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# Basin Advisory Group

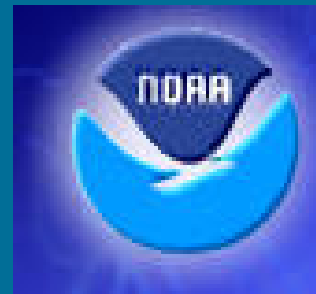
Teresa Souther Murphy  
NWS Rapid City

# National Weather Service

- Dept of Commerce



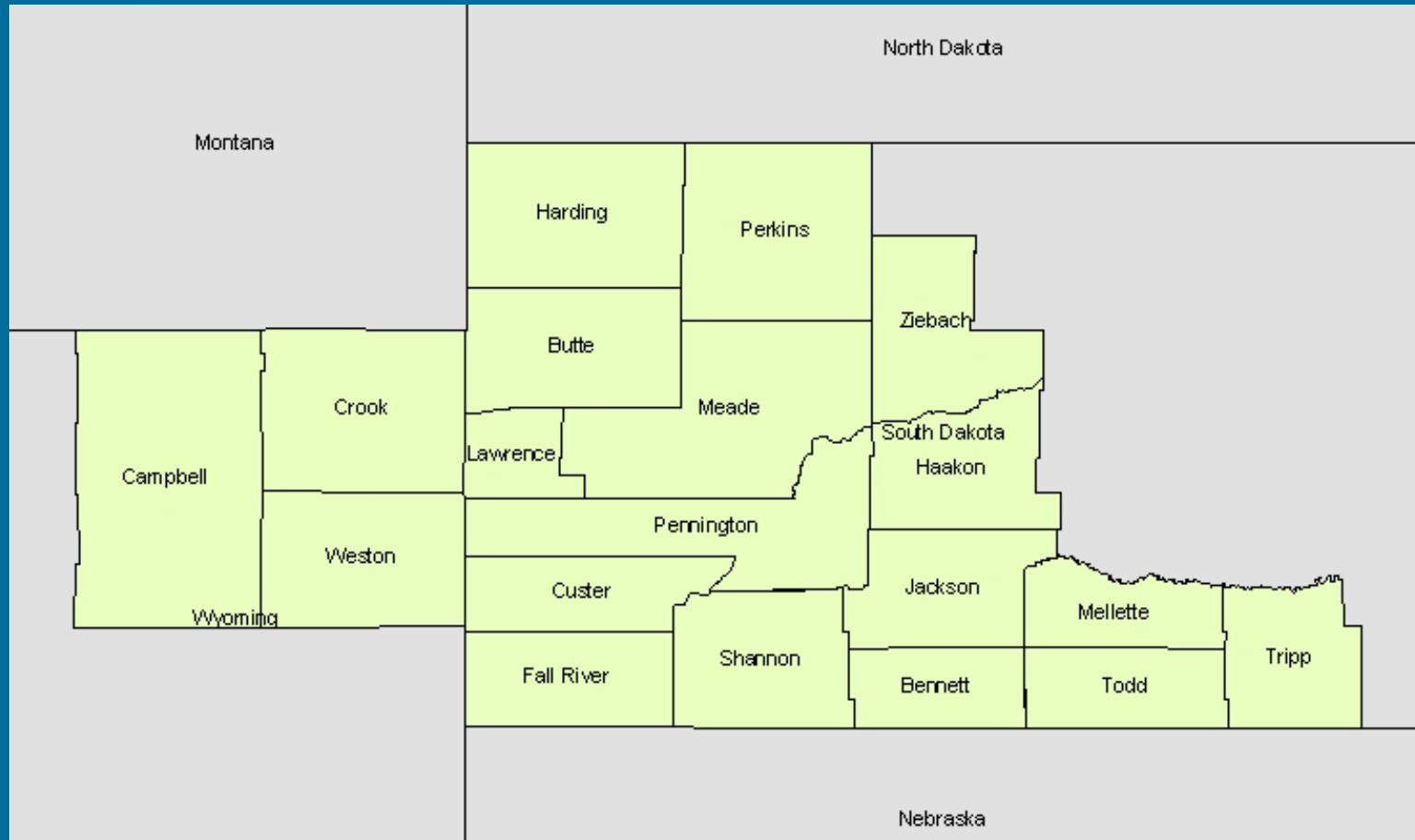
- NOAA



- NWS

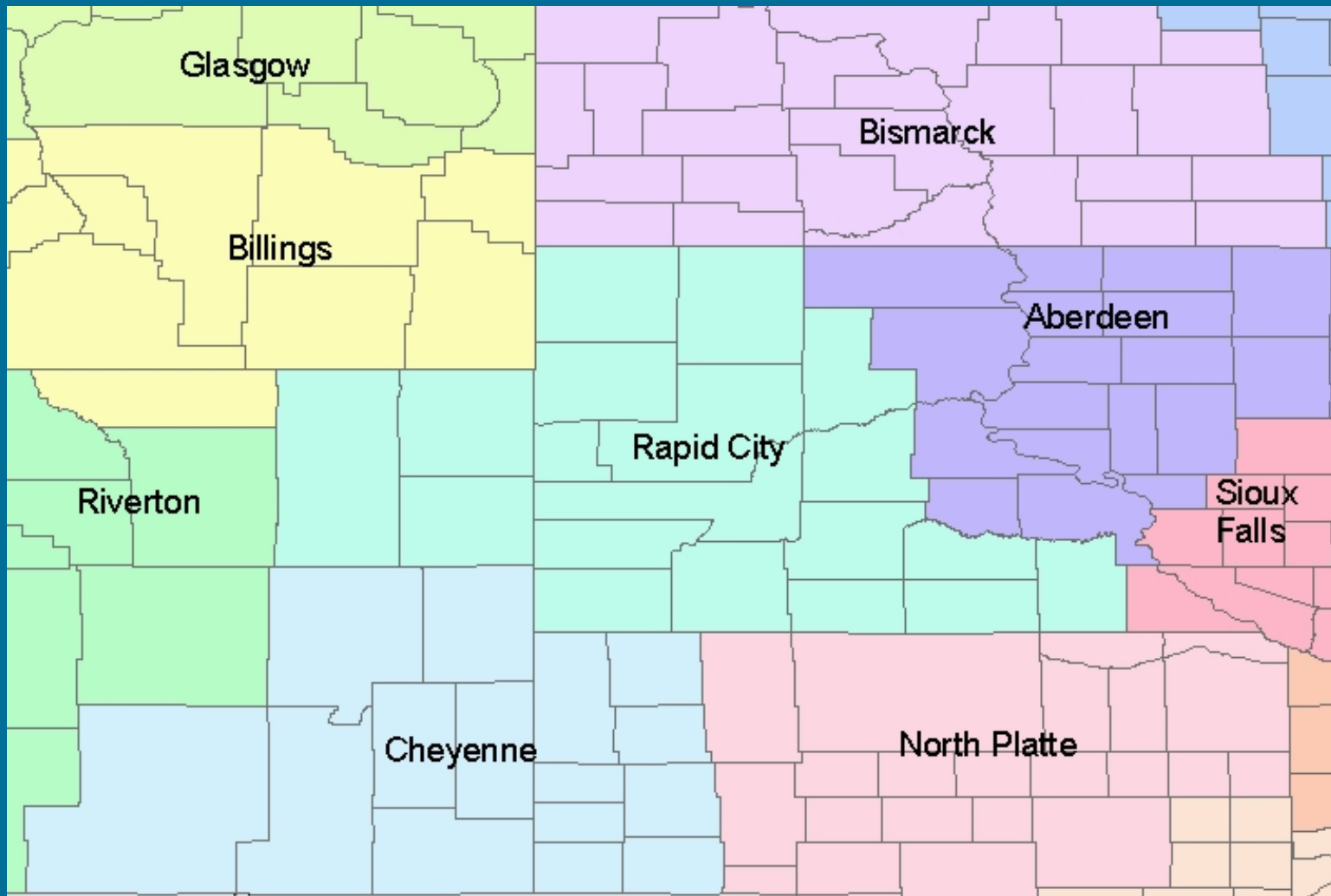


# NWS Rapid City



Forecast area

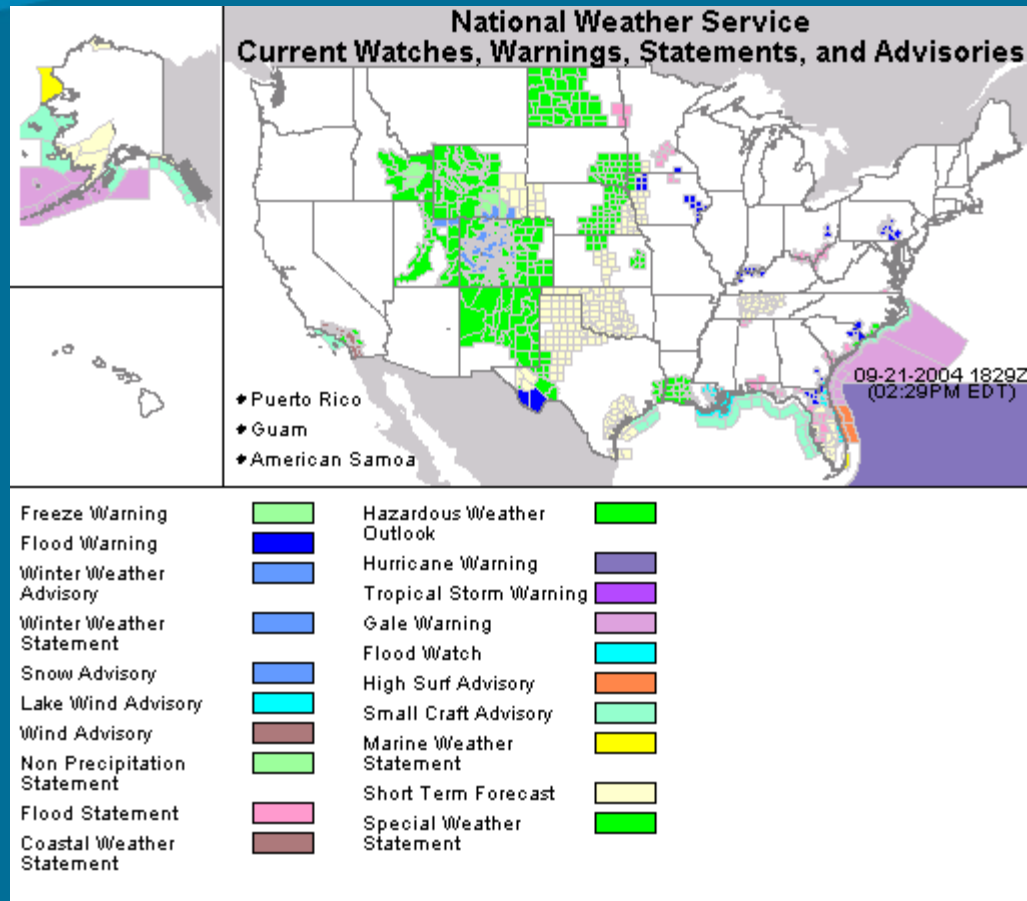
# Surrounding offices



# NWS Mission

