

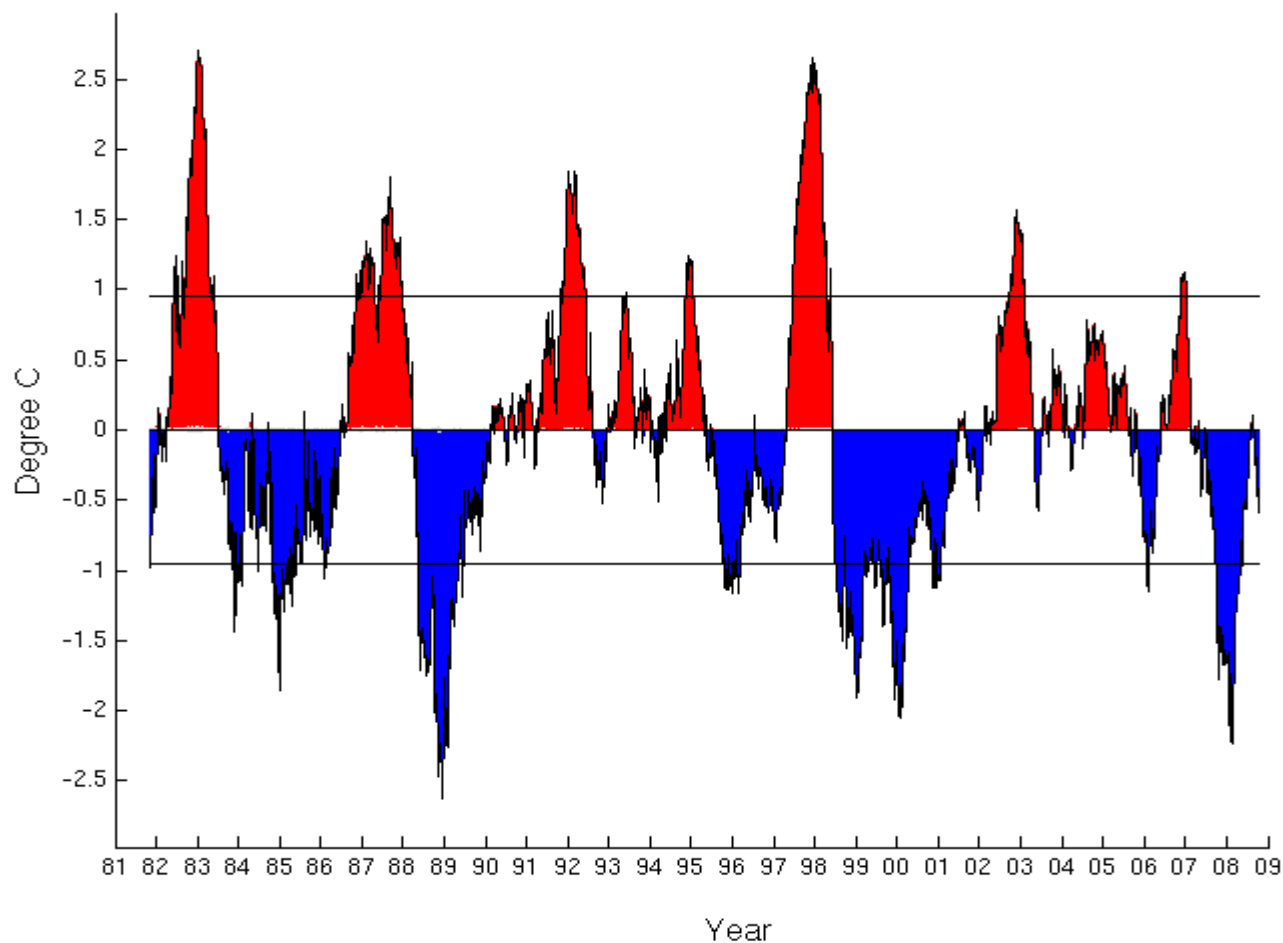
Weekly Climate Update October 28th 2008

- Tropical Atlantic /Caribbean sea surface temperature is still above normal which could support an additional late season tropical activity in November. Such an event affecting Florida is becoming increasingly unlikely even if another tropical storm was to form.
- Negative subsurface temperature anomalies in the equatorial Pacific are a sign that an El Nino event is very unlikely. Currently the official climate outlook is calling for ENSO to remain in neutral conditions. This is different than climatology because wetter than normal conditions are less likely than the normal climatologic condition. The Position Analysis in slide 14 and 15 best illustrates this point.
- Summary of current global ocean-climate conditions can be found at the following link: http://ioc3.unesco.org/oopc/state_of_the_ocean/all/
- The IRI and CFS models results suggest increased chances of normal to drier than normal conditions for this upcoming dry season.

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El Nino-Southern Oscillation Index



ENSO events since 1981.

ENSO is currently in neutral conditions.

http://ioc3.unesco.org/oopc/state_of_the_ocean/sur/pac/nino3.4.php

Recent Evolution of Equatorial Pacific SST Departures (° C)

Climate Prediction Center

El Nino-Southern Oscillation Weekly Update

Nov.
2007

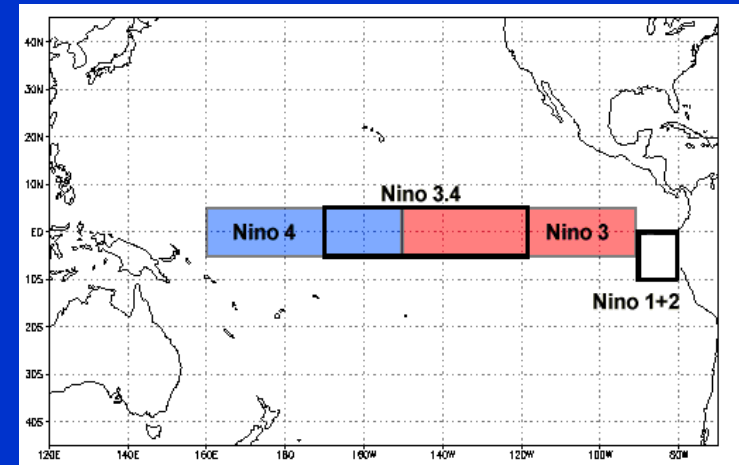
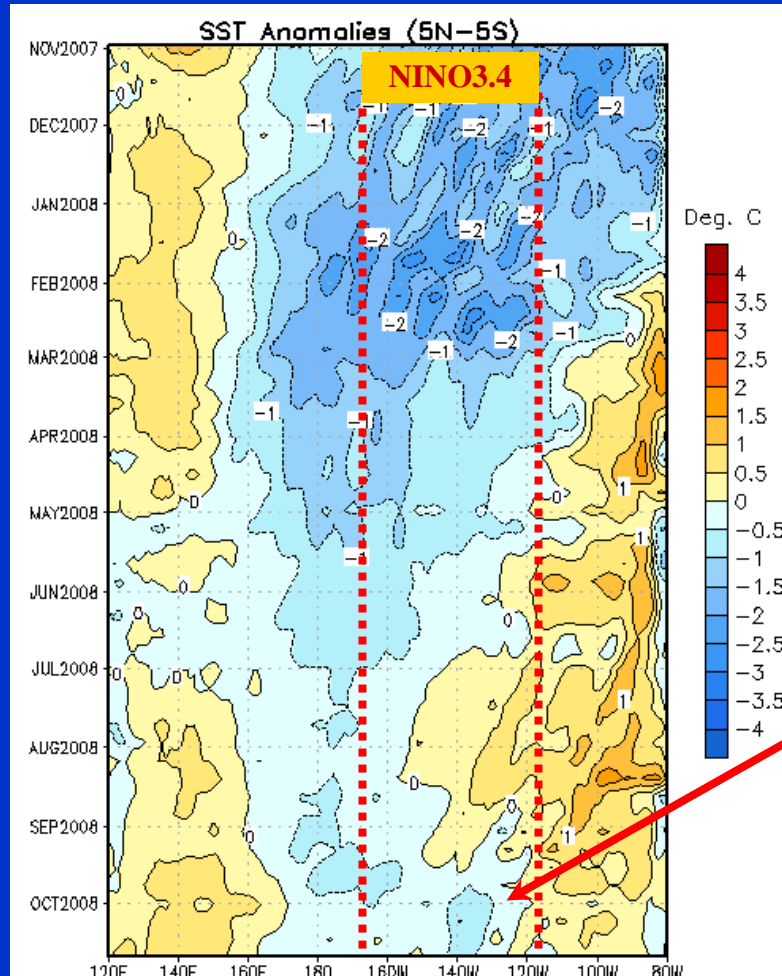
Feb.
2008

Time



July
2008

Oct.
2008



Since September 2008, positive sea surface temperature anomalies have weakened over the eastern equatorial Pacific, while negative SST anomalies have strengthened in the central Pacific.

Recent Evolution of Niño Region SST Departures (°C)

Climate Prediction Center

El Niño-Southern Oscillation Weekly Update

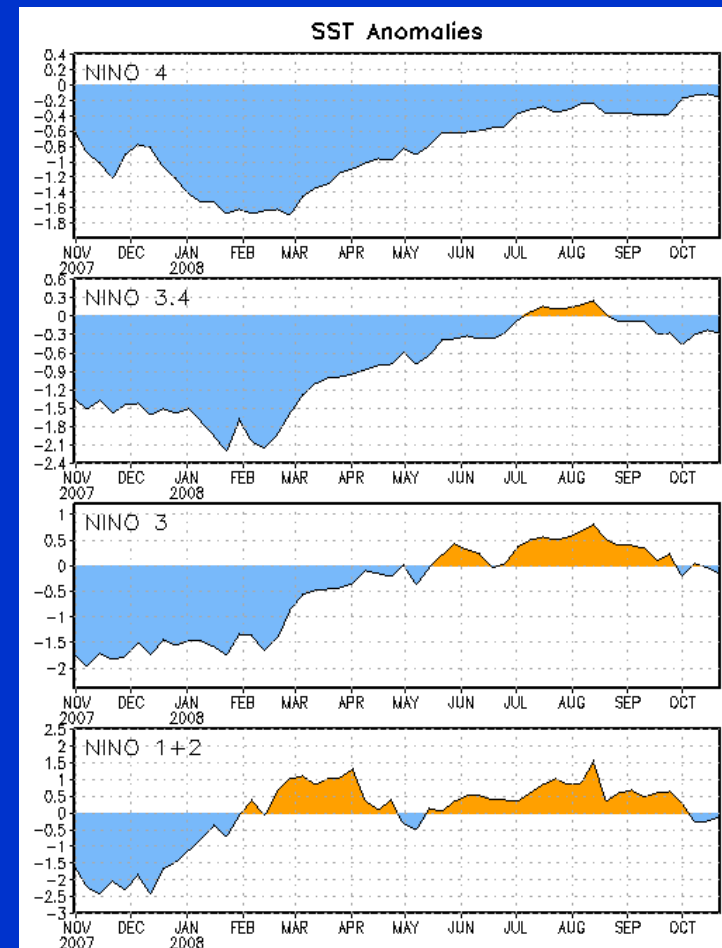
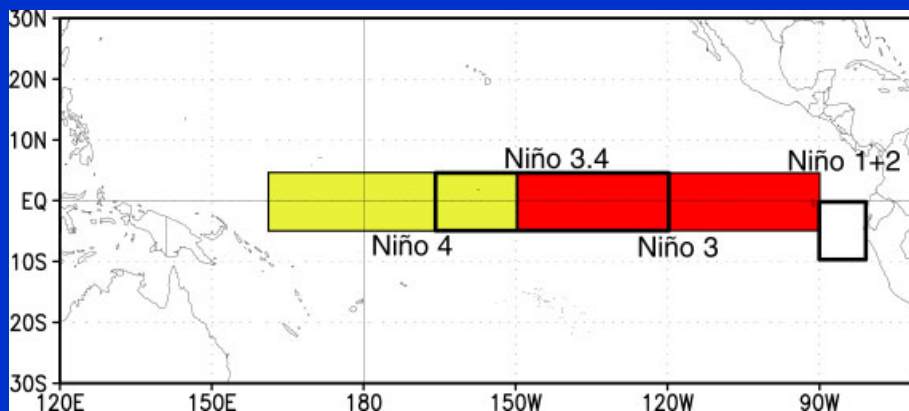
The latest weekly SST departures are:

Niño 4 -0.1°C

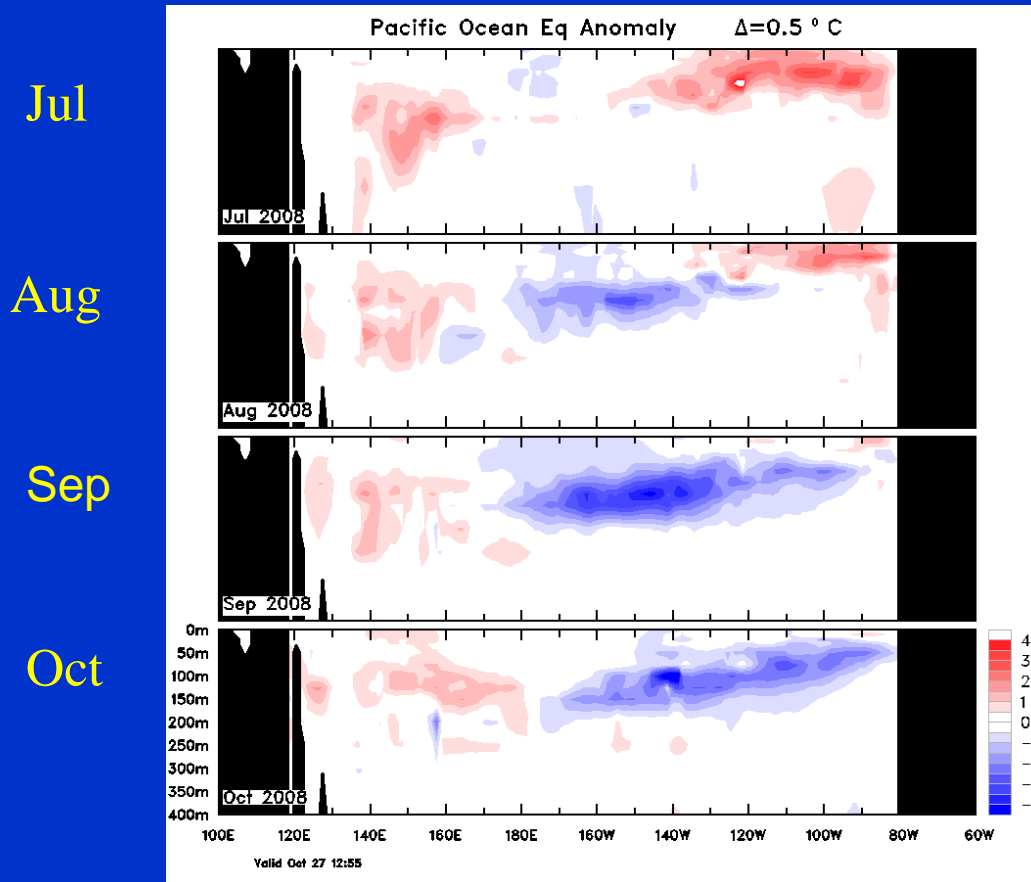
Niño 3.4 -0.3°C

Niño 3 -0.1°C

Niño 1+2 -0.1°C

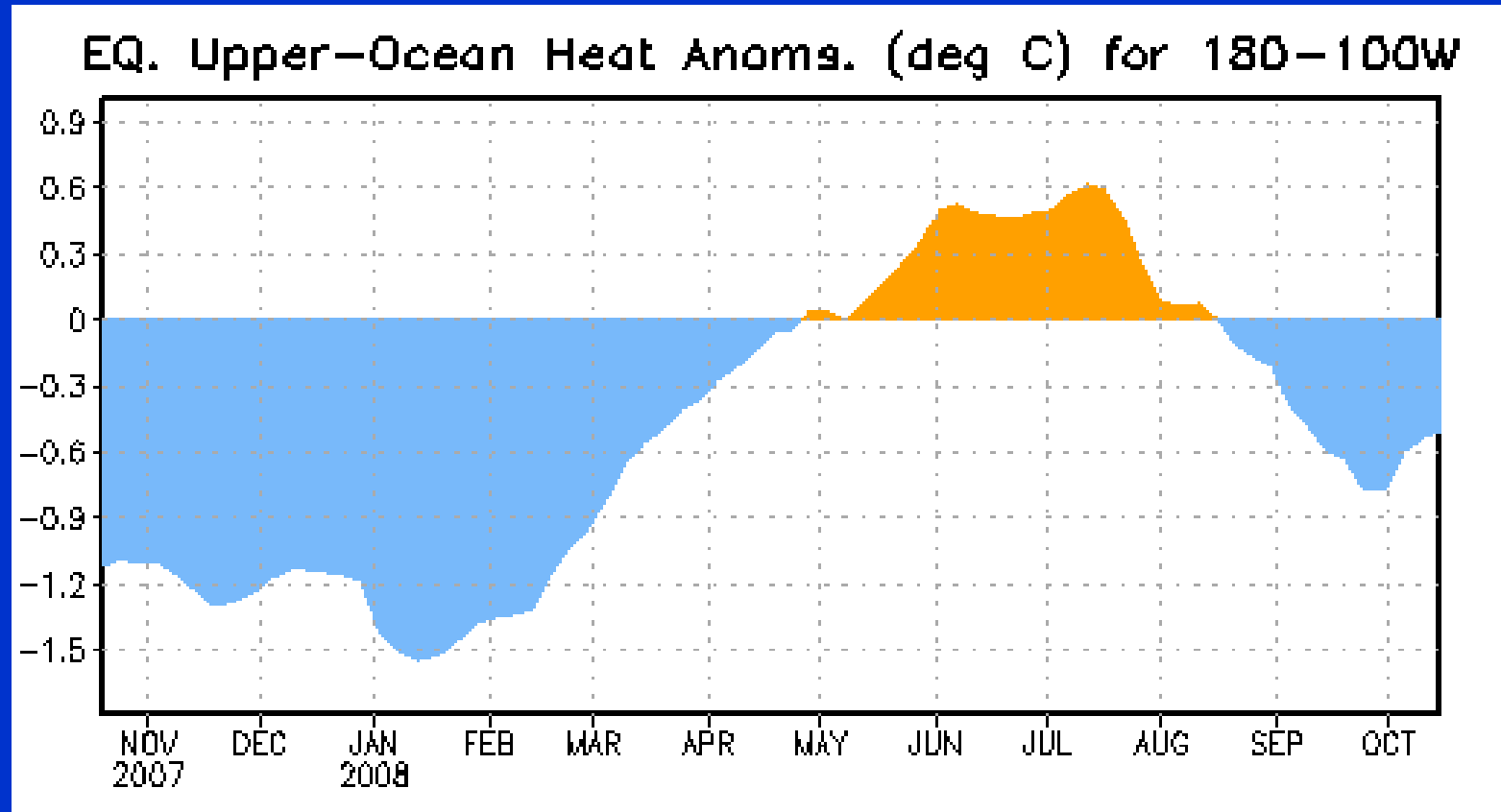


Sub-Surface Temperature Departures (°C) in the Equatorial Pacific Ocean (October 27th, 2008) Bureau of Meteorology Research Centre



At this time neutral conditions are indicated by sea surface temperature (SST) anomalies. However, cool subsurface anomalies have appeared in the eastern and central equatorial Pacific.

Central & Eastern Pacific Upper-Ocean (0-300m) Weekly Heat Content Anomalies



The upper ocean heat content was below-average across the eastern half of the equatorial Pacific Ocean between October 2007 and April 2008, and above-average from early May 2008 through mid- August 2008 before returning to below-average within the most recent 60- days.

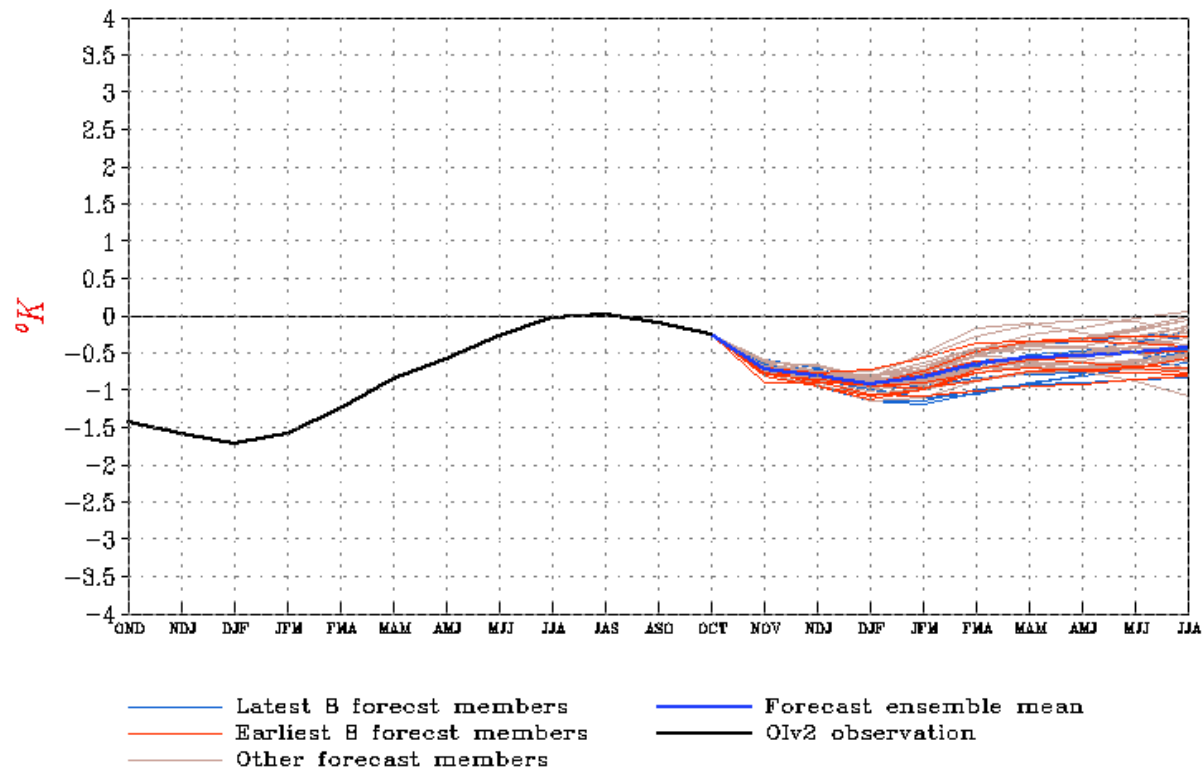
Equatorial Pacific SST and Temperature Anomaly Forecast- NCEP Climate Forecast System Issued October 28th 2008



NWS/NCEP

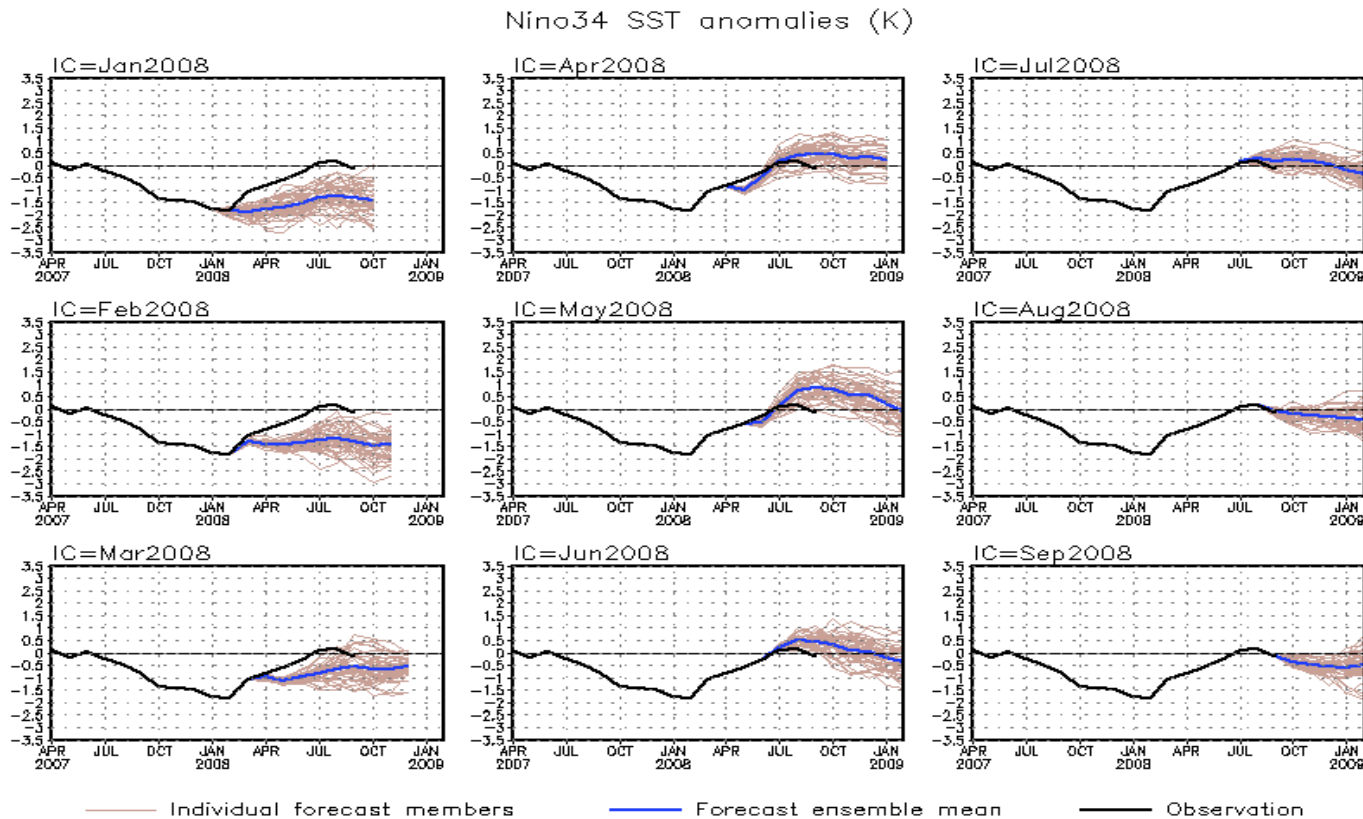
Last update: Tue Oct 28 2008
Initial conditions: 17Oct2008-26Oct2008

