

# Drought Update

February 23, 2004 WATF meeting

**Roger A. Pielke, Sr., Director**

**Colorado Climate Center**

(presented to WTF group, Denver, CO)

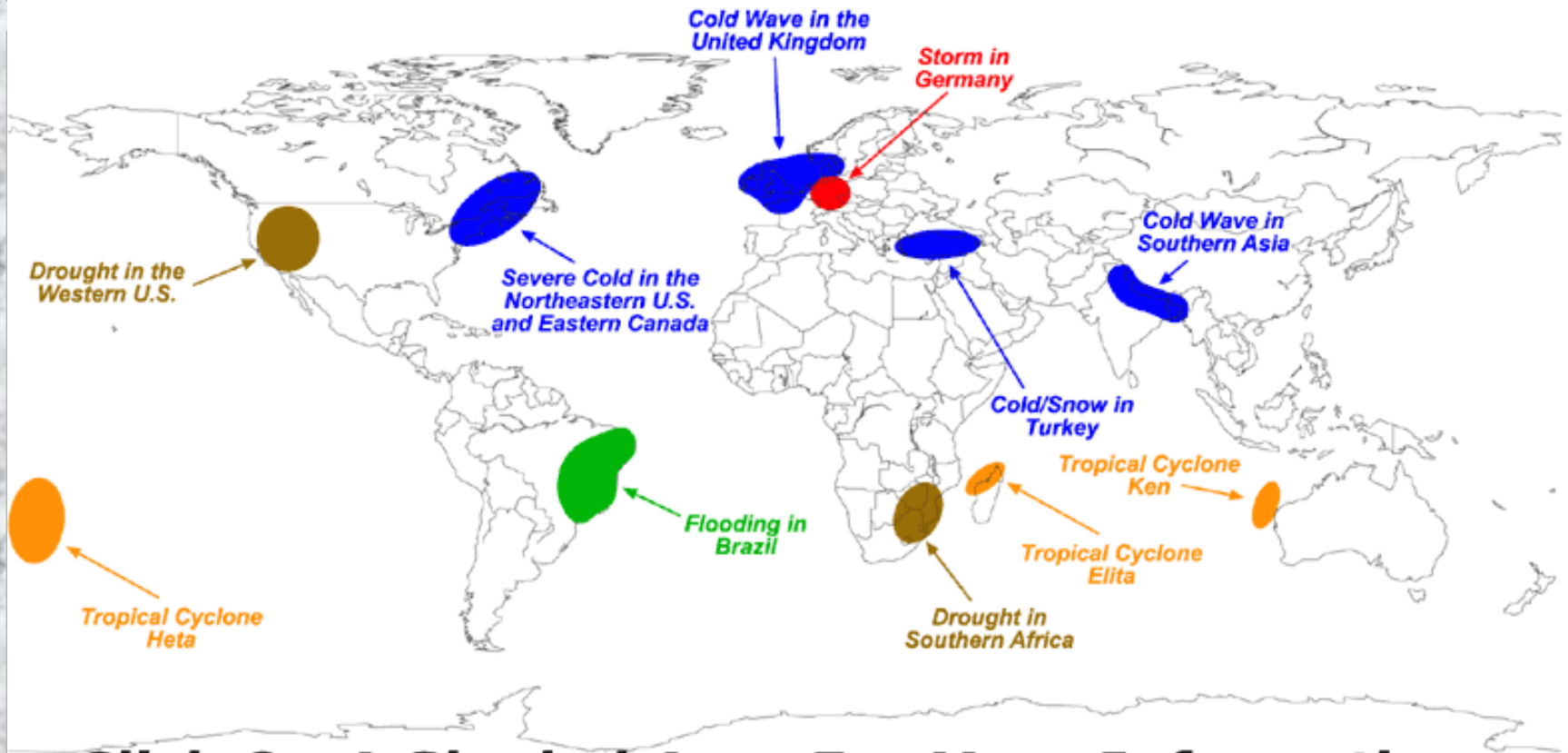
Prepared by Odie Bliss

<http://ccc.atmos.colostate.edu>





# Selected Global Significant Events January 2004

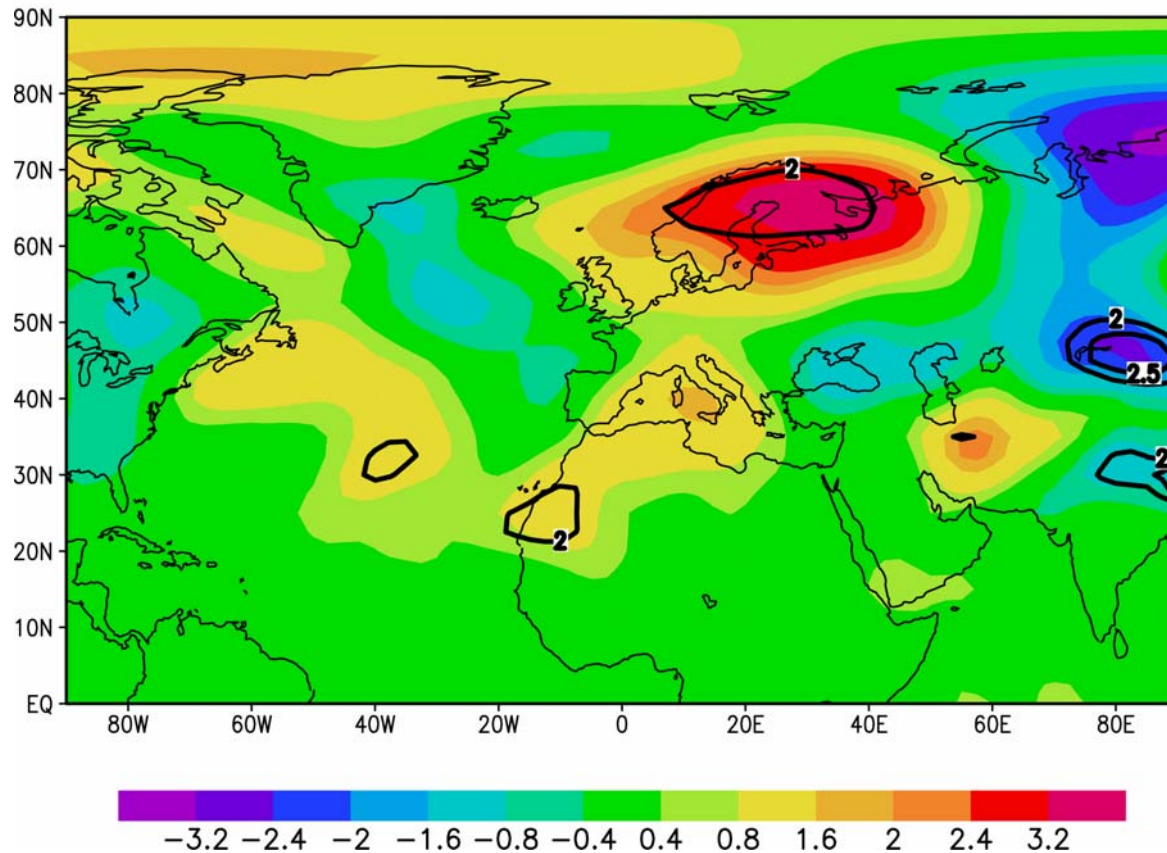


**Click On A Shaded Area For More Information**



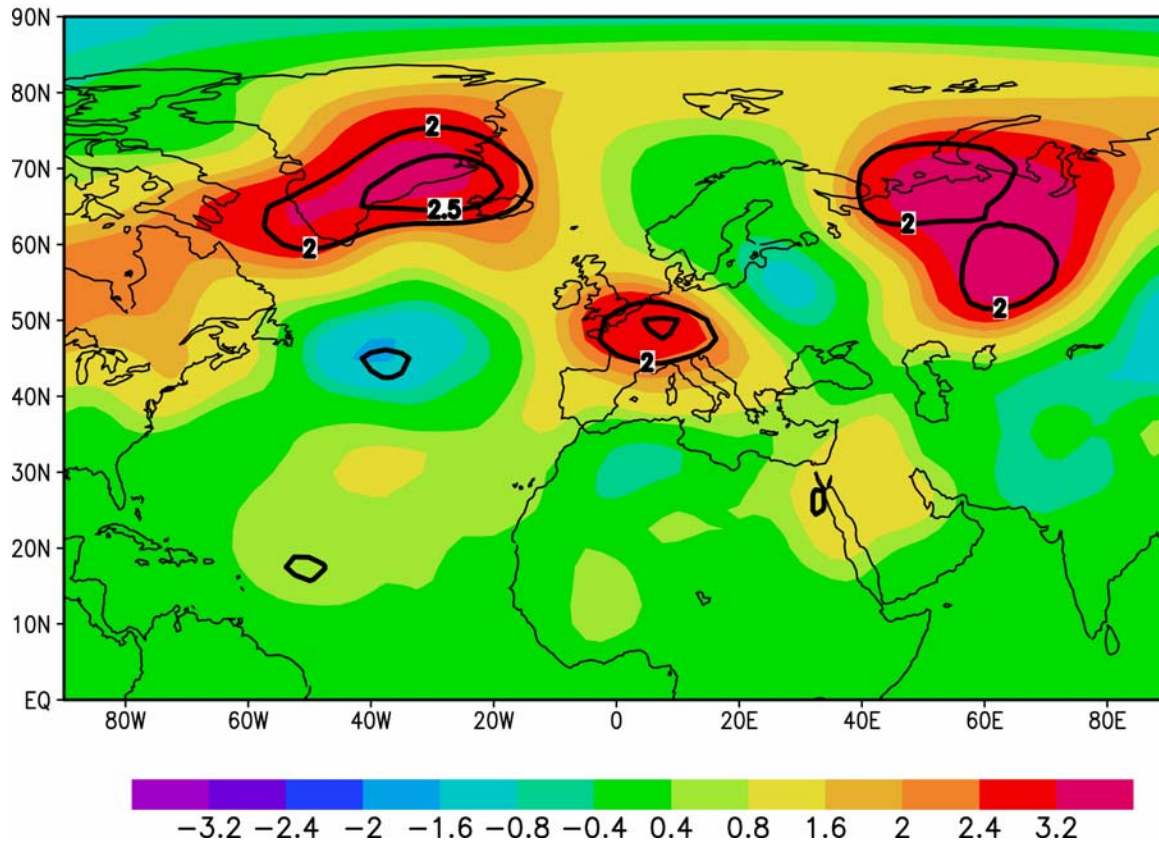
# NCEP Reanalysis of 1000-500 mb Thickness Temperature for July 2003

2003 NCEP JULY THICKNESS TEMP ANOMALY  
(1000-500 mb)



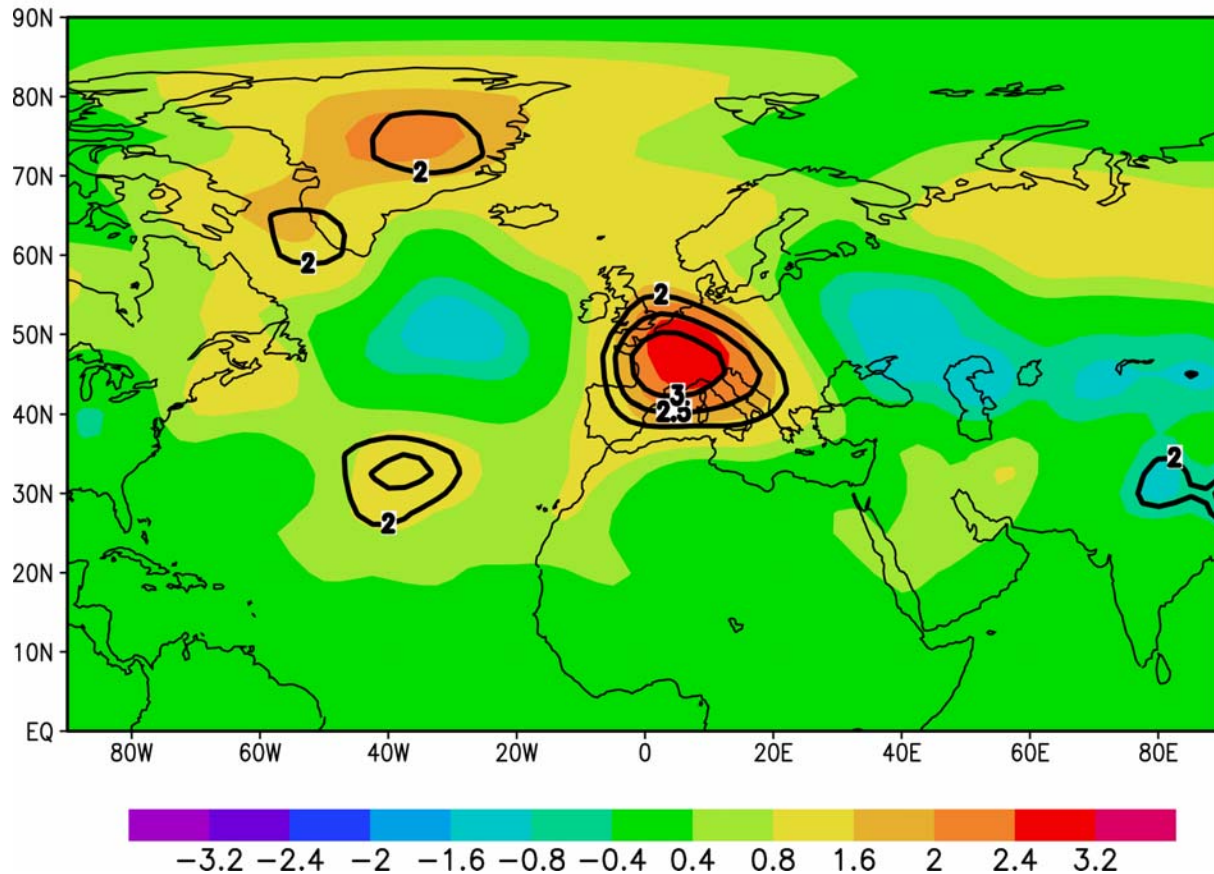
# NCEP Reanalysis of 1000-500 mb Thickness Temperature for August 2003

2003 NCEP AUGUST THICKNESS TEMP ANOMALY  
(1000-500 mb)



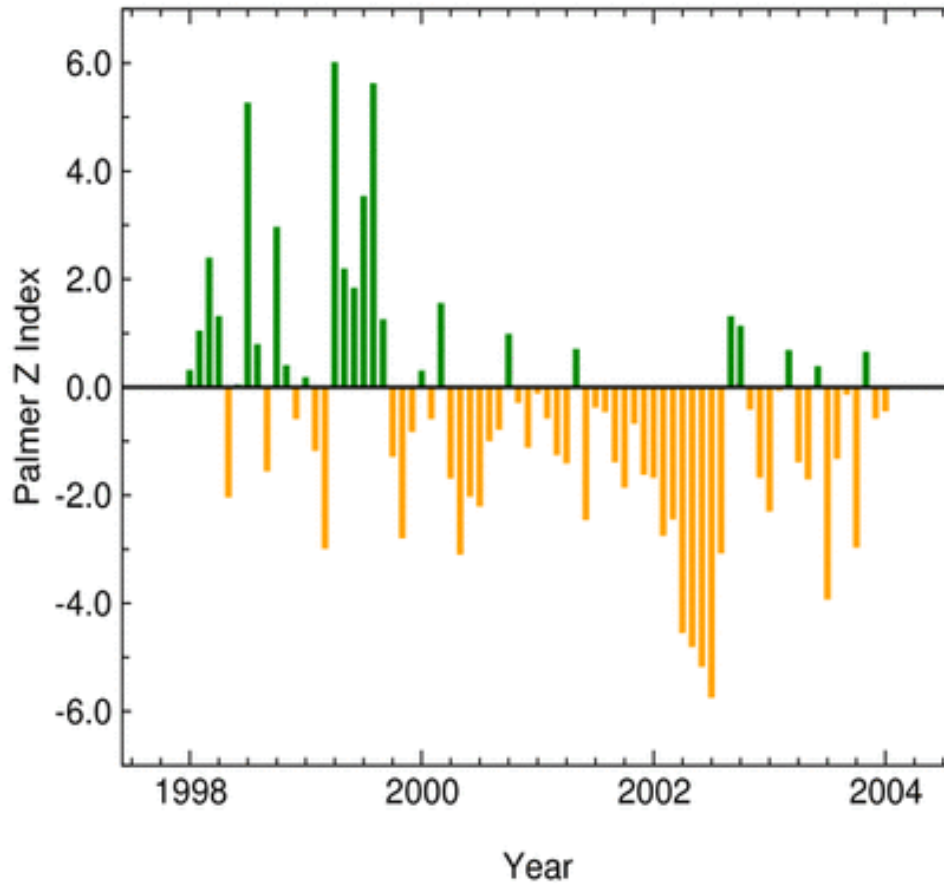
# NCEP Reanalysis of 1000-500 mb Thickness Temperature for Summer 2003

