# North American Drought Briefing for January 2013 and NDJ 2013

Climate Prediction Center/NCEP/NOAA

http://www.cpc.ncep.noaa.gov/products/Drought

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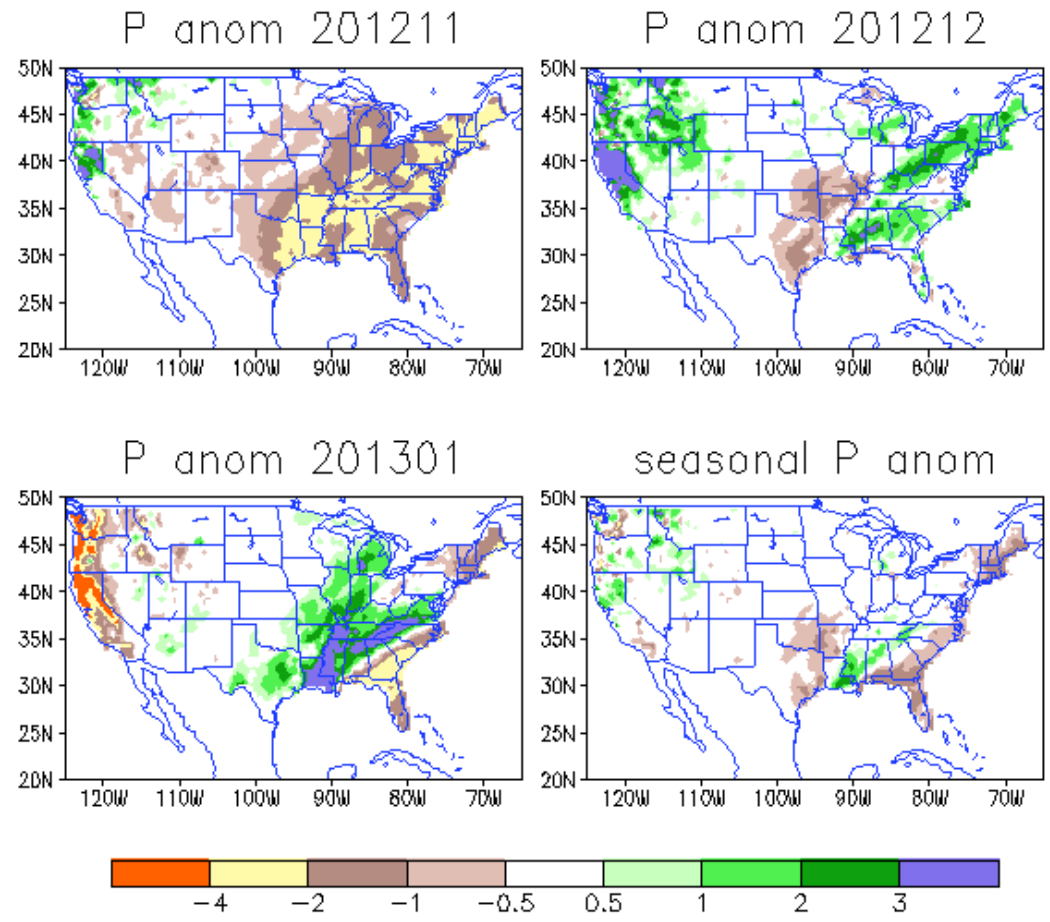
**Project Funded by NOAA MAPP, TRACS & NASA**

# P anomalies over the United States

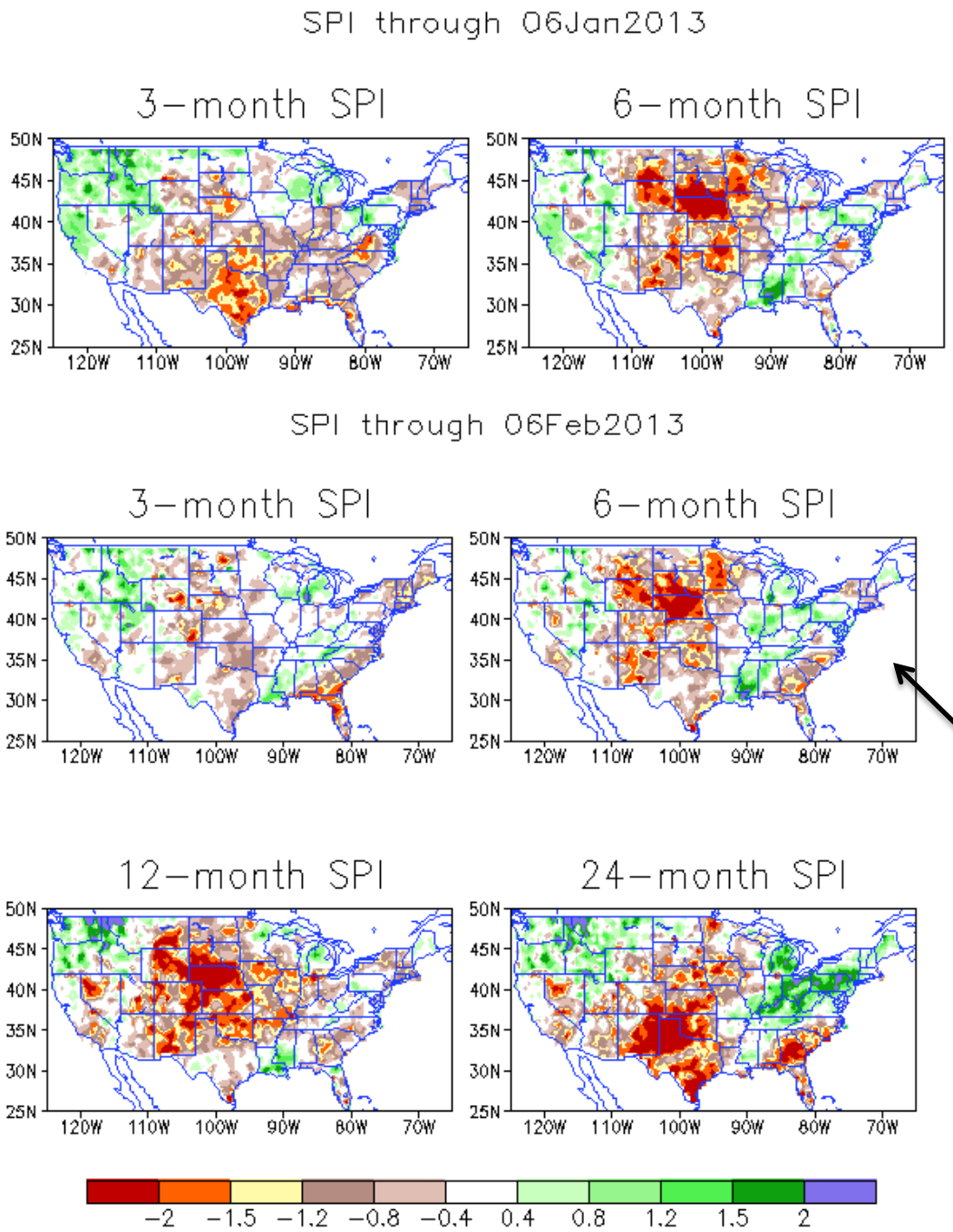



**High lights:**

**January 2013**

- **rain events : from the Gulf to the areas east of 90W gave relieve to drought**
- Texas also got some rain Southeast : still dry
- Dry**:** West Coast/ Pacific Northwest and California

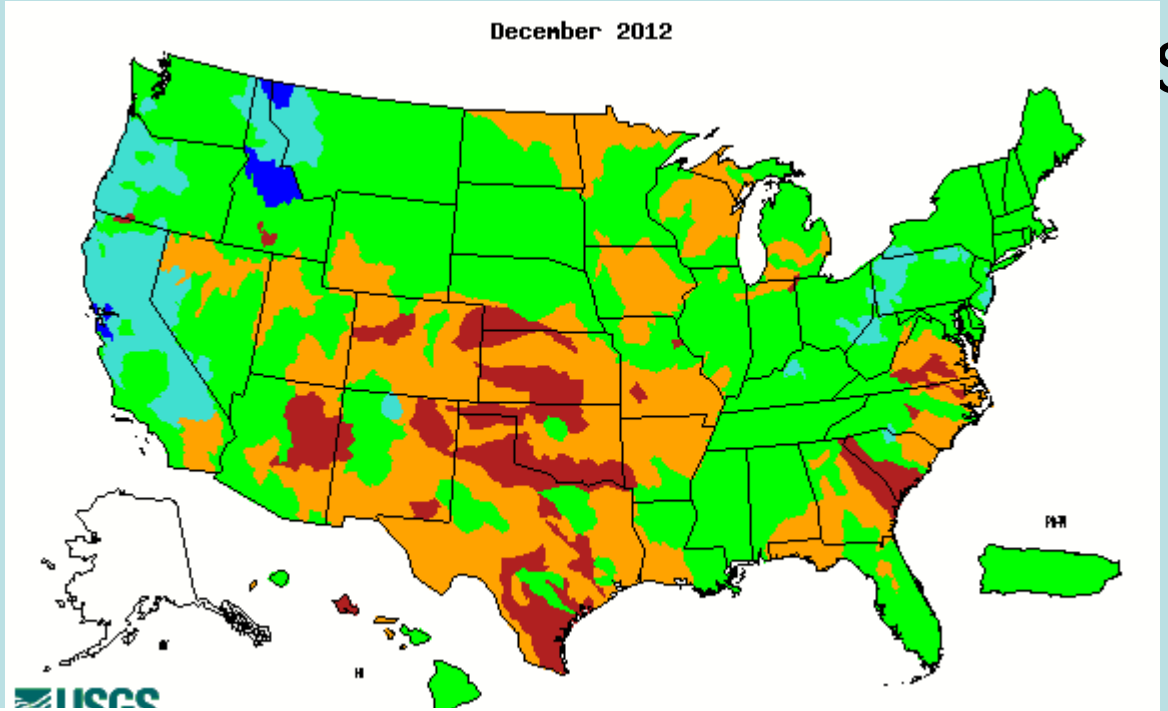
# SPI

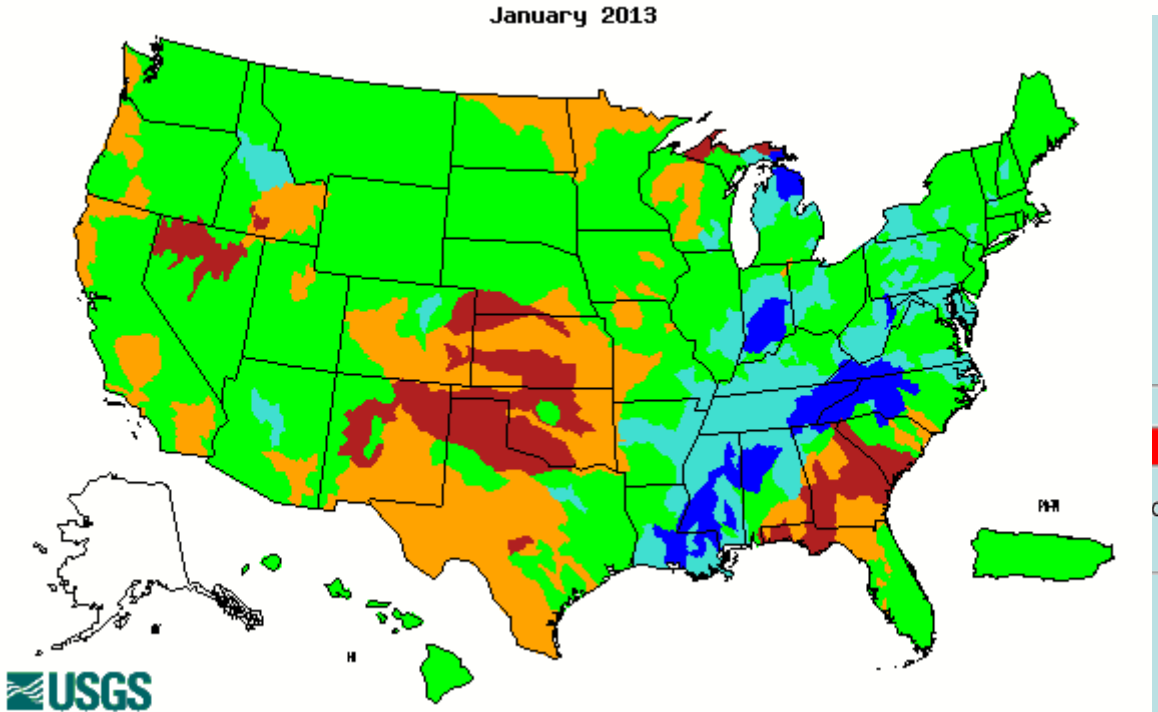



- *Rain from December 2012 and January 2013 relieved drought over the great Plains*
- *Large improvement (SPI3) especially over the Southern Plains and Texas*
- *SPI6 still shows D3-D4 drought over the Northern Plains*

