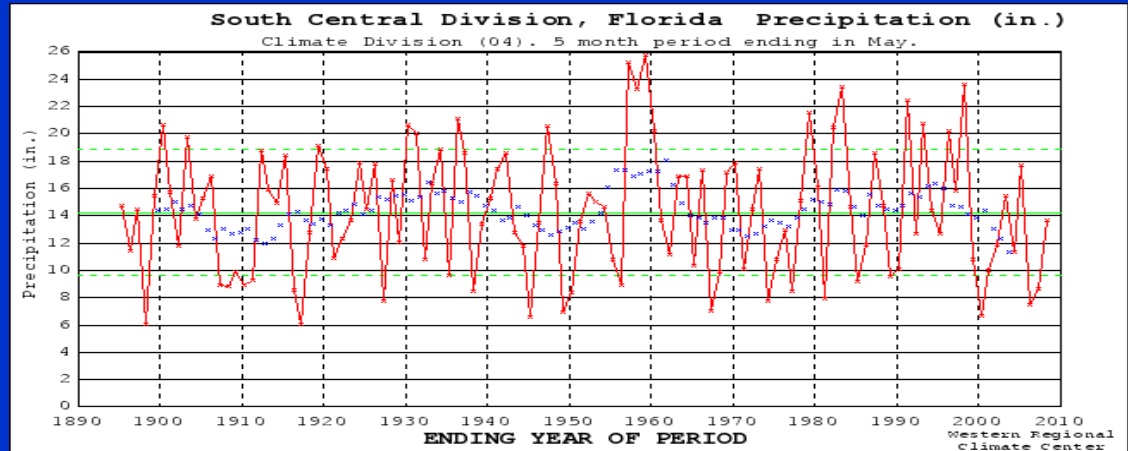


Weekly Climate Update January 13th 2009

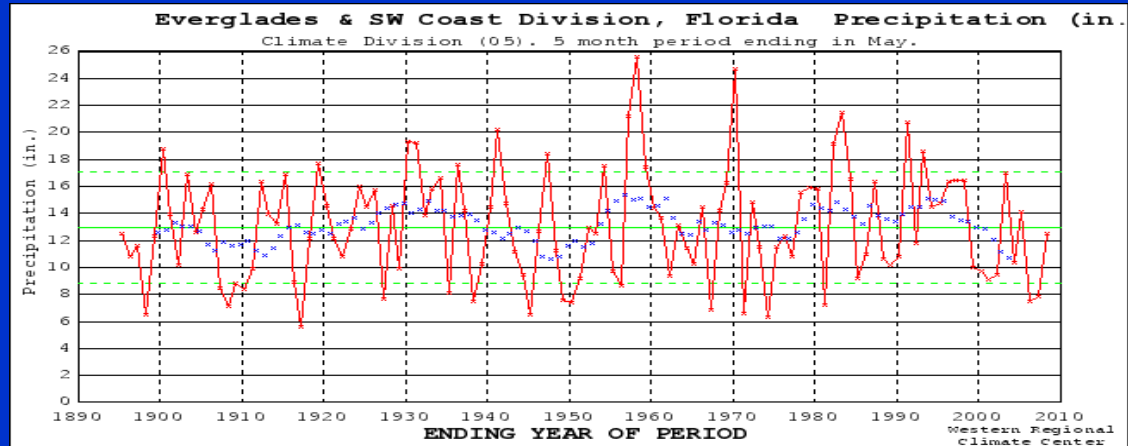
- A tremendous area of cooler than normal sea surface temperatures along the central and eastern equatorial Pacific extending northward to higher latitudes along the west coast of North America are a result of a strengthening La Nina event and the cold phase of the Pacific Decadal Oscillation. These anomalies are indicative of an increase chance of below normal rainfall during the ongoing dry season months.
- Increases in the negative subsurface temperature anomalies in the equatorial Pacific Ocean are a sign of La Nina conditions should persist. The latest IRI and CFS models simulate increased chances of drier than normal conditions for this upcoming dry season.
- The Official climate outlook calls for an increased probability of below normal rainfall for the remainder of January through mid- April.
- The Position Analysis in slide 13 - 17 illustrate projected water levels for Lake Okeechobee and Water the Conservation Areas

Decadal
January-May
Rainfall
following
PDO
very closely
(blue dotted line)

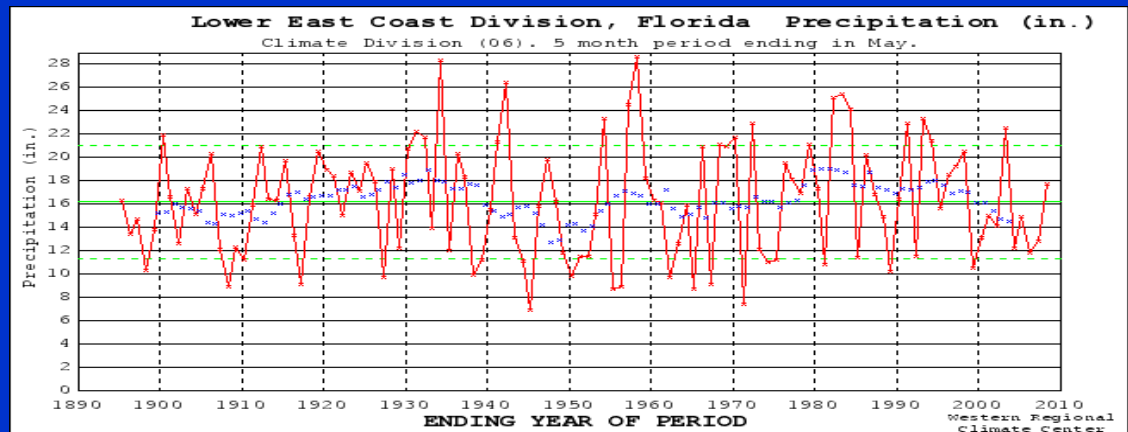
CD4



CD5

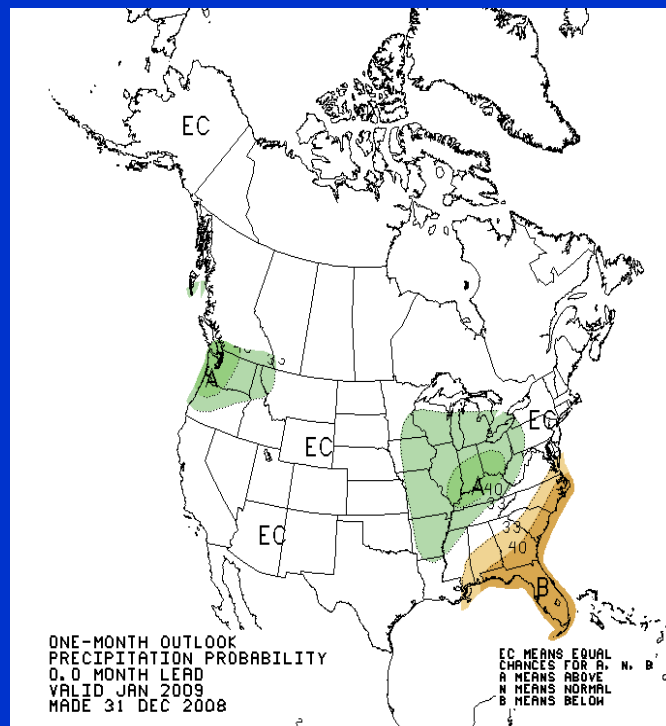


CD6

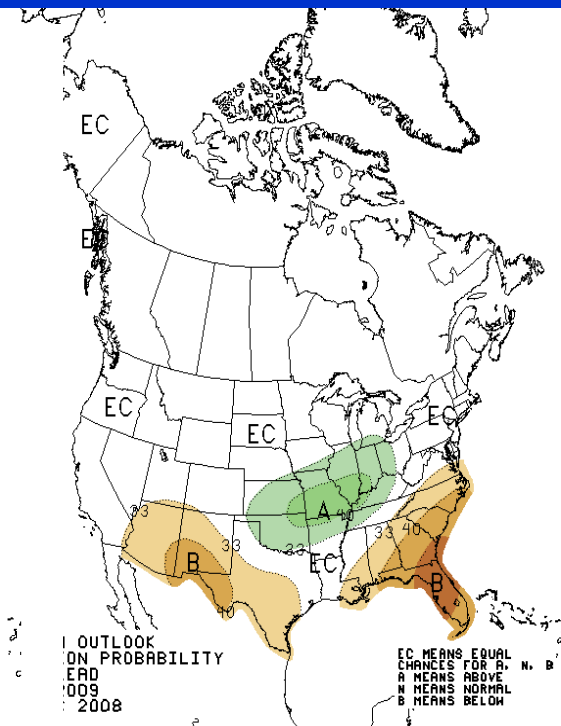


Official CPC Seasonal Rainfall Outlook

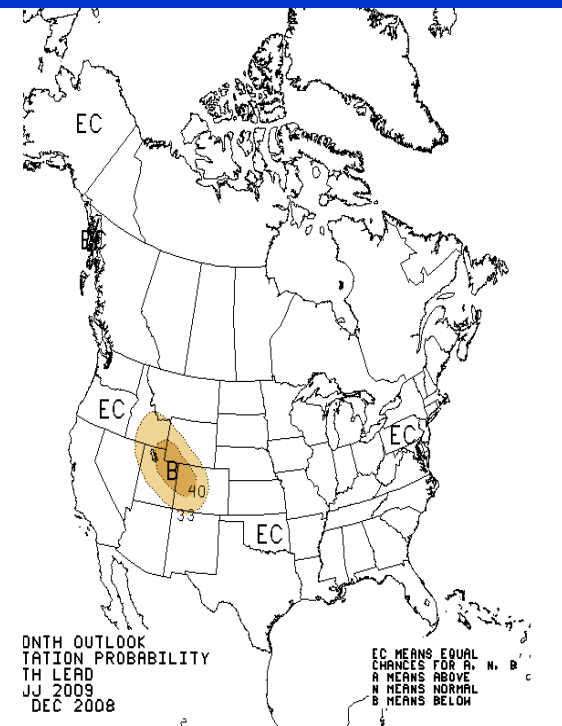
January



February-April

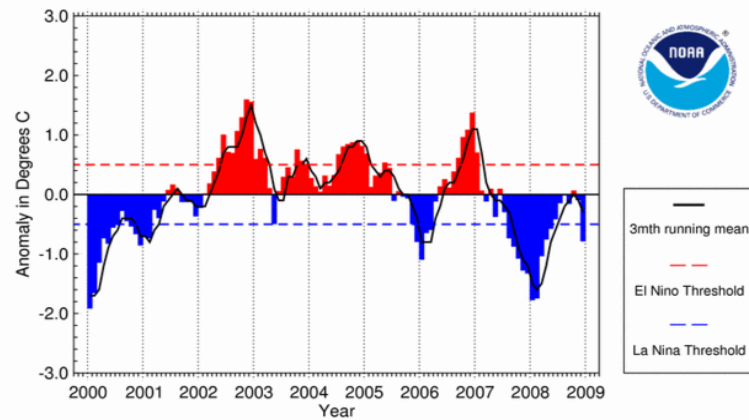


May-July



El Nino-Southern Oscillation

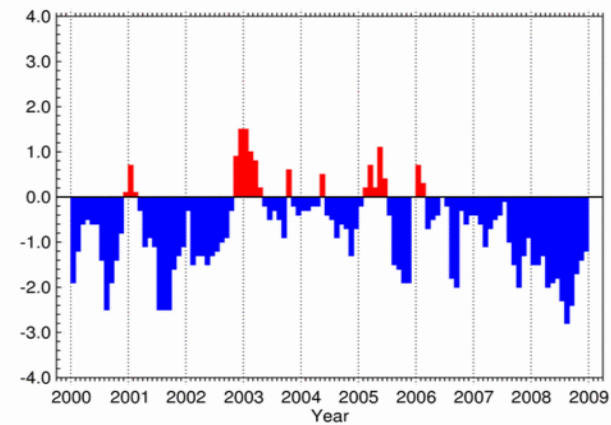
SST Anomaly in Nino 3.4 Region (5N-5S,120-170W)