PDF correction: Forecast Nino3.4 SST anomalies from CFS



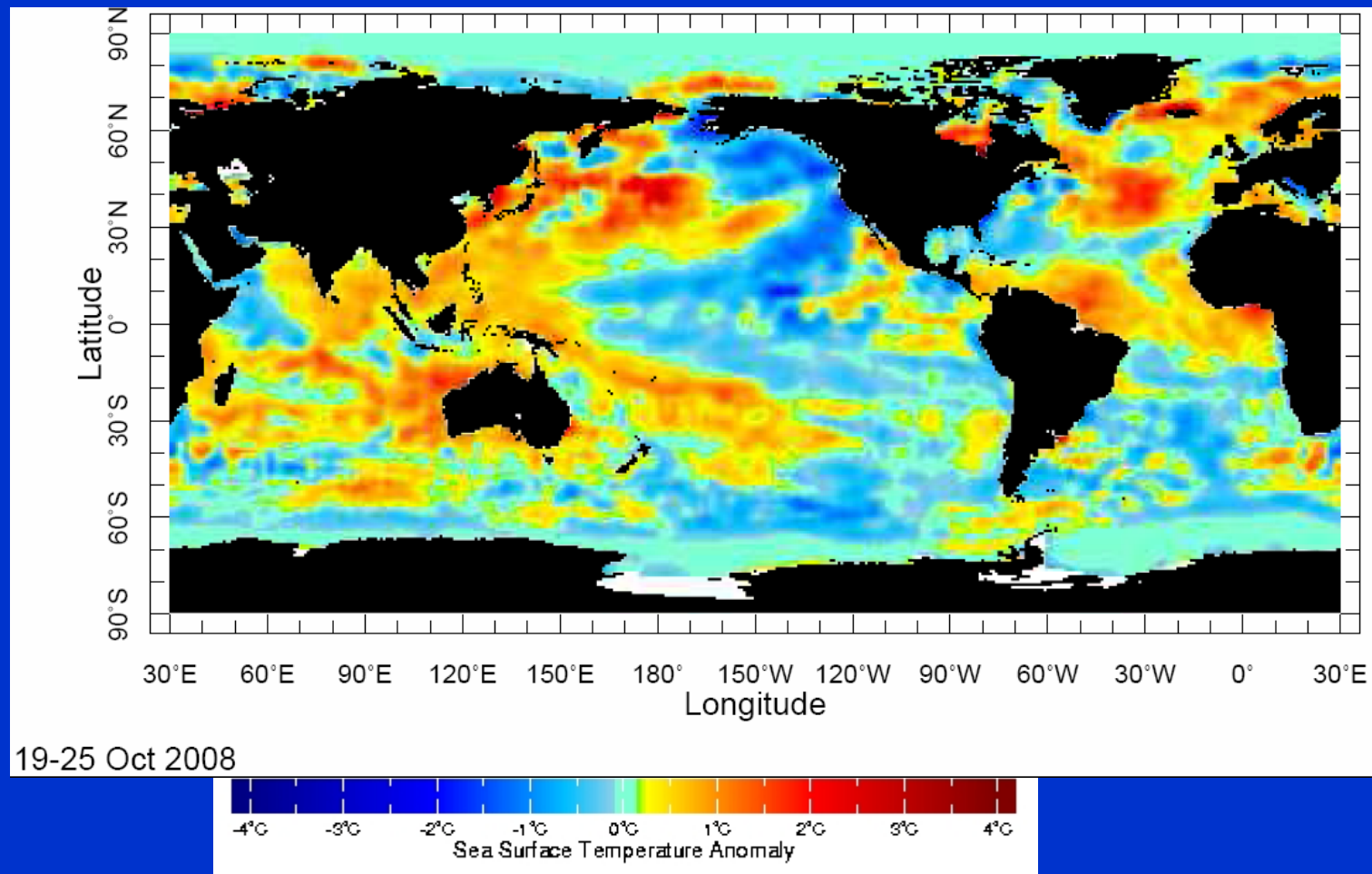
Verification of Nino 3.4

CFS Niño3.4 SST Predictions from Different Initial Months



Latest Weekly Sea Surface Temperature Anomaly

National Climate Data Center



The Caribbean SST is still above normal making it the most favorable region for development of tropical storms that might affect south Florida.

NAO and SST Anomaly in North Atlantic

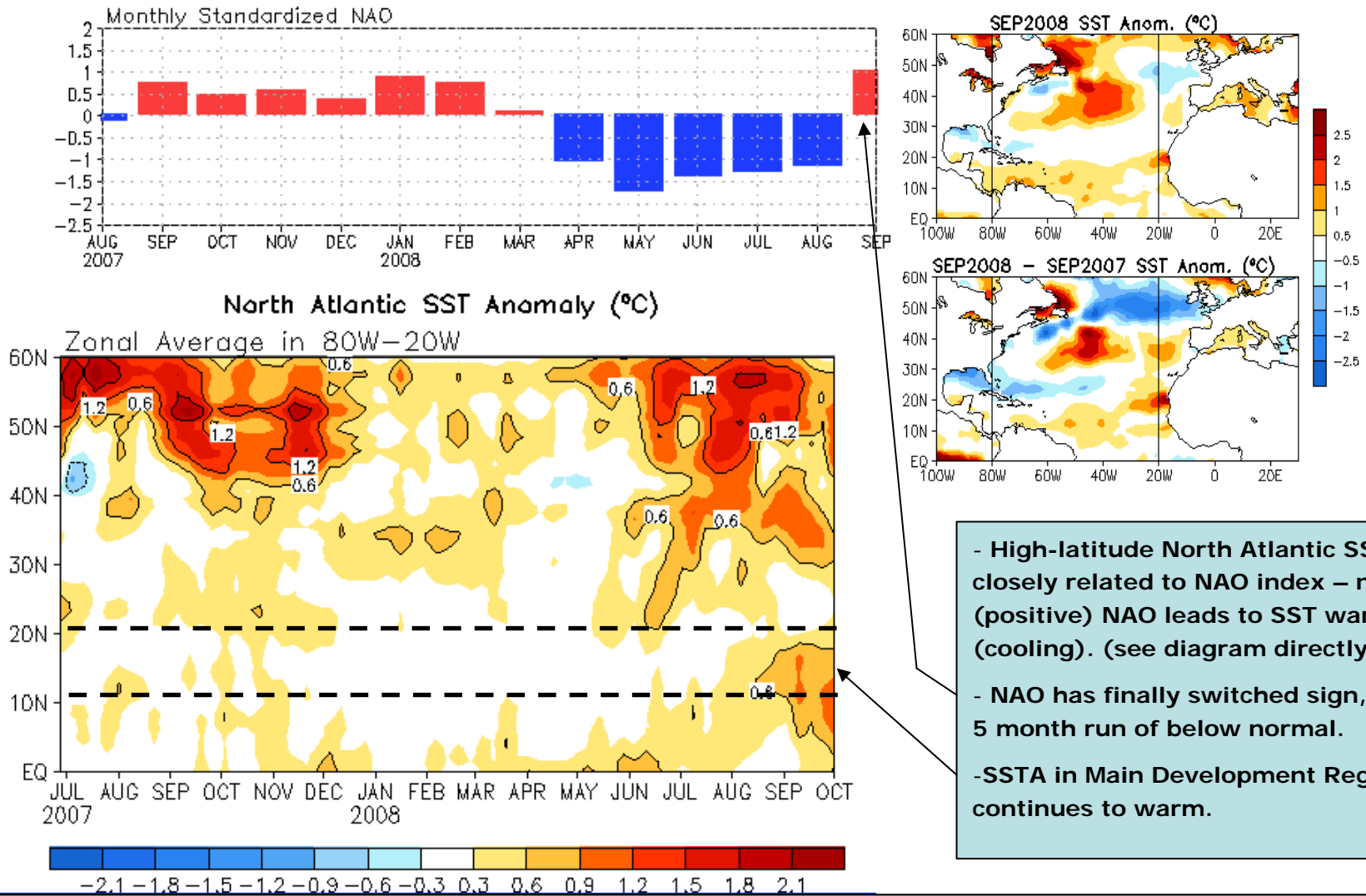
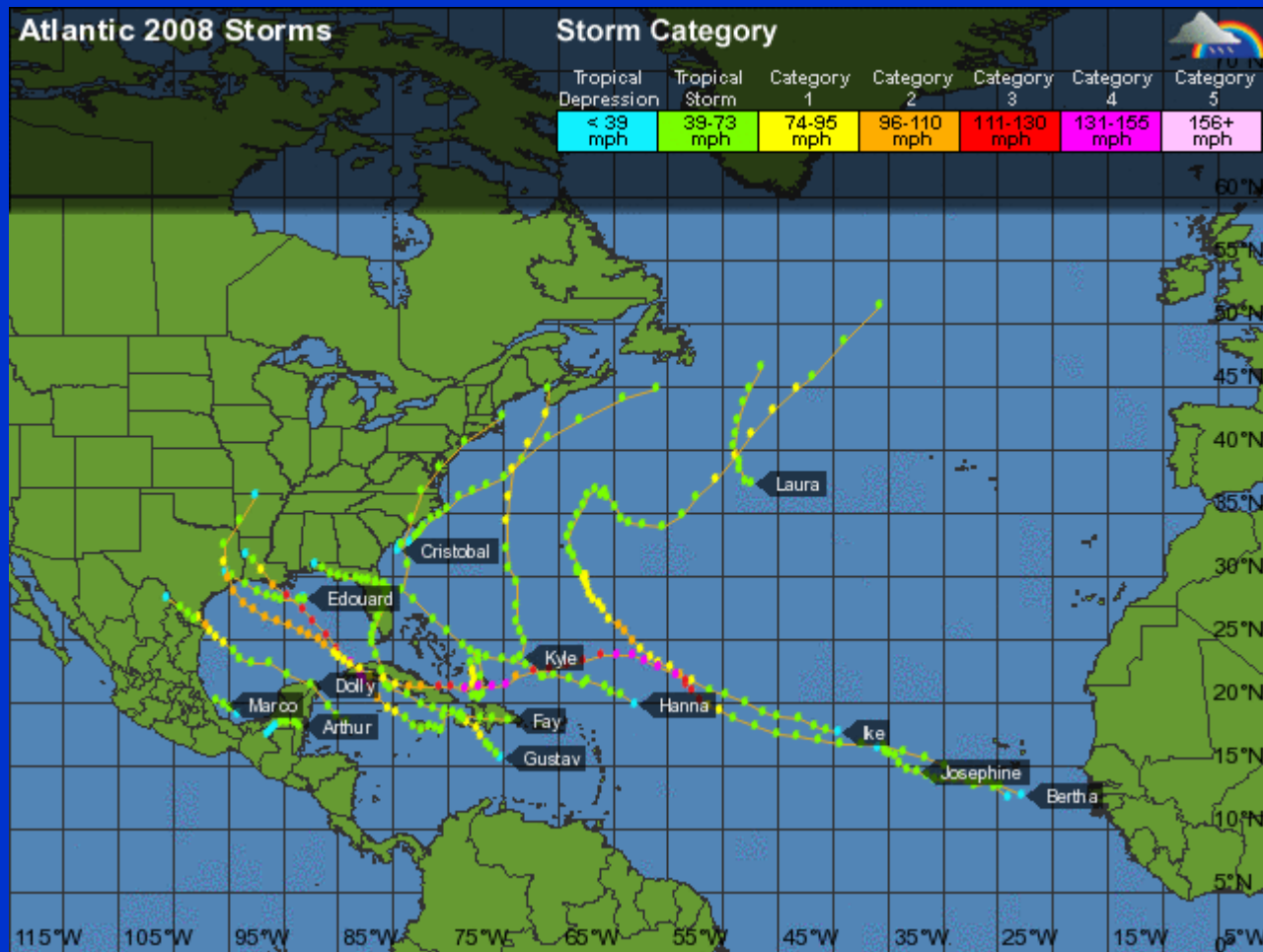


Fig. NA2. Monthly standardized NAO index (top) derived from monthly standardized 500-mb height anomalies obtained from the NCEP CDAS in 20°N-90°N (<http://www.cpc.ncep.noaa.gov>). Time-Latitude section of SST anomalies averaged between 80°W and 20°W (bottom). SST are derived from the NCEP OI SST analysis, and anomalies are departures from the 1971-2000 base period means.

