



Winter Outlook (2008-2009)



AMS Winter Weather Meeting

October 24, 2008

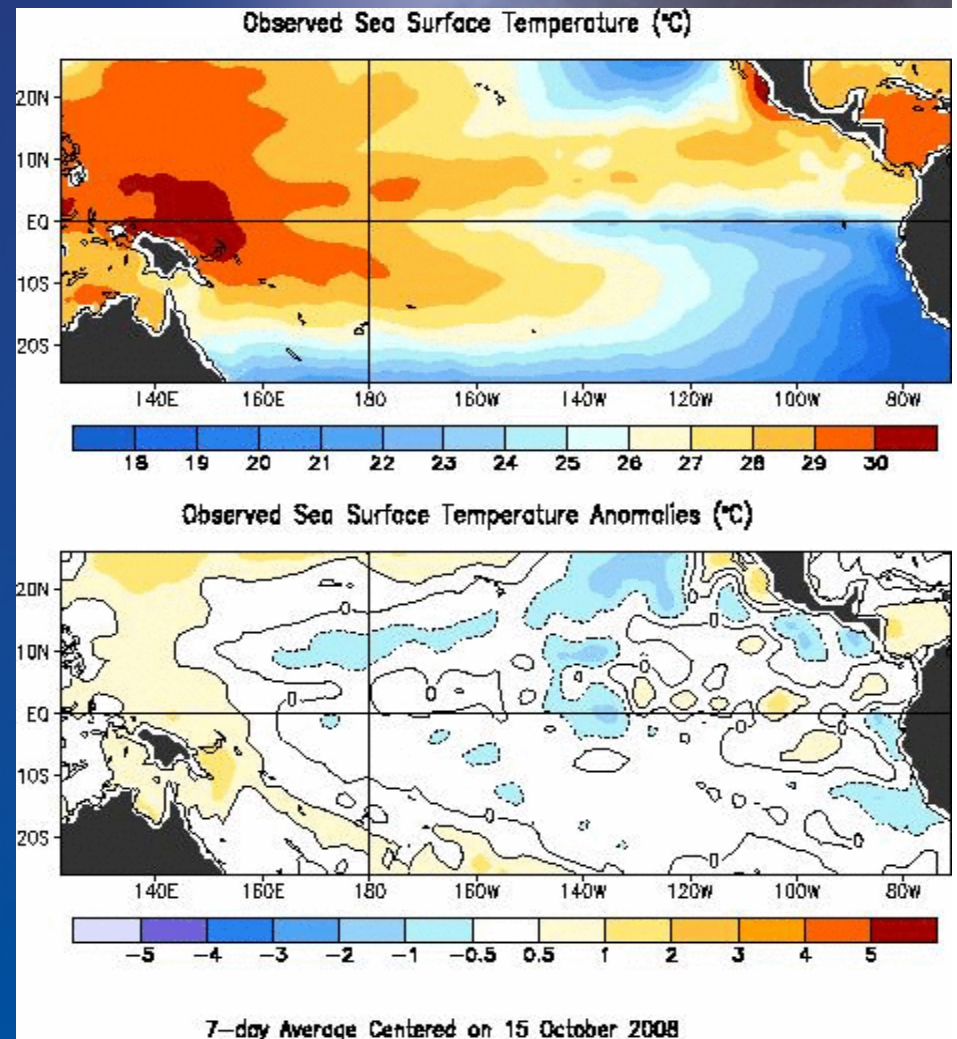
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National Weather Service
Portland, OR*



Winter Outlook



- ENSO neutral conditions are present in the Equatorial Pacific Ocean with lingering aspects of weak LaNina in the central Pacific.
- In the Pacific basin, sea surface temperatures (SST) are running -0.2 C below normal to $+0.3$ above normal.
- Seasonal model forecasts indicate ENSO neutral conditions will continue into early 2009.