National Climatic Data Center / NESDIS / NOAA

Pacific Decadal Oscillation

Pacific Decadal Oscillation (PDO)



National Climatic Data Center / NESDIS / NOAA

Drought Monitor

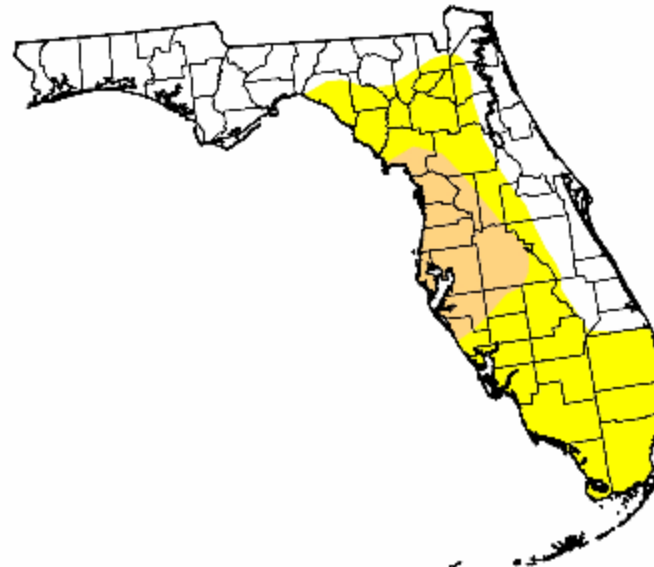
U.S. Drought Monitor Florida

January 6, 2009

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	44.0	56.0	13.4	0.0	0.0	0.0
Last Week (12/30/2008 map)	74.7	25.3	11.7	0.0	0.0	0.0
3 Months Ago (10/14/2008 map)	75.7	24.3	0.0	0.0	0.0	0.0
Start of Calendar Year (01/06/2009 map)	44.0	56.0	13.4	0.0	0.0	0.0
Start of Water Year (10/07/2008 map)	75.8	24.2	0.0	0.0	0.0	0.0
One Year Ago (01/08/2008 map)	31.8	68.2	33.1	19.7	2.6	0.0



Intensity:

 D0 Abnormally Dry	 D3 Drought - Extreme
 D1 Drought - Moderate	 D4 Drought - Exceptional
 D2 Drought - Severe	

The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, January 8, 2009

Author: Brian Fuchs, National Drought Mitigation Center

- Tampa Drought Region has spread eastward into some portions of the Kissimmee
- Most of the rest of the District is abnormally dry

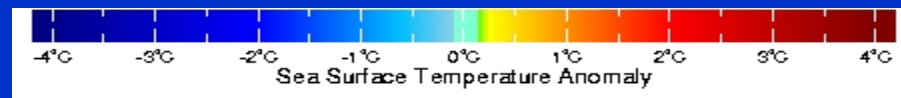
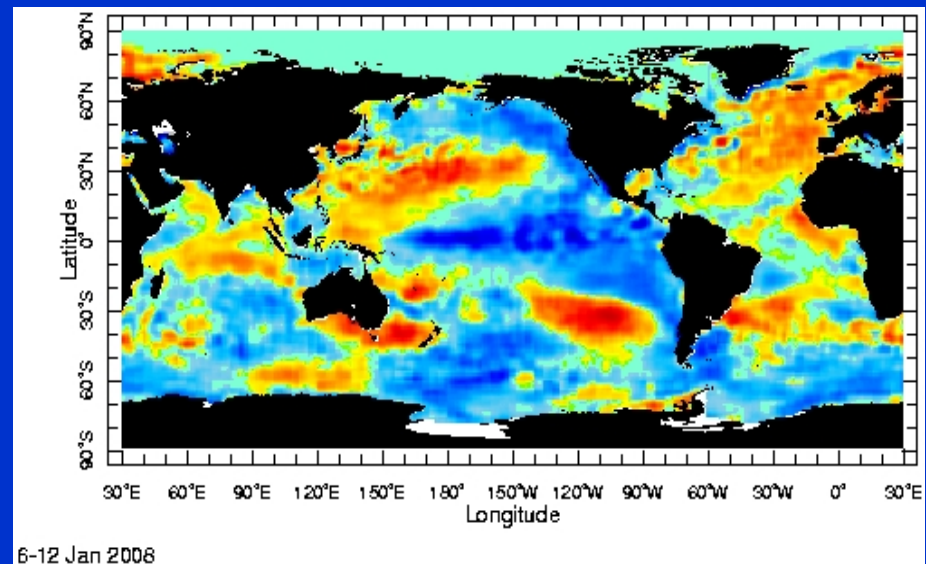
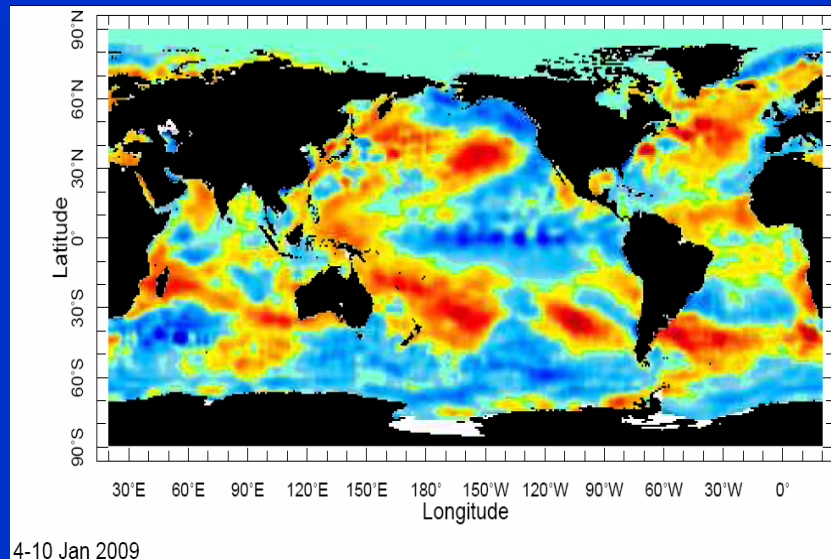
Table of Contents

	Slide
Most recent week Global sea surface temperature anomaly.....	<u>6</u>
The evolution of sea surface temperature anomalies (SSTA) in the east-central equatorial Pacific Ocean.....	<u>7</u>
Time series of Nino indices which are used to estimate the state of ENSO	<u>8</u>
Trend in the subsurface anomalies.....	<u>9</u>
Upper Pacific Ocean Heat Anomalies.....	<u>10</u>
The Climate Forecasting System (CFS) sea temperature anomalies predicted.....	<u>11</u>
Lake Okeechobee <u>January 1st Position Analysis</u> for La Nina Years.....	<u>12</u>
Lake Okeechobee <u>January 1st Position Analysis</u> for La Nina/AMO warm phase sub samplings.....	<u>13</u>
WCA1 <u>January 1st Position Analysis</u> for La Nina Years.....	<u>14</u>
WCA2A <u>January 1st Position Analysis</u> for La Nina Years.....	<u>15</u>
WCA3A <u>January 1st Position Analysis</u> for La Nina Years.....	<u>16</u>
January 2008 Eurasian Record Snow depths and late winter- early spring 2008 District RF	<u>17</u>
Backup Slides	

Latest Weekly Sea Surface Temperature Anomaly International Research Institute

2009

2008

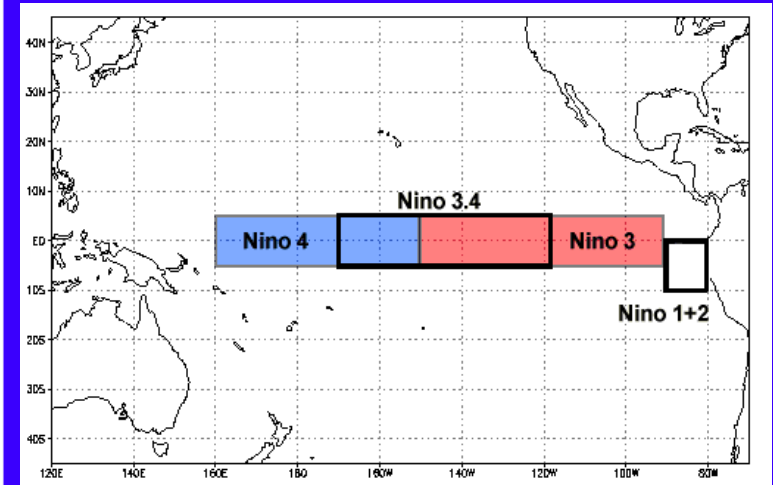
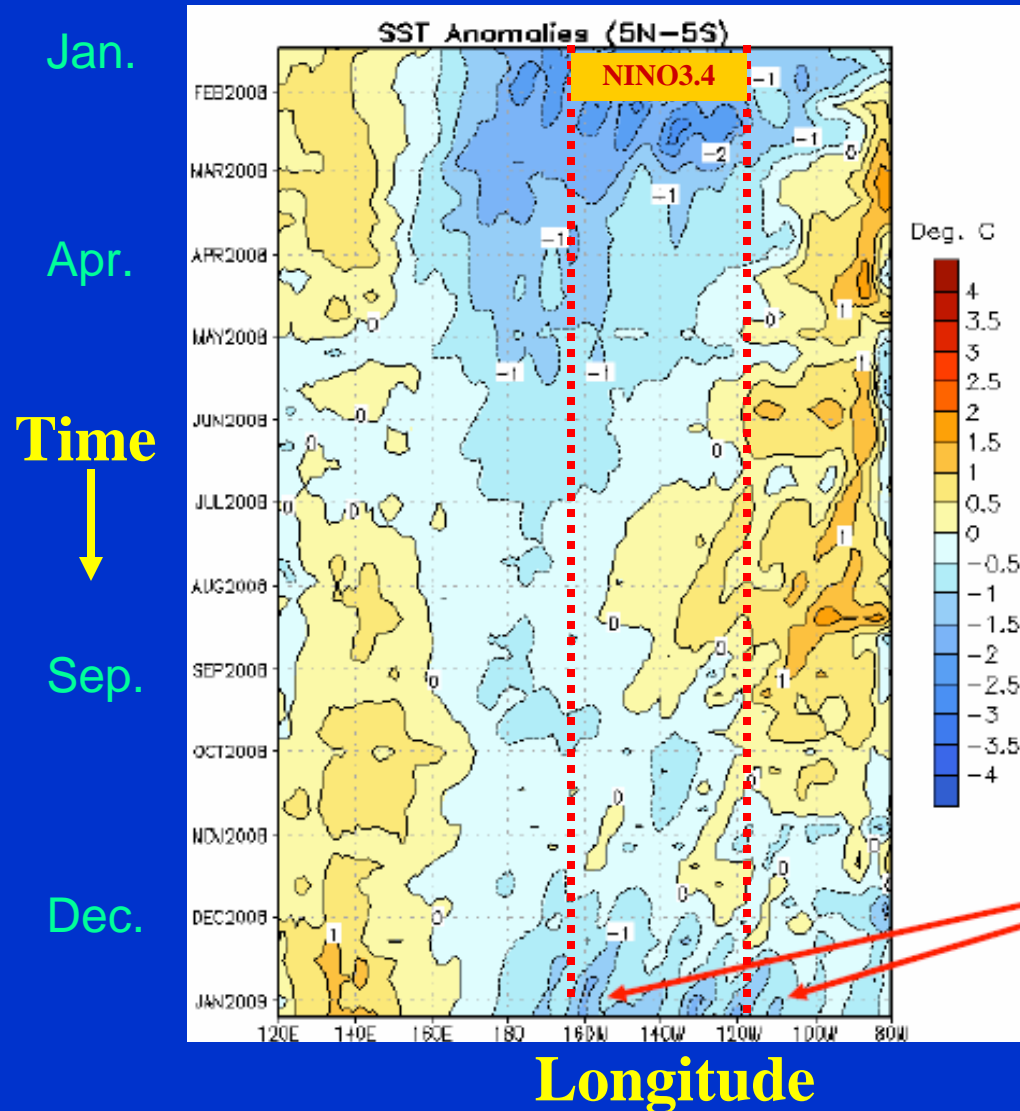


Large area of cooler than normal sea surface temperatures in the equatorial Pacific extending northward to higher latitudes along the west coast of North America are a result of a developing La Nina conditions and the cold phase of the Pacific Decadal Oscillation.

