

# Fire Season 2012

*Looking ahead to Fire Season 2012*

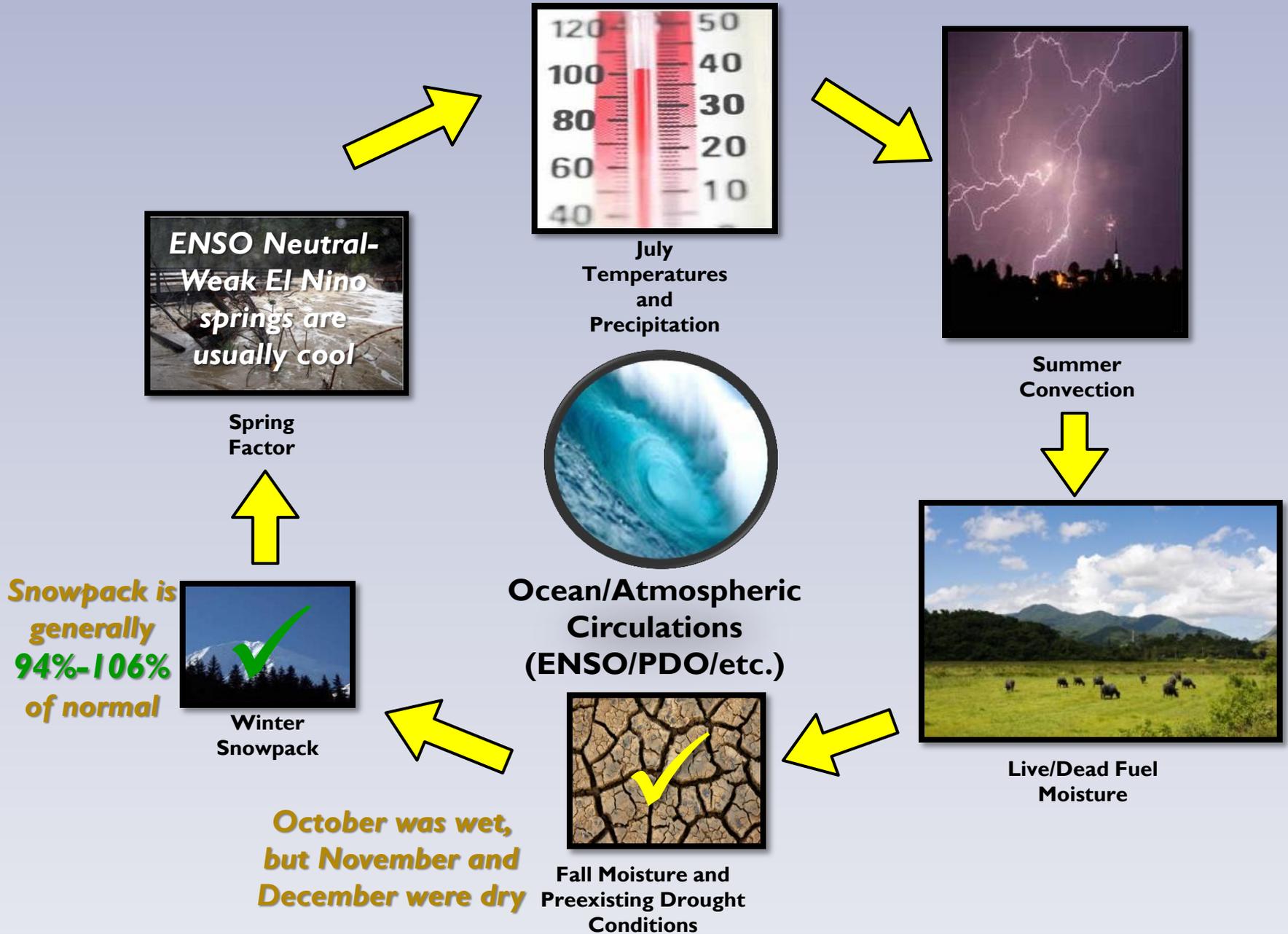


March 13, 2012

Mike Kreyenhagen  
Bryan Henry  
Meteorologists  
NRCC



# Factors that Influence Fire Season Severity



Nino3.4 SST Anomaly (°C)

# IRI/CPC

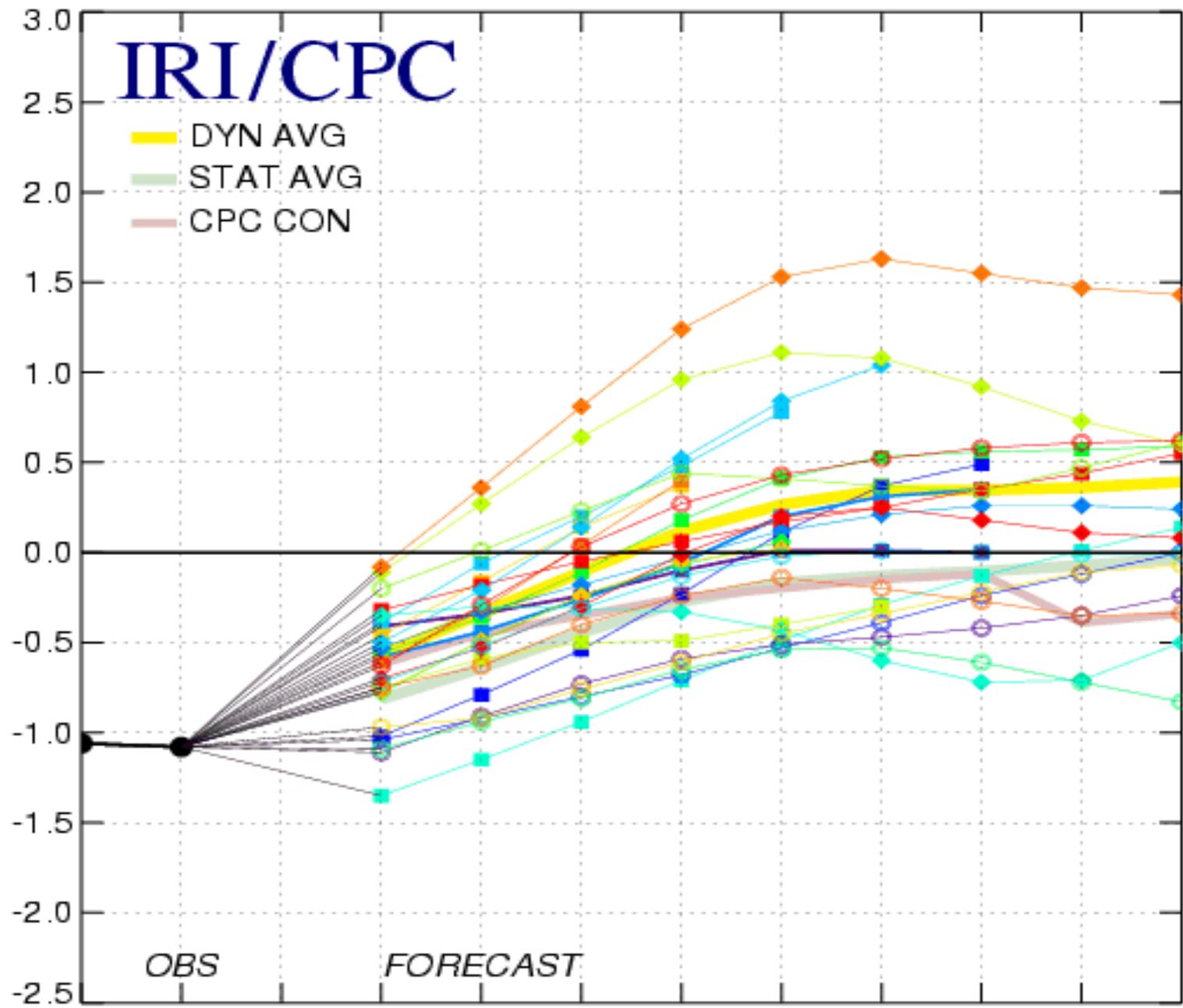
— DYN AVG  
— STAT AVG  
— CPC CON

## Dynamical Model:

- NCEP CFSv2
- NASA GMAO
- NCEP CFS
- JMA
- SCRIPPS
- LDEO
- AUS/POAMA
- ECMWF
- UKMO
- KMA SNU
- ◆ ESSIC ICM
- ◆ ECHAM/MOM
- ◆ 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