Path and Strength of 2008 Tropical Storms and Hurricanes



Negative NAO anomalies tend to direct tropical storms and hurricanes further west with landfall often occurring before recurvature

Evolution of Tropical Atlantic SST Indices

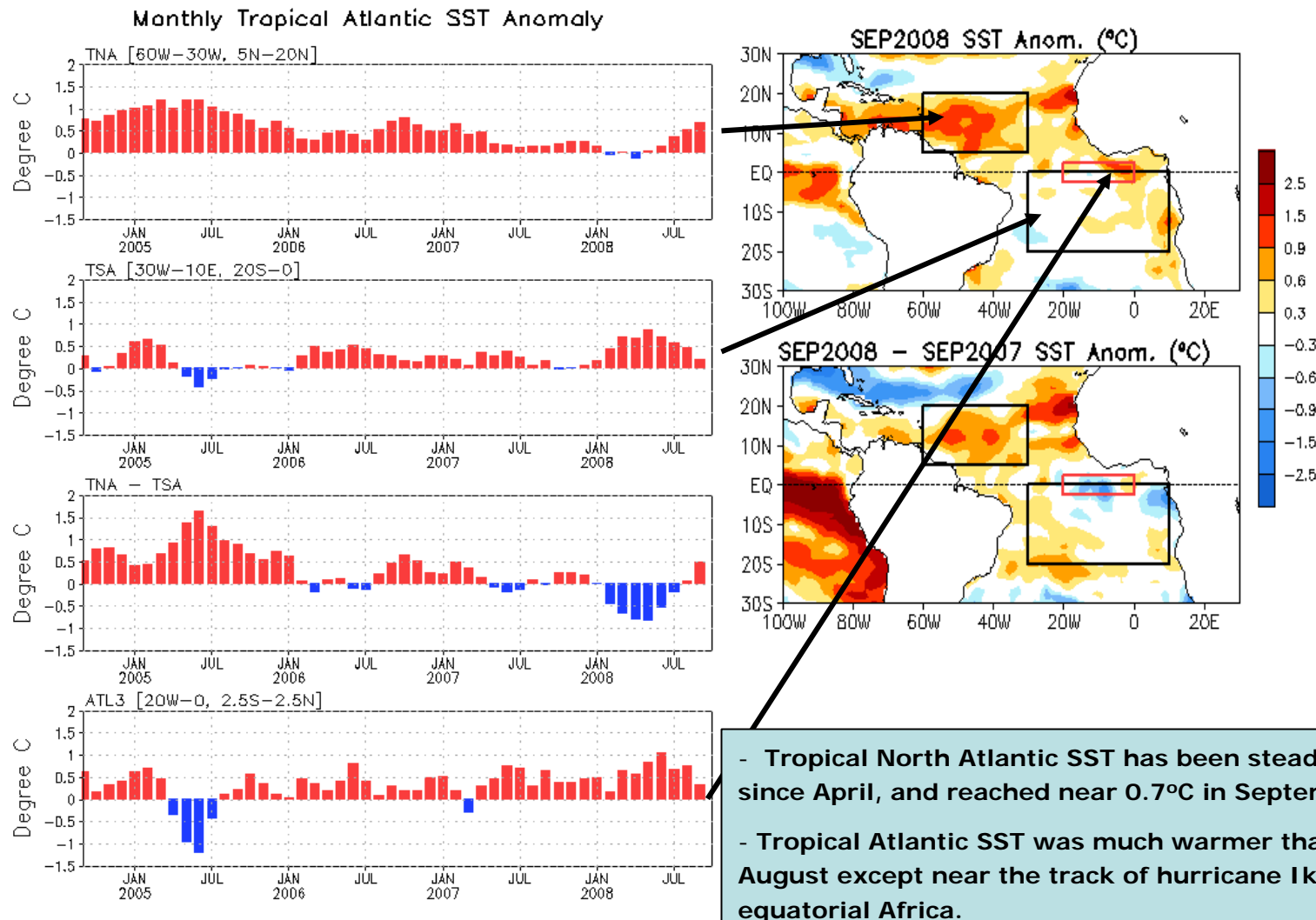
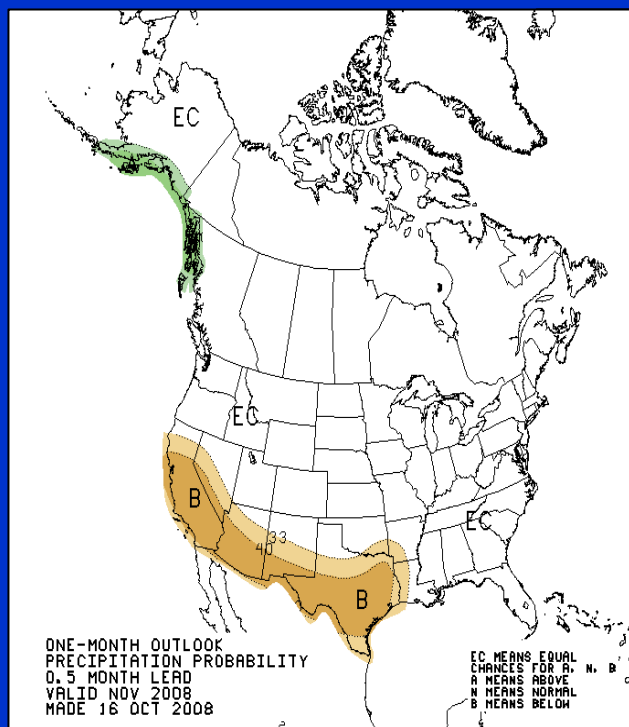


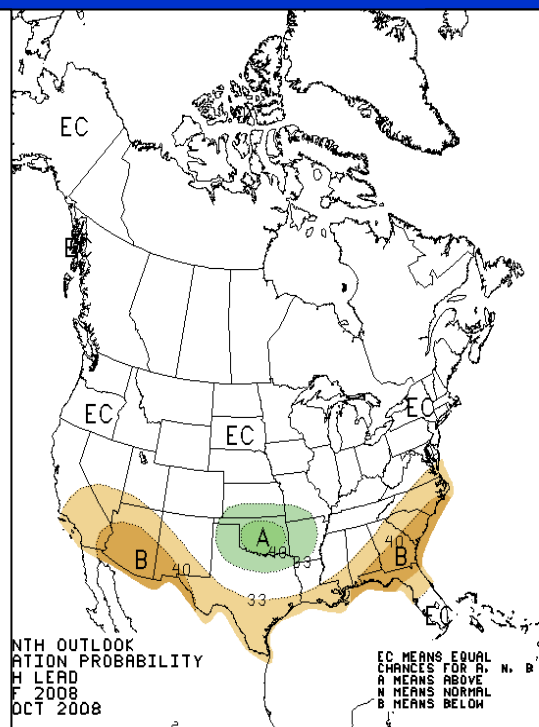
Fig. A1a. Tropical Atlantic Variability region indices, calculated as the area-averaged monthly mean sea surface temperature anomalies (°C) for the TNA [60°W-30°W, 5°N-20°N], TSA [30°W-10°E, 20°S-0] and ATL3 [20°W-0, 2.5°S-2.5°N] regions, and Meridional Gradient Index, defined as differences between TNA and TSA. Data are derived from the NCEP OI SST analysis, and anomalies are departures from the 1971-2000 base period means.