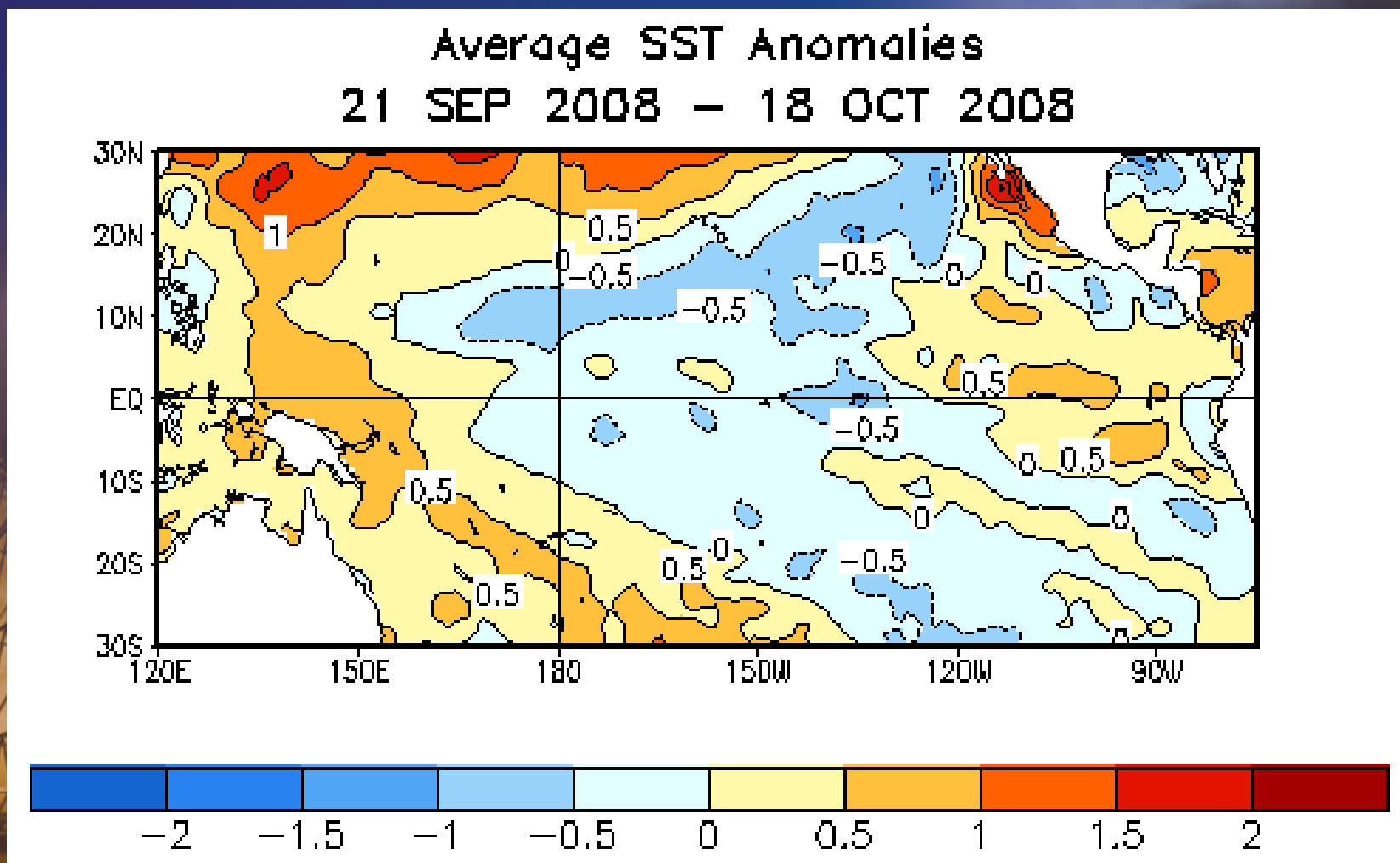




Average SST Departures in the Tropical Pacific: Last 4 Weeks

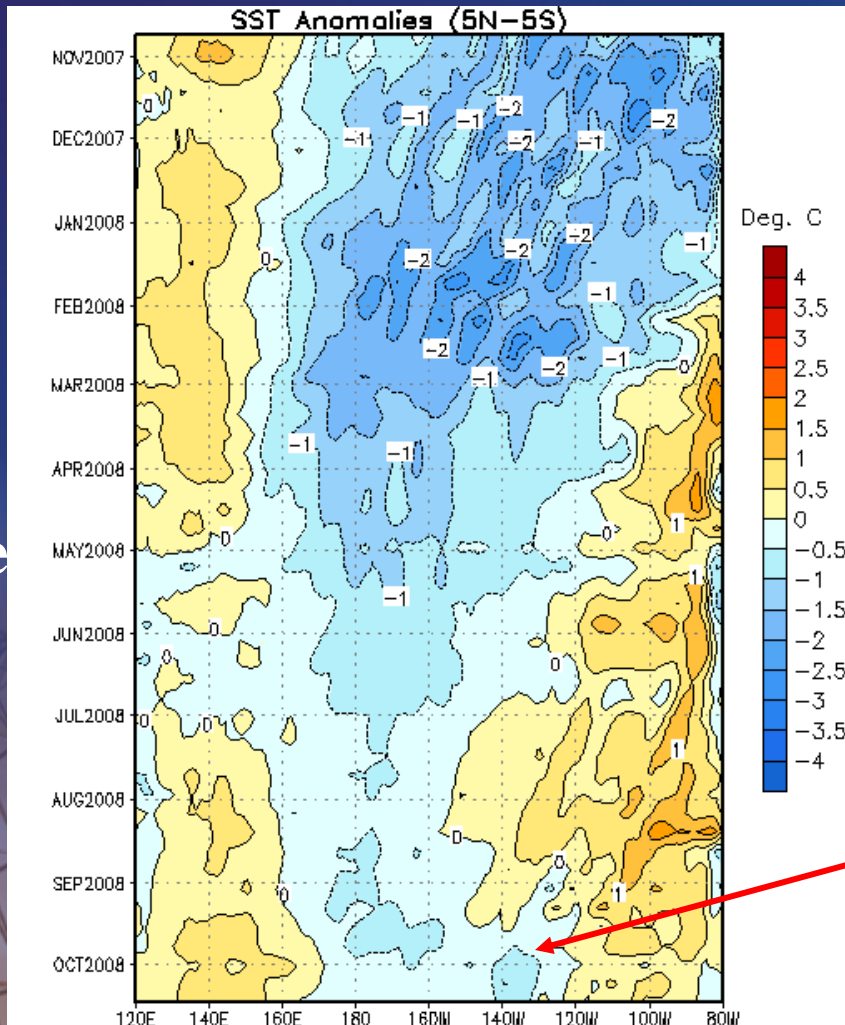


During the last 4-weeks, equatorial Pacific SSTs were 0.5°C below-average between 125°W and 145°W , and more than 0.5°C above-average in areas east of 120°W .