2003 NCEP JJA THICKNESS TEMP ANOMALY  
(1000-500 mb)



# Colorado Statewide Z Index\*

January 1998 - January 2004

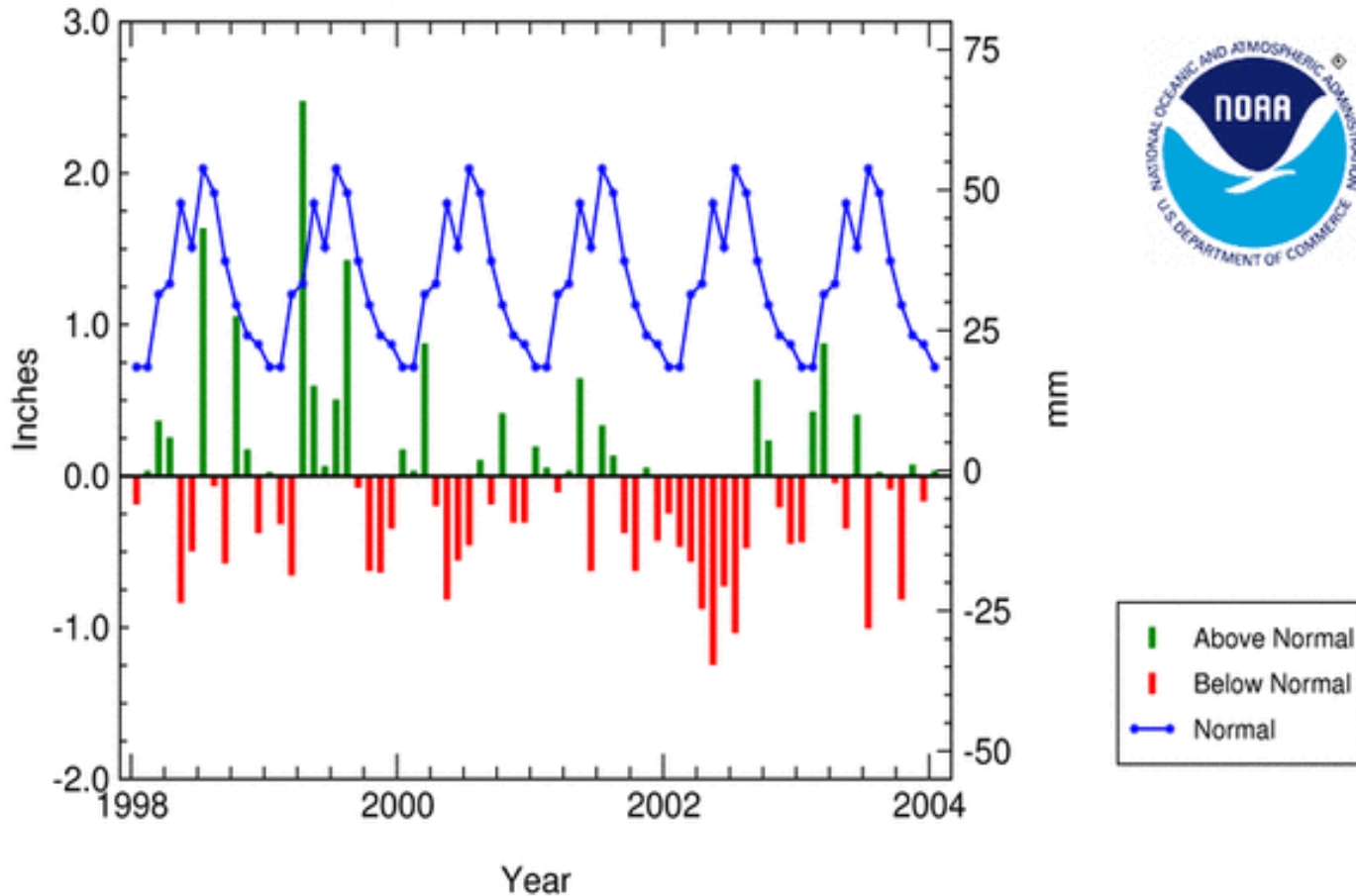


\*Palmer Z Index  
Short-Term Drought

- Orange bar: Dry Spell
- Green bar: Wet Spell

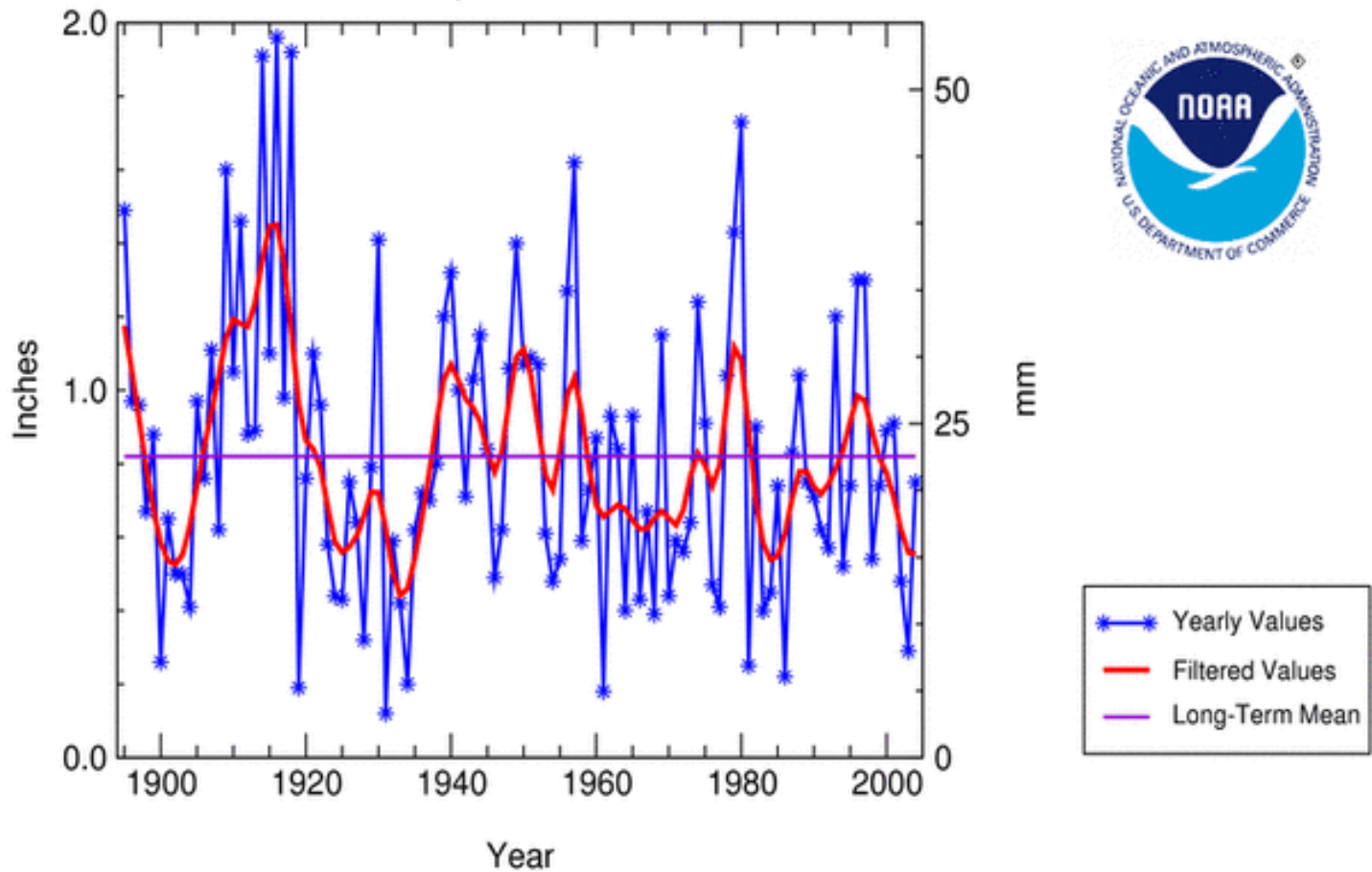
National Climatic Data Center / NESDIS / NOAA

## Colorado Statewide Precipitation Normal & Departure, Jan 1998 - Jan 2004



National Climatic Data Center / NESDIS / NOAA

# Colorado Statewide Precipitation January, 1895 - 2004



National Climatic Data Center / NESDIS / NOAA

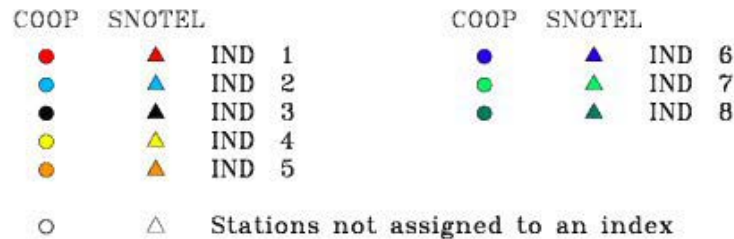
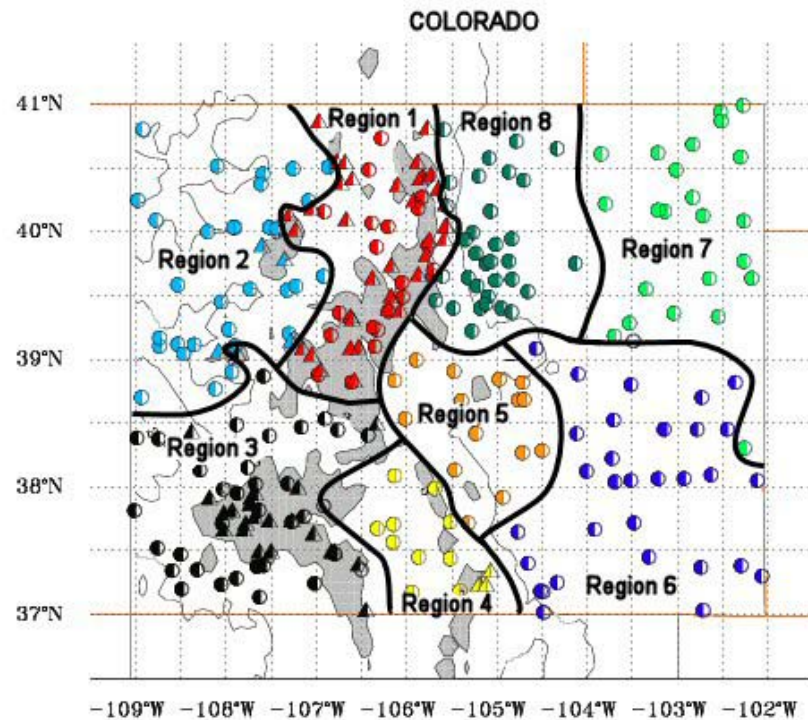


## Period of record 1895-2003

### Statewide Precipitation Ranks for Colorado , 2003-2004

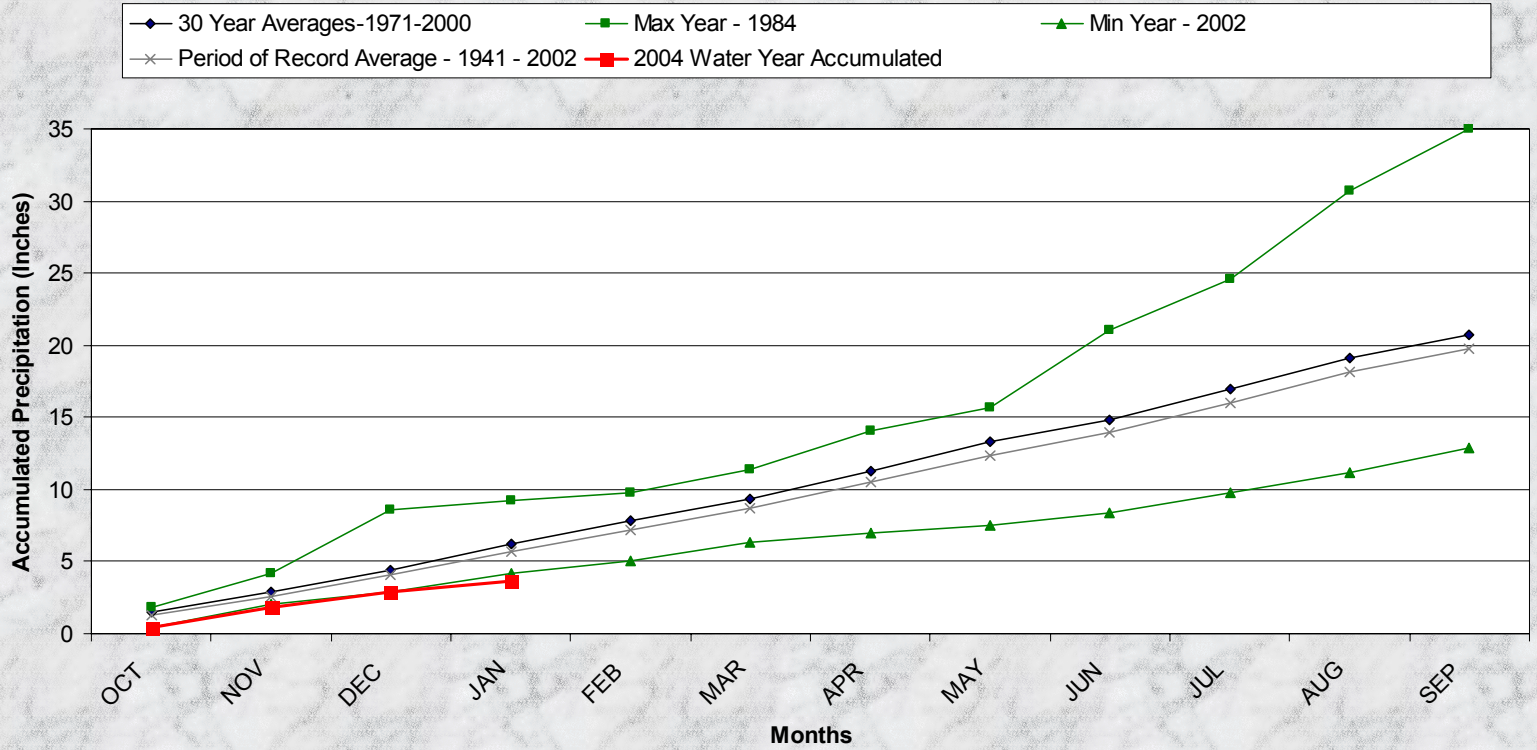
Period	Rank
Jan	<u>54<sup>th</sup> driest</u>
Dec-Jan	<u>45<sup>th</sup> driest</u>
Nov-Jan	<u>49<sup>th</sup> wettest</u> ( <u>60<sup>th</sup> driest</u> )
Oct-Jan	<u>21<sup>st</sup> driest</u>
Sep-Jan	<u>29<sup>th</sup> driest</u>
Aug-Jan	<u>31<sup>st</sup> driest</u>
Jul-Jan	<u>11<sup>th</sup> driest</u>
Jun-Jan	<u>29<sup>th</sup> driest</u>
May-Jan	<u>23<sup>rd</sup> driest</u>
Apr-Jan	<u>23<sup>rd</sup> driest</u>
Mar-Jan	<u>36<sup>th</sup> driest</u>
Feb-Jan	<u>41<sup>st</sup> driest</u>