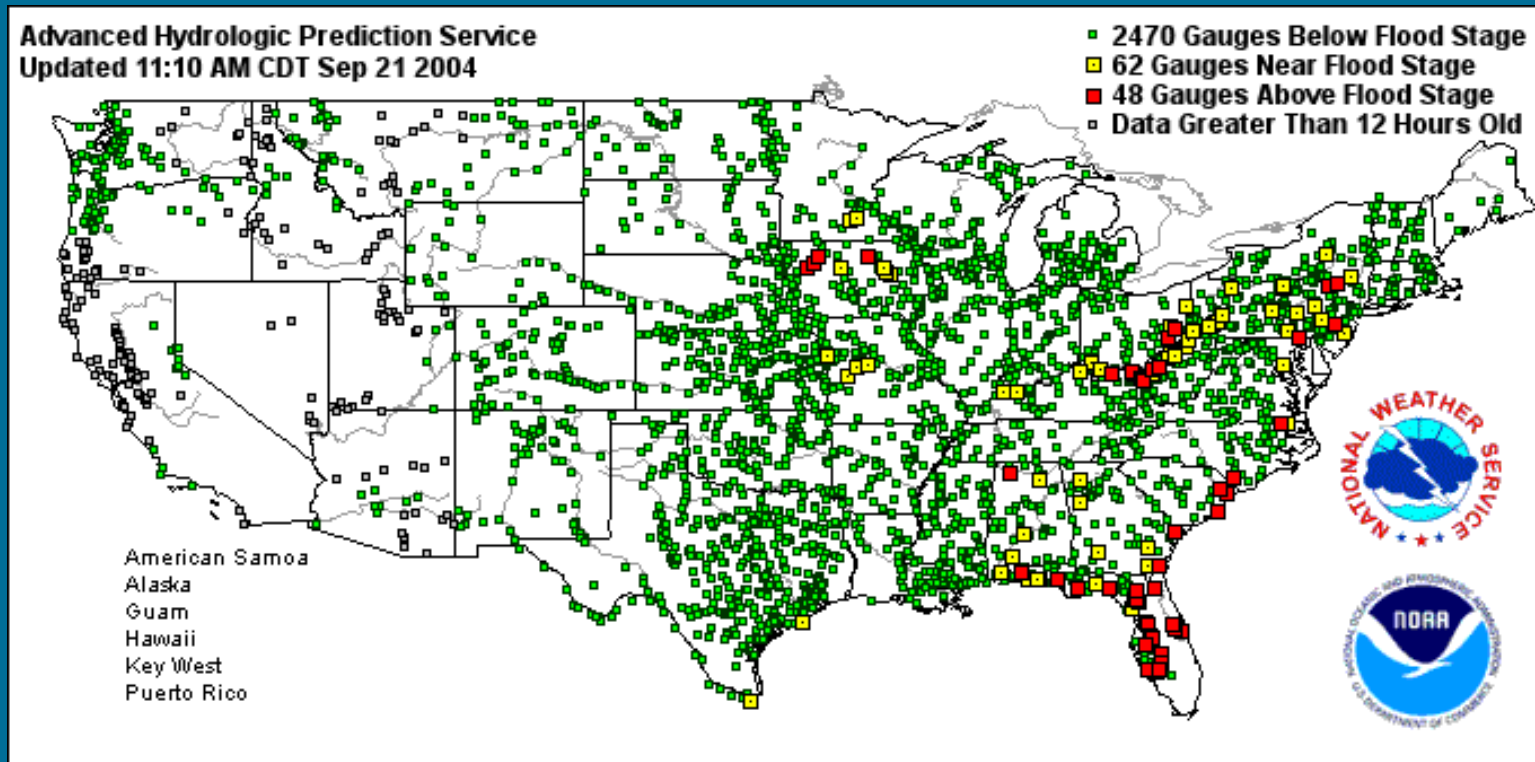
...the NWS provides weather, hydrologic, and climate forecasts and warnings...for the protection of life and property and the enhancement of the national economy...