Recent Evolution of Equatorial Pacific SST Departures



Since September 2008, negative sea surface temperature anomalies have expanded eastward into the east-central equatorial Pacific Ocean.



Niño Region SST Departures (°C) Recent Evolution



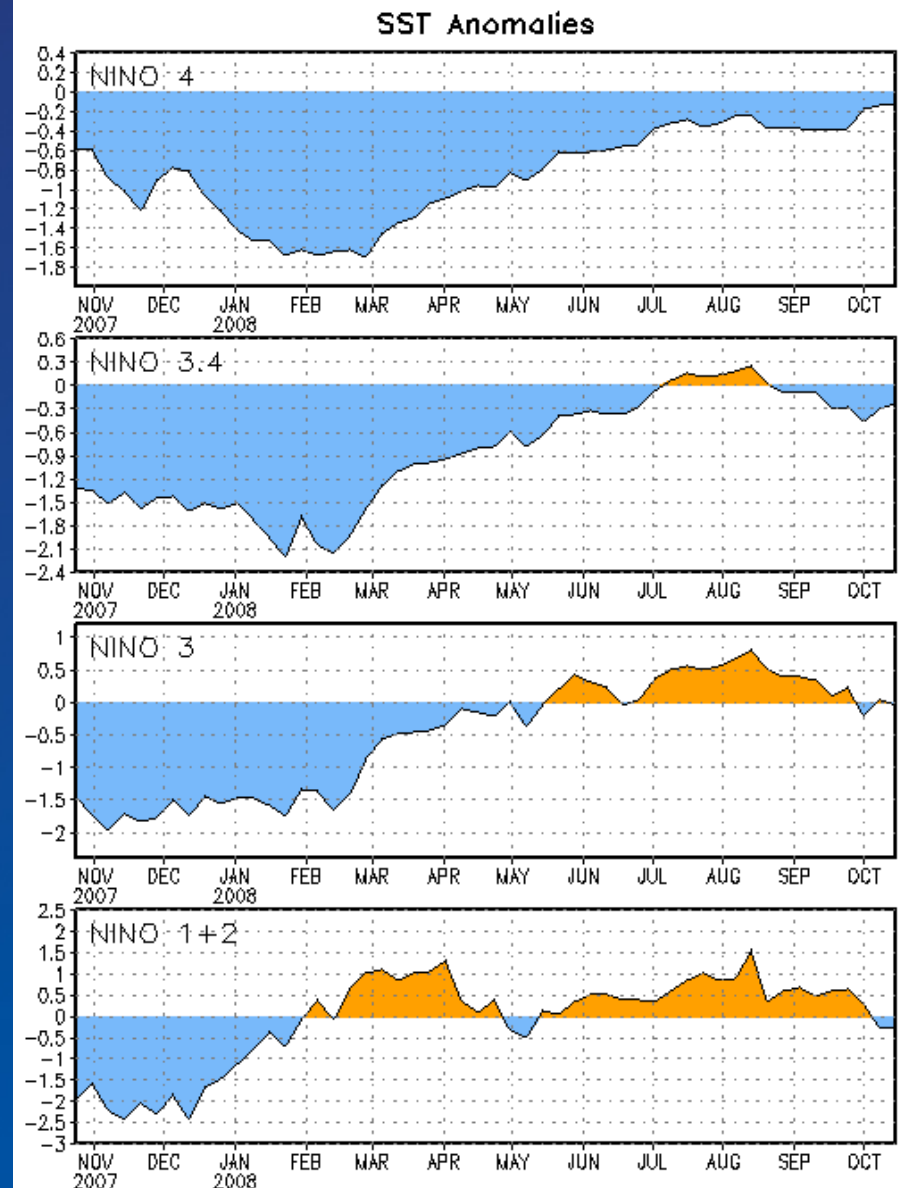
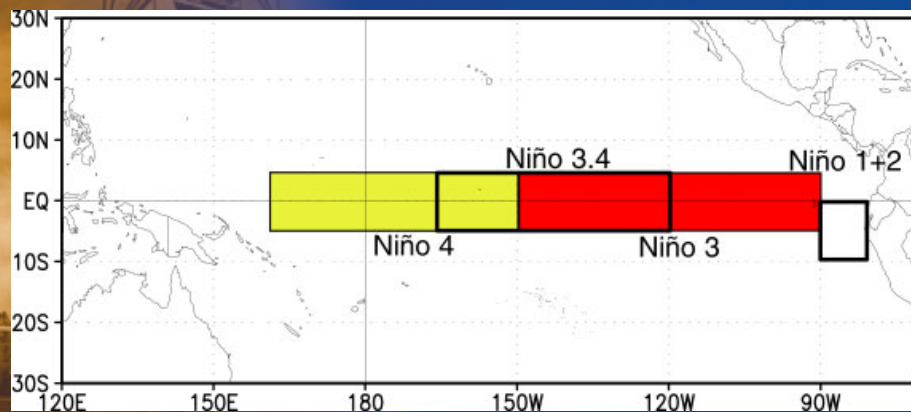
The latest weekly SST departures are:

Niño 4 -0.1°C

Niño 3.4 -0.2°C

Niño 3 0.0°C

Niño 1+2 -0.2°C





2008-09 Winter Outlook



Oceanic Niño Index (ONI)

- 3-month running mean of SST departure

- El Nino = Positive ONI $\geq +0.5^{\circ}\text{C}$
- La Nina = Negative ONI $\leq -0.5^{\circ}\text{C}$

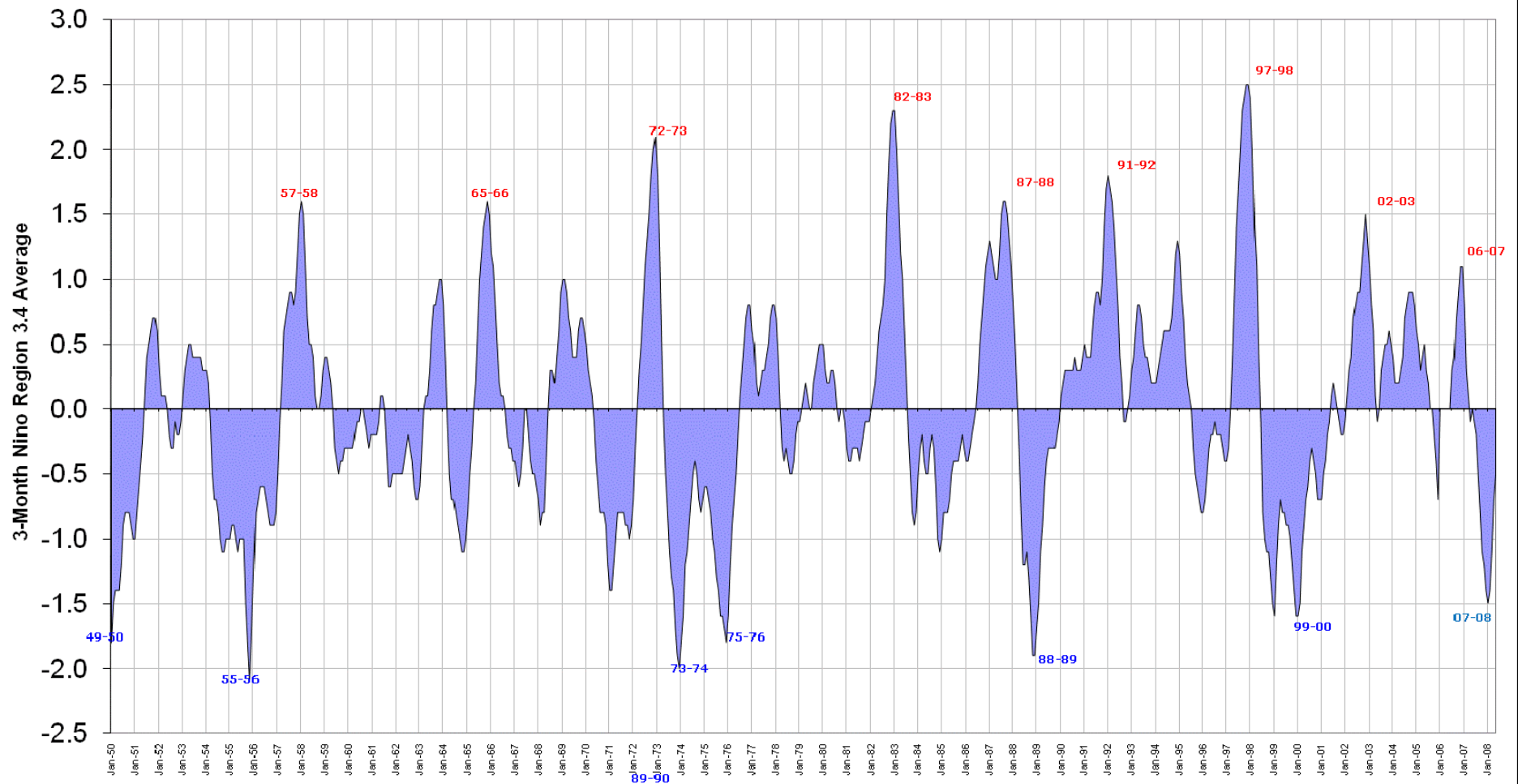




1950-2008



Oceanic Nino Index (ONI)