Recent Evolution of Equatorial Pacific SST Departures (°C)

Climate Prediction Center

El Nino-Southern Oscillation Weekly Update



Since October 2008, negative sea surface temperature anomalies have strengthened in portions of the central and eastern equatorial Pacific Ocean.

Recent Evolution of Niño Region SST Departures (°C)

Climate Prediction Center
El Niño-Southern Oscillation Weekly Update

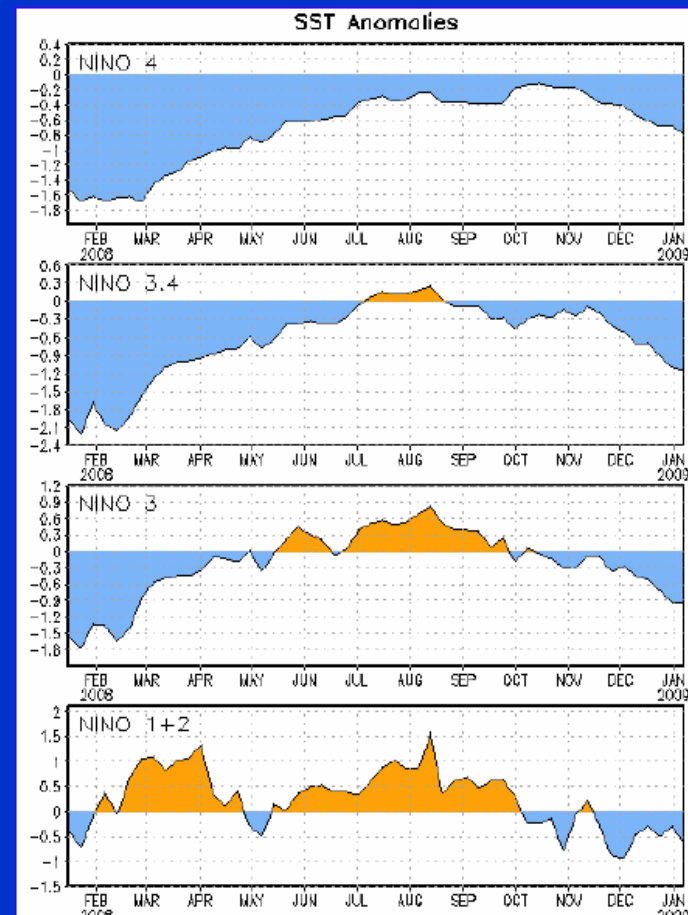
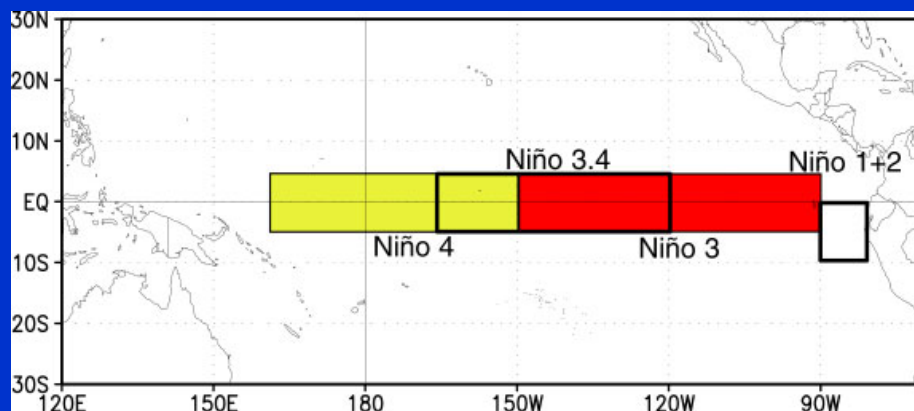
The latest weekly SST departures are:

Niño 4 -0.8°C

Niño 3.4 -1.1°C

Niño 3 -0.9°C

Niño 1+2 -0.6°C



Equatorial Pacific Subsurface Temperature Anomalies

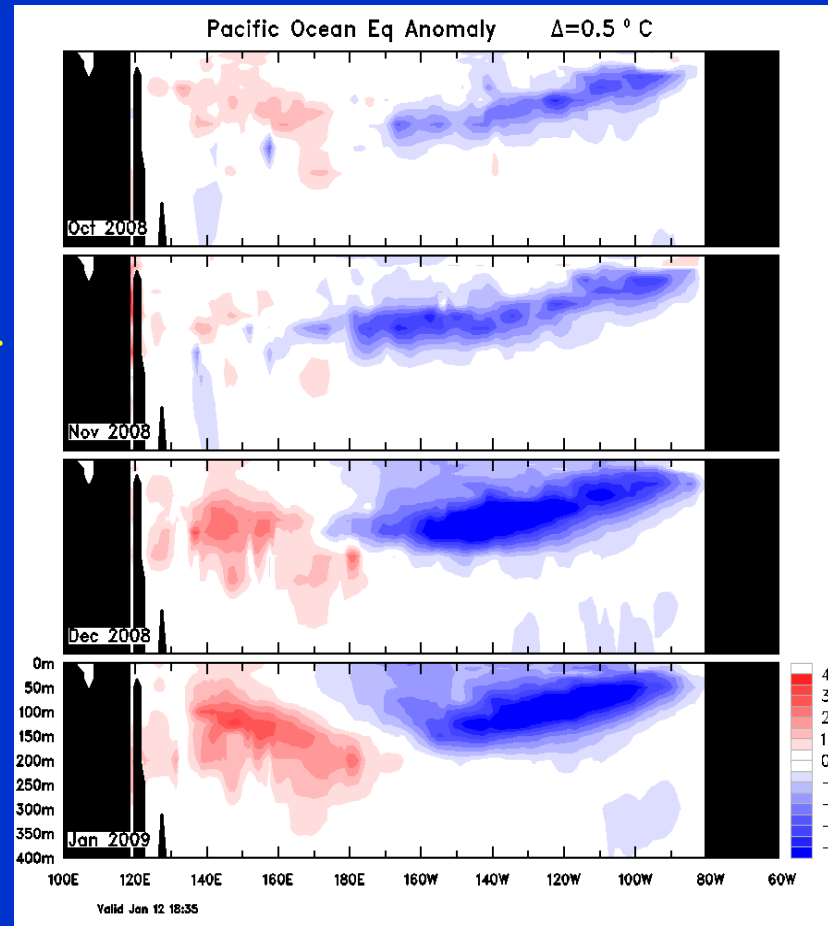
2008-2009

October

November

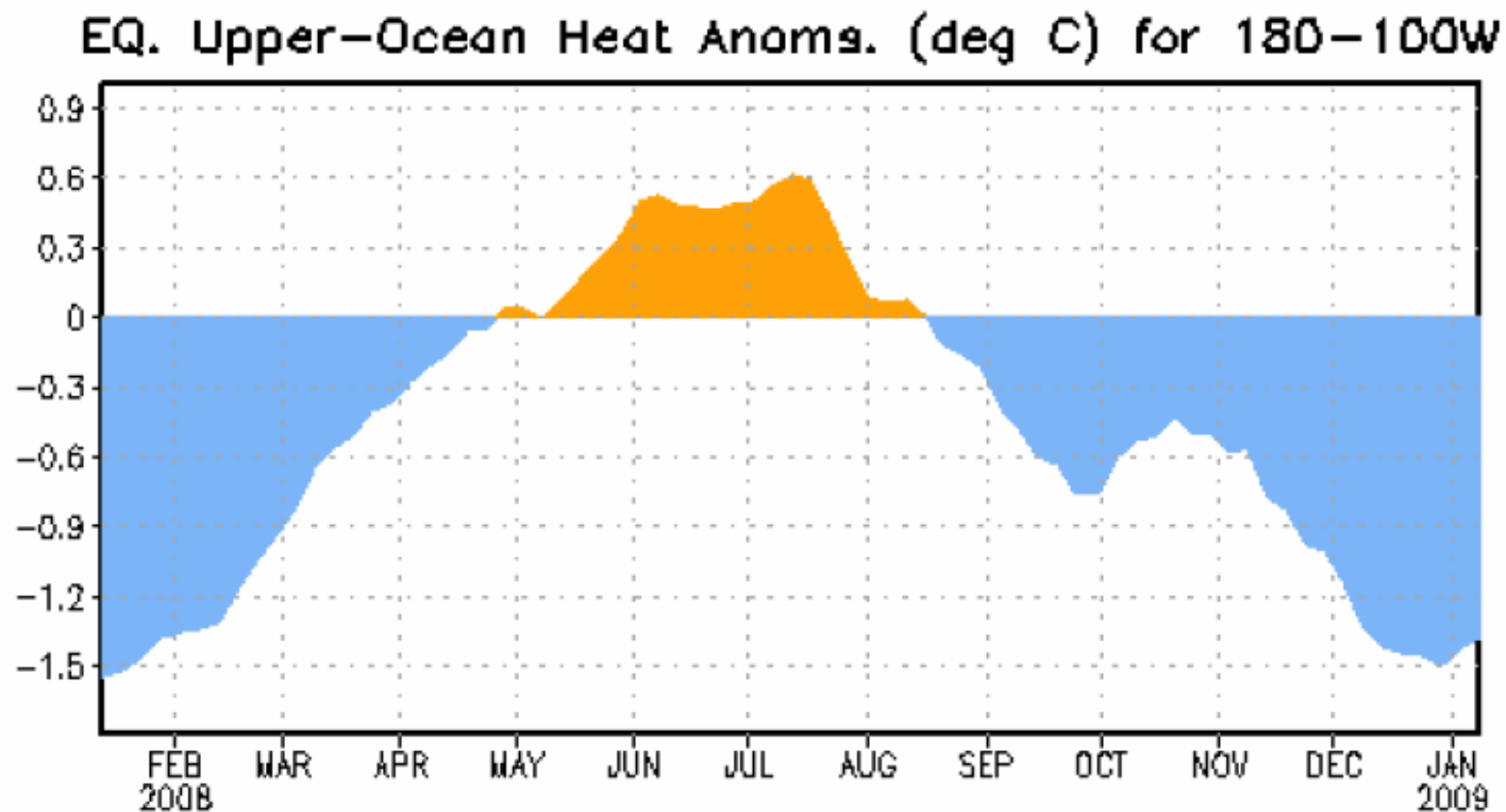
December

January





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



The upper ocean heat content was below-average across the eastern half of the equatorial Pacific Ocean between January 2007 and April 2008 and again since mid-August 2008. The negative heat content anomalies have strengthened since mid-October 2008.

