



# *Climate Update*

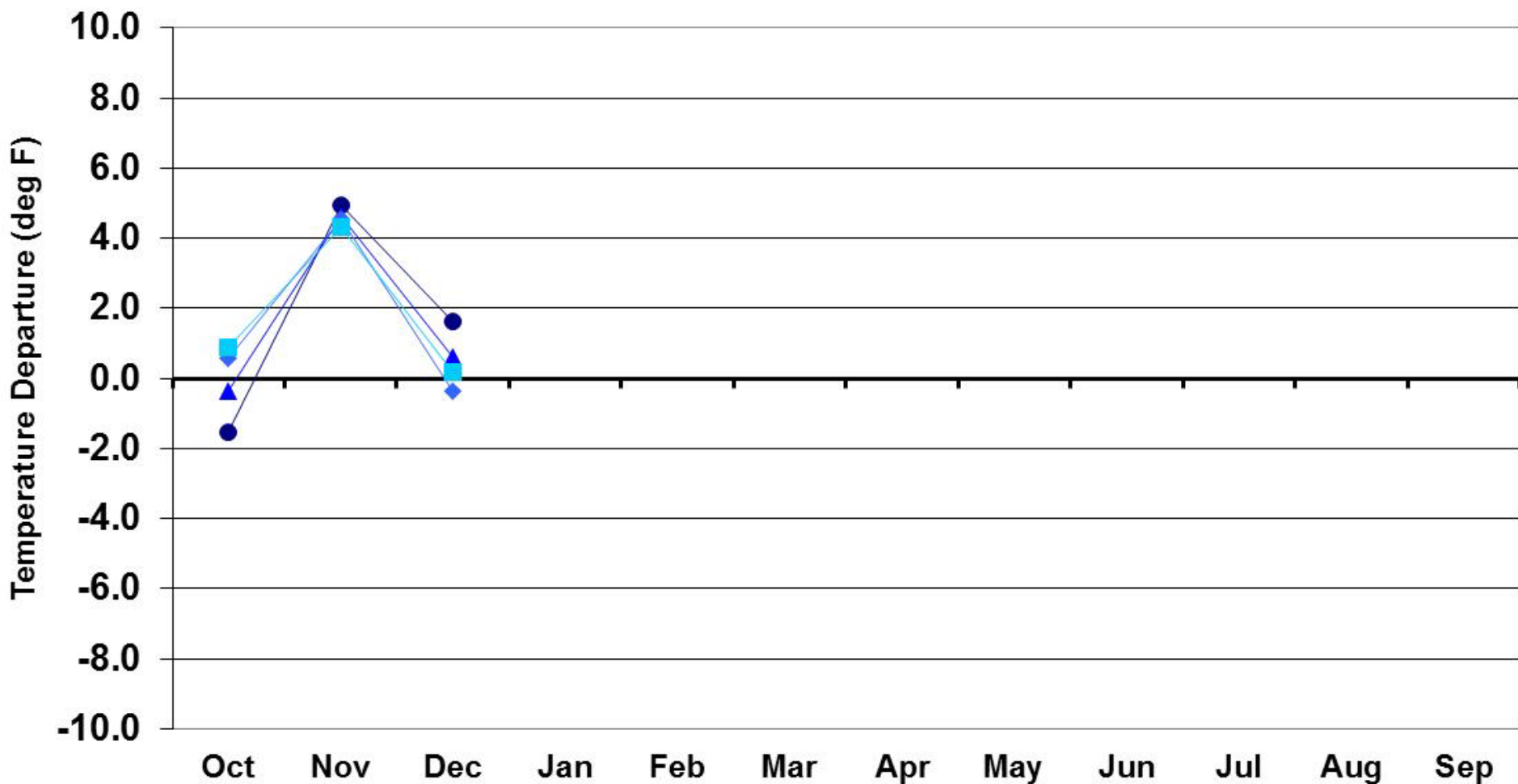
**Wendy Ryan and Nolan Doesken  
Colorado Climate Center**

**Atmospheric Science Department  
Colorado State University**

Presented to  
Water Availability Task Force  
23 January 2013  
Denver, CO

# Water Year 2012 Temperature Departures

Water Year 2013



● Eastern Plains

▲ Foothills

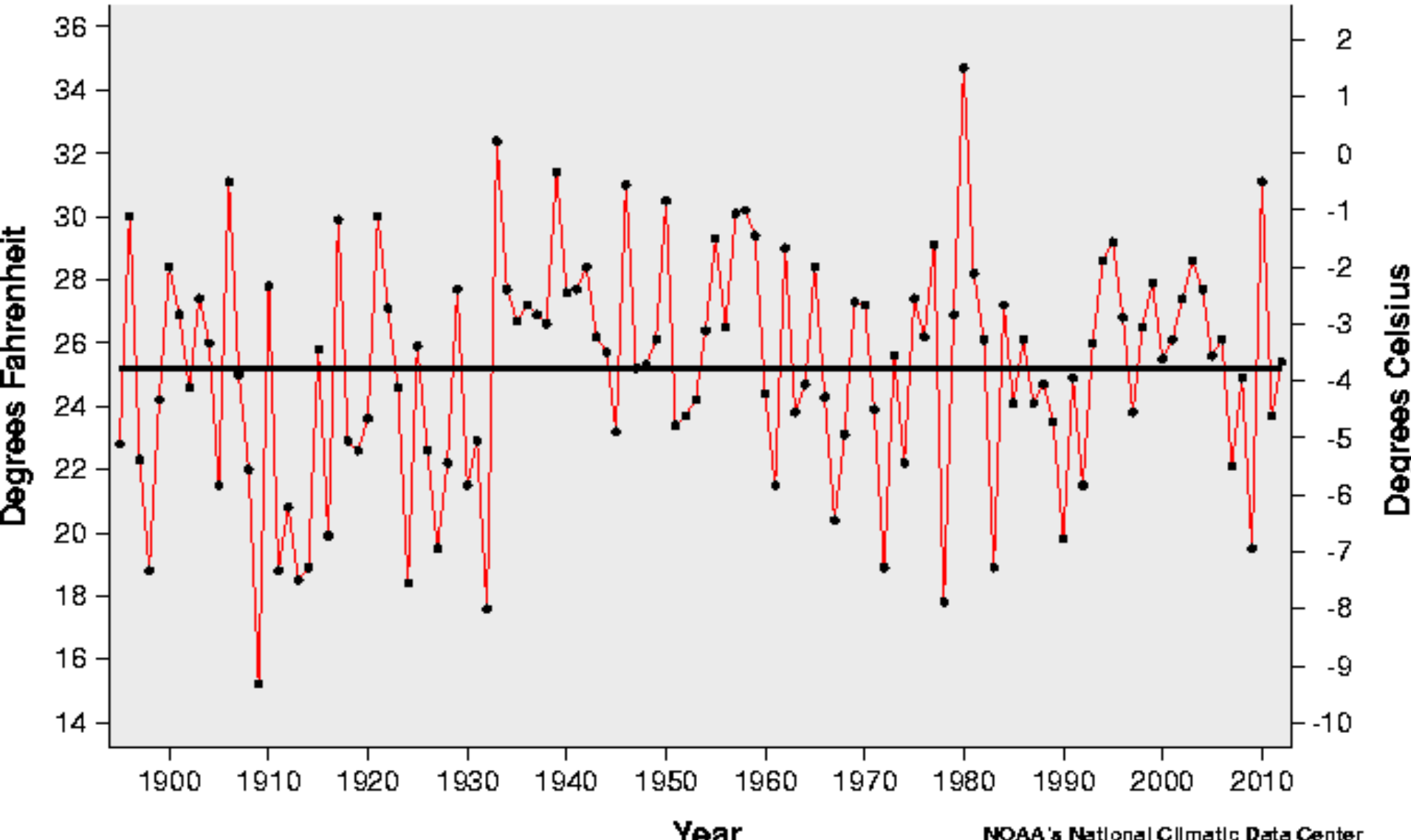
◆ Mountains

■ Western Valleys

# December Average Temperature History for Colorado (NCDC)

— Actual Temperature  
— Average Temperature

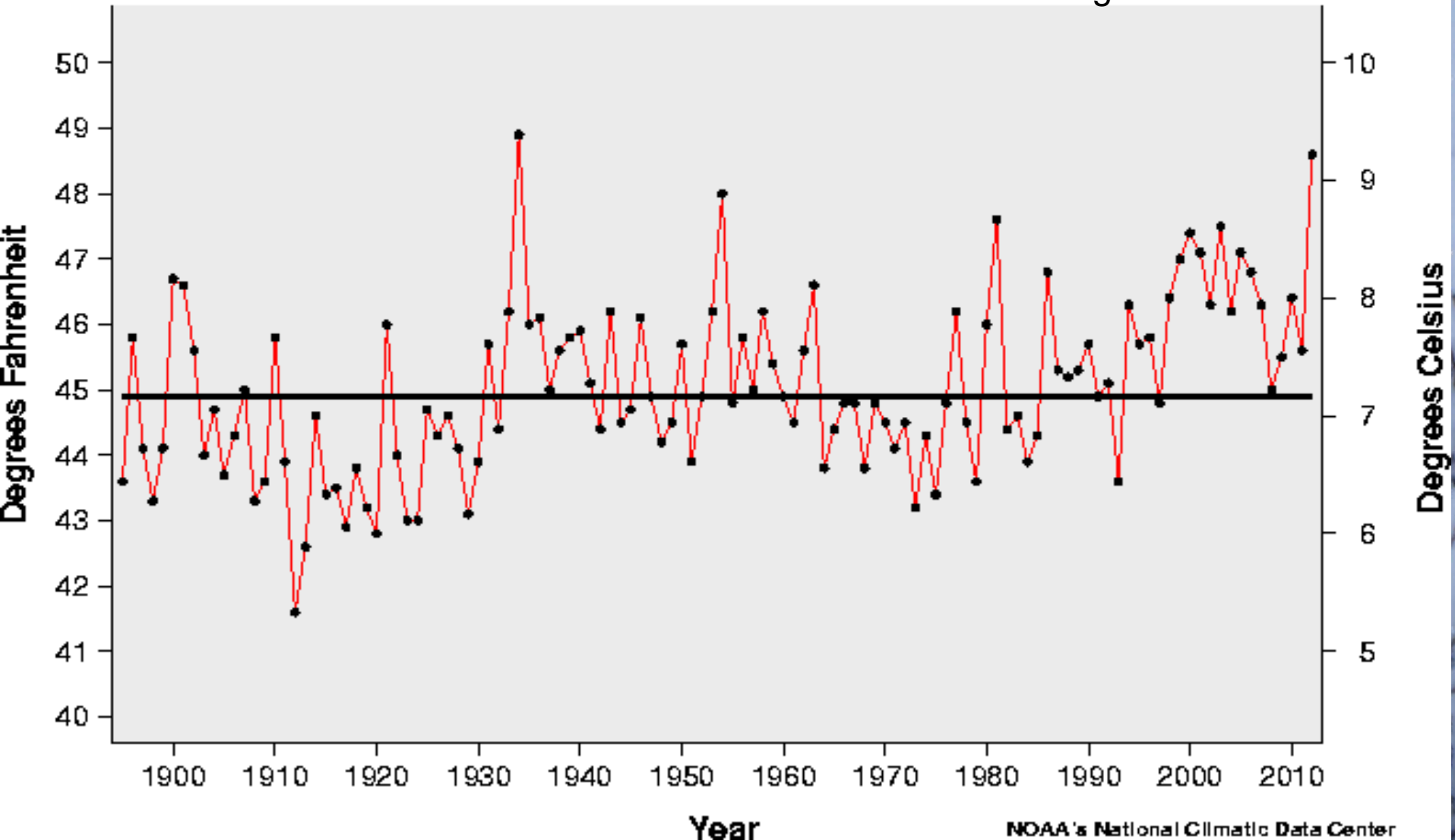
25.4 Ranks as the 56th coolest on record  
1895-2012.



# Annual Average Temperature History for Colorado (NCDC)

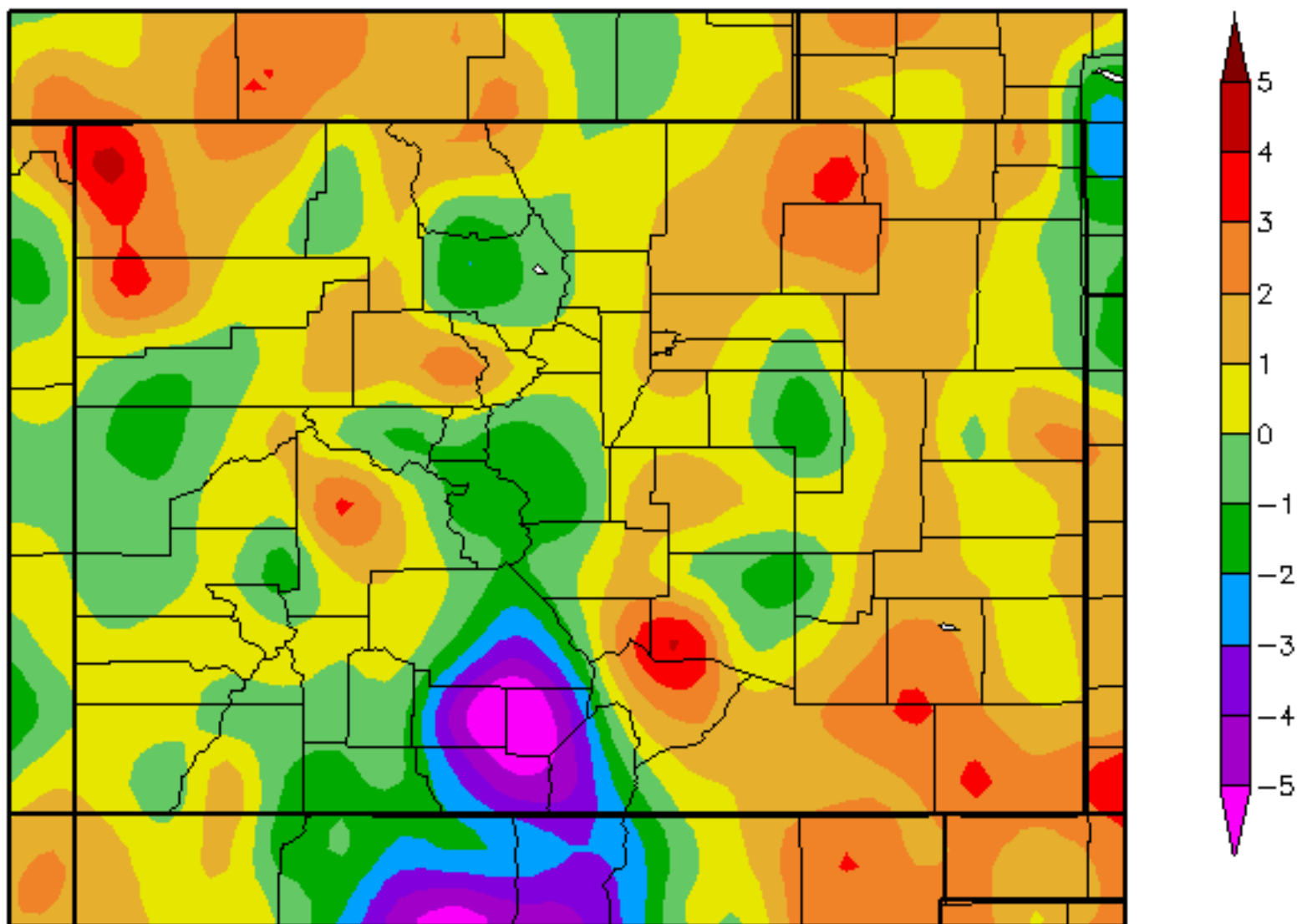
— Actual Temperature  
— Average Temperature

48.6 Ranks as the 2<sup>nd</sup> warmest on record 1895-2012. 1934 calendar year was warmest with 48.9 degrees.



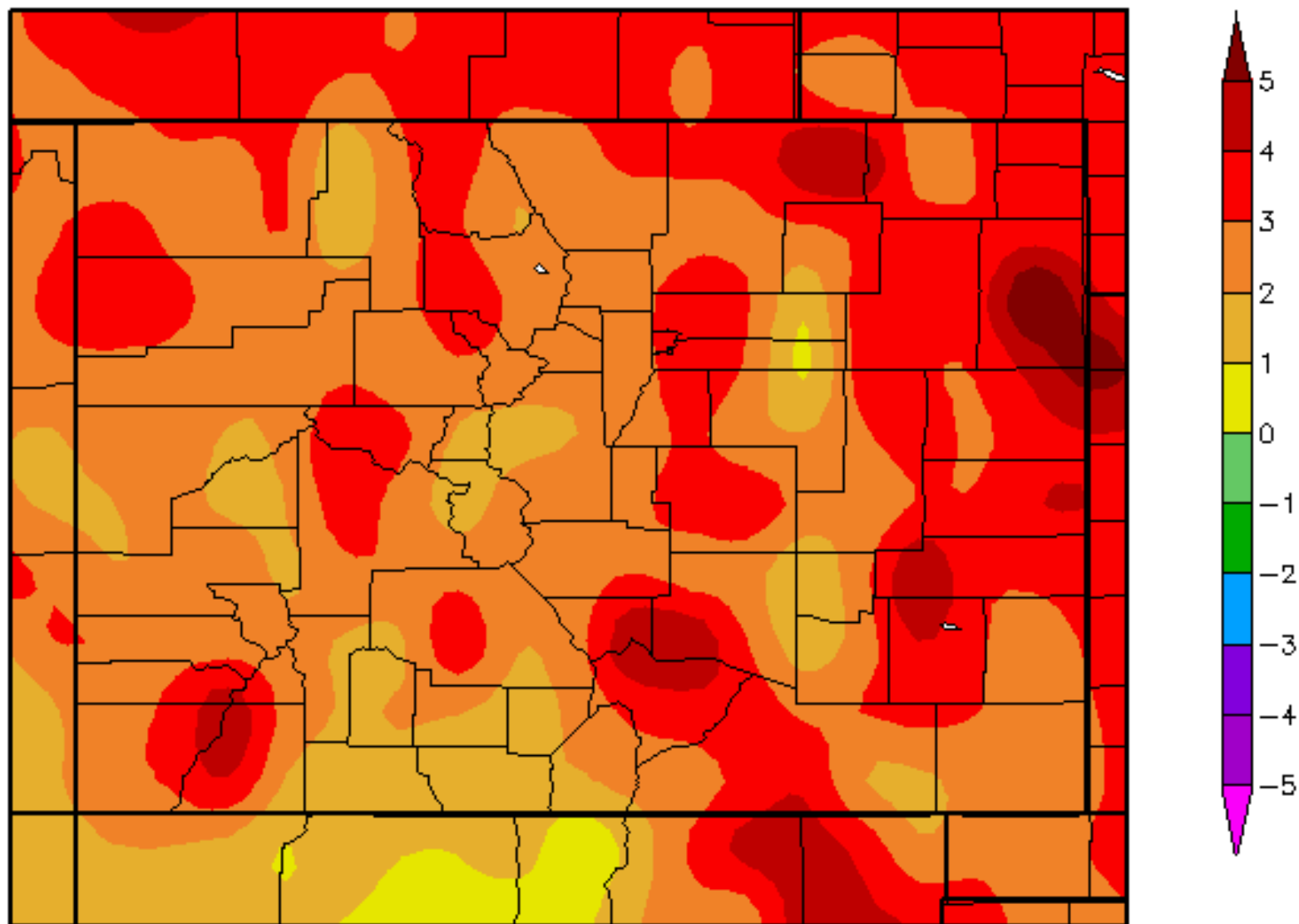
# Departure from Normal Temperature (F)

