

# Seasonal Outlook for June-September '04

Klaus Wolter

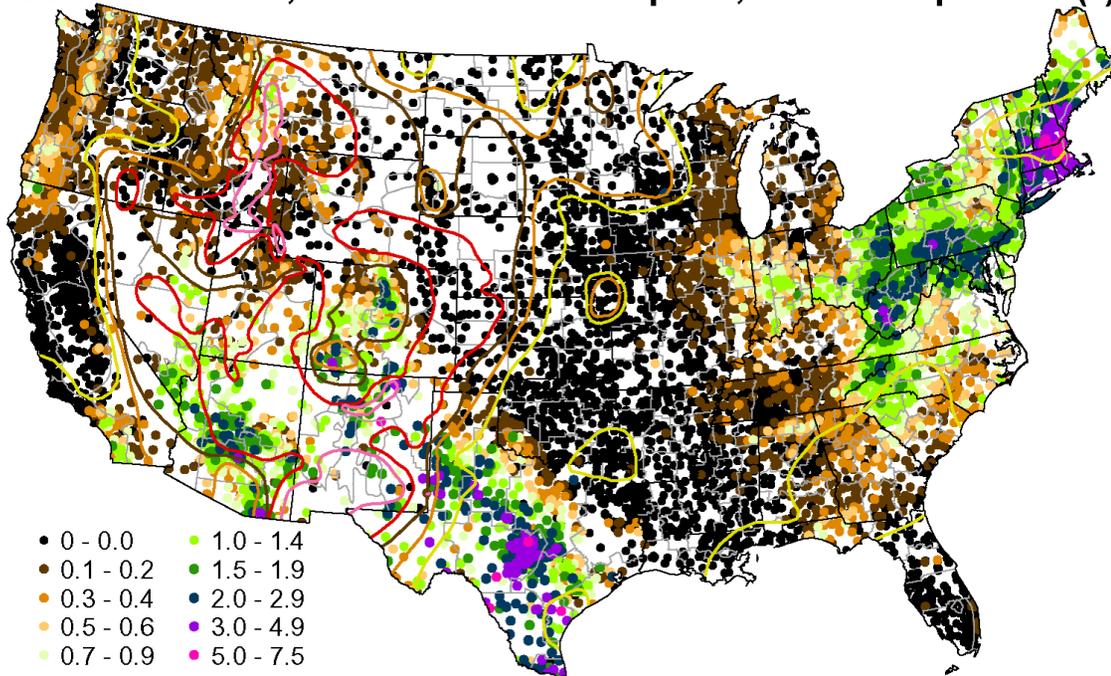
NOAA-CIRES Climate Diagnostics Center

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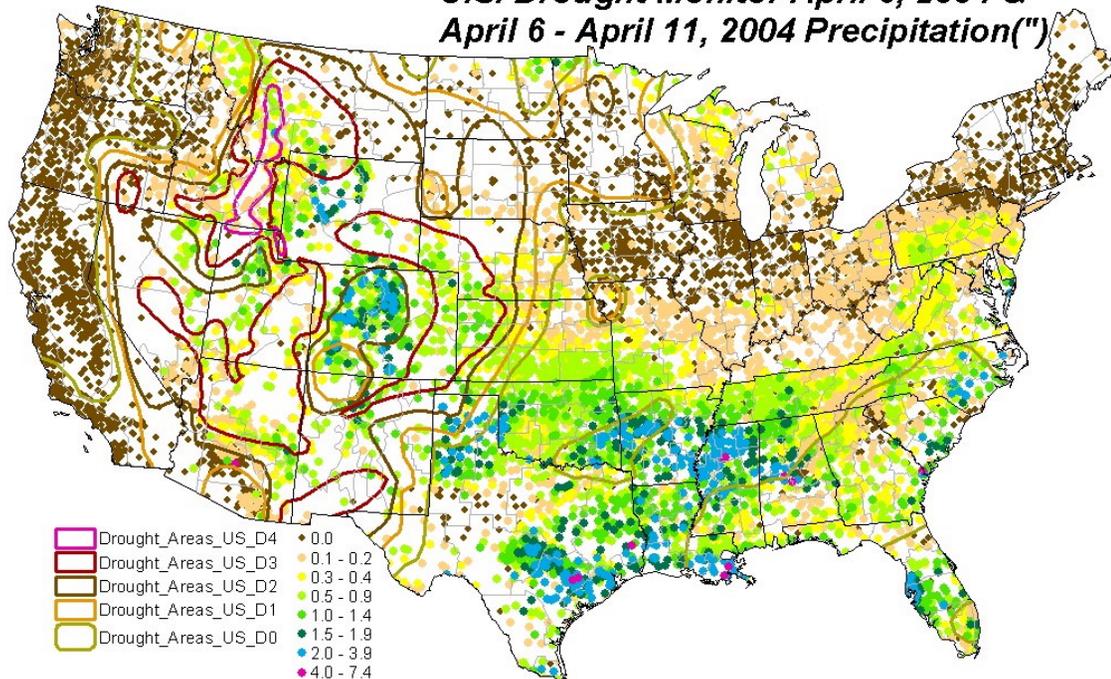
<http://www.cdc.noaa.gov/~kew/SWcasts/>