Wet conditions from Alabama to Tennessee , but dryness still in GA,SC and NC

# Streamflow percentile (USGS)

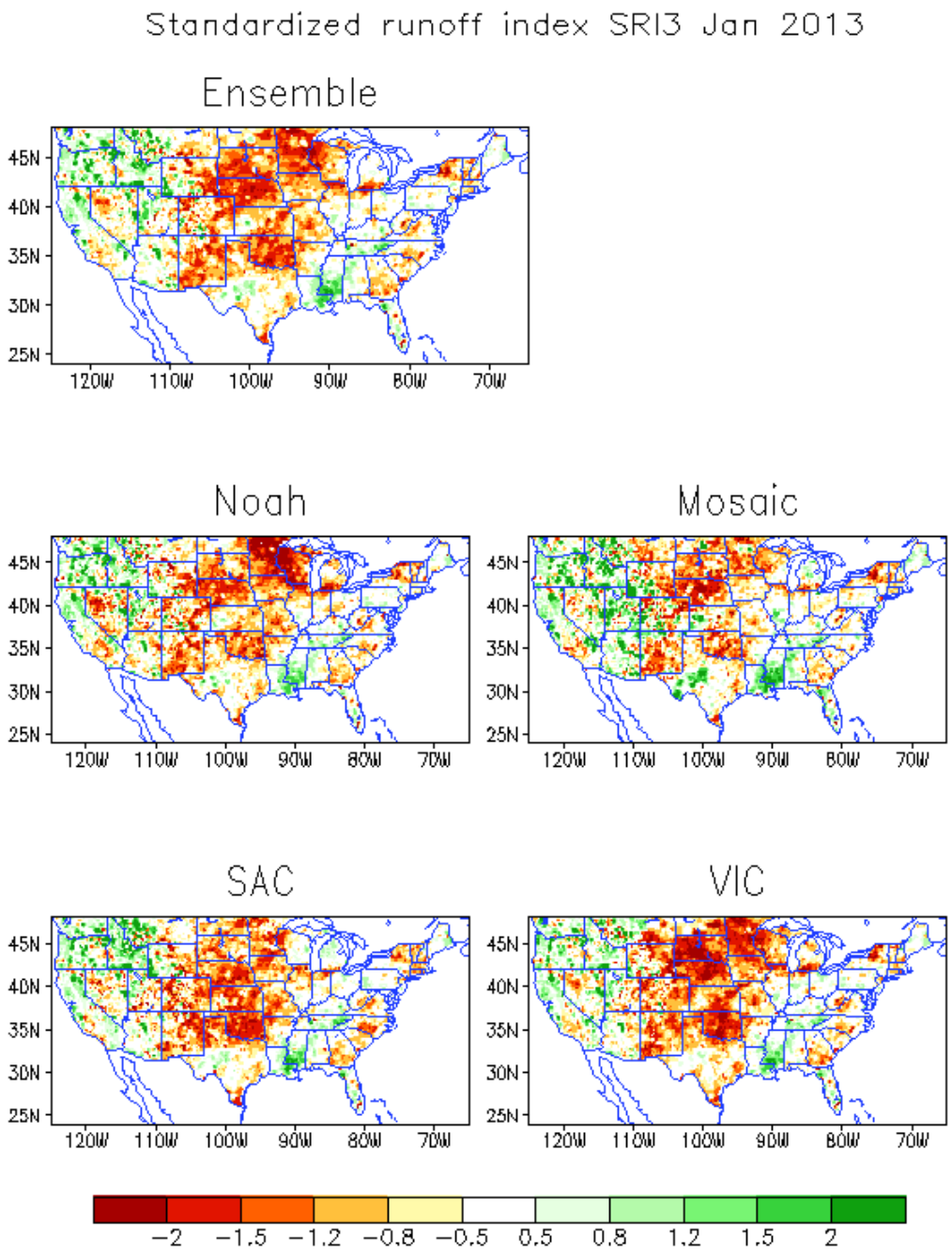



- Wet conditions from Louisiana to Tennessee and Ohio Valleys
- Dryness still is in Alabama , Georgia, and NC
- Improvement over Texas

Explanation - Percentile classes

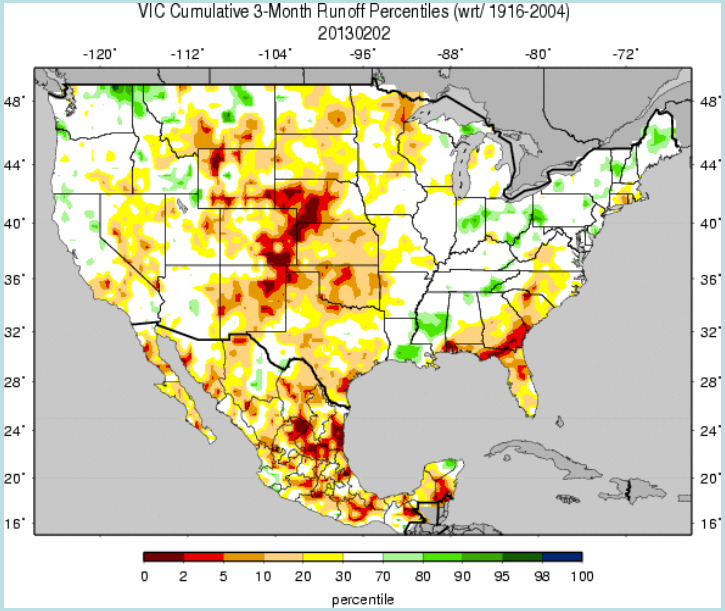
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ow | <10 | 10-24 | 25-75 | 76-90 | >90 | High | No Data |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | | |



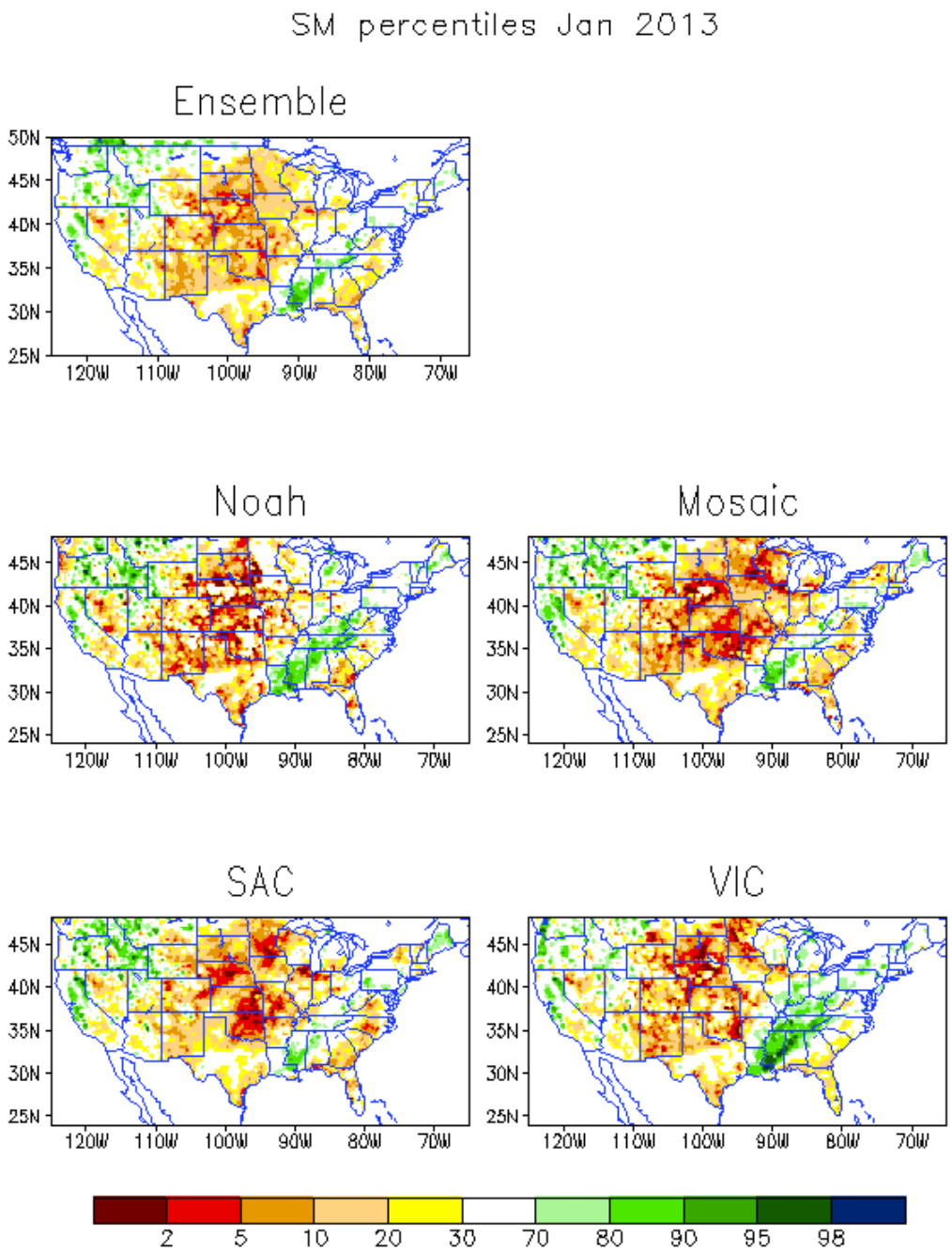

# RUNOFF percentiles

## U Washington

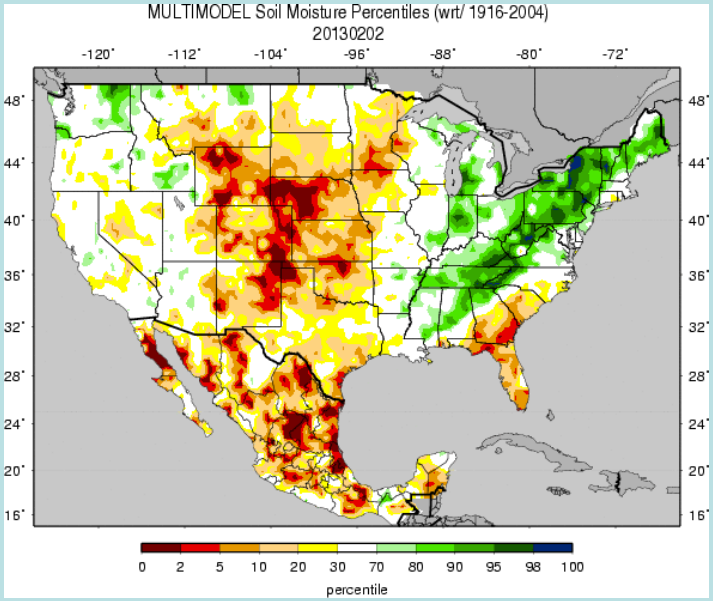
3-month accumulation




Both UW and EMC show that Drought over Texas improved, but the Central U. S. is under severe drought .