12/1/2012 - 12/31/2012



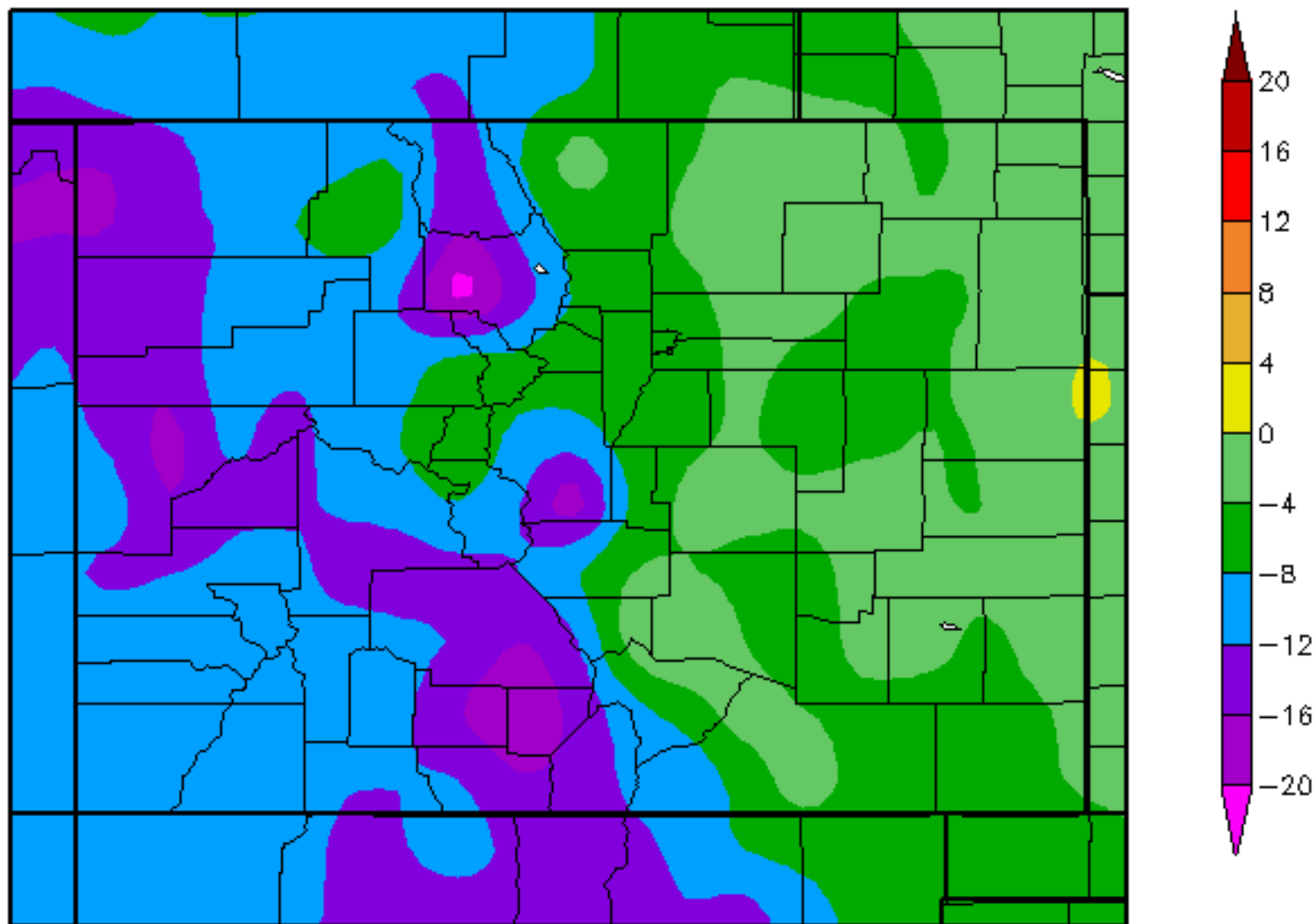
# Departure from Normal Temperature (F)

1/1/2012 - 12/31/2012

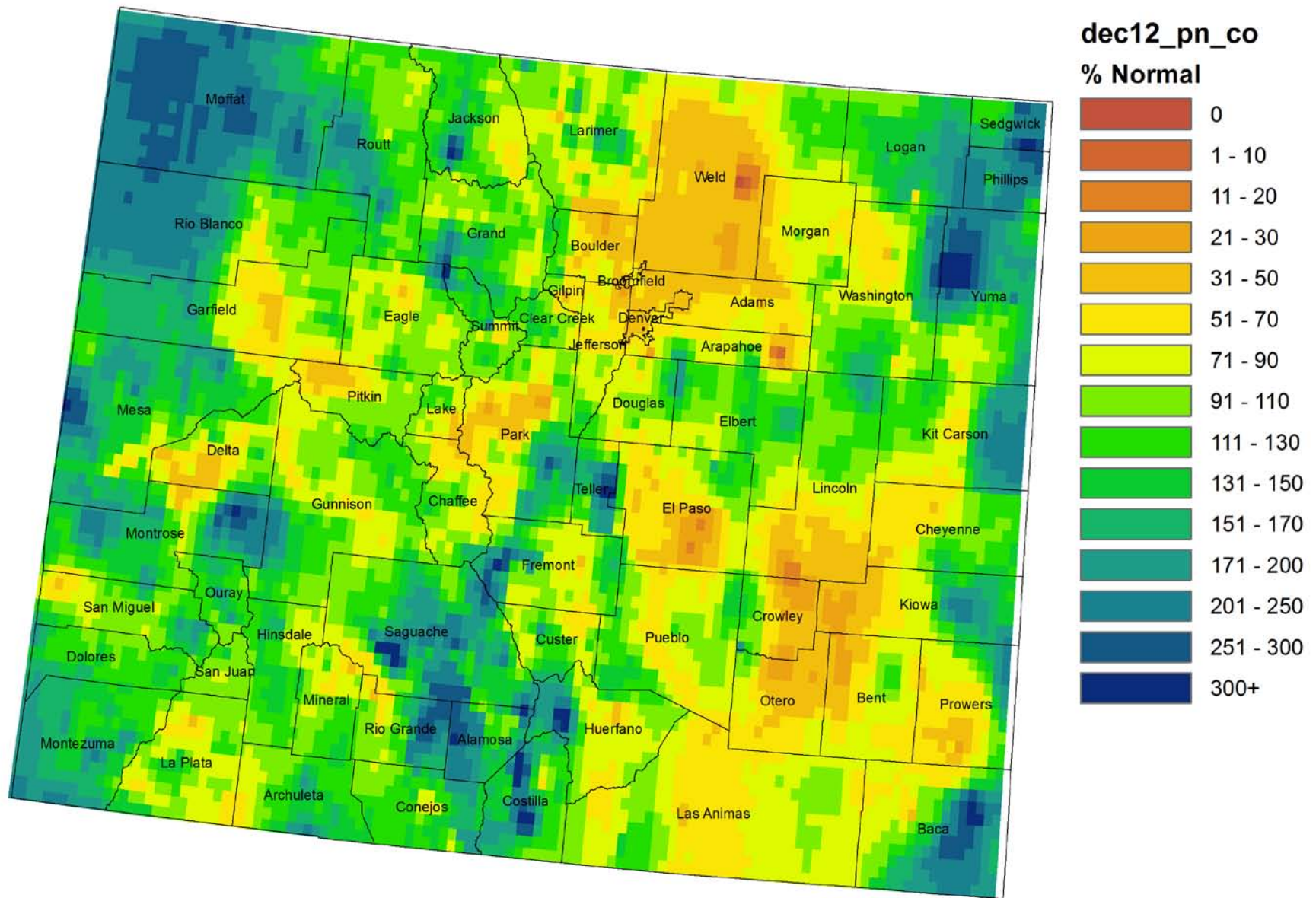


# Departure from Normal Temperature (F)

1/1/2013 - 1/21/2013

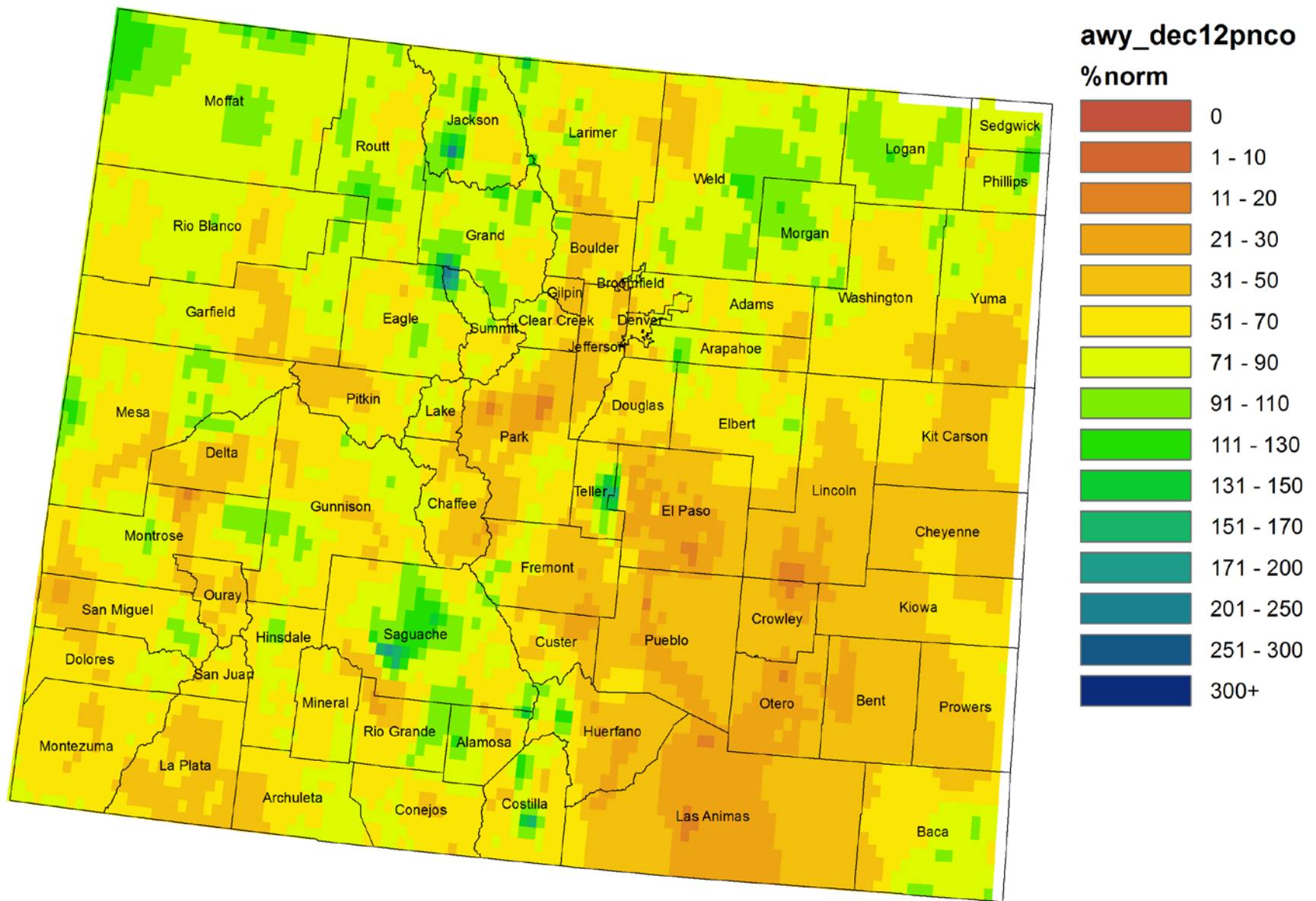


# Colorado Precipitation as Percentage of Normal December 2012

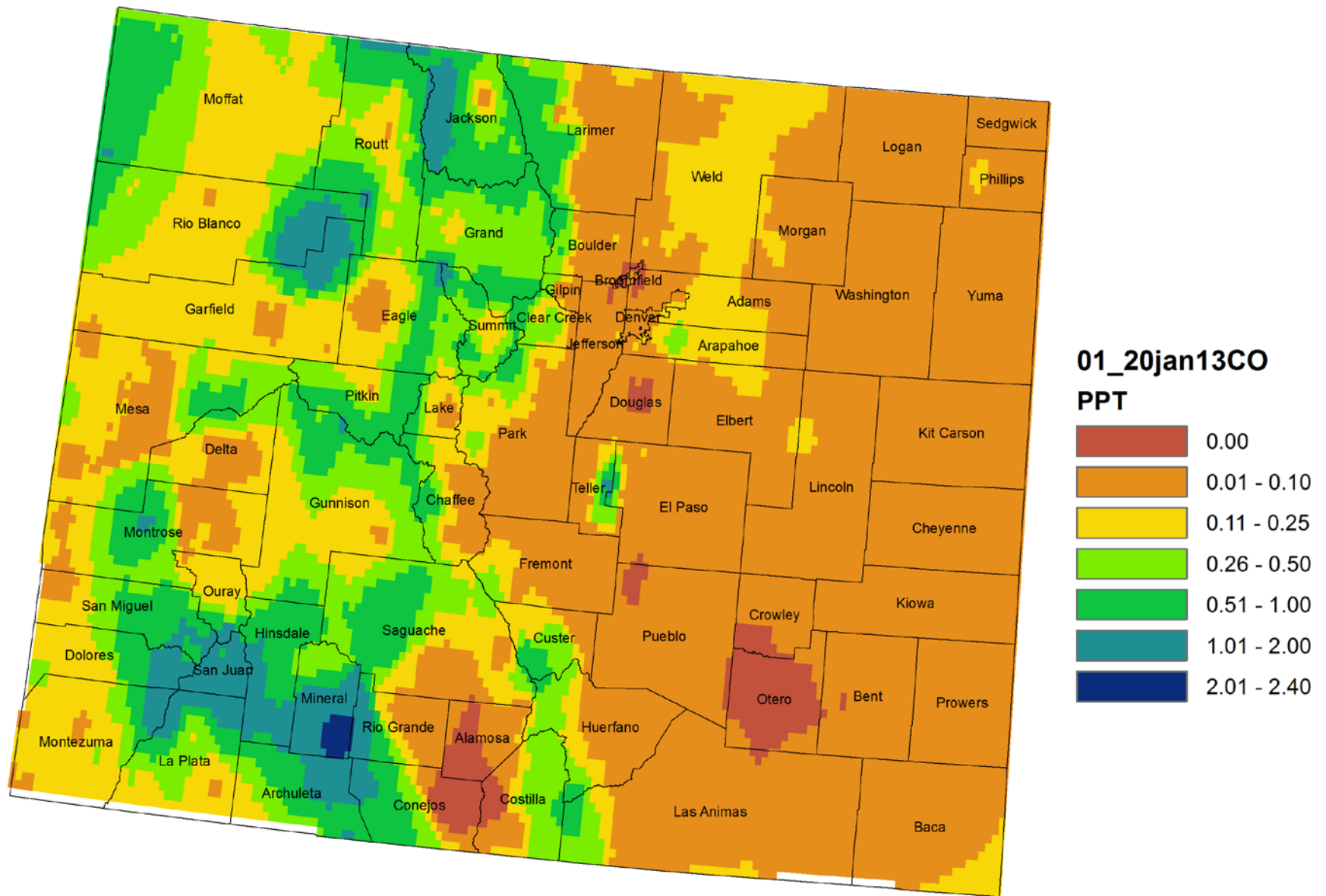




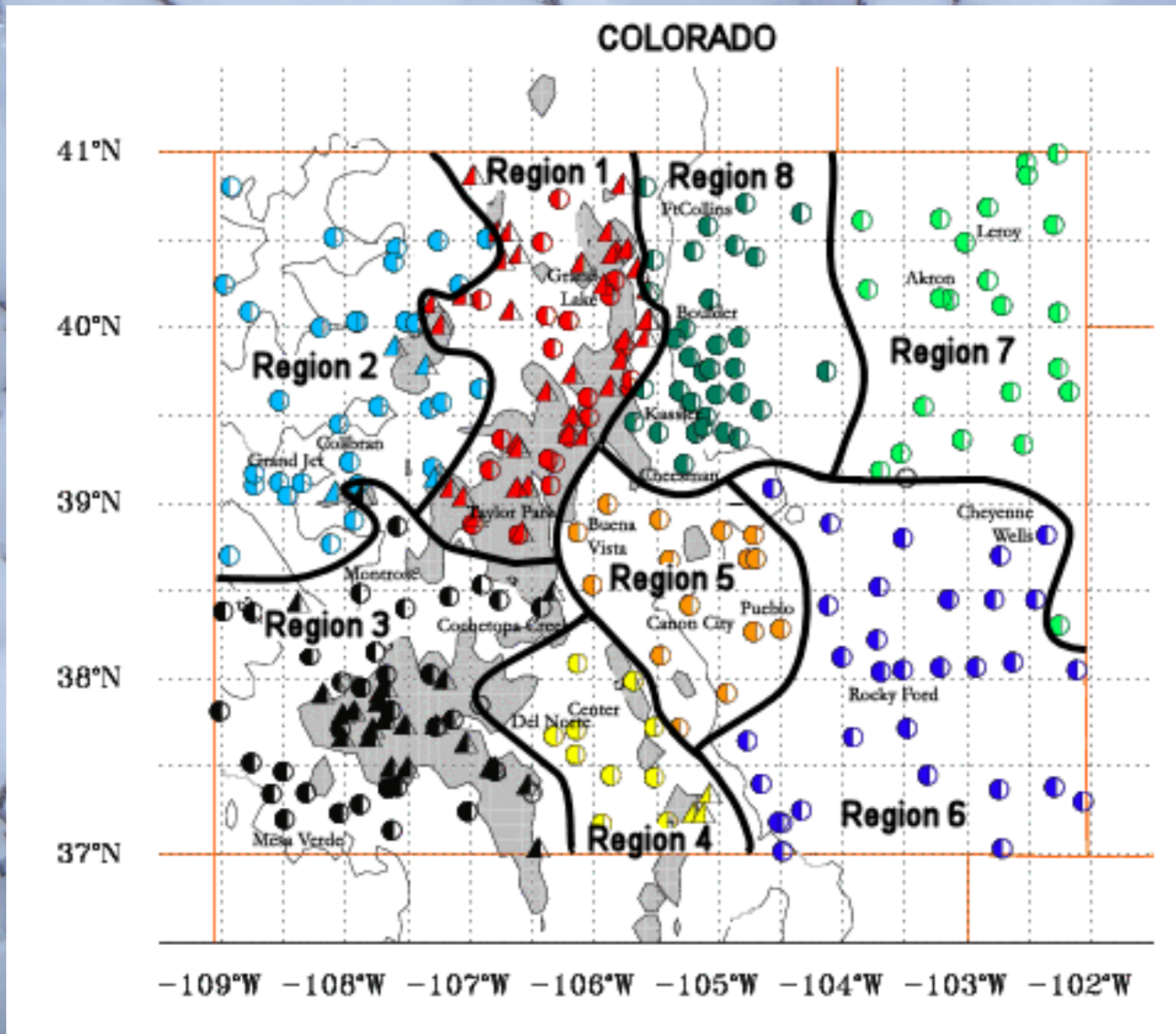
# Colorado Water Year 2013 Precipitation as Percentage of Normal October 2012 - December 2012