- **Recent moisture**
- **ENSO: Status and Prospects**
- **CPC forecasts for June-September 2004**
- **Experimental forecasts (JUL-SEP 2004)**
- **Executive Summary**

USDM March 30, 2004 & March 30 - April 5, 2004 Precipitation (")

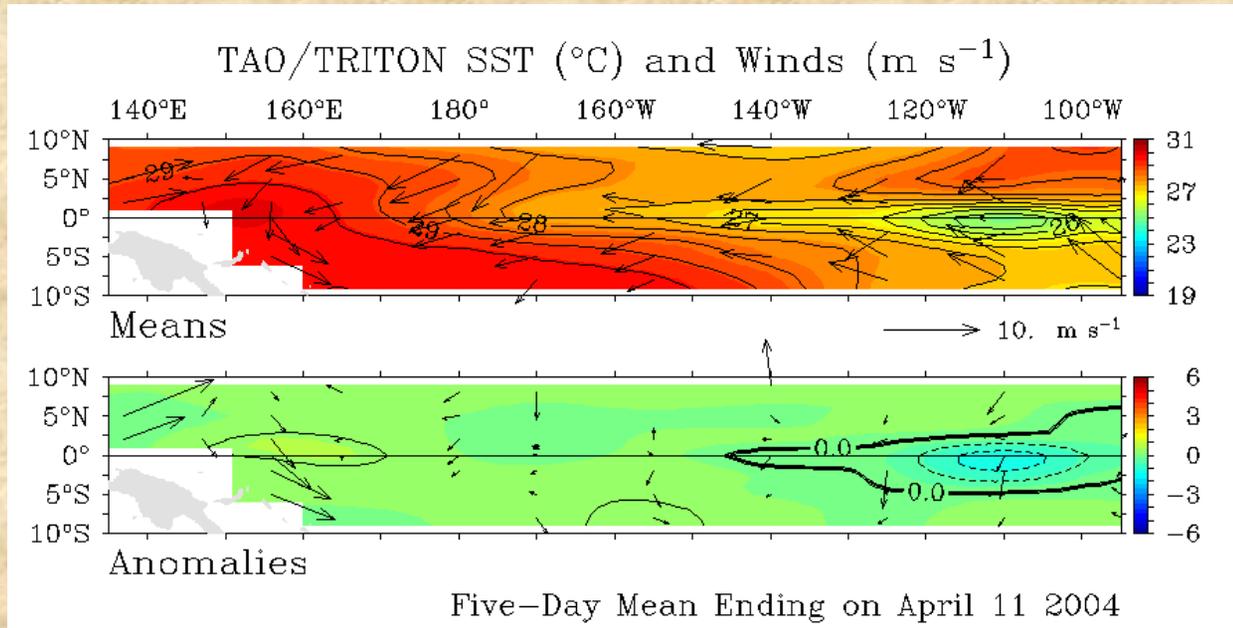


U.S. Drought Monitor April 6, 2004 & April 6 - April 11, 2004 Precipitation (")



## April wet spell

- We had a decent April, favoring the San Juans, Sangre de Cristos, and Front Range!
- Despite similarities to April '99, I rate this one at about 20% lower than that one
- May has had only one good storm so far, which was below what was needed to even give us a 'normal' May.

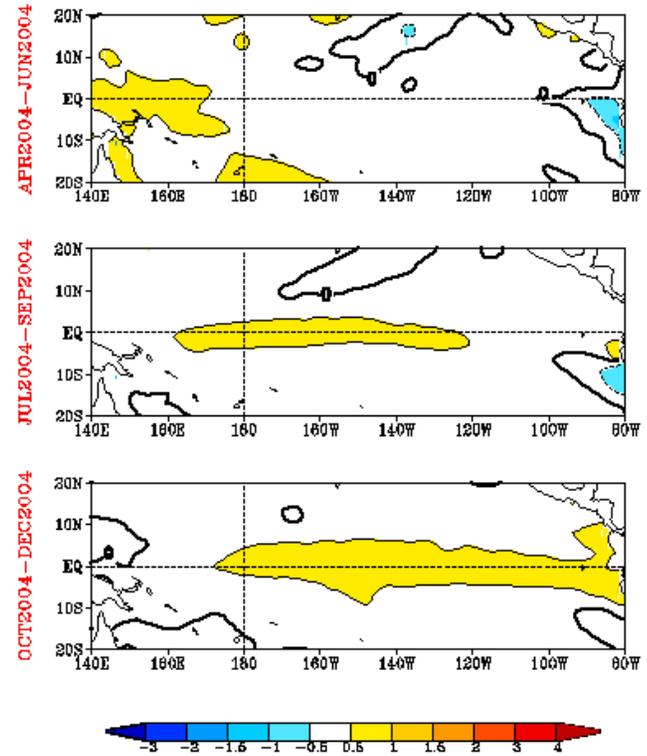


Current state  
of ENSO  
compared to  
5 weeks ago  
(remaining  
on the fence;  
window of  
opportunity  
is closing)