# Weather forecasts



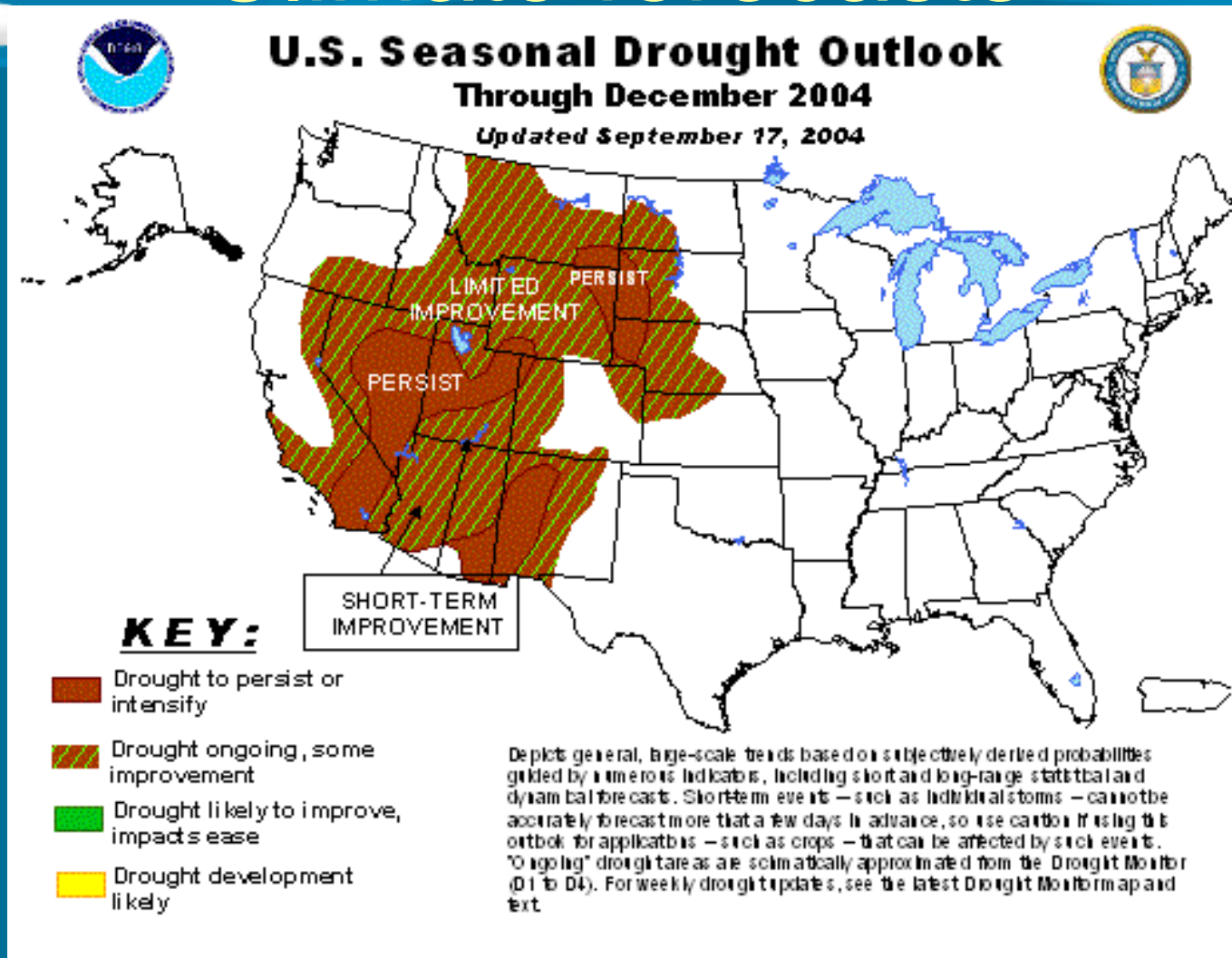
<http://weather.gov/>

# Hydrologic forecasts



[http://weather.gov/rivers\\_tab.php](http://weather.gov/rivers_tab.php)

