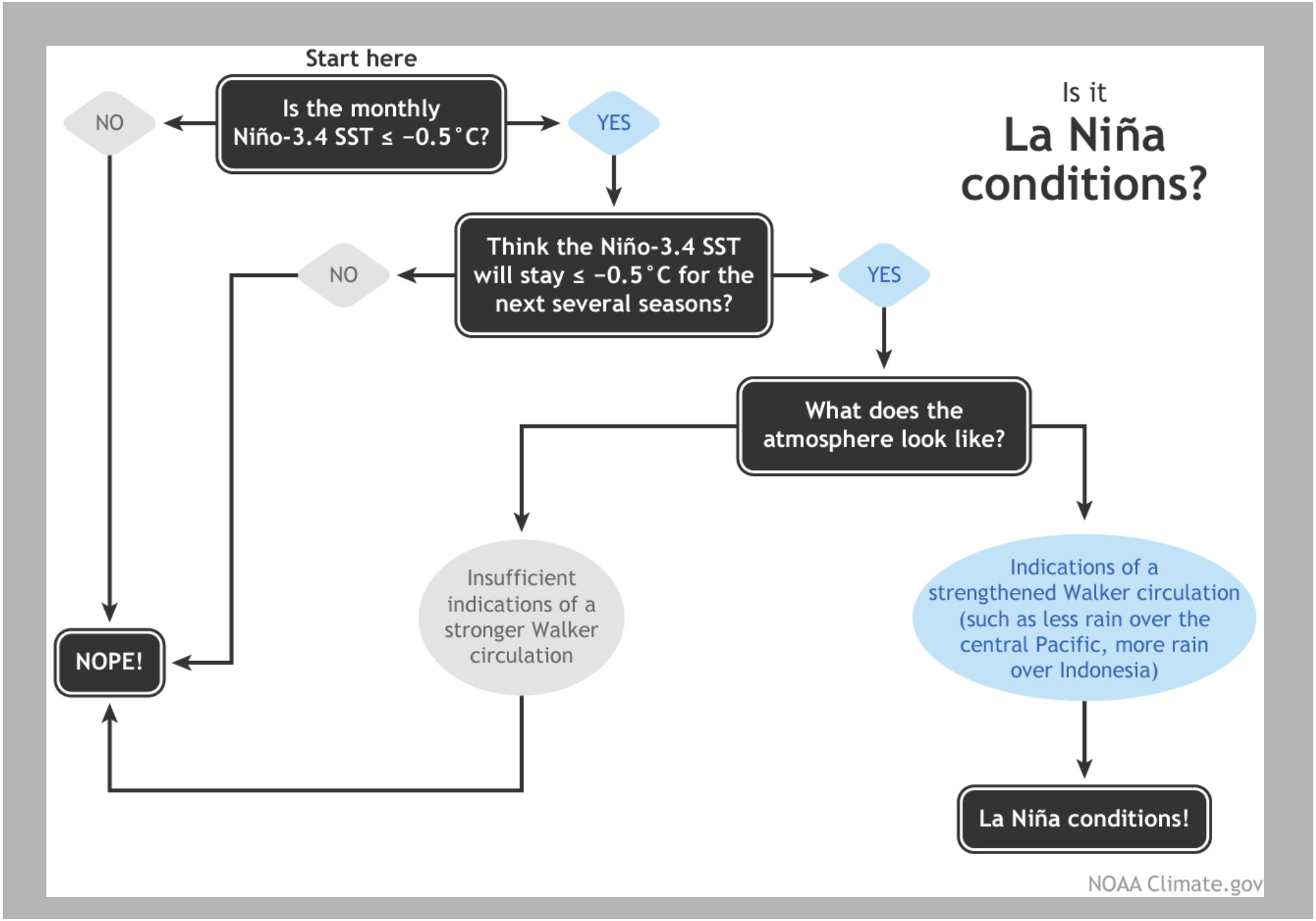


Current Niño-3.4 SST Probabilities

Updated: 10 November 2016

La Niña is slightly favored to persist (~55% chance) through the winter 2016-17.




Start here
Is the monthly Niño-3.4 SST ≤ −0.5°C?
NO
YES
Think the Niño-3.4 SST will stay ≤ −0.5°C for the next several seasons?
NO
YES
What does the atmosphere look like?
Insufficient indications of a stronger Walker circulation
Indications of a strengthened Walker circulation (such as less rain over the central Pacific, more rain over Indonesia)
NOPE!
La Niña conditions!
Is it
La Niña conditions?
NOAA Climate.gov

Historical El Niño and La Niña Episodes Based on the ONI computed using ERSST.v4

Recent Pacific warm (red) and cold (blue) periods based on a threshold of +/- 0.5 °C for the Oceanic Nino Index (ONI) [3 month running mean of ERSST.v4 SST anomalies in the Nino 3.4 region (5N-5S, 120-170W)]. For historical purposes, periods of below and above normal SSTs are colored in blue and red when the threshold is met for a minimum of 5 consecutive over-lapping seasons.