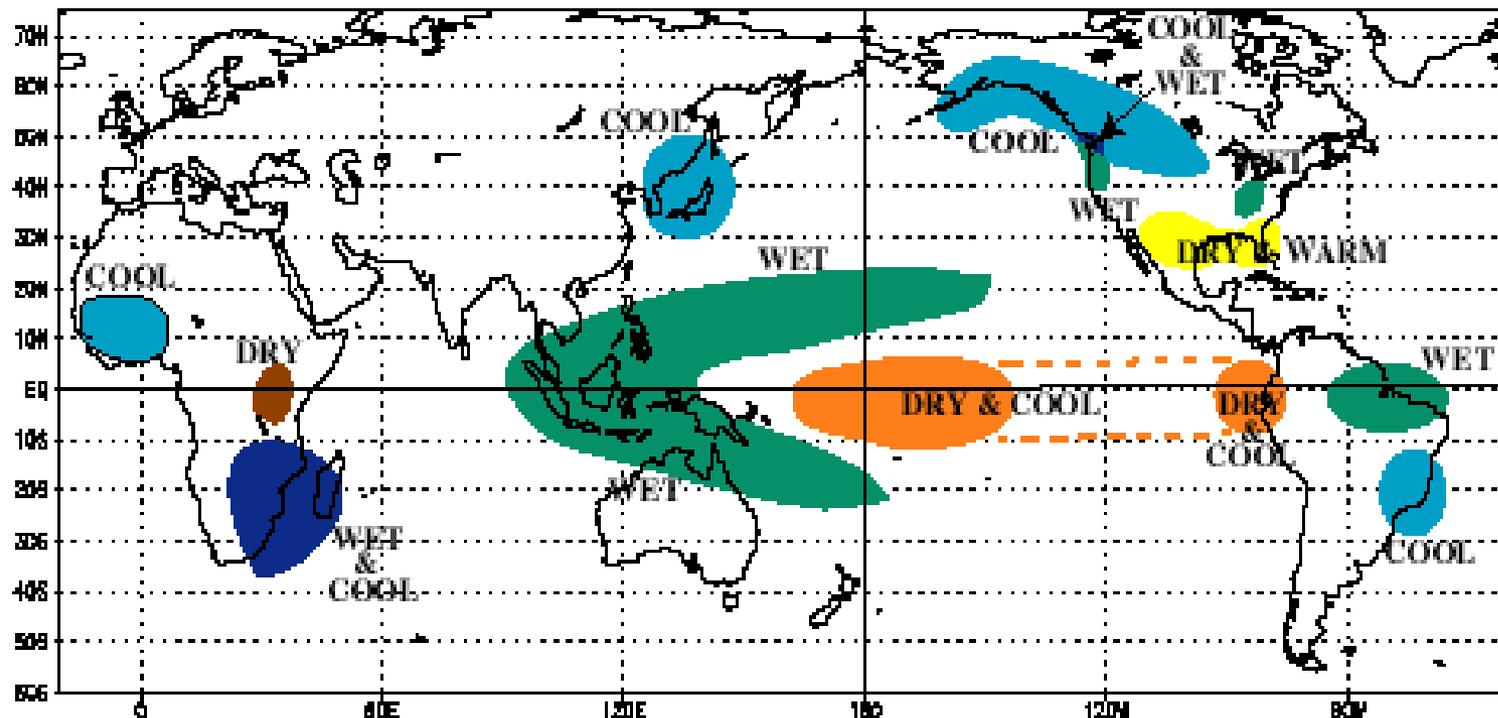
*OBS*

*FORECAST*

NDJ Jan JFM FMA MAM AMJ MJJ JJA JAS ASO SON OND

2011 2012

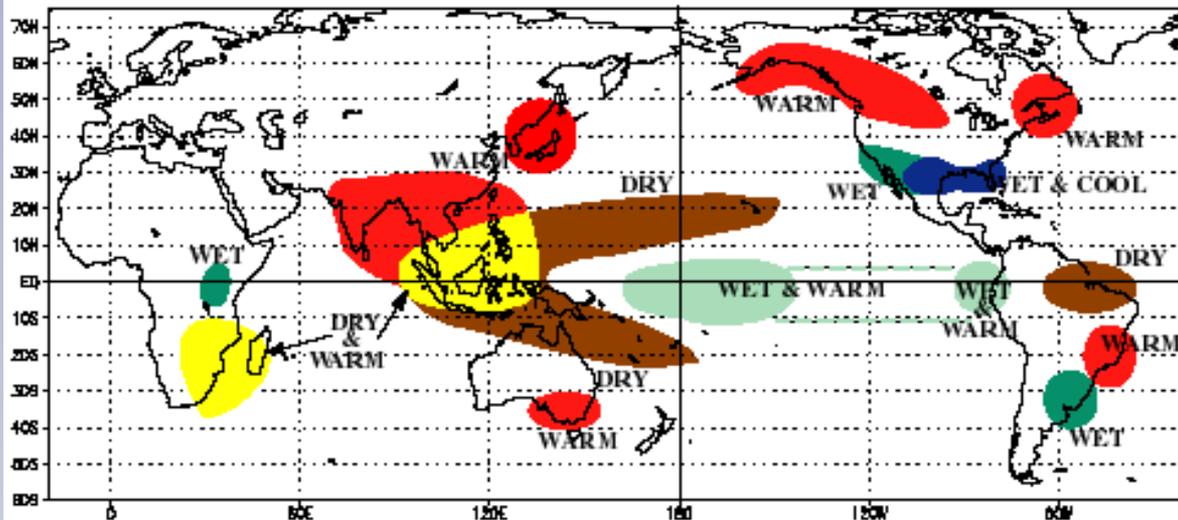
## COLD EPISODE RELATIONSHIPS DECEMBER - FEBRUARY



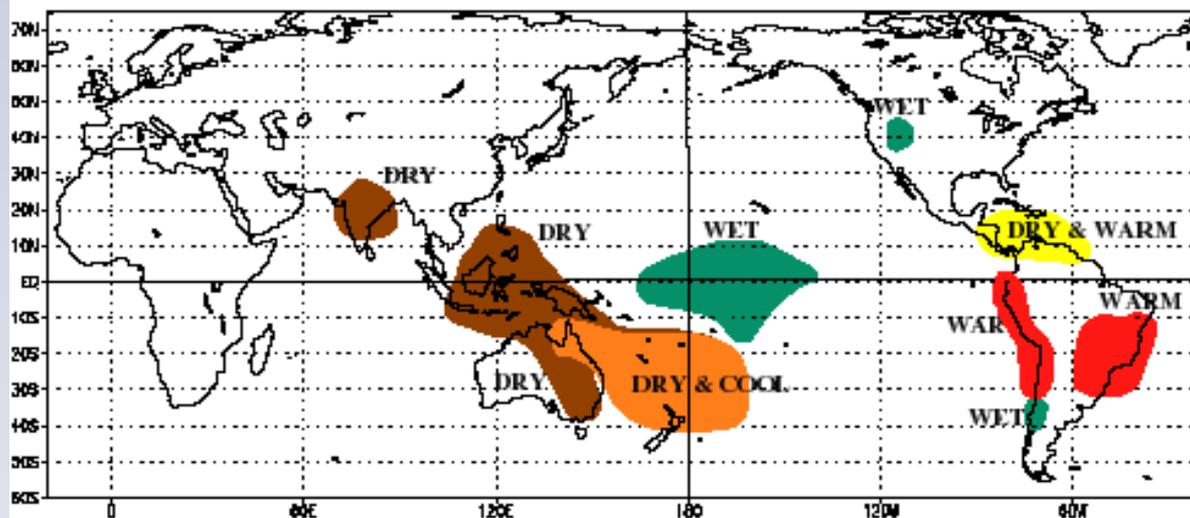
**This La Nina has not  
“behaved” herself!**

Recent trends show “slightly above normal” precipitation during the heart of fire season along with “normal” temperatures.