CPC Seasonal Rainfall Outlook

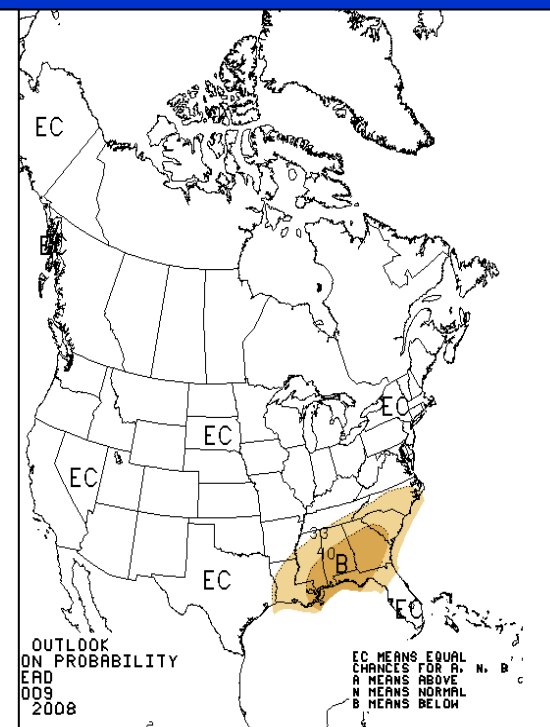
November



December-February

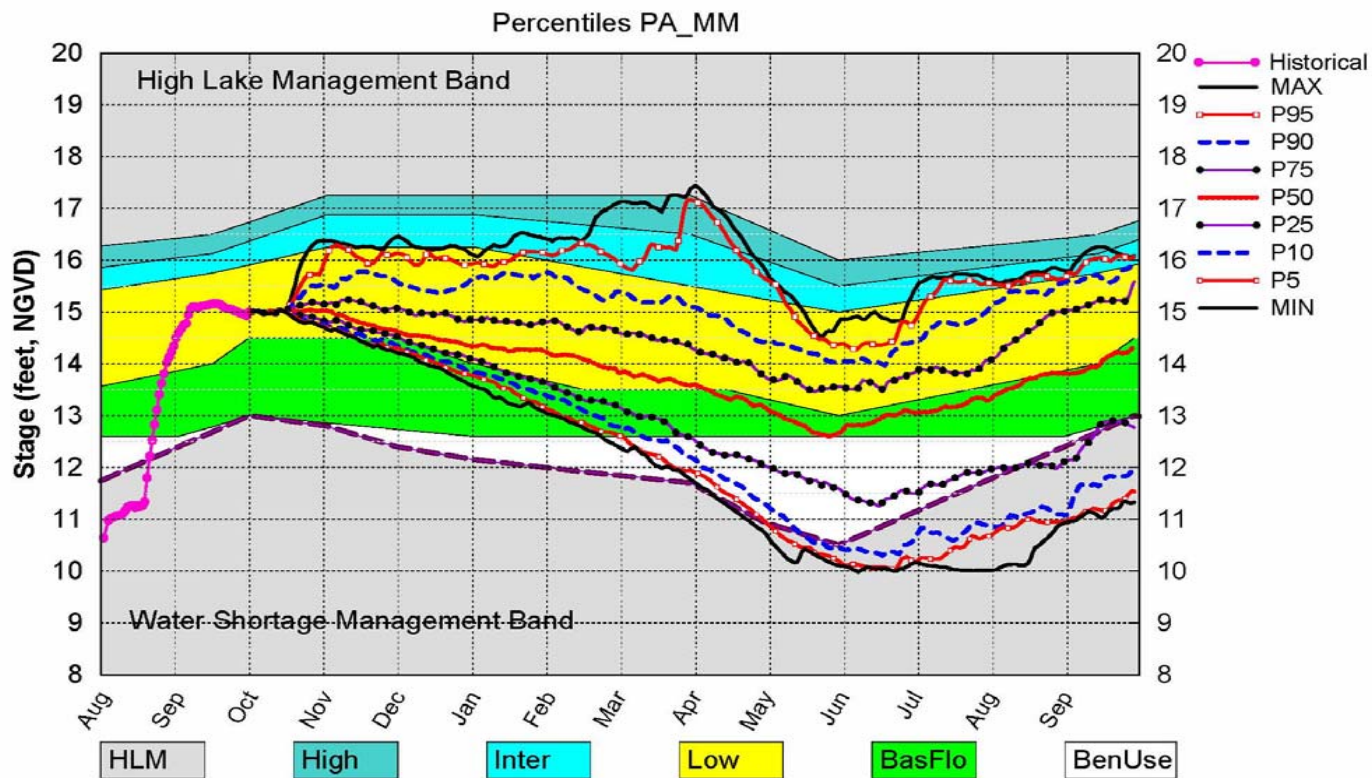


March-May



October 15th Position Analysis

Lake Okeechobee SFWMM October 2008 Position Analysis

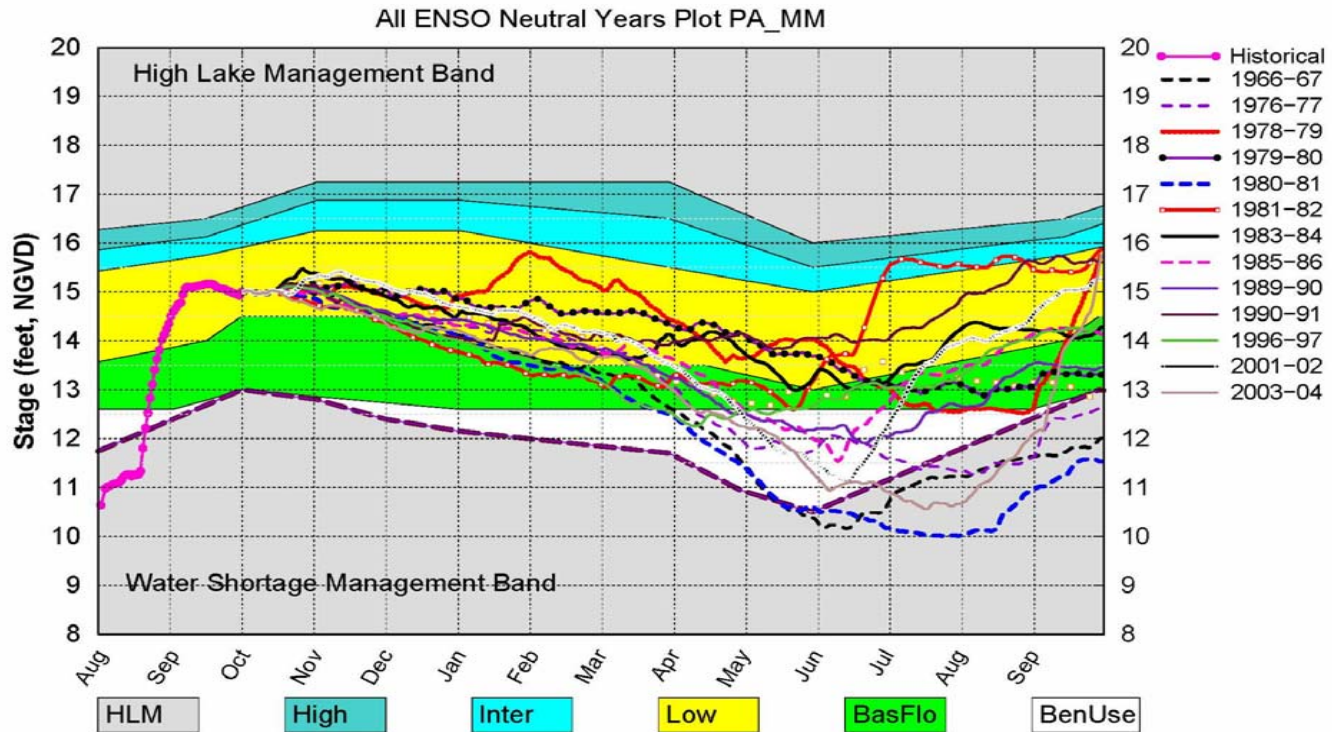


(See assumptions on the Position Analysis Results website)

Mon Oct 20 14:25:44 2008

October 15th ENSO Neutral years Position Analysis

Lake Okeechobee SFWMM October 2008 Position Analysis



(See assumptions on the Position Analysis Results website)

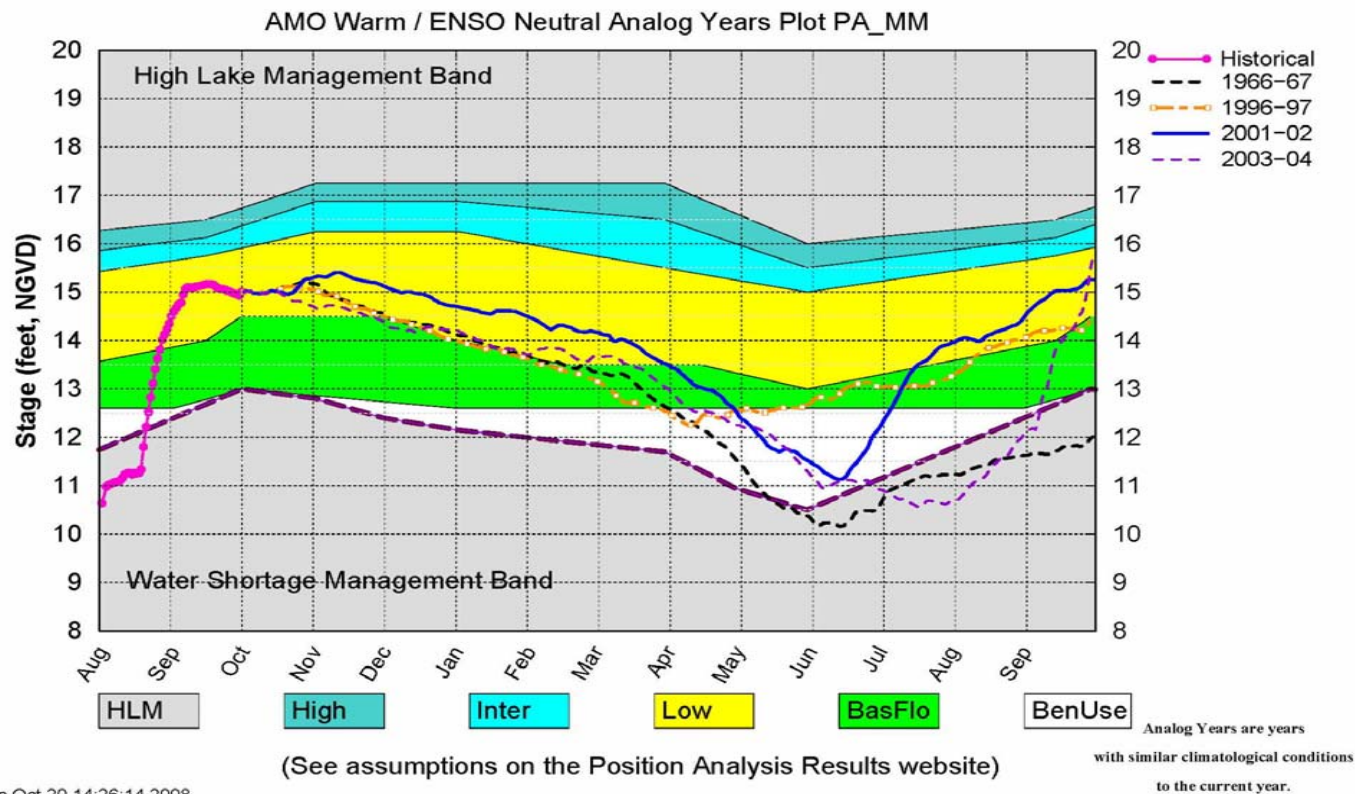
Mon Oct 20 14:59:59 2008

ENSO is officially in a neutral conditions according to CPC

October 15th Position Analysis

ENSO Neutral/AMO Warm sub sampling

Lake Okeechobee SFWMM October 2008 Position Analysis



Mon Oct 20 14:26:14 2008

Backup Slides with additional support material

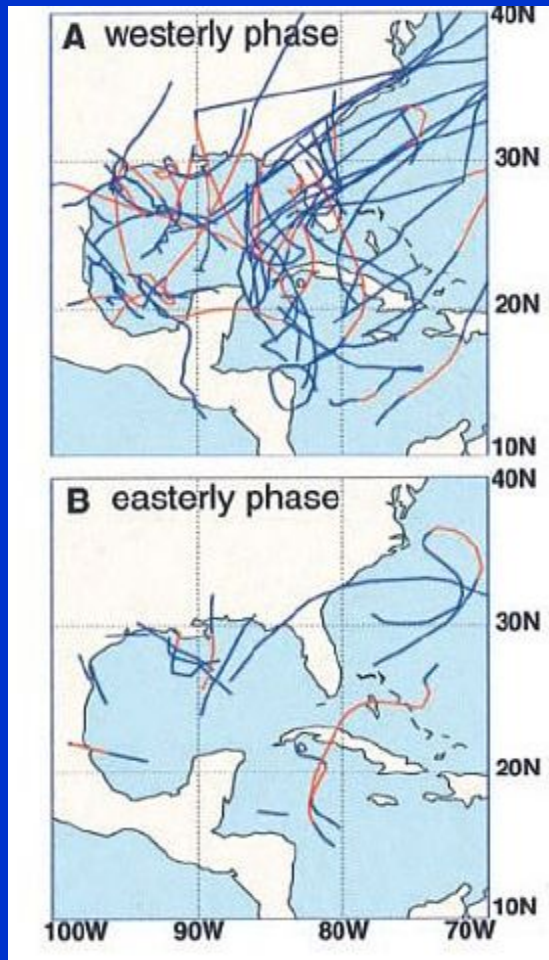
Madden Julian Oscillation (MJO)

MJO is in the easterly phase over Florida this week

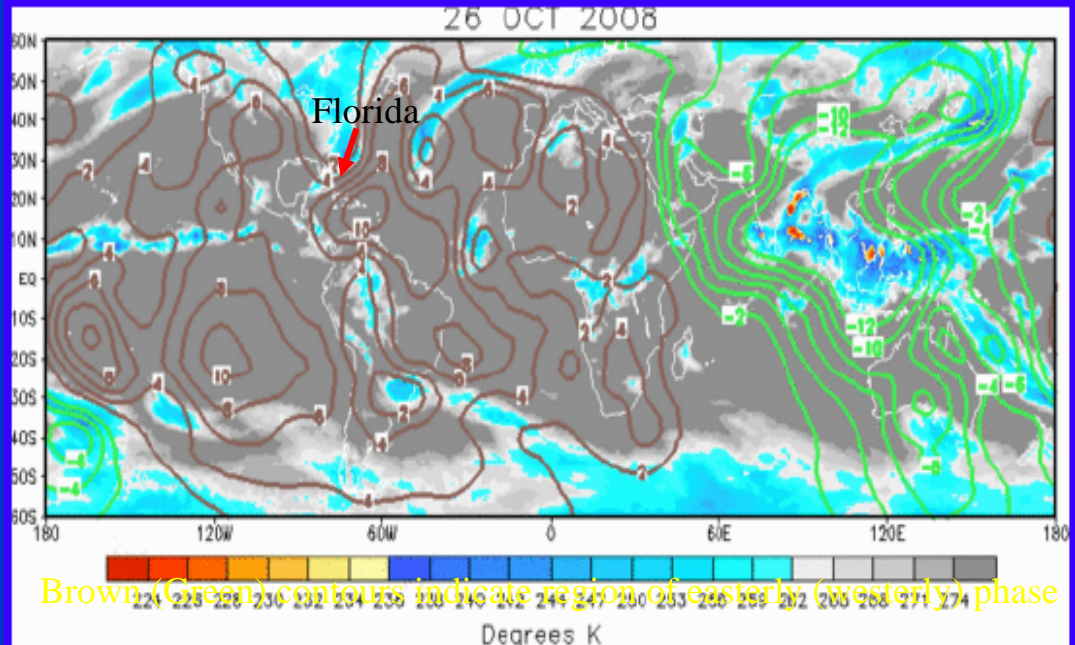
Positive anomalies (brown contours) indicate unfavorable conditions for precipitation

Negative anomalies (green contours) indicate favorable conditions for precipitation

Historical (1947-1977)