The ONI is one measure of the El Niño-Southern Oscillation, and other indices can confirm whether features consistent with a coupled ocean-atmosphere phenomenon accompanied these periods. The complete table going back to DJF 1950 can be found here.

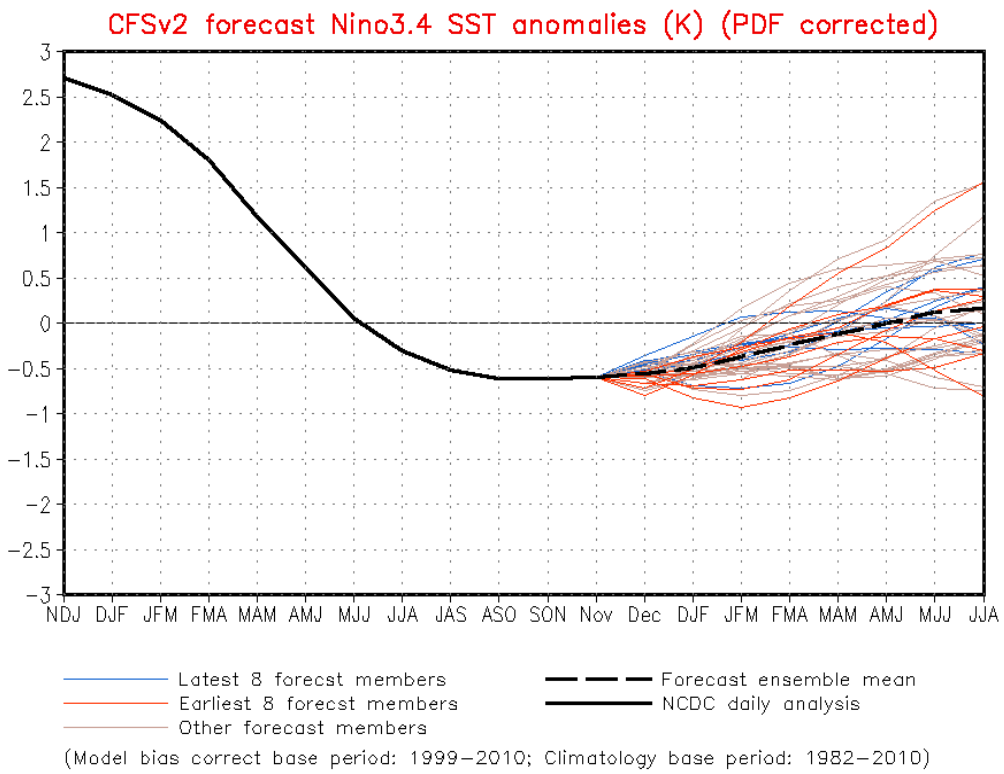
Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2004	0.3	0.3	0.2	0.1	0.2	0.3	0.5	0.6	0.7	0.7	0.6	0.7
2005	0.7	0.6	0.5	0.5	0.3	0.2	0.0	-0.1	0.0	-0.2	-0.5	-0.7
2006	-0.7	-0.6	-0.4	-0.2	0.0	0.0	0.1	0.3	0.5	0.7	0.9	0.9
2007	0.7	0.4	0.1	-0.1	-0.2	-0.3	-0.4	-0.6	-0.9	-1.1	-1.3	-1.3
2008	-1.4	-1.3	-1.1	-0.9	-0.7	-0.5	-0.4	-0.3	-0.3	-0.4	-0.6	-0.7
2009	-0.7	-0.6	-0.4	-0.1	0.2	0.4	0.5	0.5	0.6	0.9	1.1	1.3
2010	1.3	1.2	0.9	0.5	0.0	-0.4	-0.9	-1.2	-1.4	-1.5	-1.4	-1.4
2011	-1.3	-1.0	-0.7	-0.5	-0.4	-0.3	-0.3	-0.6	-0.8	-0.9	-1.0	-0.9
2012	-0.7	-0.5	-0.4	-0.4	-0.3	-0.1	0.1	0.3	0.3	0.3	0.1	-0.2
2013	-0.4	-0.4	-0.3	-0.2	-0.2	-0.2	-0.3	-0.3	-0.2	-0.3	-0.3	-0.3
2014	-0.5	-0.5	-0.4	-0.2	-0.1	0.0	-0.1	0.0	0.1	0.4	0.5	0.6
2015	0.6	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.7	2.0	2.2	2.3
2016	2.2	2.0	1.6	1.1	0.6	0.1	-0.3	-0.6	-0.7			