Equatorial Pacific SST Forecast- NCEP Climate Forecast System

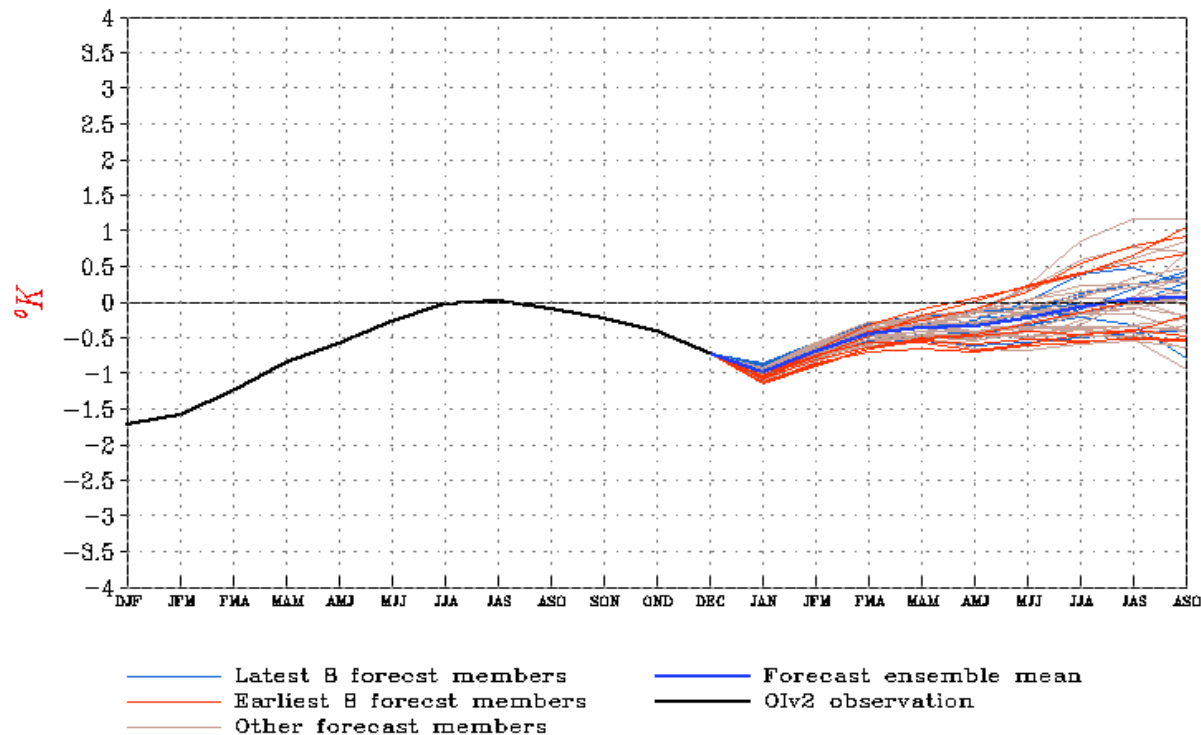
Issued January 14th 2009



NWS/NCEP

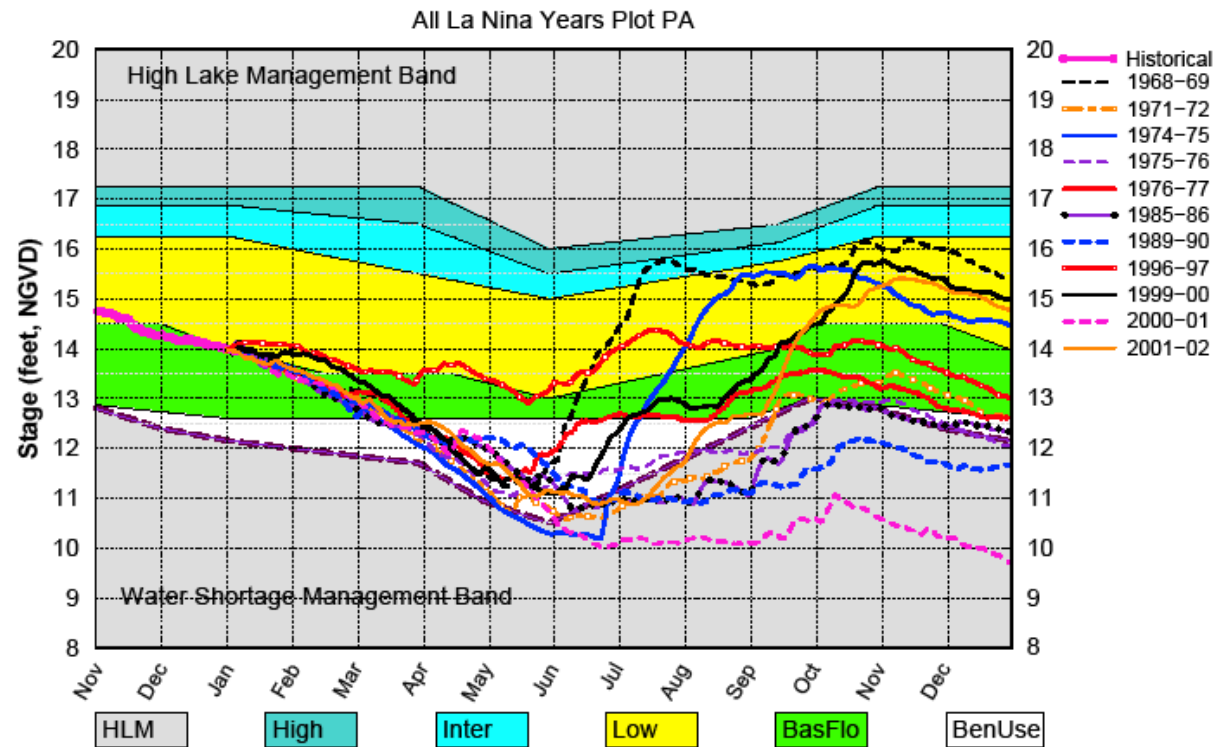
Last update: Wed Jan 14 2009
Initial conditions: 3Jan2009-12Jan2009

PDF correction: Forecast *Nino3.4* SST anomalies from CFS



January 1st Position Analysis for La Nina Years

Lake Okeechobee SFWMM January 2009 Position Analysis



(See assumptions on the Position Analysis Results website)