# Colorado Month to Date Precipitation (in) 1 - 20 January 2013

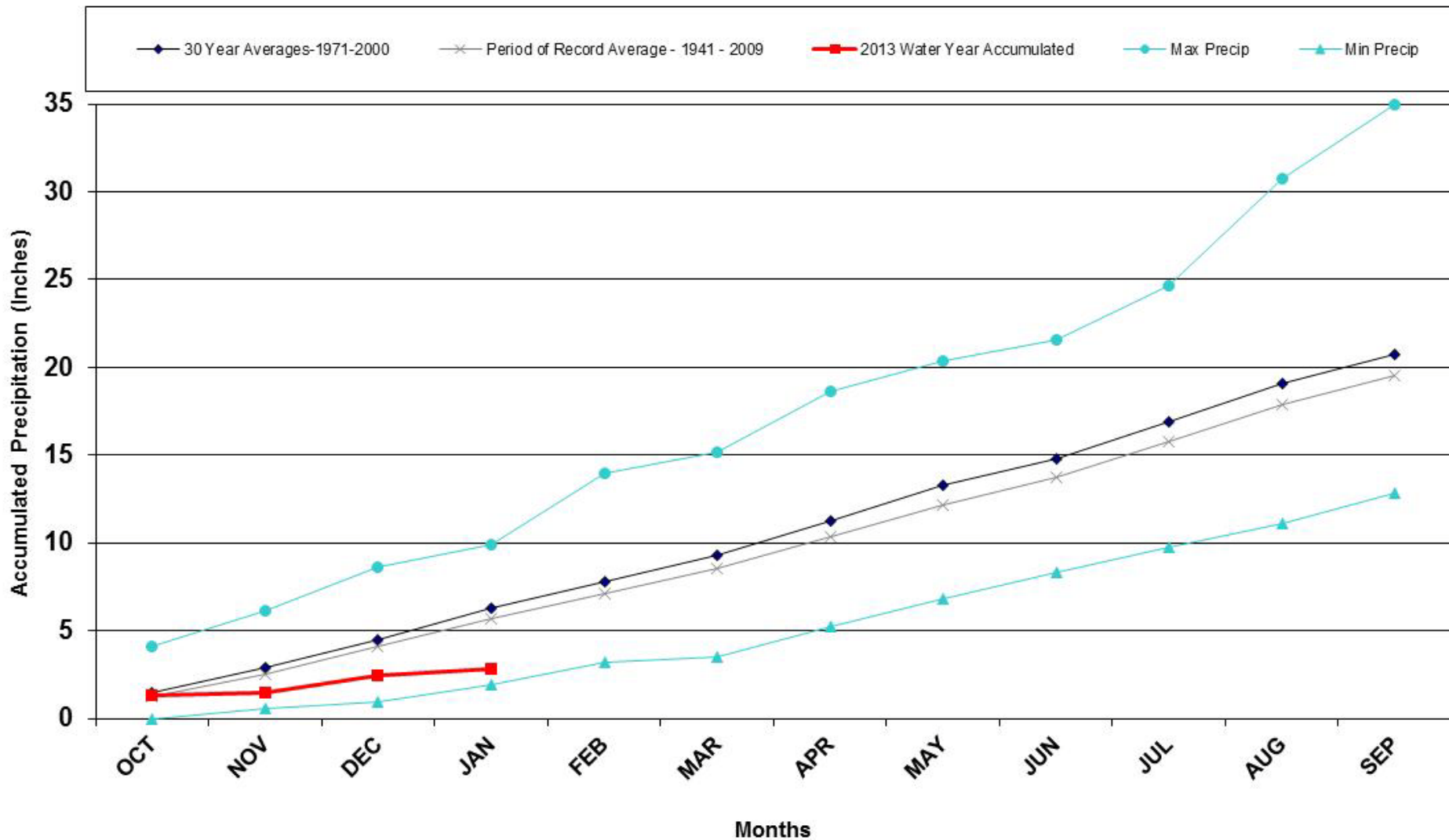


# Climate divisions defined by Dr. Klaus Wolter of NOAA's Climate Diagnostic Center in Boulder, CO



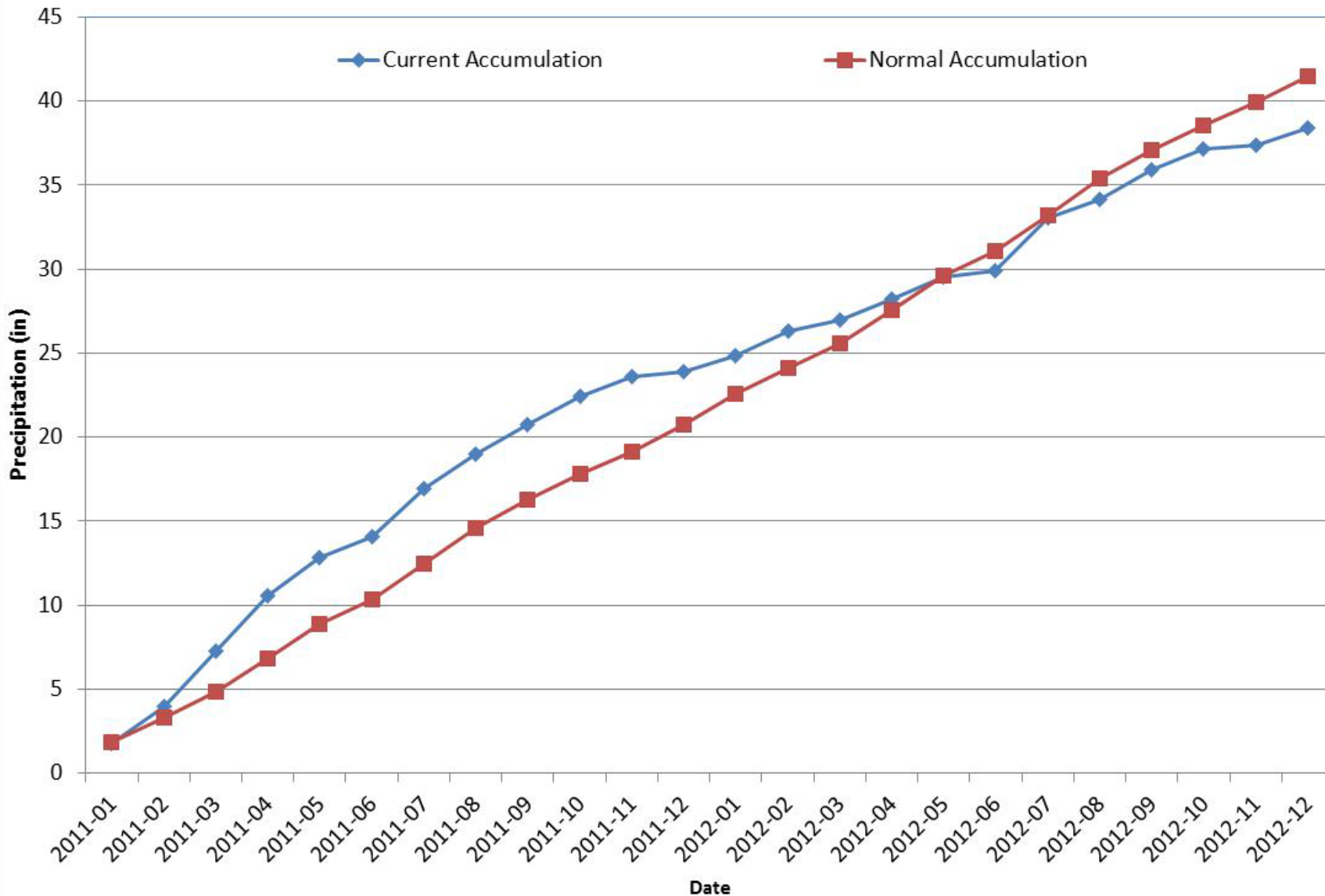
# Division 1 – Grand Lake 1NW

## Grand Lake 1 NW 2013 Water Year



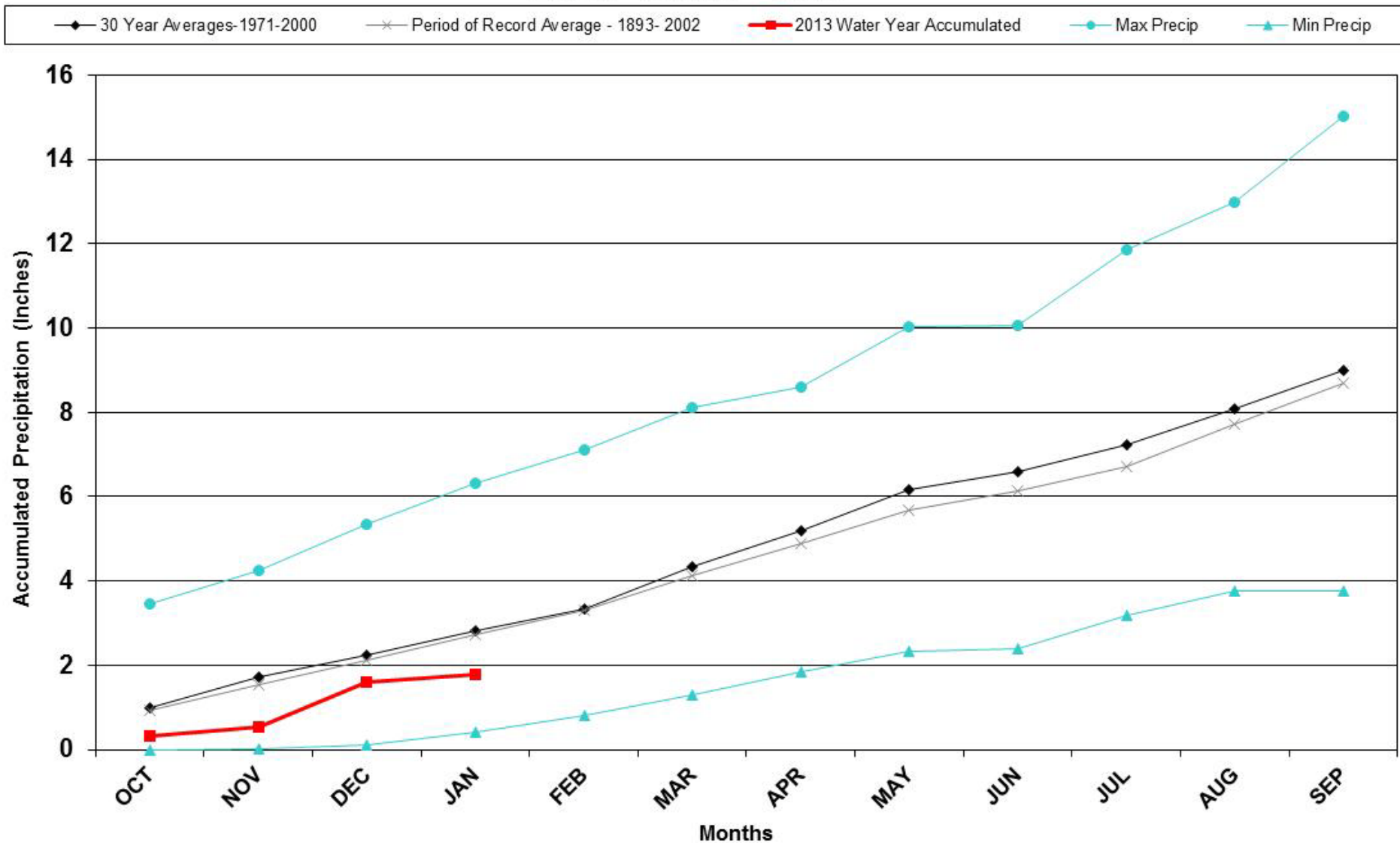
# Division 1 – Grand Lake 1NW

## Grand Lake 1NW 24 Month Precipitation Accumulation



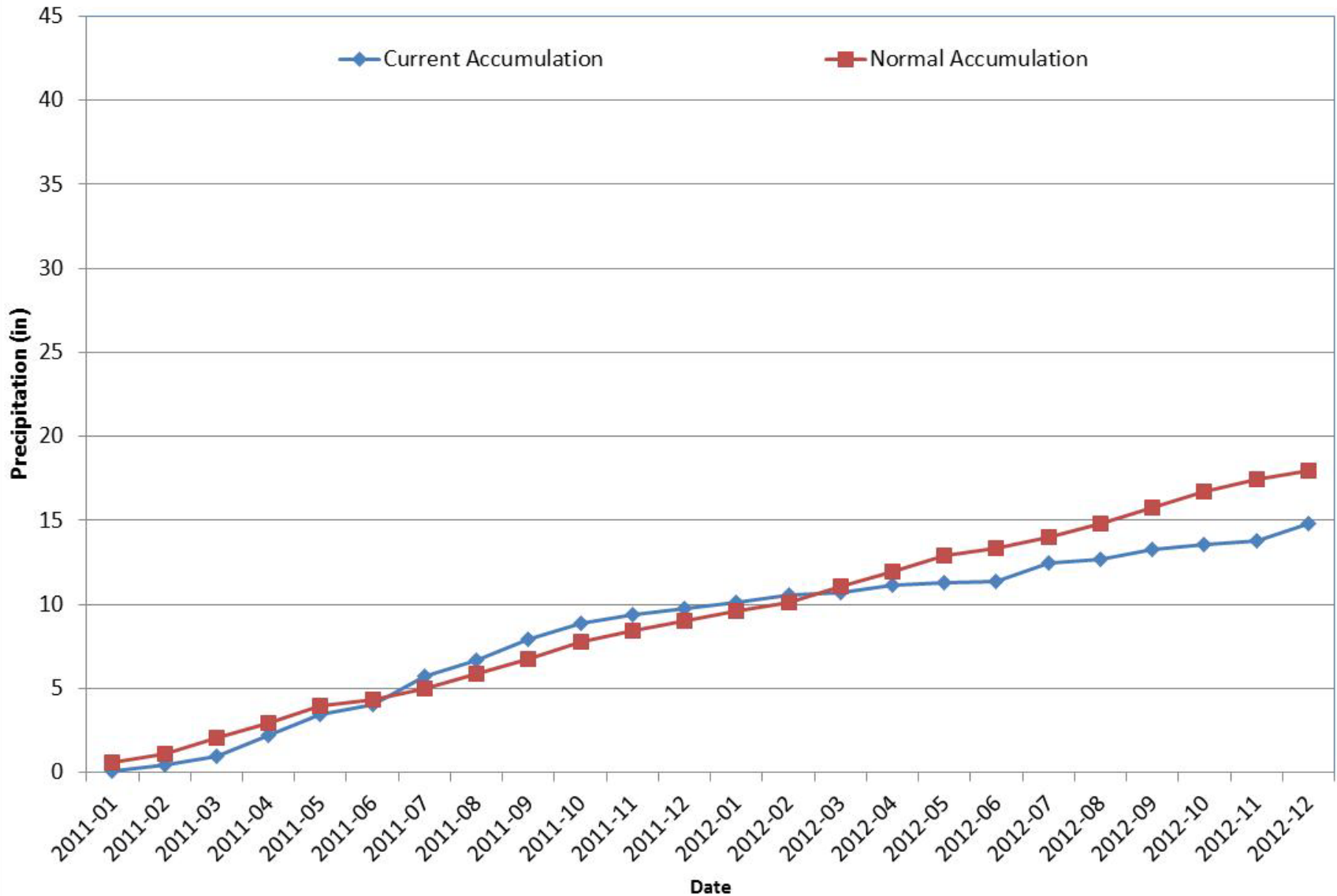
# Division 2 – Grand Junction

## Grand Junction WSFO 2013 Water Year



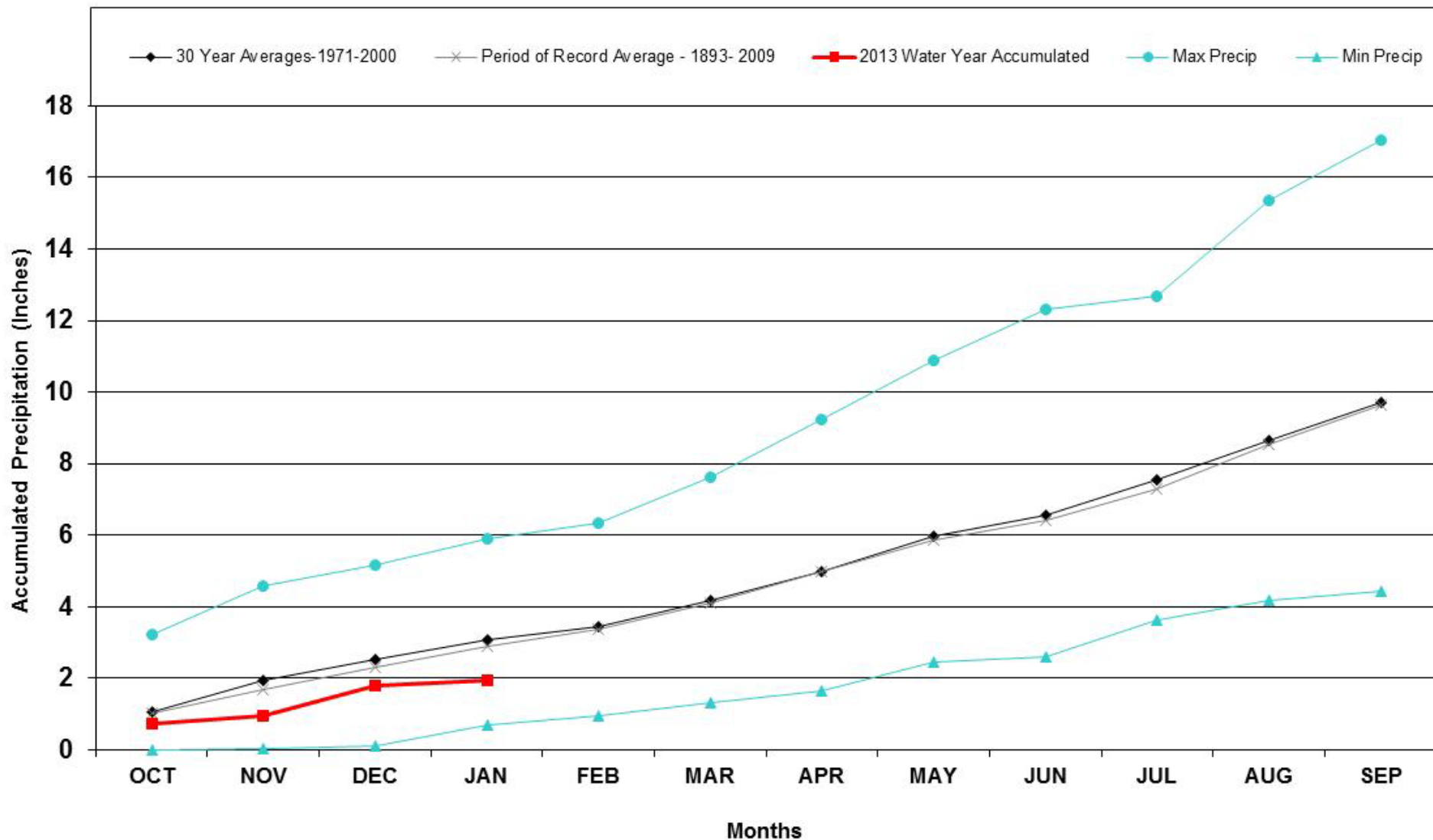