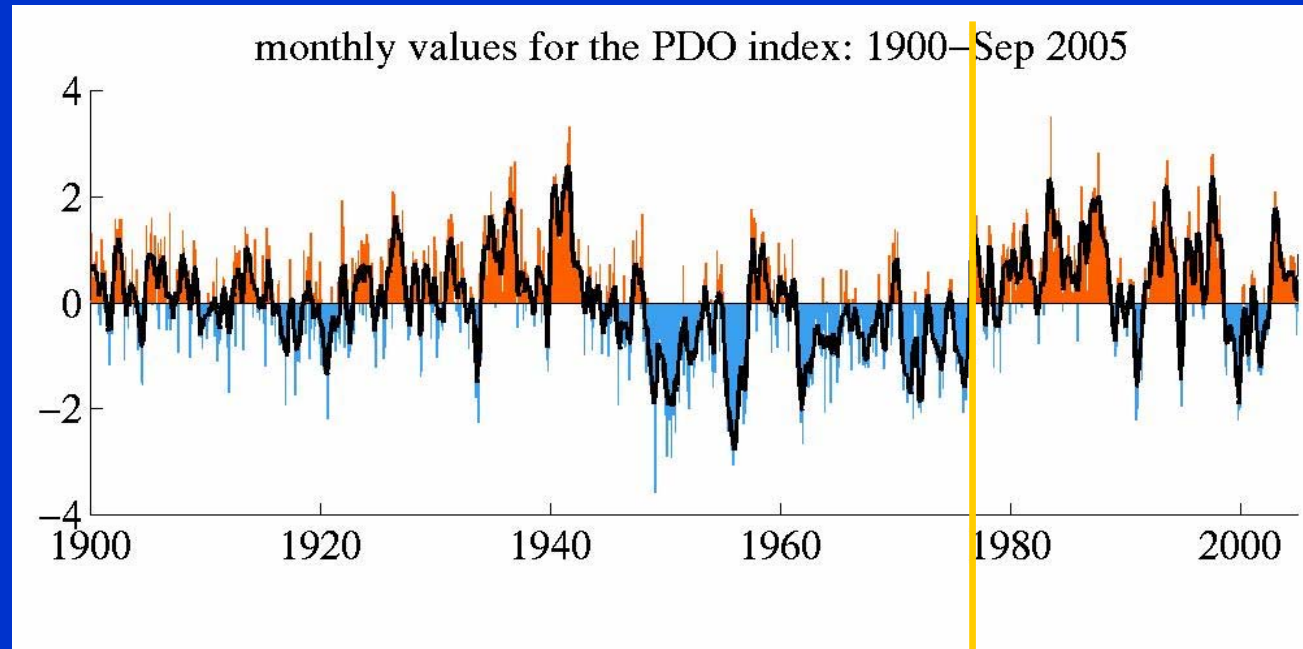
Current state of MJO



The contrast between the westerly phase (green) and the easterly phase (brown) of the eastward propagating MJO is striking (see maps to left). During westerly MJO phase between 1949-1977, fifty tropical storms developed compared with 14 during easterly phase. The numbers were similarly disparate for hurricane formation, 24 to 6.

Currently
transitioning
to cold phase of
PDO

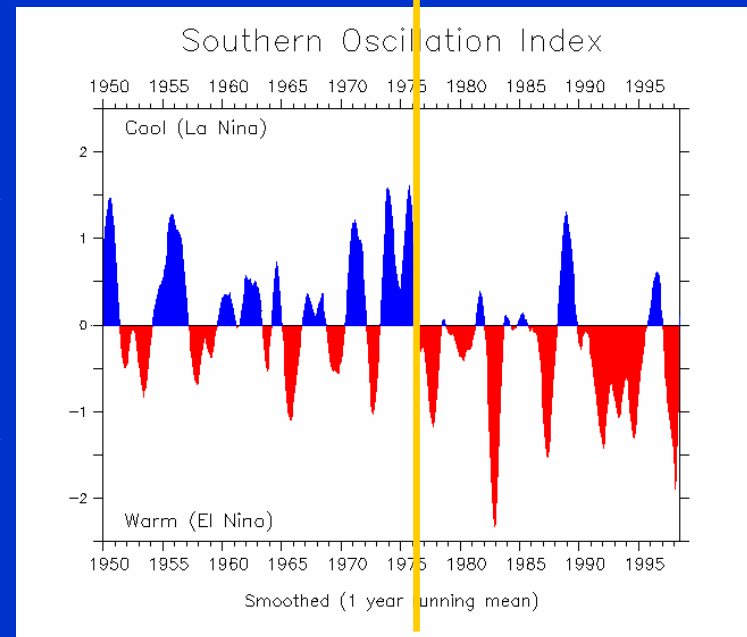
PDO



ENSO

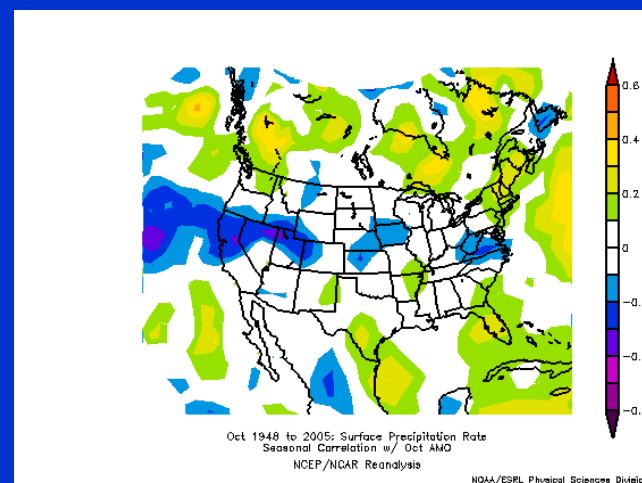
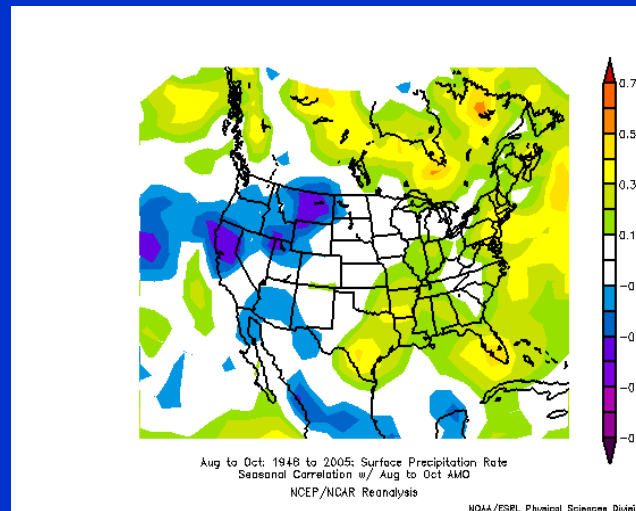
La Nina predominates when
PDO is in negative phase →

El Nino predominates when
PDO is in positive phase →



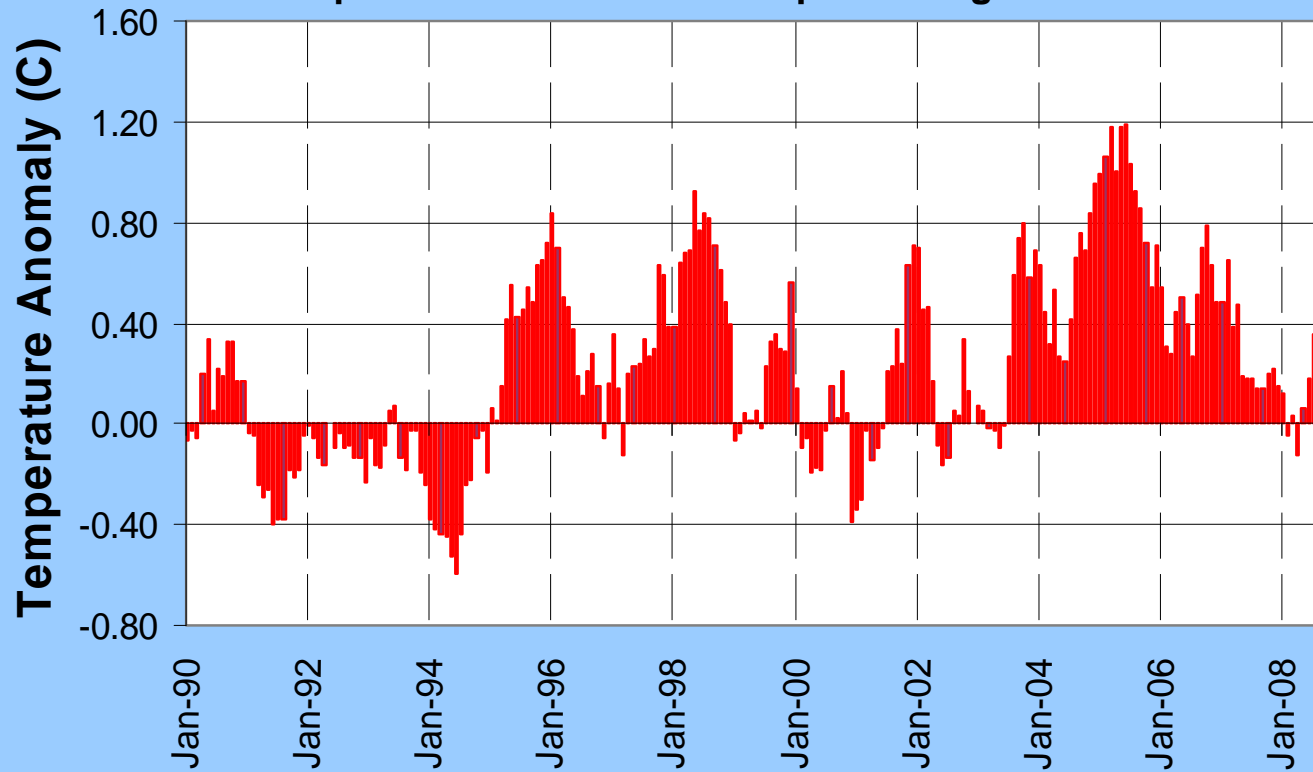
Correlation between RF Atlantic Multidecadal Oscillation

AMO



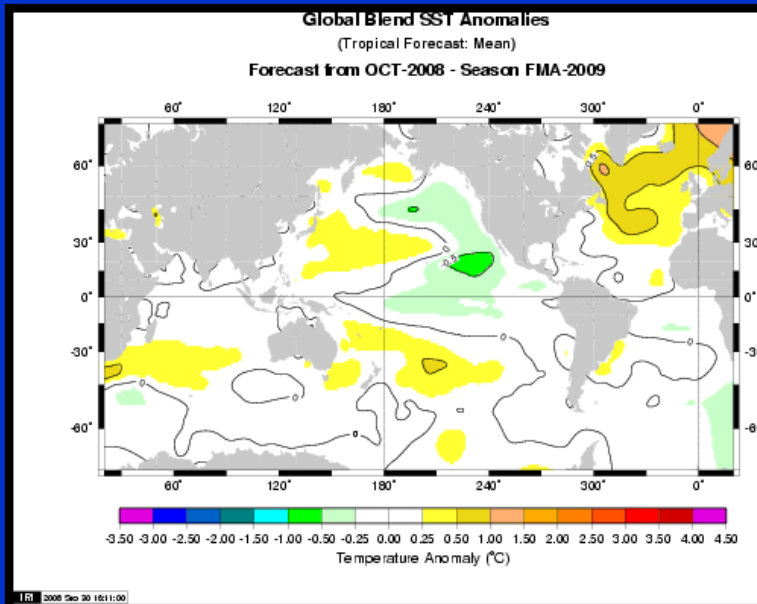
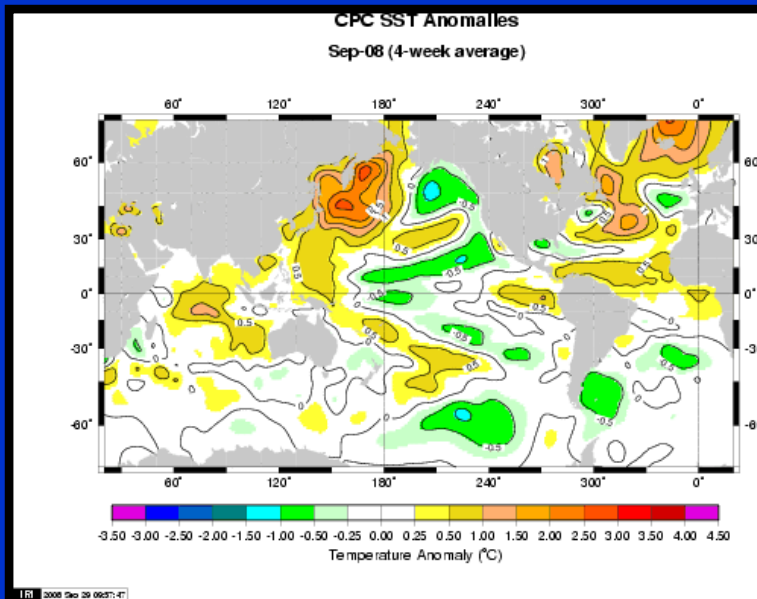
Sea Surface Temperature Anomaly