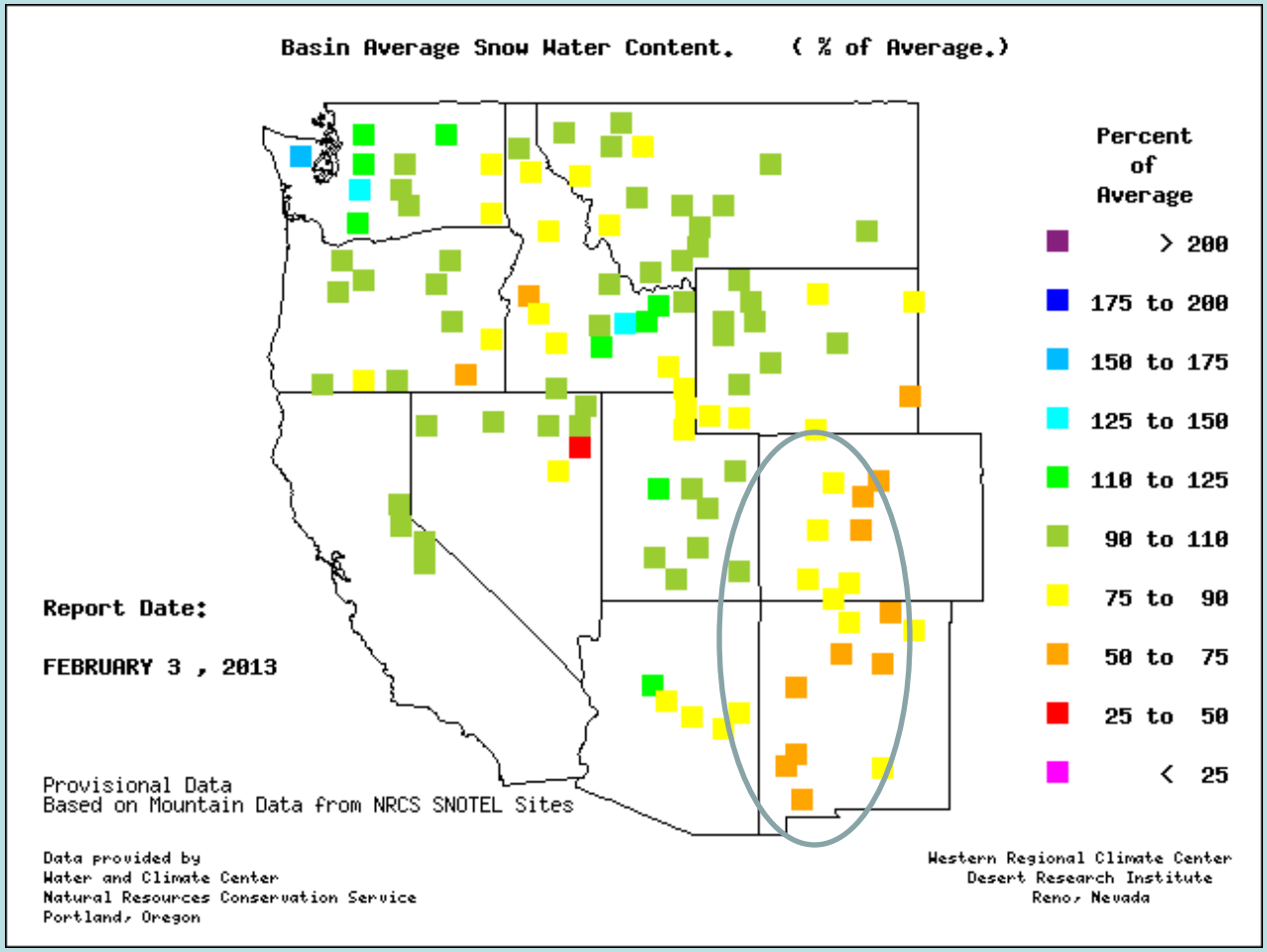



U Washington



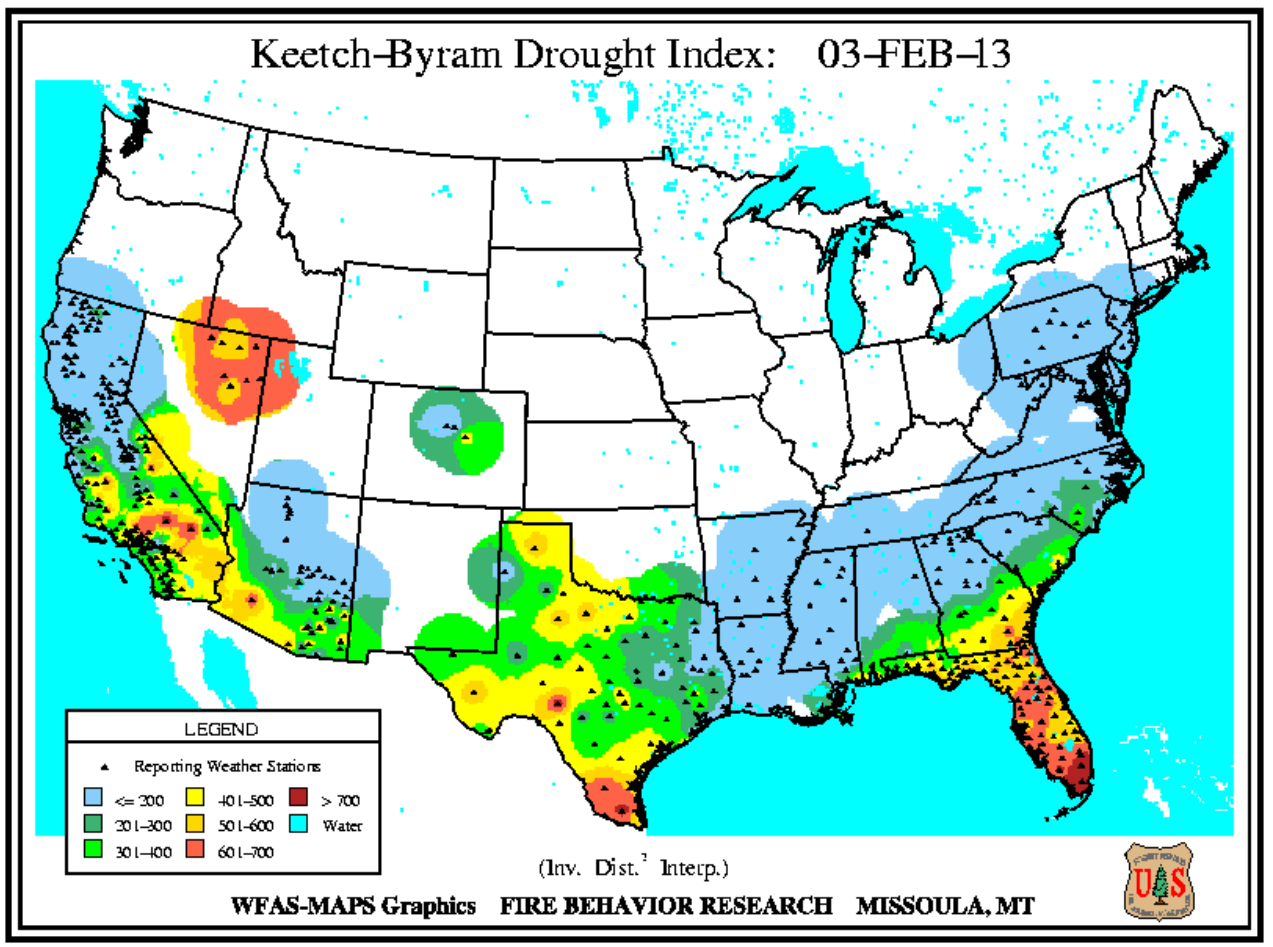

Both total soil moisture percentiles show dryness over the Central U. S. , the Southeast from Ga to SC

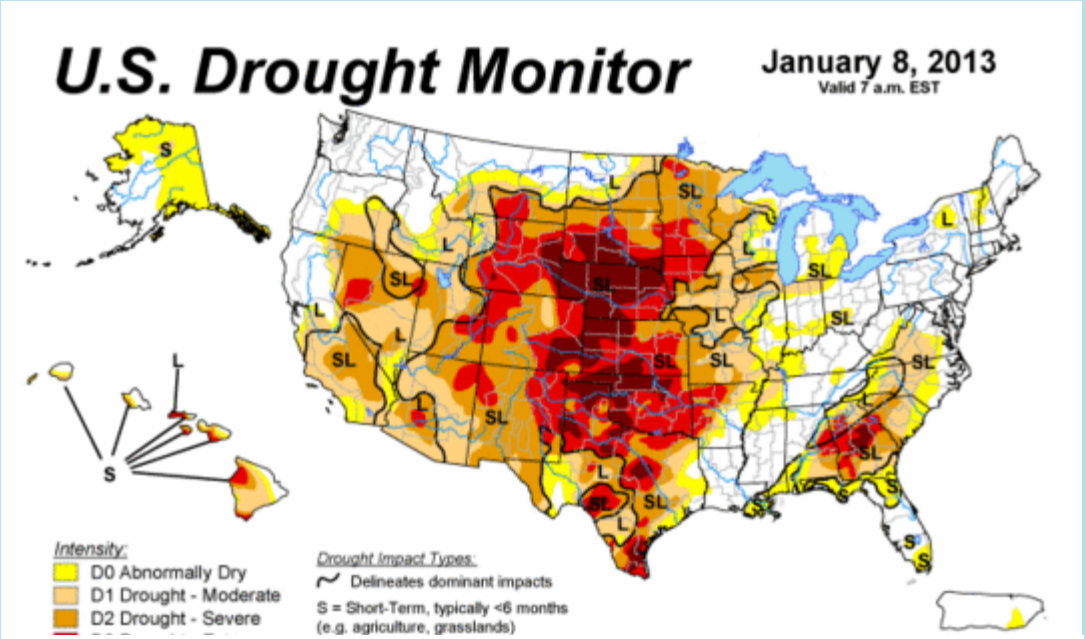
# Snotel (SWE)

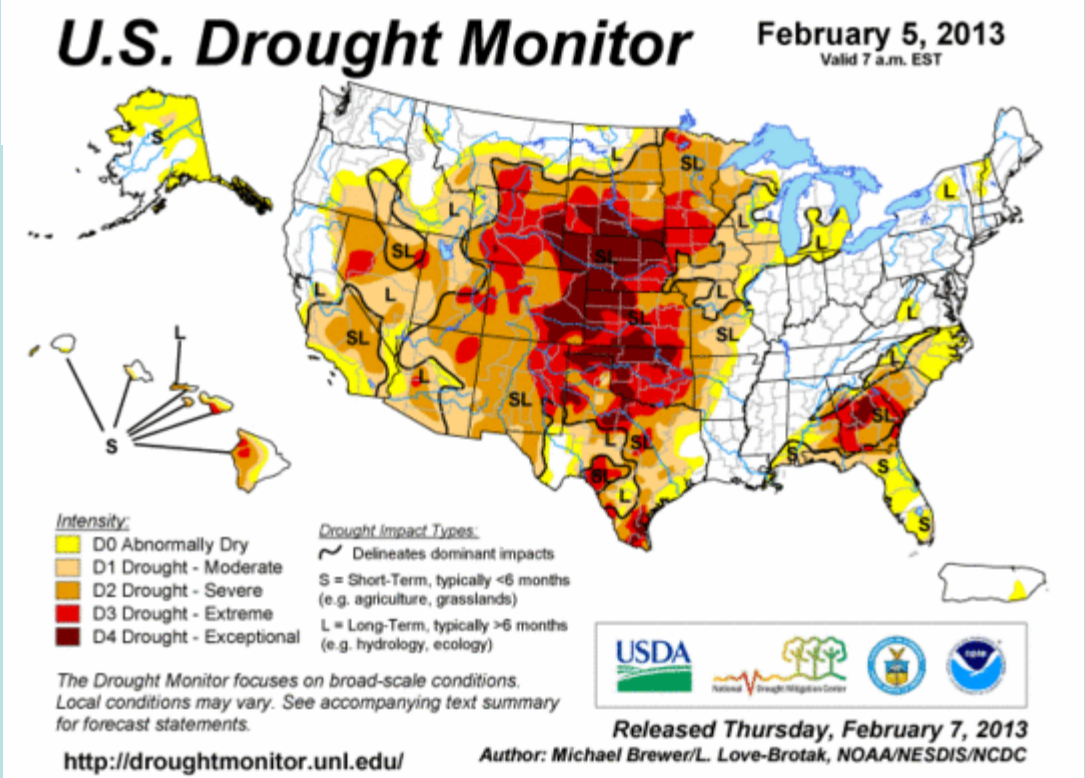



Most western states had normal or above normal SWE except Colorado and New Mexico