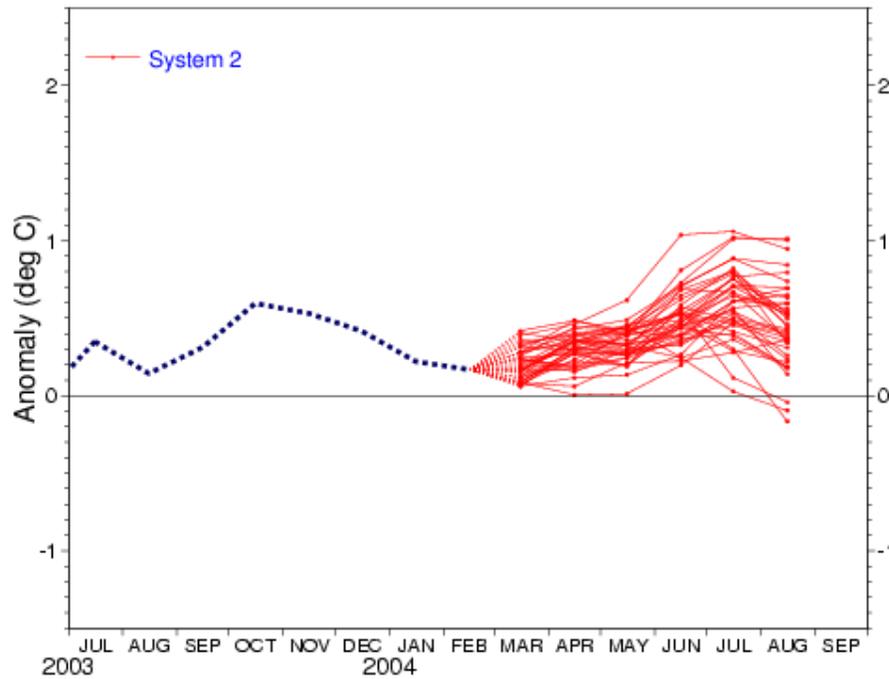
NCEP/CMB

### FORECAST SST ANOMALIES



### NINO3.4 SST anomaly plume ECMWF forecast from 1 Mar 2004

Monthly means plotted using NCEP adjusted OIv2 1971-2000 climatology



Forecast production date: 14 Mar 2004

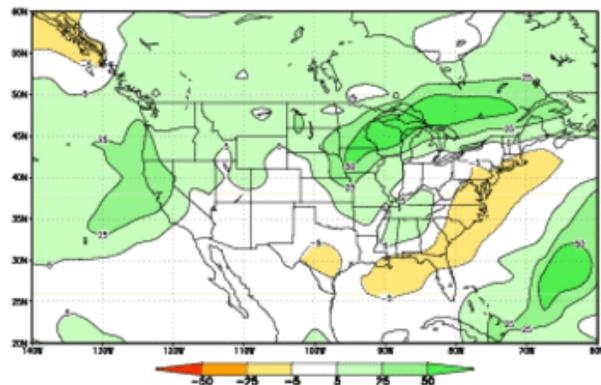
Last Update: Fri Apr 9 2004

# ECMWF vs. NCEP coupled models: still holding out for El Niño!

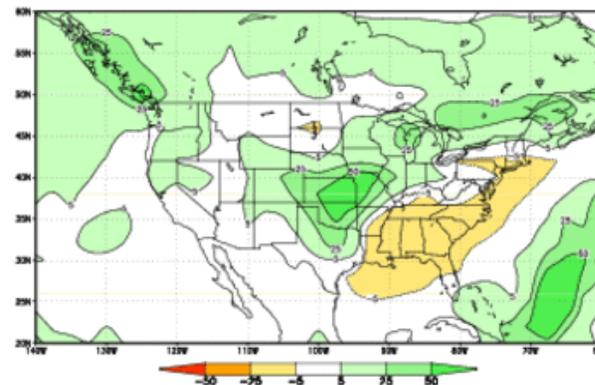
# 6-10d. Forecast (18-22april04)

Day 6-10 Fcst IC 20040413  
Precipitation Anomaly (mm)