WARM EPISODE RELATIONSHIPS DECEMBER - FEBRUARY

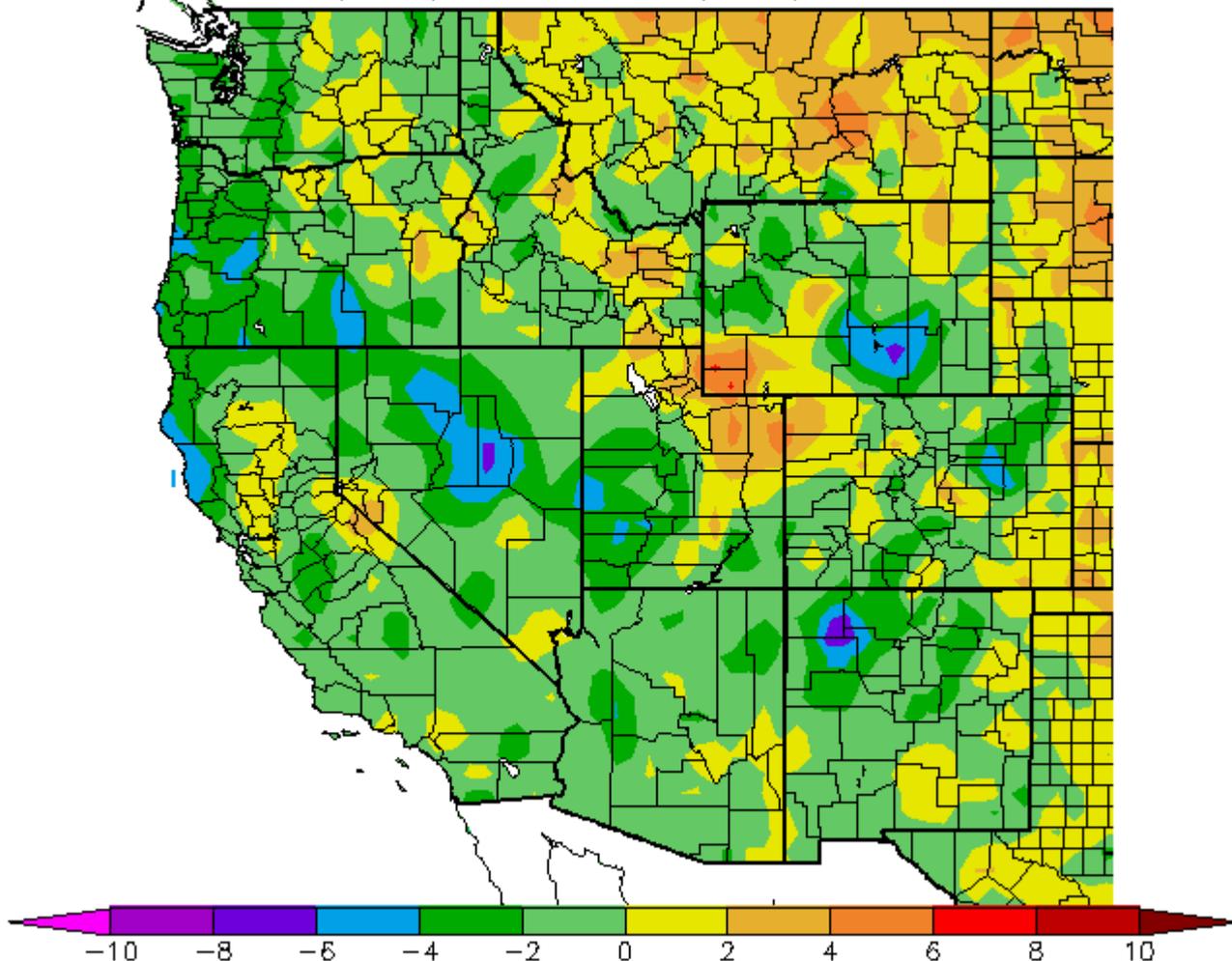


WARM EPISODE RELATIONSHIPS JUNE - AUGUST



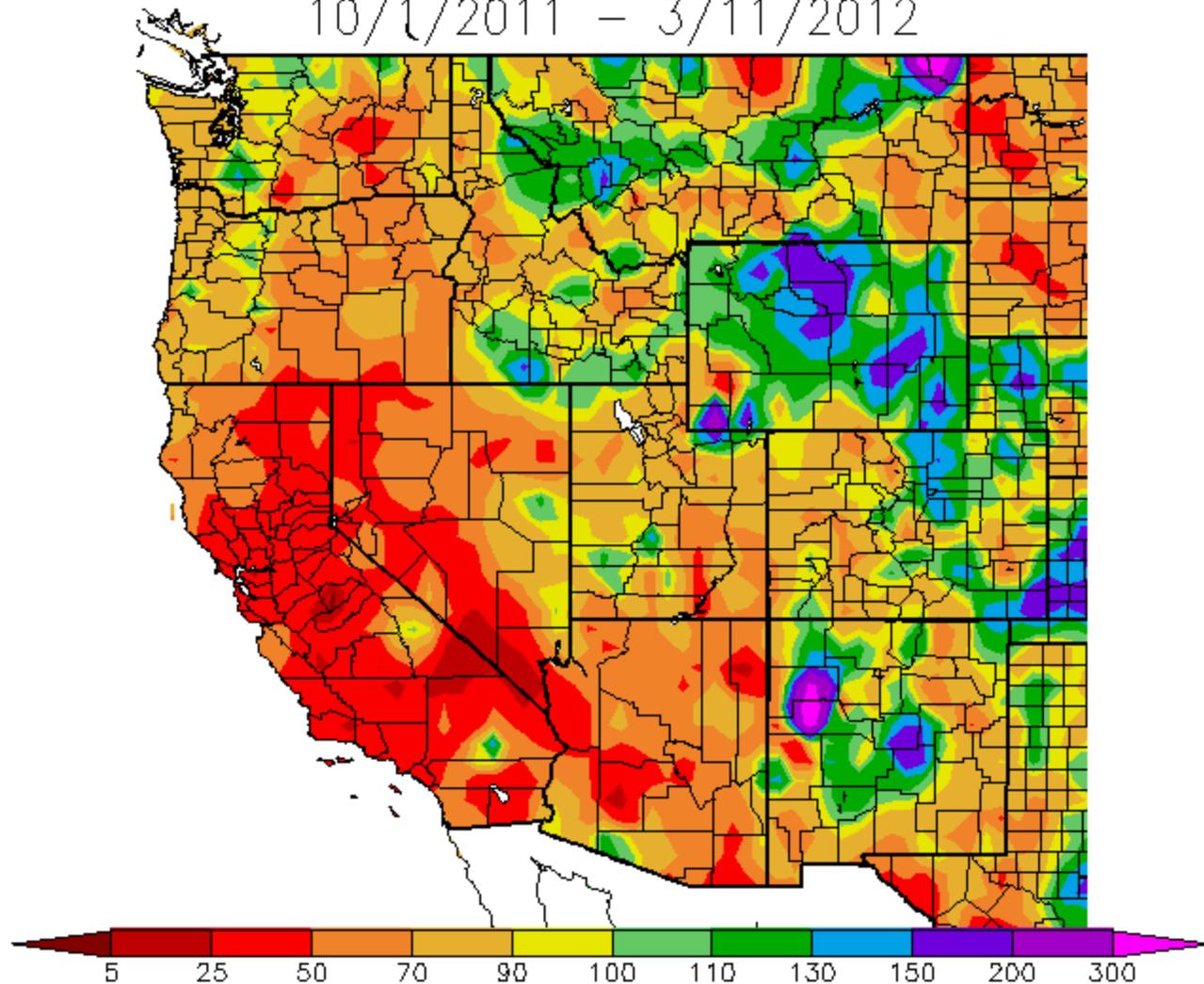
# 30 Day Temps Above Normal...**Especially** across NE MT and the Dakotas

Ave. Temperature dep from Ave (deg F)  
2/11/2012 - 3/11/2012



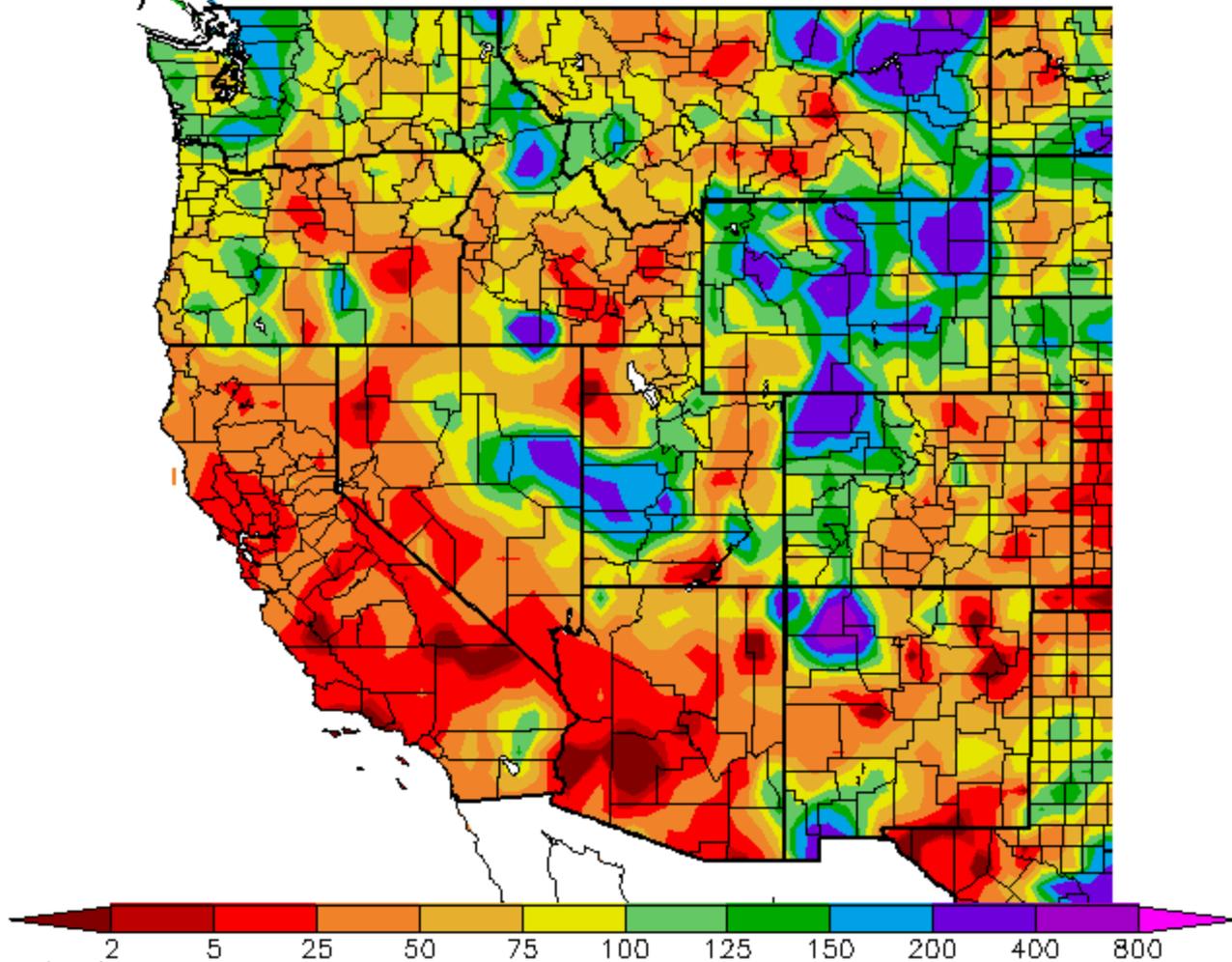
Generated 3/12/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

Percent of Average Precipitation (%)  
10/1/2011 - 3/11/2012



Generated 3/12/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

Percent of Average Precipitation (%)  
2/11/2012 - 3/11/2012



Generated 3/12/2012 at WRCC using provisional data.  
NOAA Regional Climate Centers

ND continues to show a dry signal as does much of Idaho.  
Look how dry California is.