# Keetch-Byram Drouught index





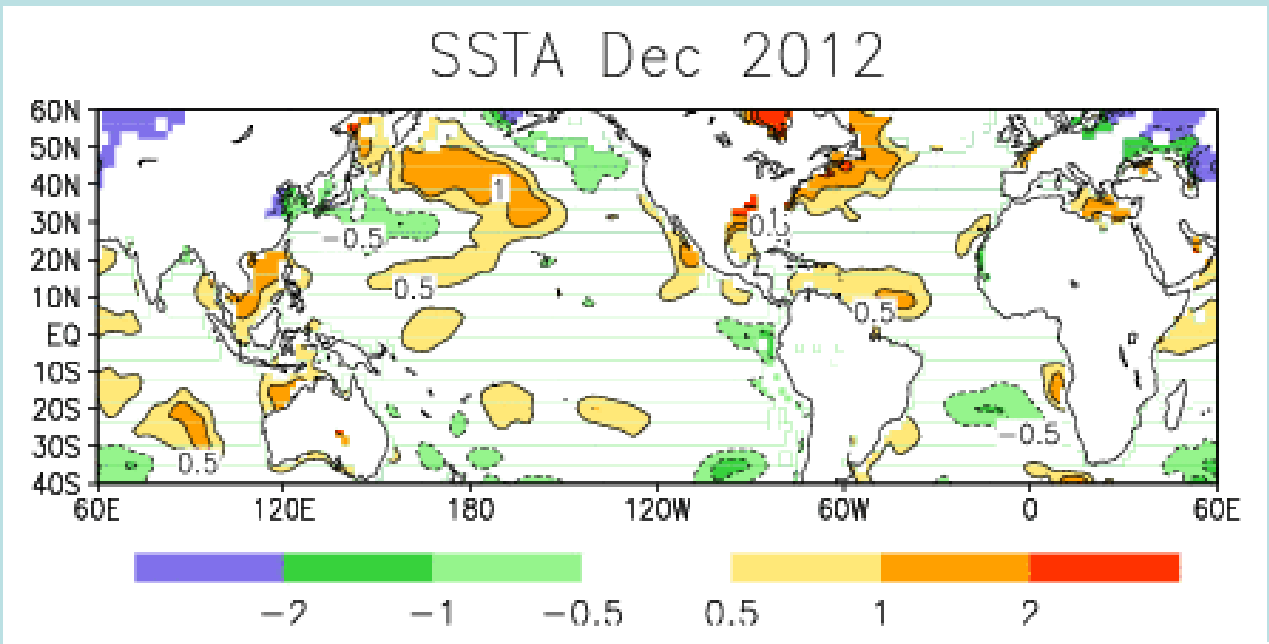




# Drought monitor

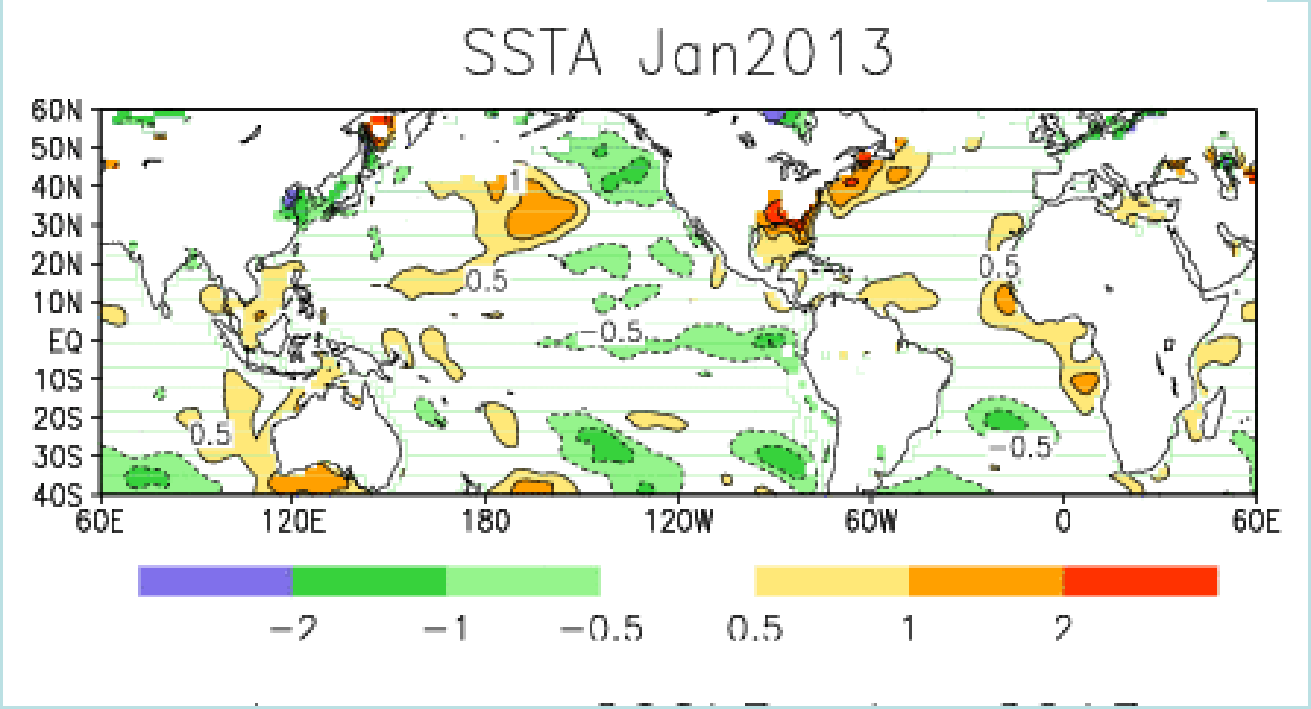
**The Drought Monitor**

**Overall, similar to the Drought Monitor issued on Jan 8, but it shows improvement over Texas**

# SSTA

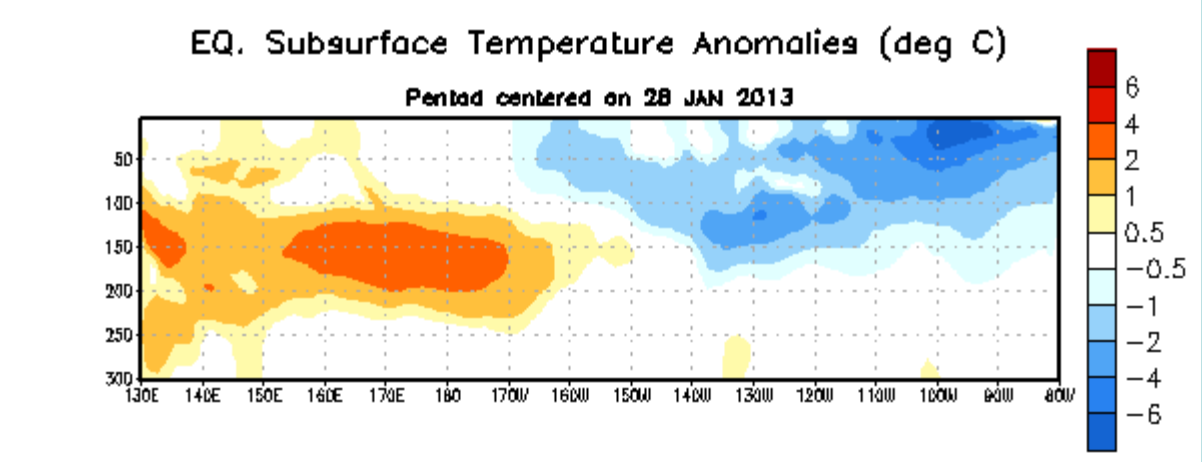


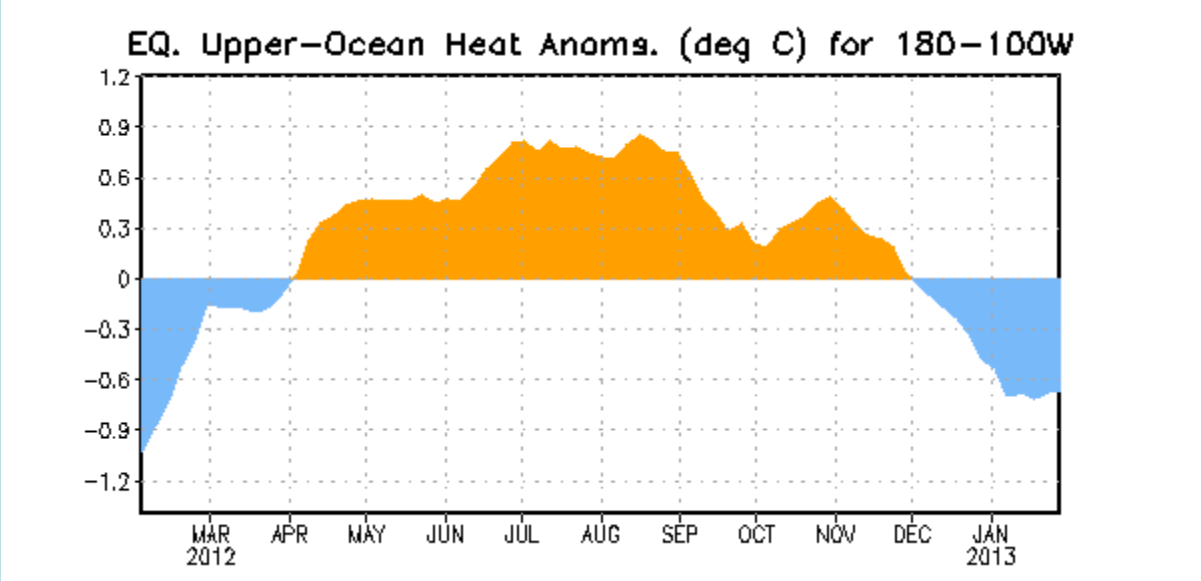

ENSO neutral condition in the Tropical Pacific,
No ENSO alert




Negative SSTAs along the west coast,
Negative 0.5C SSTAs in the central Pacific
Warm SSTAs along the east coast