# Climate forecasts



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

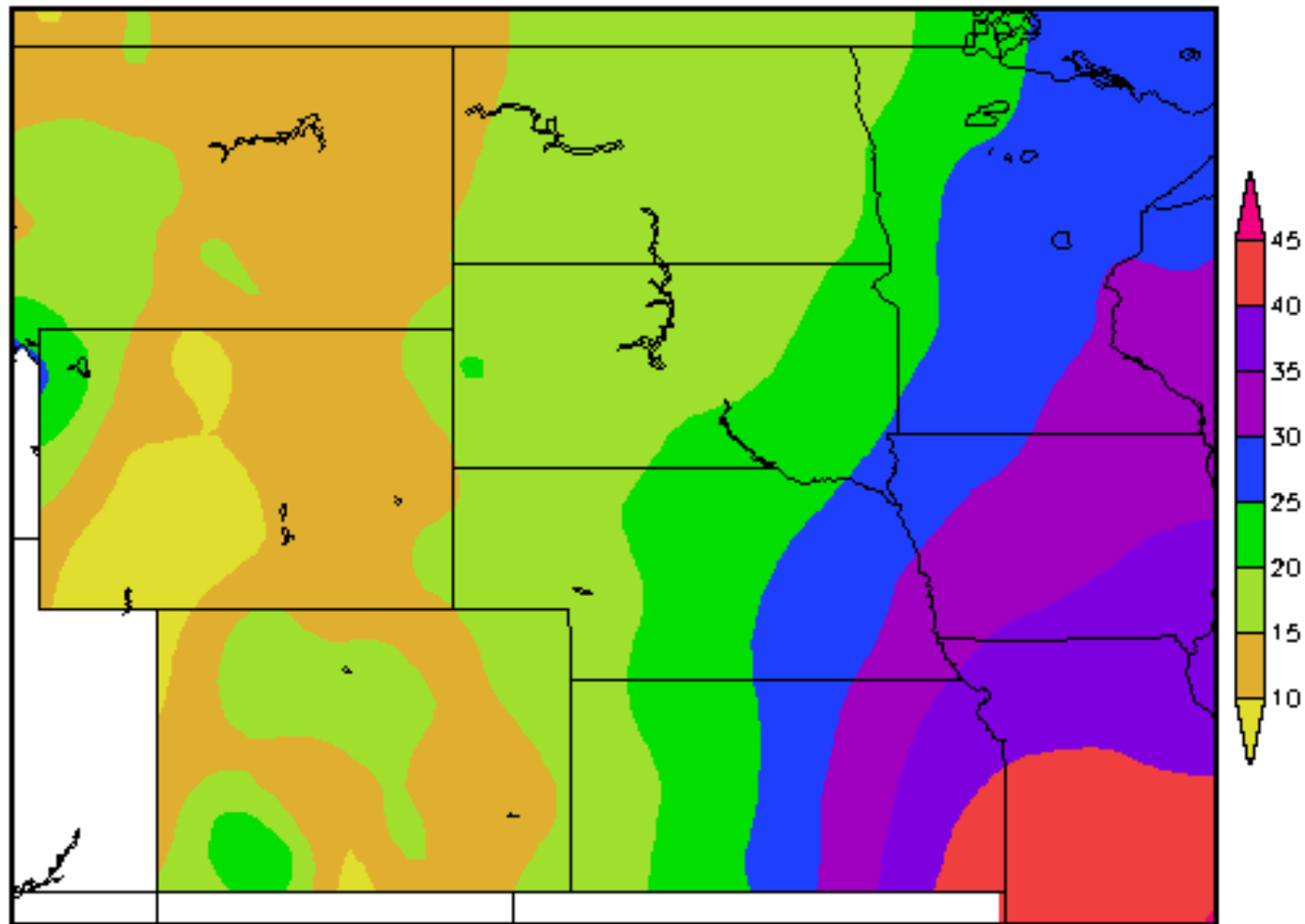


# What is “Normal”

- “Normal” – 30 year average of temperature, precipitation or other meteorological element; no changes in location, instruments, observation practices...and have no missing values so a normal will reflect the actual average climatic conditions.

# Normal annual precipitation

Annual Precipitation (inches)

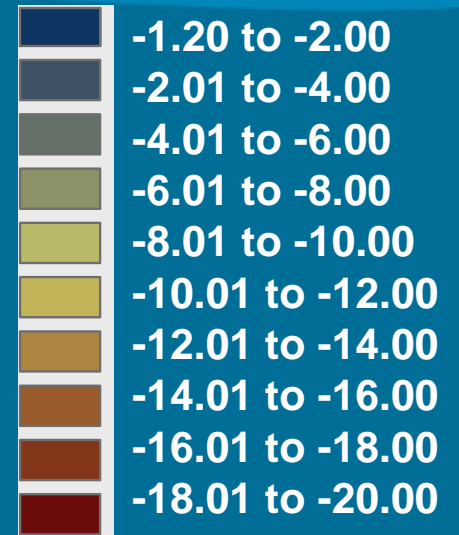
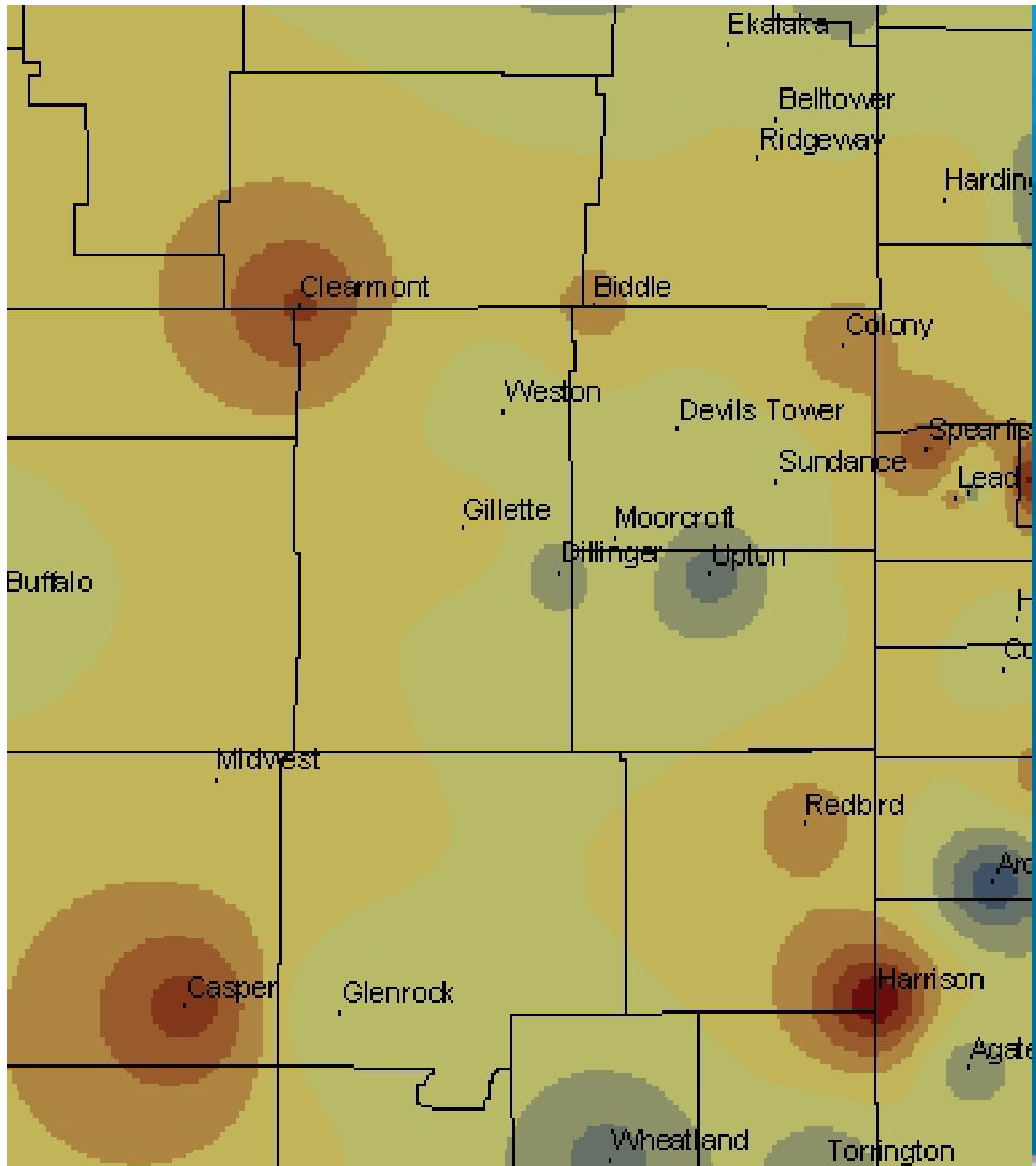