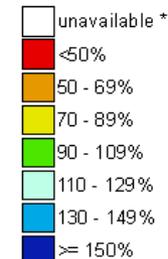
# Snowpack severely normal

-Areas of most concern in the West are California, Central Oregon, Central Idaho, and NE Utah.

## Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

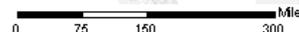
Mar 13, 2012

Current Snow Water Equivalent (SWE)  
Basin-wide Percent of 1971-2000 Normal



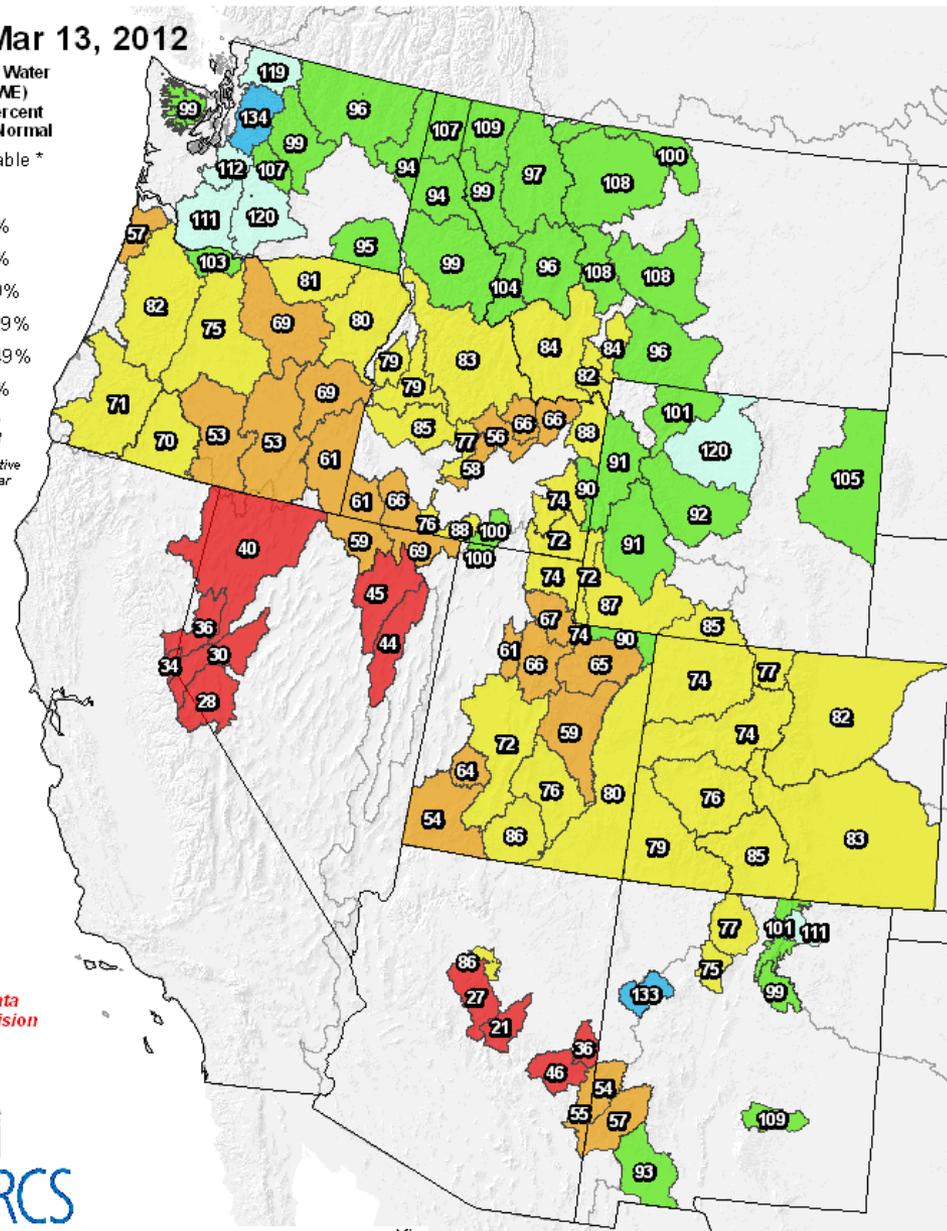
\* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data  
subject to revision



The snow water equivalent percent of normal represents the current snowwater equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center  
Portland, Oregon <http://www.wcc.nrcs.usda.gov/gis/>  
Based on data from <http://www.wcc.nrcs.usda.gov/reports/>  
Science contact: Jim.Marron@por.usda.gov 503 414 3047

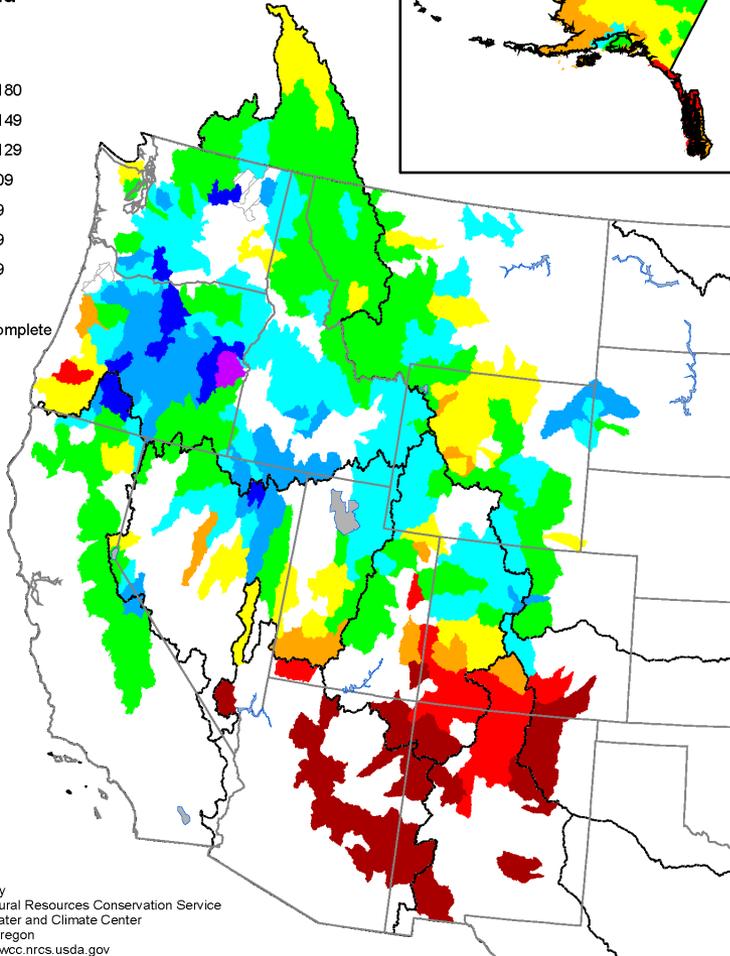
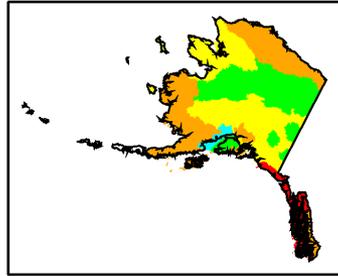


# Best Analog Years (from an ENSO standpoint): 2001 / 2006 / 2009 / 2011

## Mountain Snowpack as of March 1, 2006

### Legend

#### percent

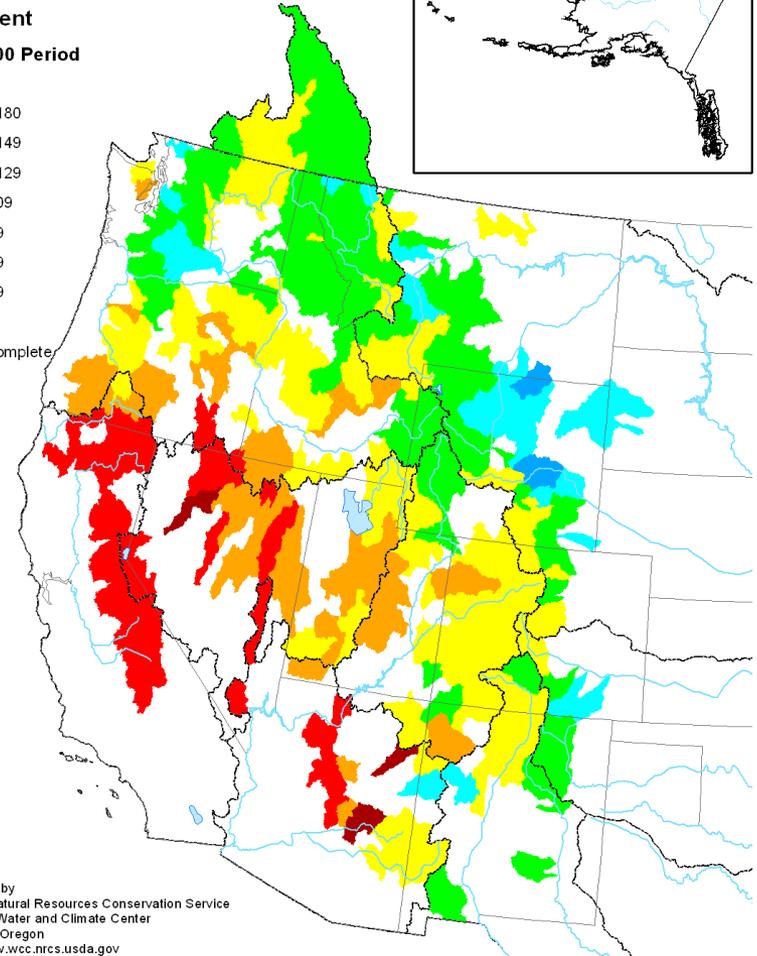
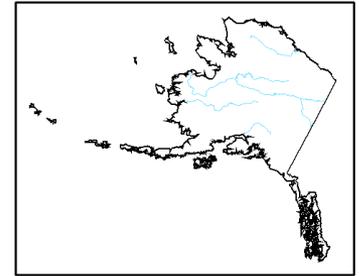