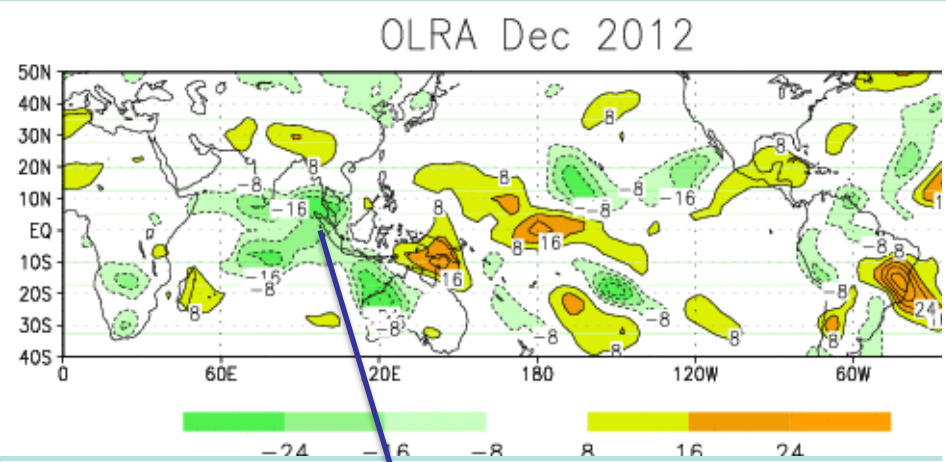
# Subsurface conditions upper 300m

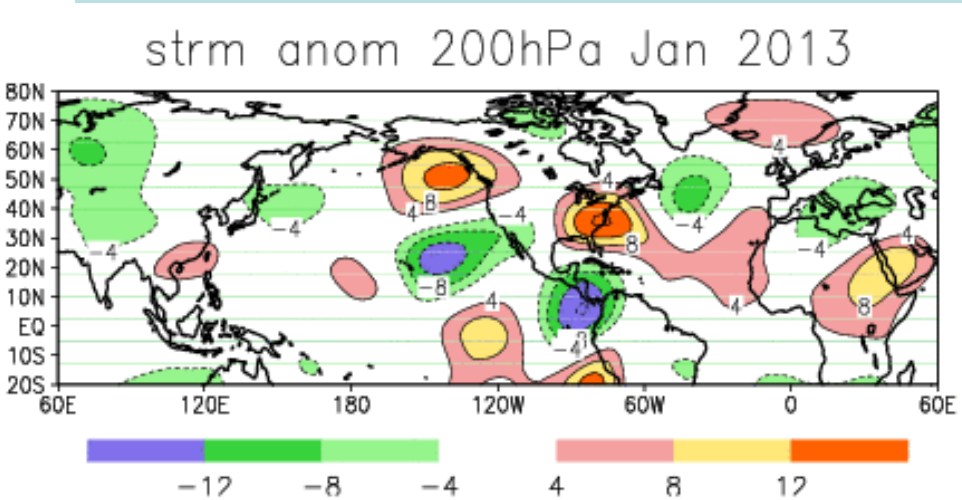


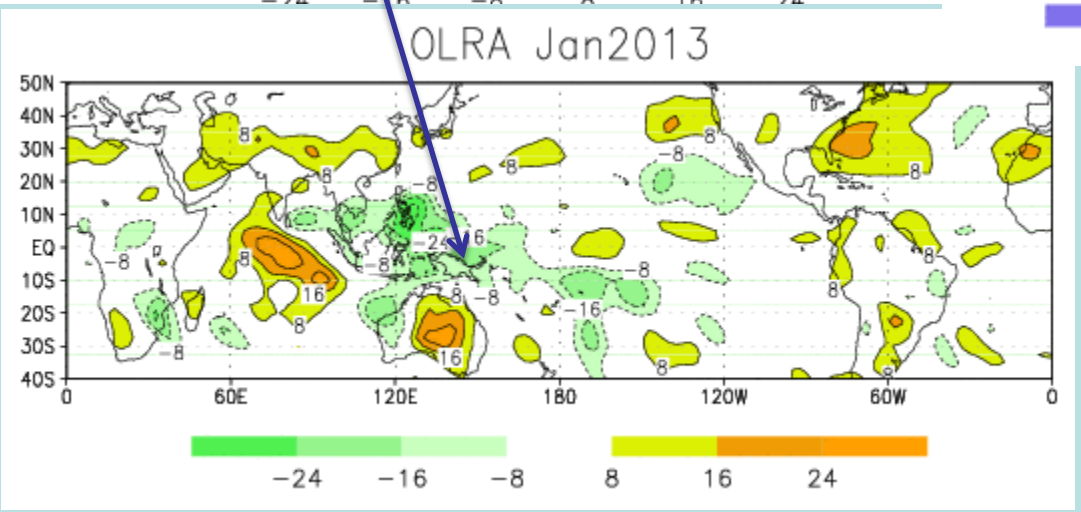



# OLRA and 200hPa streamfn

The MJO activity in the tropical Pacific

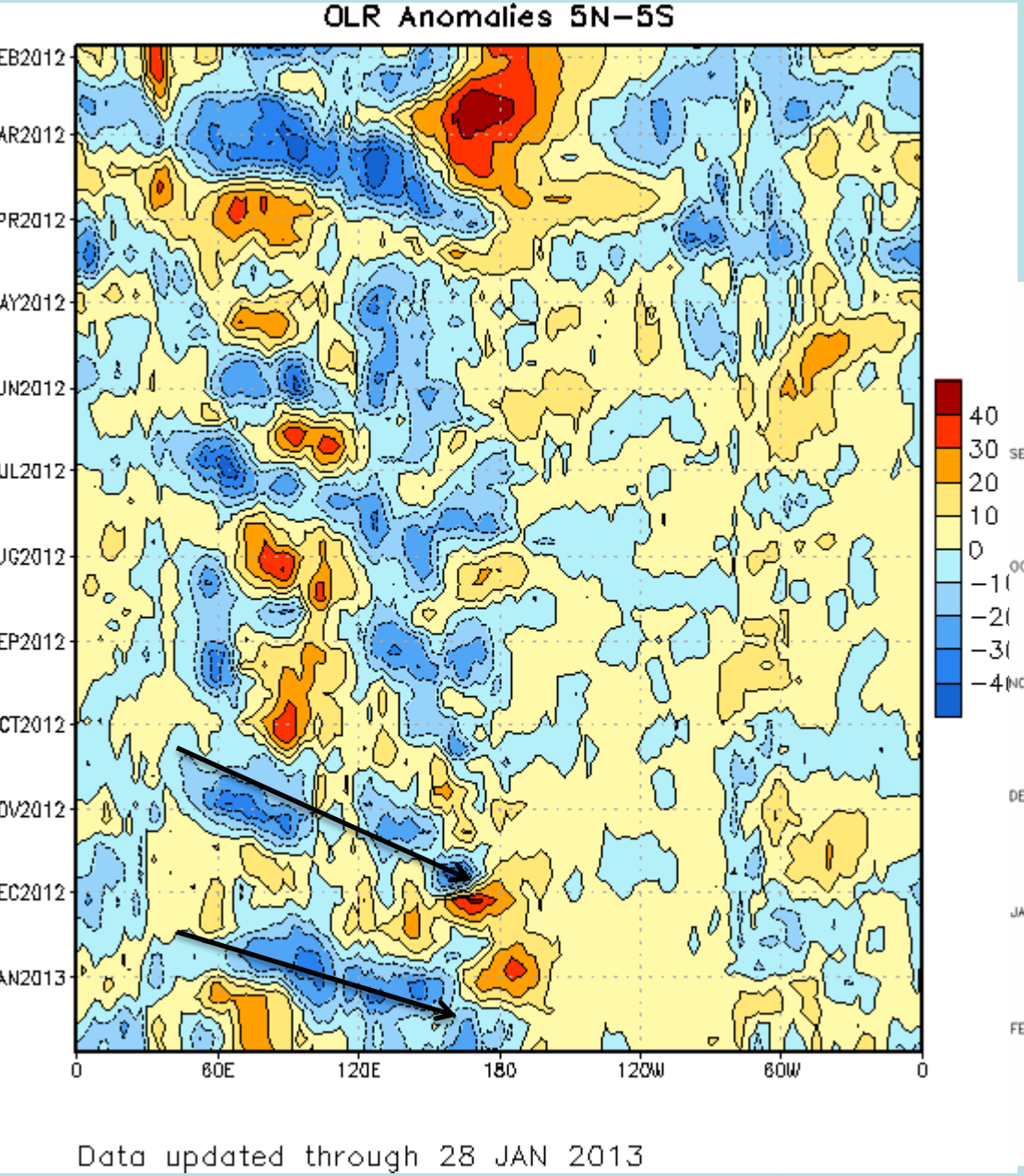


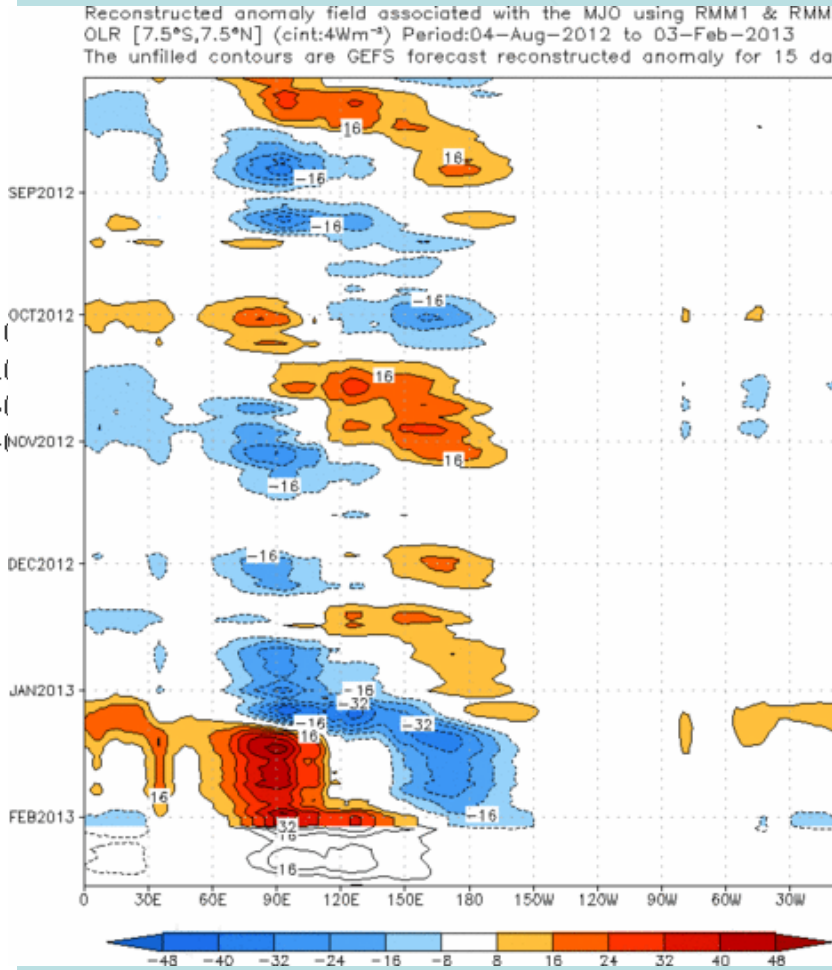




MJO may contribute to the conditions in the tropical Pacific

# Outgoing Longwave Radiation (OL R) Anomalies

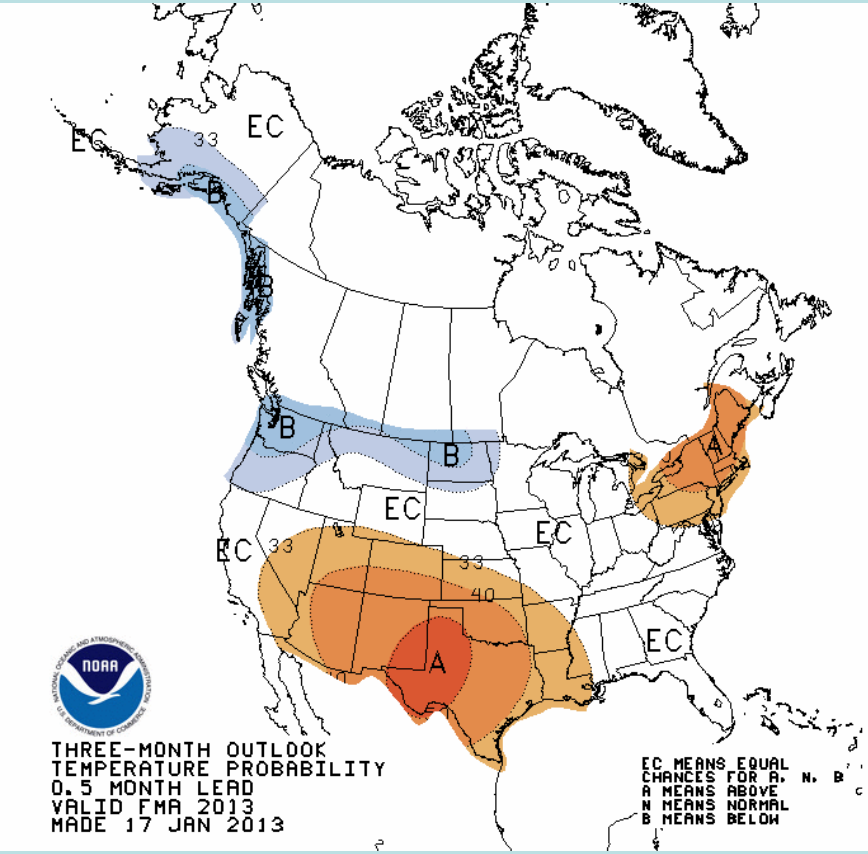



forecast

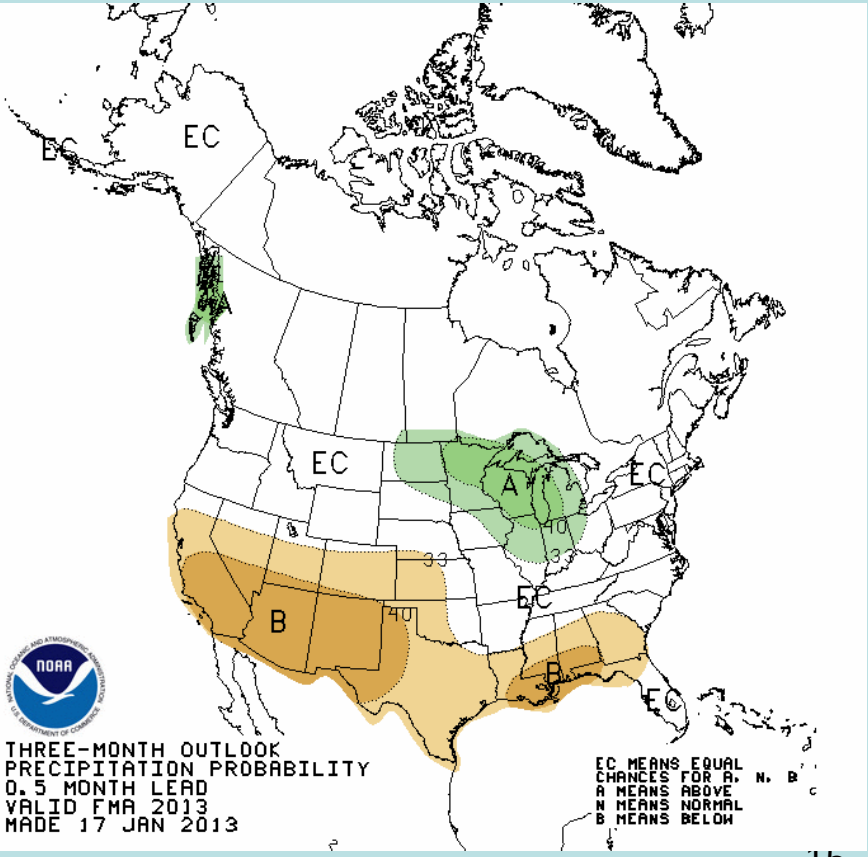


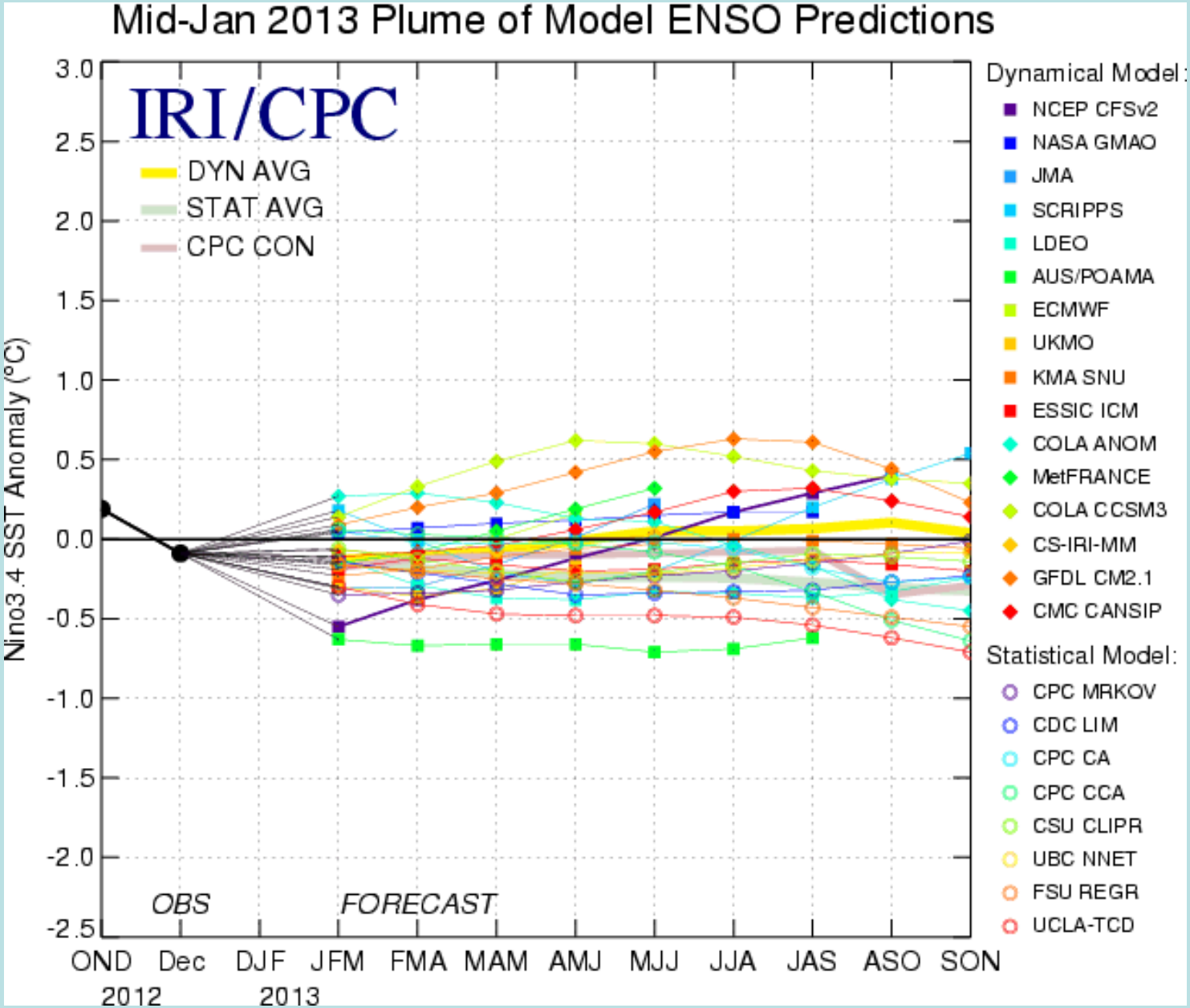
# T and P fcsts for FMA 2013

**Temp**

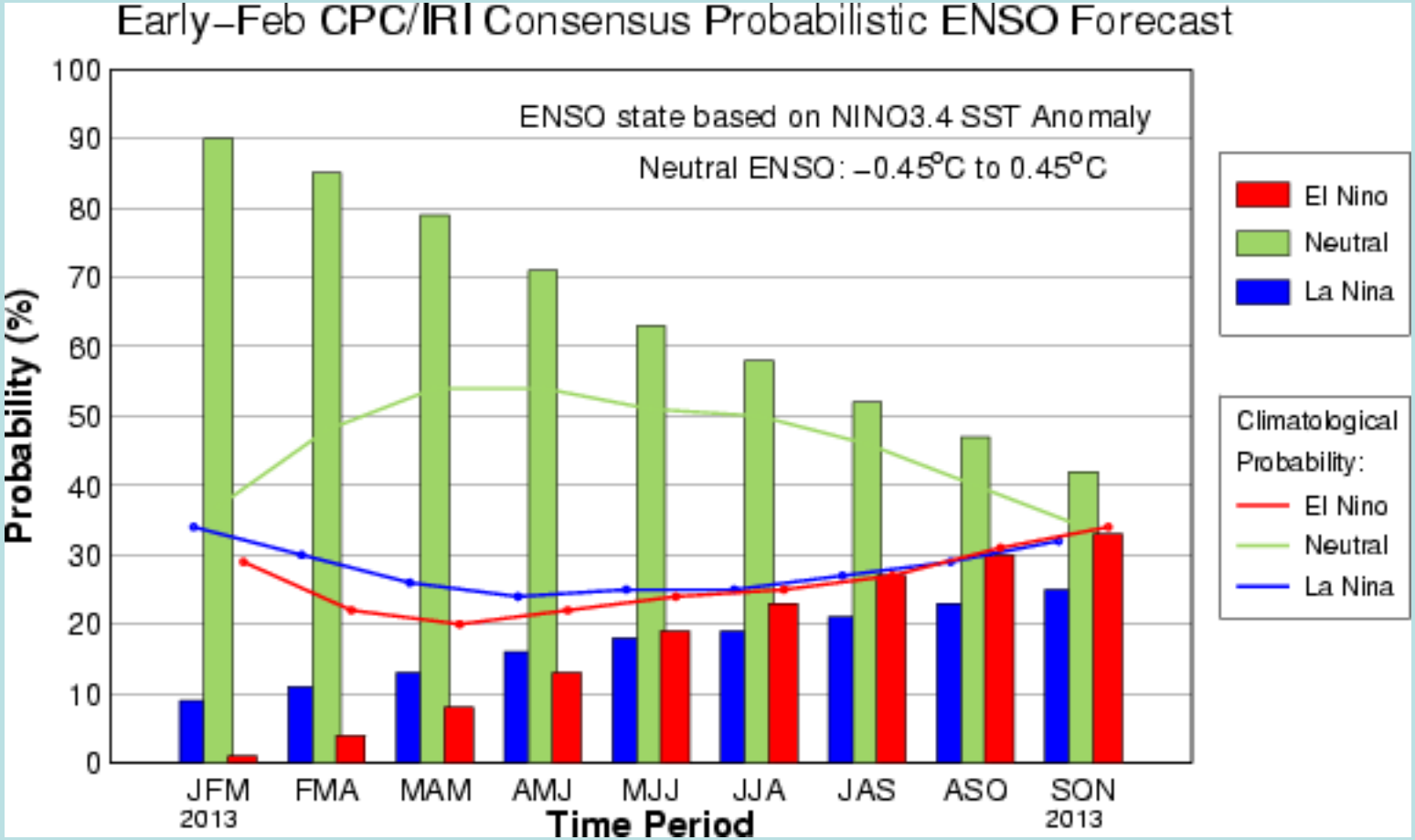