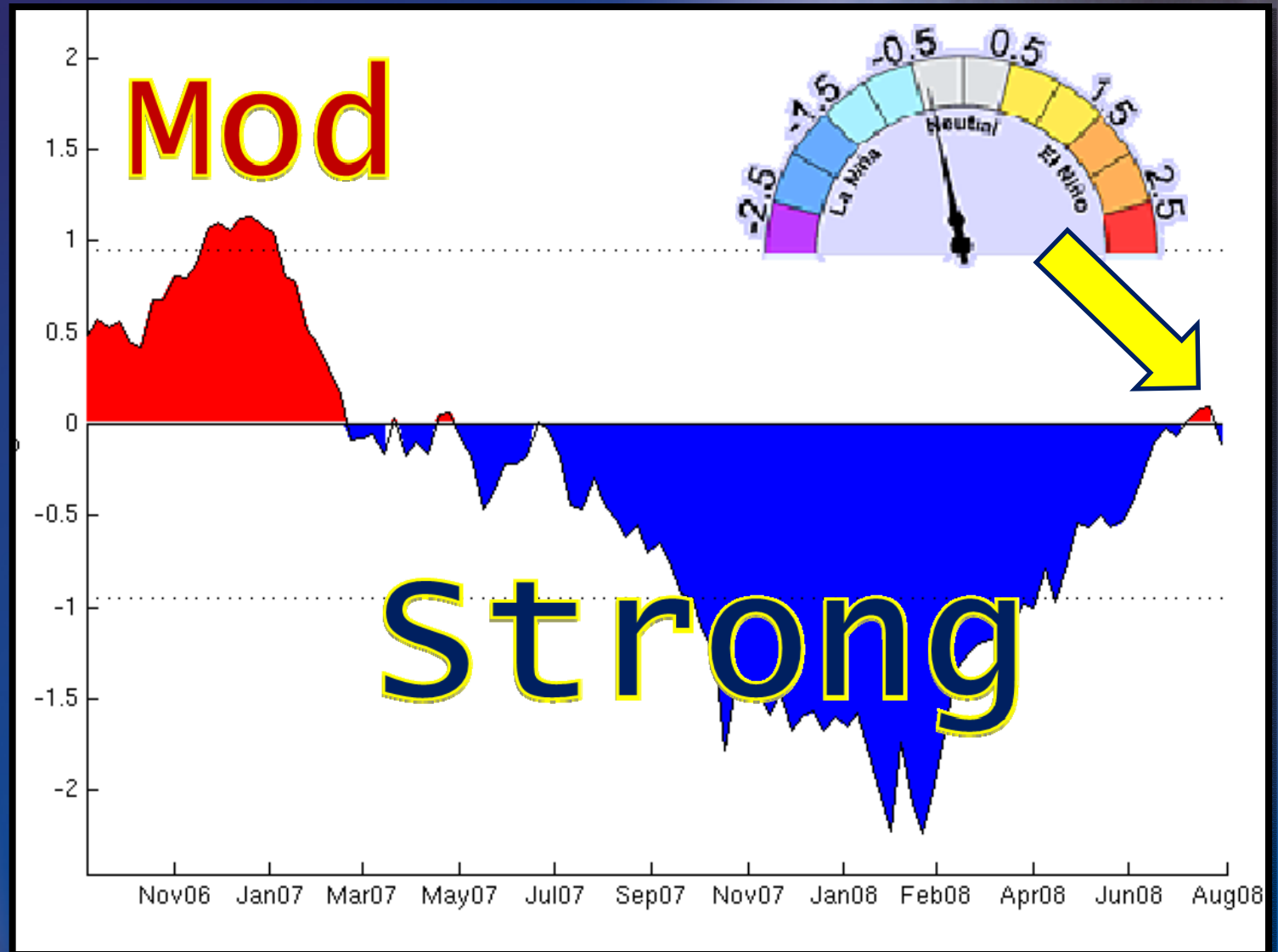
Since Fall of 2006



Weak
0.5-0.9°C

Moderate
1.0-1.4°C

Strong
≥1.5°C

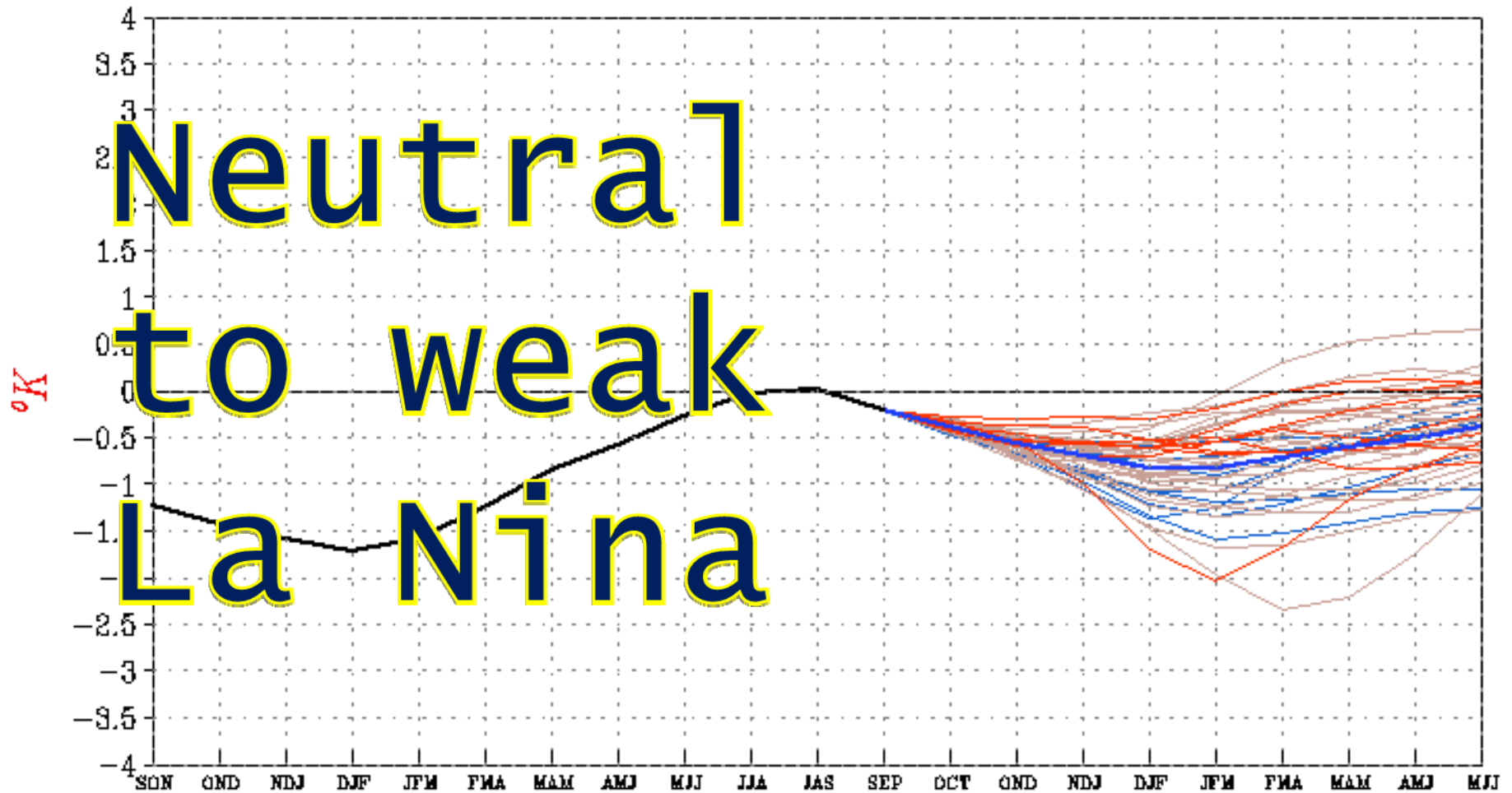




Forecast thru Apr 2009



Forecast *Nino3.4* SST anomalies from CFS





Historical El Niño and La Niña Episodes

Highest		Lowest	
<u>El Niño</u>	<u>ONI Value</u>	<u>La Nina</u>	<u>ONI Value</u>
JAS 1951 - NDJ 1951/52	0.7	ASO 1949 – FMA 1951	-1.8
MAM 1957 – MJJ 1958	1.6	MAM 1954 – DJF 1956/57	-2.0
JJA 1963 – DJF 1963/64	1.0	MAM 1964 – JFM 1965	-1.1
MJJ 1965 – MAM 1966	1.6	NDJ 1967/68 – MAM 1968	-0.9
OND 1968 – MJJ 1969	1.0	JJA 1970 – DJF 1971/72	-1.4
ASO 1969 – DJF 1969/70	0.7	AMJ 1973 – JJA 1974	-2.0
AMJ 1972 – FMA 1973	2.1	ASO 1974 – AMJ 1976	-1.8
ASO 1976 – JFM 1977	0.8	SON 1984 – ASO 1985	-1.1
ASO 1977 - JFM 1978	0.8	AMJ 1988 – AMJ 1989	-2.0
AMJ 1982 – MJJ 1983	2.3	ASO 1995 – FMA 1996	-0.8
ASO 1986 – JFM 1988	1.7	JJA 1998 – MJJ 2000	-1.7
AMJ 1991 – JJA 1992	1.8	SON 2000 – JFM 2001	-0.7
JJA 1994 – FMA 1995	1.3	JAS 2007 – AMJ 2008	-1.5
AMJ 1997 – MAM 1998	2.5		
AMJ 2002 – FMA 2003	1.5		
JJA 2004 – JFM 2005	0.9		
JAS 2006 - DJF 2006/07	1.2		