Tropical Atlantic Main Development Region

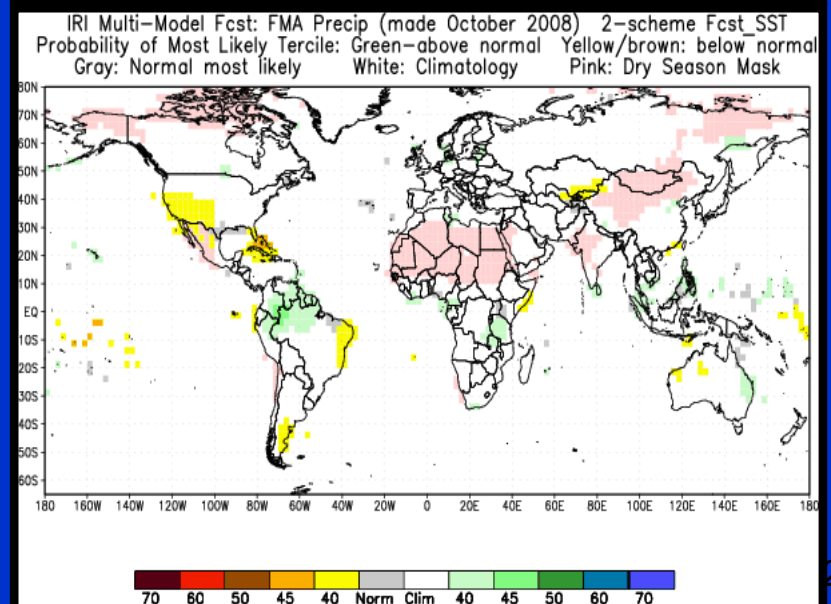
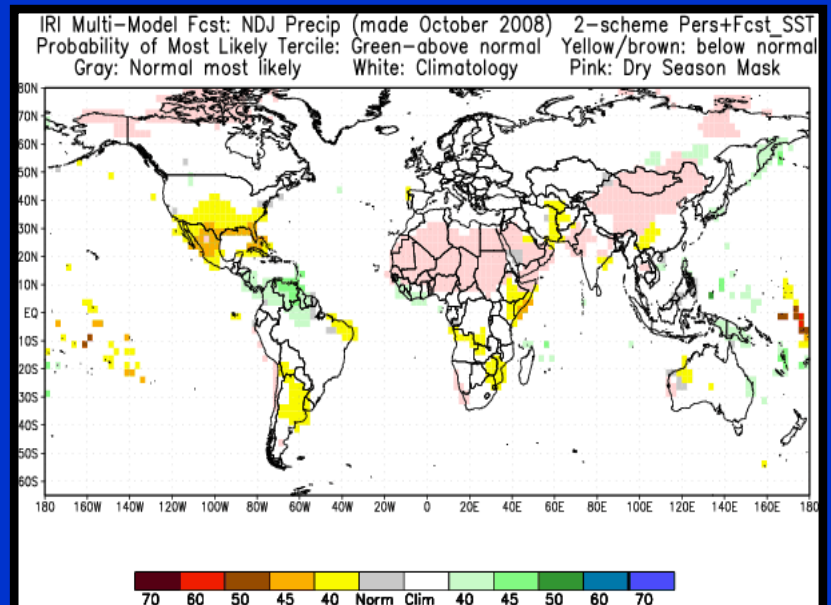