**precip**

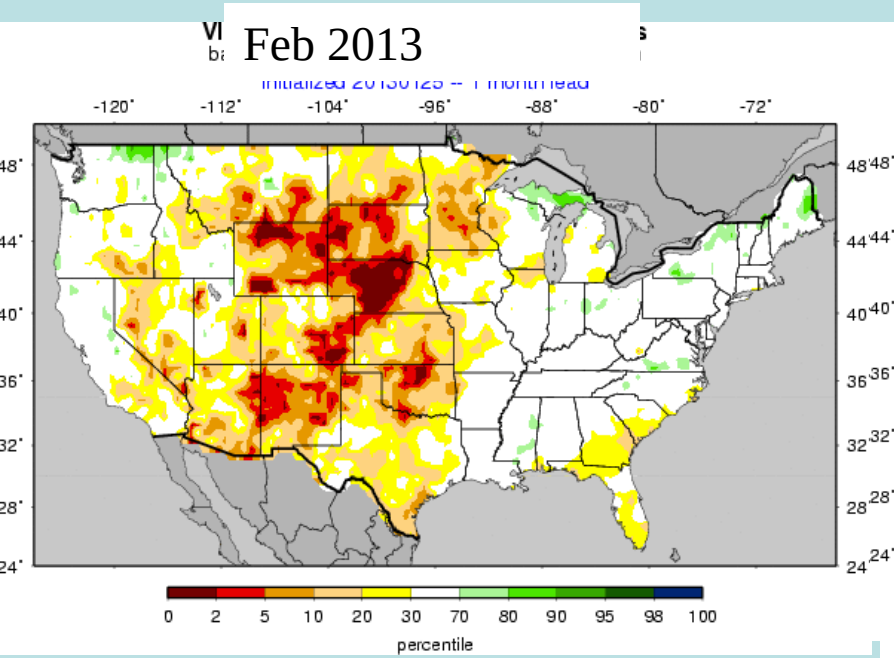


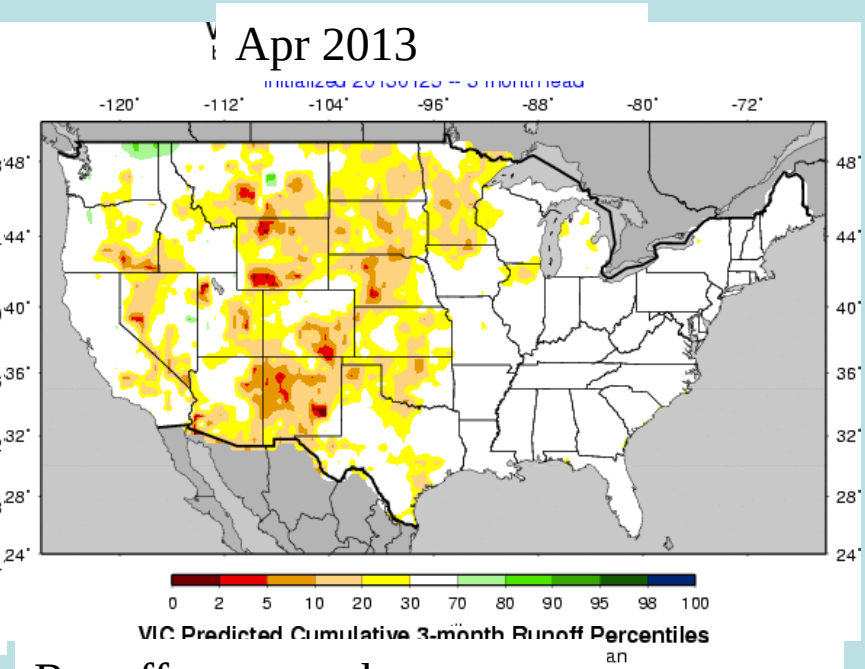

Mid-Jan 2013 Plume of Model ENSO Predictions
IRI/CPC
DYN AVG
STAT AVG
CPC CON
Nino3.4 SST Anomaly (°C)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
OBS
FORECAST
OND
Dec
DJF
JFM
FMA
MAM
AMJ
MJJ
JJA
JAS
ASO
SON
2012
2013
Dynamical Model:
NCEP CFSv2
NASA GMAO
JMA
SCRIPPS
LDEO
AUS/POAMA
ECMWF
UKMO
KMA SNU
ESSIC ICM
COLA ANOM
MetFRANCE
COLA CCSM3
CS-IRI-MM
GFDL CM2.1
CMC CANSIP
Statistical Model:
CPC MRKOV
CDC LIM
CPC CA
CPC CCA
CSU CLIPR
UBC NNET
FSU REGR
UCLA-TCD