High Plains Climate Center

# Departure from Normal Jan 2001 through Dec 2003

- Colony -11.99
- Devils Tower - 8.64
- Dillinger - 3.88
- Echeta 2NW -11.89
- Gillette - 5.18
- Hulett - 3.99
- Newcastle - 3.18
- Sundance -10.56
- Upton - 0.49
- Weston - 9.05
- Wright 12W - 6.27

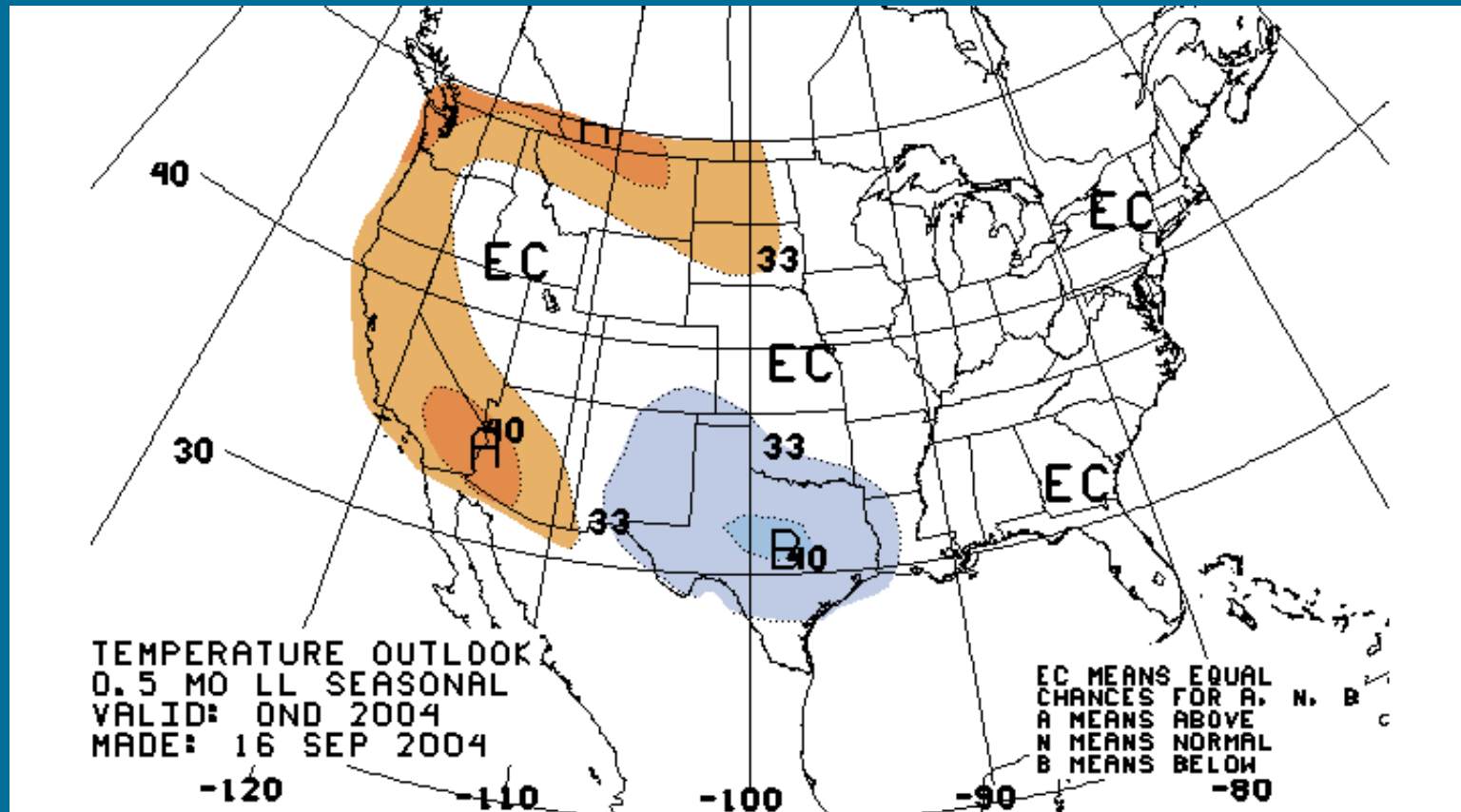
# Cumulative precipitation deficit June 2001 through May 2004 (48 months)