Prepared by  
USDA, Natural Resources Conservation Service  
National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

## Mountain Snowpack as of March 1, 2012

### Percent

#### 1971 to 2000 Period



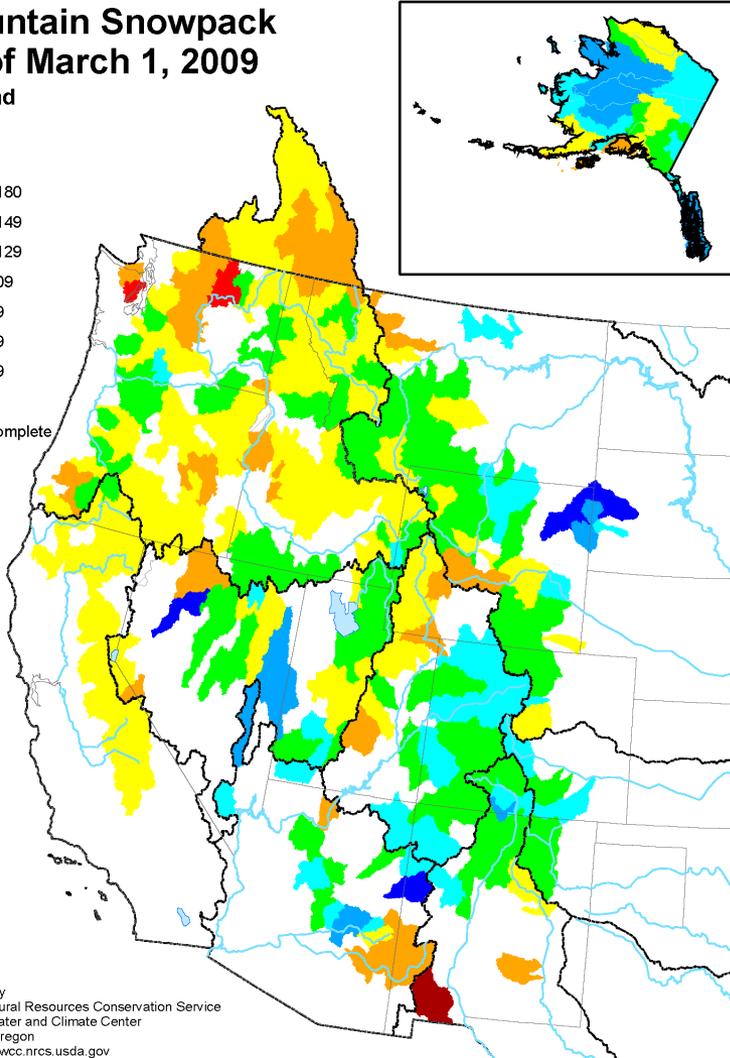
Prepared by  
USDA, Natural Resources Conservation Service  
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<http://www.wcc.nrcs.usda.gov>

# Best Analog Years (from an ENSO standpoint): 2001 / 2006 / 2009 / 2011

## Mountain Snowpack as of March 1, 2009

### Legend

percent

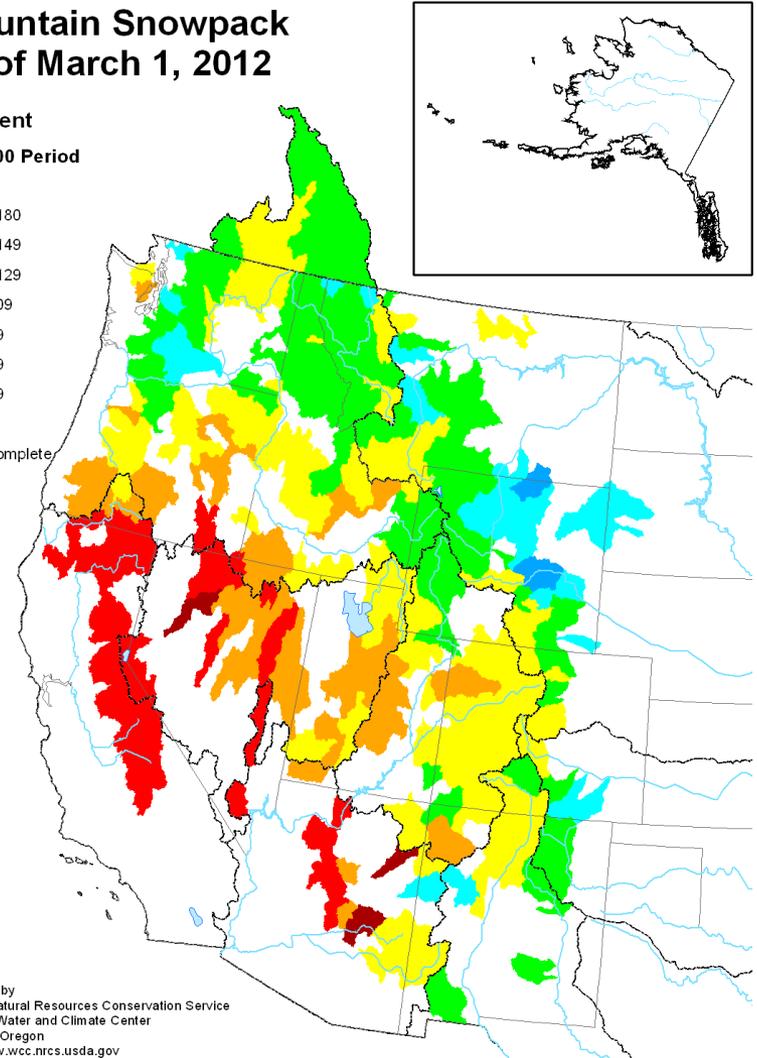


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National Water and Climate Center  
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<http://www.wcc.nrcs.usda.gov>