# Division 2 – Grand Junction

## Grand Junction 24 Month Precipitation Accumulation



# Division 3 – Montrose

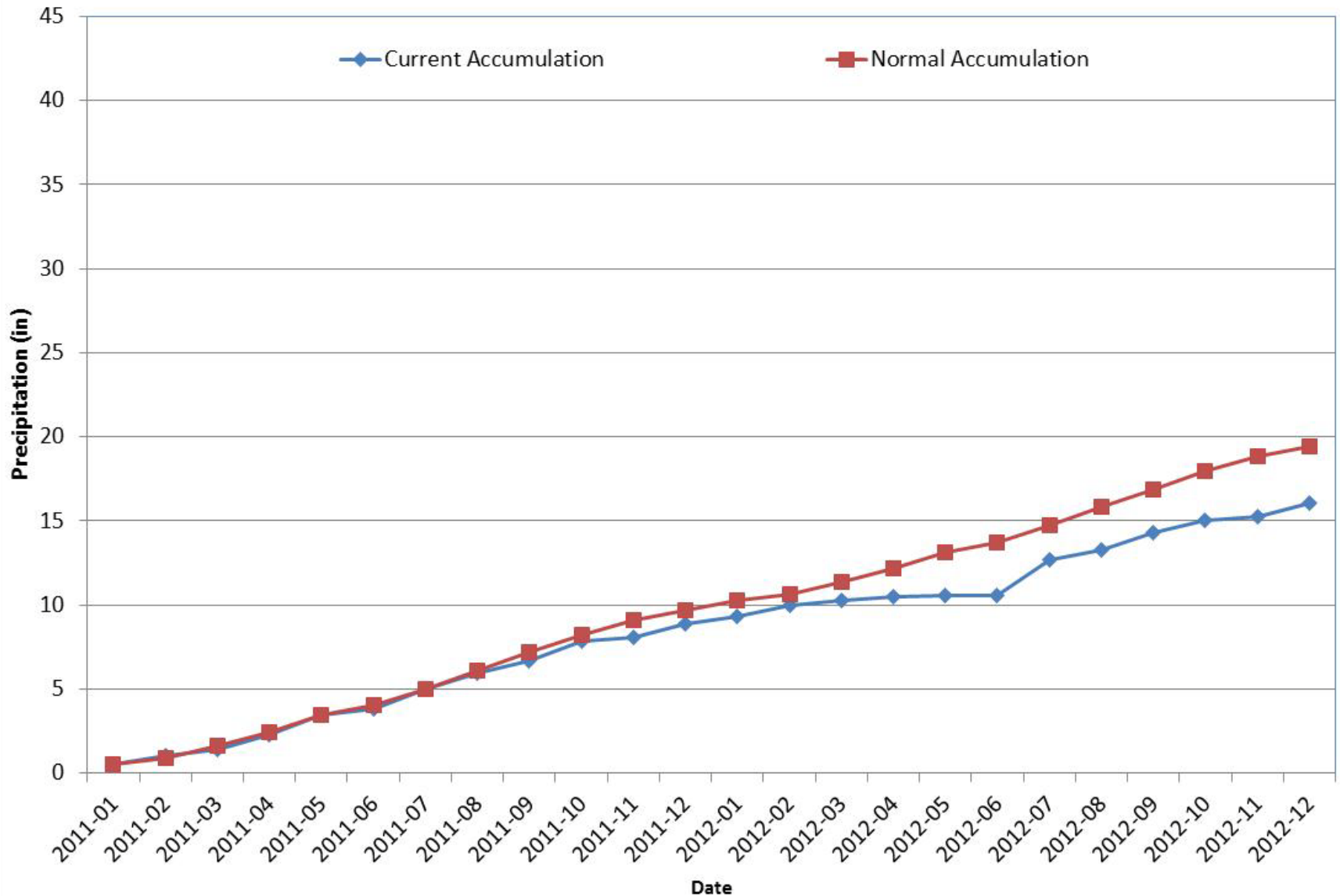
## Montrose #2 2013 Water Year





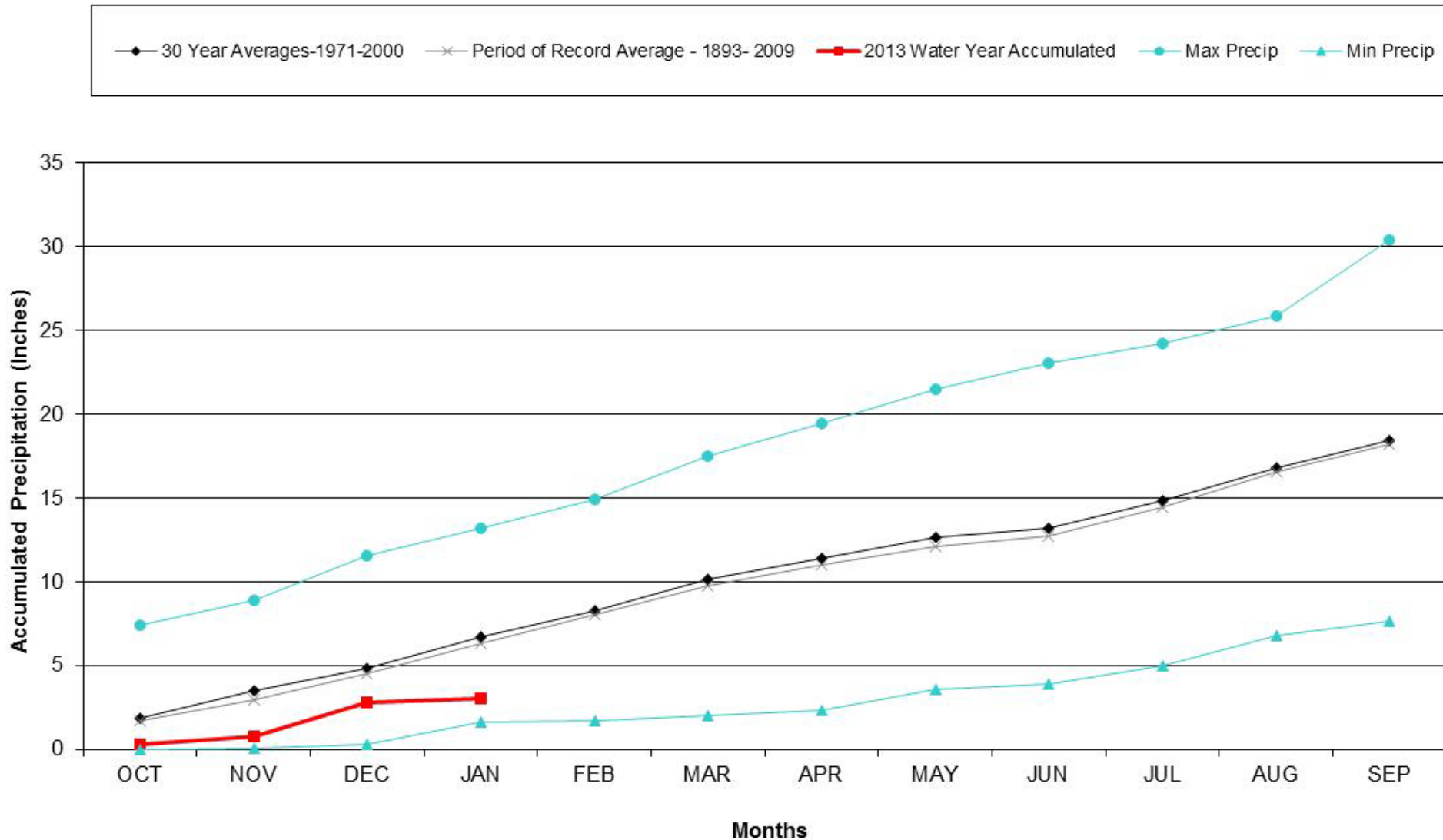
# Division 3 – Montrose

## Montrose #2 24 Month Precipitation Accumulation



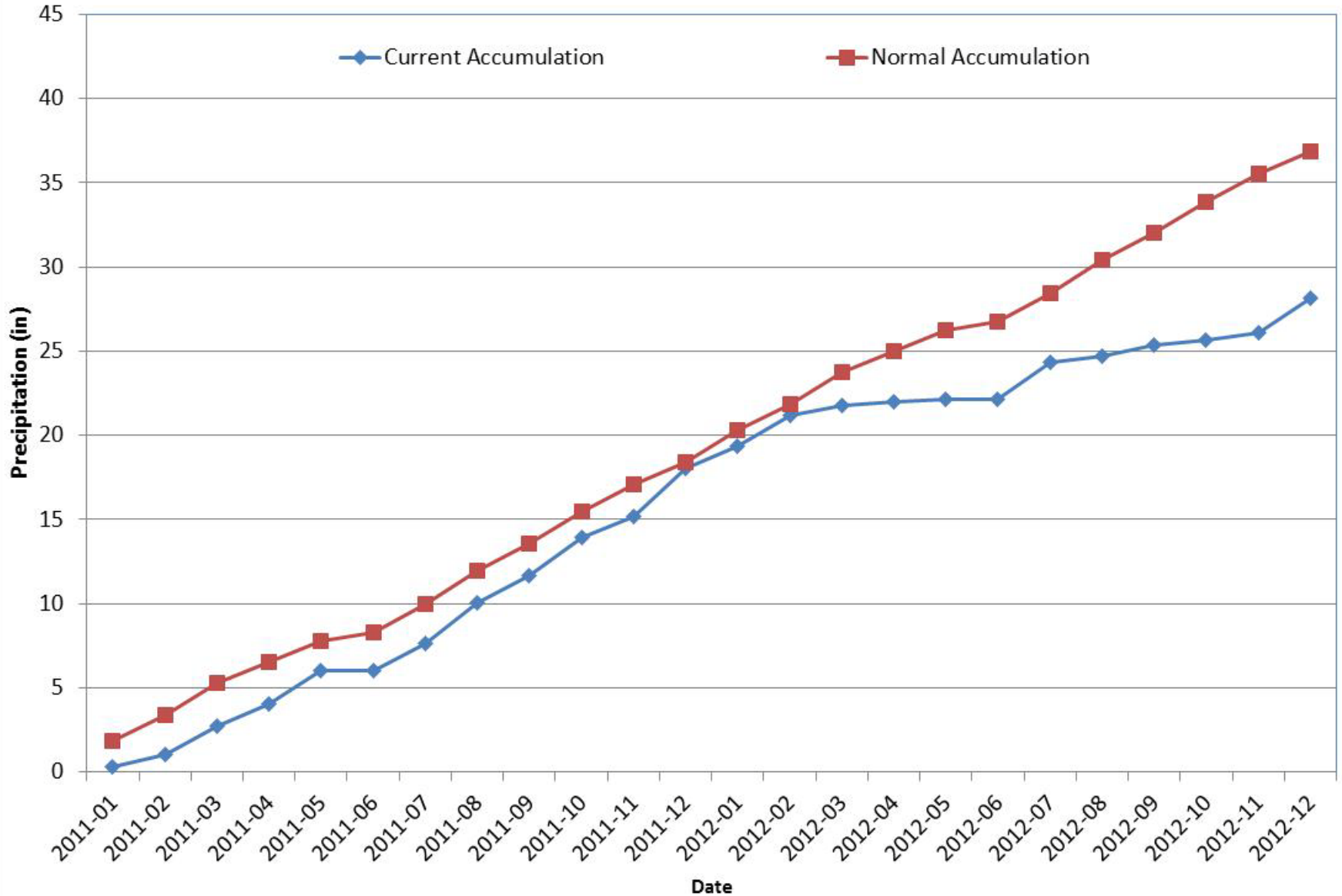
# Division 3 – Mesa Verde NP

## Mesa Verde NP 2013 Water Year



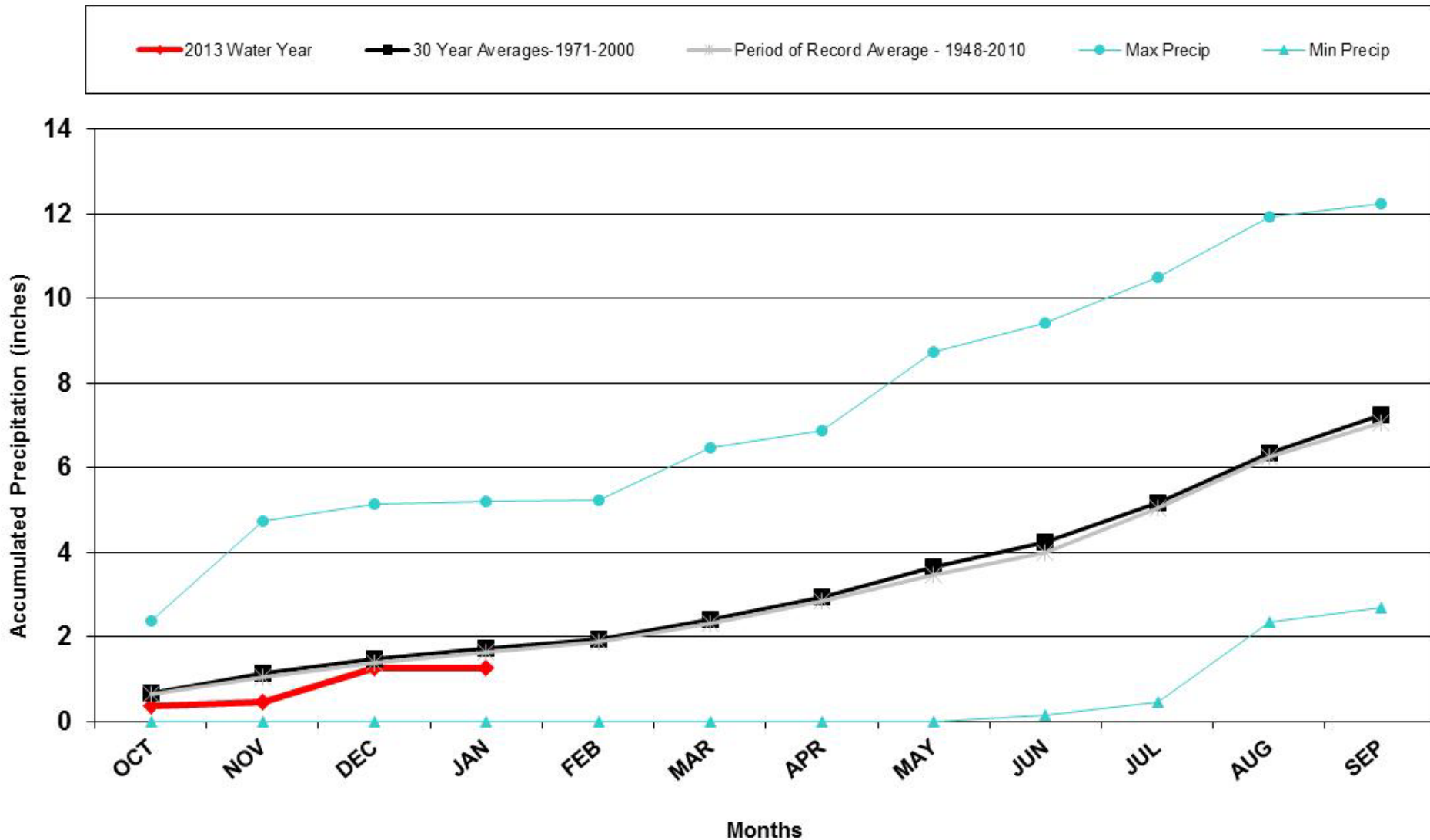
# Division 3 – Mesa Verde NP

## Mesa Verde NP 24 Month Precipitation Accumulation



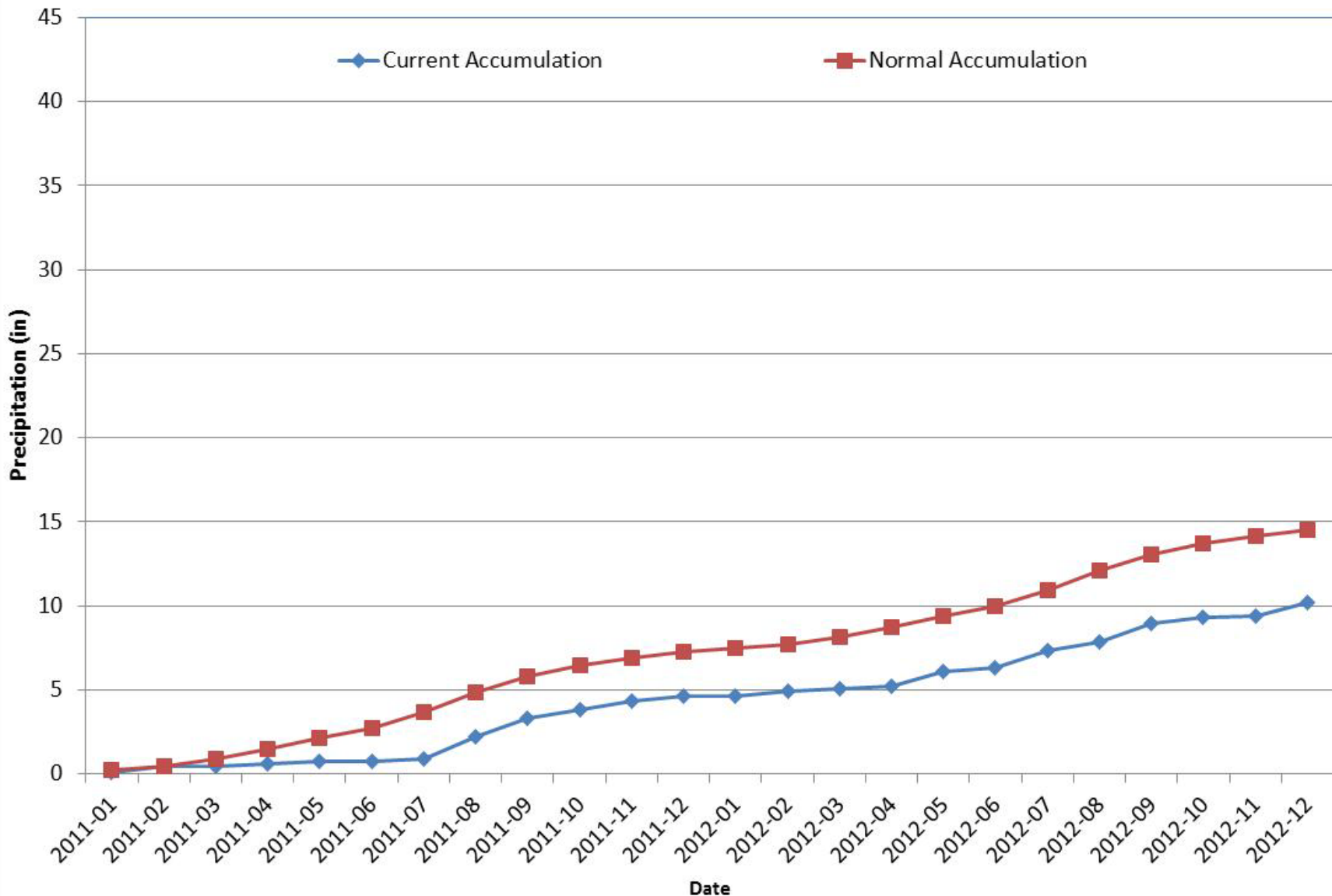