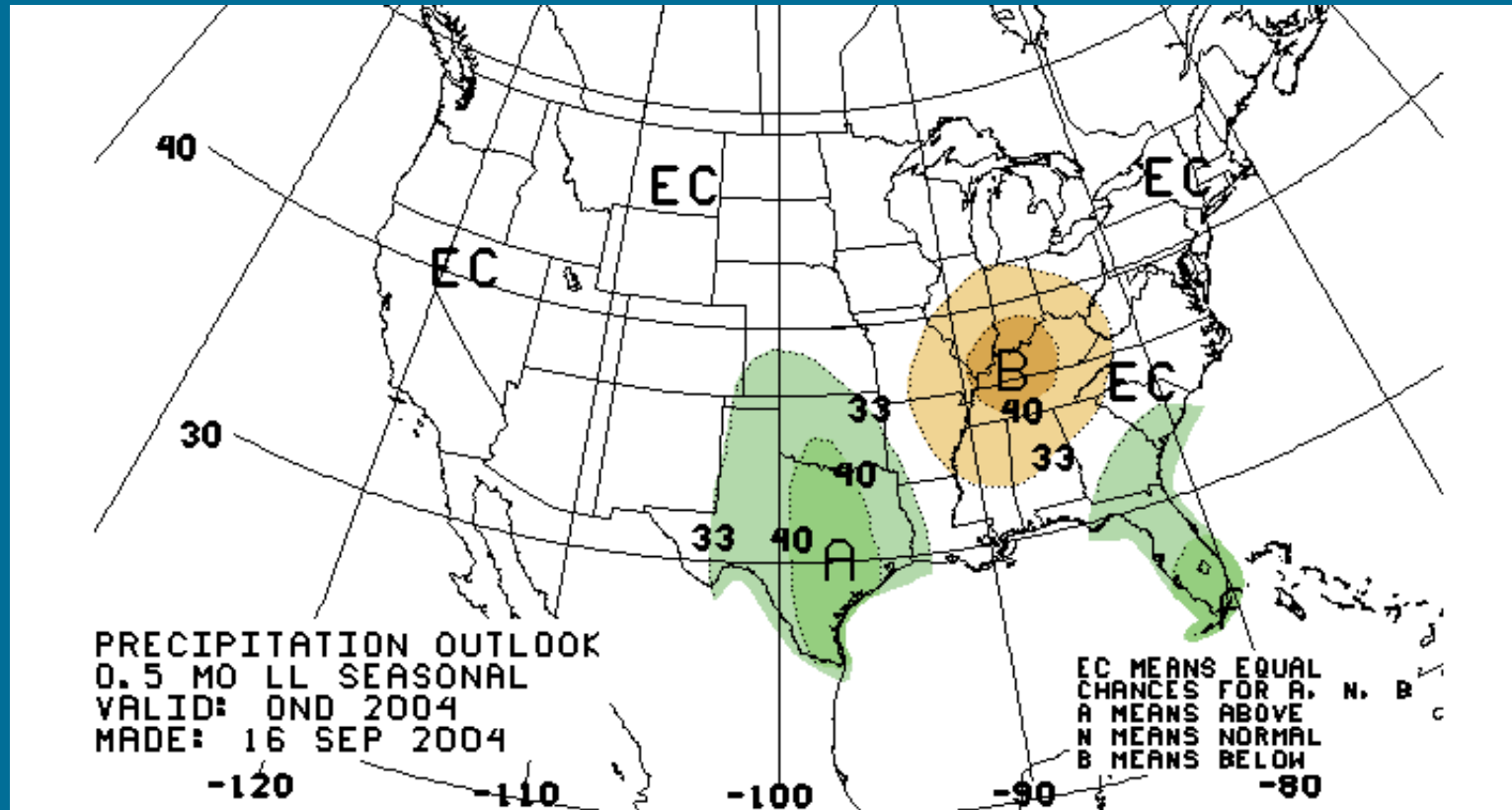
# Summer 2004

- Temperature and precipitation below normal
- Multi-year drought continues
- Need considerable precipitation to recover hydrologically
- Looks unlikely with anticipated circulations in the north Pacific and north Atlantic