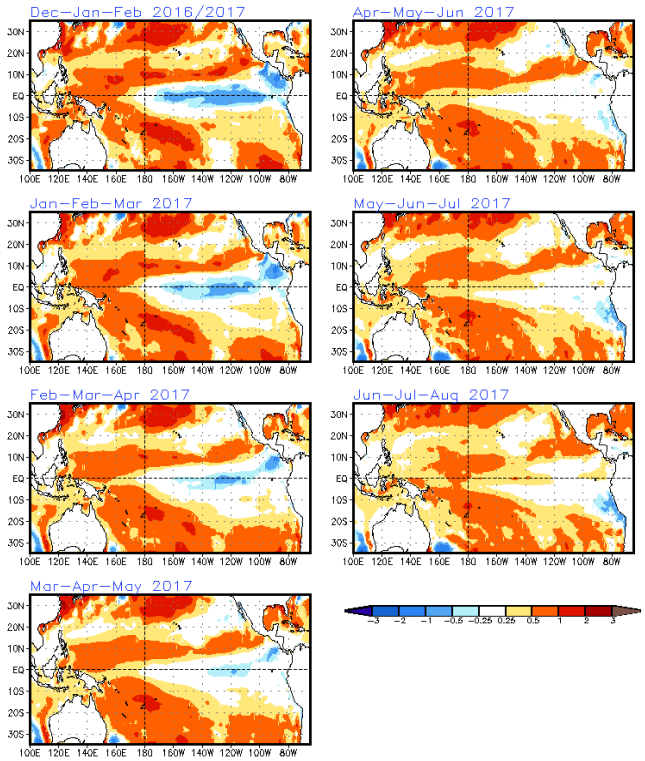
??

SST Outlook: NCEP CFS.v2 Forecast (PDF corrected)

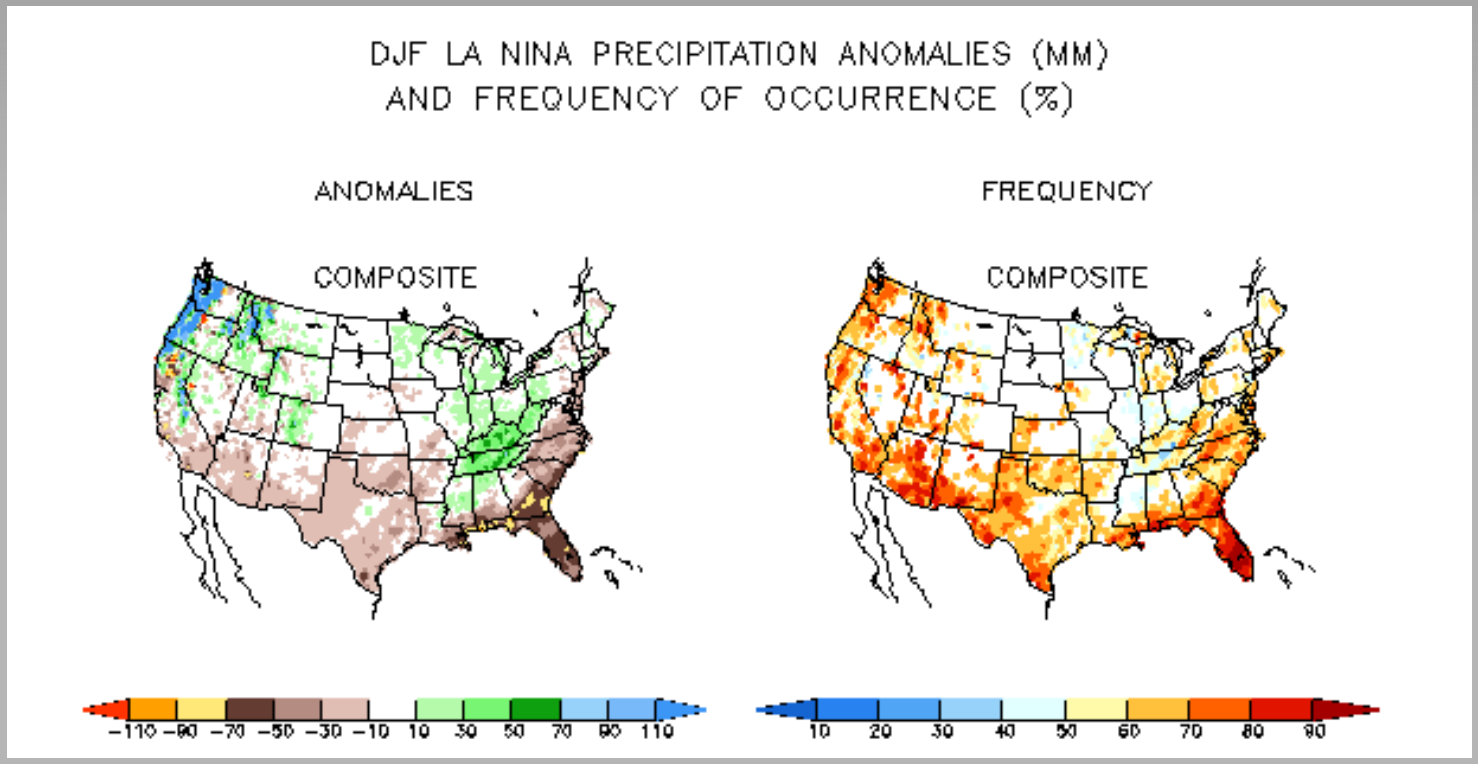
Issued: 28 November 2016

The CFS.v2 ensemble mean (black dashed line) favors borderline Neutral-La Niña conditions through the Northern Hemisphere winter 2016-17.