# Division 4 – Alamosa

## Alamosa WSO 2013 Water Year



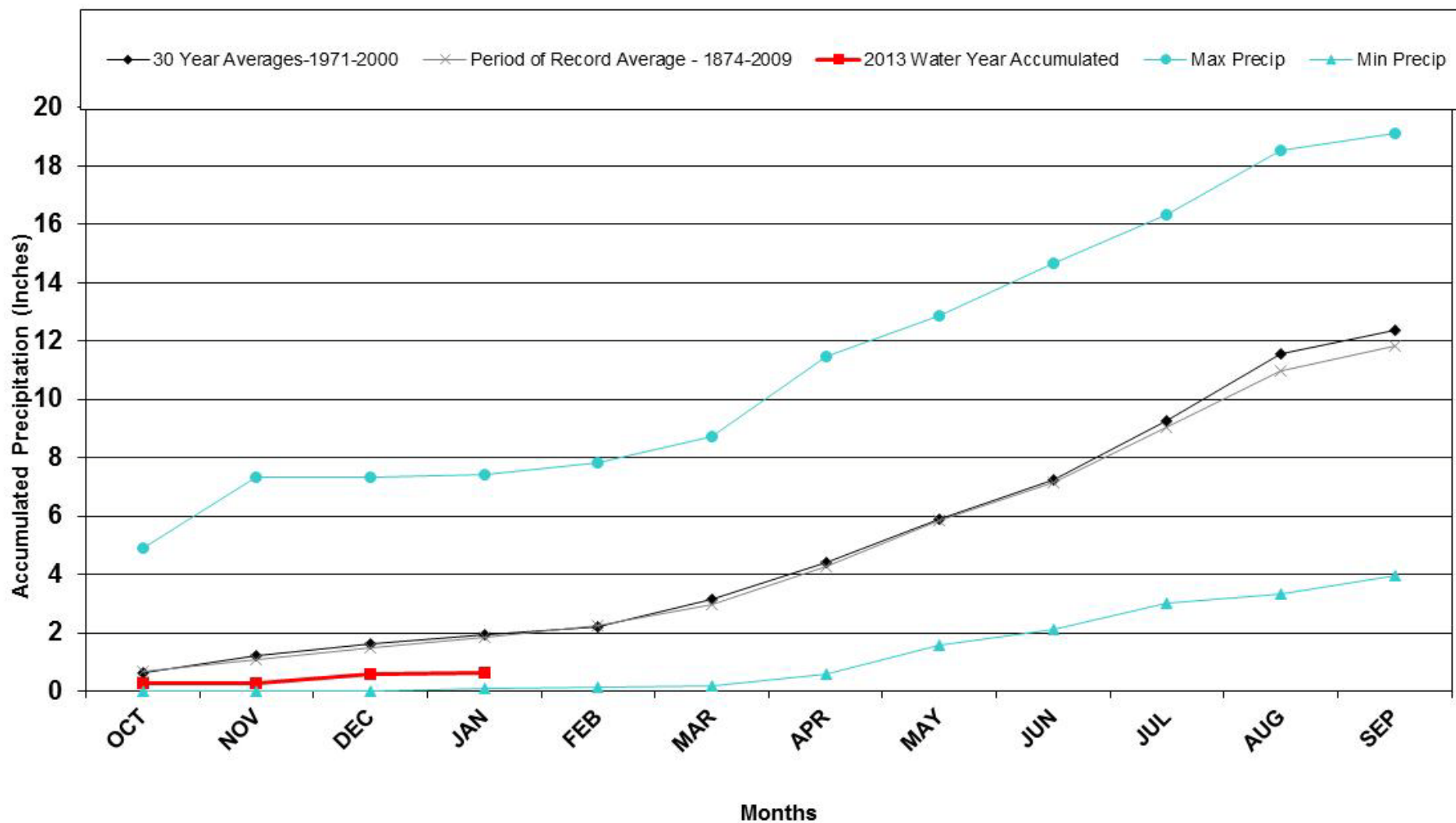
# Division 4 – Alamosa

## Alamosa WSO 24 Month Precipitation Accumulation



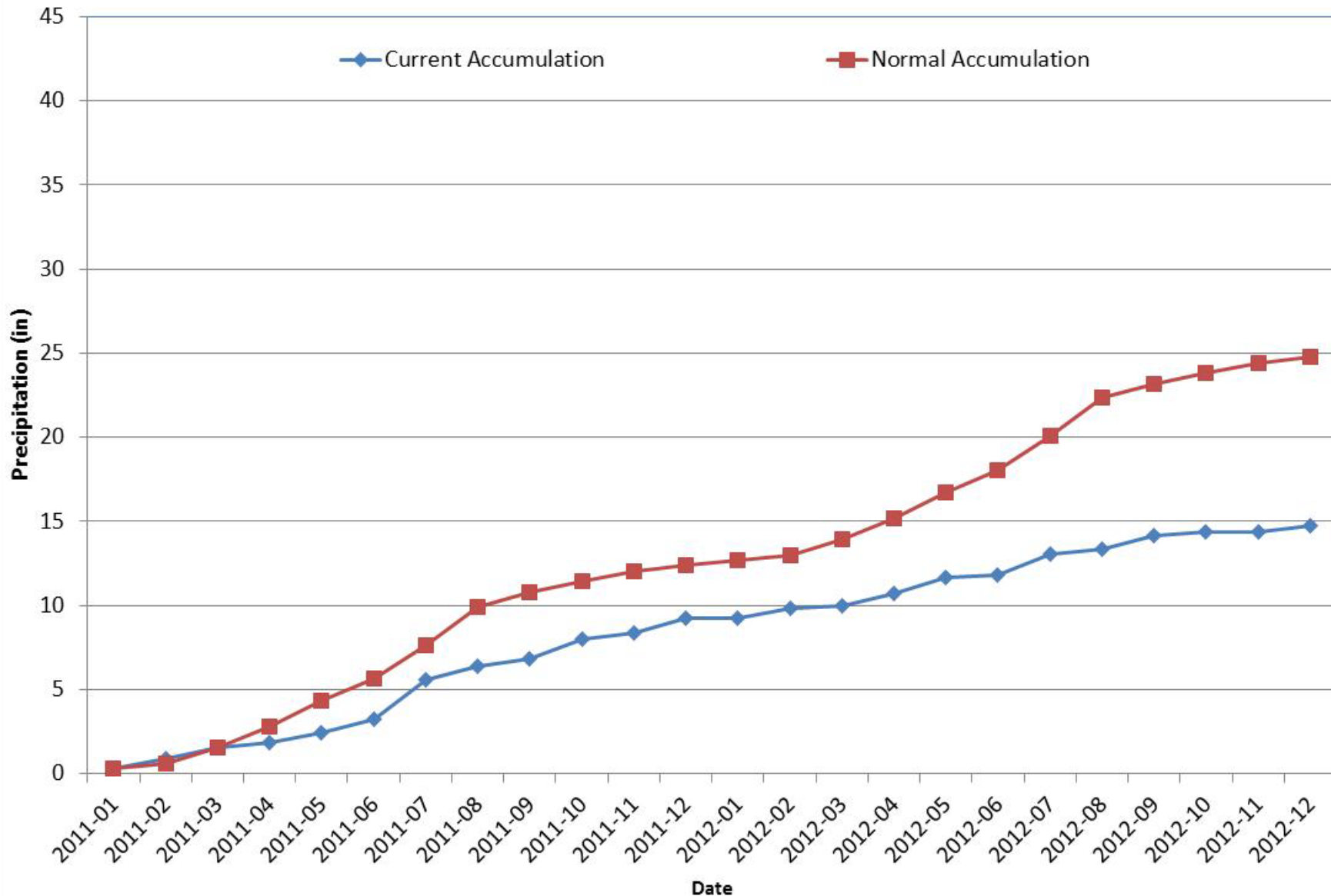
# Division 5 – Pueblo

## Pueblo WSO 2013 Water Year



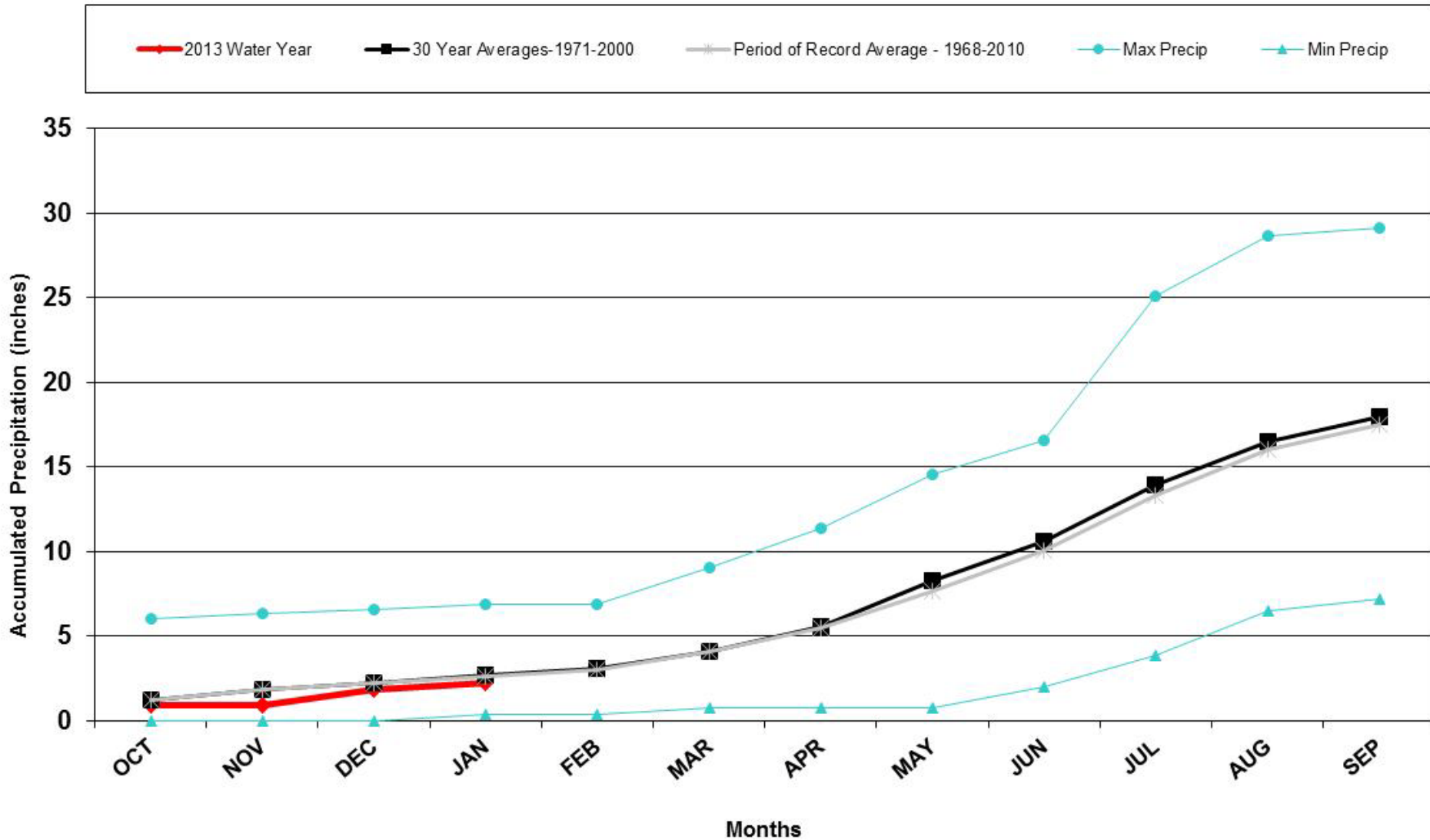
# Division 5 – Pueblo

## Pueblo Memorial AP 24 Month Precipitation Accumulation



# Division 6 - Walsh

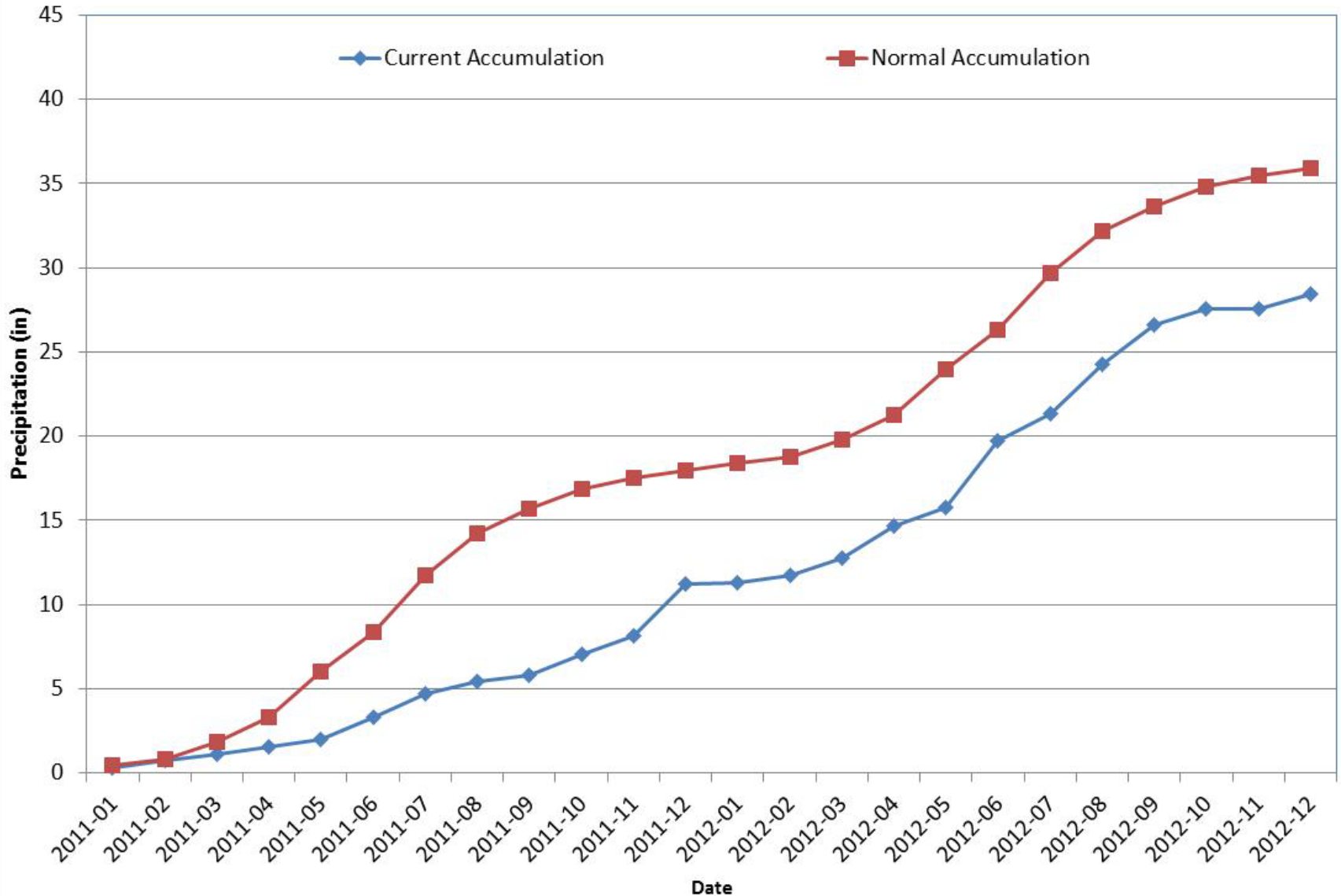
## Walsh 2013 Water Year





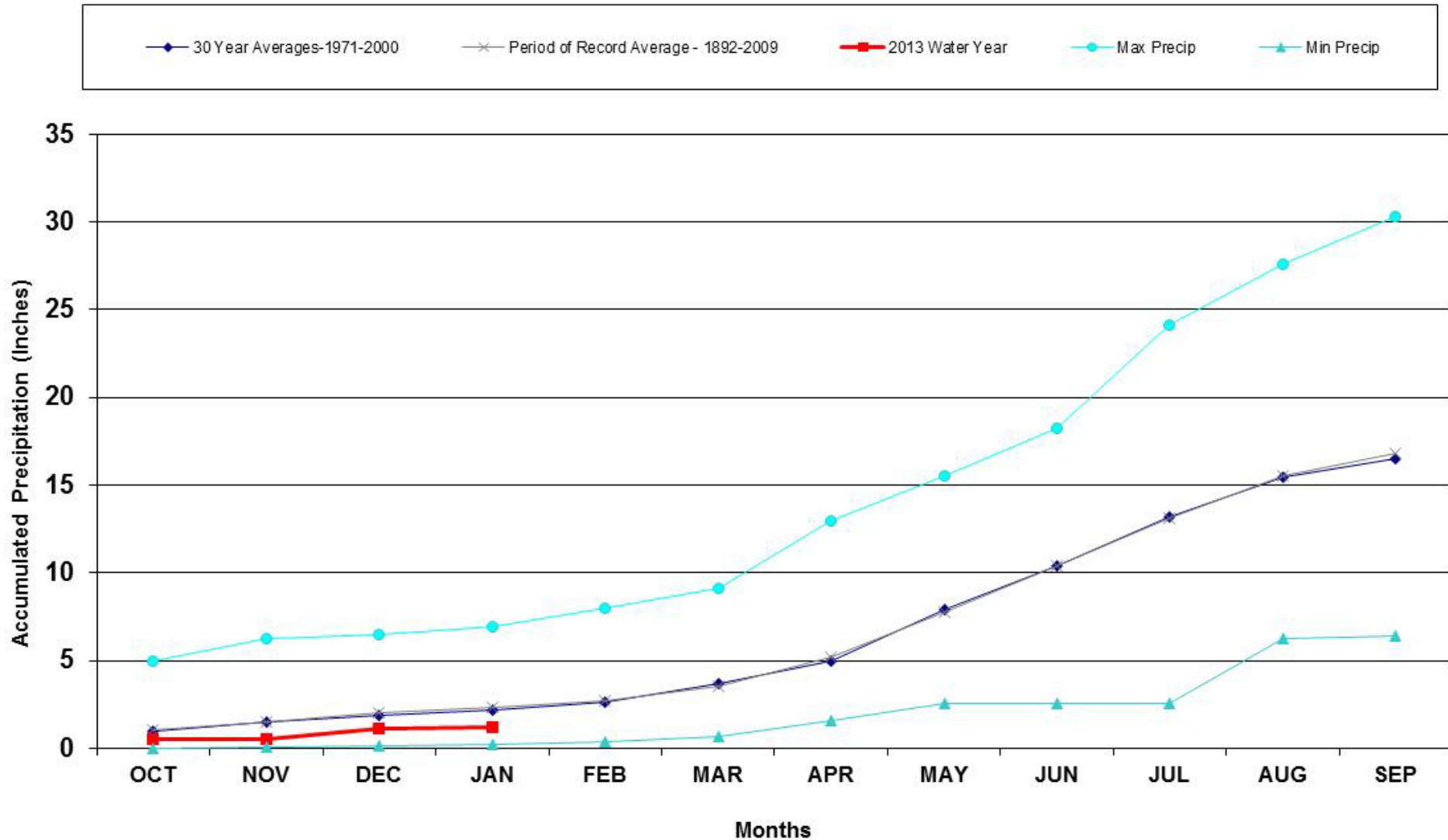