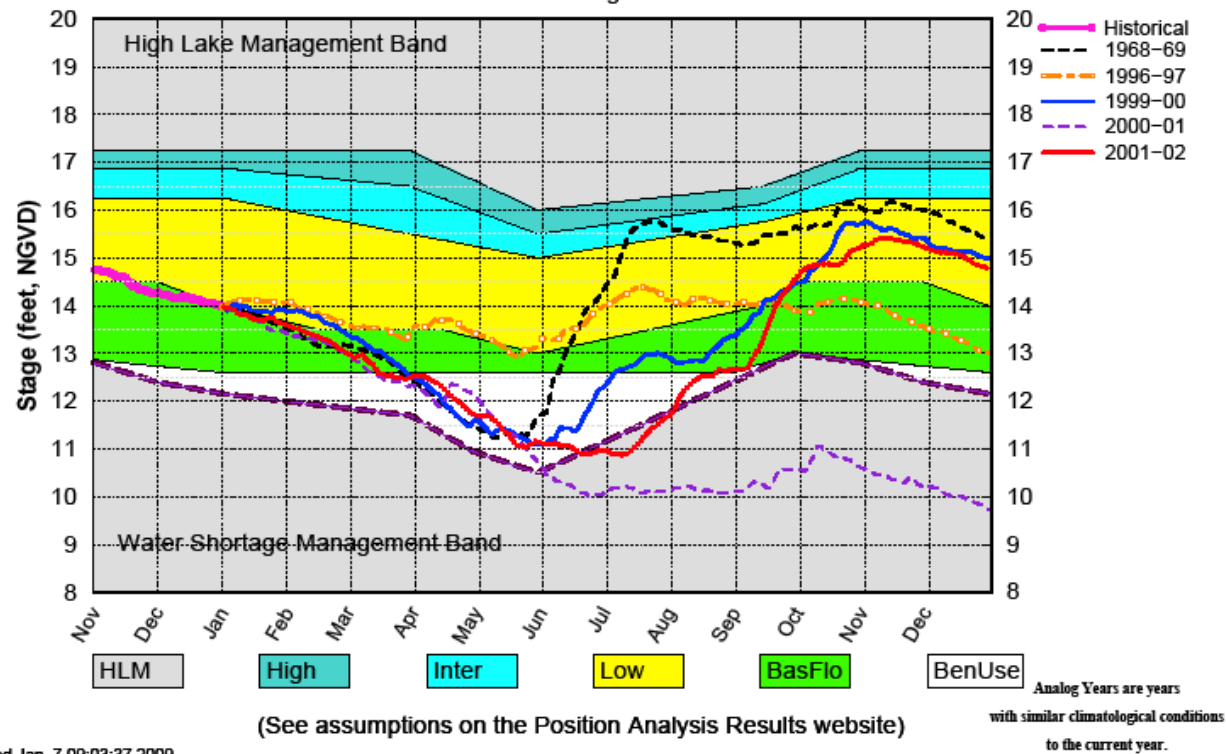
Wed Jan 7 09:03:36 2009

January 1st Position Analysis

La Nina /AMO Warm sub sampling

Lake Okeechobee SFWMM January 2009 Position Analysis

AMO Warm / La Nina Analog Years Plot PA

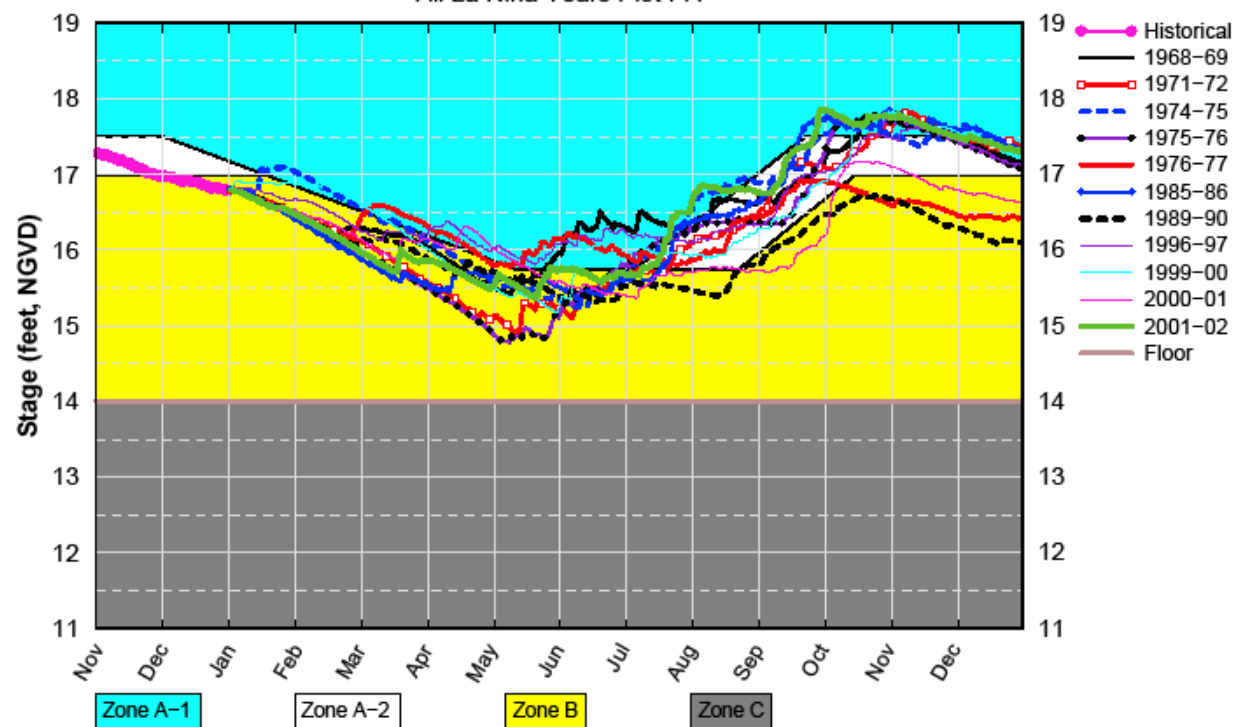


Wed Jan 7 09:03:37 2009

January 1st Position Analysis for La Nina Years

WCA1 SFWMM January 2009 Position Analysis

All La Nina Years Plot PA



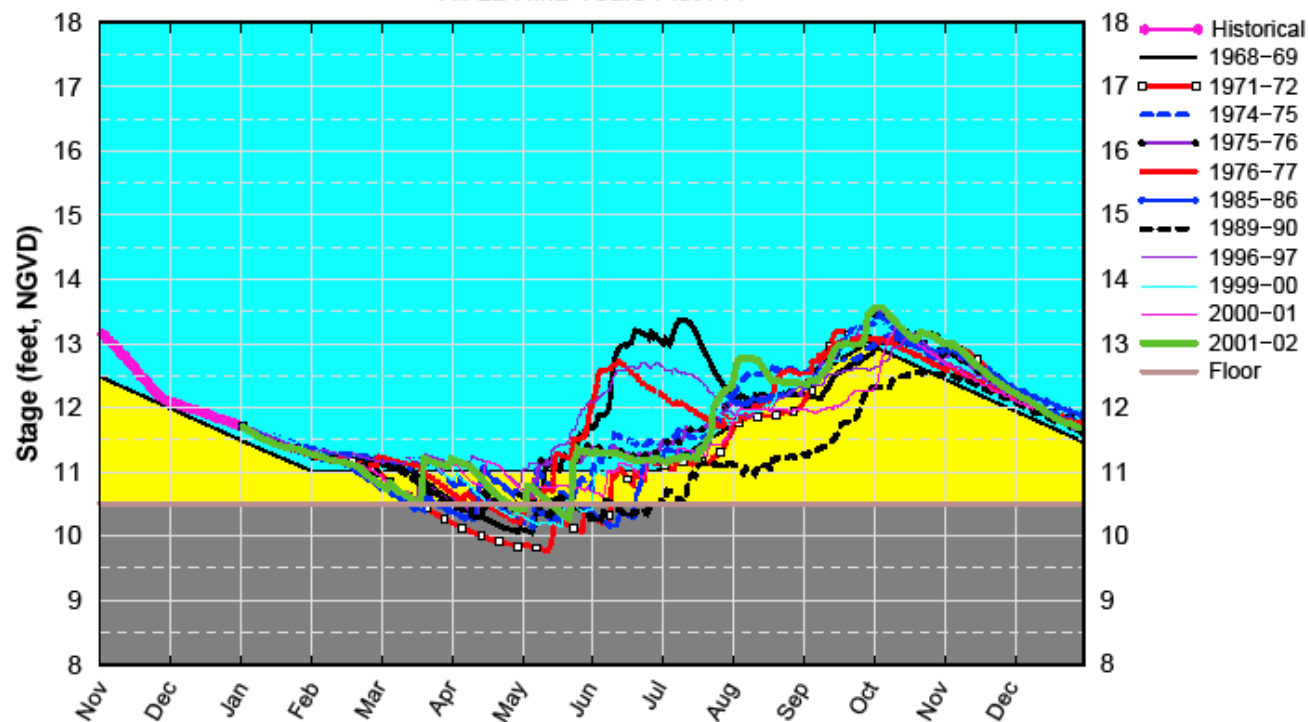
(See assumptions on the Position Analysis Results website)

Wed Jan 7 09:03:40 2009

January 1st Position Analysis for La Nina Years

WCA2A SFWMM January 2009 Position Analysis

All La Nina Years Plot PA

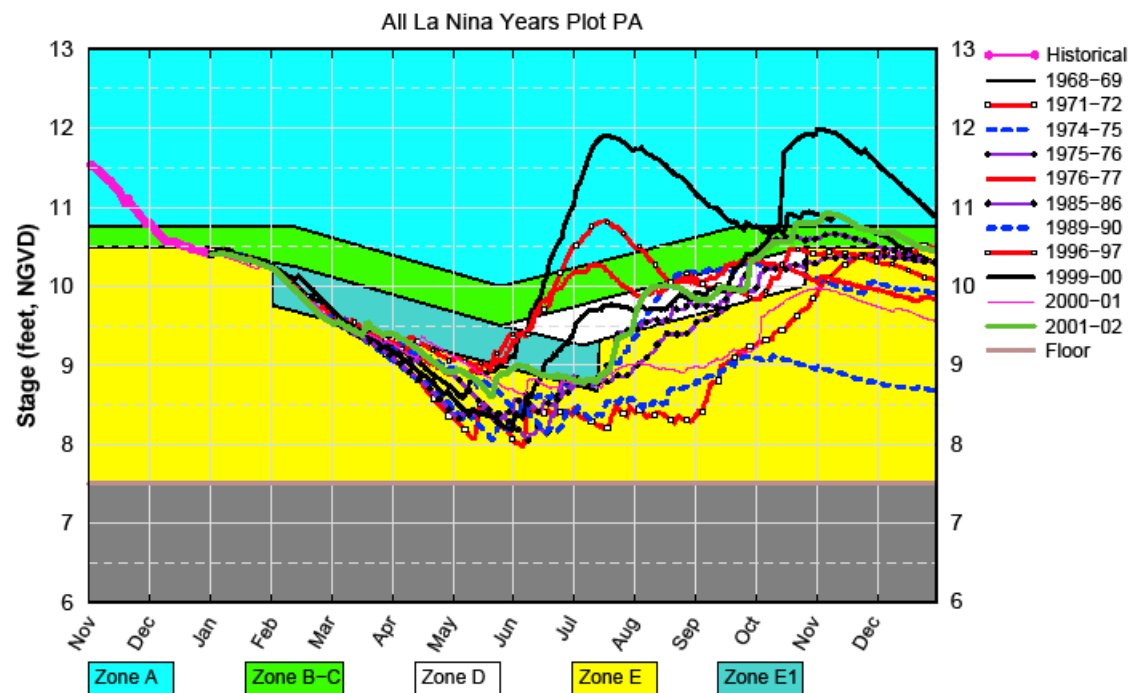


(See assumptions on the Position Analysis Results website)

Wed Jan 7 09:03:43 2009

WCA3A January 1st Position for La Nina Years

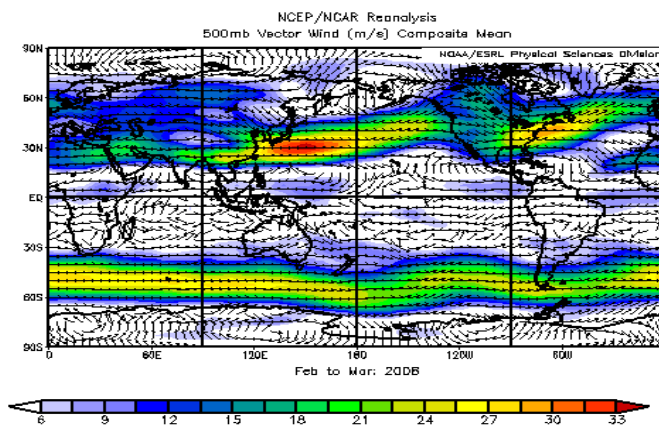
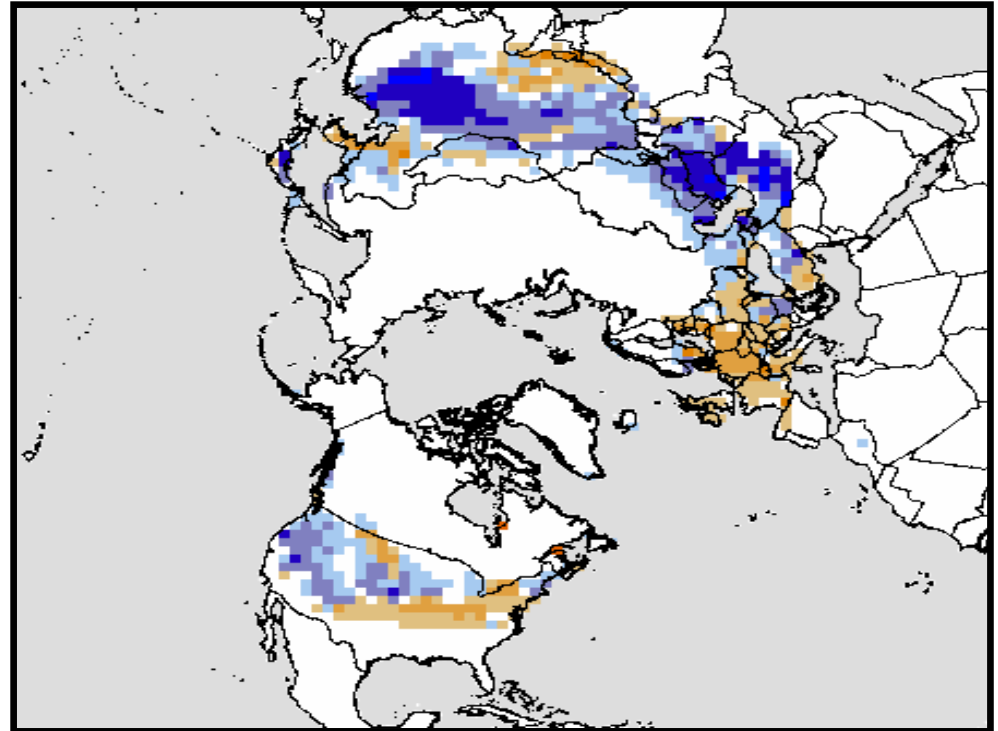
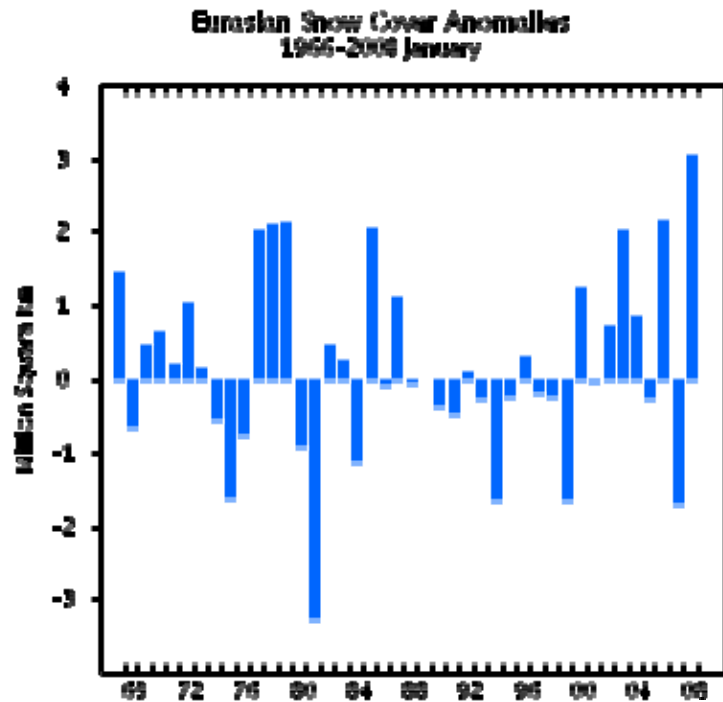
WCA3A SFWMM January 2009 Position Analysis



(See assumptions on the Position Analysis Results website)

Wed Jan 7 09:03:46 2009

January 2008 Eurasian Record Snow depths and late winter- early spring 2008 District RF



