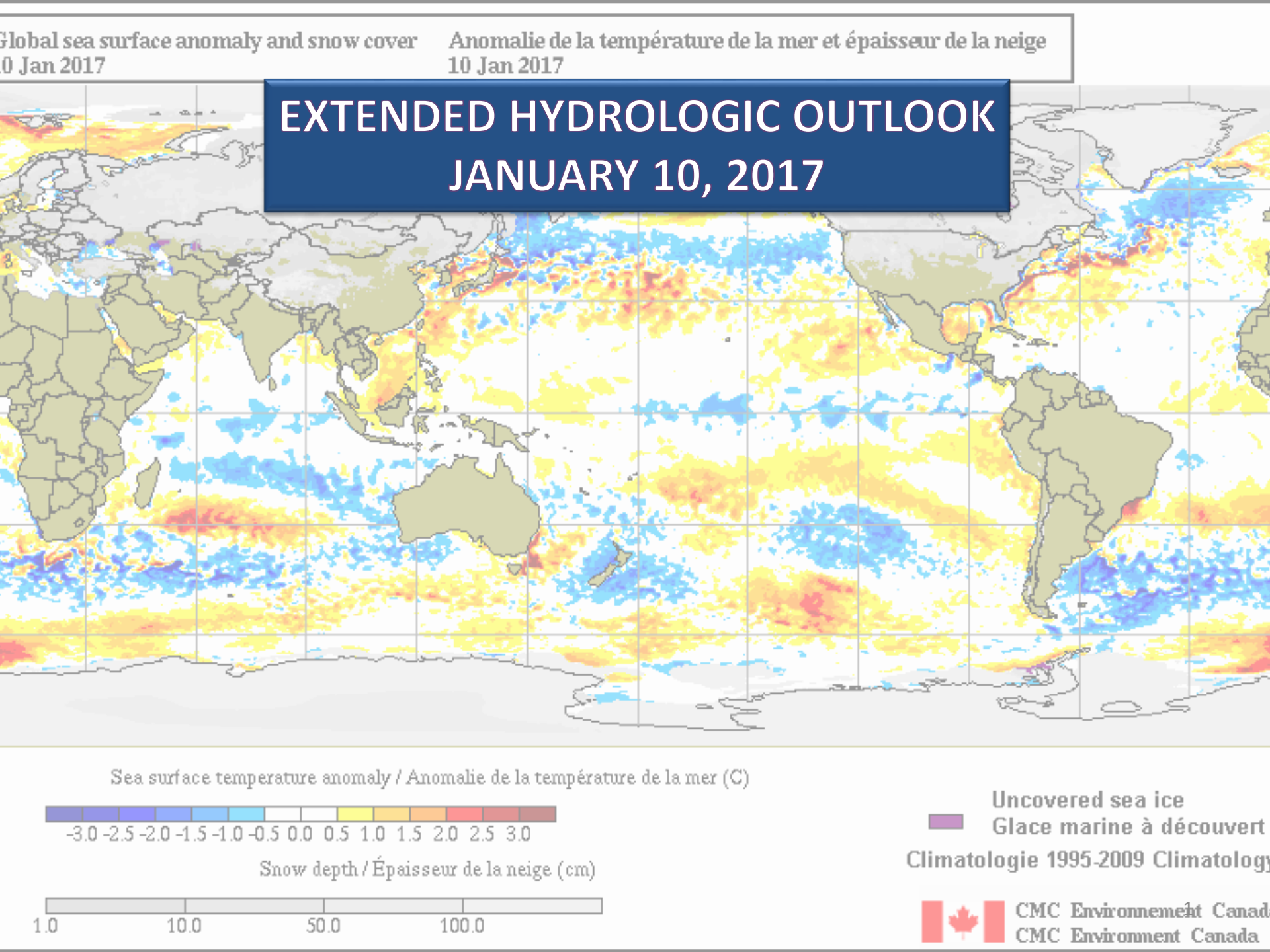
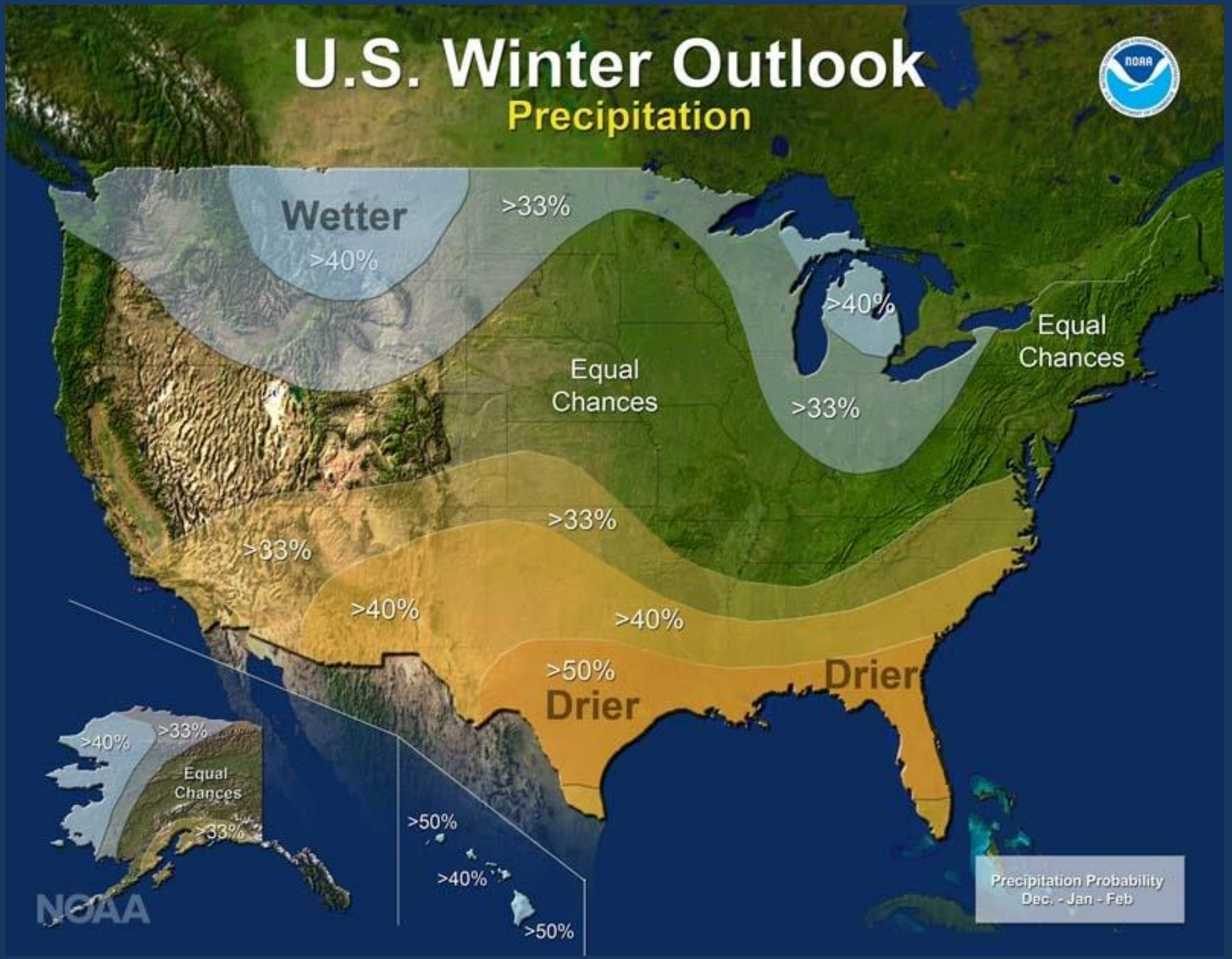
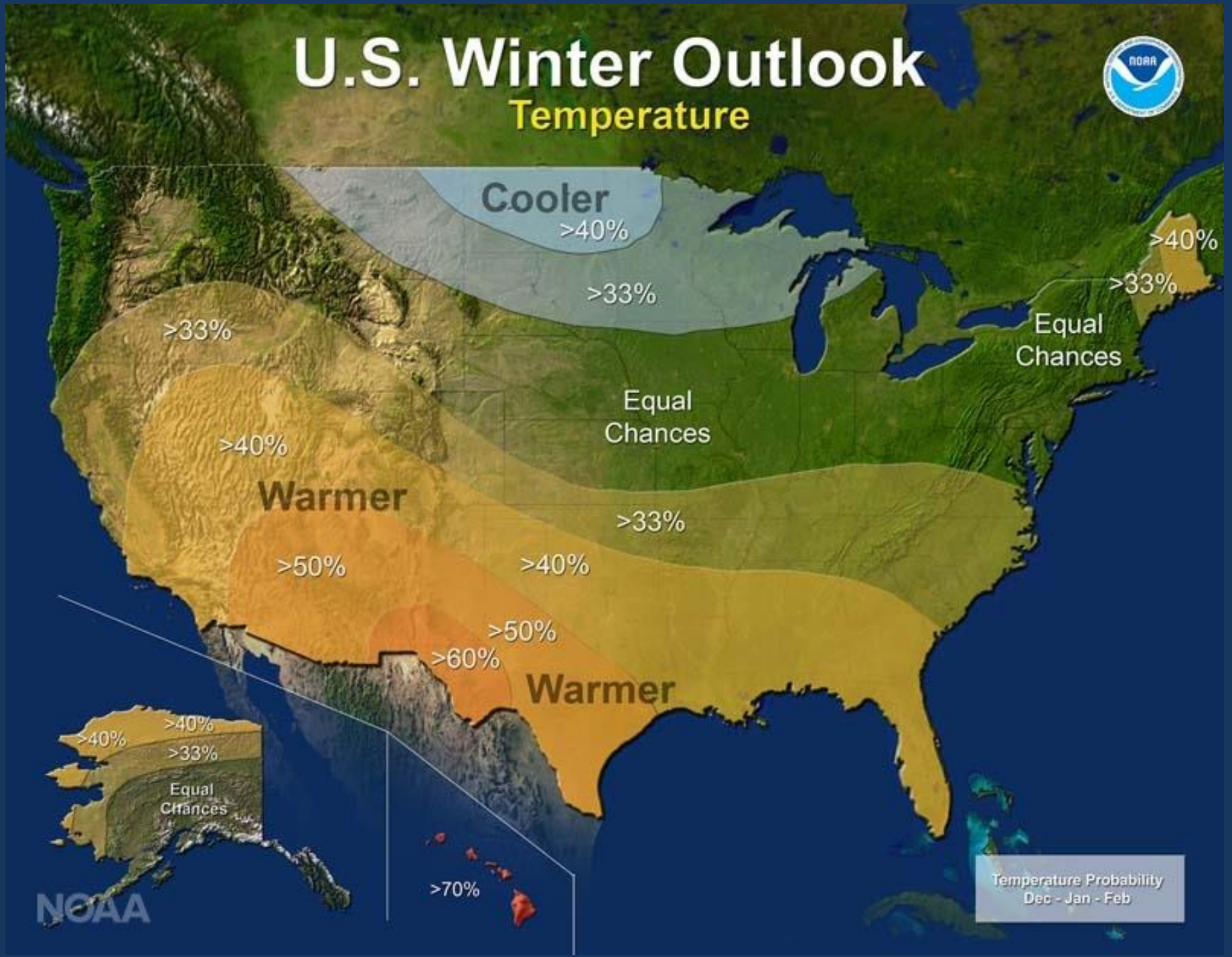