# Climate divisions defined by Dr. Klaus Wolter of NOAA's Climate Diagnostic Center in Boulder, CO



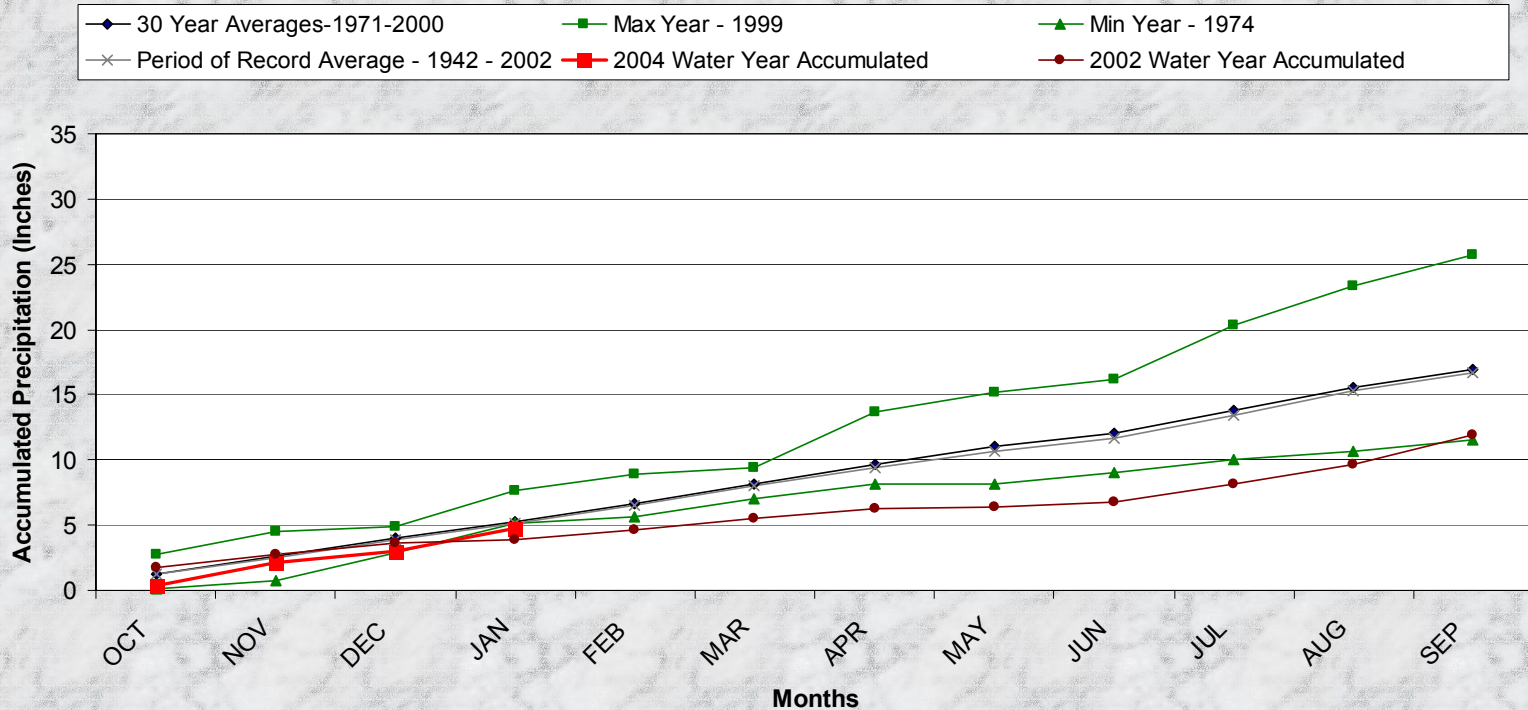
# Division 1- Grand Lake 1NW

**Grand Lake 1 NW  
2004 Water Year  
(through Oct '03 - Jan '04)**



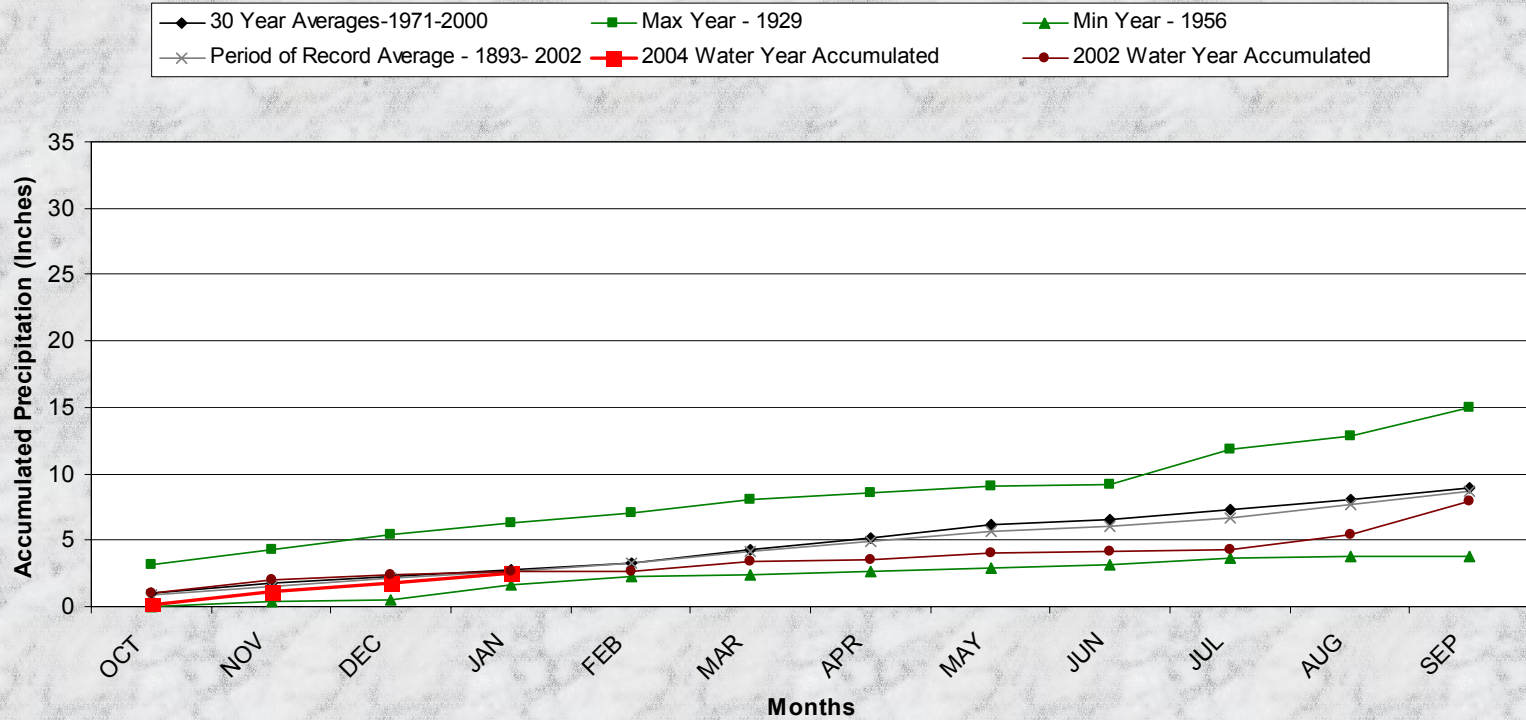
# Division 1- Taylor Park

**Taylor Park  
2004 Water Year  
(through Oct '03 - Jan '04)**



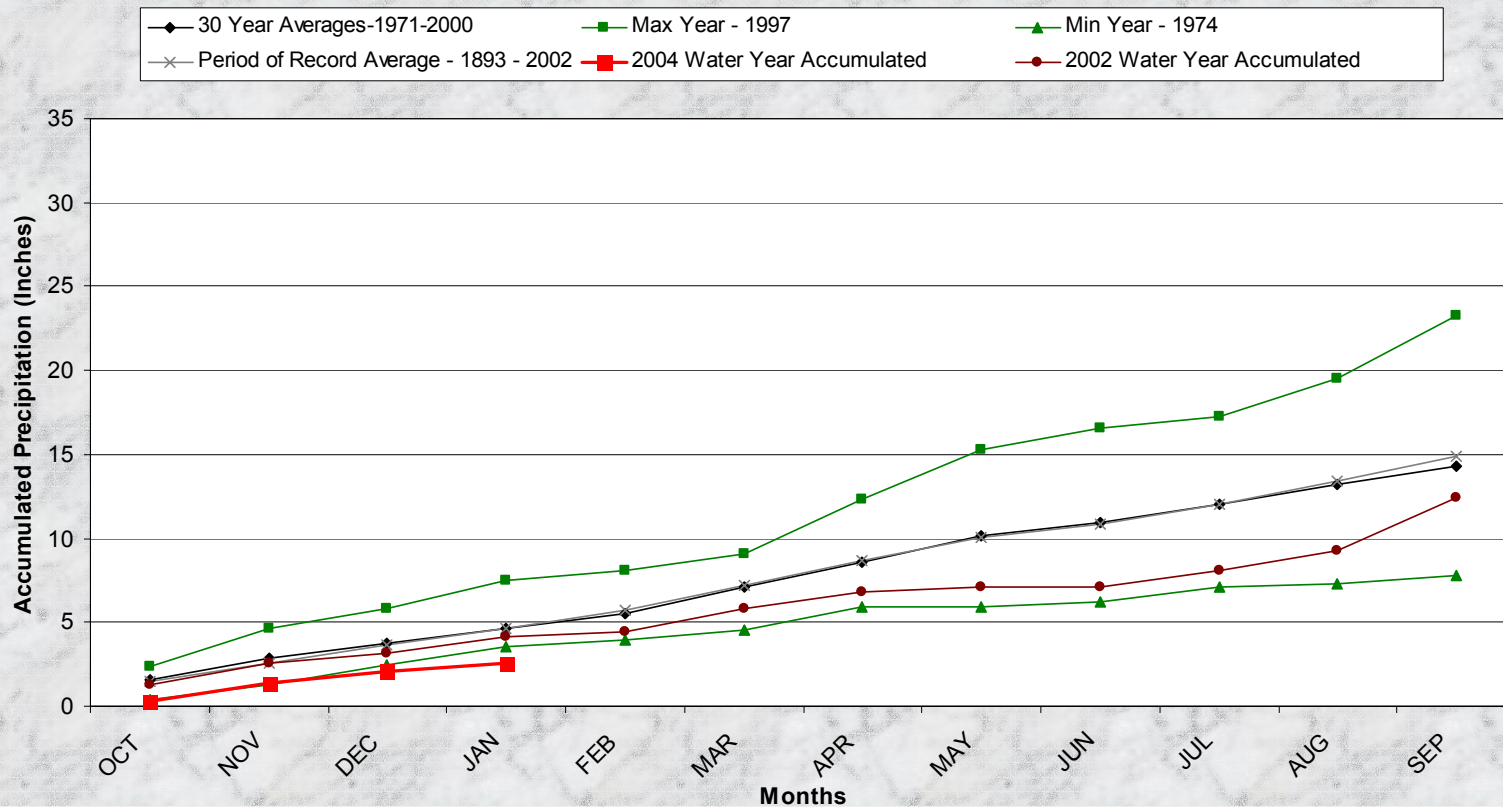
# Division 2 – Grand Junction

## Grand Junction WSFO 2004 Water Year (through Oct '03 - Jan '04)



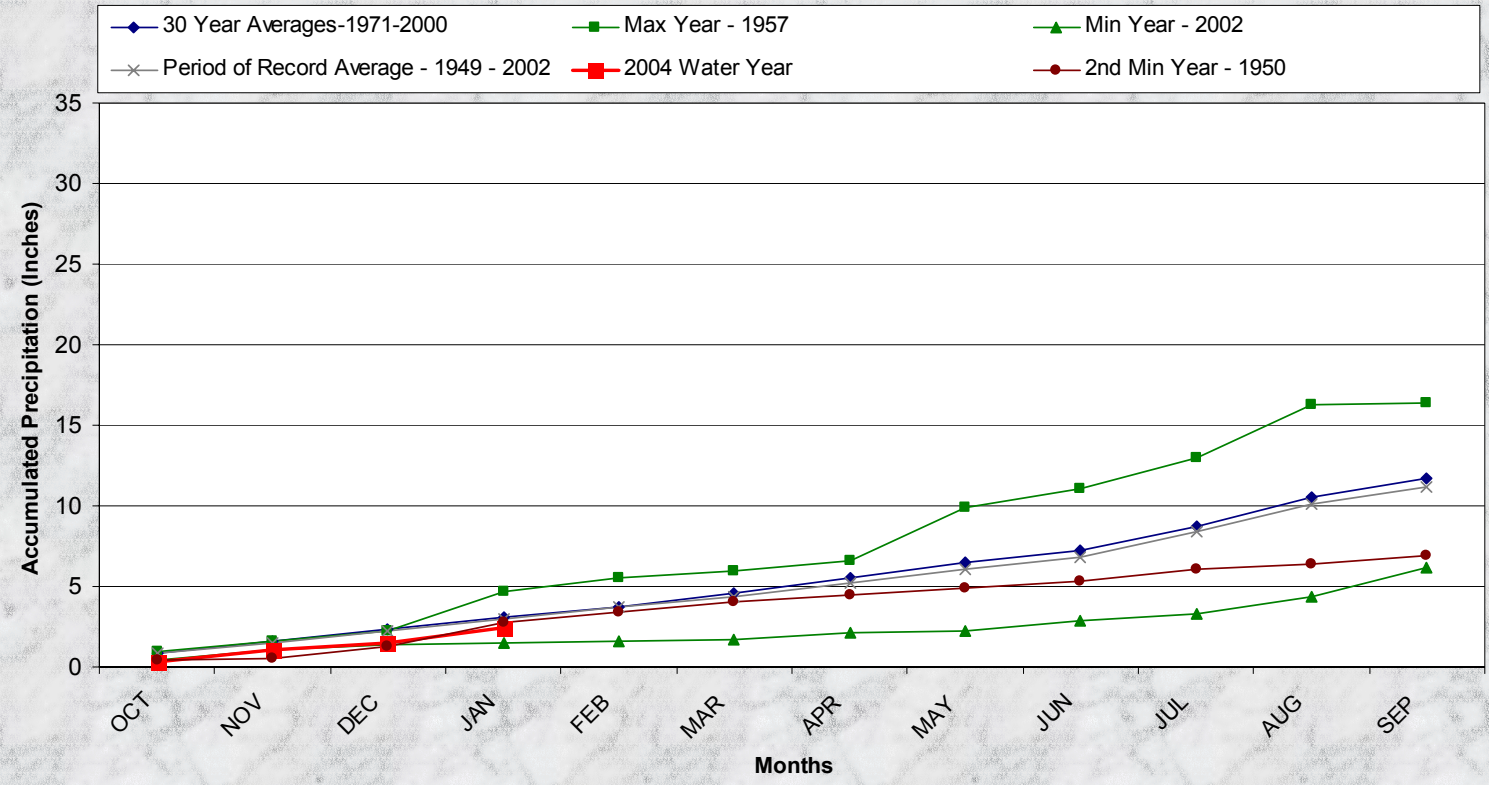
# Division 2 – Collbran

## Collbran 2SW 2004 Water Year (through Oct '03 - Jan '04)



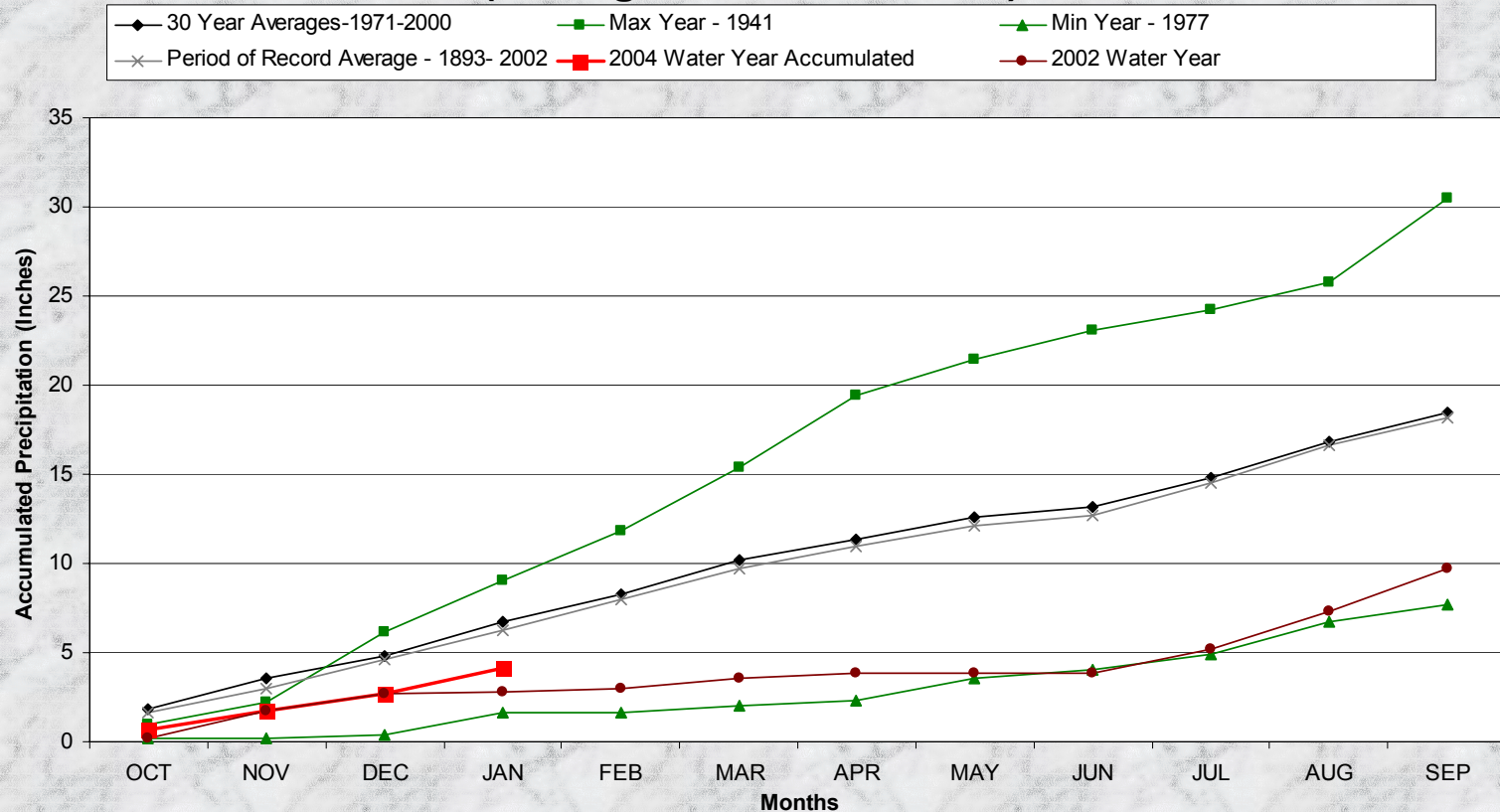
# Division 3 – Cochetopa Creek

## Cochetopa Creek 2004 Water Year (through Oct '03 - Jan '04)



# Division 3 – Mesa Verde

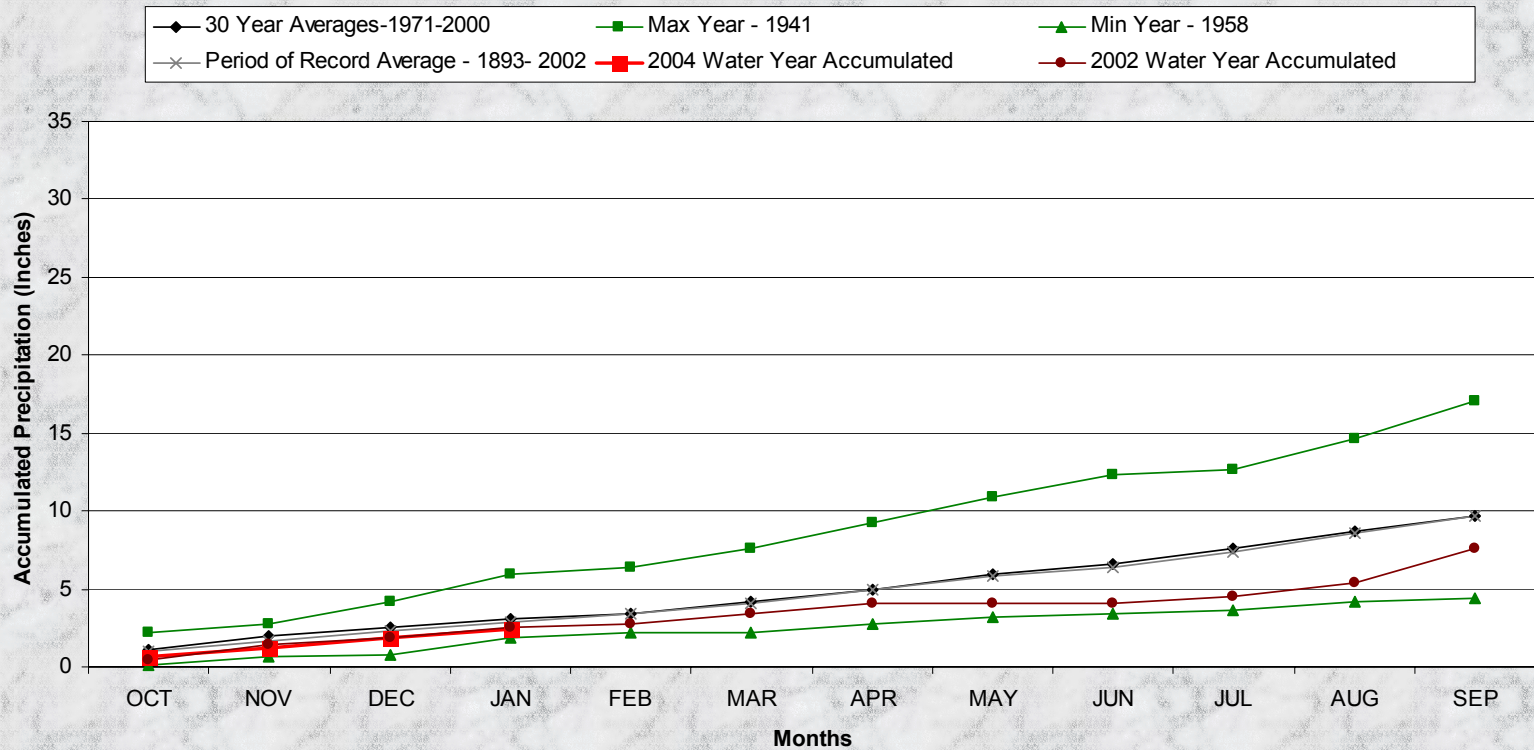
## Mesa Verde NP 2004 Water Year (through Oct '03 - Jan '04)