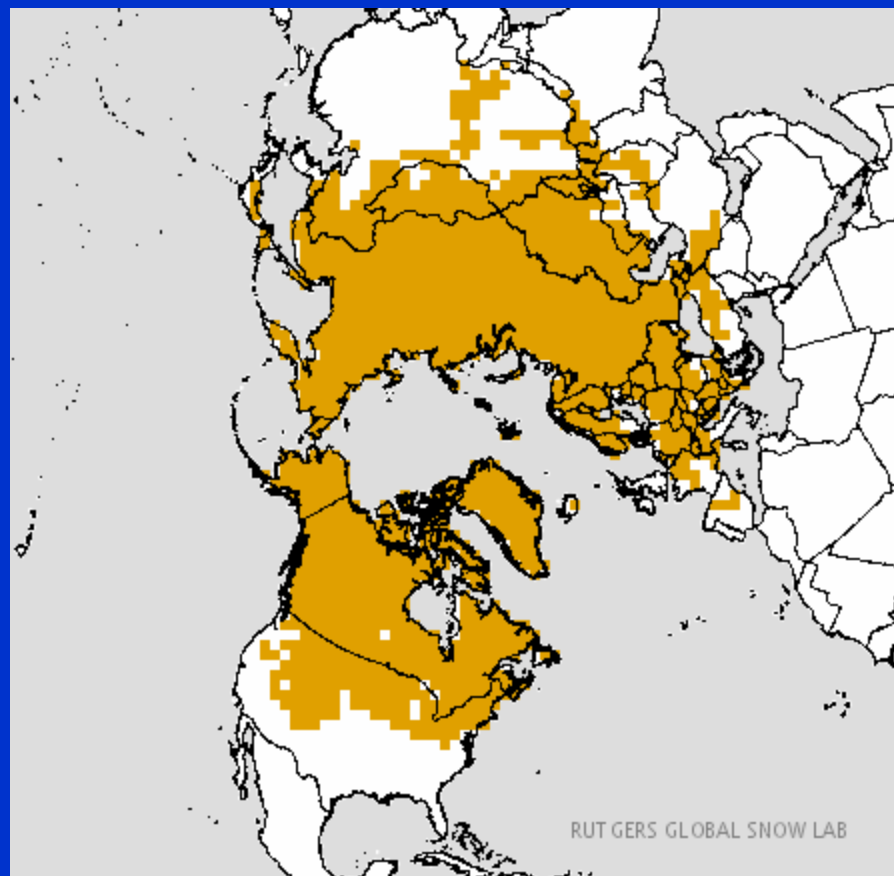
Normally during La Nina Events the jet stream is pushed north of Florida. However in 2008 for the period after January tremendous snow anomaly

References

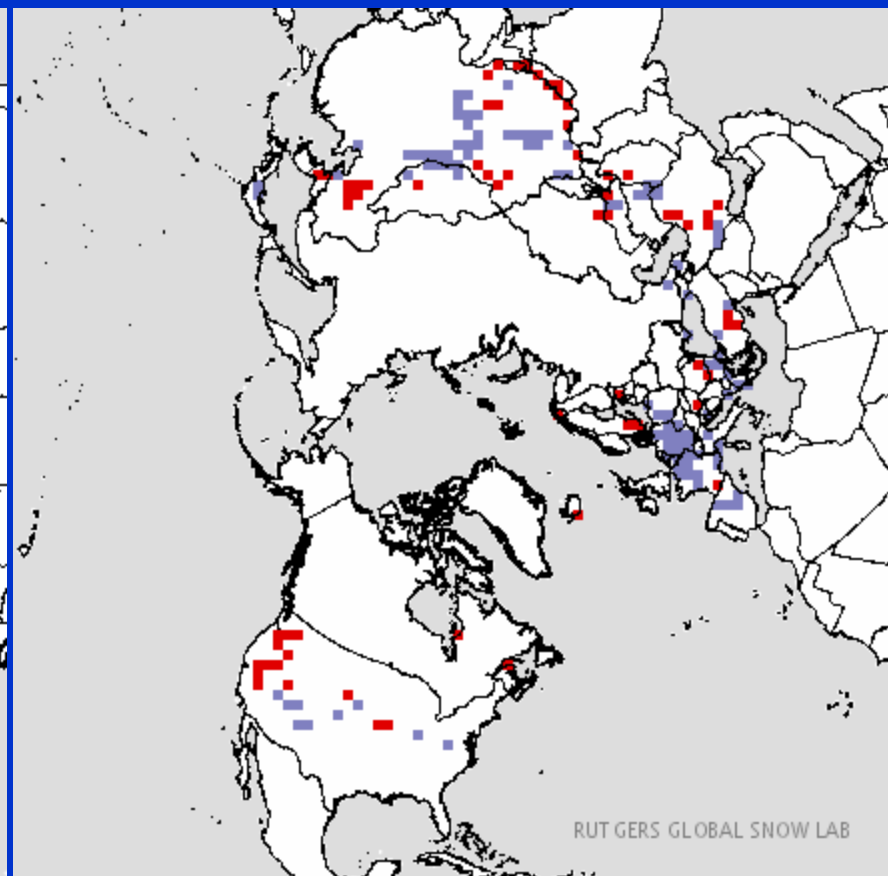
<http://ams.allenpress.com/archive/1520-0442/15/3/pdf/i1520-0442-15-3-306.pdf>

http://sciencepolicy.colorado.edu/admin/publication_files/resource-314-2000.25.pdf

2009 Northern Hemisphere Daily Snow Cover



Daily Snow Cover - January 12, 2009 (Day 12)

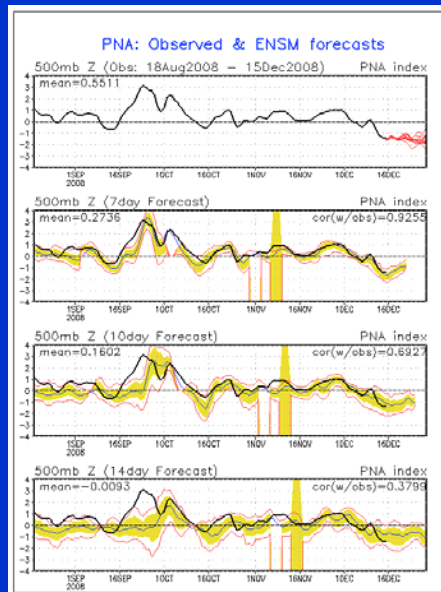


Daily Snow Cover Anomaly - January 12, 2009 (Day 12)

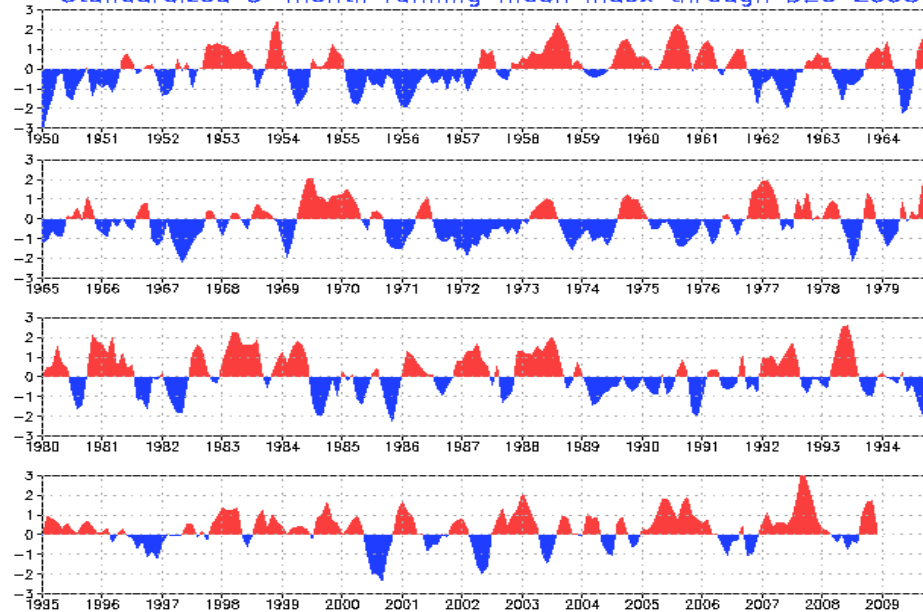
The Eurasian snow depths are currently slightly above normal. If this winter has more normal snowfall it can be expected with greater certainty there will be below normal rainfall in south Florida. As of this year global snow cover can be monitored on a daily basis at the following: <http://climate.rutgers.edu/snowcover/>

Backup Slides with additional support material

Pacific – North American Index

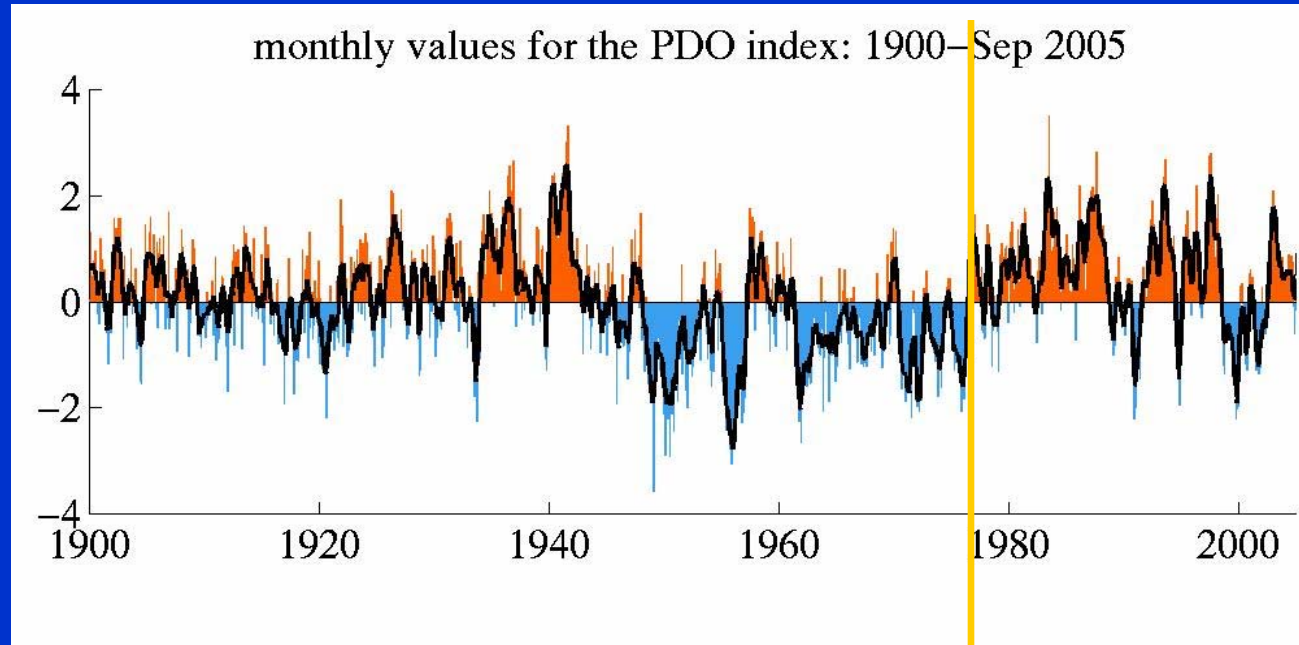


Pacific/ North American Pattern
Standardized 3-month running mean Index through DEC 2008