Global sea surface anomaly and snow cover
10 Jan 2017
Anomalie de la température de la mer et épaisseur de la neige
10 Jan 2017
EXTENDED HYDROLOGIC OUTLOOK
JANUARY 10, 2017
Sea surface temperature anomaly / Anomalie de la température de la mer (C)
-3.0 -2.5 -2.0 -1.5 -1.0 -0.5 0.0 0.5 1.0 1.5 2.0 2.5 3.0
Snow depth / Épaisseur de la neige (cm)
1.0 10.0 50.0 100.0
Uncovered sea ice
Glace marine à découvert
Climatologie 1995-2009 Climatology
CMC Environnement Canada
CMC Environment Canada

Summary

- **The Climate Prediction Center (CPC) is forecasting below normal (40-50% probability) rainfall for January through March.**
- **La Niña conditions are present. A transition to ENSO-neutral is favored during January-March 2017. La Niña favors above-average temperatures and below-median precipitation across the southern tier of the United States.**
- **Monitoring Atlantic Multidecadal Oscillation (AMO) index for switch to negative (cold) phase, this has the potential to contribute to a drier-than-normal 2017 wet season. With a slightly above-normal hurricane season this switch may not be happening.**


U.S. Winter Outlook
Precipitation
Wetter
>33%
>40%
>40%
Equal
Chances
Equal
Chances
>33%
>33%
>33%
>40%
>40%
>50%
Drier
Drier
>40%
>33%
Equal
Chances
>33%
>50%
>40%
>50%
Precipitation Probability
Dec. - Jan - Feb
NOAA

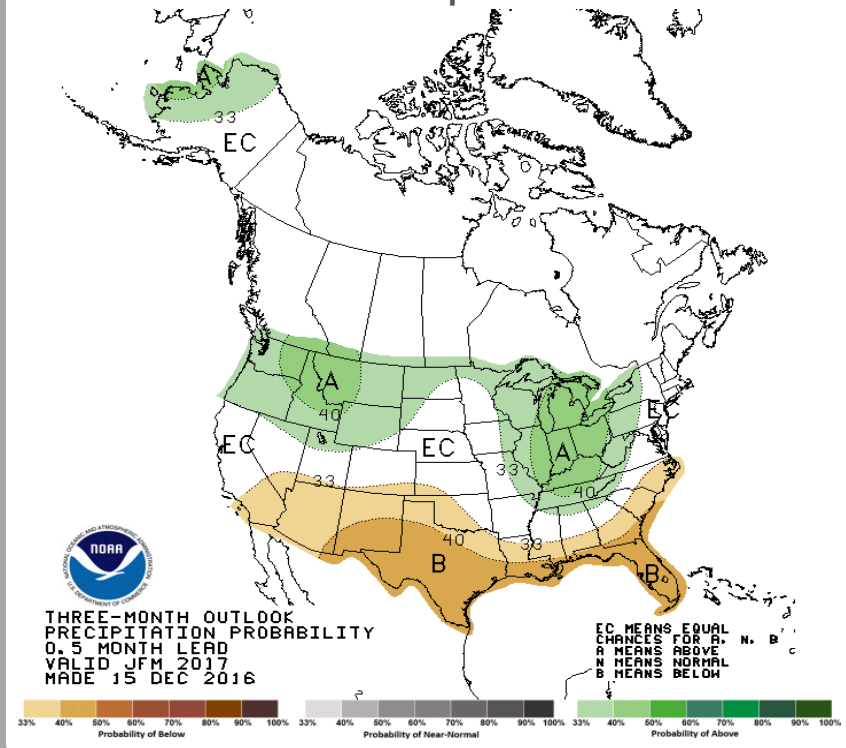

U.S. Winter Outlook
Temperature
Cooler
>40%
>33%
>33%
Equal
Chances
>40%
>33%
Equal
Chances
>40%
Warmer
>33%
>50%
>40%
>50%
>60%
Warmer
>40%
>40%
>33%
Equal
Chances
>70%
NOAA
Temperature Probability
Dec - Jan - Feb

U. S. Seasonal Outlooks

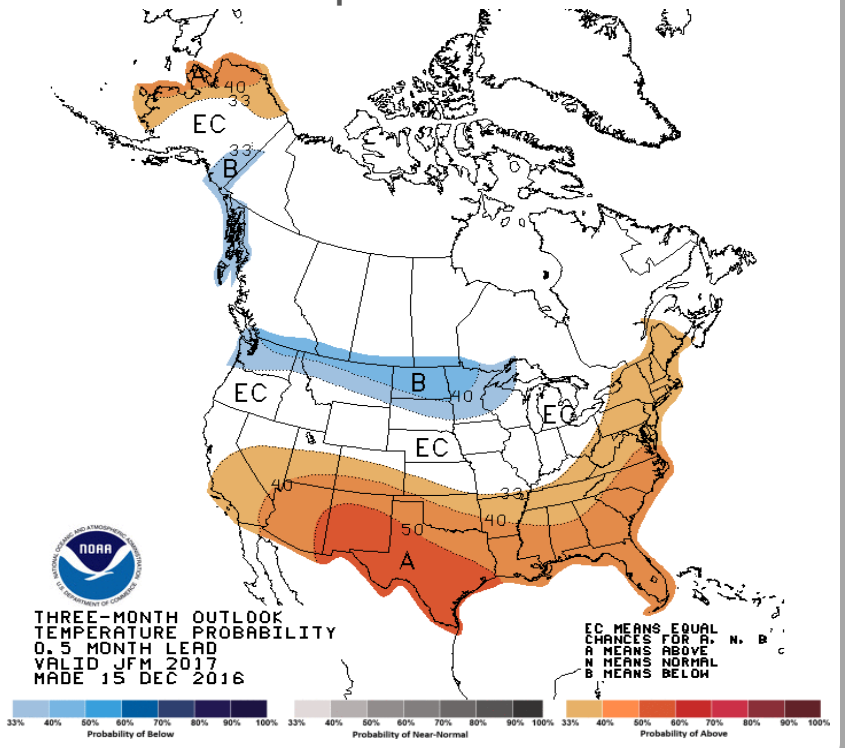
January - March 2017

The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.