# Division 6 - Walsh

## Walsh 1W 24 Month Precipitation Accumulation



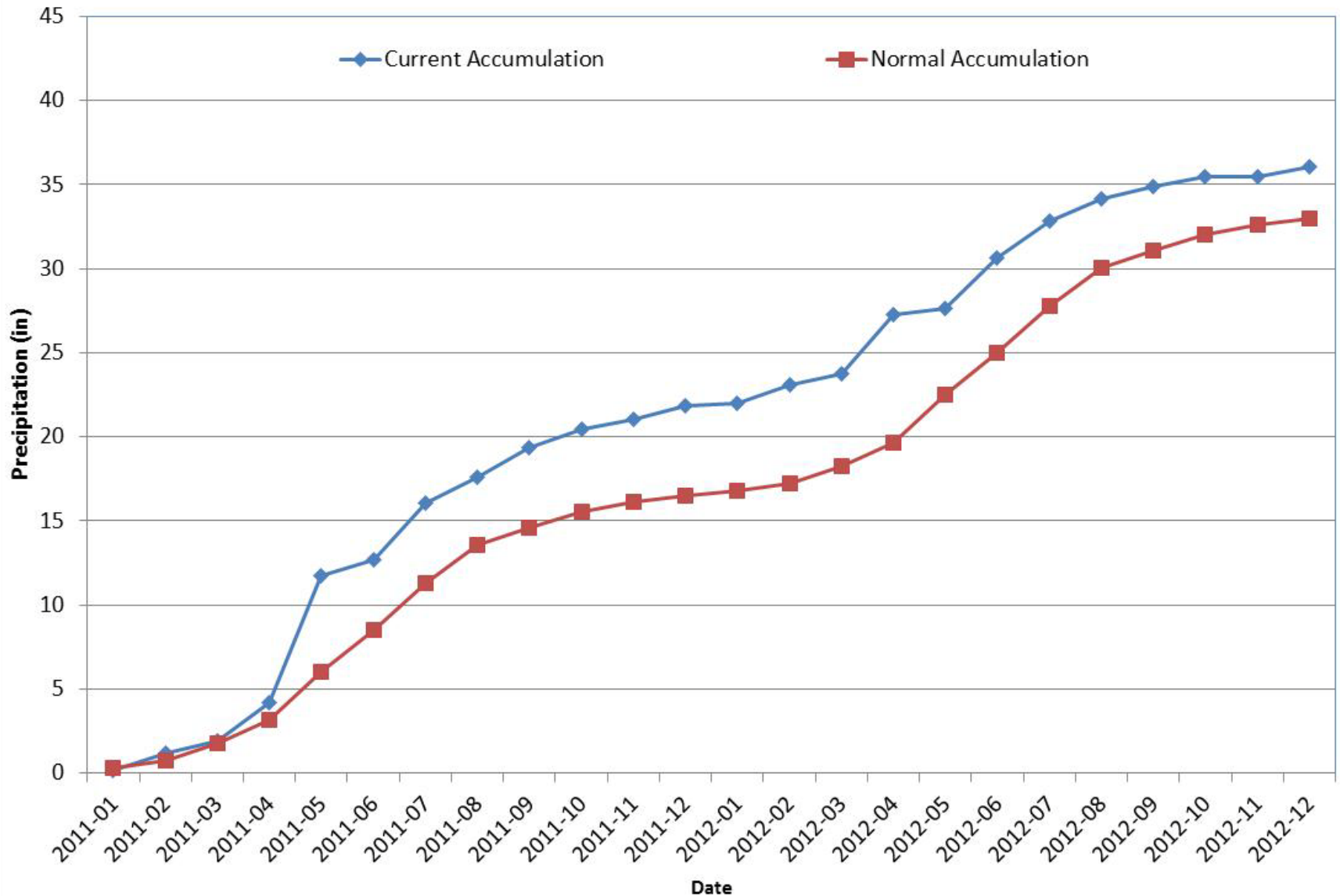
# Division 6 - Burlington

## Burlington 2013 Water Year



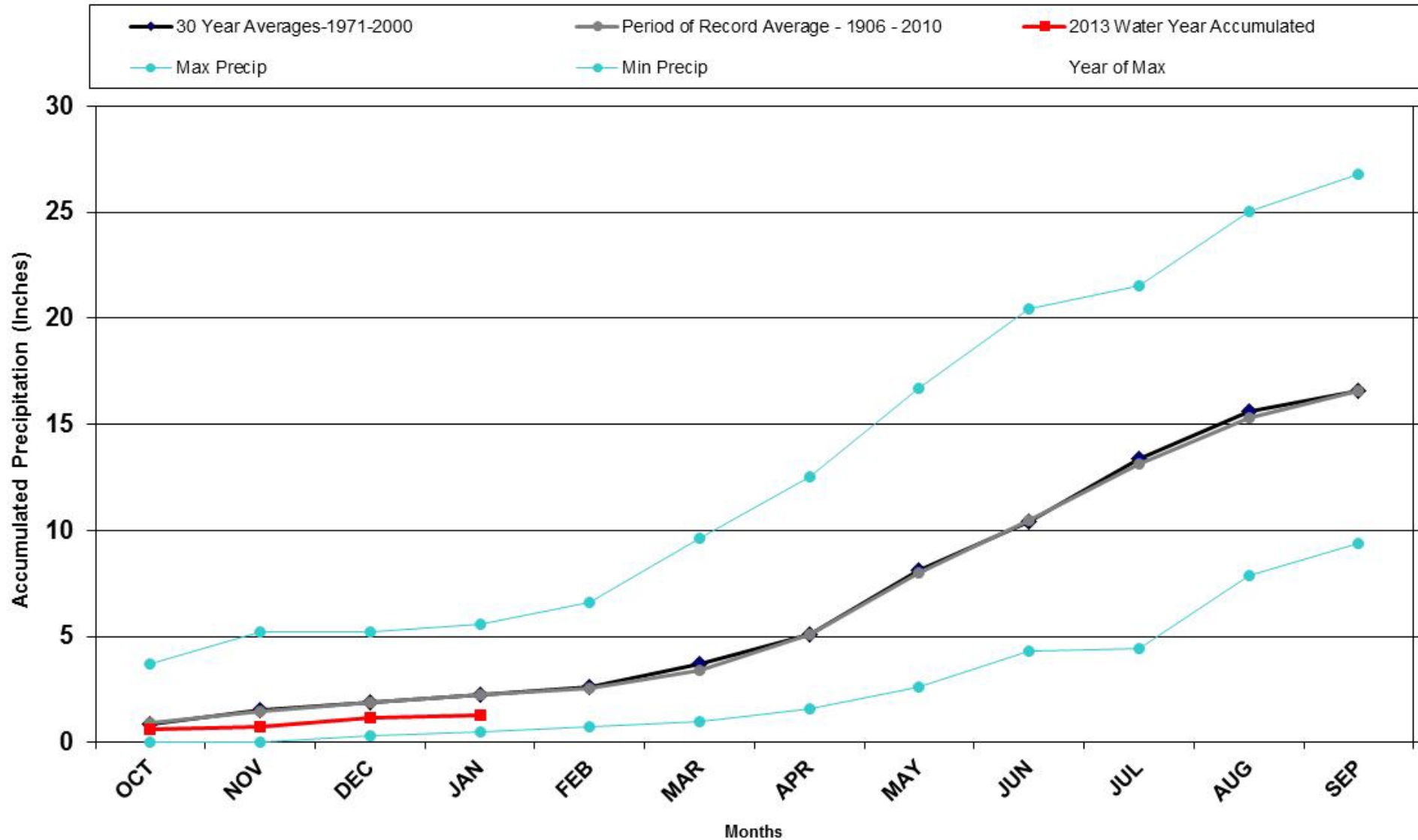
# Division 6 - Burlington

**Burlington, CO**  
**24 Month Precipitation Accumulation**



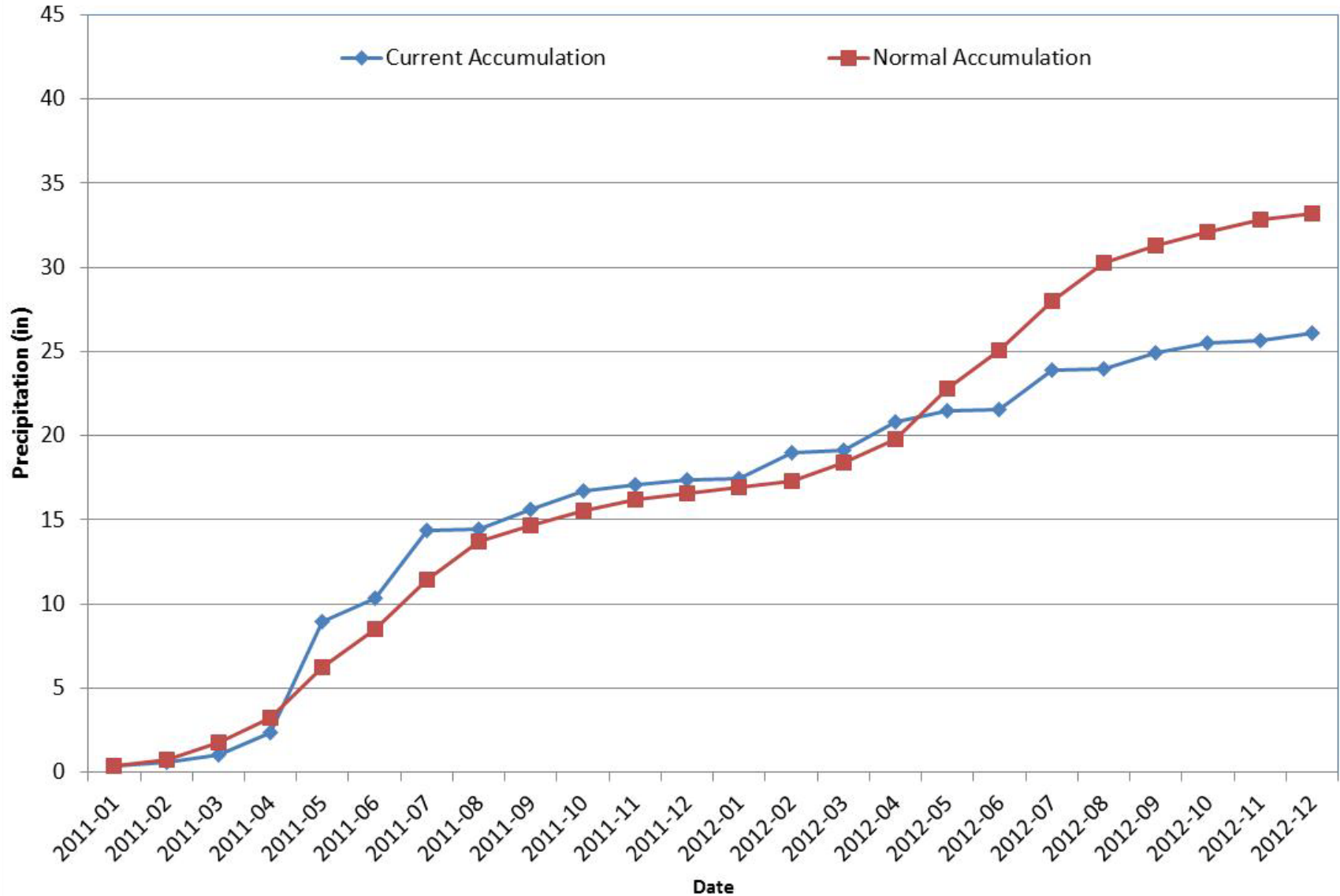
# Division 7 – Akron

## Akron 4E 2013 Water Year



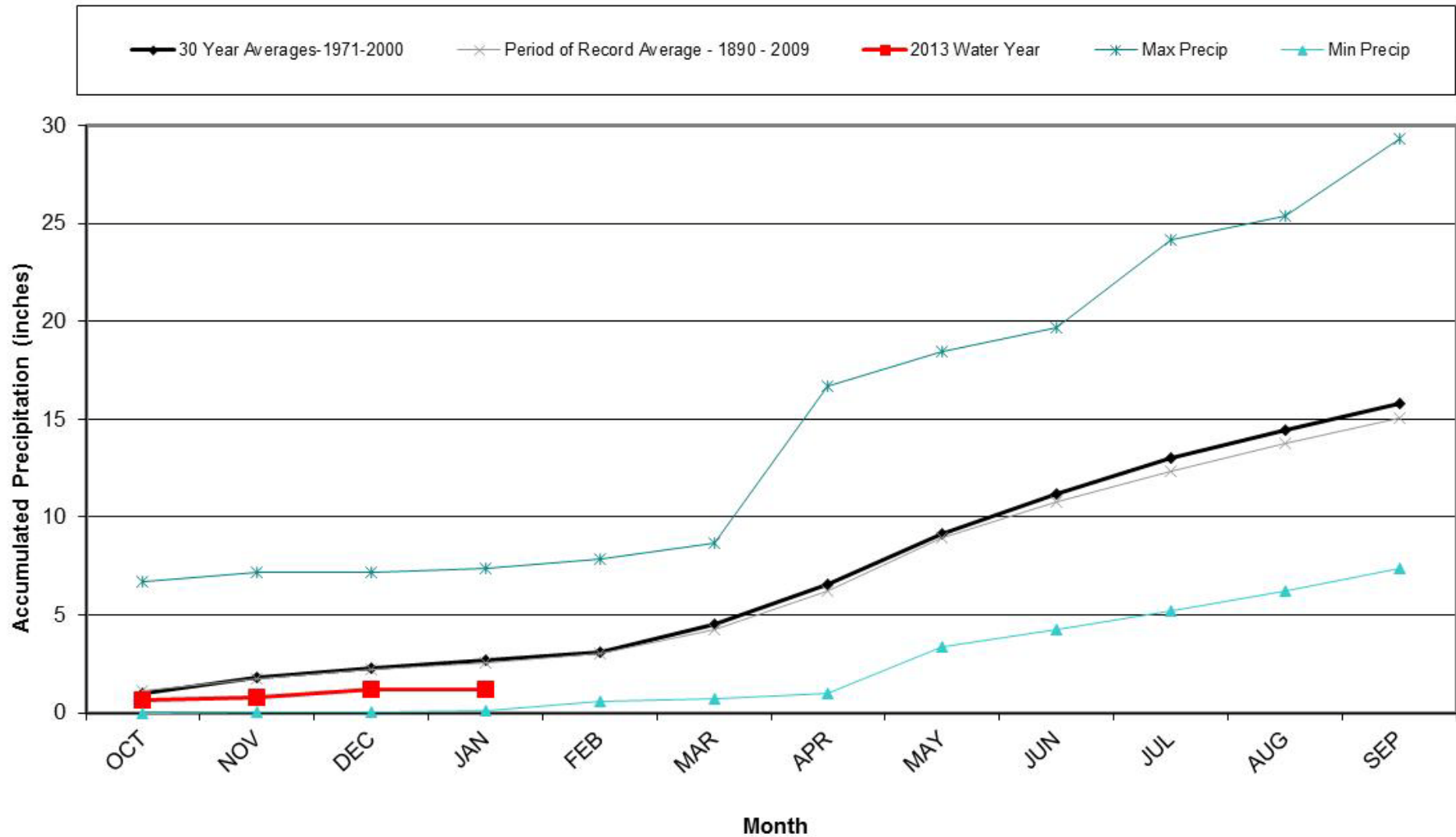
# Division 7 – Akron

## Akron 4E 24 Month Precipitation Accumulation



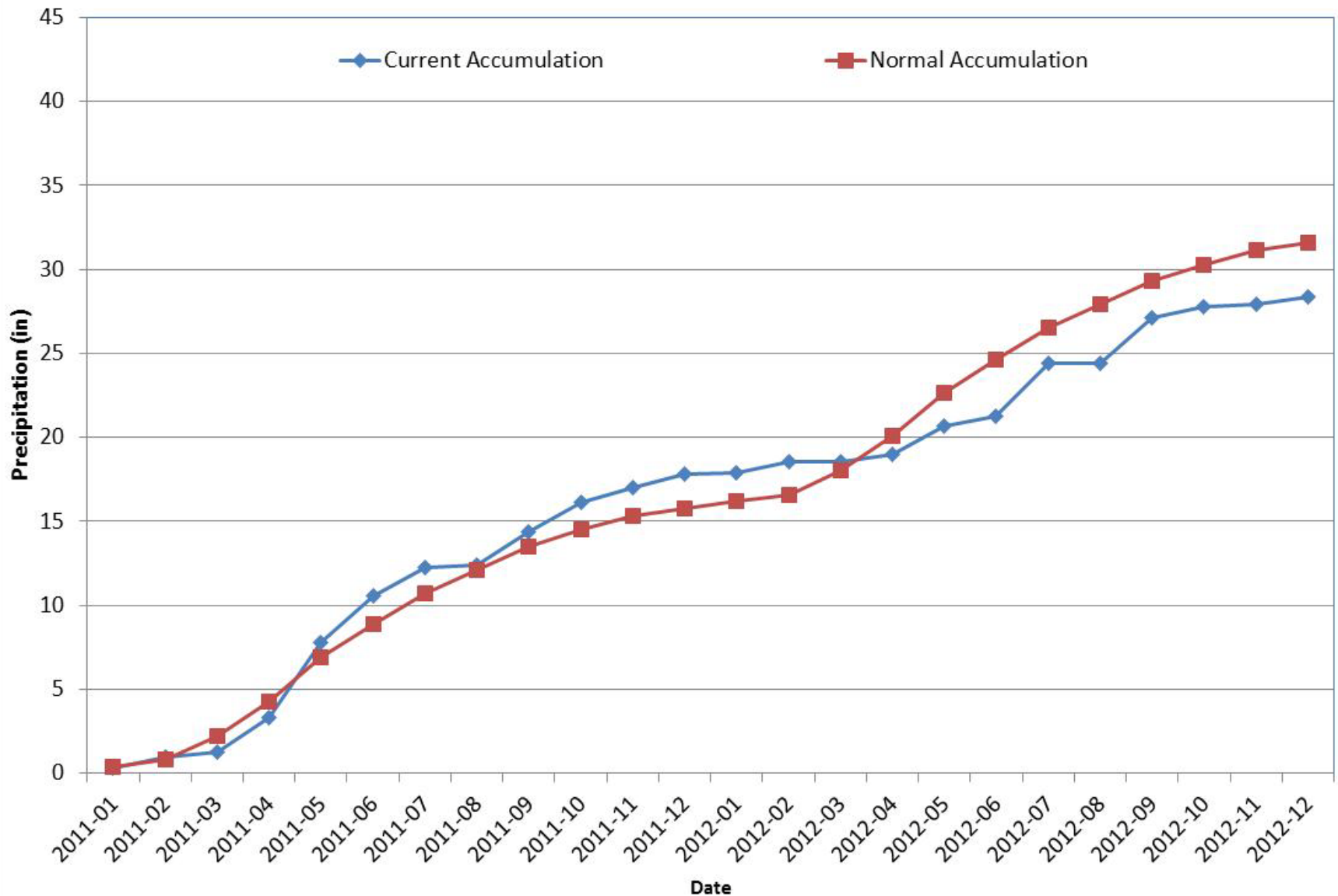