Currently
transitioning
to cold phase of
PDO

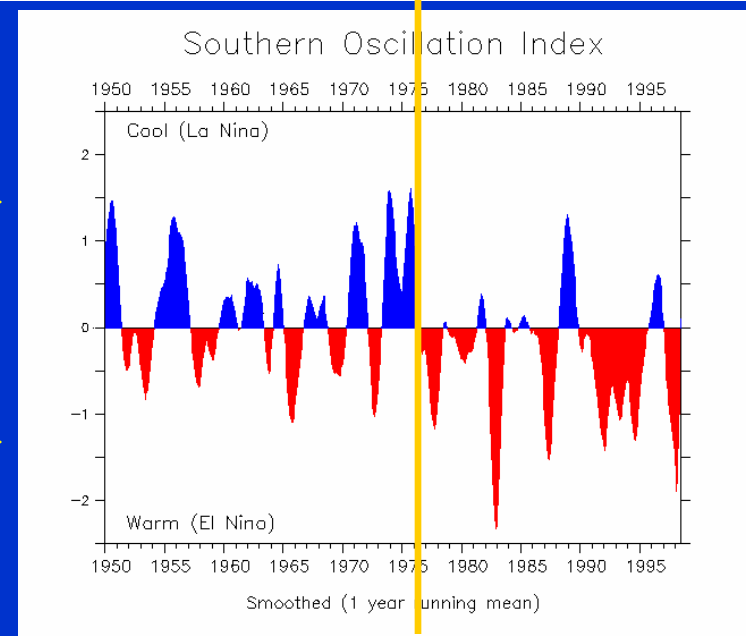
PDO



ENSO

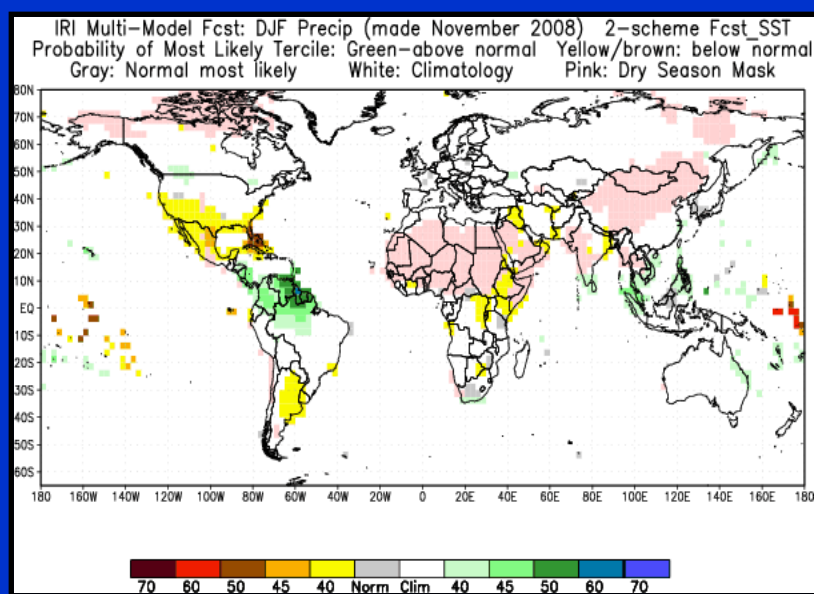
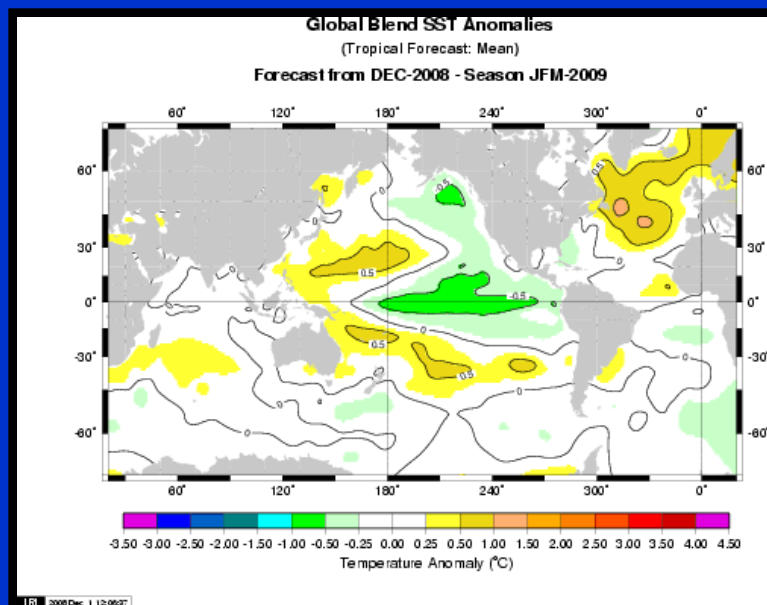
La Nina predominates when
PDO is in negative phase →

El Nino predominates when
PDO is in positive phase →

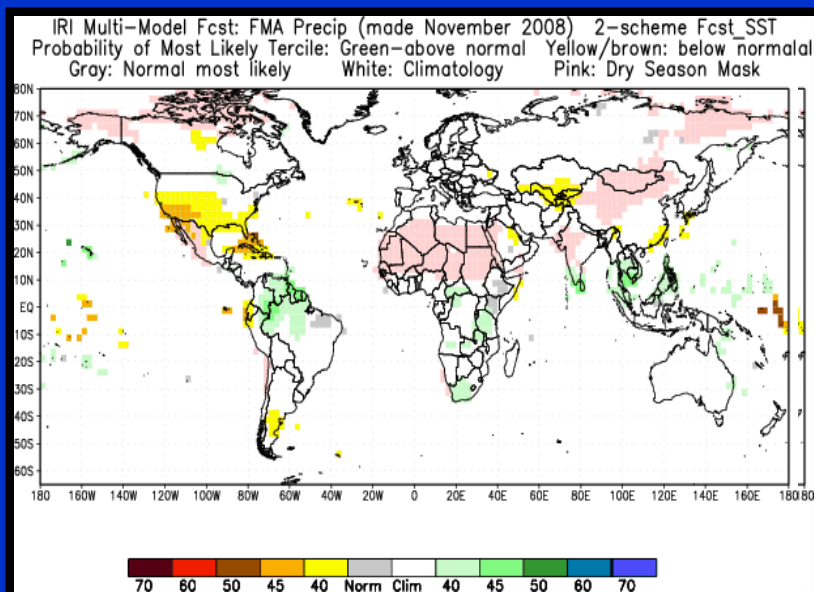
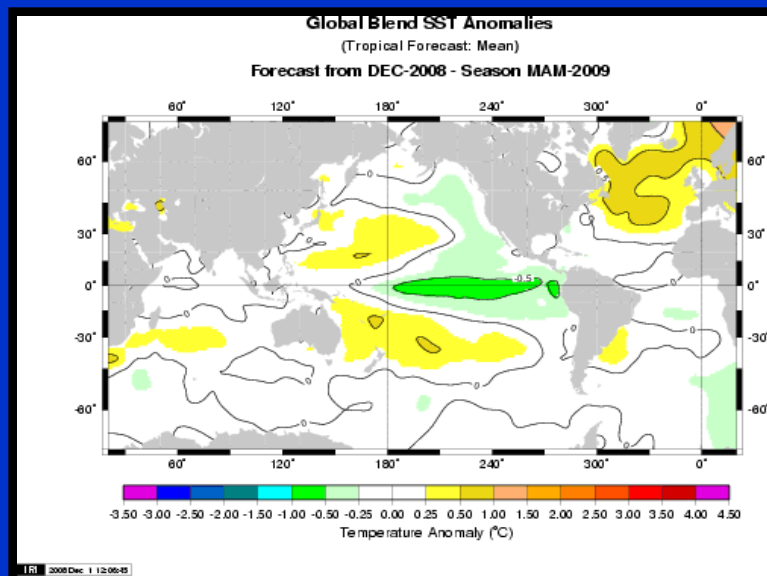