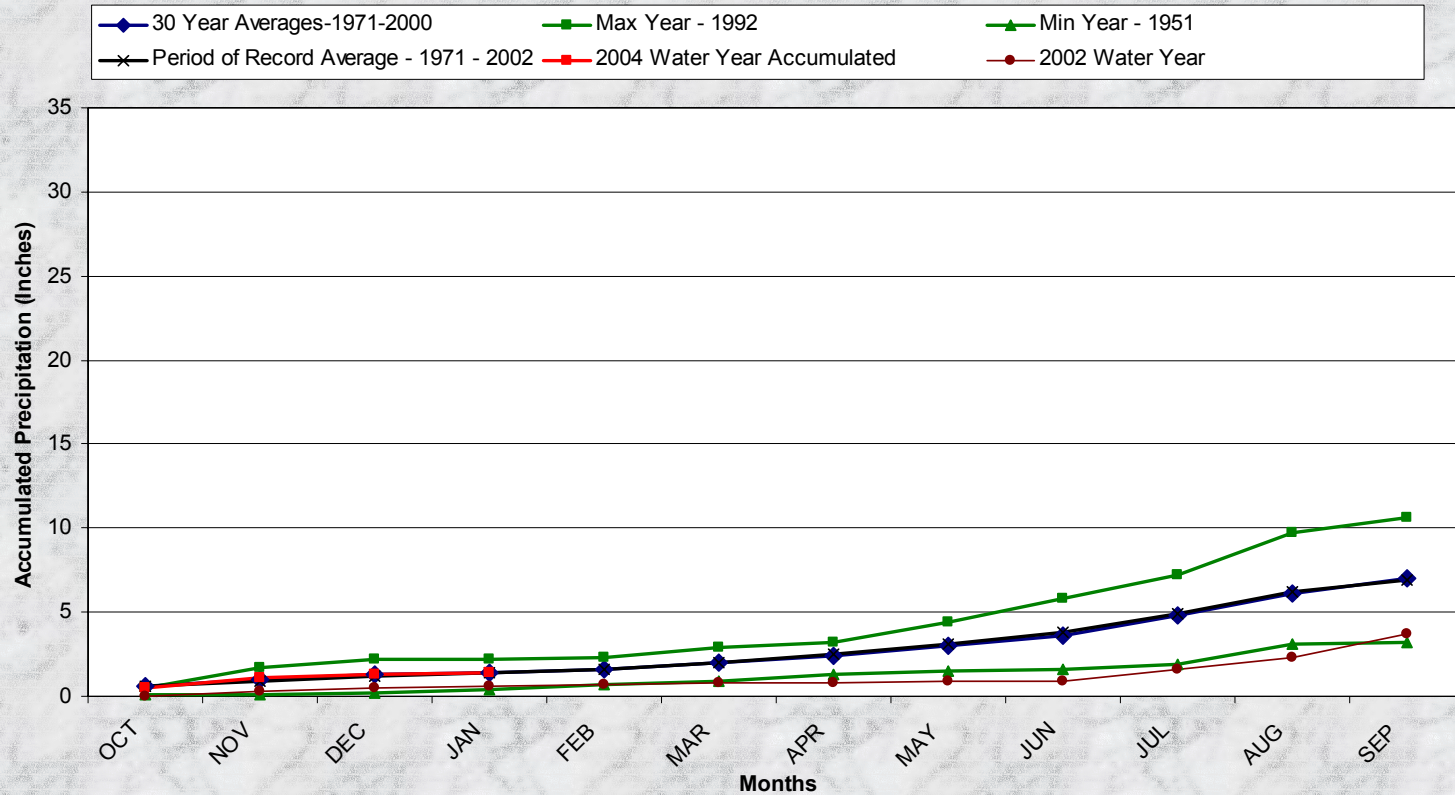
# Division 3 - Montrose

## Montrose #2 2004 Water Year (through Oct '03 - Jan '04)



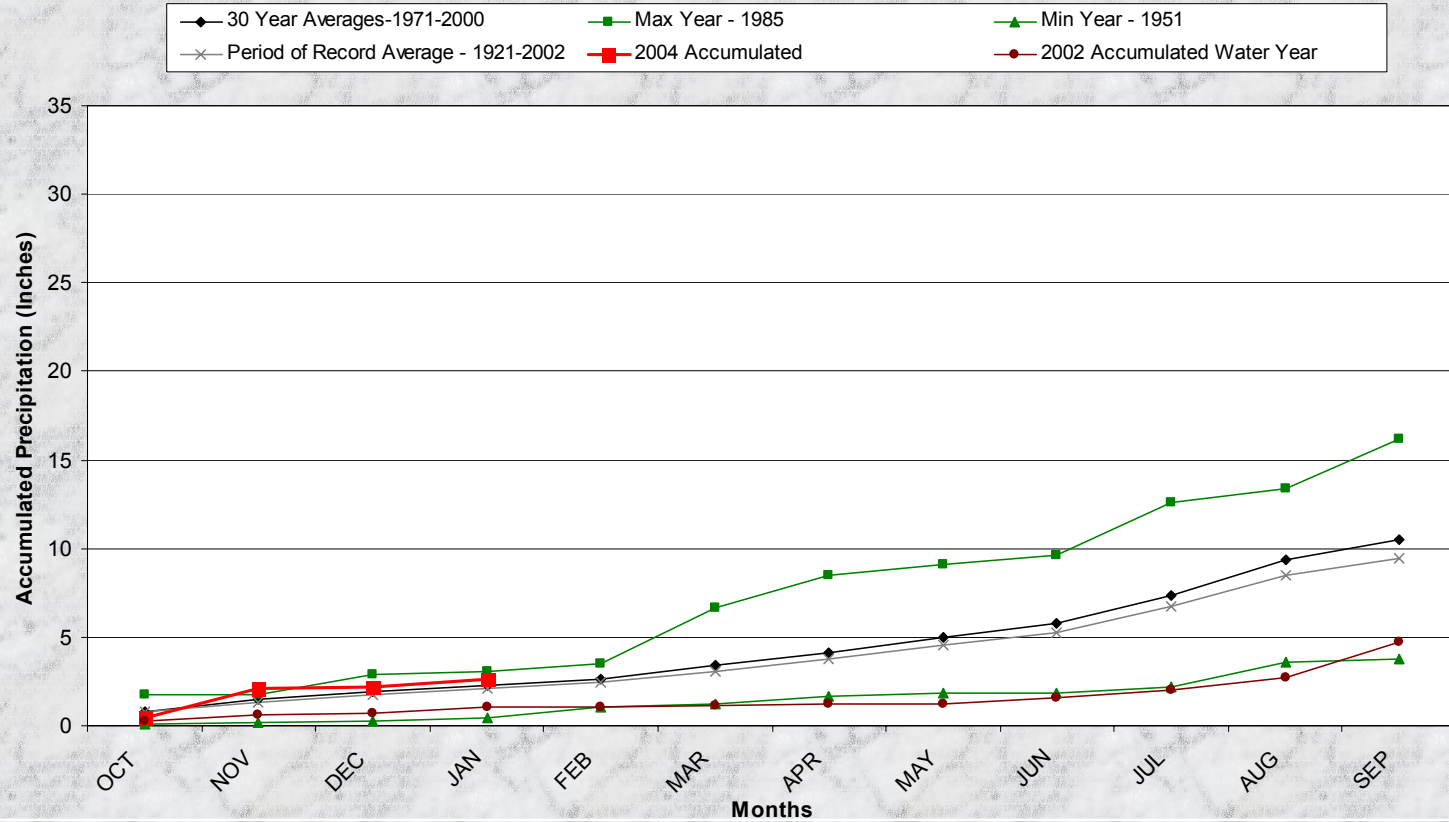
# Division 4 - Center

**Center 4SSW  
2004 Water Year  
(through Oct '03 - Jan '04)**



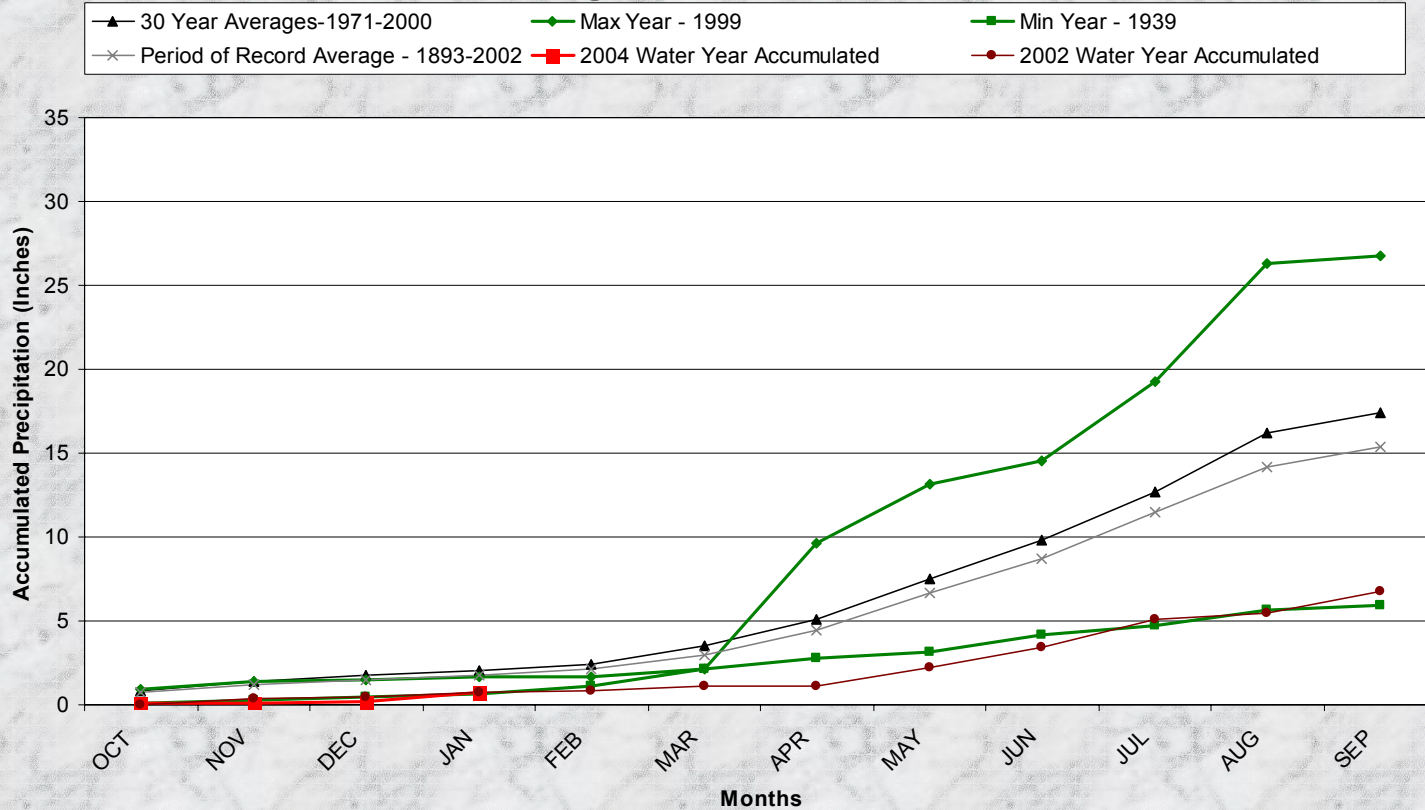
# Division 4 – Del Norte

## Del Norte 2004 Water Year (through Oct '03 - Jan '04)



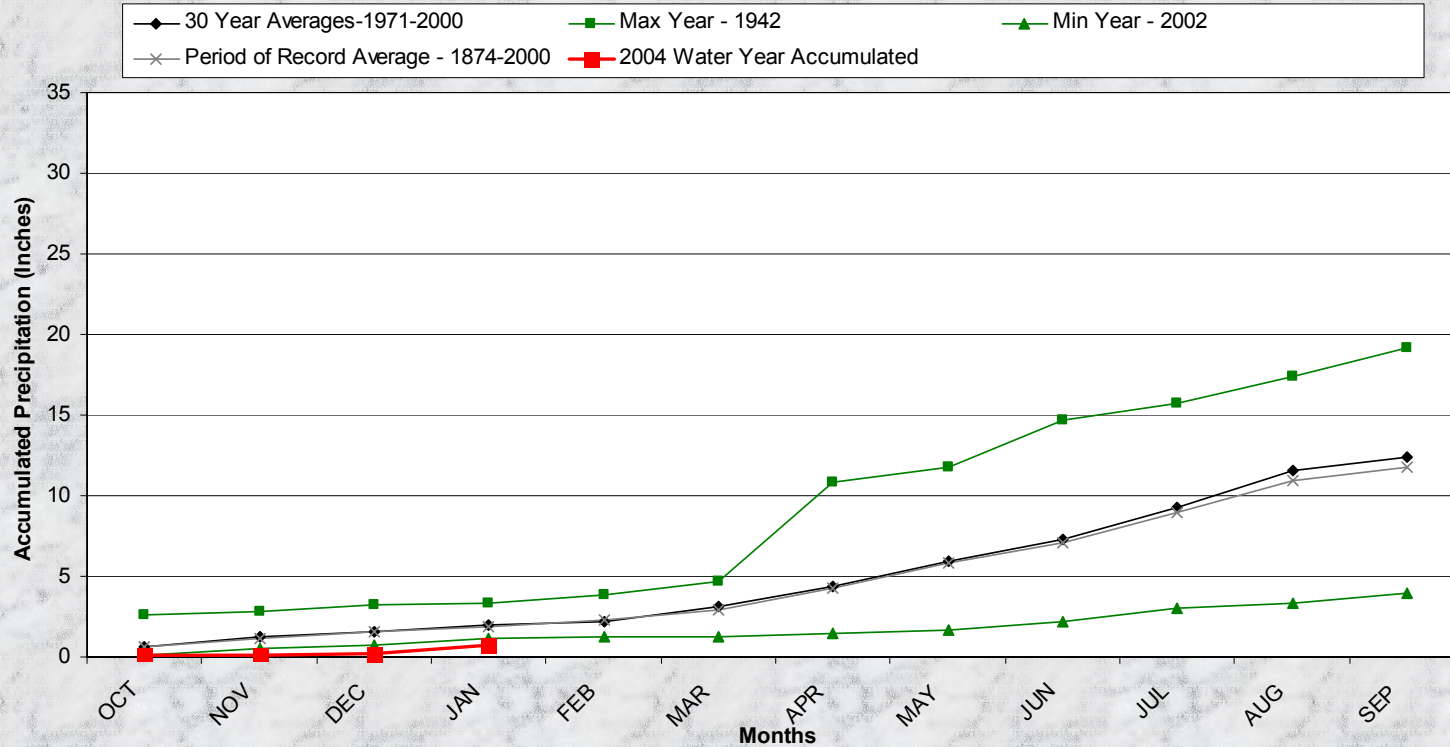
# Division 5 – Colorado Springs

**Colorado Springs  
2004 Water Year  
(through Oct '03 - Jan '04)**