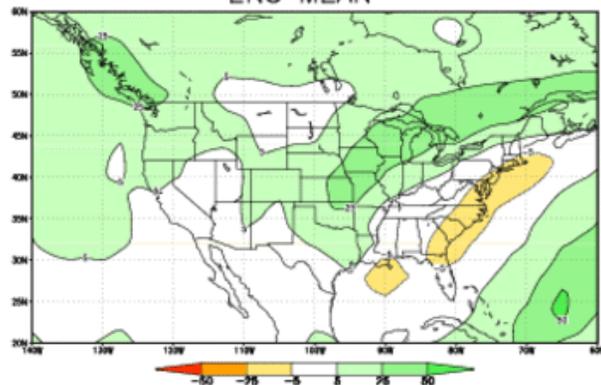
GFS T254



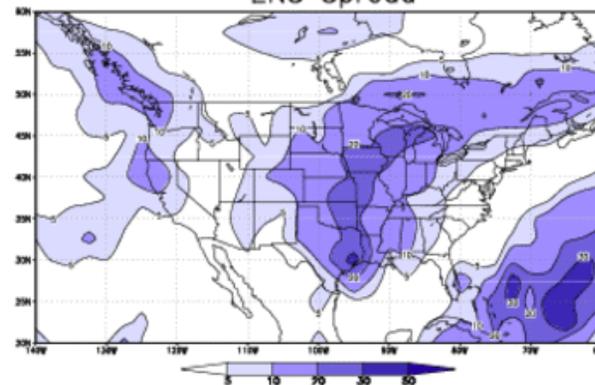
ENSC T126



ENS MEAN



ENS Spread



NCEP/CPC/AB

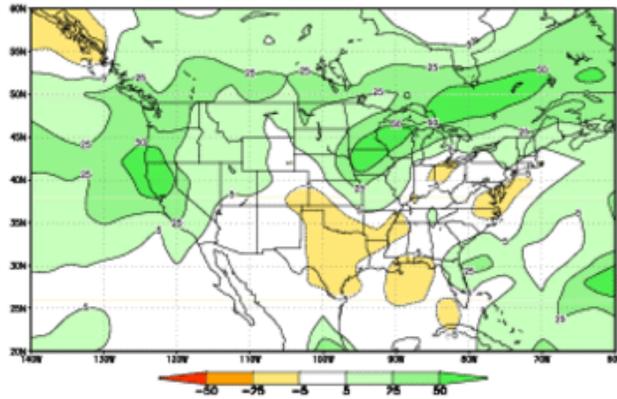
CPC-based moisture forecast for next weekend into next week. A large spread of the ensembles means that we cannot rely on a wet spell.

Source: <http://www.cpc.ncep.noaa.gov/schemm/>

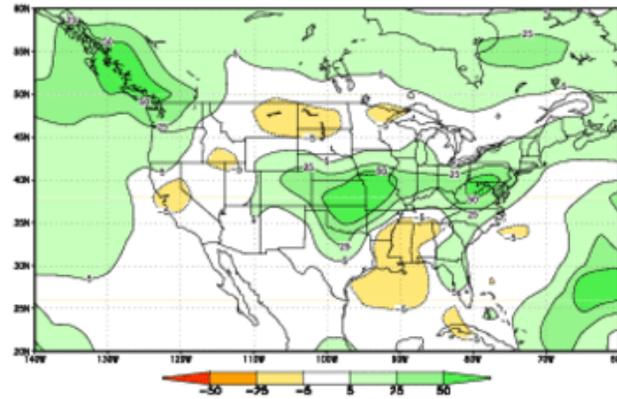
# 8-14d. Forecast (20-26apr04)

Week 2 Fcst IC 20040413  
Precipitation Anomaly (mm)

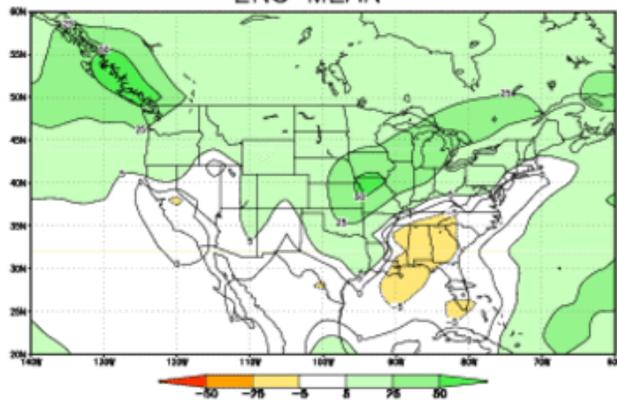
GFS T254



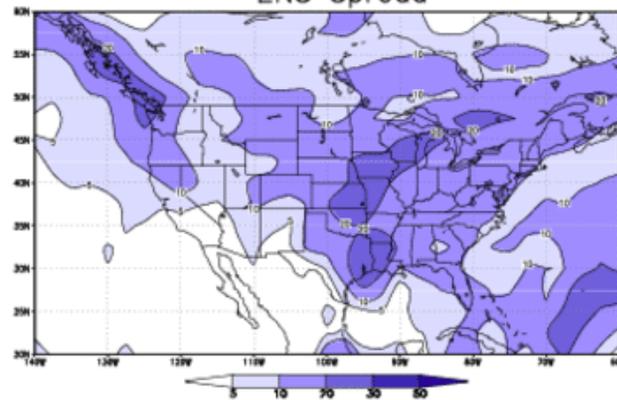
ENSC T126



ENS MEAN



ENS Spread



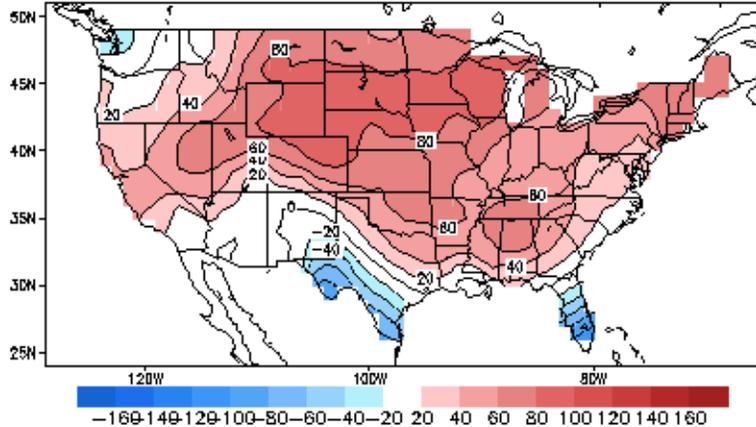
NCEP/CPC/AB

Same comment applies - it is nice to have “green” over CO, but cannot be relied upon. “Reforecast” website still down at CDC, but Canadian ensembles keep most of the moisture to our north thru next 10 days.