IRI Multi-Model Probability Forecasts 2008-2009

JFM



FMA

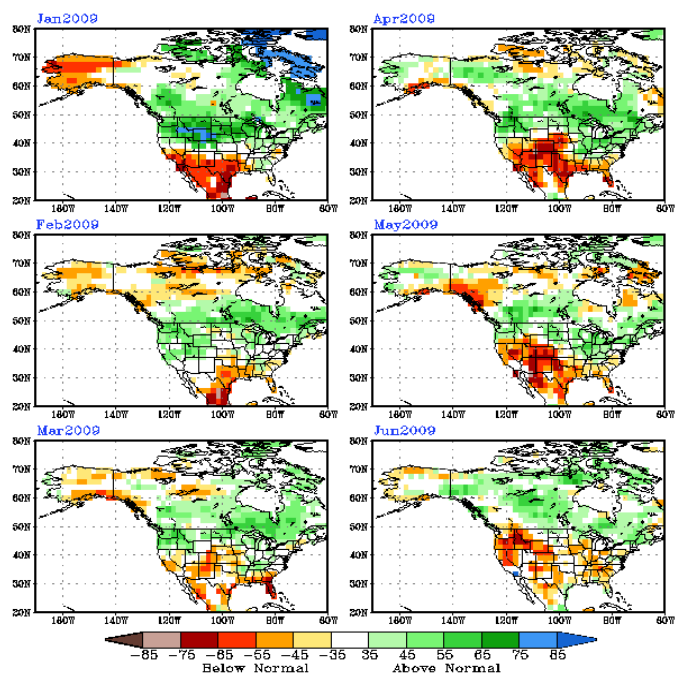




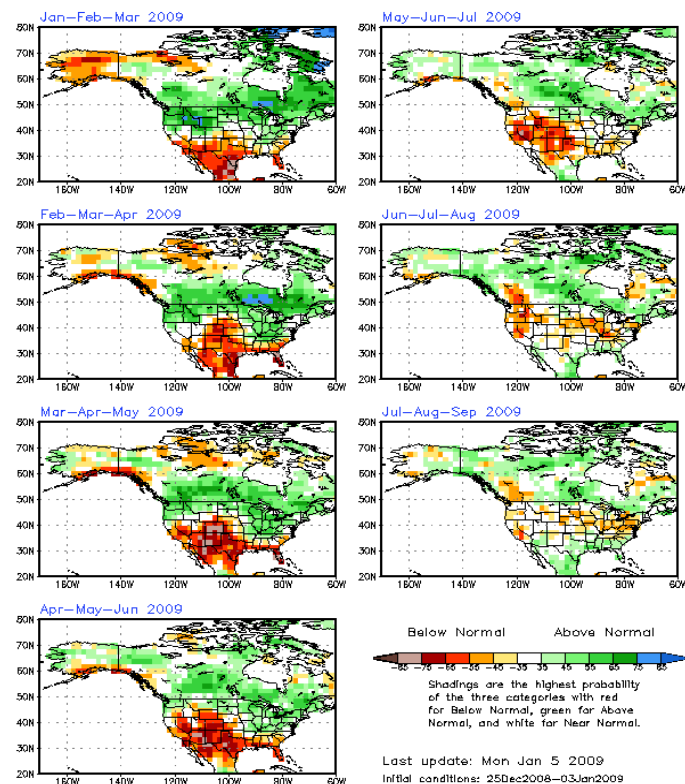
NWS/NCEP

Last update: Mon Jan 5 2009
Initial conditions: 25Dec2008-03Jan2009

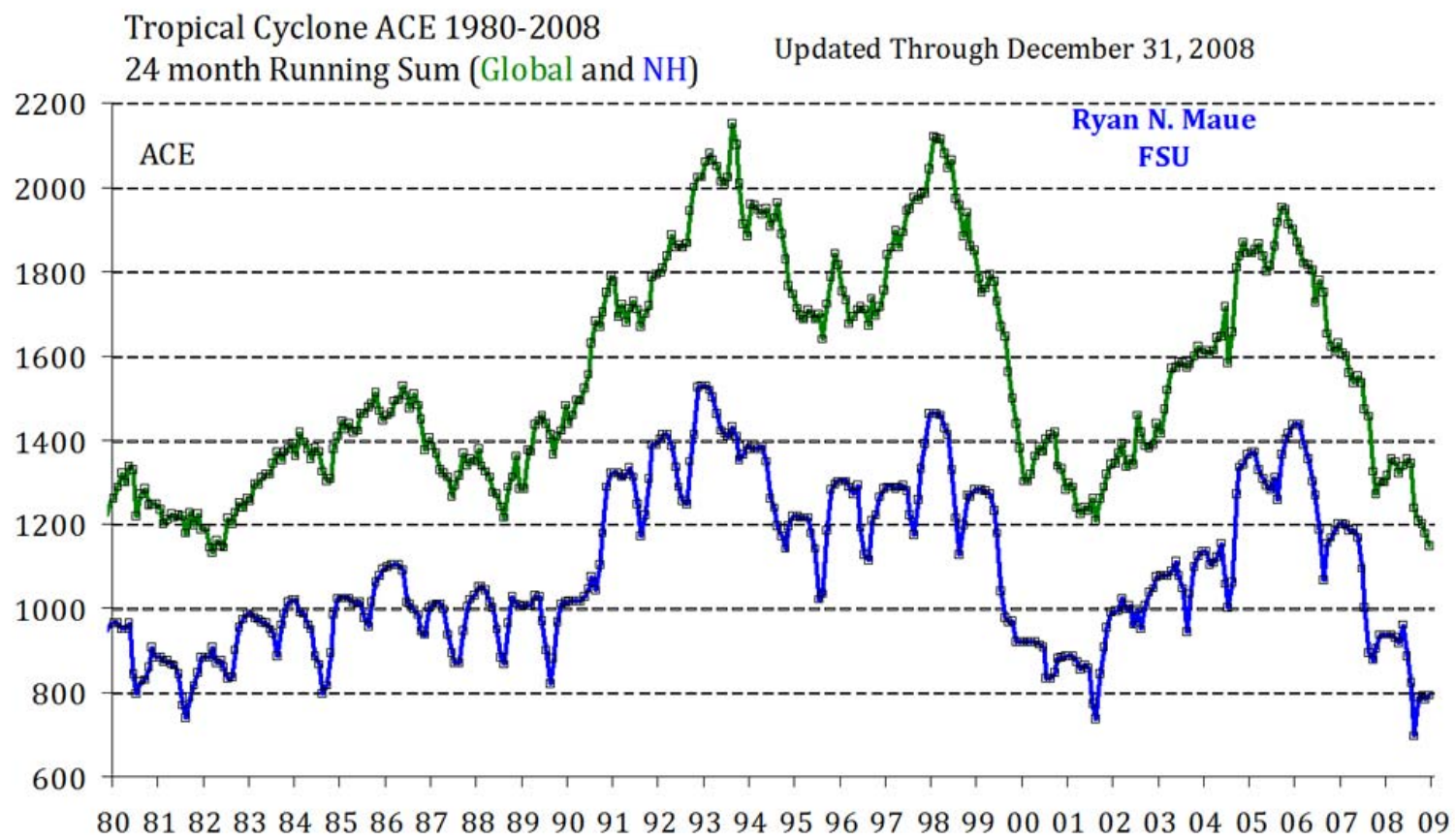
CFS monthly Prec probability forecast



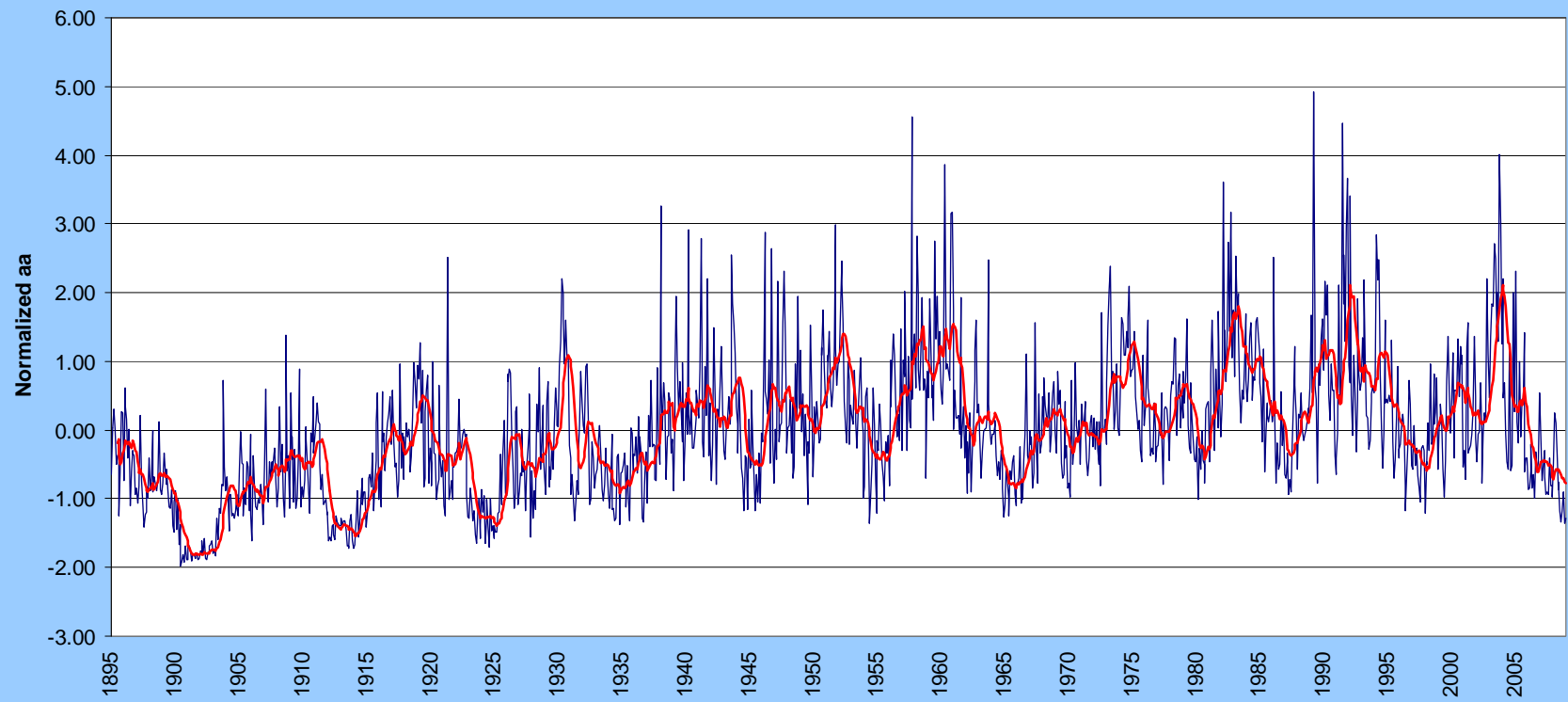
CFS seasonal Prec probability forecast

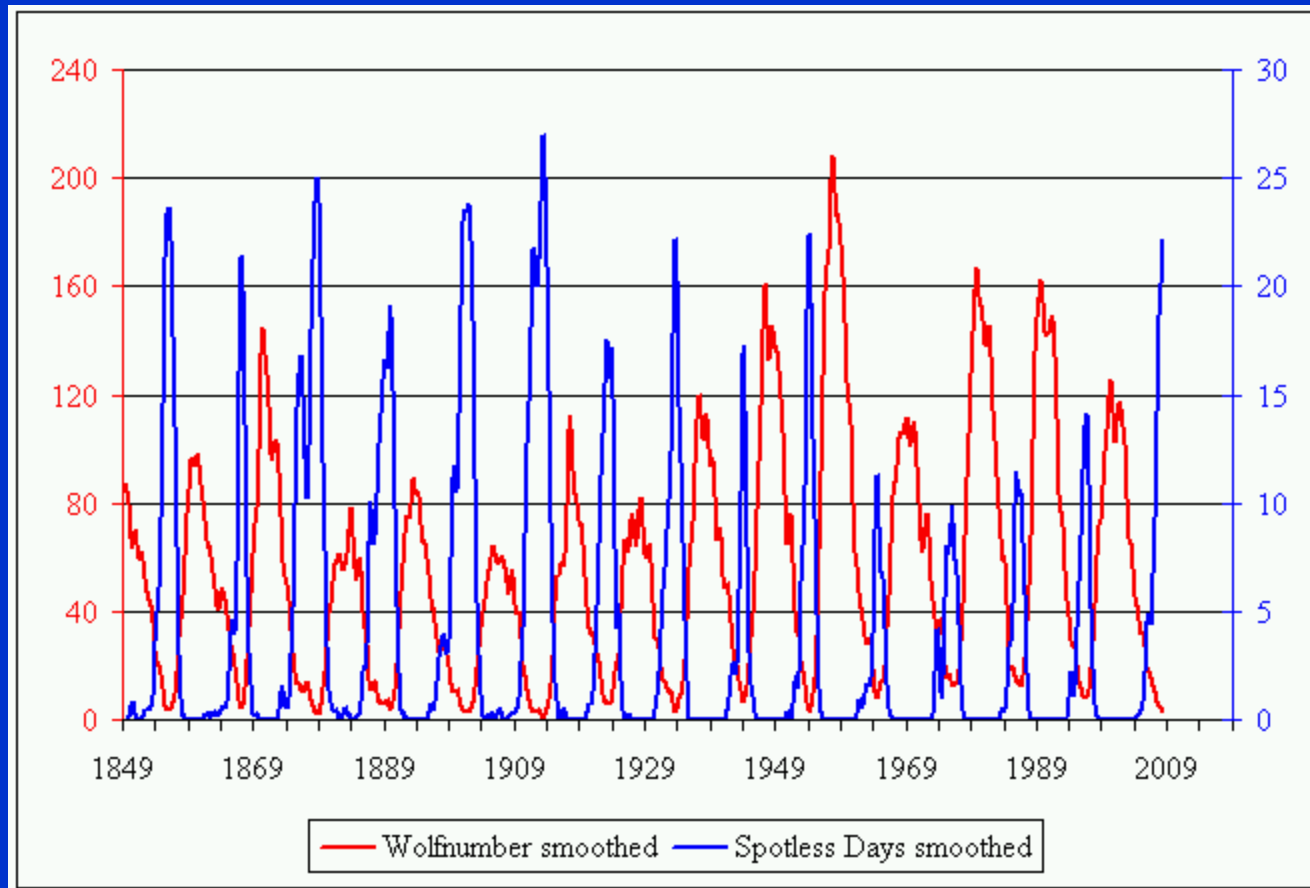


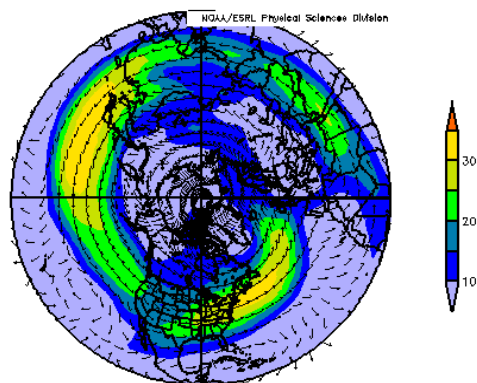
NWS/NCEP



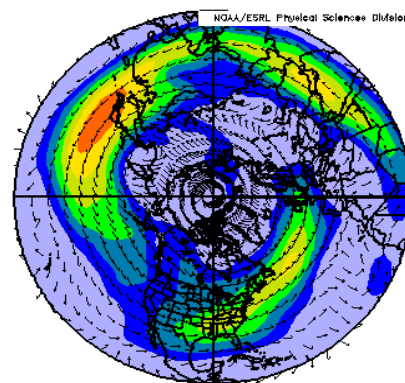
Solar Activity (aa index smoothed)



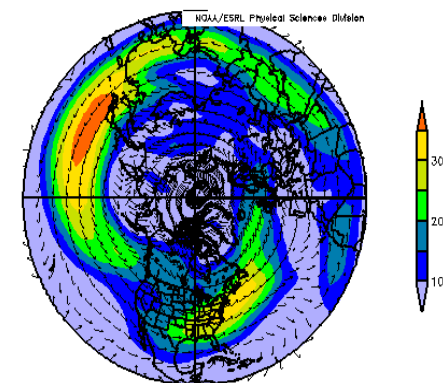




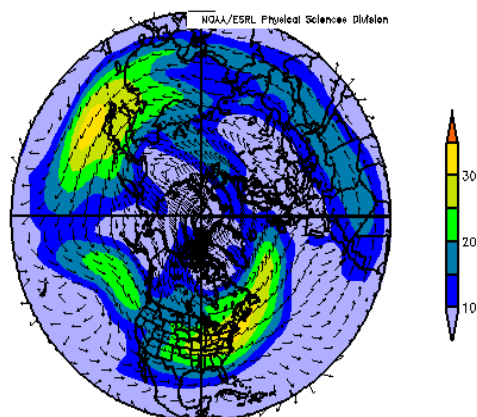
500mb Vector Wind (m/s) Composite Mean
12/1/07 to 12/31/07
NCEP/NCAR Reanalysis



500mb Vector Wind (m/s) Composite Mean
1/1/08 to 1/31/08
NCEP/NCAR Reanalysis



500mb Vector Wind (m/s) Composite Mean
2/1/08 to 2/26/08
NCEP/NCAR Reanalysis



500mb Vector Wind (m/s) Composite Mean
12/1/08 to 12/31/08
NCEP/NCAR Reanalysis