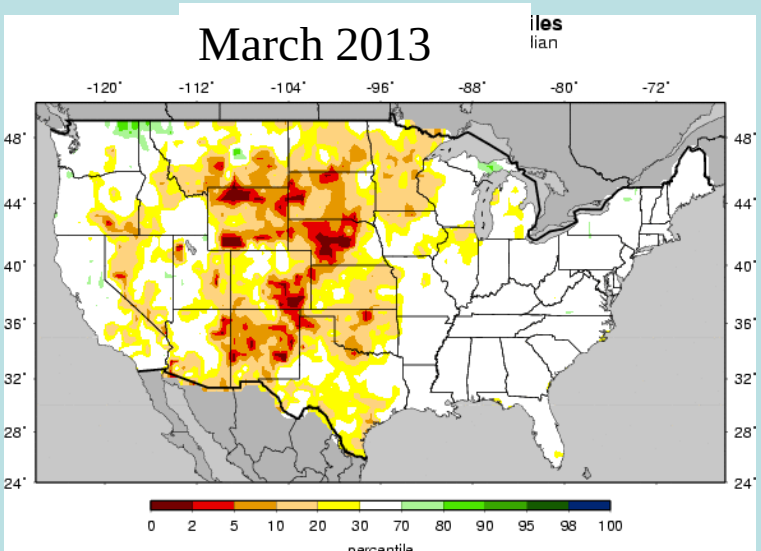
# CPC-IRI ENSO fcst

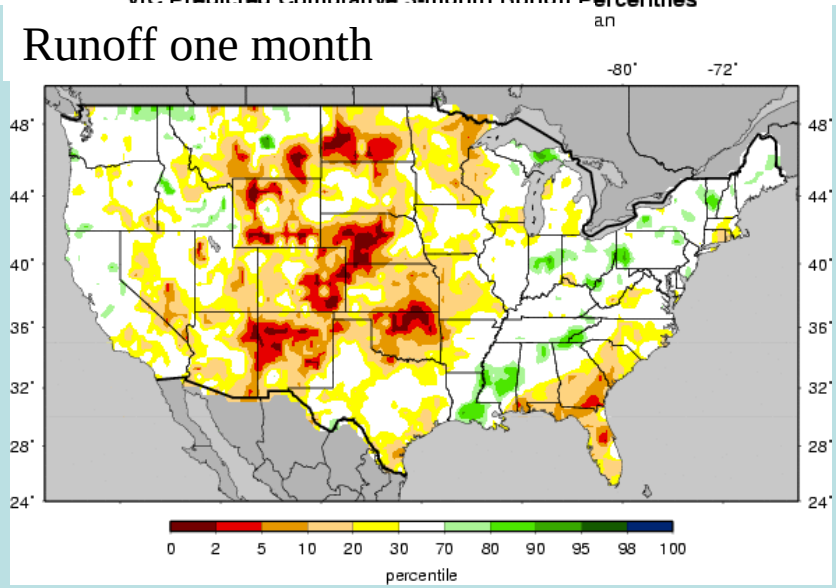


# ESP FCST UW ICs=25Jan2013



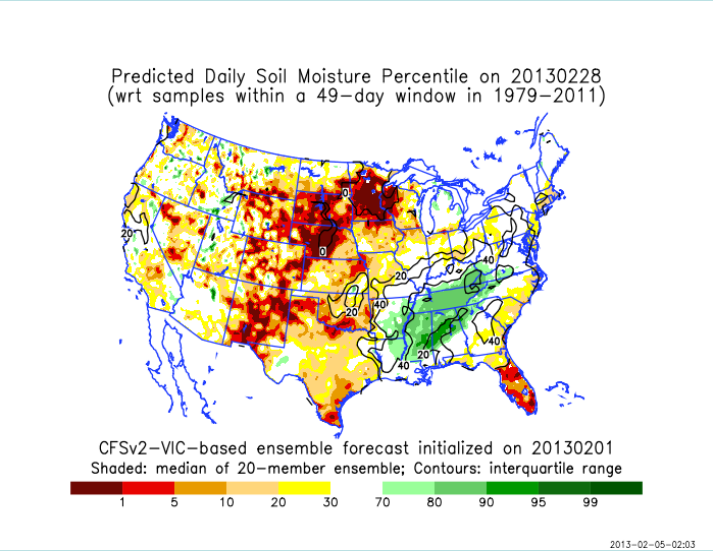



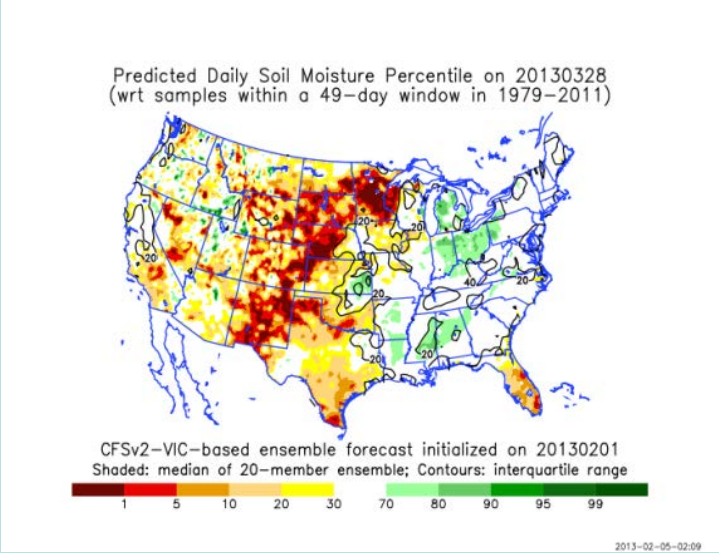
# SM fcsts from MSU (Lifeng Luo)

2/28/2013(4-week lead)