# Division 8 – Fort Collins

## Fort Collins 2013 Water Year



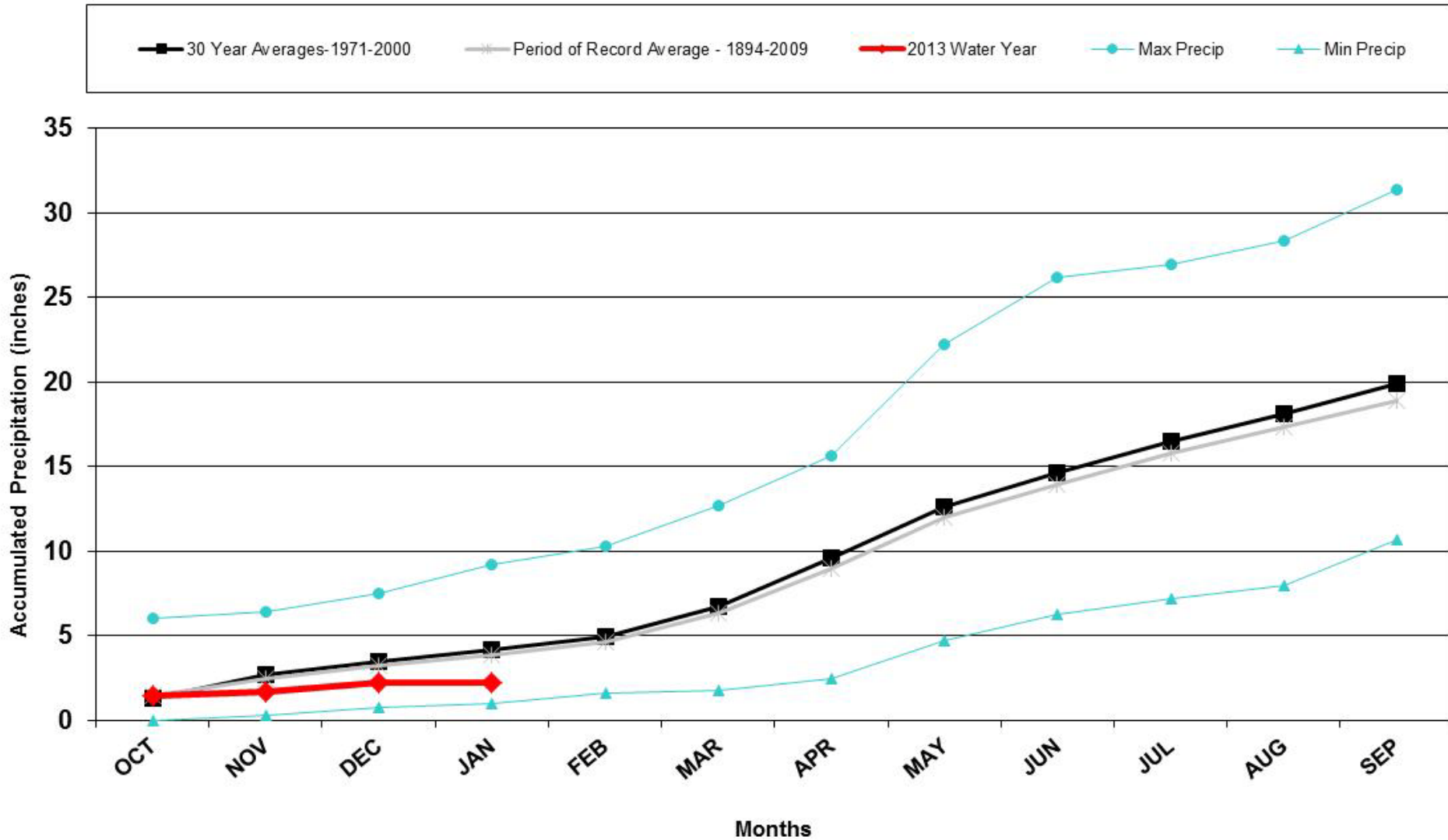
# Division 8 – Fort Collins

**Fort Collins**  
**24 Month Precipitation Accumulation**



# Division 8 - Boulder

## Boulder 2013 Water Year

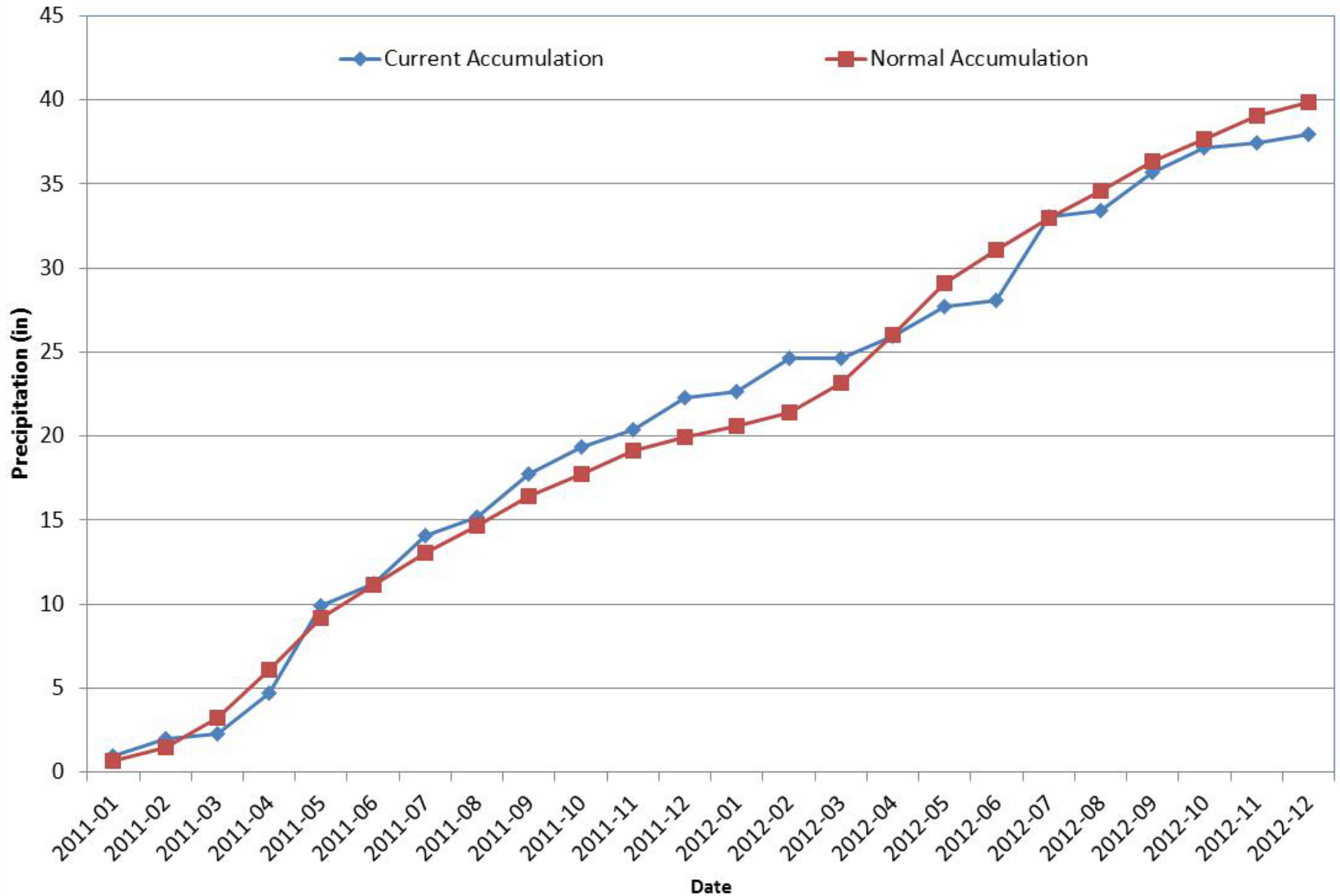




# Division 8 - Boulder

## Boulder

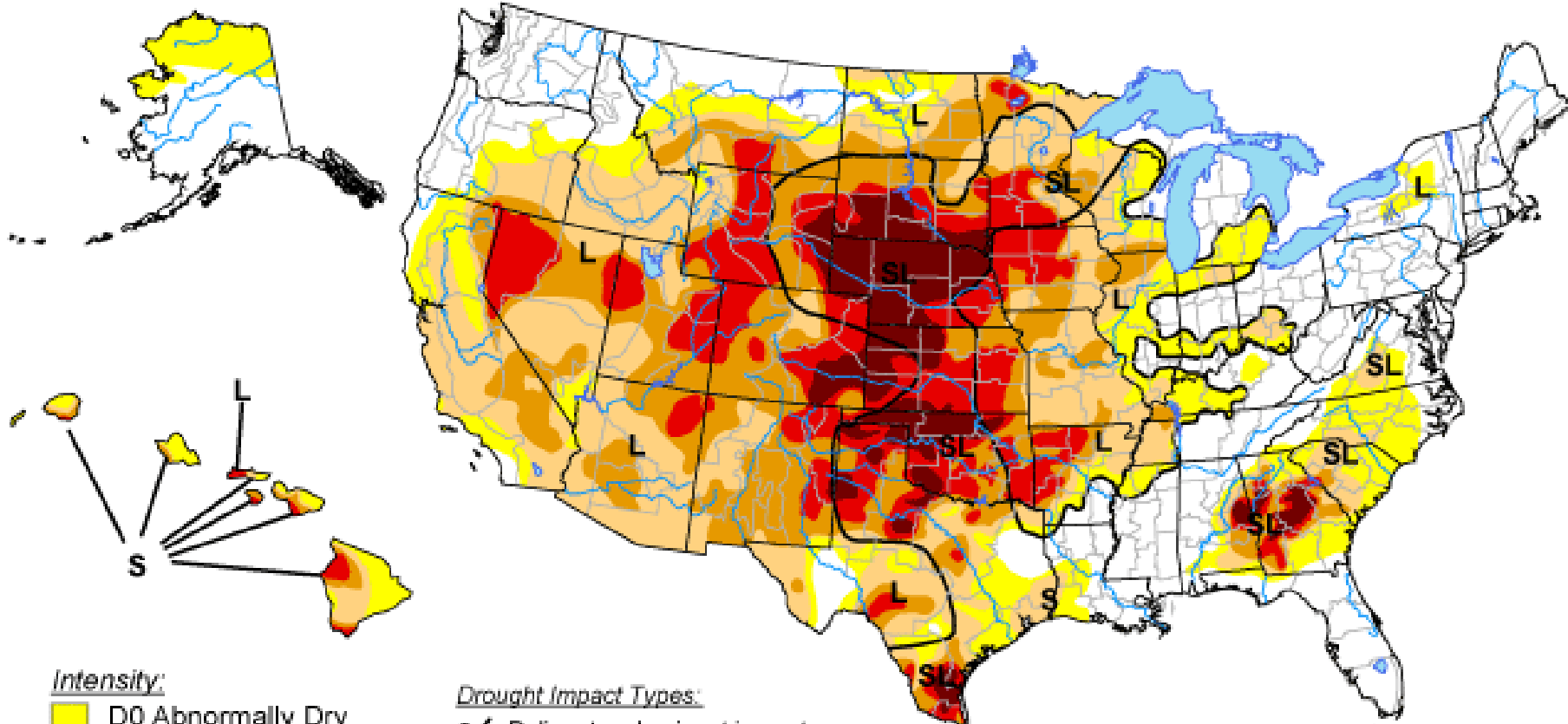
### 24 Month Precipitation Accumulation








# U.S. Drought Monitor

November 13, 2012


Valid 7 a.m. EST



## Intensity:

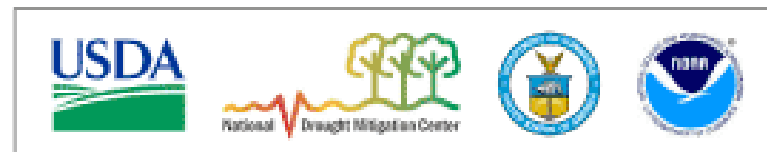
-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