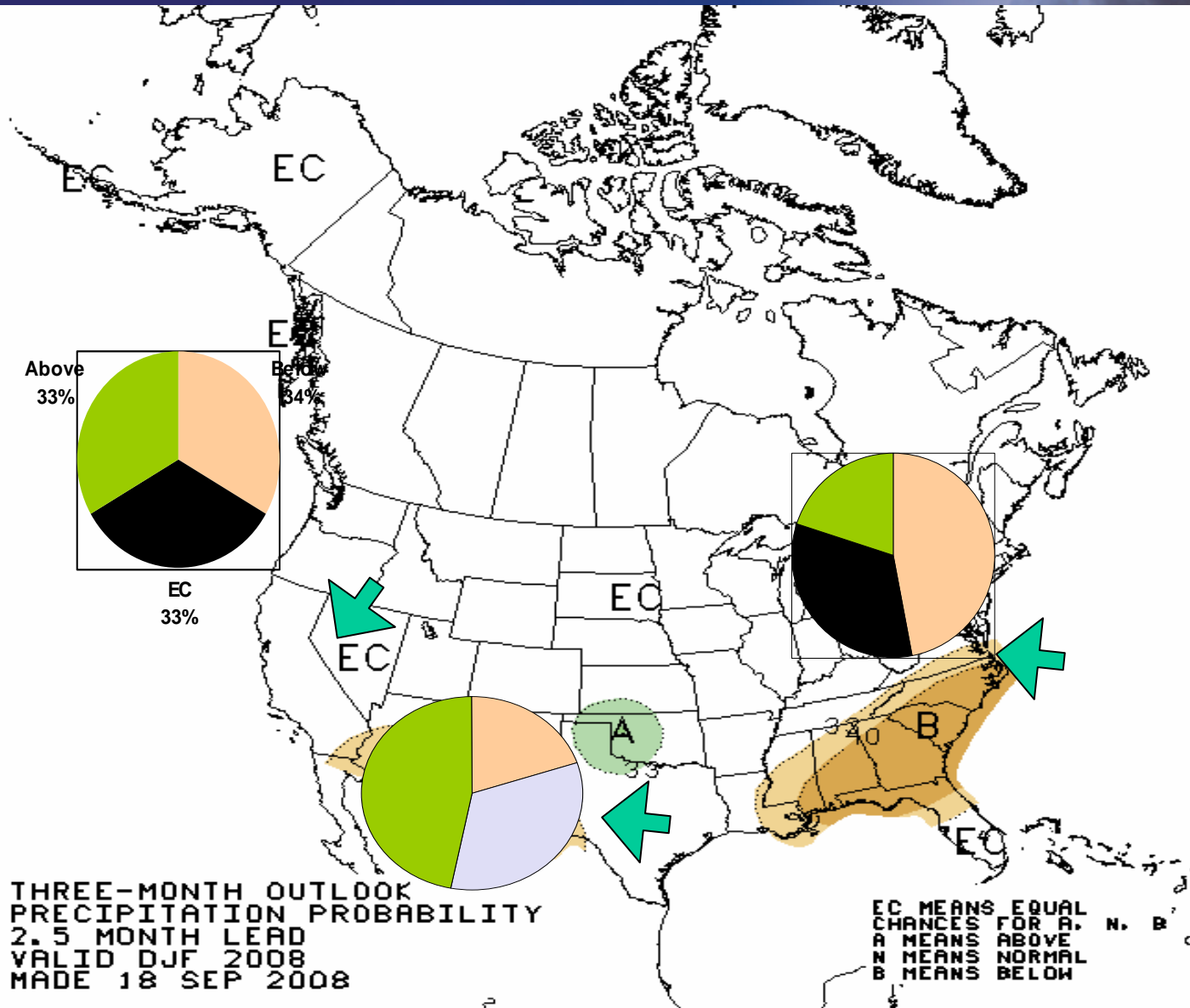


So, What's the Forecast?





The Forecast is a "Shift" in the chances

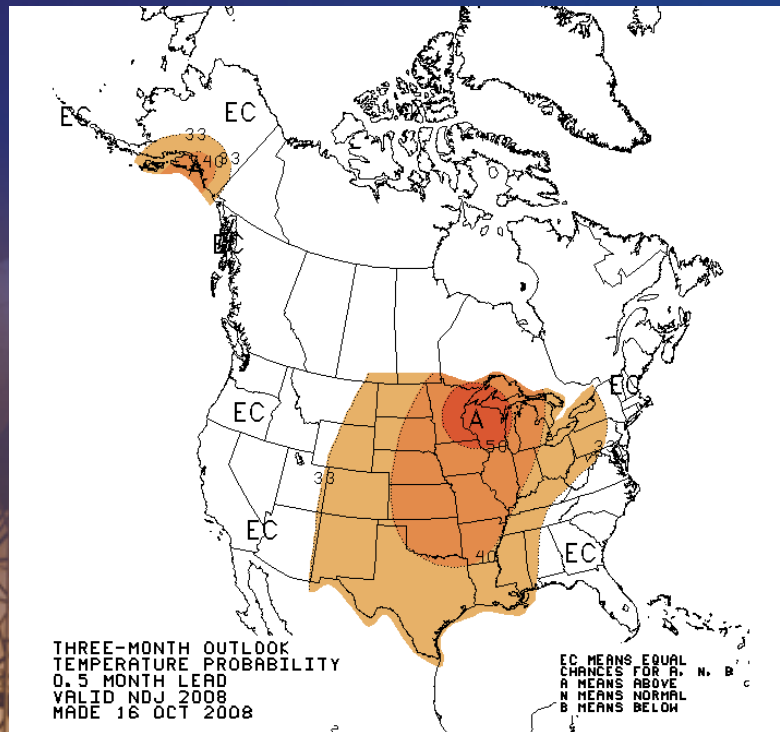




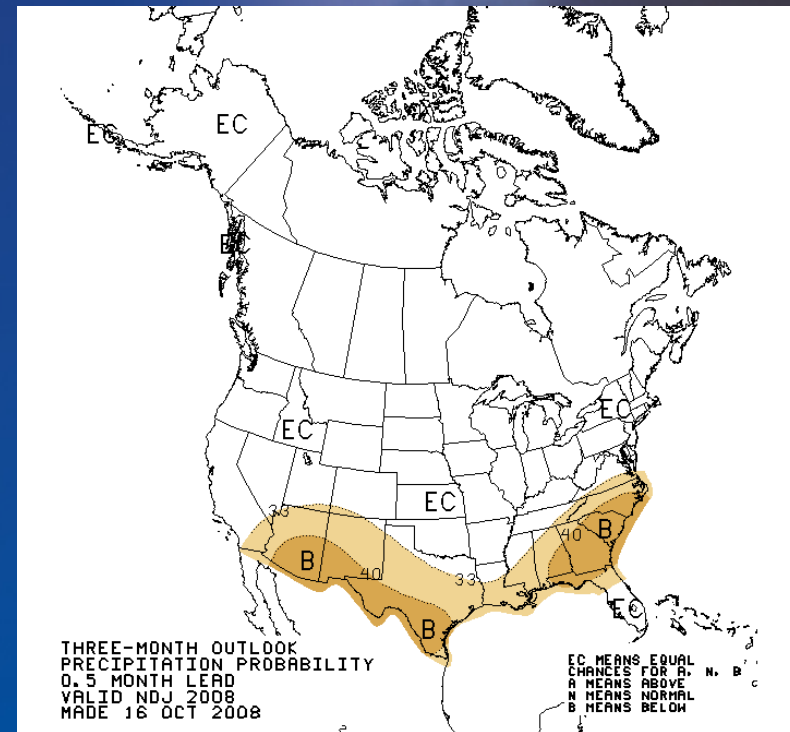
Seasonal Outlook (November 08 - January 09)