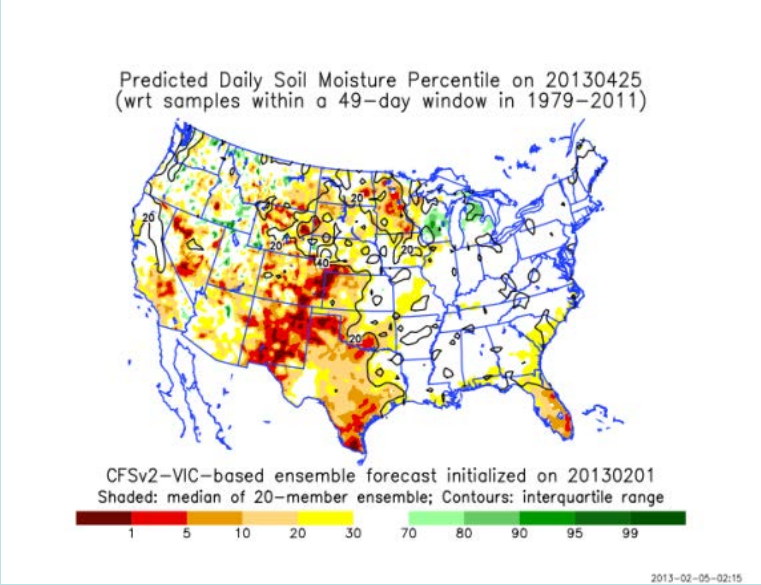



Princeton-MSU Fcst from 01/31/2013

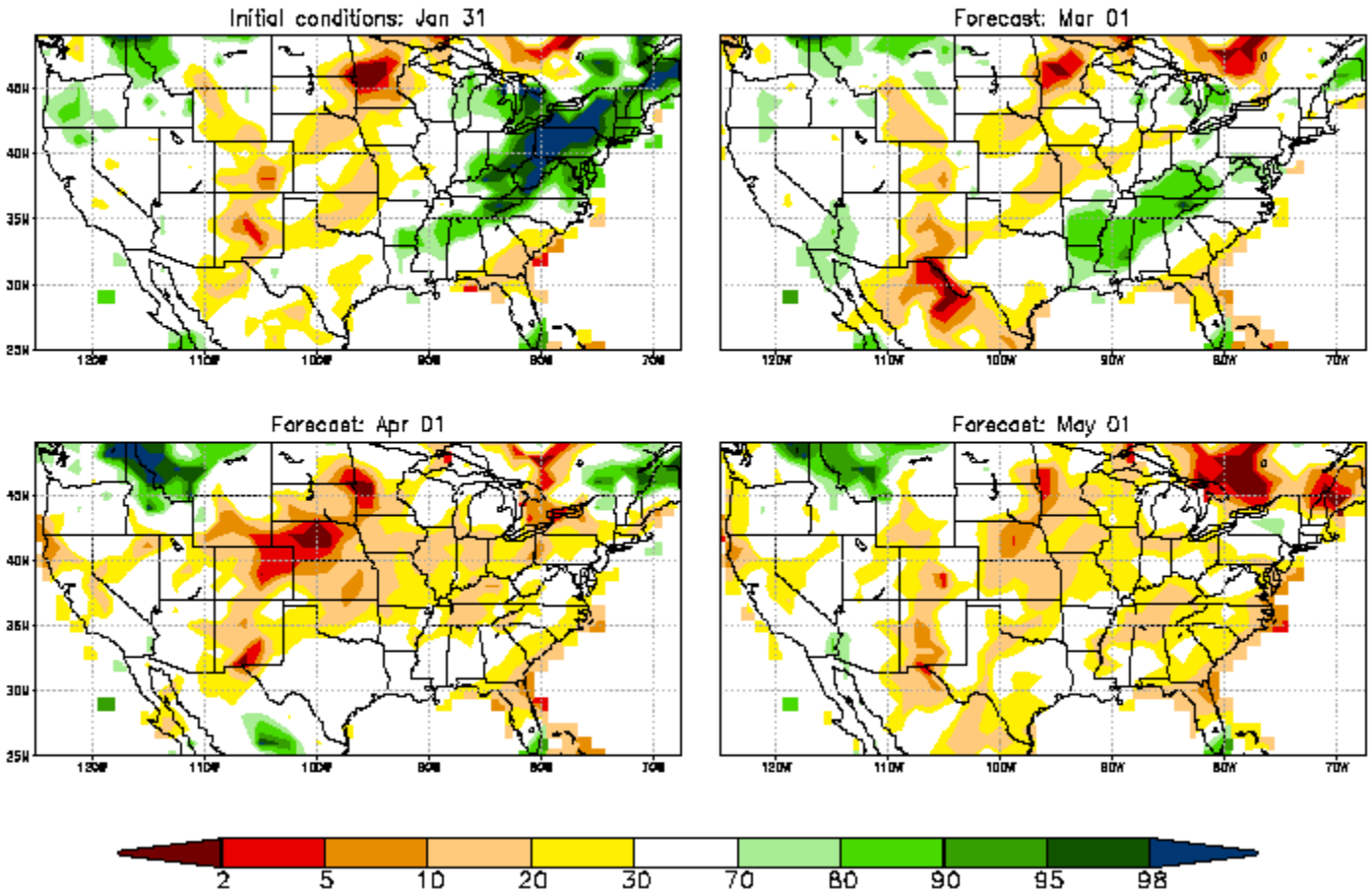
3/28/2013 8- week lead

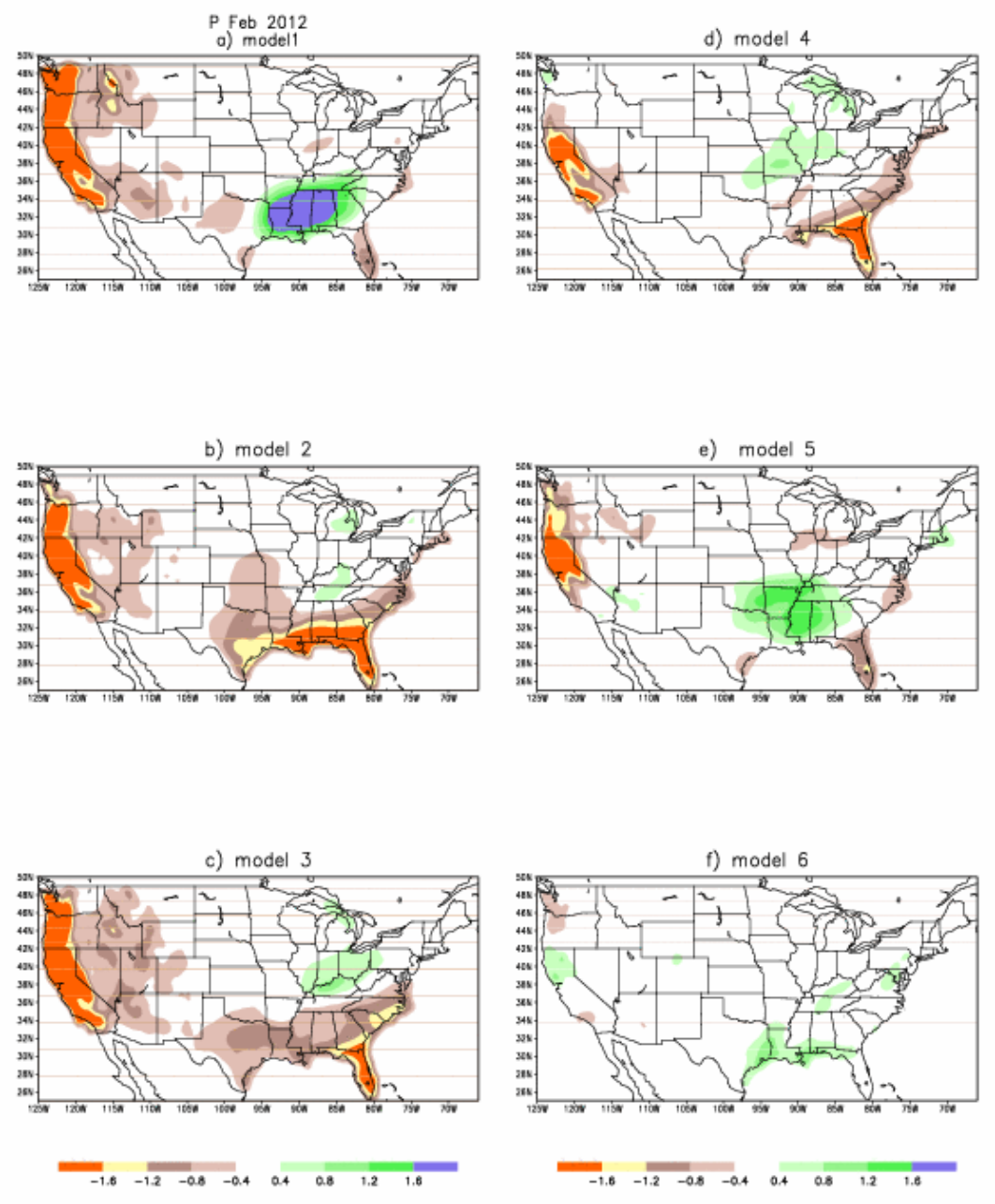



4/25/2013 (12-week lead



# Soil moisture percentile from NASA GEOS–5 forecast system

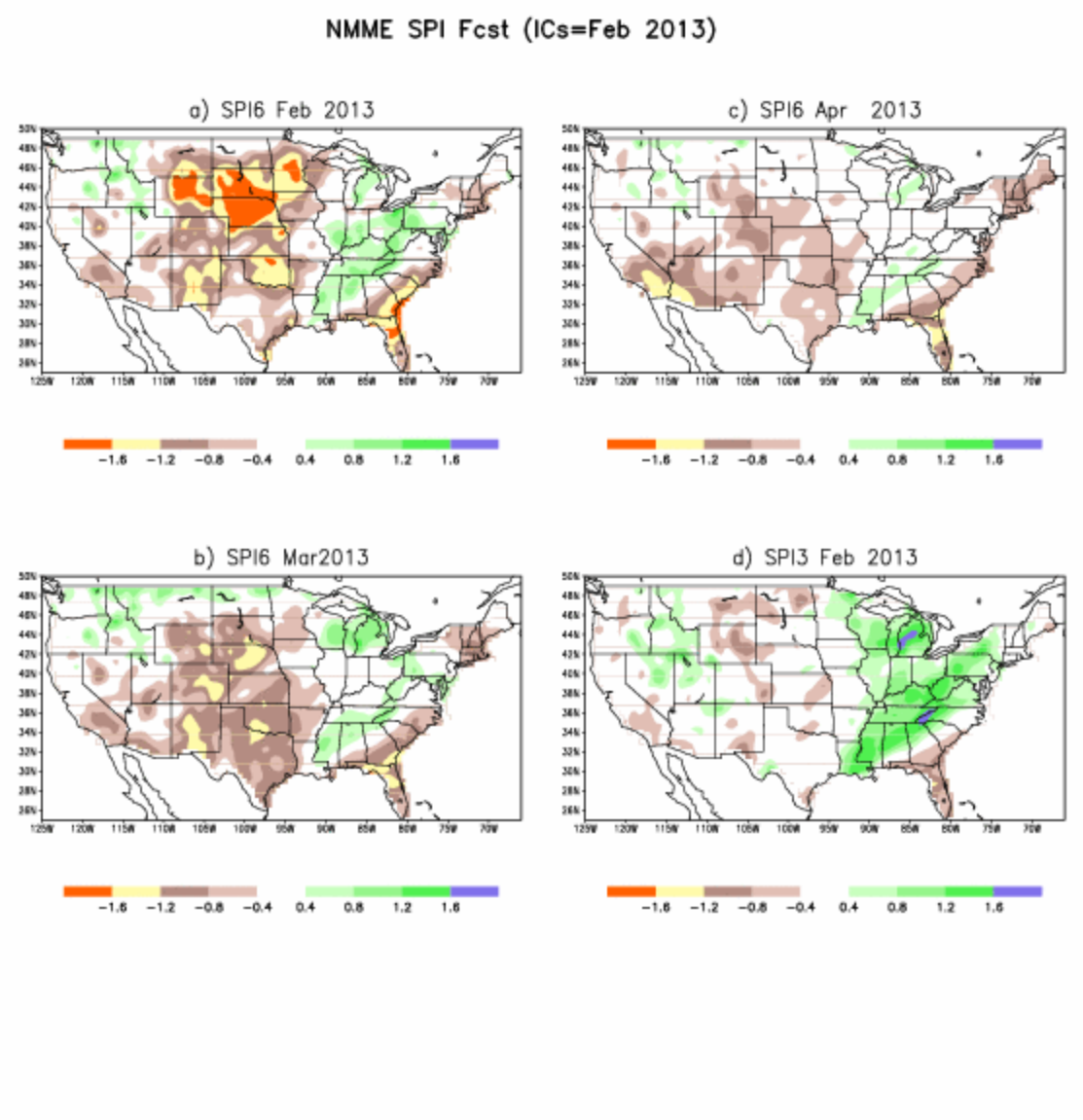


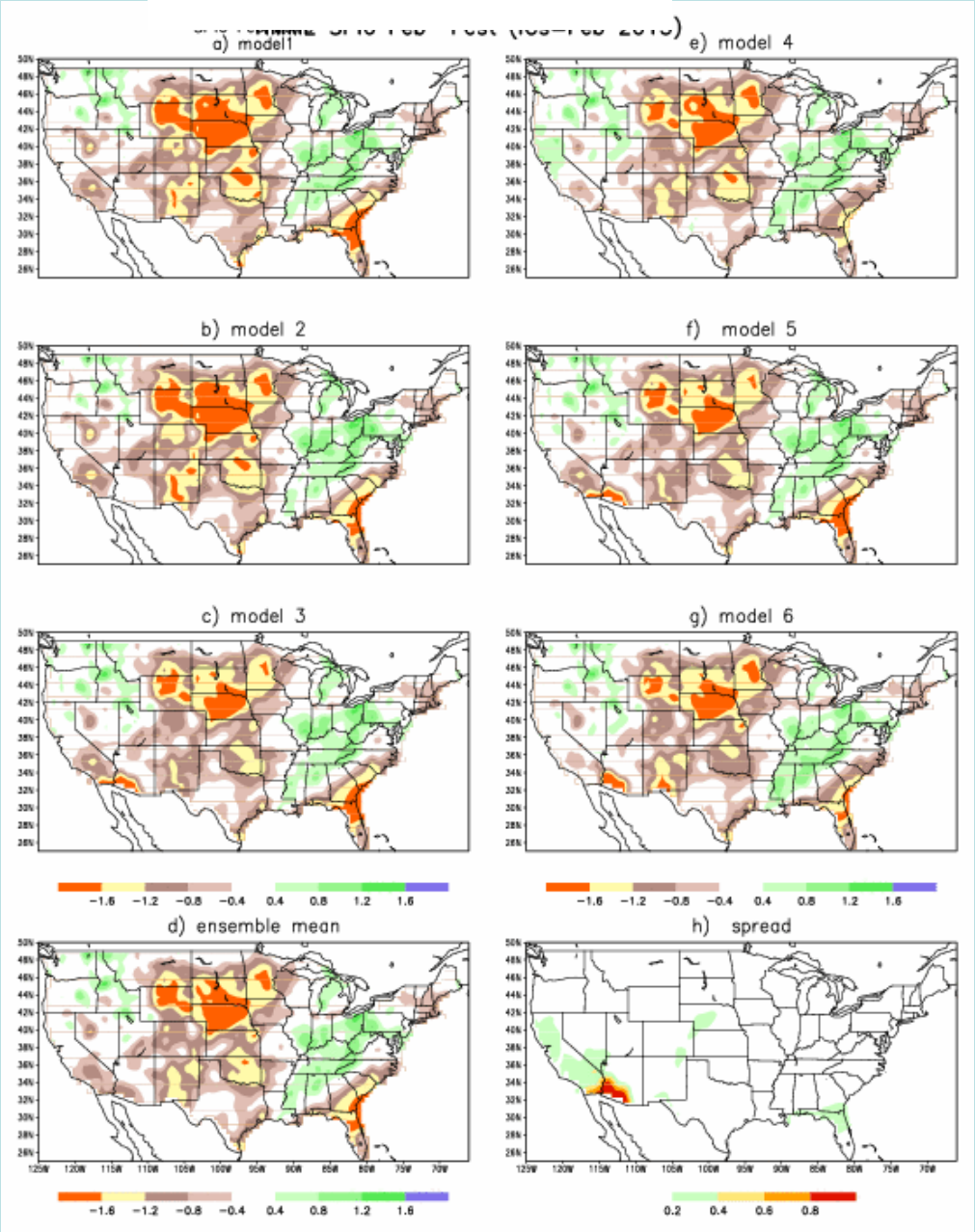



# NMME precip fcst LEAD 1=> For Feb 2013

Dry: Pacific Northwest and the Southeast
Texas: 3 out of 6 models show weak dryness

# SPI Fcst Ics Feb 2013

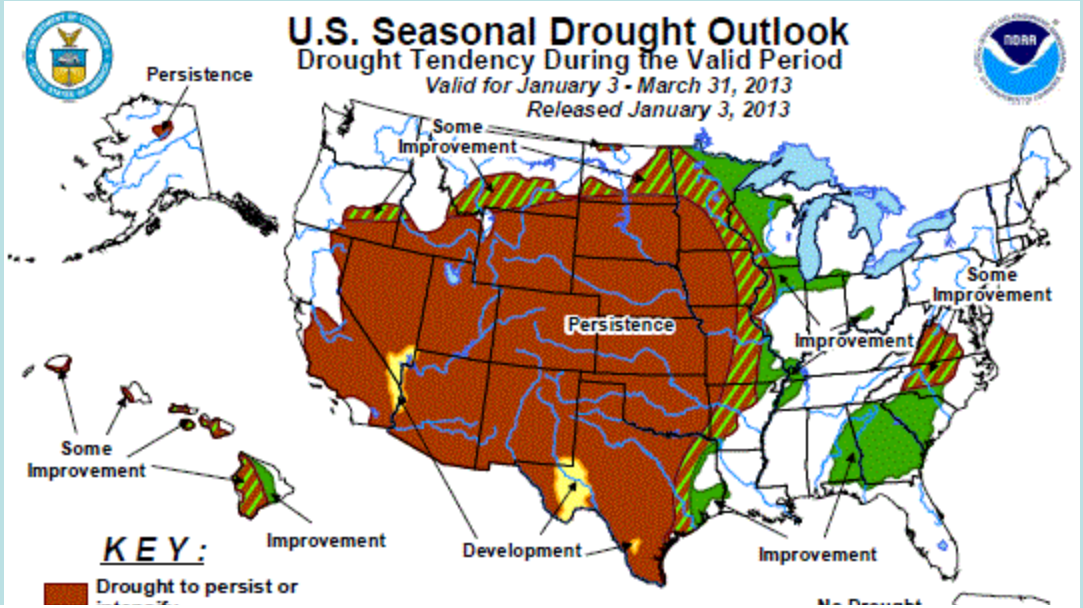


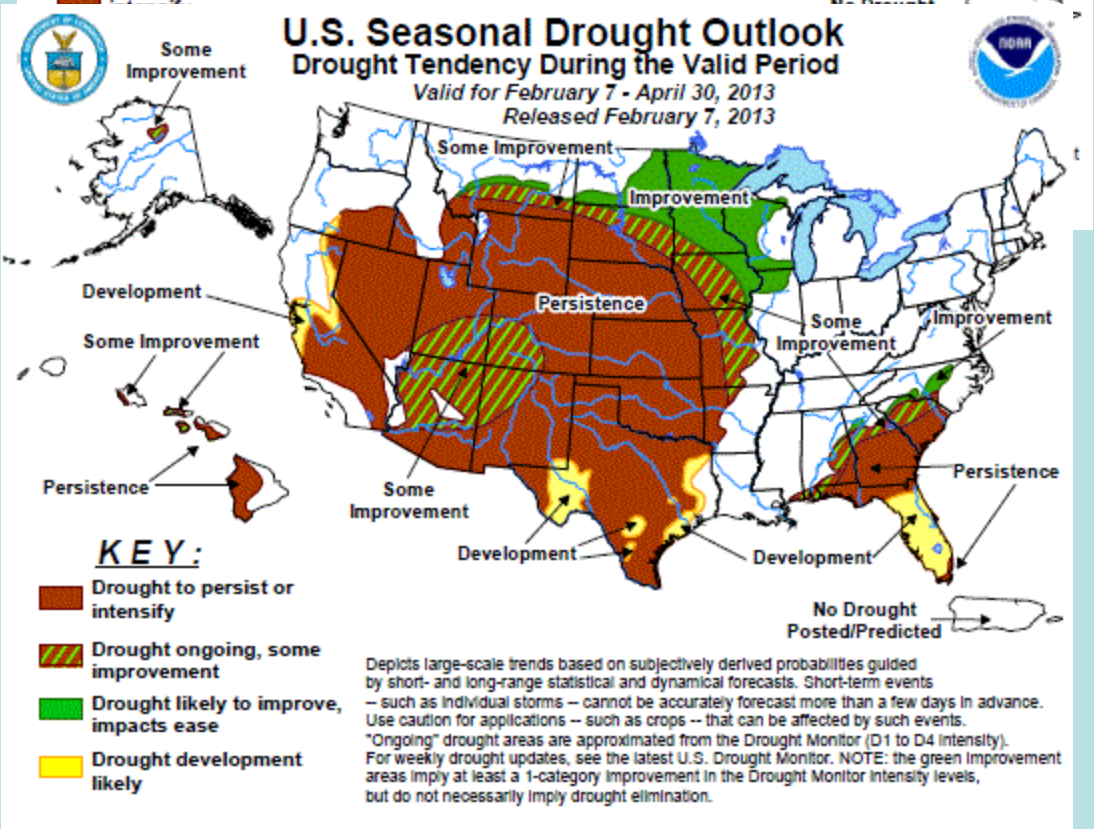



# SPI6 Lead 1 Feb 2013

Low spread

# seasonal Drought outlook




Feb 7 release

# Conclusions

**Ocean conditions :**

**ENSO : Neutral**

**With warm SSTAs along the Atlantic coast and negative SSTAs along the west coast.**

**Drought:**

**Drought improved over the Southern Plains, but continues over the Northern Plains**

**Drought over the Southeast continues**

# Prediction

- Oceanic conditions
- ENSO normal
- Drought
- All forecasts indicate that drought over the Northern Plains will continue for 2-3 months.
- Drought over the Southeast will continue for 1-2 months

We will pay attention to the ENSO development