## Mountain Snowpack as of March 1, 2012

Percent

1971 to 2000 Period

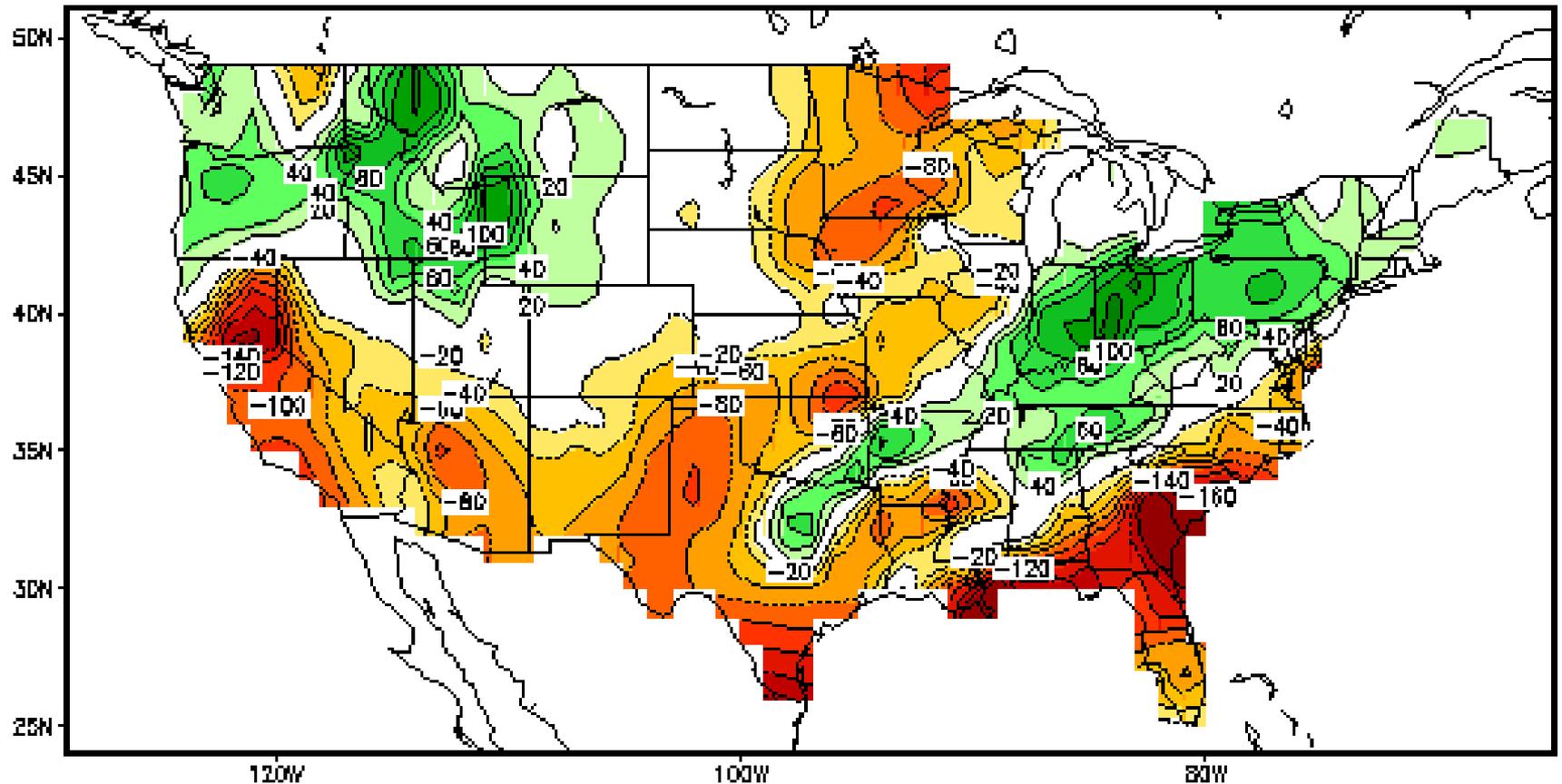


Prepared by  
USDA, Natural Resources Conservation Service  
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Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# Analog Years: Thoughts on ENSO trends

- ▶ 2012 is most similar to 2009 in regard to the rapid shift into ENSO neutral and eventually a weak El Nino for summer and fall.
- ▶ 2009 featured a record setting wet August.
  - **Do not despair** though, other similar years did not show as much wetness.
- ▶ Other years that were a fit: 1957, 1961, 1965, 1986, 1997, **2001**. None of these were noteworthy seasons.

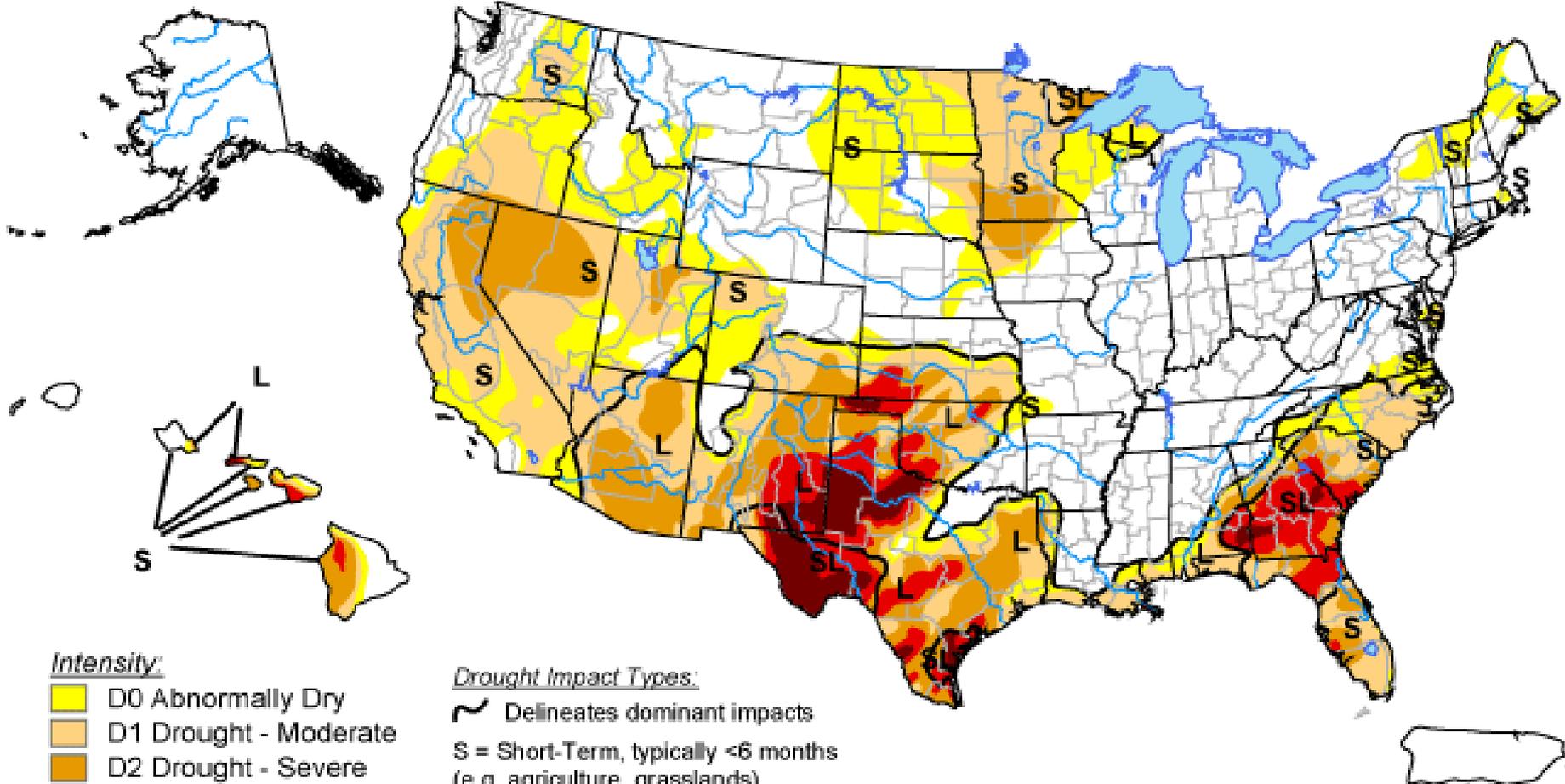
# Soil Moisture Anomaly (mm) Last day of FEB, 2012



# U.S. Drought Monitor

March 6, 2012

Valid 7 a.m. EST



## Intensity:

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

## Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months  
(e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months  
(e.g. hydrology, ecology)