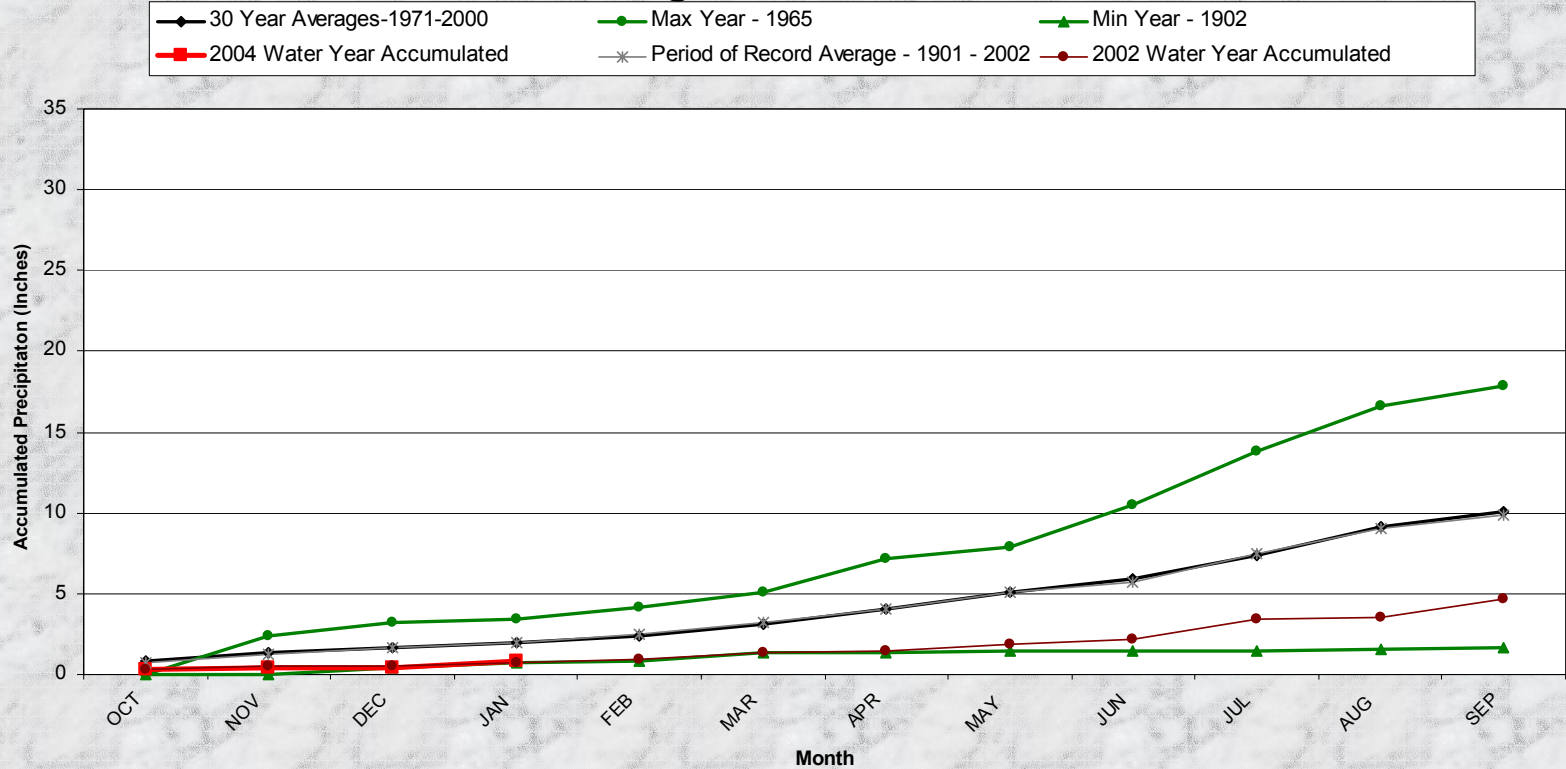
# Division 5 - Pueblo

## Pueblo WSO 2004 Water Year (through Oct '03 - Jan '04)



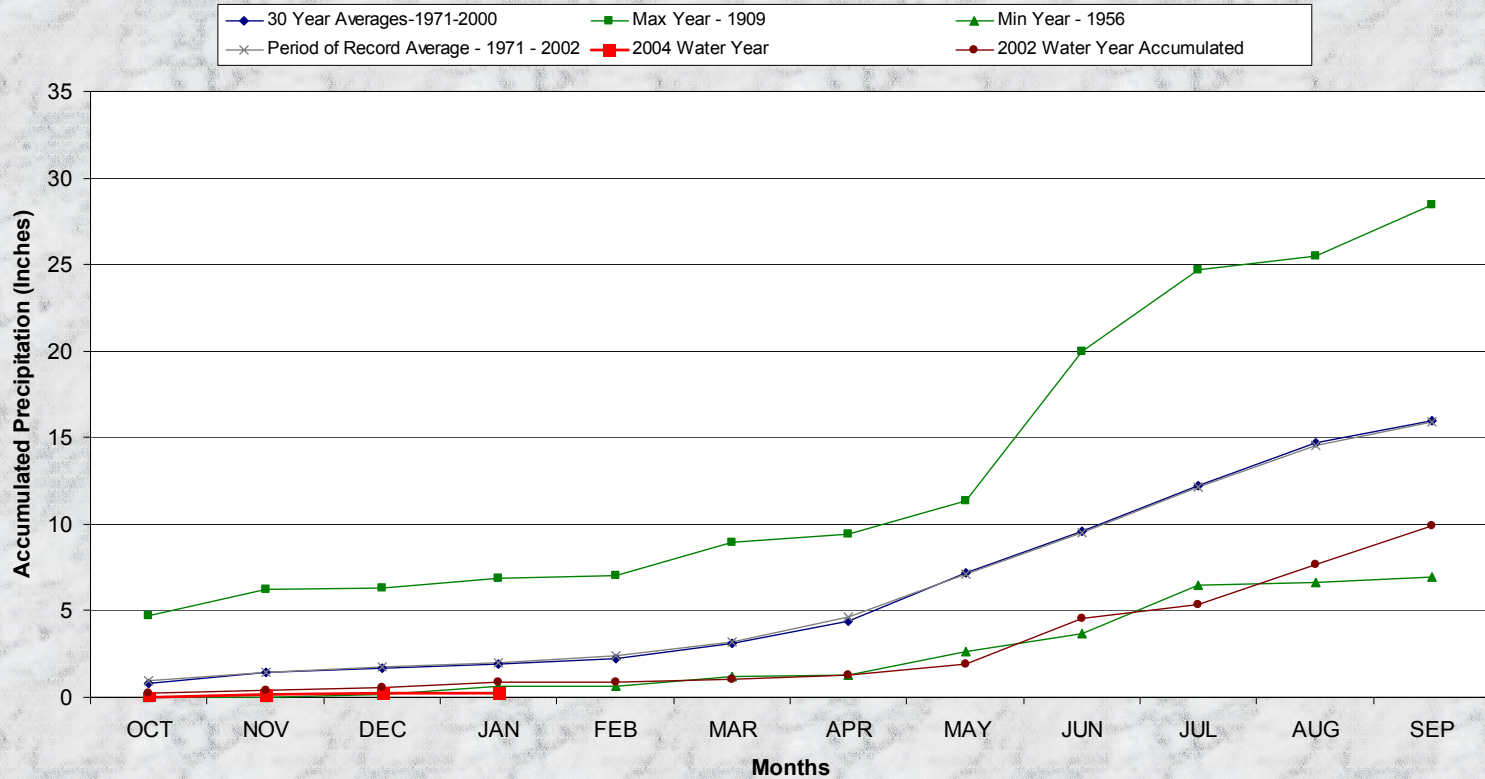
# Division 5 – Buena Vista

**Buena Vista  
2004 Water Year  
through Oct '03 - Jan '04**



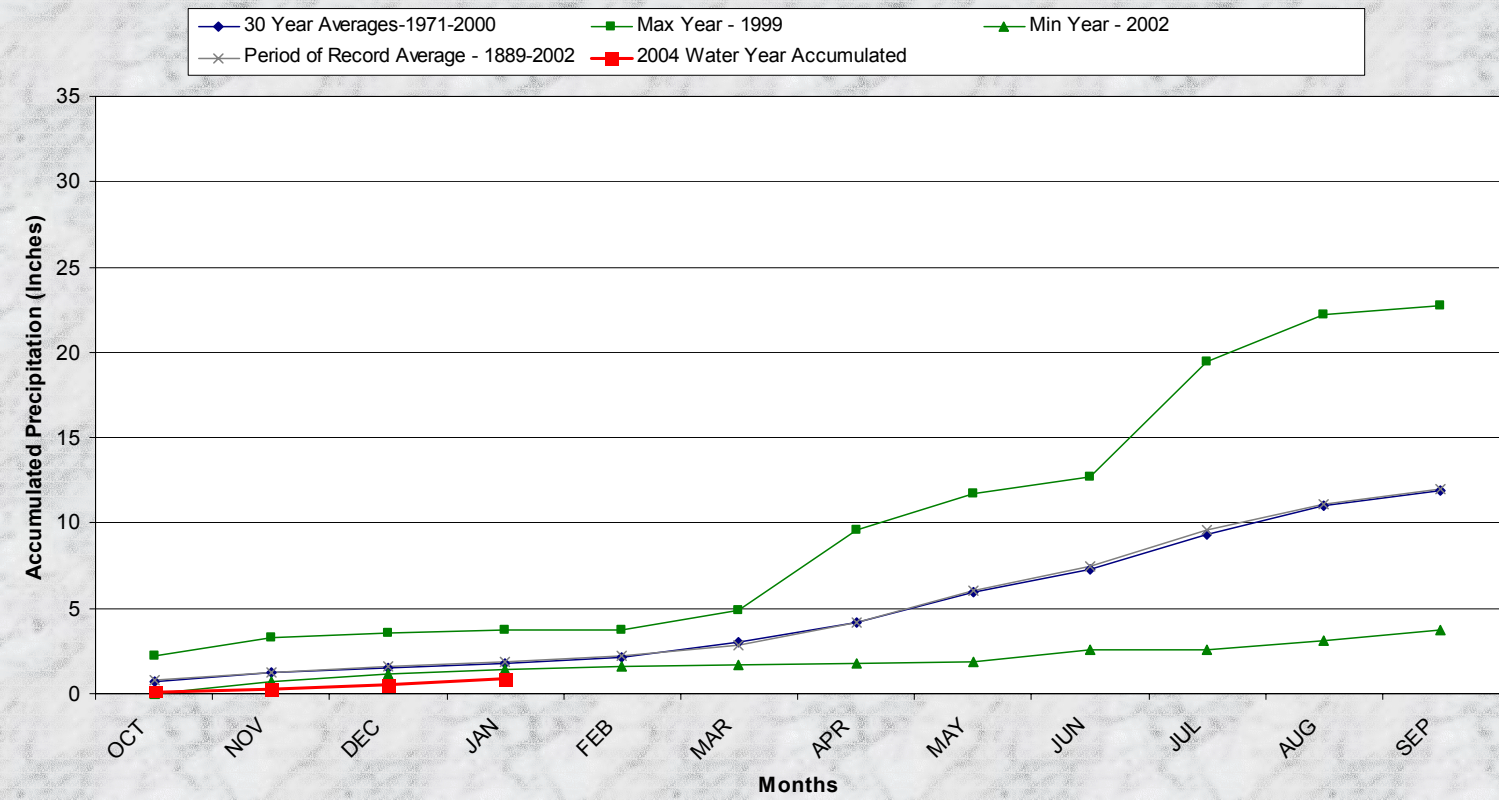
# Division 6 – Cheyenne Wells

## Cheyenne Wells 2004 Water Year (through Oct '03 - Jan '04)



# Division 6 – Rocky Ford

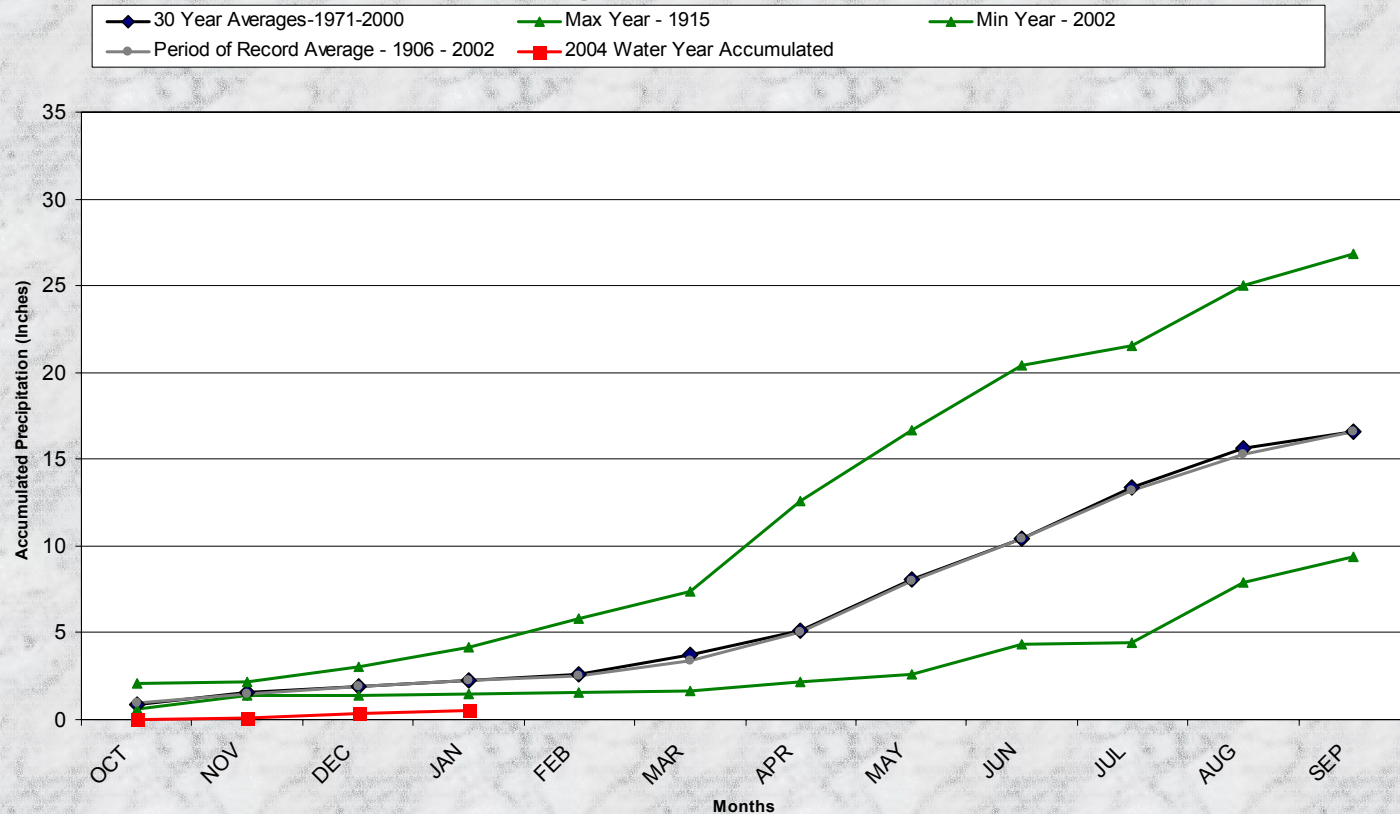
**Rocky Ford  
2004 Water Year  
(through Oct '03 - Jan '04)**