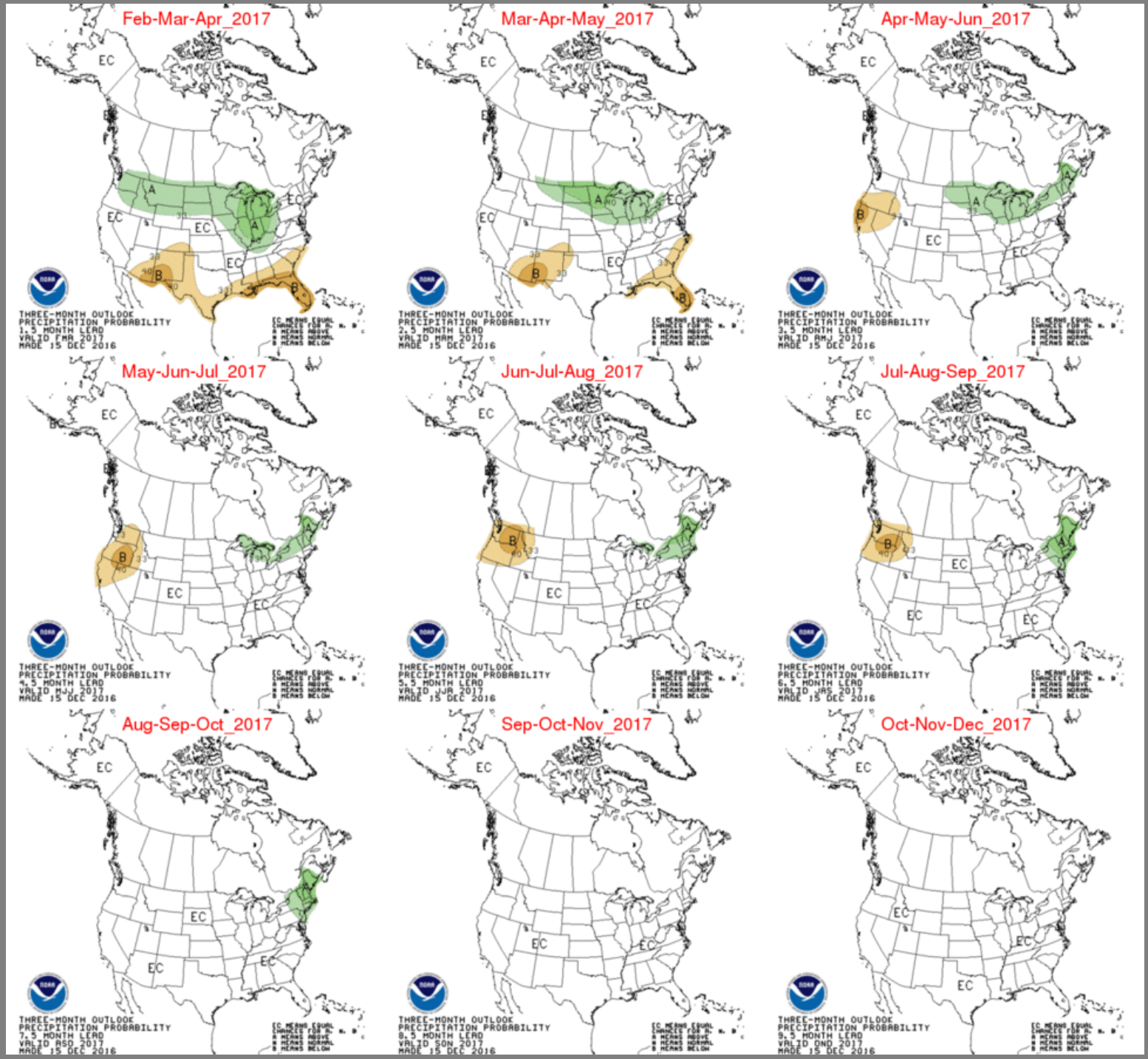
Precipitation



Temperature

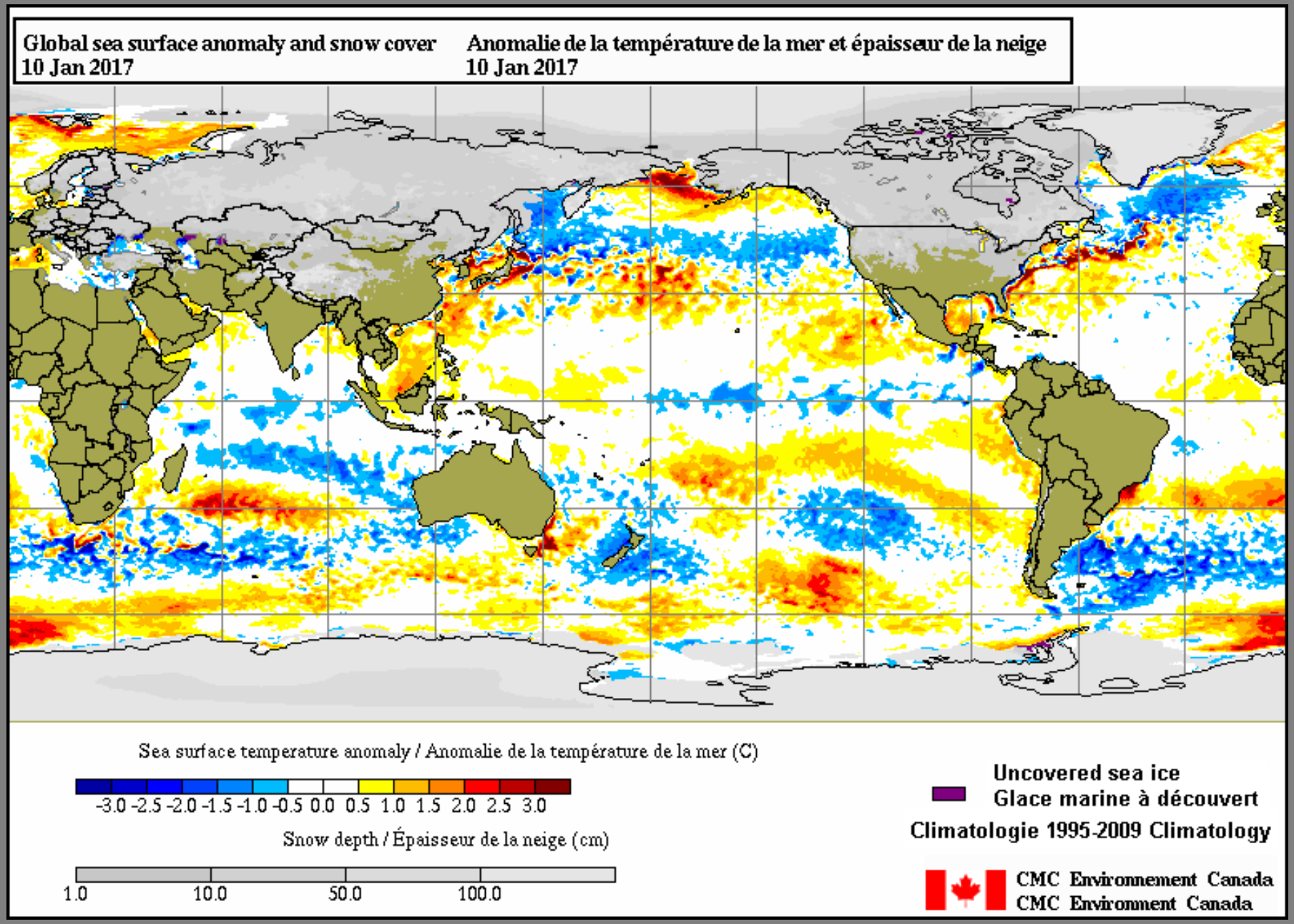


Prepared by: Climate Prediction Center / NCEP



Prepared by: Climate Prediction Center / NCEP

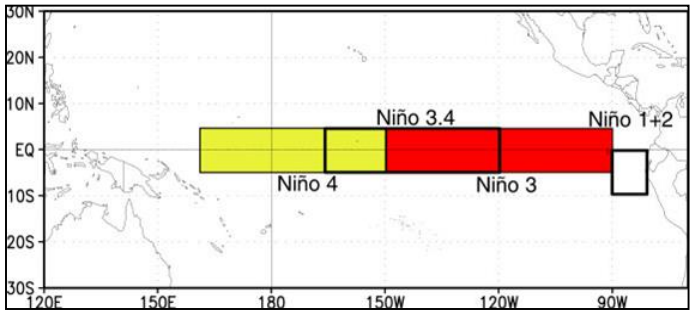
Current Global Sea Surface Temperature Anomalies

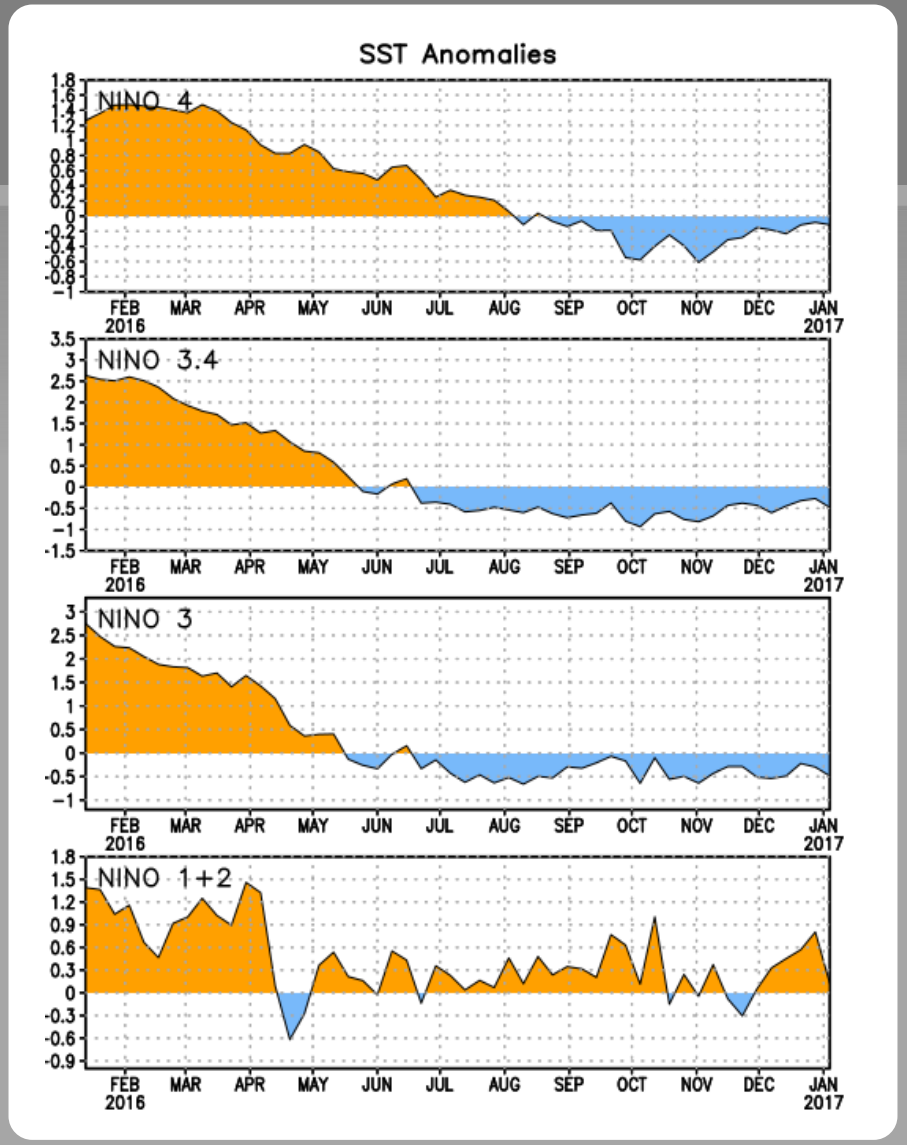


Niño Region SST Departures (ºC) Recent Evolution

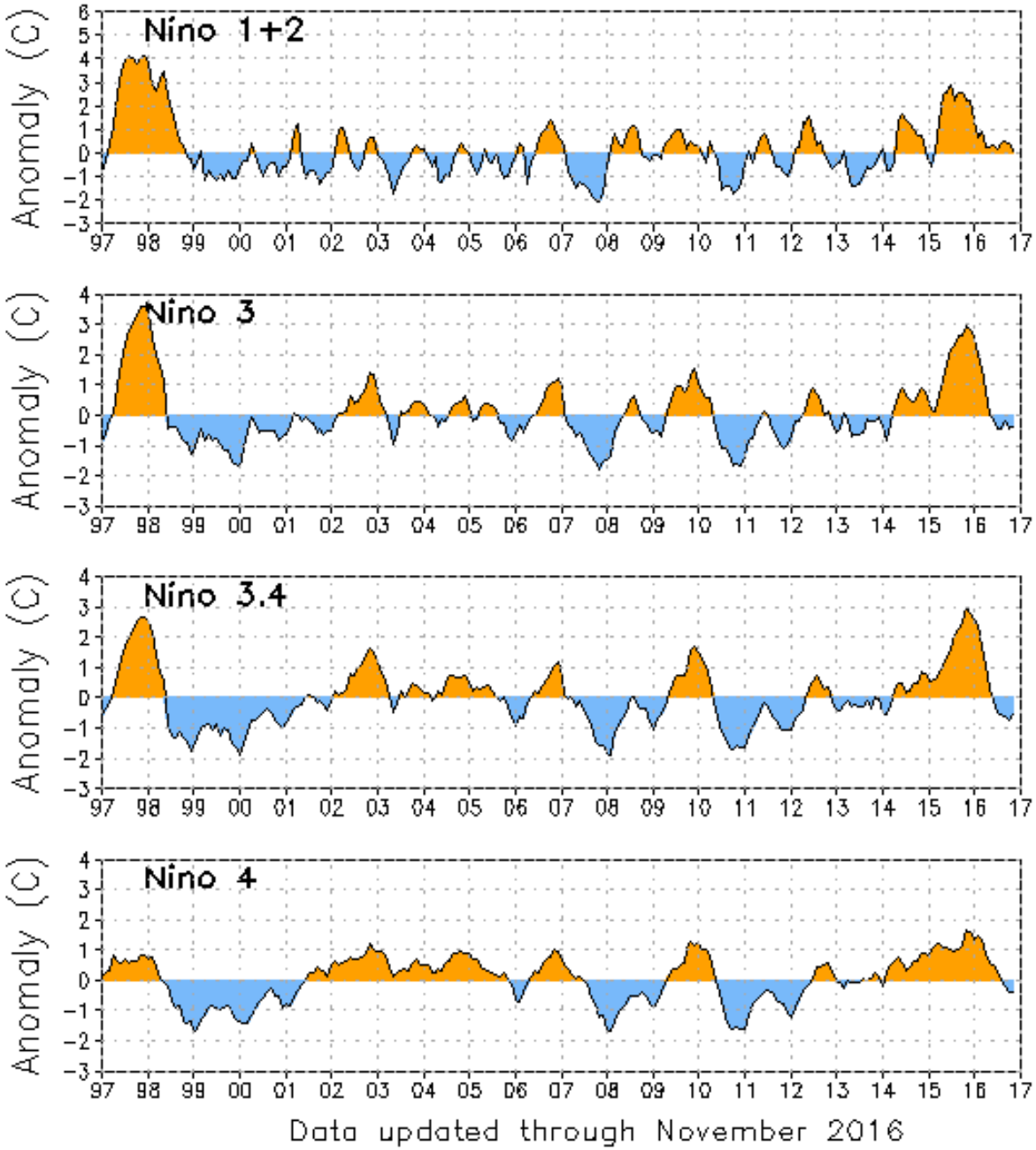
The latest weekly SST departures are:

Niño 4	-0.1ºC
Niño 3.4	-0.5ºC
Niño 3	-0.5ºC
Niño 1+2	0.1ºC





Prepared by: Climate Prediction Center / NCEP


Nino 1+2
Nino 3
Nino 3.4
Nino 4
Anomaly (C)
97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17
Data updated through November 2016

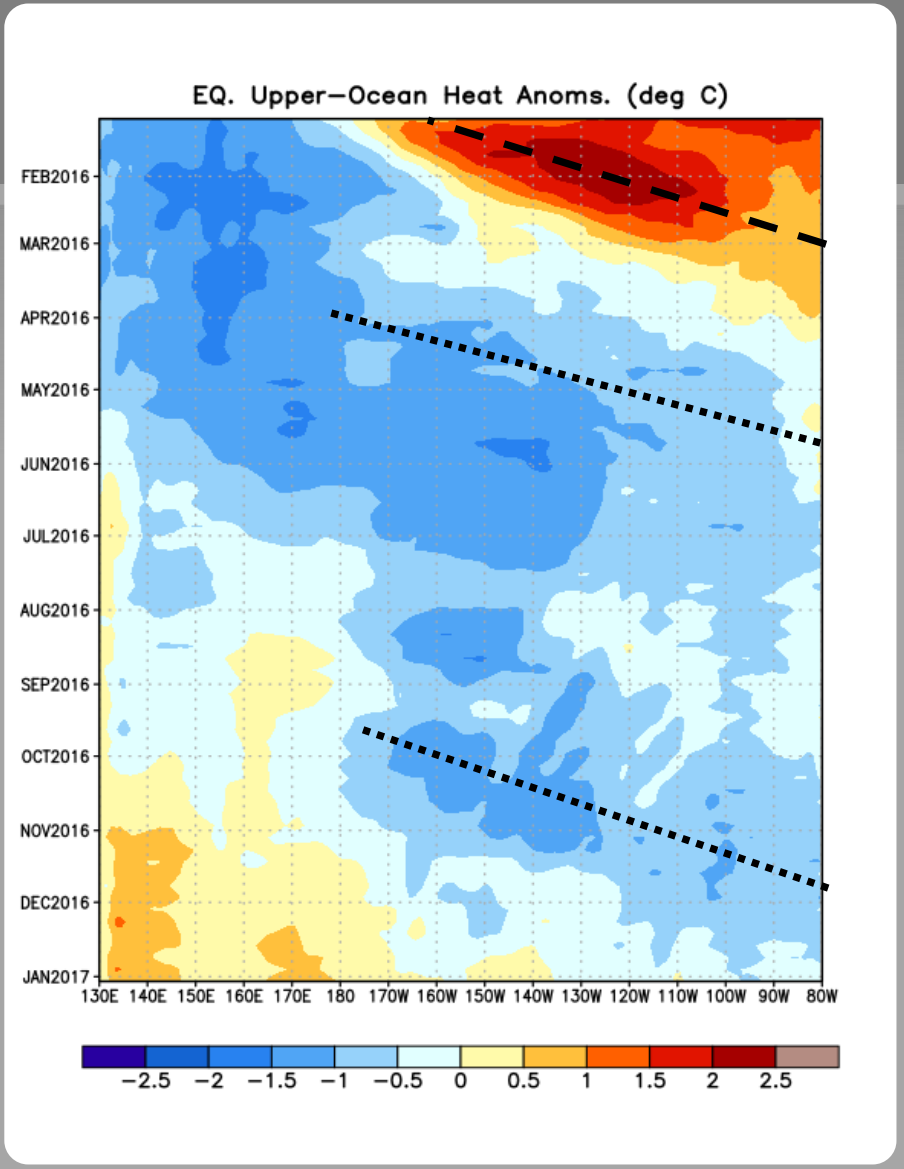
Weekly Heat Content Evolution in the Equatorial Pacific

The downwelling phase of an equatorial oceanic Kelvin wave was observed during January-February 2016.

With the passage of an upwelling equatorial oceanic Kelvin wave in March 2016, below-average subsurface temperatures extended across much of the equatorial Pacific.

Since November 2016, the subsurface temperature anomalies have gradually weakened.

Recently, positive subsurface temperature anomalies have expanded eastward to the east-central Pacific.

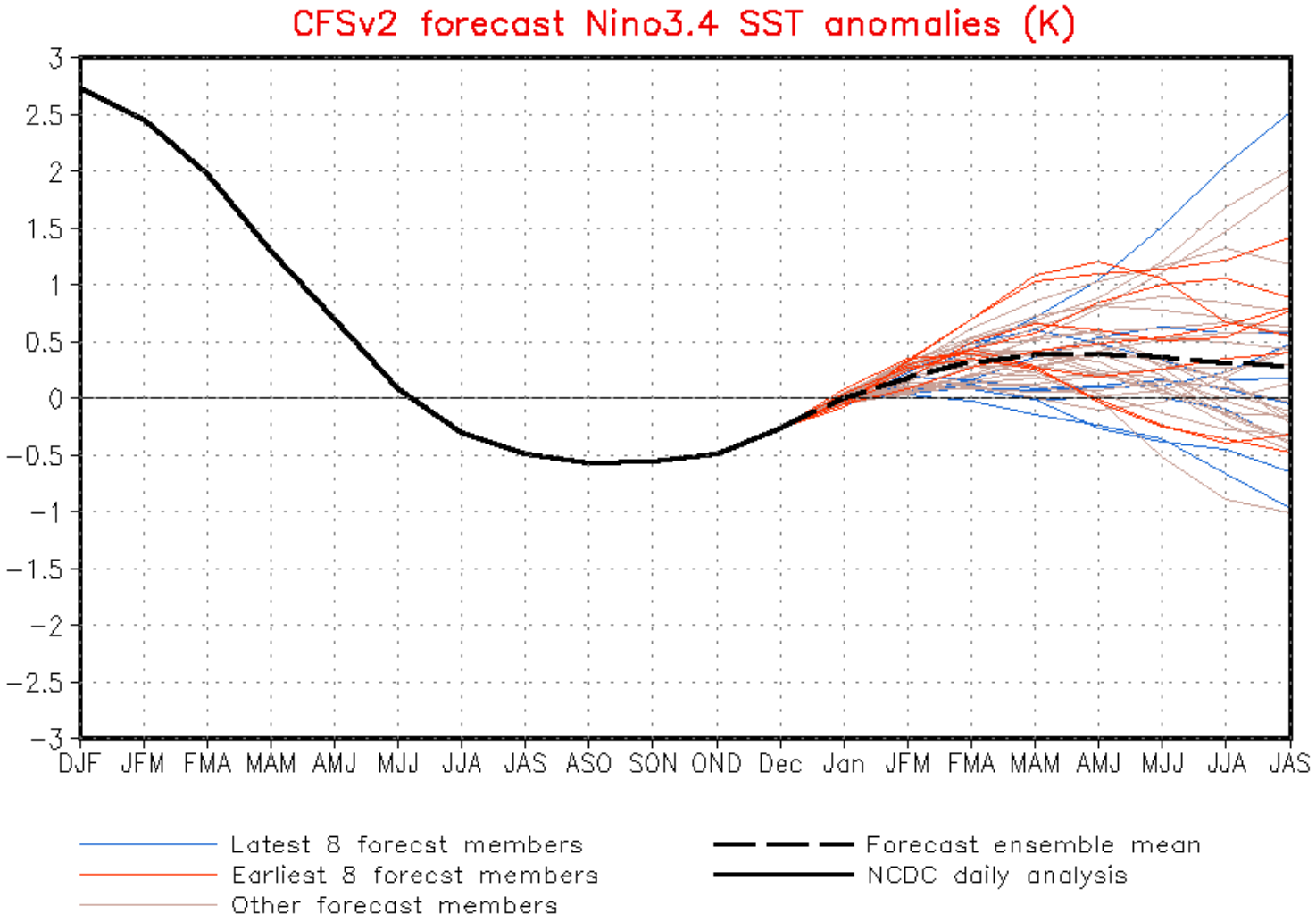


Equatorial oceanic Kelvin waves have alternating warm and cold phases. The warm phase is indicated by dashed lines. Down-welling and warming occur in the leading portion of a Kelvin wave, and up-welling and cooling occur in the trailing portion.

Prepared by: Climate Prediction Center / NCEP

NWS/NCEP/CPC

Last update: Tue Jan 10 2017
Initial conditions: 30Dec2016–8Jan2017



IRI/CPC Pacific Niño 3.4 SST Model Outlook

The multi-model averages indicate a transition to ENSO-neutral during the Northern Hemisphere winter 2016-17.