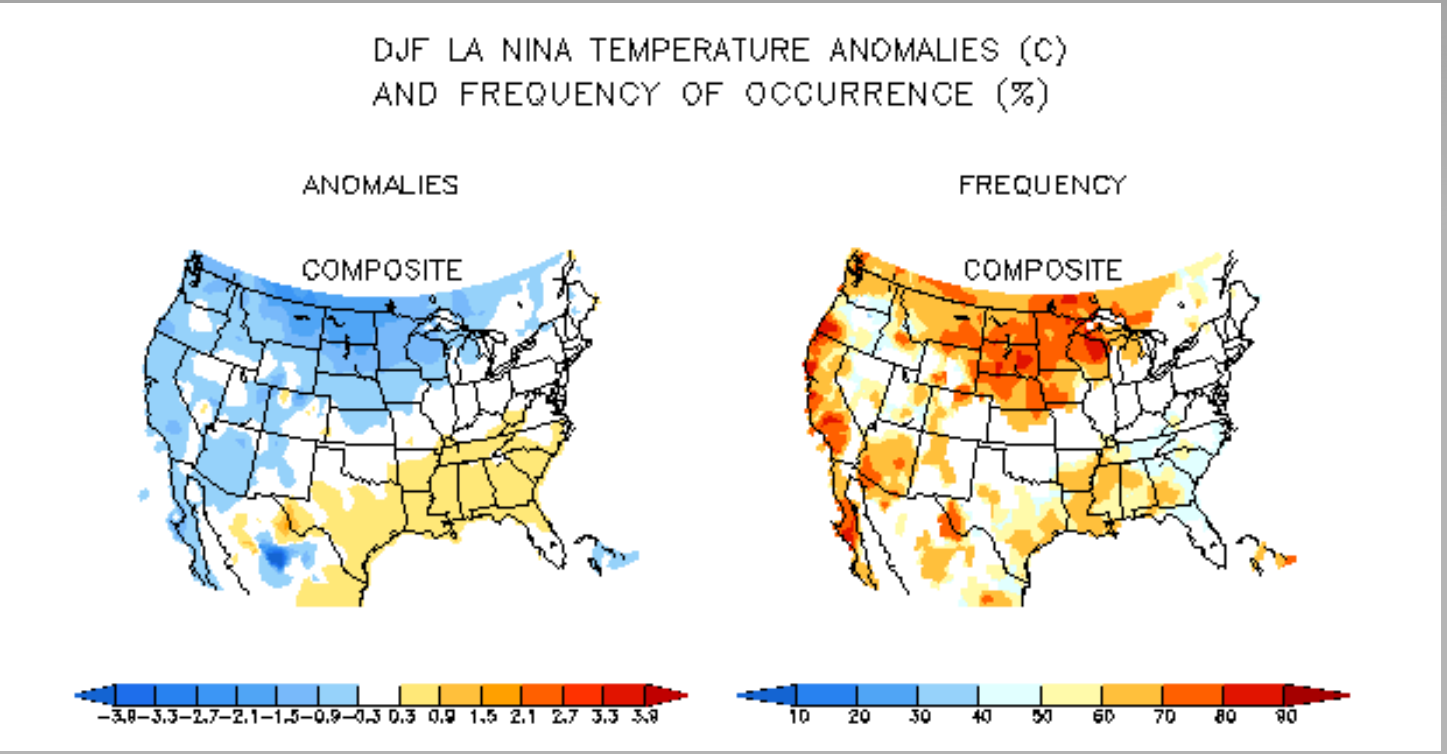


December-February Precipitation Anomalies associated with La Niña



http://www.cpc.ncep.noaa.gov/products/precip/CWlink/ENSO/composites/