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



Released Thursday, March 8, 2012

Author: Michael Brewer/L. Love-Brotak, NOAA/NESDIS/NCDC

<http://droughtmonitor.unl.edu/>

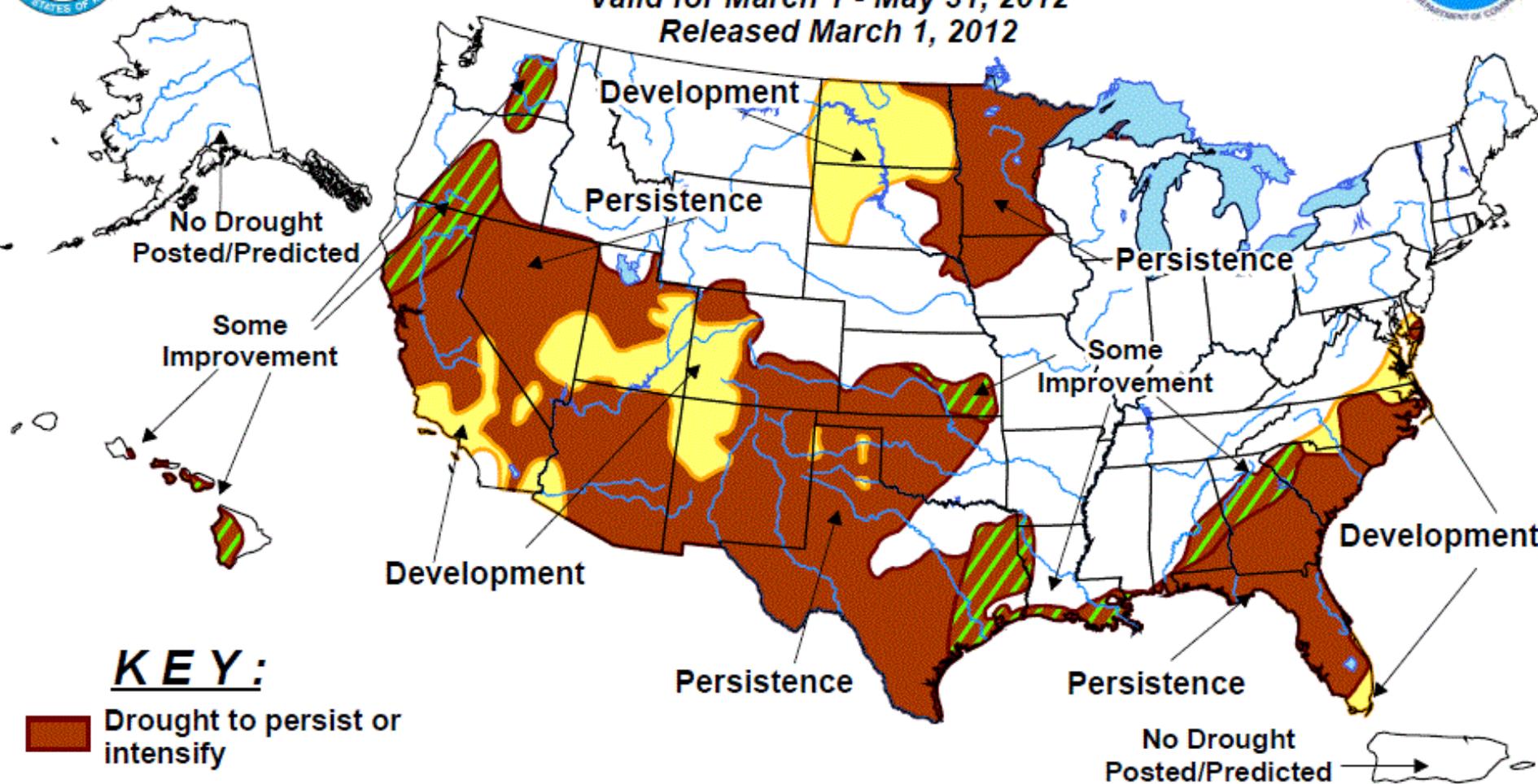


# U.S. Seasonal Drought Outlook

## Drought Tendency During the Valid Period

Valid for March 1 - May 31, 2012

Released March 1, 2012

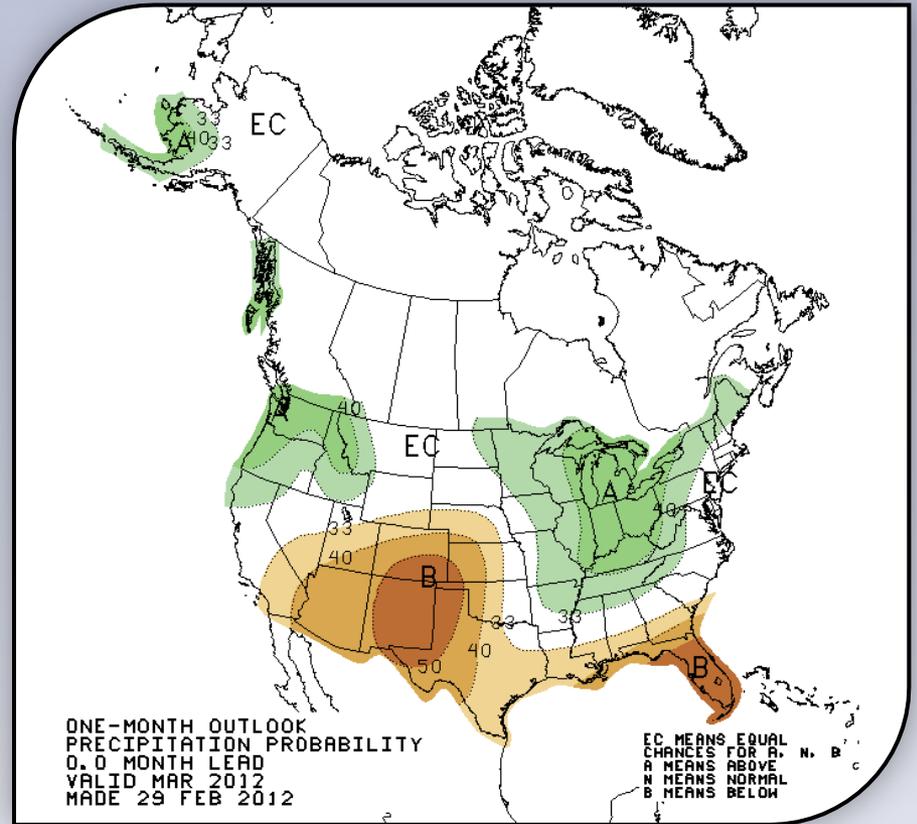
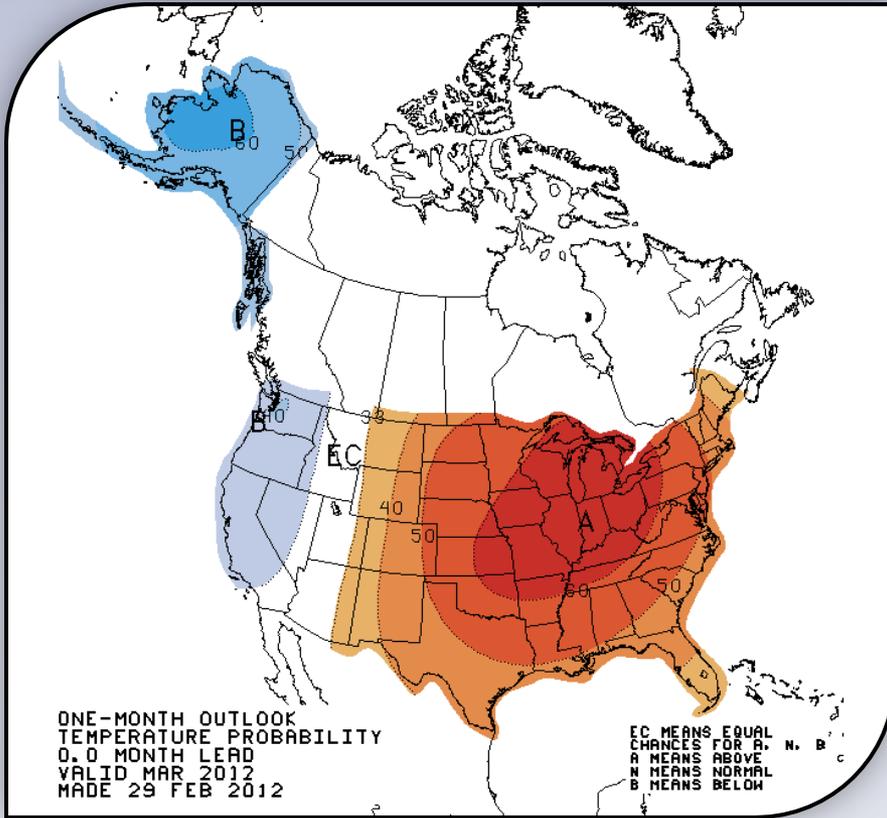


### KEY:

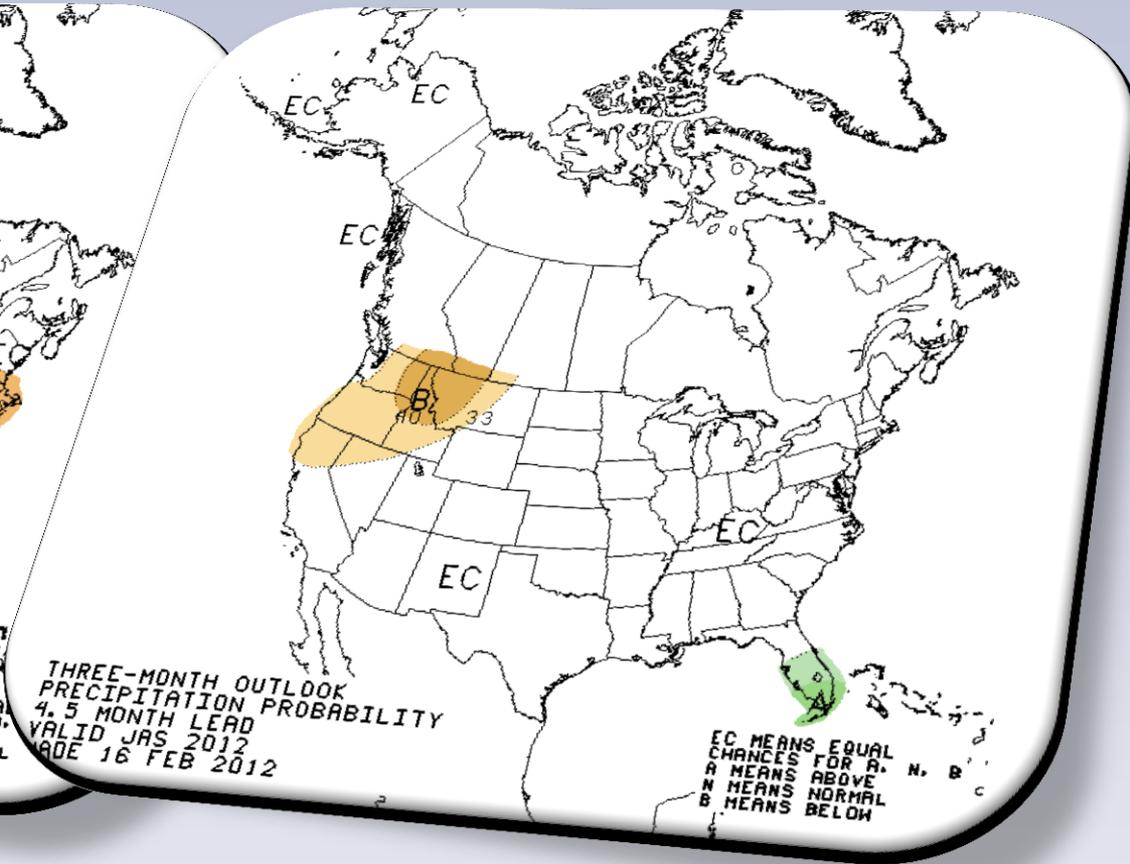
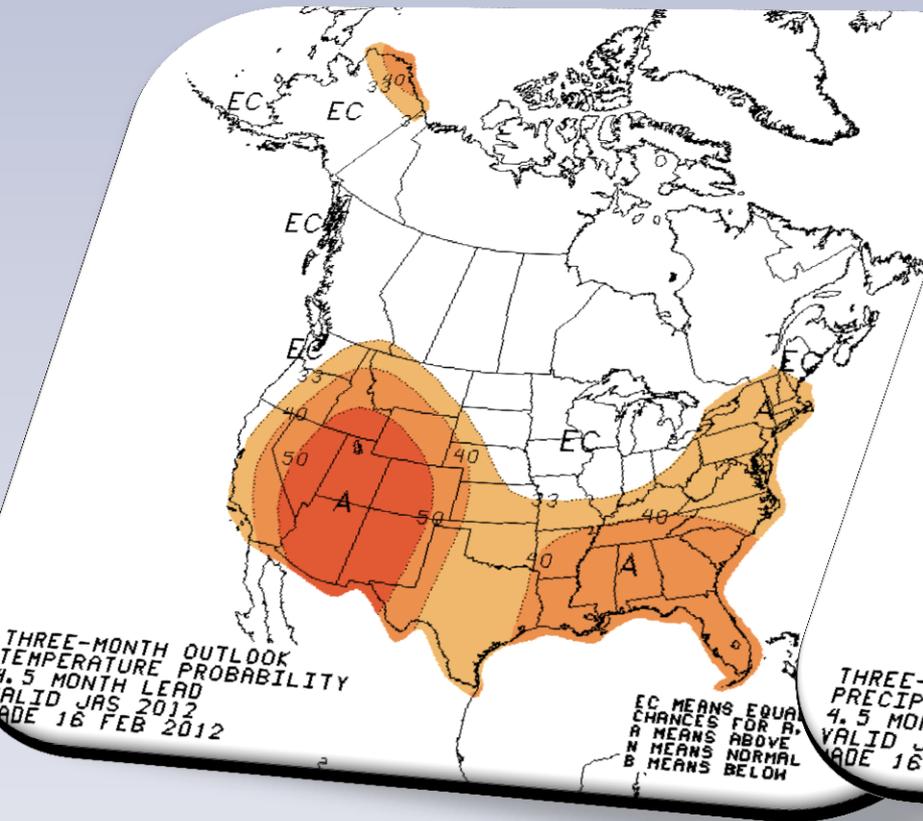
-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