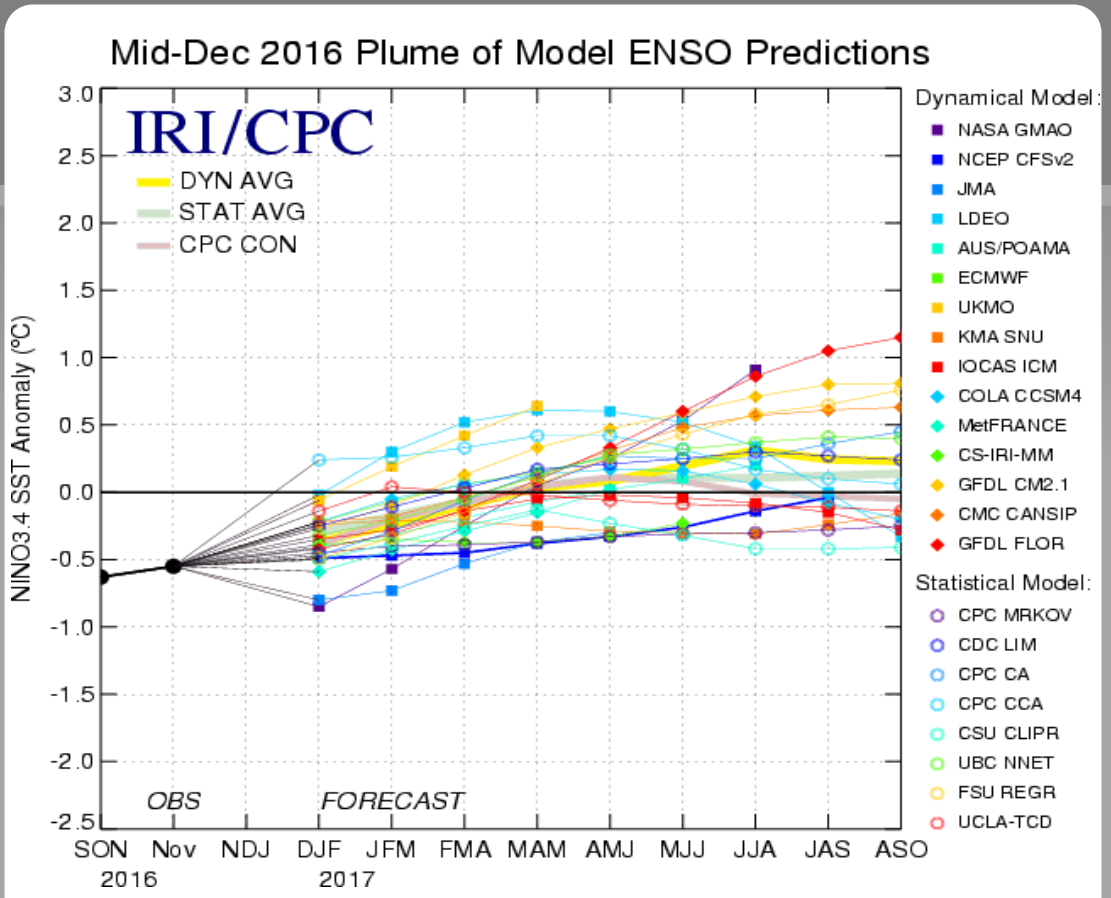


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 13 December 2016).

Prepared by: Climate Prediction Center / NCEP

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.

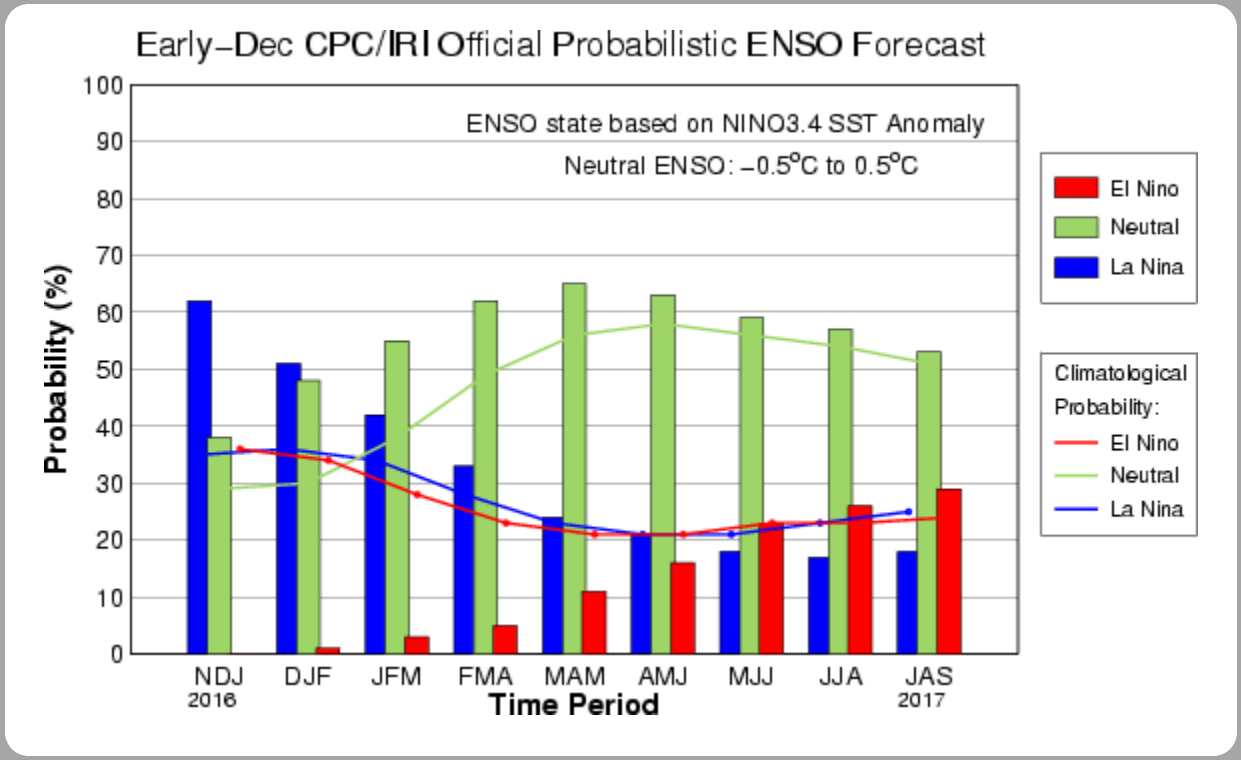
The ONI is one measure of the El Niño-Southern Oscillation, and other indices can confirm whether features consistent with a coupled ocean-atmosphere phenomenon accompanied these periods. The complete table going back to DJF 1950 can be found here.

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	-0.8	-0.8	-0.8	

CPC/IRI Probabilistic ENSO Outlook

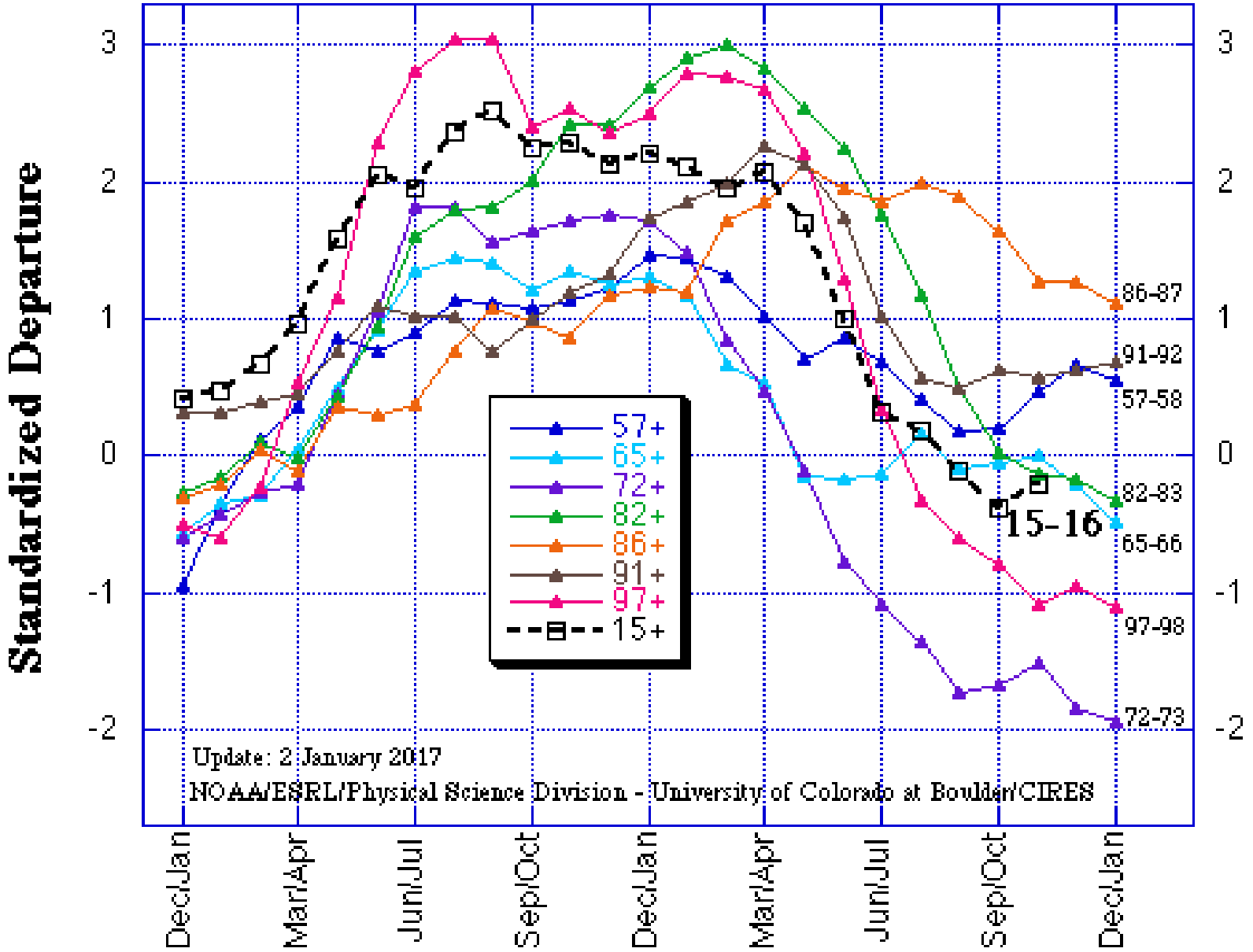
Updated: 8 December 2016

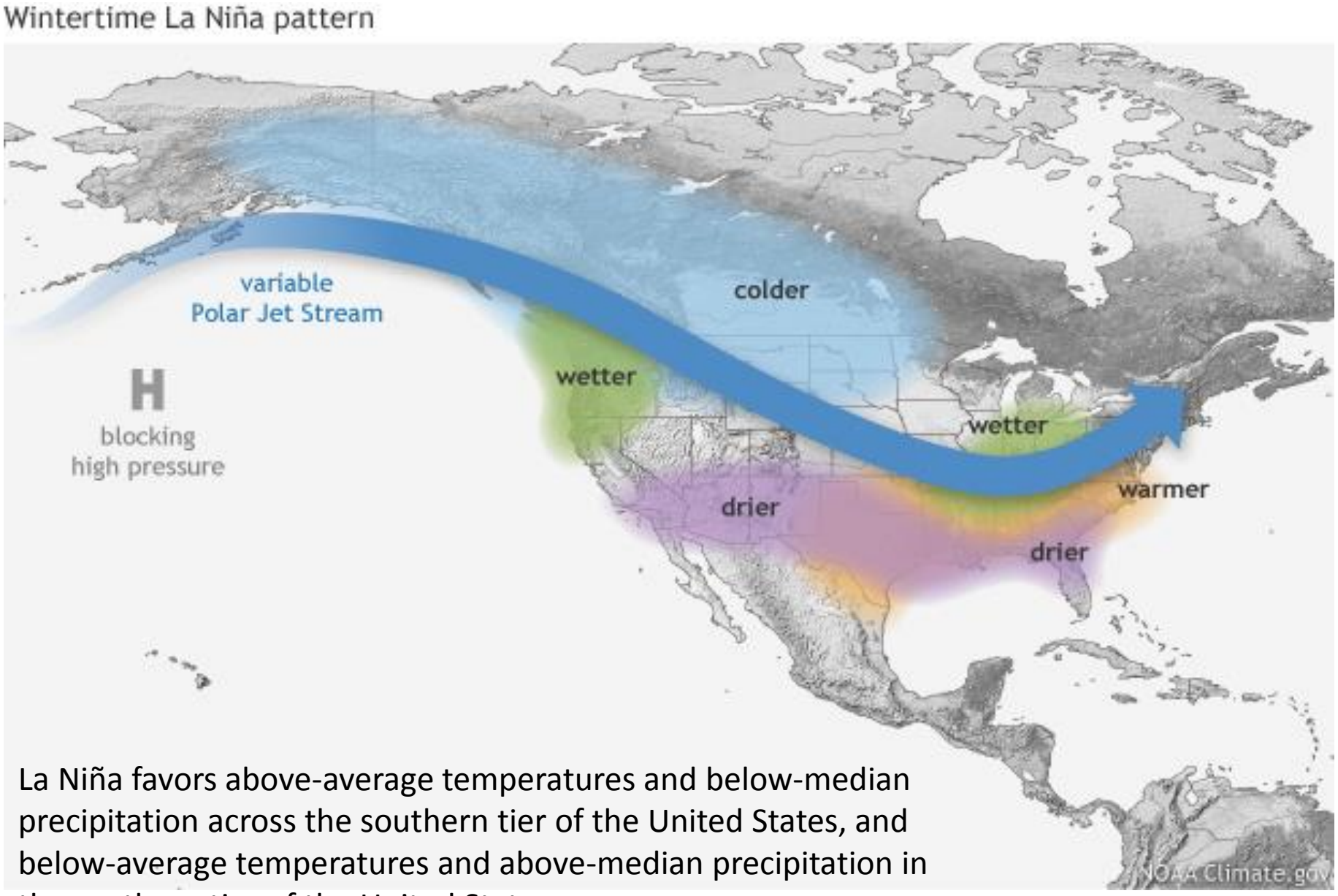
La Niña is slightly favored to persist (~50% chance) during the winter 2016-17. A transition to ENSO-neutral is favored during January-March 2017.