December-February Temperature Anomalies associated with La Niña



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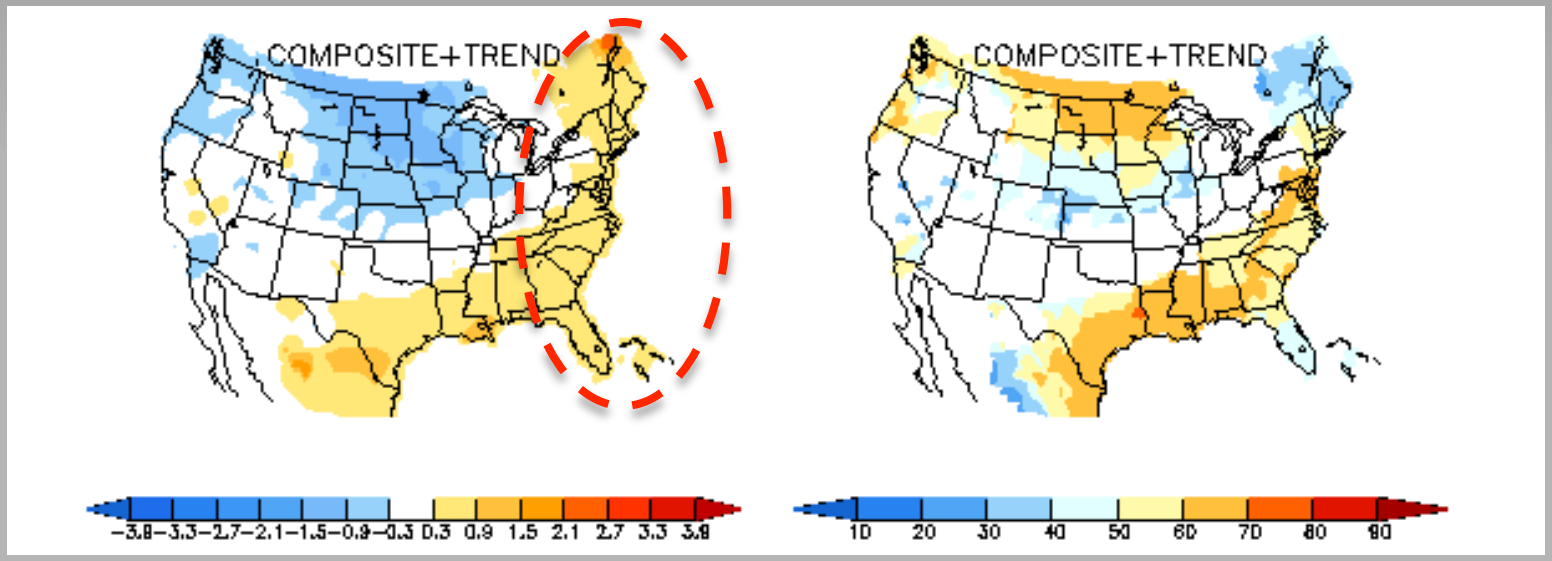
December-February Temperature Anomalies associated with La Niña + Trends