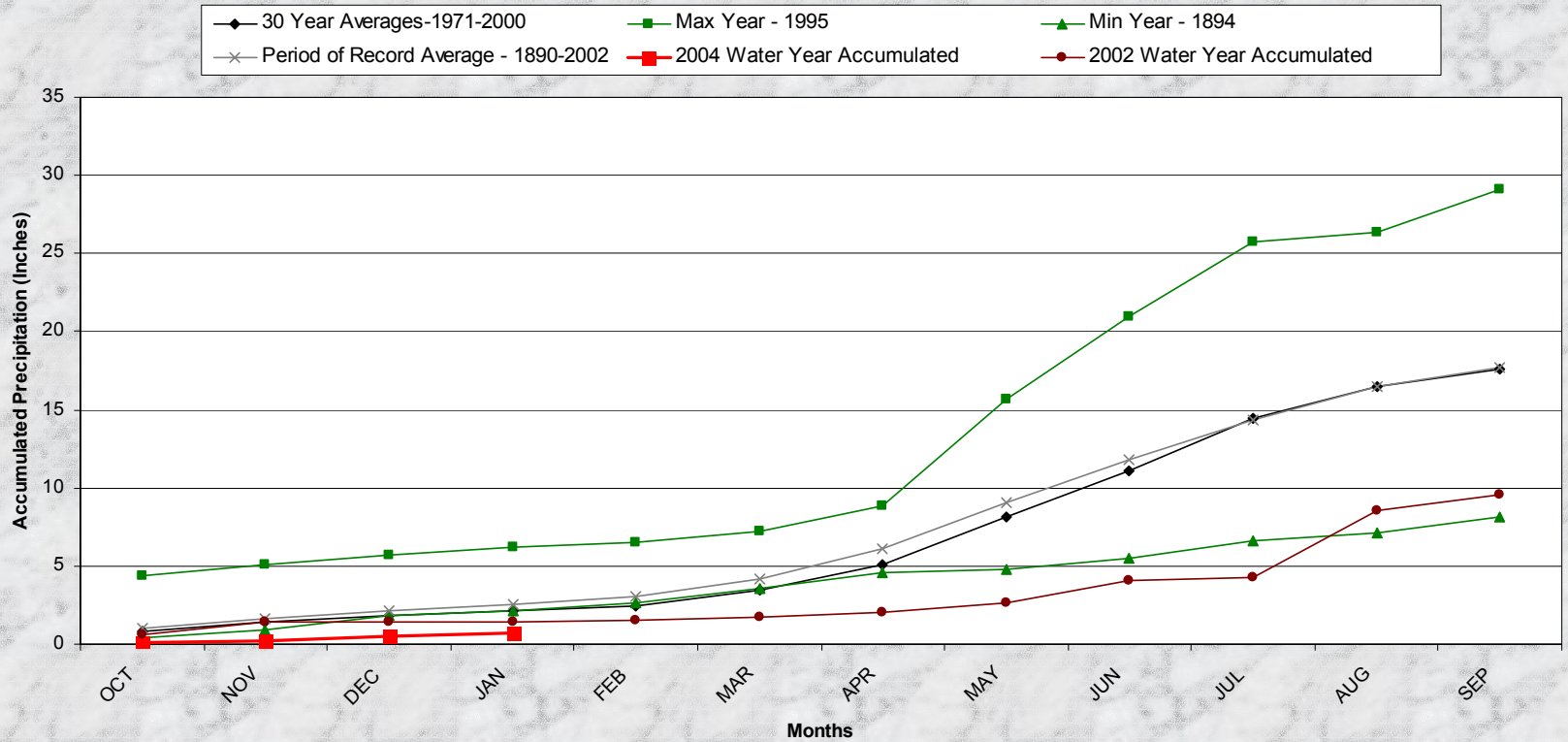
# Division 7 – Akron

## Akron 4E 2004 Water Year (through Oct '03 - Jan '04)



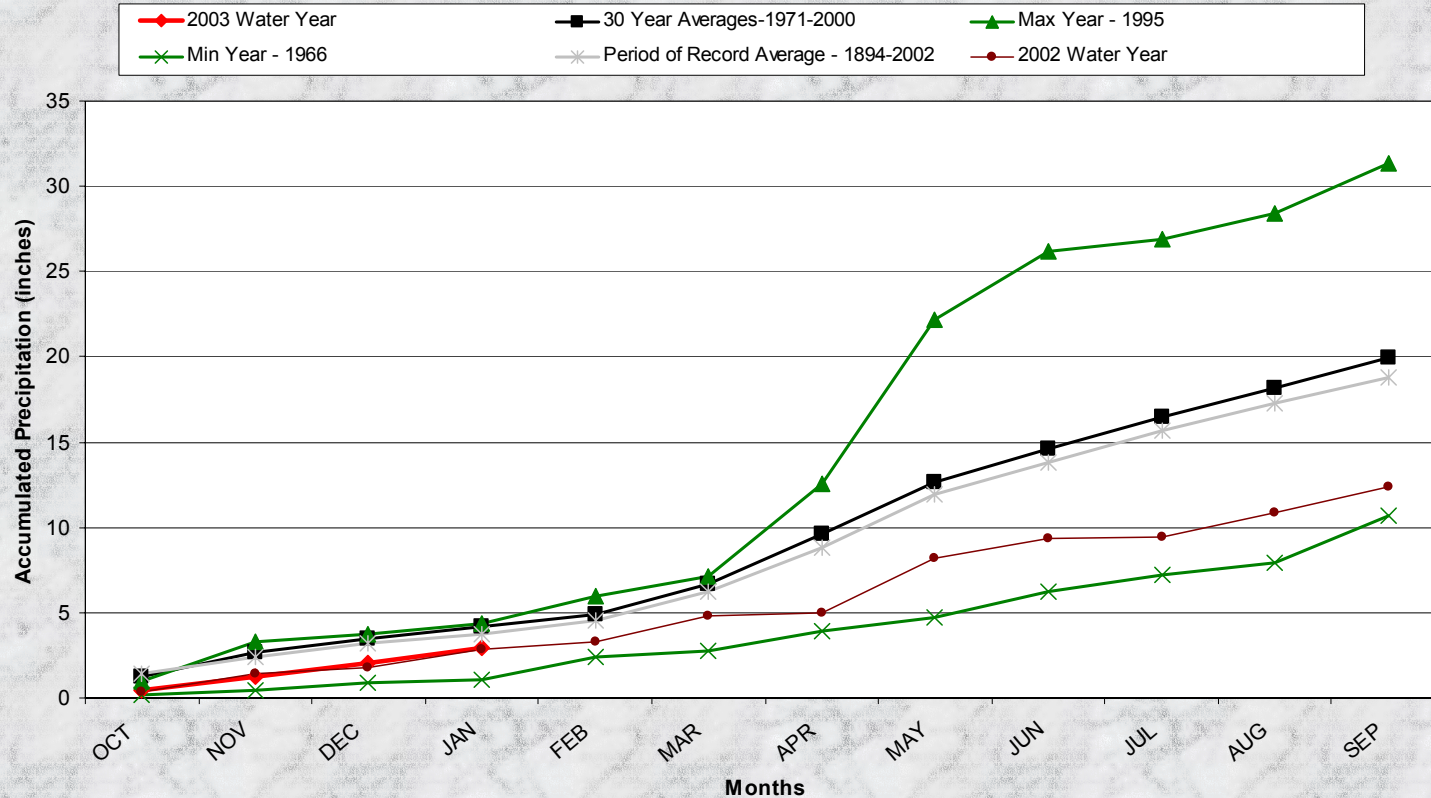
# Division 7 - Leroy

**Leroy 5SW  
2004 Water Year  
(through Oct '03 - Jan '04)**



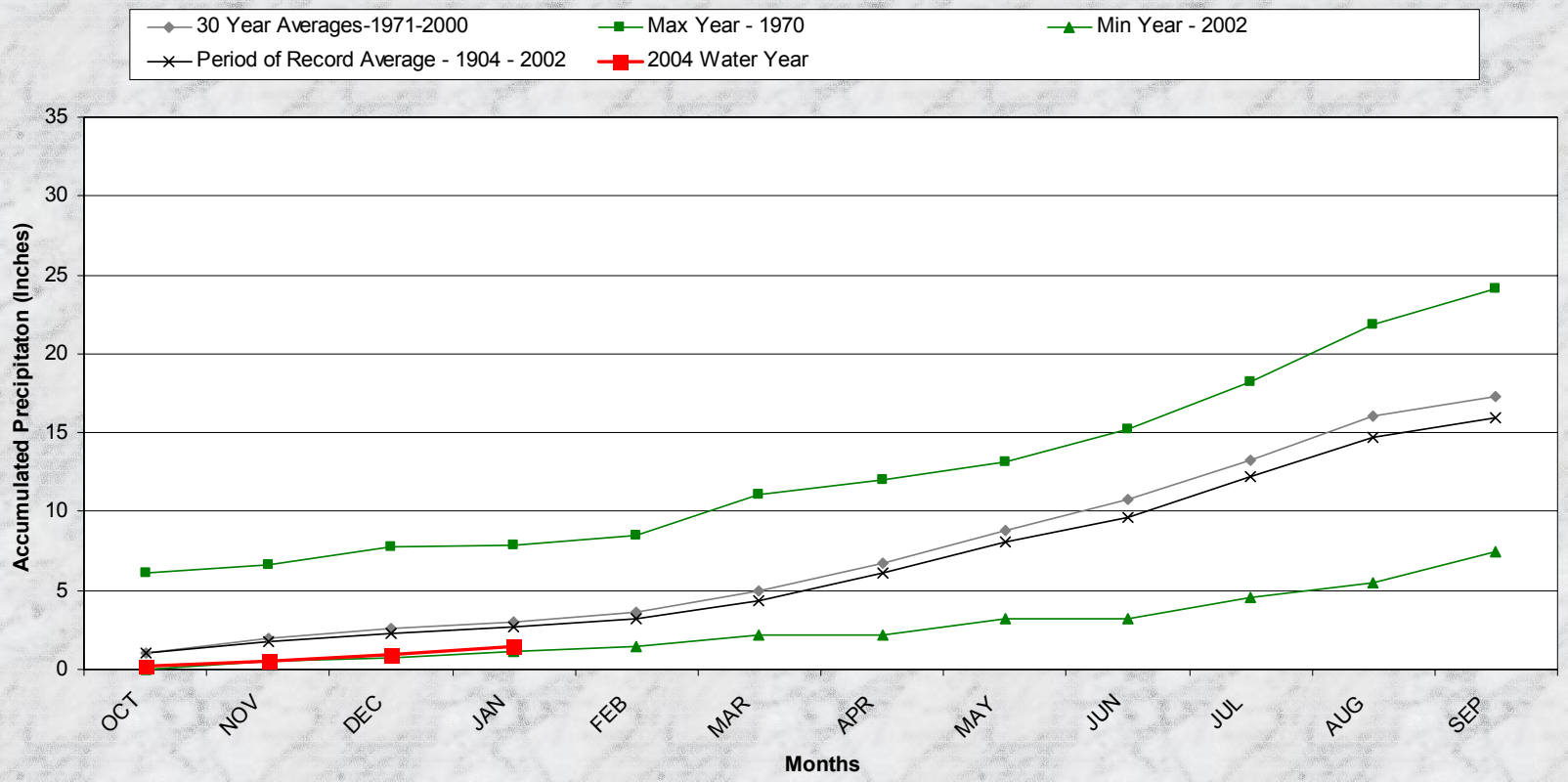
# Division 8 – Boulder

## Boulder 2004 Water Year through Oct '03 - Jan '04



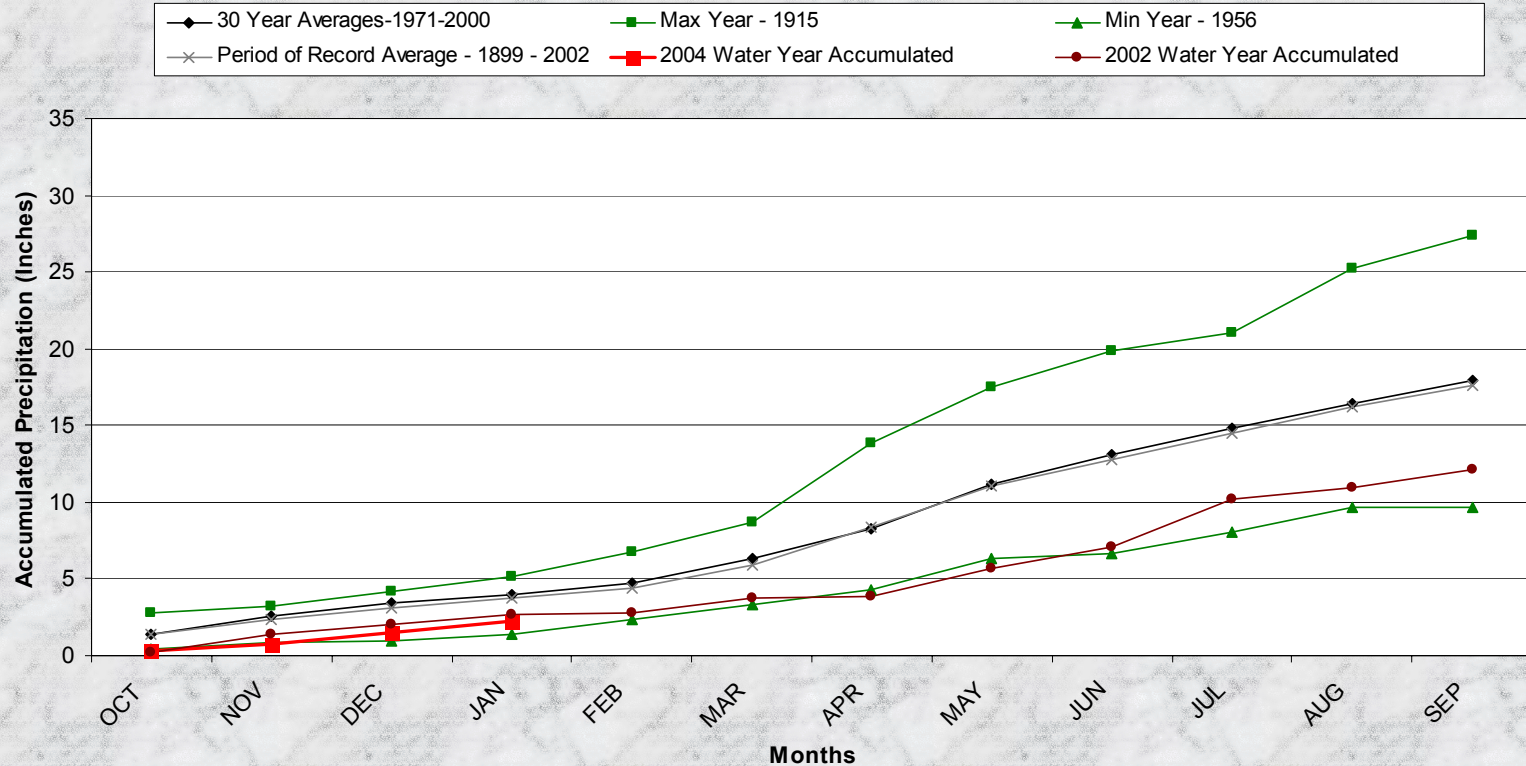
# Division 8 – Cheesman

**Cheesman  
2004 Water Year  
(through Oct '03 - Jan '04)**



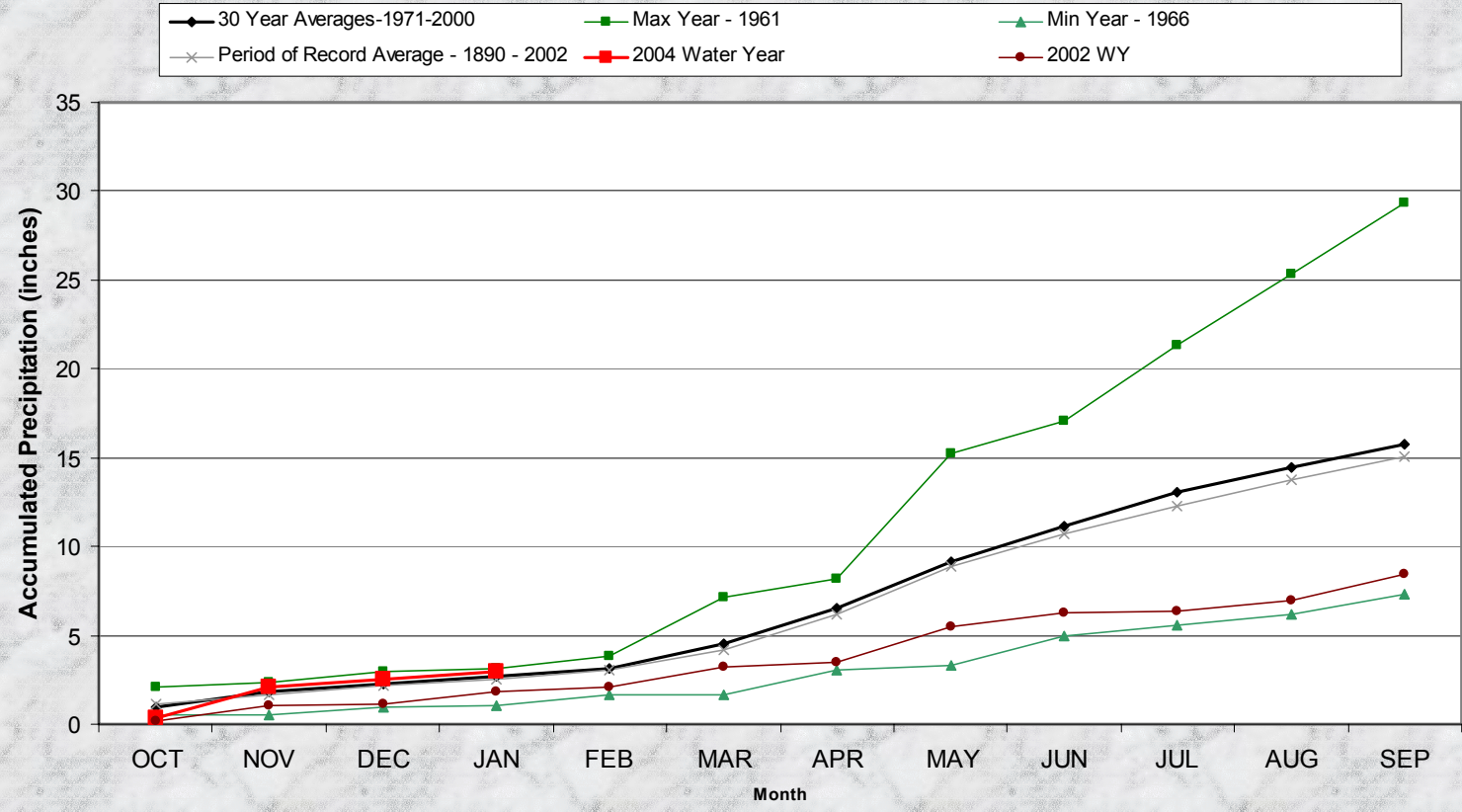