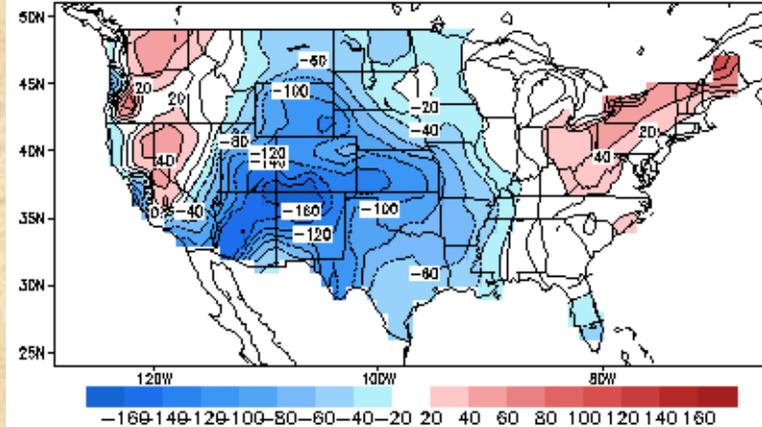
Source: <http://www.cpc.ncep.noaa.gov/schemm/>

# Soil Moisture Analog Forecasts

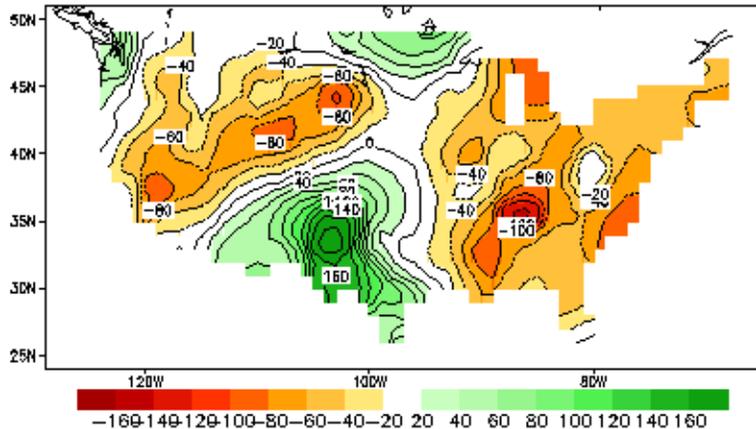
Lagged Averaged Temperature Outlook for MAY 2004  
units: anomaly (sdX100), SM data ending at 20040411



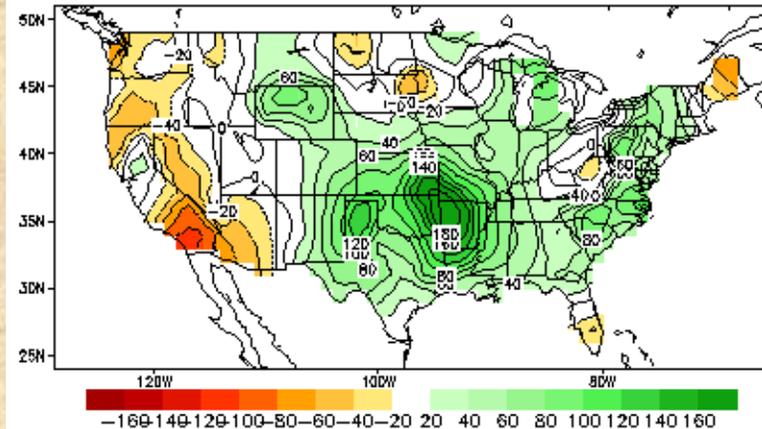
Lagged Averaged Temperature Outlook for JAS 2004  
units: anomaly (sdX100), SM data ending at 20040411



Lagged Averaged Precipitation Outlook for MAY 2004  
units: anomaly (sdX100), SM data ending at 20040411