IRI Multi-Model Probability Forecasts 2008-2009

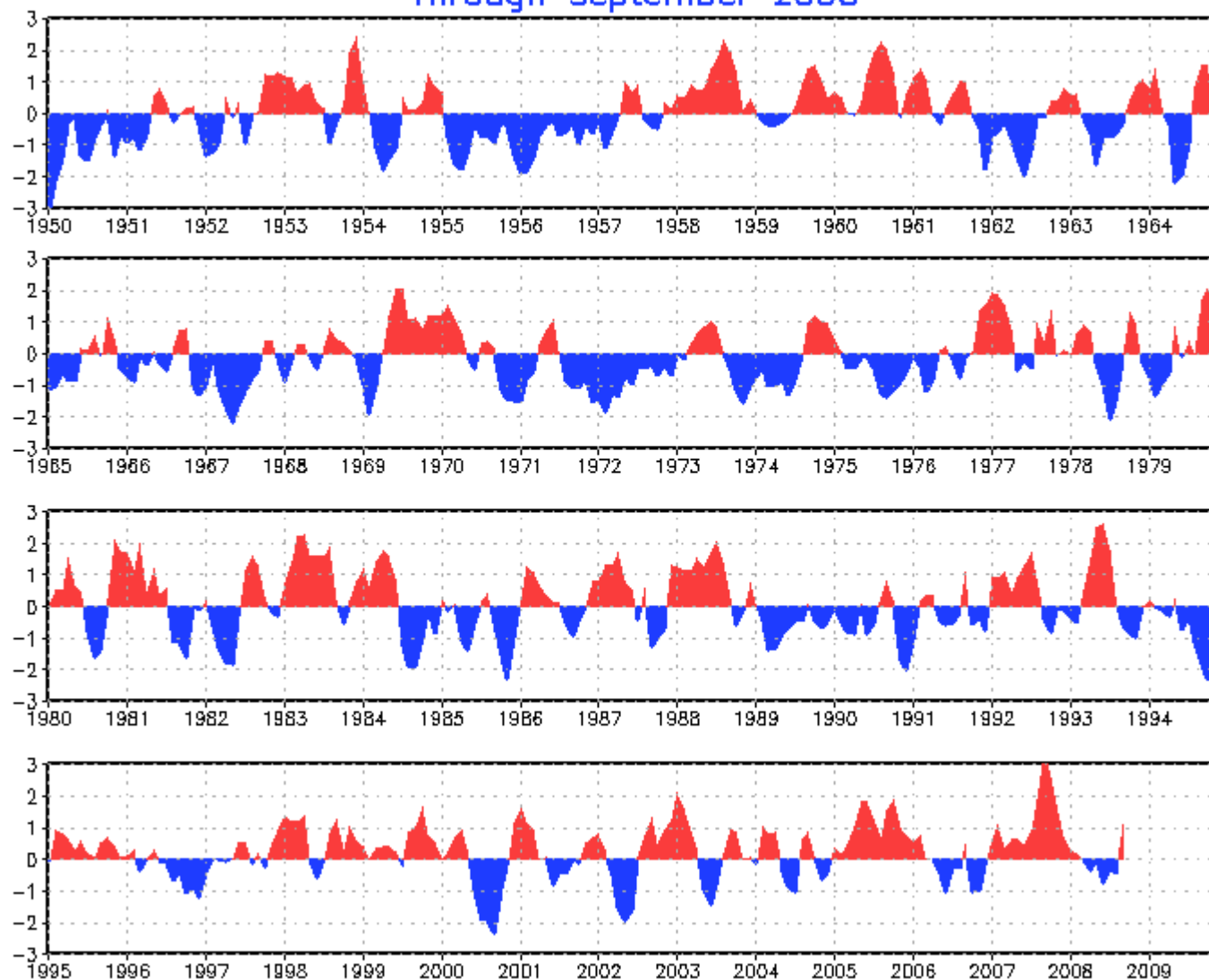
NDJ

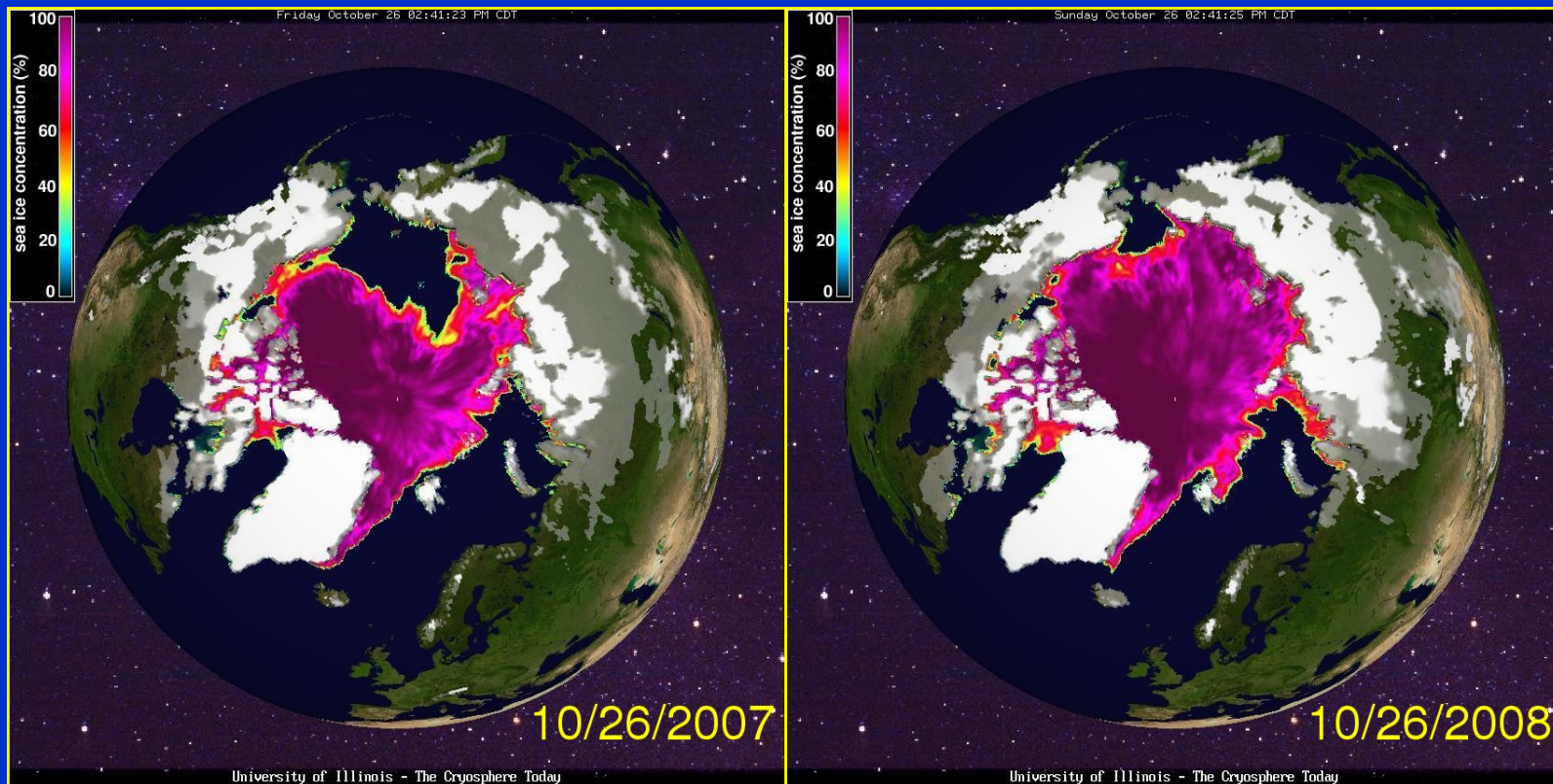


FMA

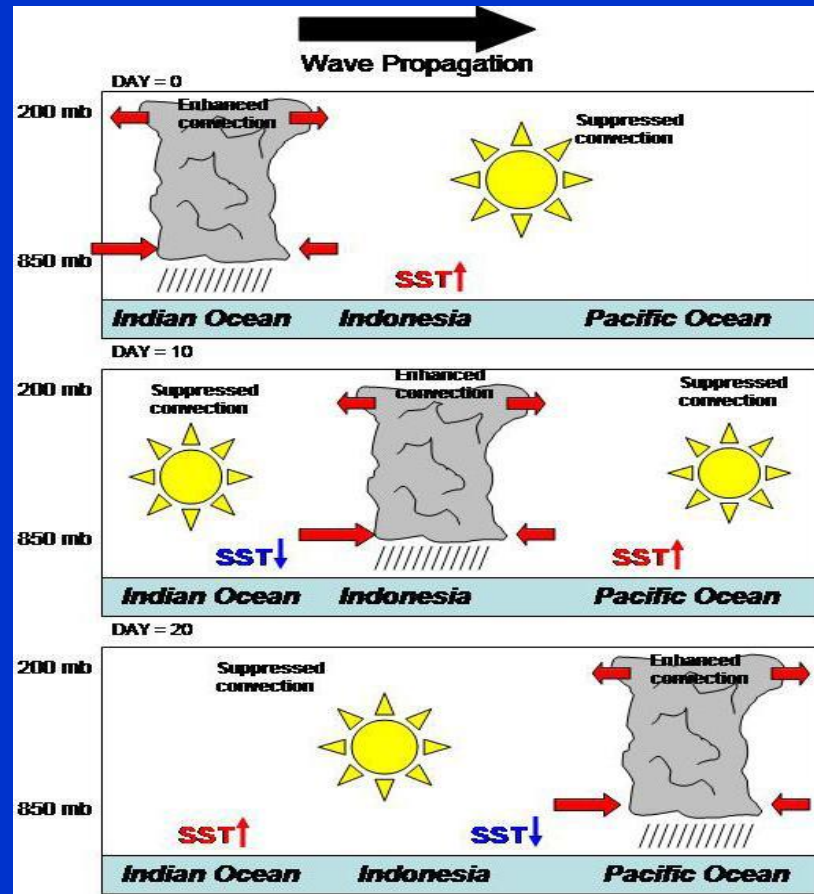


Standardized 3-Month Running Mean PNA Index
Through September 2008

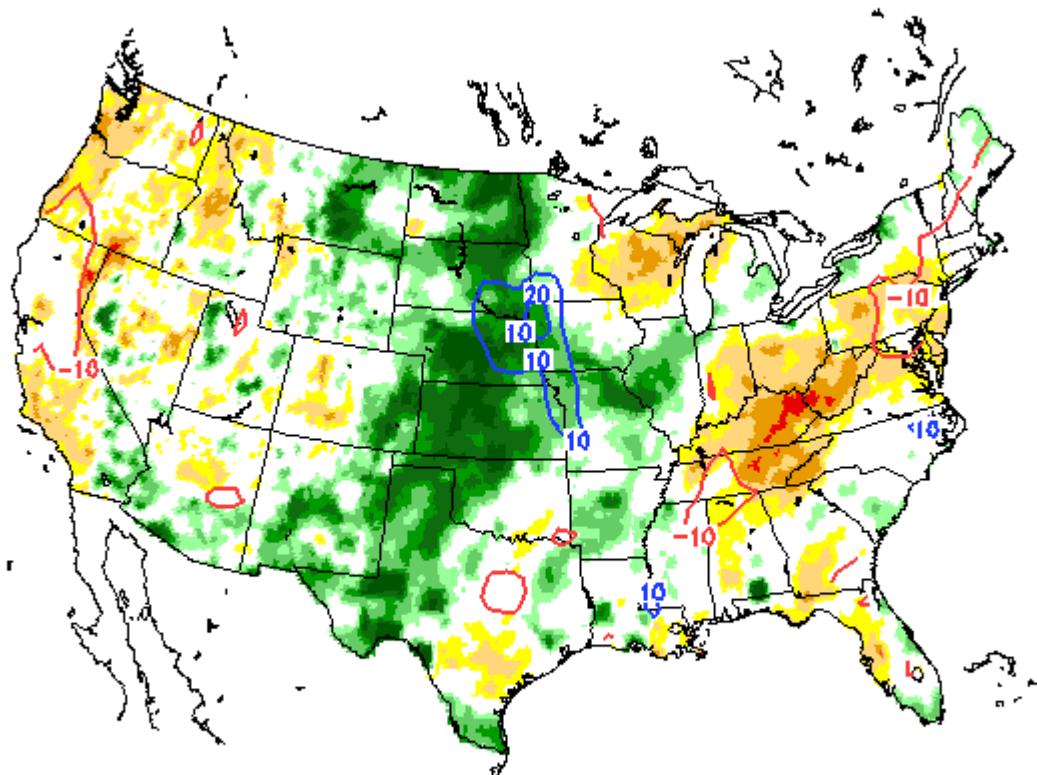




Madden-Julian Oscillation



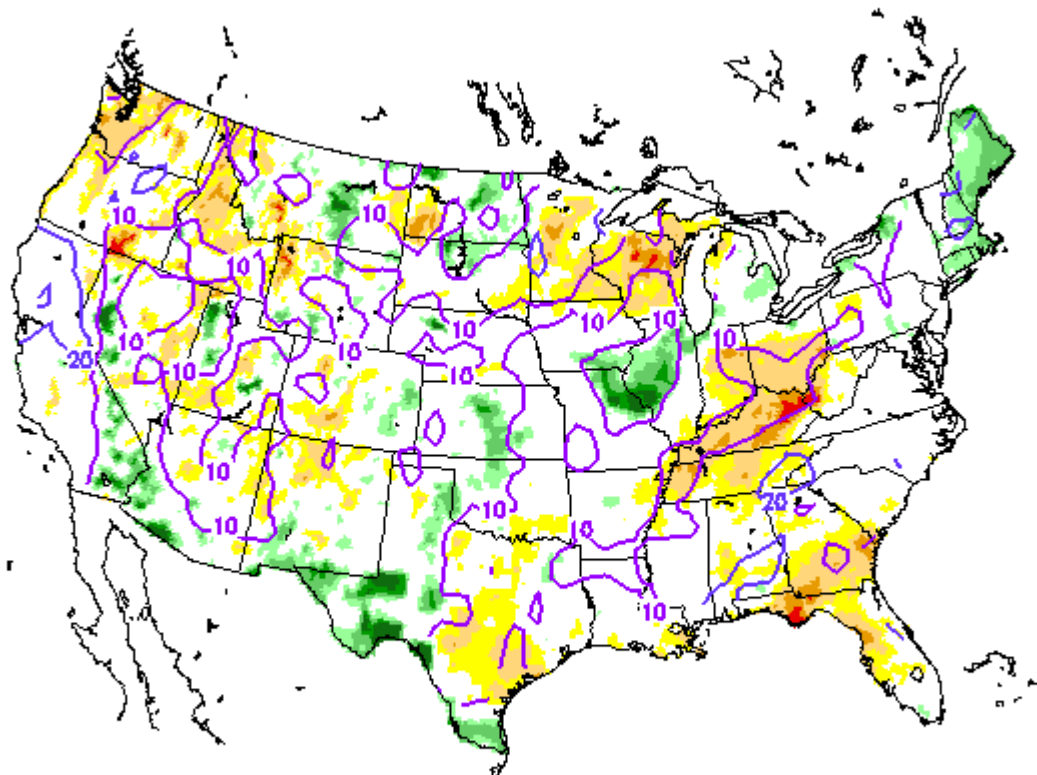
Total Column Soil Moisture Percentiles on 20081023
(wrt samples within a 49-day window in 1951-2004)



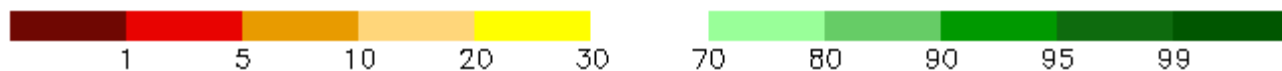
Contours show the changes in quantiles in the last 7 days.



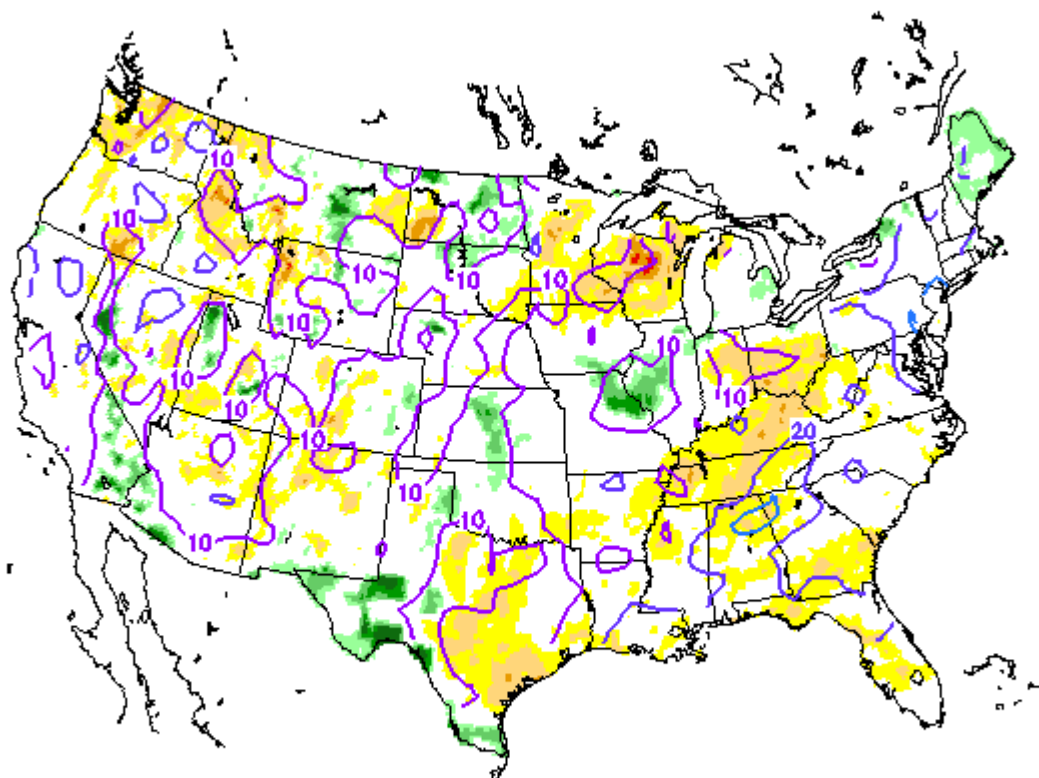
Experimental Drought Estimates based on CFS Forecast
Total Column Soil Moisture Percentiles (Median of Full Ensemble)
NOV2008 (Init: 20081001)



Contours show Interquartile Range of ensemble members.



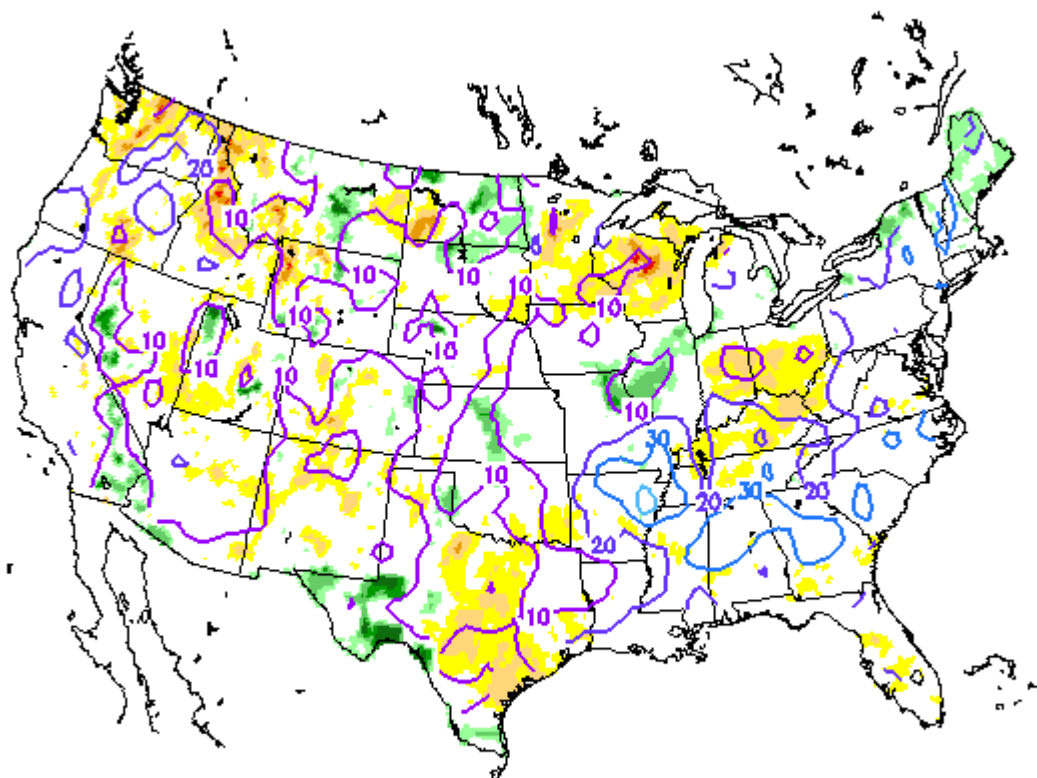
Experimental Drought Estimates based on CFS Forecast
Total Column Soil Moisture Percentiles (Median of Full Ensemble)
DEC2008 (Init: 20081001)



Contours show Interquartile Range of ensemble members.



Experimental Drought Estimates based on CFS Forecast
Total Column Soil Moisture Percentiles (Median of Full Ensemble)
JAN2009 (Init: 20081001)



Contours show Interquartile Range of ensemble members.