# Division 8 – Kassler

## Kassler 2004 Water Year (through Oct '03 - Jan '04)

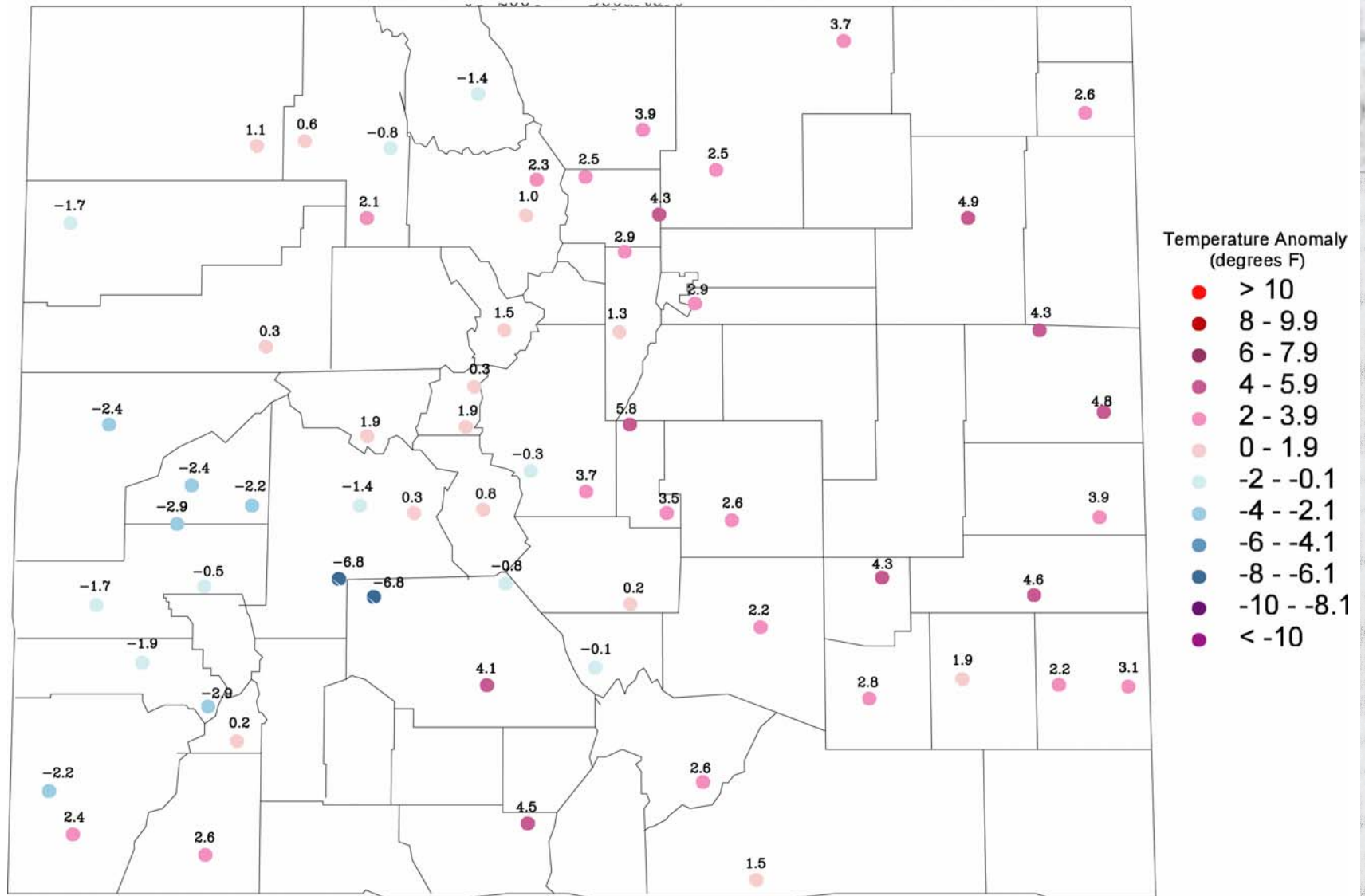


# Division 8 – Fort Collins

## Fort Collins 2004 Water Year (through Oct '03 - Jan '04)

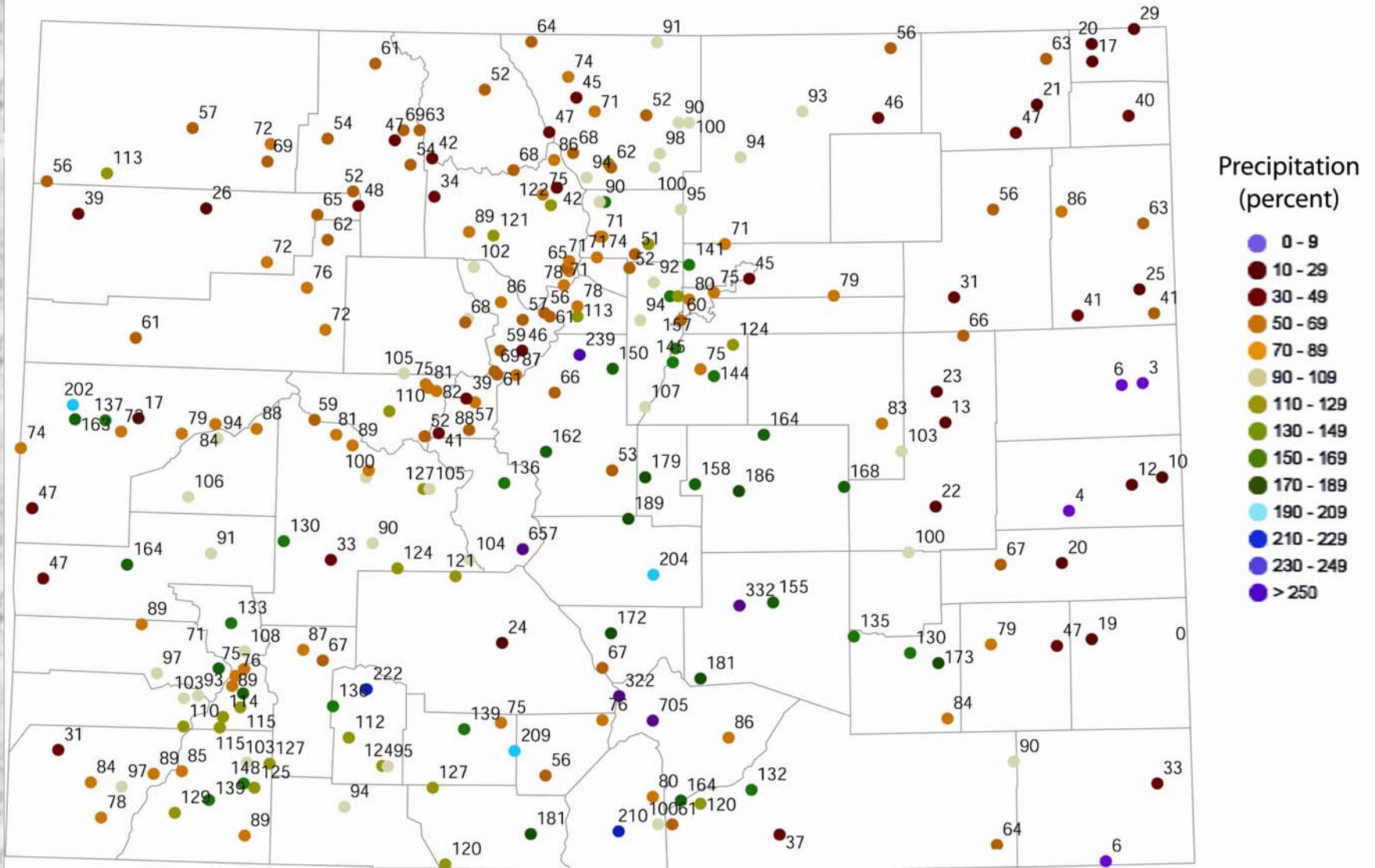


# COLORADO



January 2004 temperature departures from the 1971-2000 averages.

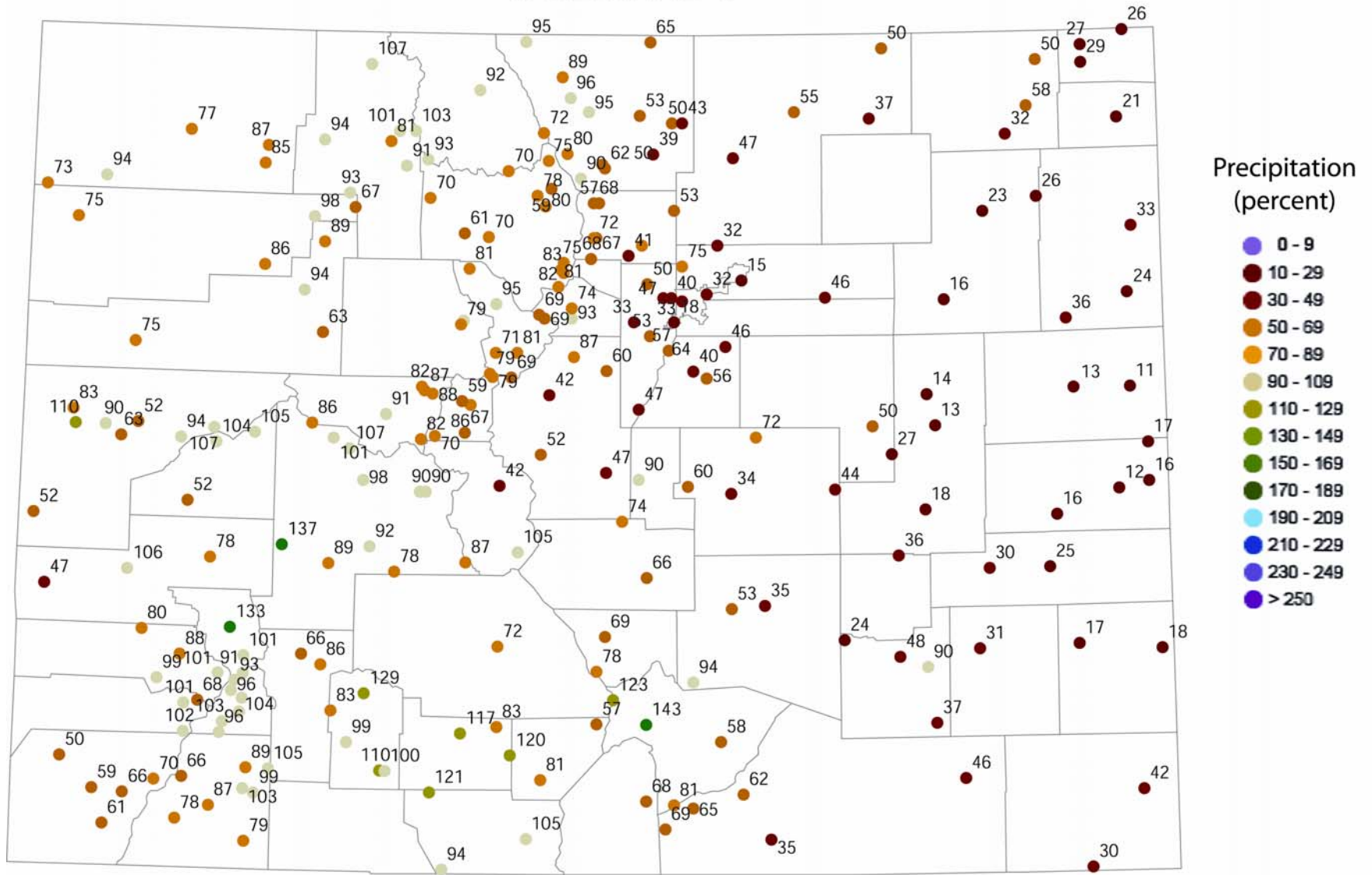
# COLORADO



January 2004 precipitation as a percent of the 1971-2000 average.



# COLORADO

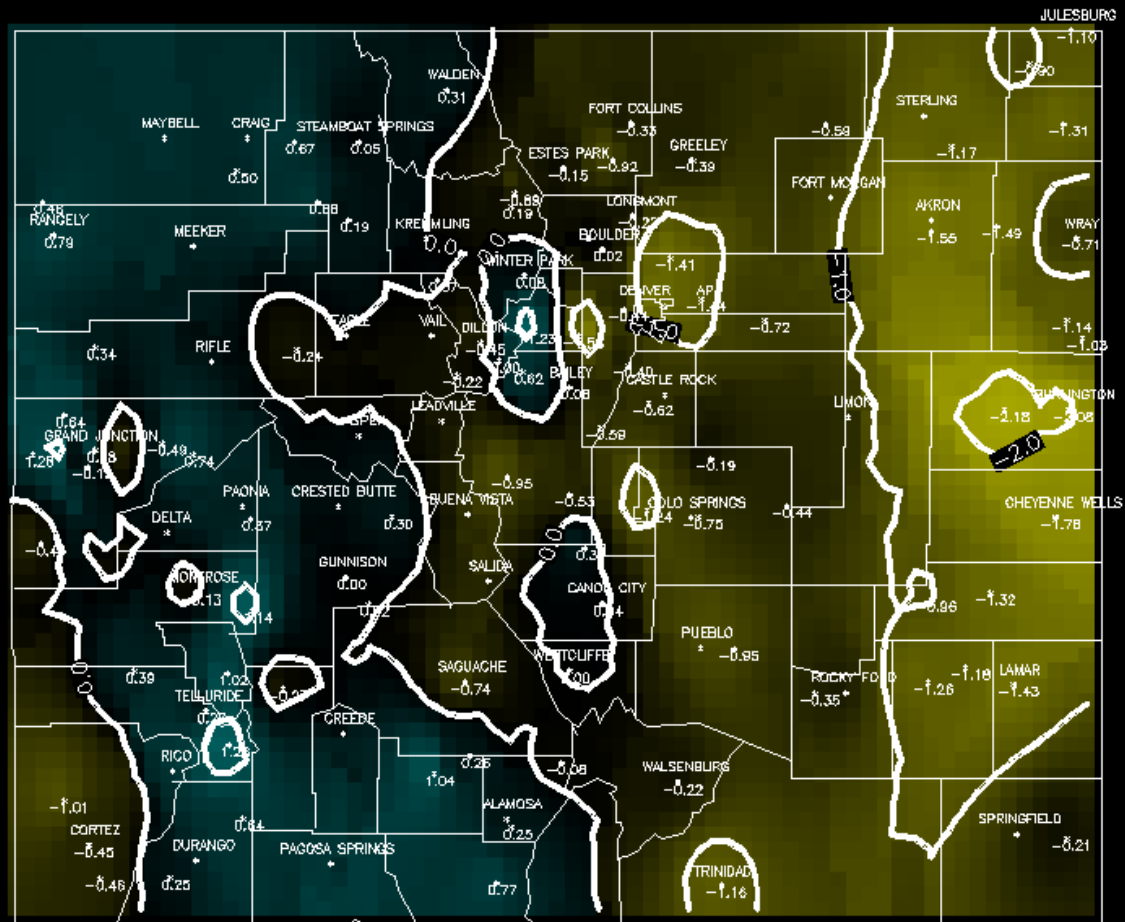


Water Year 2004 (October 2003 through January 2004) precipitation as a percent of the 1971-2000 average.