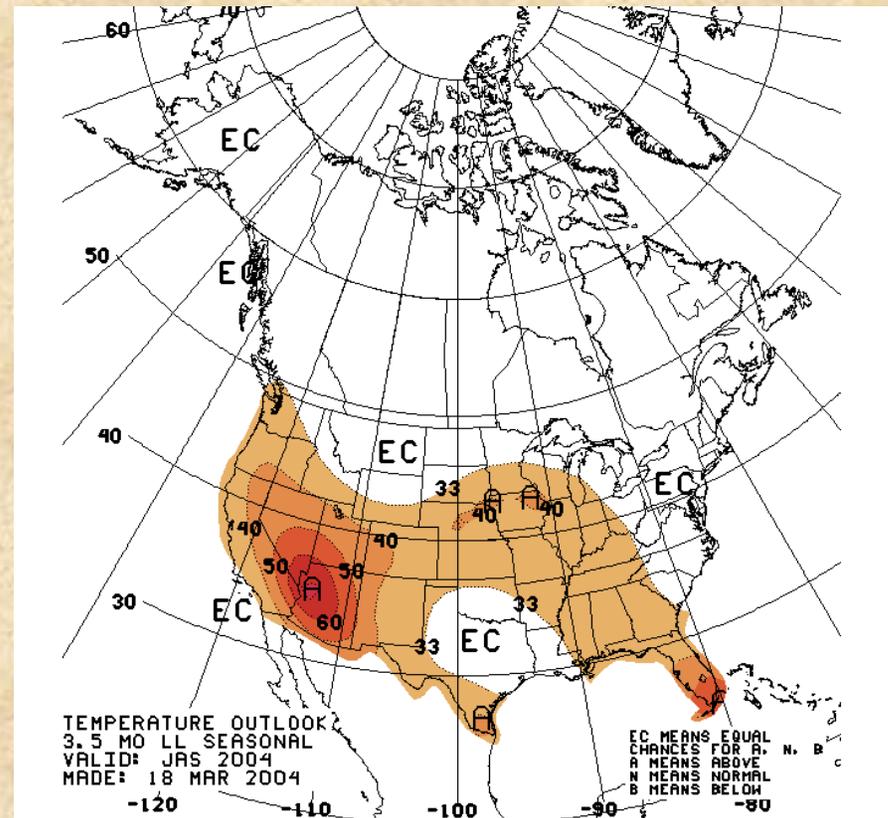
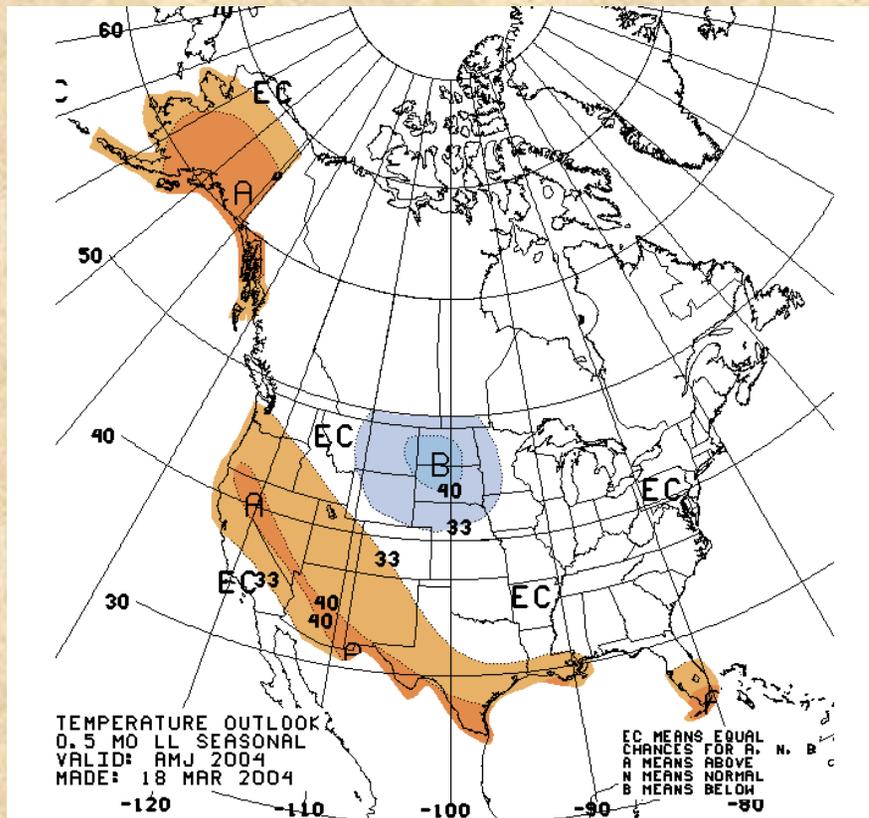


Lagged Averaged Precipitation Outlook for JAS 2004  
units: anomaly (sdX100), SM data ending at 20040411