Temperature



Precipitation



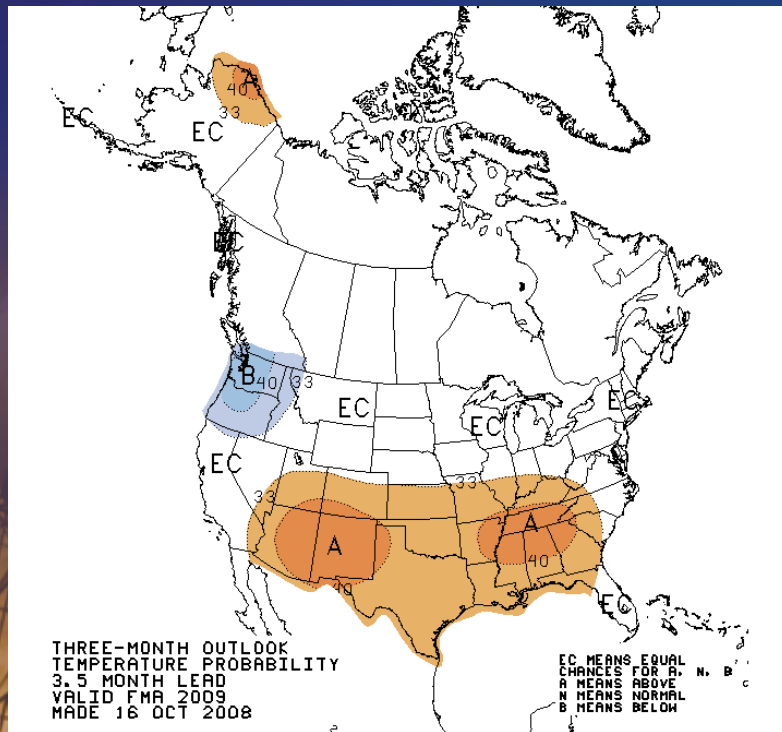
These seasonal outlooks combine long-term trends, soil moisture effects and sea surface temperature effects along with atmospheric inputs



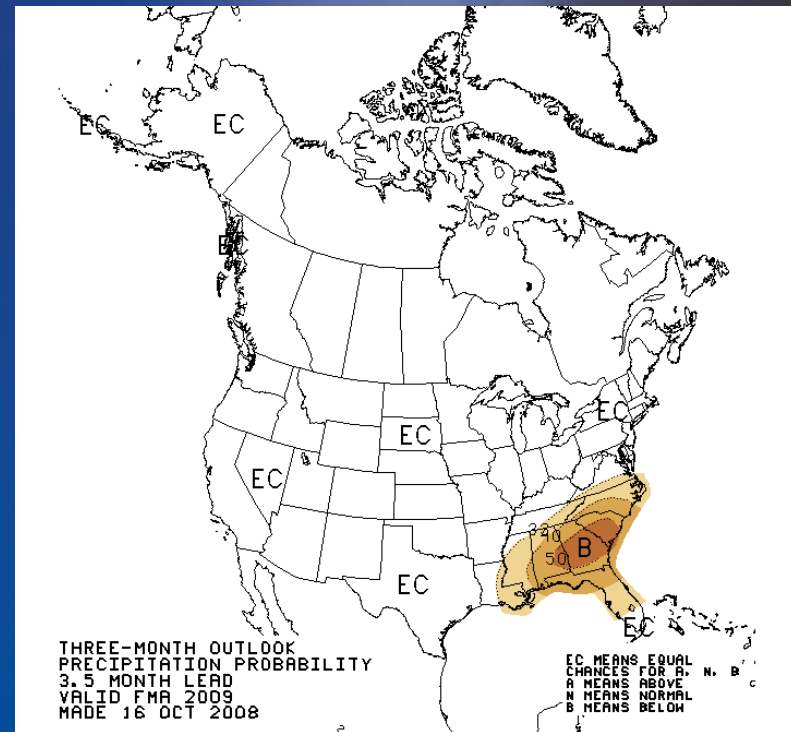
Seasonal Outlook (February – April 09)



Temperature



Precipitation



These seasonal outlooks combine long-term trends and soil moisture effects.



Winter Forecast for Pacific NW

- ENSO Neutral conditions lasting through 2008 becoming weakly LaNina in early 2009
- Equal chances of falling in any 3 categories during winter
 - *above normal precipitation*
 - *below normal precipitation*
 - *normal precipitation*
- Increase chance of below normal temperatures during the spring
 - Basically, no strong signal in ocean/atmosphere system to indicate which category of precipitation this winter or spring.
 - However, history has shown that the Pacific Northwest can get extreme events during ENSO neutral years



Any Questions?