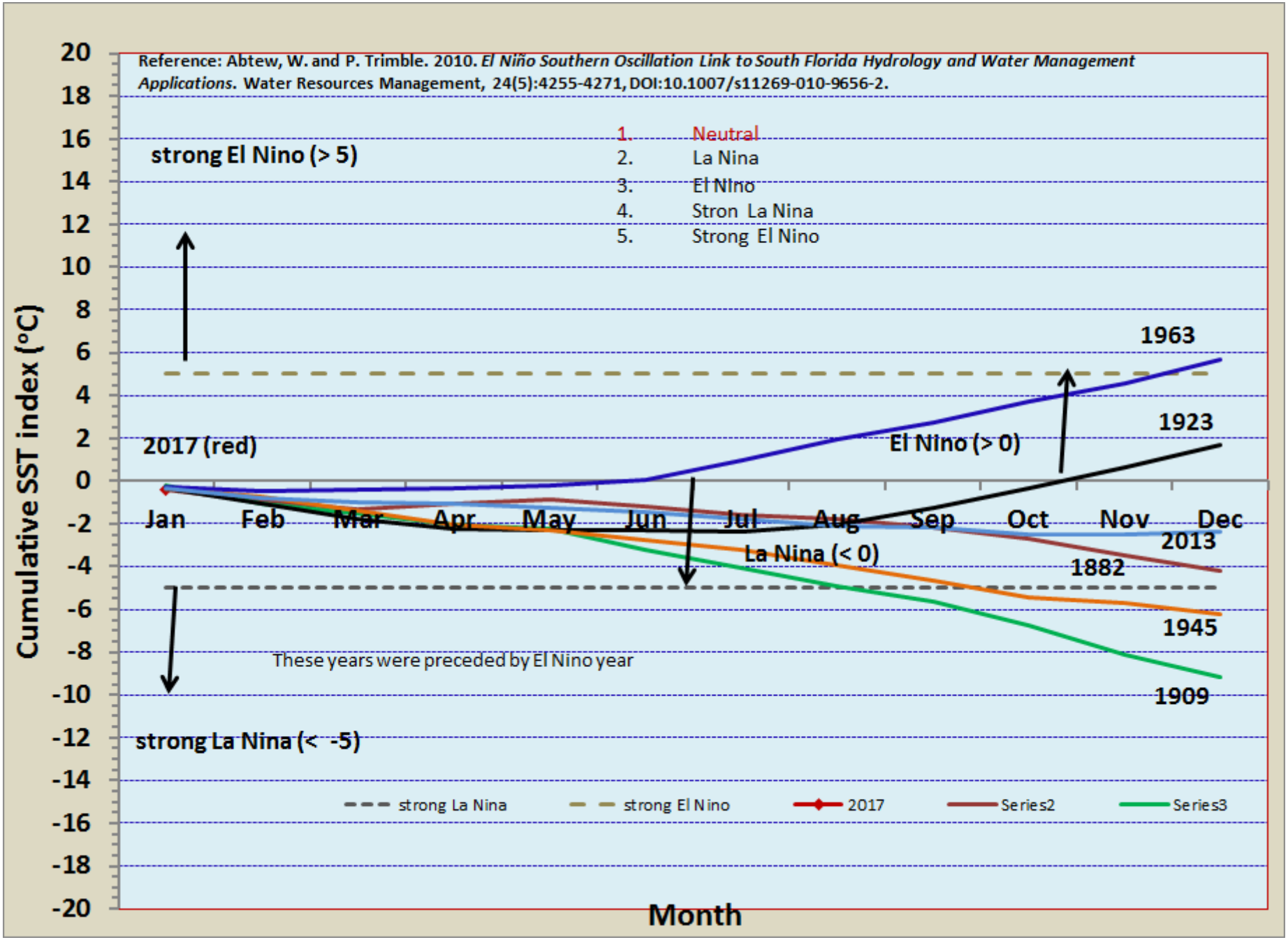
Prepared by: Climate Prediction Center / IRI

Multivariate ENSO Index (MEI) for the seven strongest El Niño events since 1950 vs. 2015-16

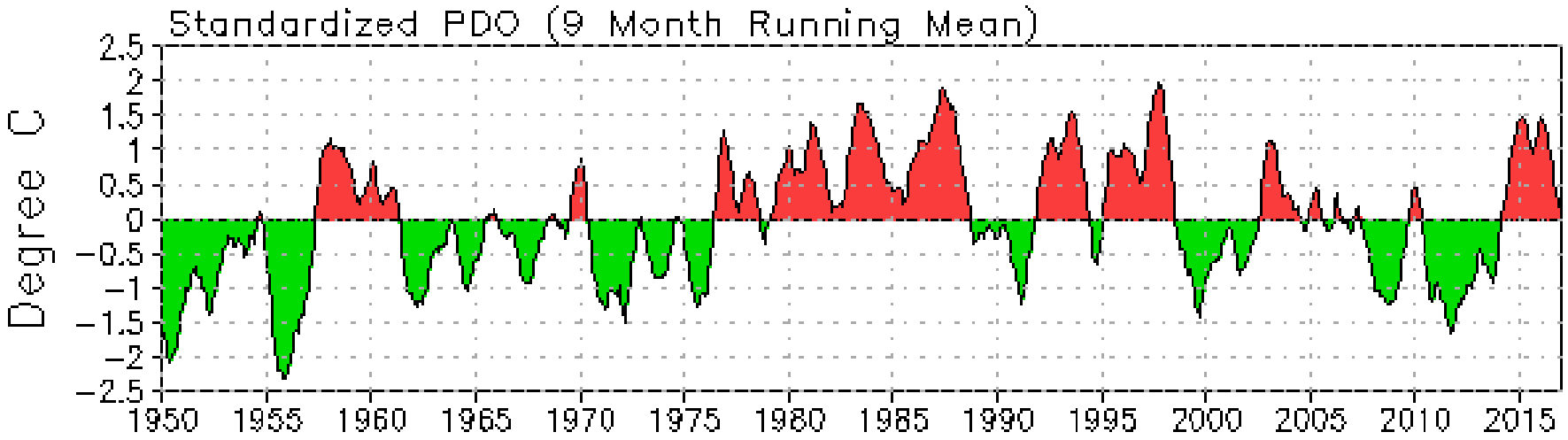


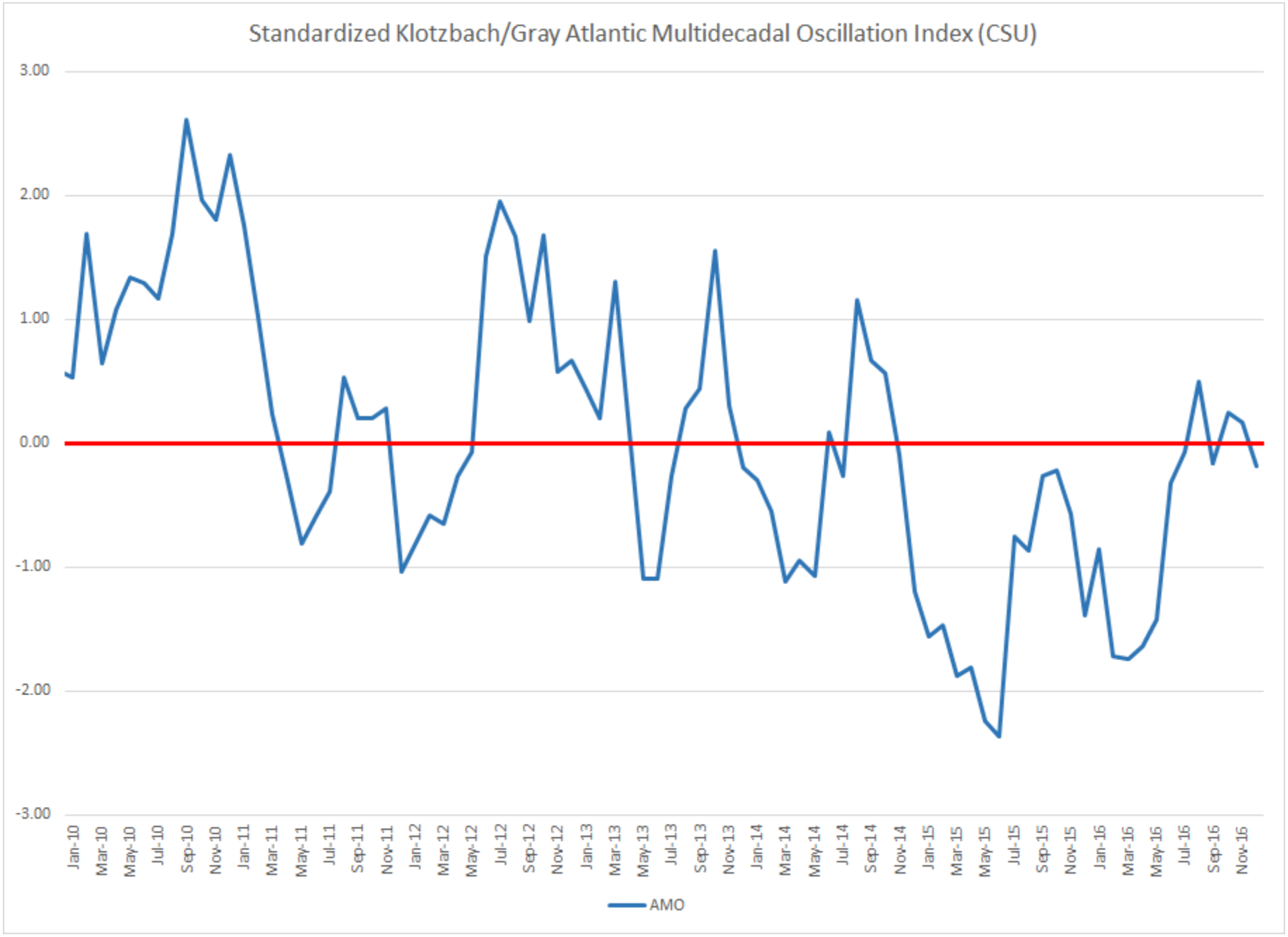


La Niña favors above-average temperatures and below-median precipitation across the southern tier of the United States, and below-average temperatures and above-median precipitation in the northern tier of the United States.