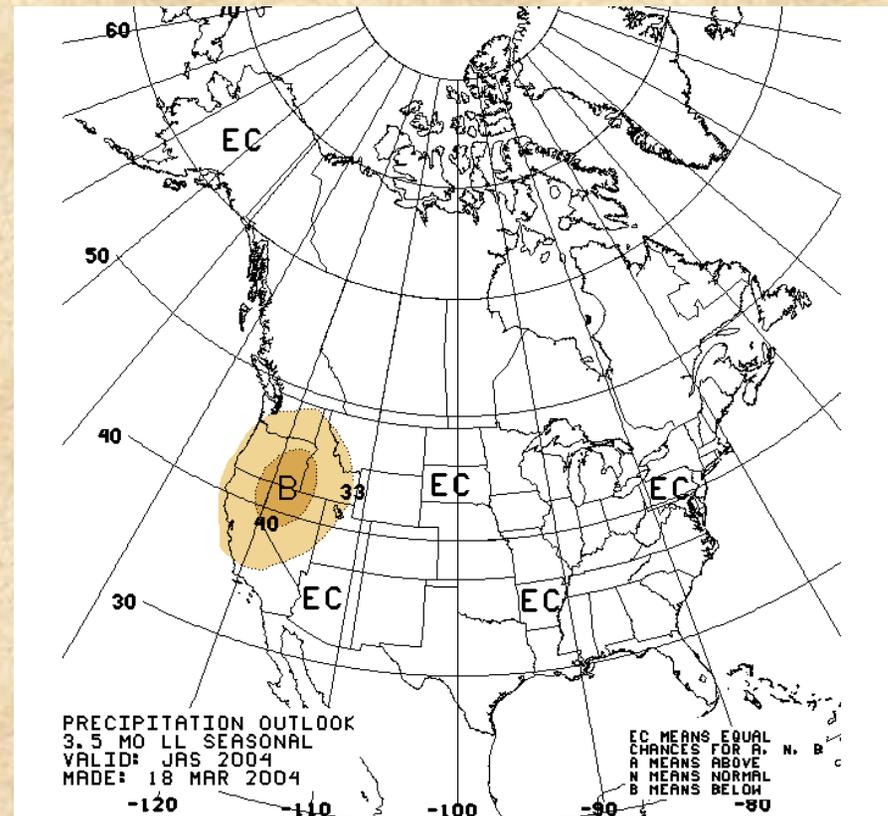
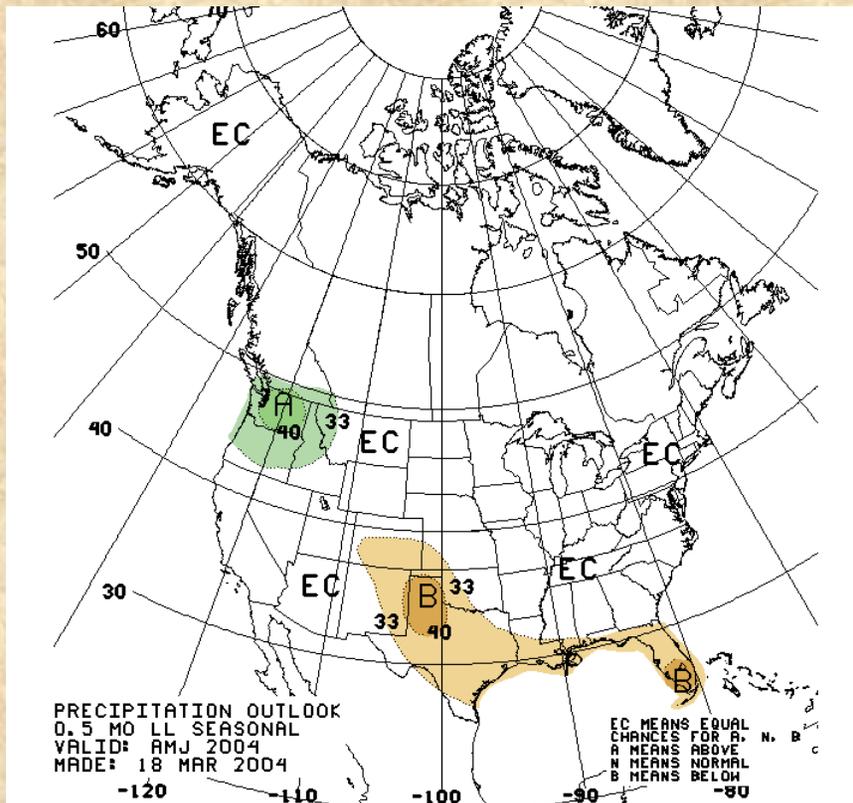
For next month, this tool predicts warm temperatures over much of CO, and excess moisture to our south. Luckily, the monsoon forecast is more optimistic for eastern CO in particular. Update for June/JAS!

# Temperature Forecasts (CPC)



According to CPC, the southwestern U.S. has a small chance of a “warm” spring, and a better chance for a hot summer, mostly to the west of the Continental Divide. Do update for May /JAS!