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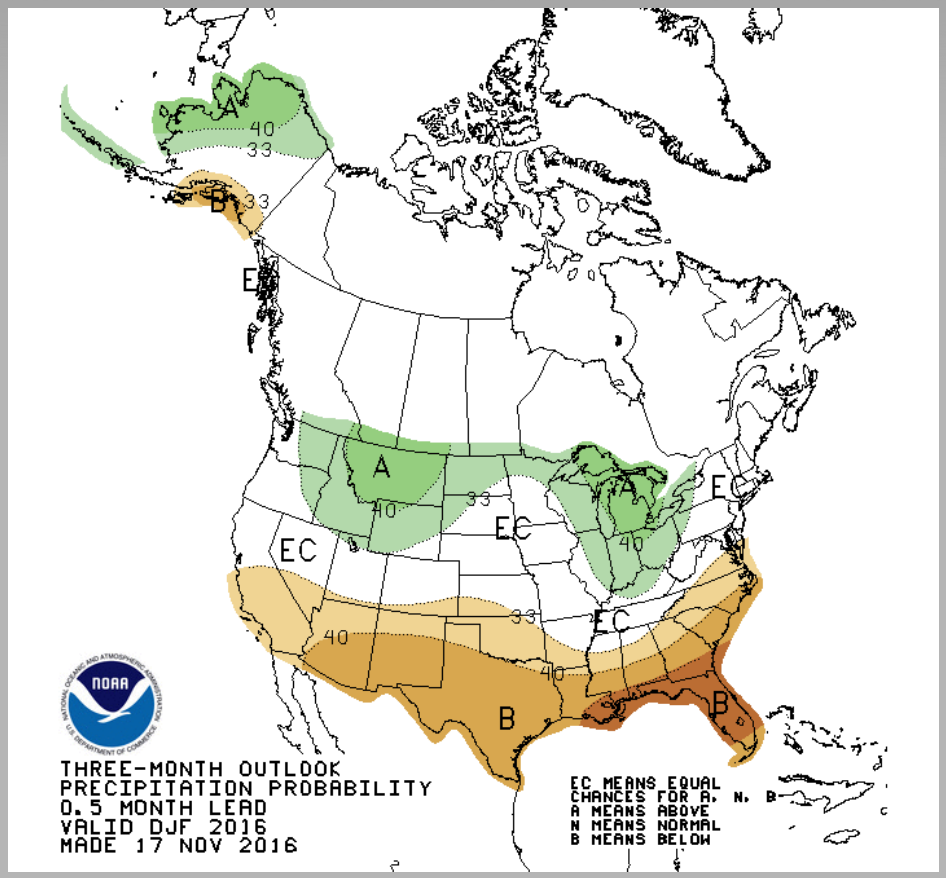
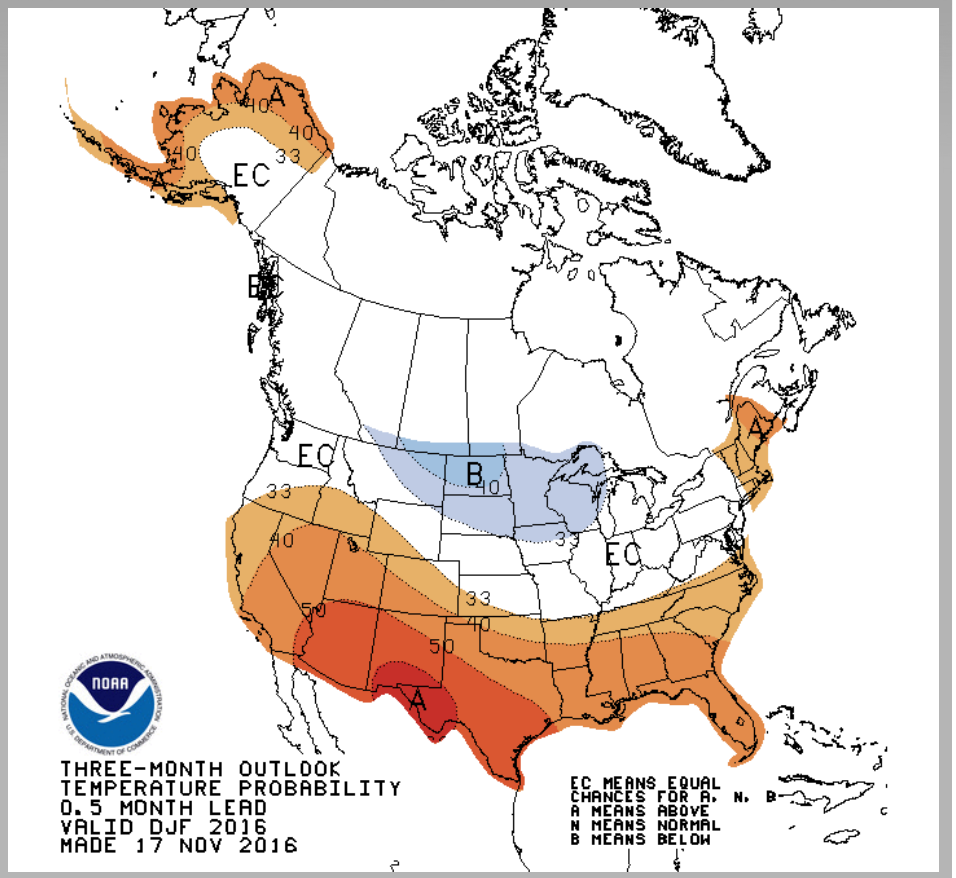