Source: Wossenu Abtew (SFWMD)


Standardized PDO (9 Month Running Mean)
Degree C
2.5
2
1.5
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015


Standardized Klotzbach/Gray Atlantic Multidecadal Oscillation Index (CSU)
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
Jan-10
Mar-10
May-10
Jul-10
Sep-10
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
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Nov-12
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Mar-13
May-13
Jul-13
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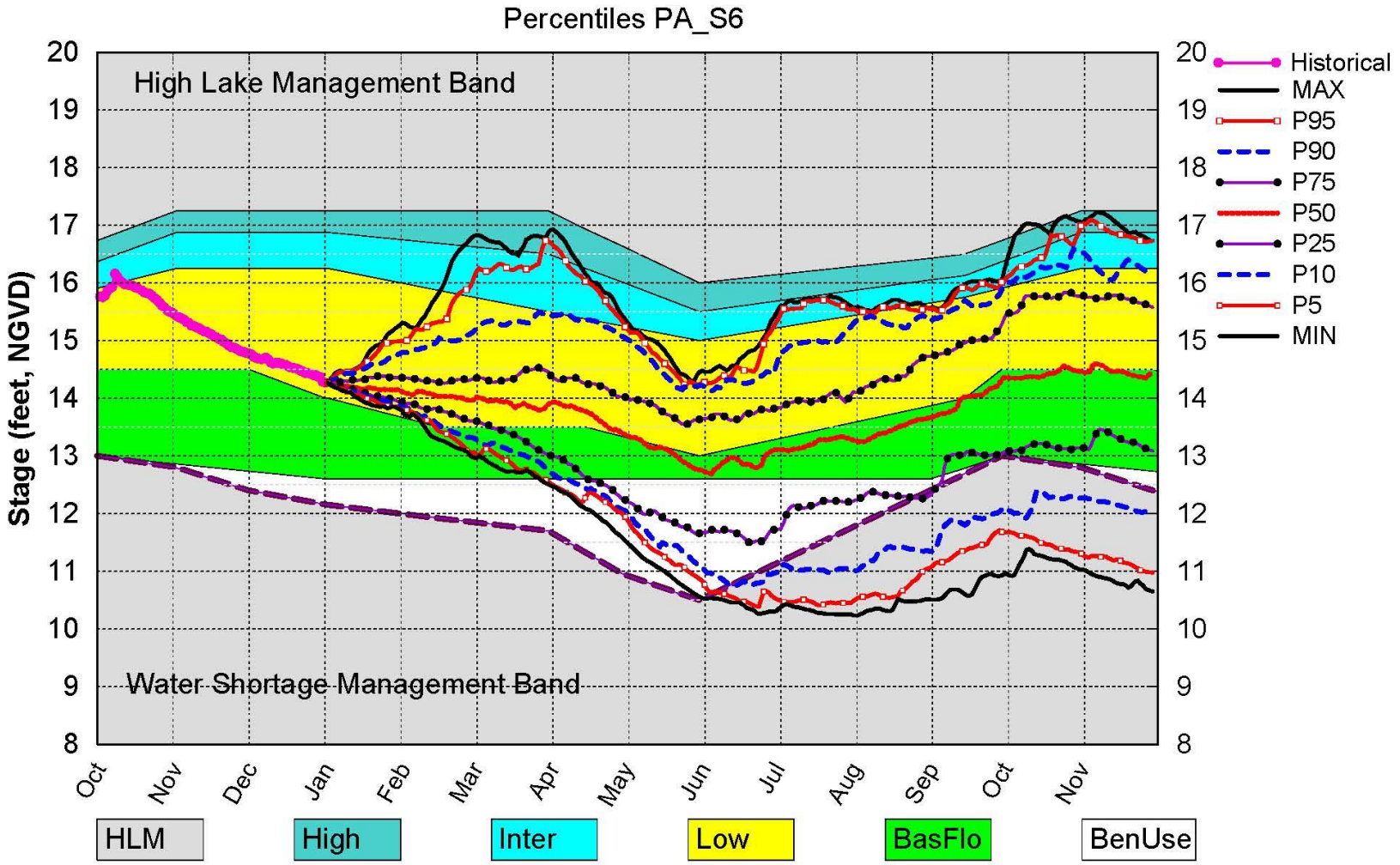
Nov-13
Jan-14
Mar-14
May-14
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
AMO

Lake Okeechobee SFWMM Jan 2017 Dynamic Position Analysis

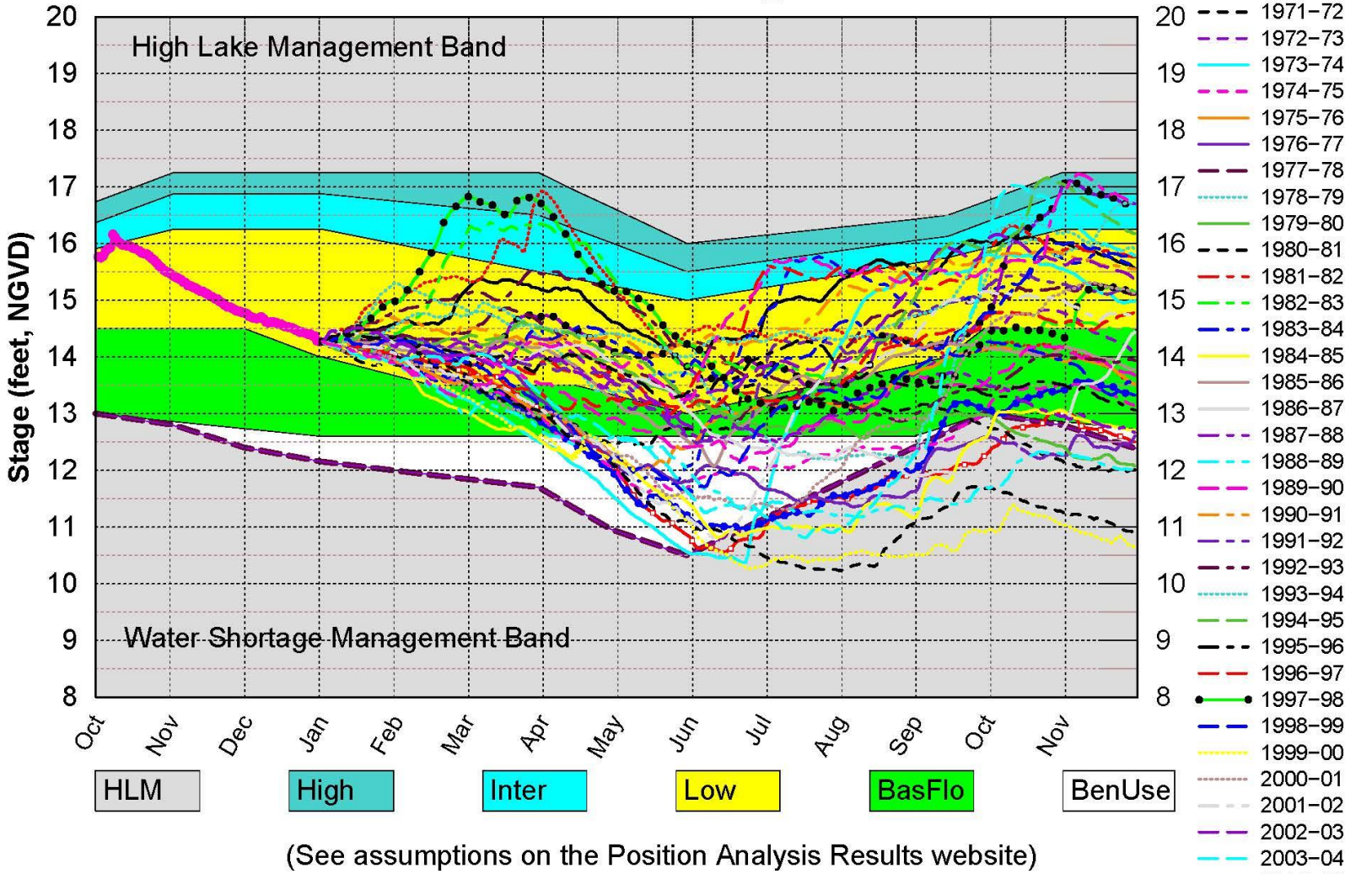


(See assumptions on the Position Analysis Results website)