# CPC Outlooks



# Early Outlooks for Fire Season



# Thoughts on Fire Season 2012

- ▶ Weak El Nino conditions likely for summer.
- ▶ The focus is shifting from monitoring snowpack accumulation rates to the monitoring the rate of snowpack loss.
- ▶ ENSO neutral springs are usually cool but can be dry for the NR region.
  - Latest 3 month CPC outlooks for spring point toward normal conditions...*or continued high uncertainty*
  - **Higher than normal pre-greenup grass fire activity**
- ▶ Assuming normal conditions for late spring, fuels should dry more quickly than in the past 3-4 years...more reminiscent of “early” curing observed during the 2000-2007 period (but **not as dry**).
- ▶ We may get periodic wetting systems through August which may keep the season from becoming a “barn burner”.

# Average vs. Median

<i>1999</i>	218,106	<i>2007</i>	1,185,199
<i>2000</i>	1,087,920	<i>2000</i>	1,087,920
<i>2001</i>	223,310	<i>2003</i>	942,022
<i>2002</i>	172,197	<i>2006</i>	1,201,117
<i>2003</i>	942,022	<i>2008</i>	241,854
<i>2004</i>	40,840	<i>2001</i>	223,310
<i>2005</i>	185,457	<i>1999</i>	218,106
<i>2006</i>	1,201,117	<i>2011</i>	198,624
<i>2007</i>	1,185,199	<i>2005</i>	185,457
<i>2008</i>	241,854	<i>2002</i>	172,197
<i>2009</i>	69,016	<i>2010</i>	70,474
<i>2010</i>	70,474	<i>2009</i>	69,016
<i>2011</i>	198,624	<i>2004</i>	40,840
<b>Average:</b>	<b>448,934</b>	<b>Median</b>	<b>218,106</b>



# Northern Rockies Fire Season Outlook for 2012

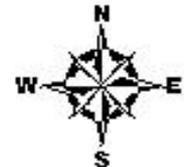
(July through September)-Preliminary

## NOT OFFICIAL



Based upon the best guidance and data available, fire season 2012 is projected to be “Normal”.

- There could be a few pockets of “Above Normal” activity across portions of Central Idaho, Eastern Montana and North Dakota.
- The fire season should begin around mid July.
- Outside resources may be needed by mid-late August. We should face competition from other regions mainly the Pac NW.
- Given recent performance of the mid-long range outlooks (due to an atypical La Nina), a moderate degree of uncertainty in this outlook exists.



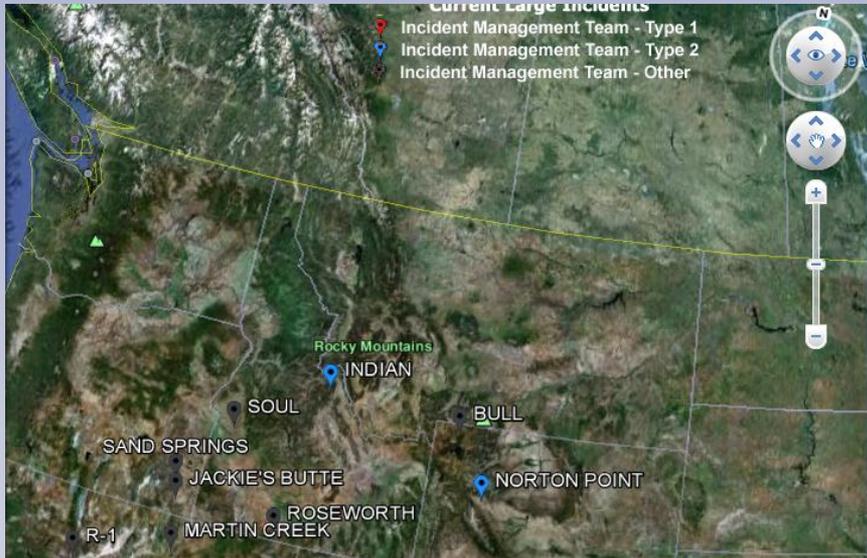
# 2012 Products and Services

<http://gacc.nifc.gov/nrcc/>

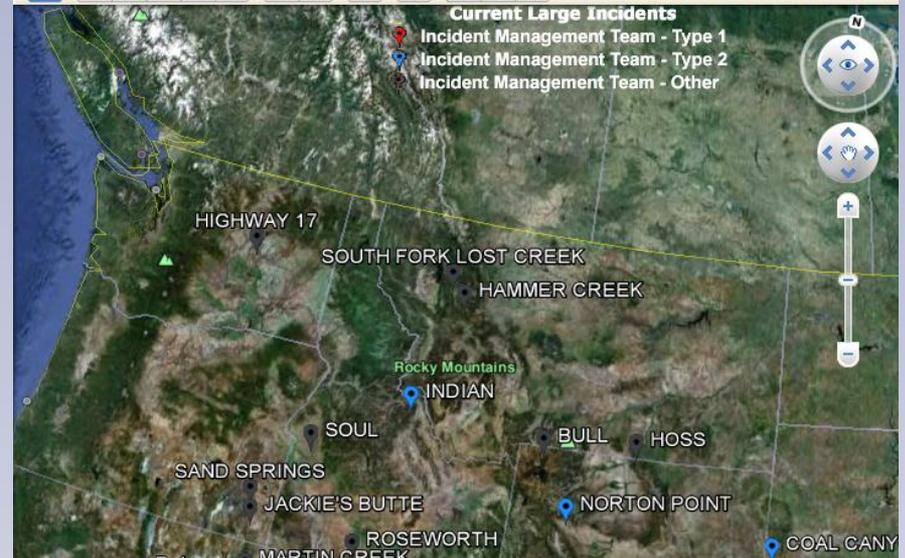
# *Predictive Services now accepts...*



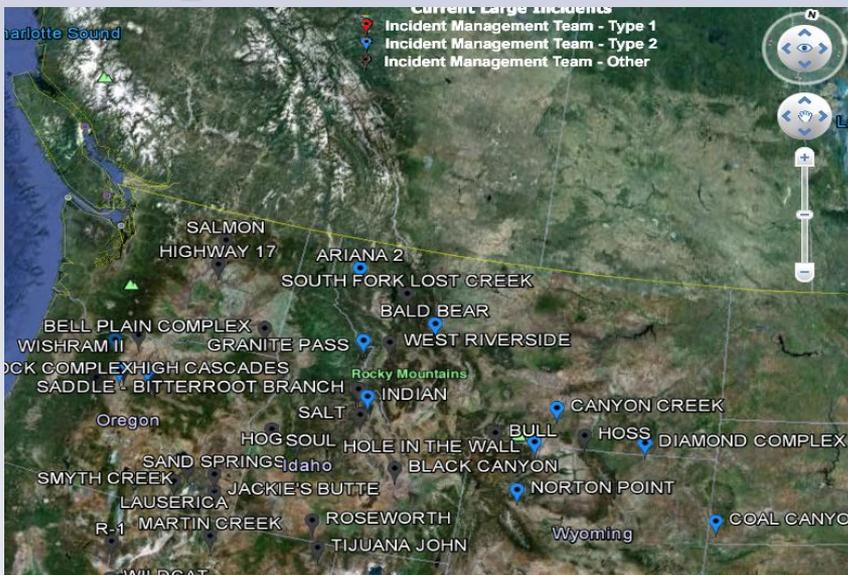
# August 1, 2011



# August 15, 2011



# September 1, 2011



# September 15, 2011