# Precipitation Forecasts (CPC)

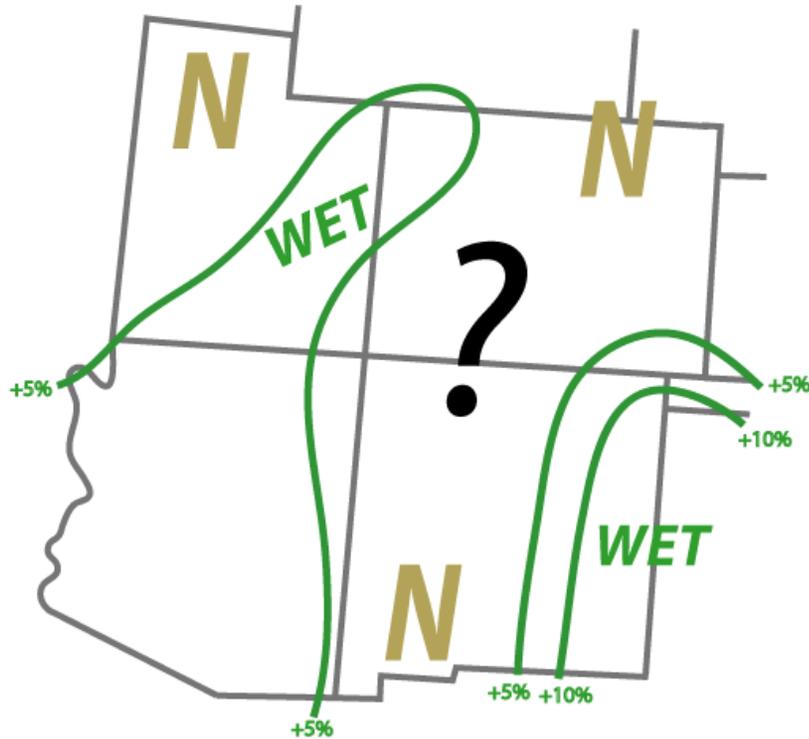


A dry spring forecast for the Texas panhandle into SE Colorado will be hard to maintain, given recent moisture anomalies, while there is no tilt in the odds for the monsoon season, yet. May was of course similar to CAS!

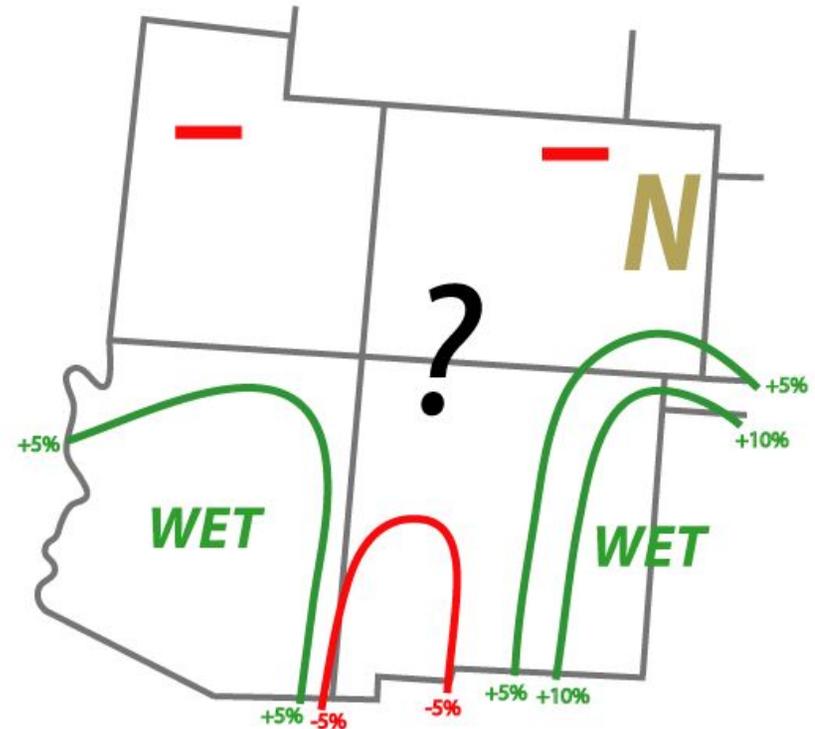
Source (for CPC forecasts): <http://www.cpc.ncep.noaa.gov/products/forecasts/>

# Volatile Experimental Forecasts

EXPERIMENTAL CDC JUL-SEP 2004 PRECIPITATION FORECAST  
(issued March 25, 2004)



EXPERIMENTAL CDC JUL-SEP 2004 PRECIPITATION FORECAST  
(issued May 14, 2004)



The first cut at the monsoon forecast showed no area with a negative tilt (left). This changed with the updated forecast in May (right).

Source: <http://www.cdc.noaa.gov/people/klaus.wolter/SWcasts/>

## Executive Summary (17 May 2004)

1. The most recent El Niño event - declared over last June - tried to make a comeback last fall, but has been 'clinically dead' for some time now. Near-neutral ENSO conditions remain the safest bet for the next few months, with dwindling hope remaining for a resurgent El Niño later this year.
2. After a disappointing March that produced early snowmelt in elevations below about 9,000 ft., and reducing the snowpack during a time of year when it should be growing the fastest, April has tried to make up for it. This appears to have benefitted the Front Range, the Sangre de Cristos, and the San Juans the most, while the northwestern and northeastern corners of Colorado received the least. Despite some resemblance of March 2004 with April 2002, this does not look like a repeat of that extreme spring. On the other hand, April 2004 does not quite measure up to the moisture totals received in April 1999. Furthermore, May has fallen behind again in the moisture department, despite a single good storm during the past few days.
3. In my experimental forecasts for July through September 2004, favored regions remain to our south, both in Arizona as well as eastern New Mexico. Near-normal moisture may be the best we can hope for this summer. If this comes coupled with yet another hot summer, drought conditions may worsen yet again.
4. Bottomline: The roller-coaster ride of alternating wet and dry spells for Colorado will continue into the foreseeable future. Until the tropical Pacific "makes up its mind" whether to slide into El Niño or La Niña, less predictable shorter-term variability will dominate the picture, leading to volatile climate forecasts and increased uncertainty.