Mon Jan 9 12:23:01 2017

Lake Okeechobee SFWMM Jan 2017 Dynamic Position Analysis

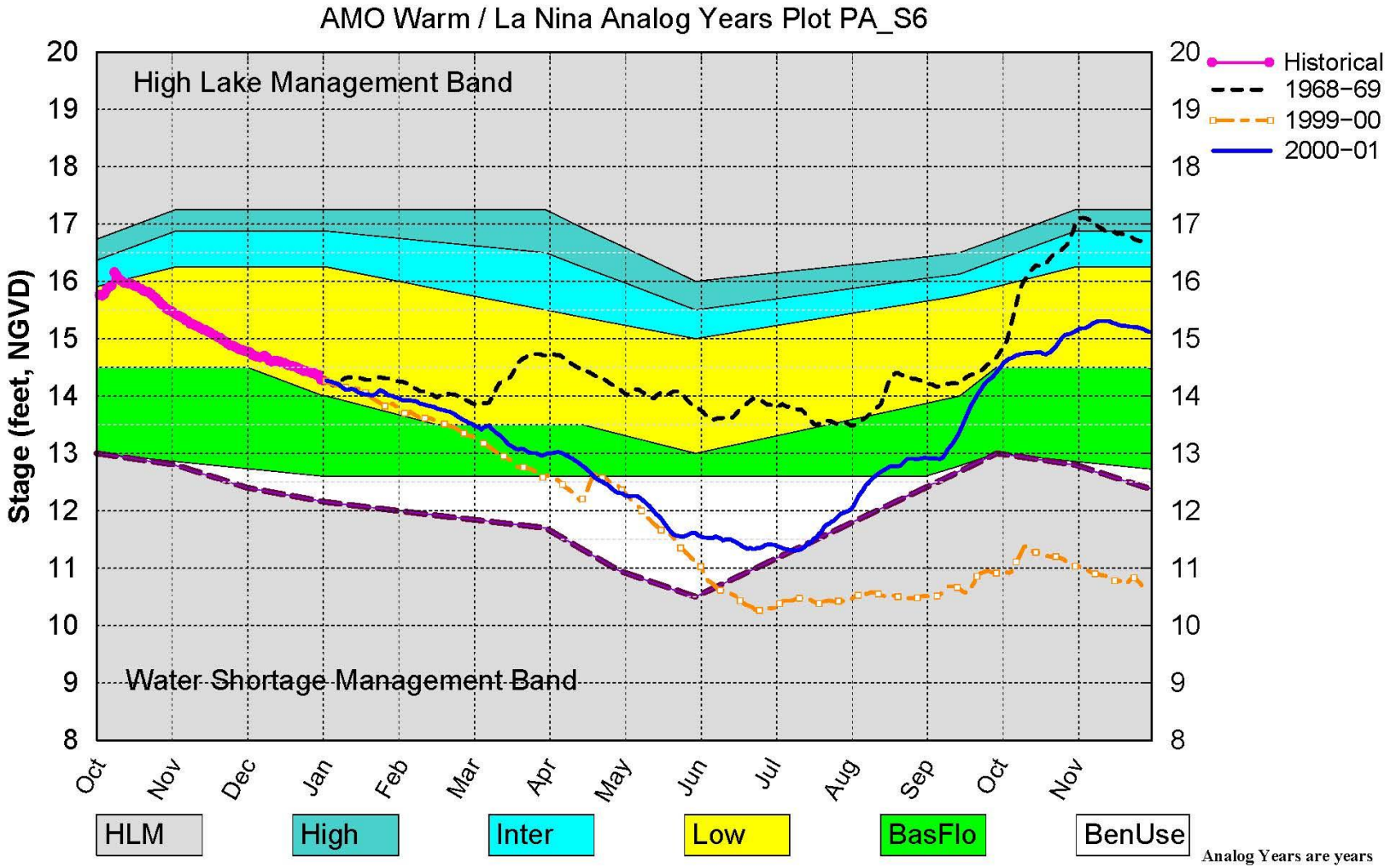
All Simulated Years Plot PA_S6



(See assumptions on the Position Analysis Results website)

Mon Jan 9 12:25:14 2017

Lake Okeechobee SFWMM Jan 2017 Dynamic Position Analysis

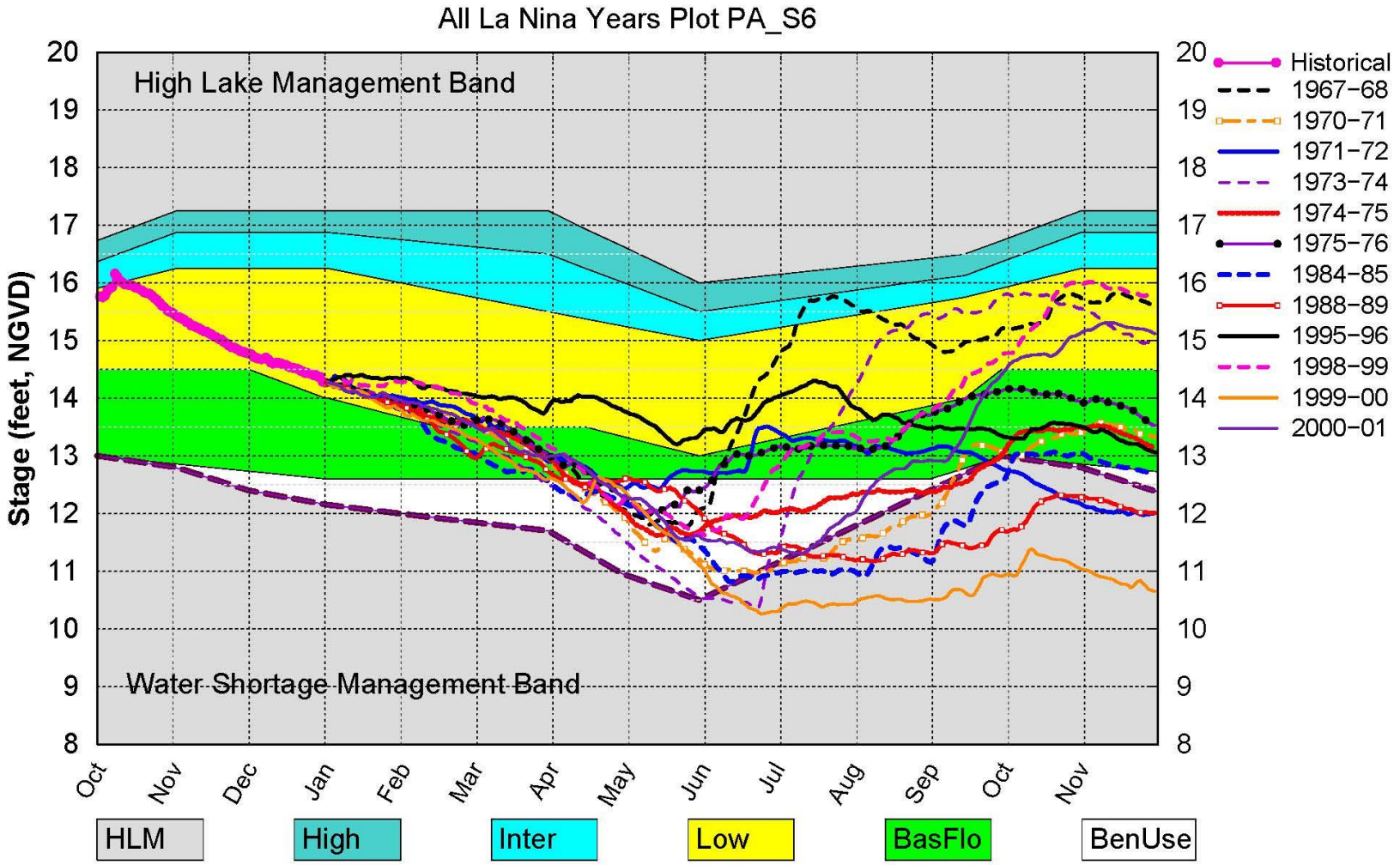


(See assumptions on the Position Analysis Results website)

Analog Years are years with similar climatological conditions to the current year.

Mon Jan 9 12:23:29 2017

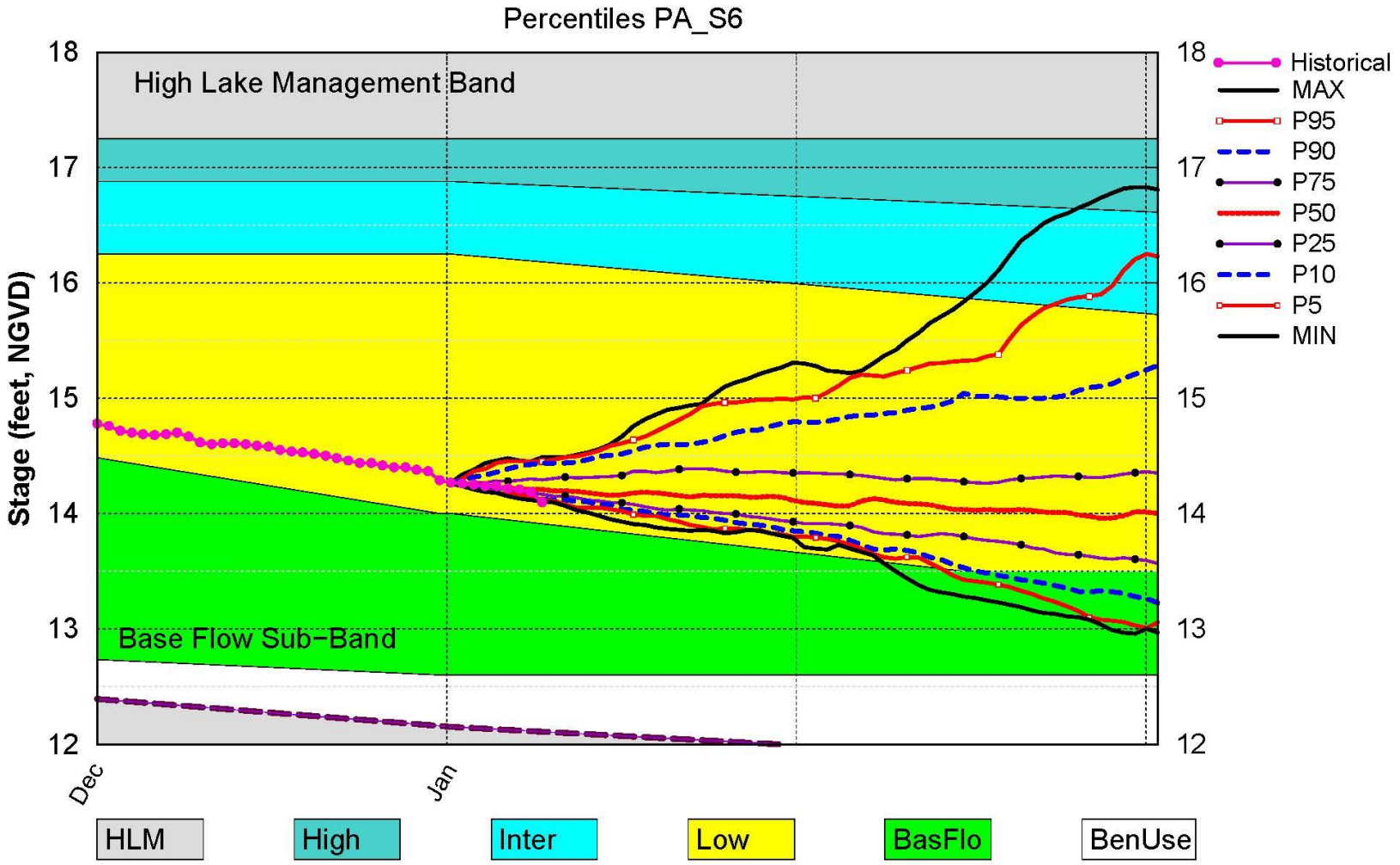
Lake Okeechobee SFWMM Jan 2017 Dynamic Position Analysis



(See assumptions on the Position Analysis Results website)

Mon Jan 9 12:23:25 2017

Lake Okeechobee SFWMM Jan 2017 Dynamic Position Analysis



(See assumptions on the Position Analysis Results website)

Mon Jan 9 14:24:36 2017