# 3 Month SPI

Colorado

1/2004 3 mon. SPI



100 2.0 18 % -1.0  
 90 1.5 12 % -2.0  
 80 1.0 6 % -3.0

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 Colorado Climate Center  
 Fort Collins, CO

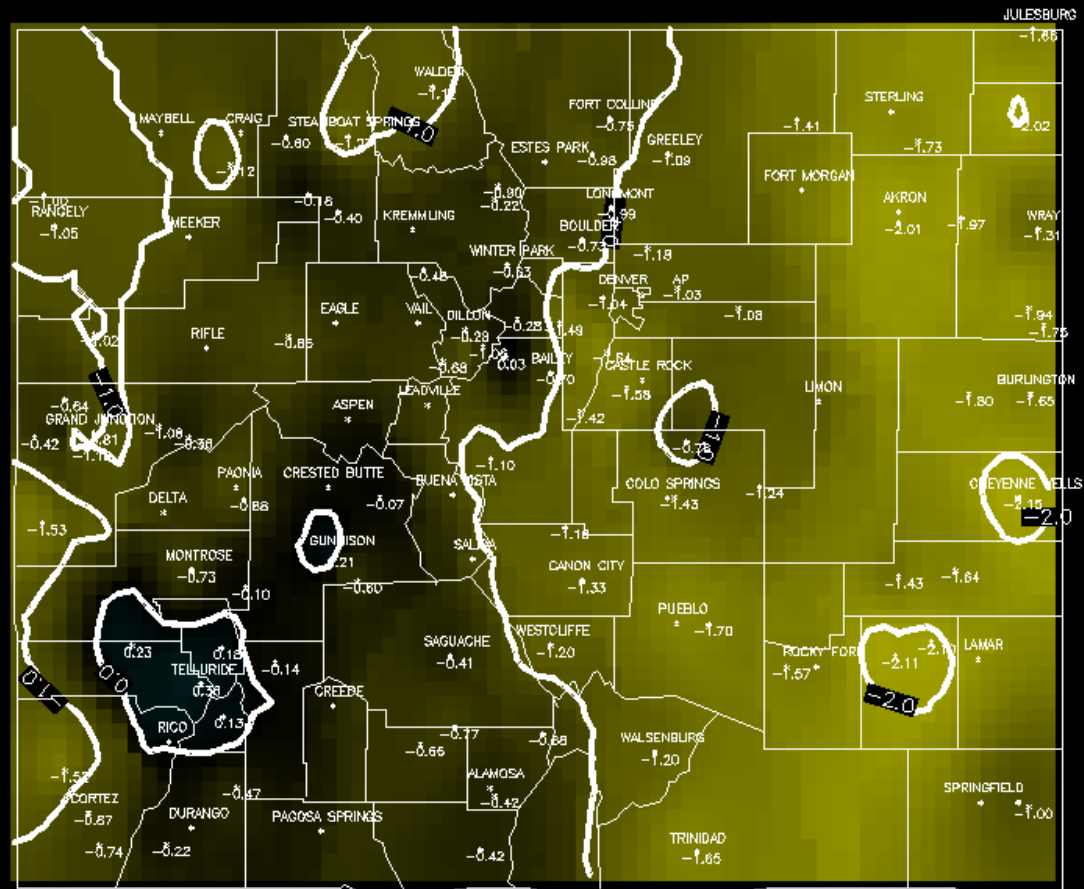




# Projected Conditions at 0.2 Probability Level 12 Month SPI at 6 months

Colorado

1/2004 12 mon. SPI – Projected 6 mon. at P=0.20

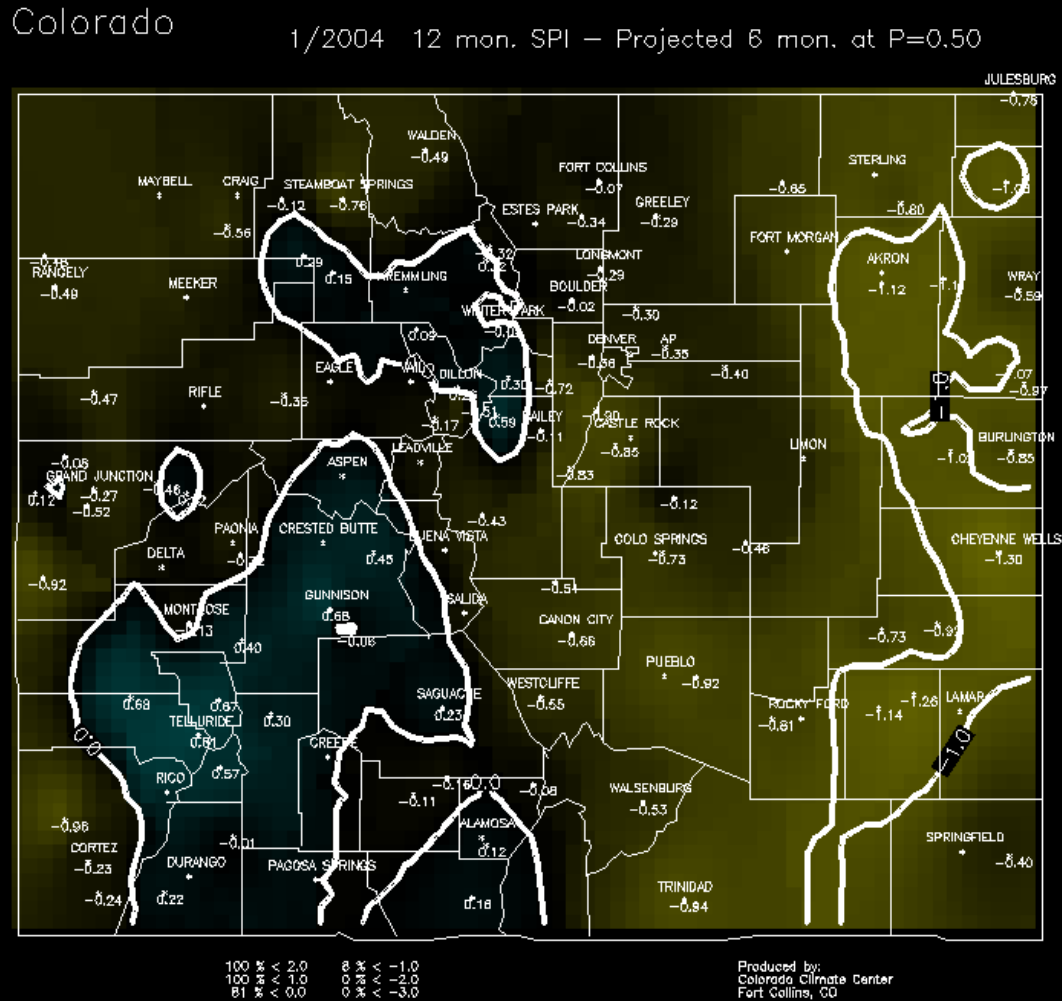


100 % < 2.0  
100 % < 1.0  
98 % < 0.0

54 % < -1.0  
1 % < -2.0  
0 % < -3.0

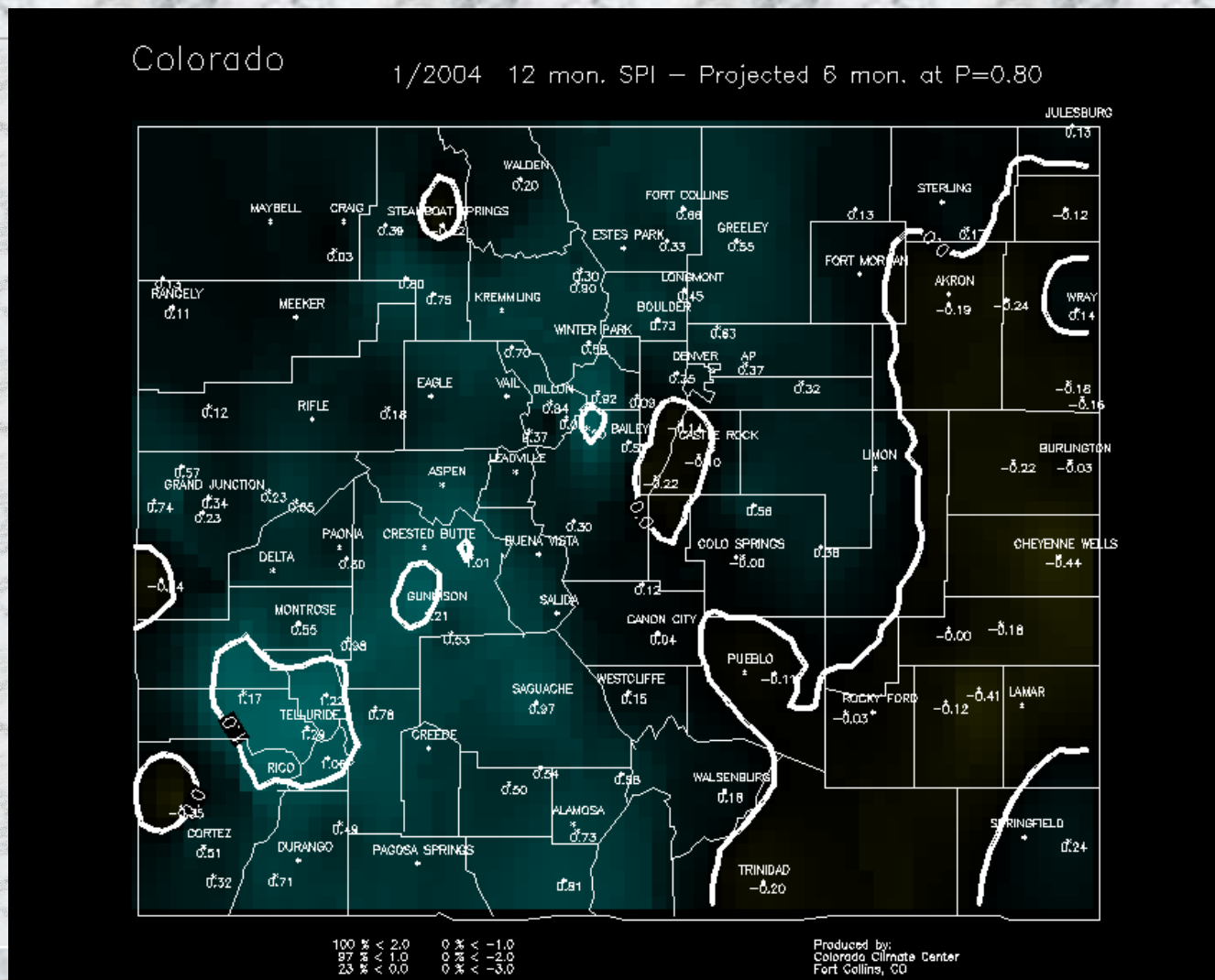
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Colorado Climate Center  
Fort Collins, CO

# Projected Conditions at 0.5 Probability Level 12 Month SPI at 6 months



# Projected Conditions at 0.8 Probability Level

## 12 Month SPI at 6 months

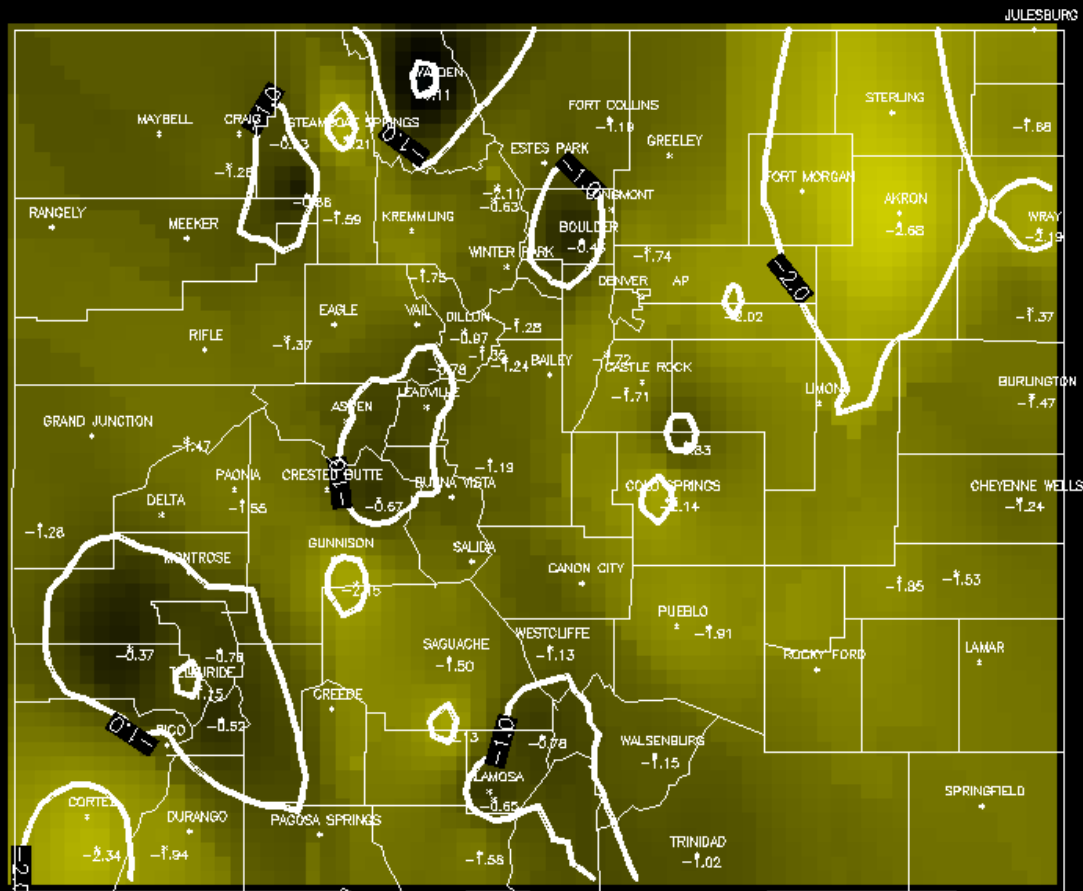


# Projected Conditions at 0.2 Probability Level

## 48 Month SPI at 12 months

Colorado

1/2004 48 mon. SPI – Projected 12 mon. at P=0.20



100	▲▲▲	2.0	88	▲	-1.0
100	▲▲▲	1.0	5	▲▲	-2.0
100	▲▲	0.0	0	▲▲▲	-3.0

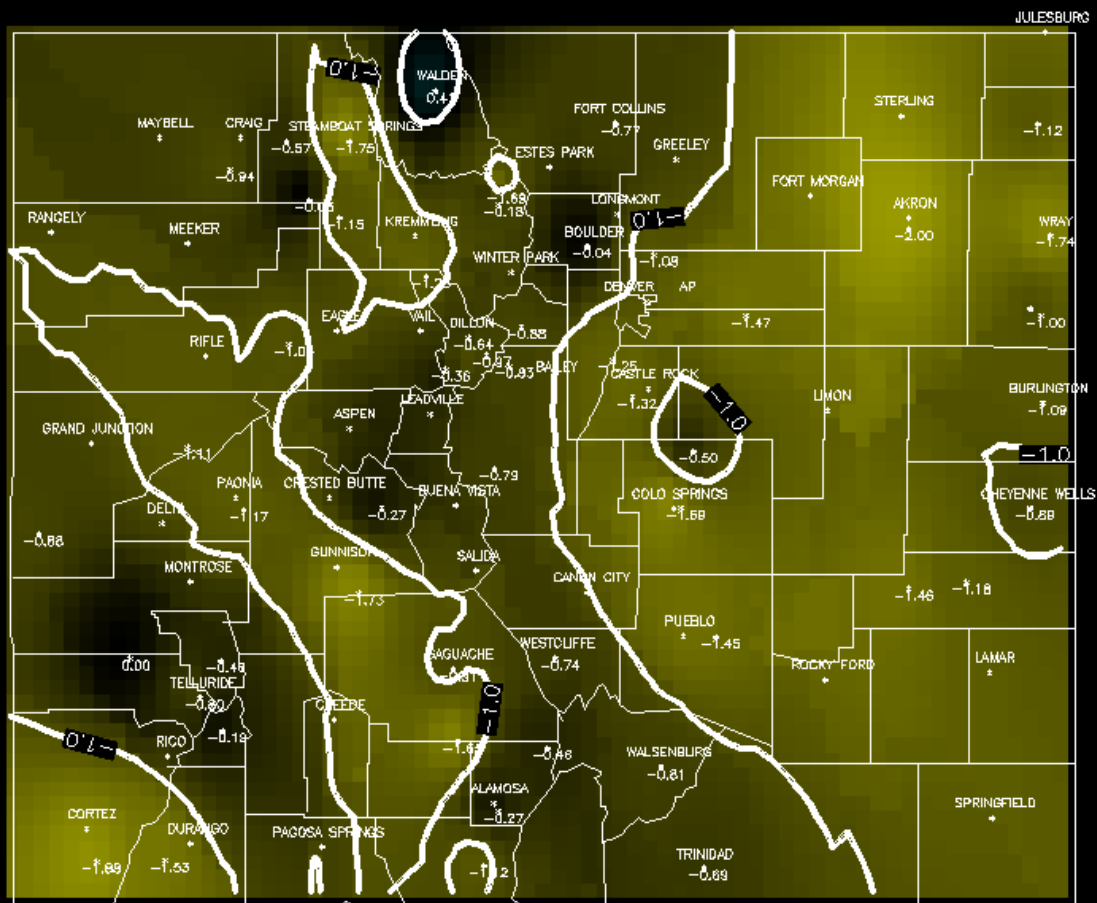
Produced by:  
Colorado Climate Center  
Fort Collins, CO



# Projected Conditions at 0.5 Probability Level 48 Month SPI at 12 months

Colorado

1/2004 48 mon. SPI – Projected 12 mon. at P=0.50



100 % <<< 2.0	52 % <<< -1.0
100 % <<< 1.0	0 % <<< -2.0
99 % <<< 0.0	0 % <<< -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO



# Colorado Climate Center

## Colorado State University

Data and Power Point Presentations available for downloading

<http://ccc.atmos.colostate.edu>

- click on “Drought”
- then click on “Presentations”