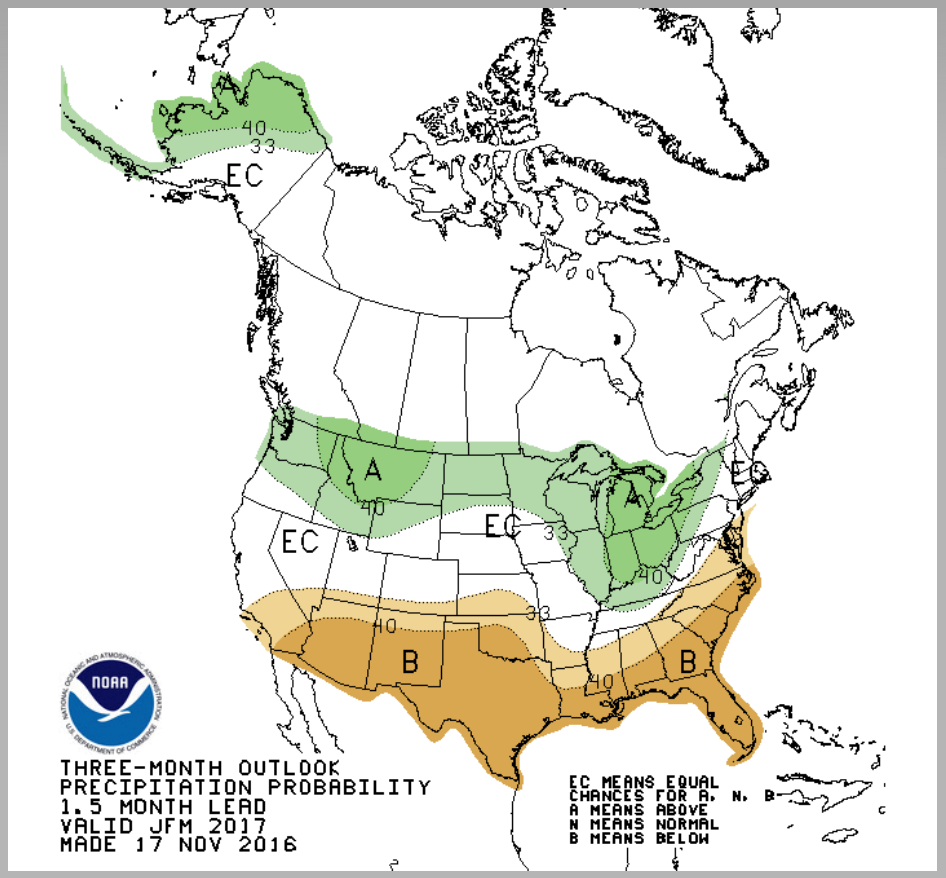
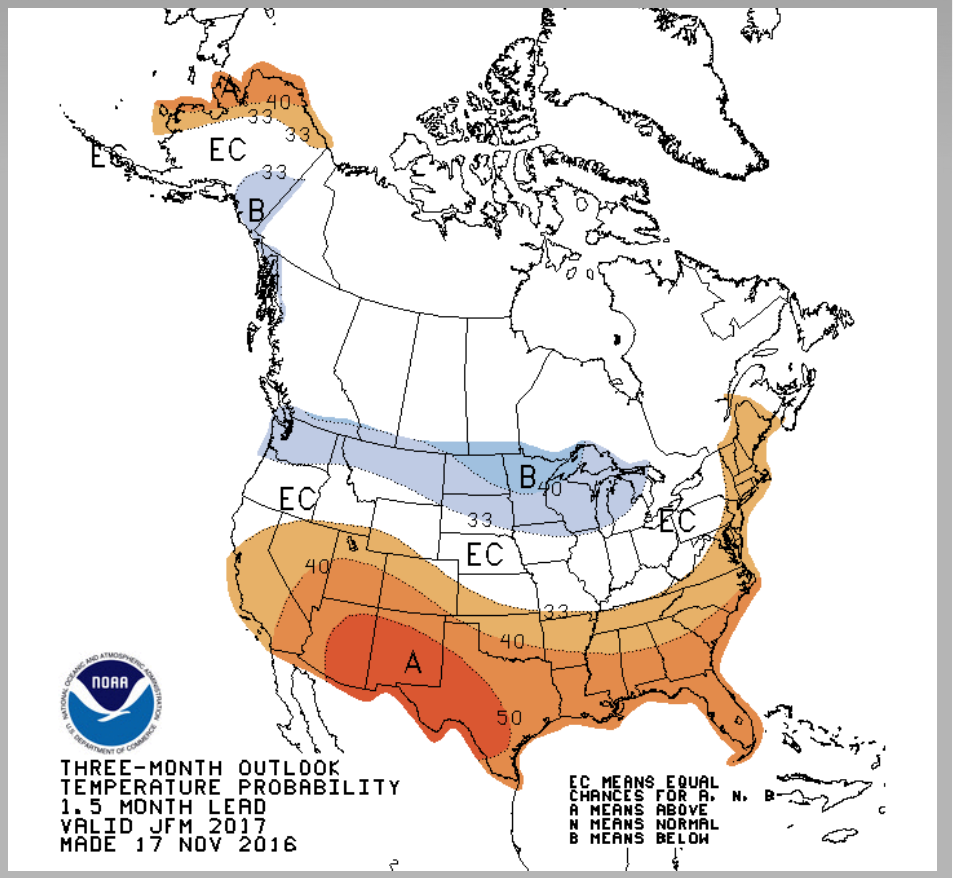
December-January-February (DJF) Outlook