# Temperature outlook

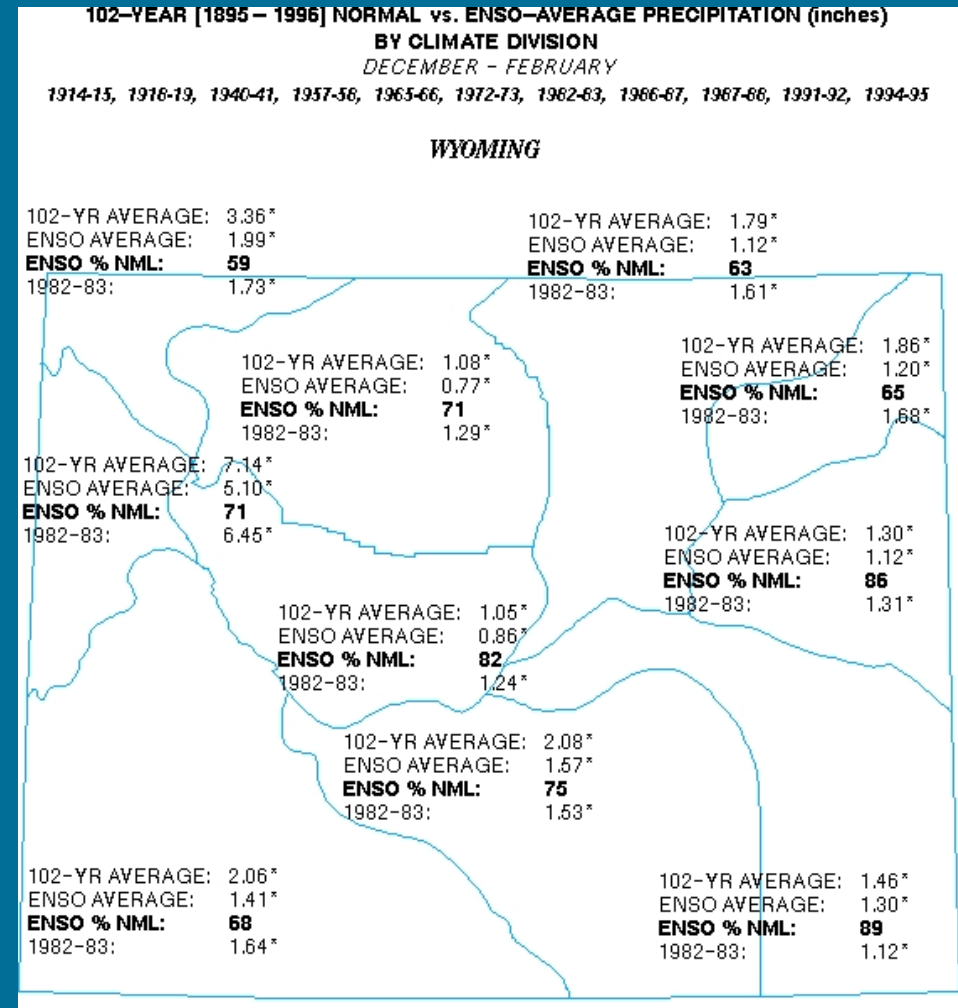


# Precipitation outlook



# Precipitation in El Niño winters

- December – February
- 102 year average  
1.65 inches
- El Niño years only  
1.15 inches

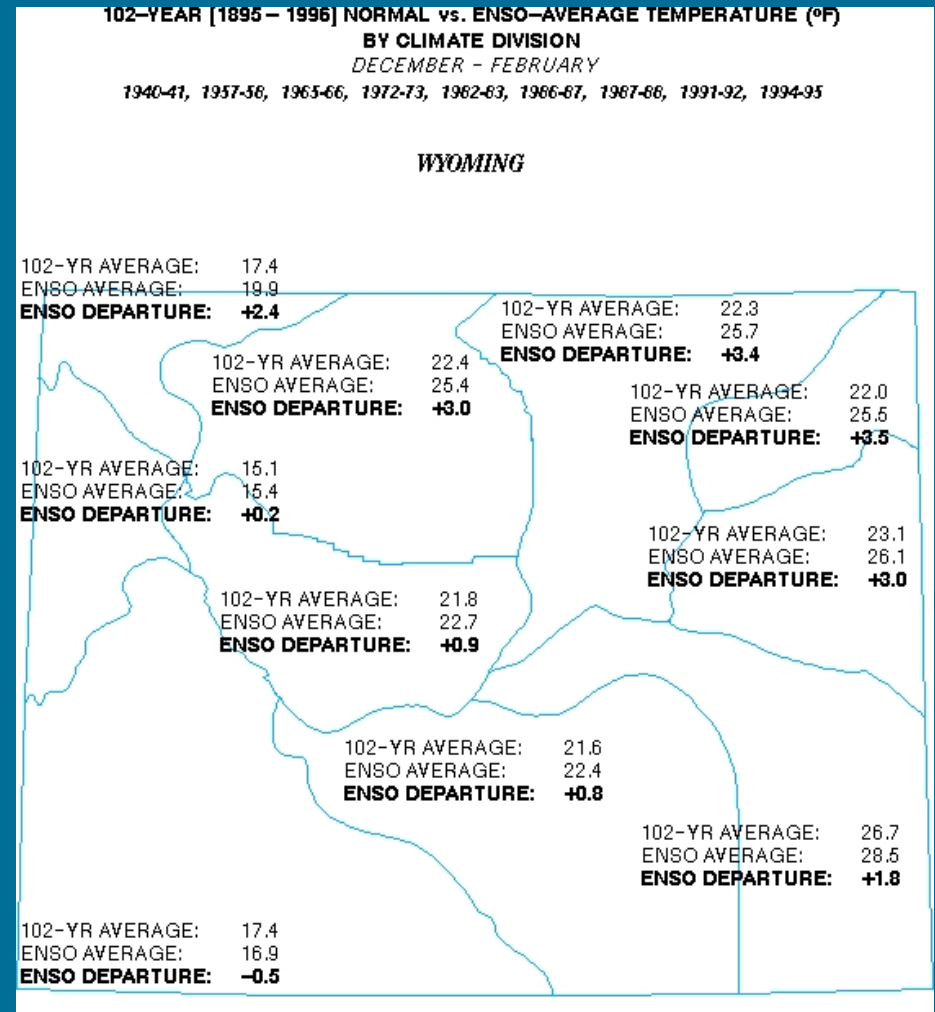




# Temperature in El Niño years

December – February

- 102 year average 22.5°F
- El Niño years only 26.1°F



# El Niño impacts

- ...strong El Niño episodes have...above normal average temperatures and below normal average precipitation for...December through February over Wyoming. Average temperature departures from normal have been greatest...in the northeast part of the state, while the greatest average precipitation deficits...have been in the western part of the state. — NWS Climate Prediction Center

# QUESTIONS?

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