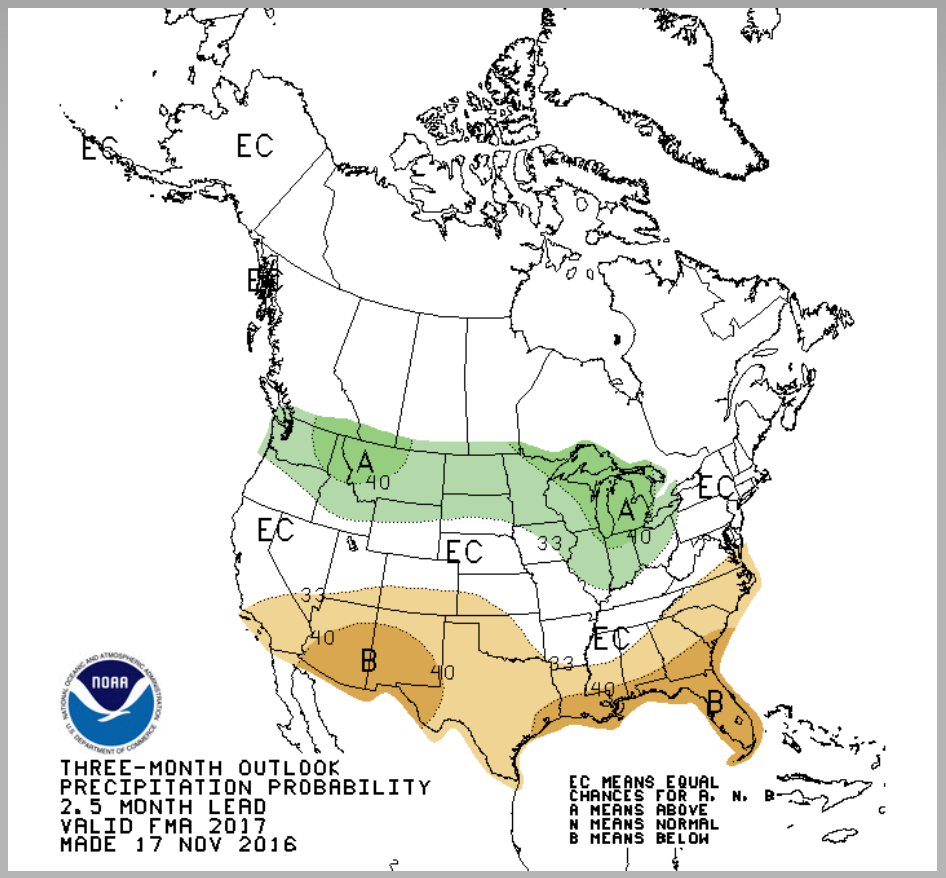


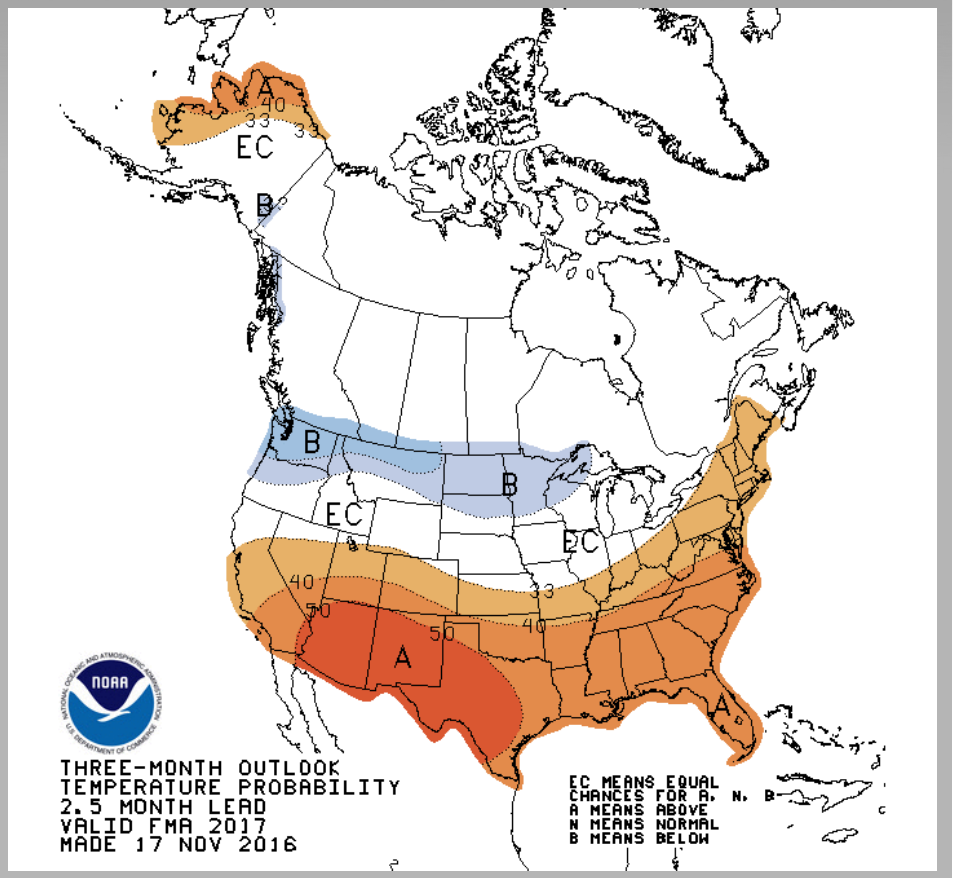
January-February-March (JFM) Outlook





February-March-April (FMA) Outlook





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