## 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.

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

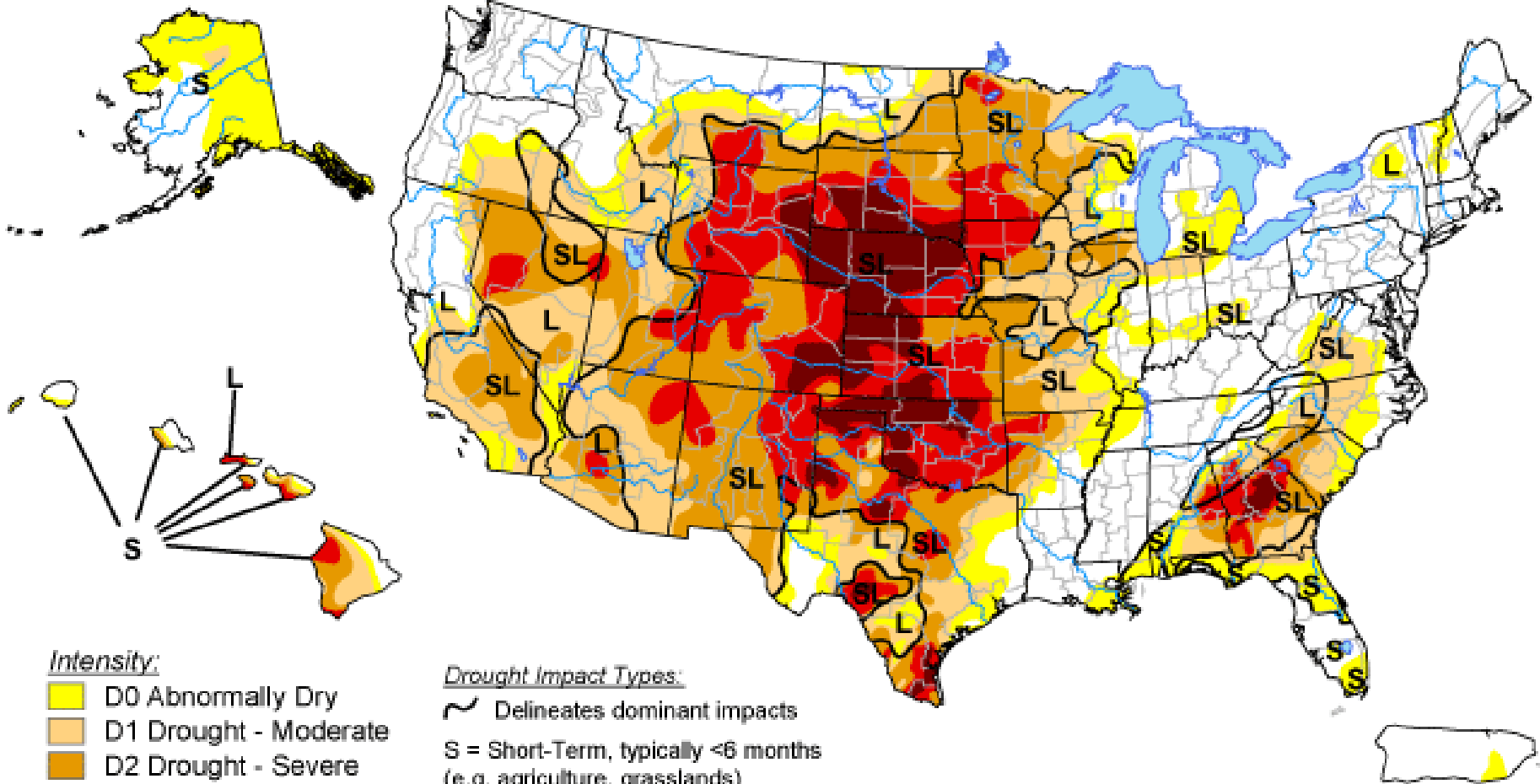


Released Thursday, November 15, 2012




Author: David Miskus, NOAA/NWS/NCEP/CPC

# U.S. Drought Monitor


January 15, 2013  
Valid 7 a.m. EST



## Intensity:

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

## Drought Impact Types:

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- L = Long-Term, typically >6 months  
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**Released Thursday, January 17, 2013**

**Author: David Simeral, Western Regional Climate Center**

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

# U.S. Drought Monitor

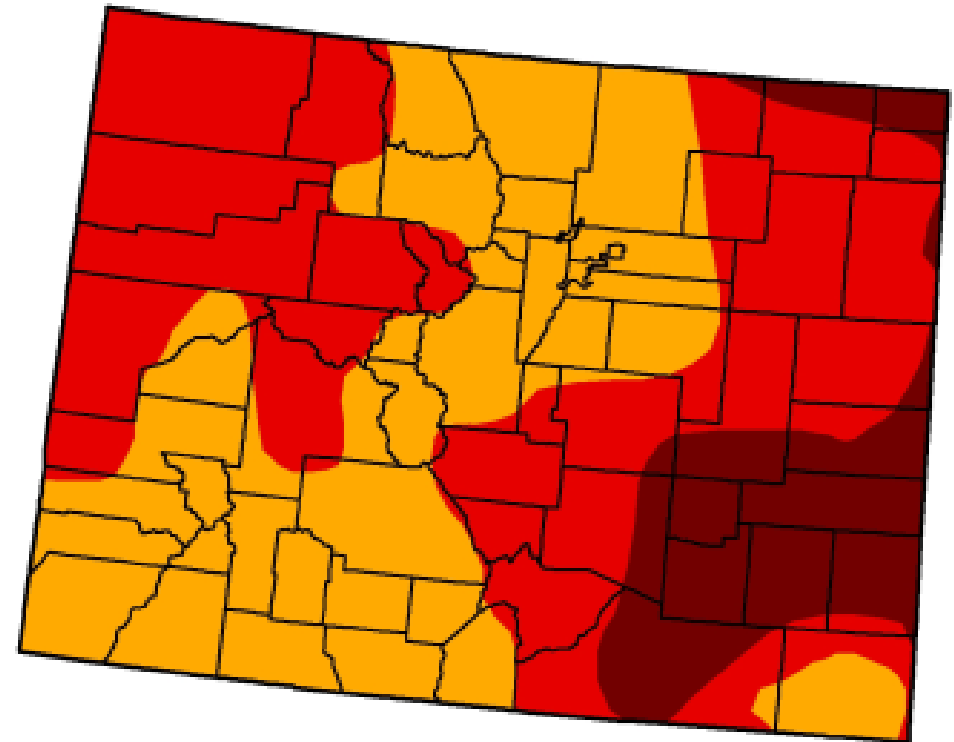
January 15, 2013

Valid 7 a.m. EST

## Colorado

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	100.00	58.64	13.50
Last Week (01/08/2013 map)	0.00	100.00	100.00	95.06	53.47	13.48
3 Months Ago (10/16/2012 map)	0.00	100.00	100.00	91.36	51.05	14.01
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	95.06	53.47	13.48
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	100.00	61.75	16.89
One Year Ago (01/10/2012 map)	58.24	41.76	24.98	10.60	0.04	0.00



Intensity:

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

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

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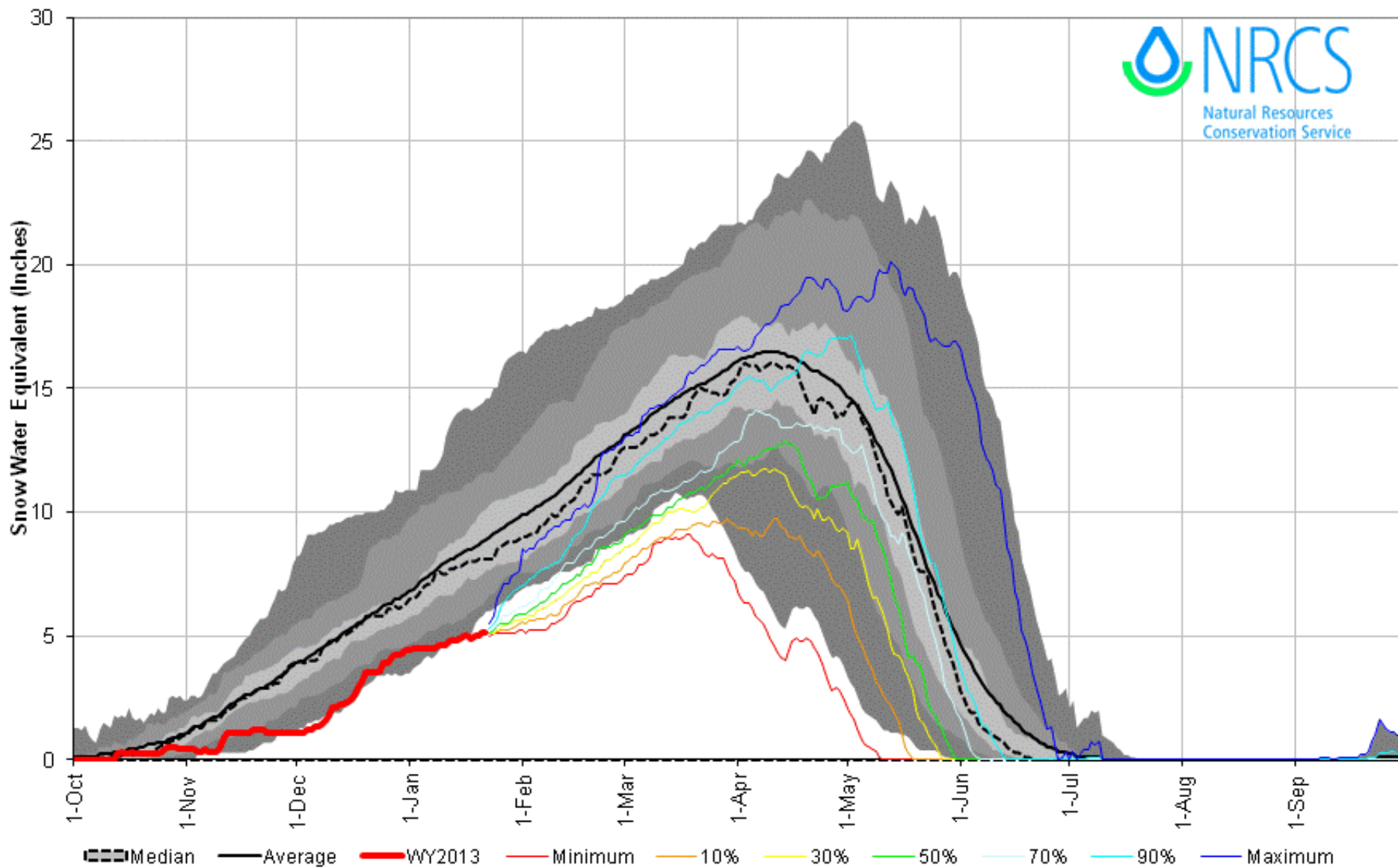
Released Thursday, January 17, 2013  
David Simeral, Western Regional Climate Center

# A little bit about snow...

- Let's look at our current basin conditions and non-exceedence probabilities.

# Colorado River Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Jan 22, 2013





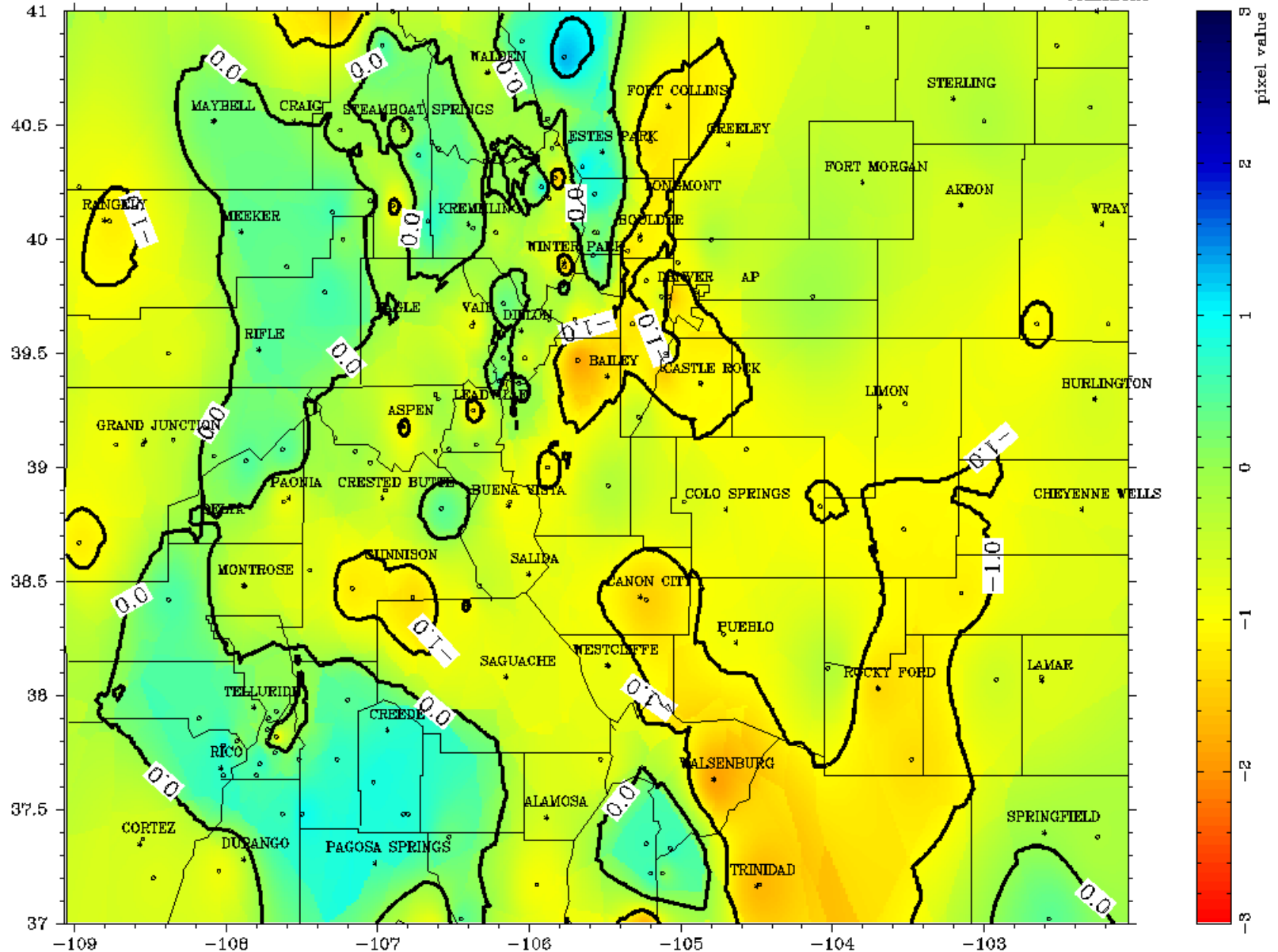




# Colorado

12/2012 3 mon. SPI

JULESBURG



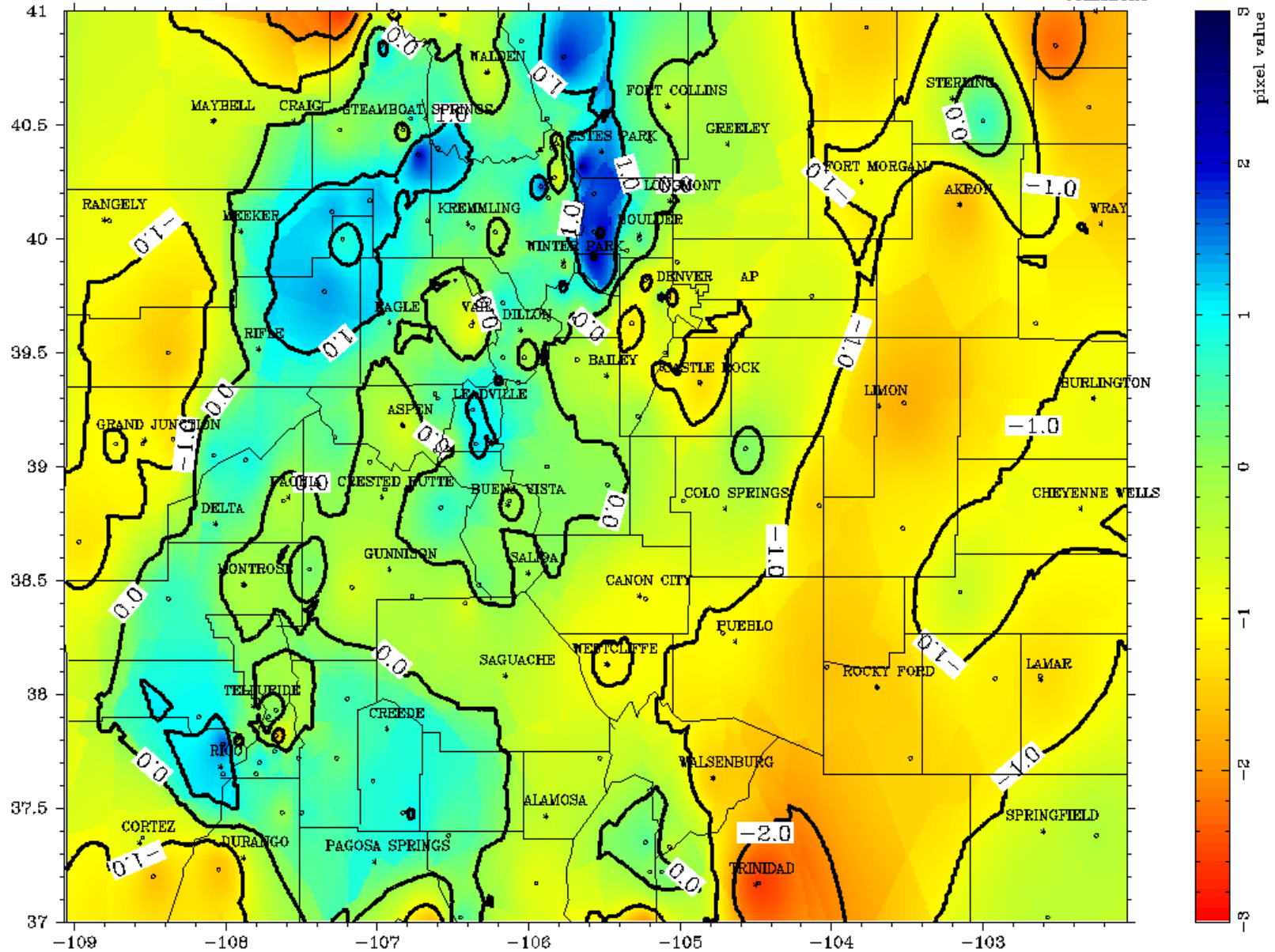
100 % < 2.0	14 % < -1.0
100 % < 1.0	0 % < -2.0
79 % < 0.0	0 % < -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO

# Colorado

12/2012 6 mon. SPI

JULESBURG



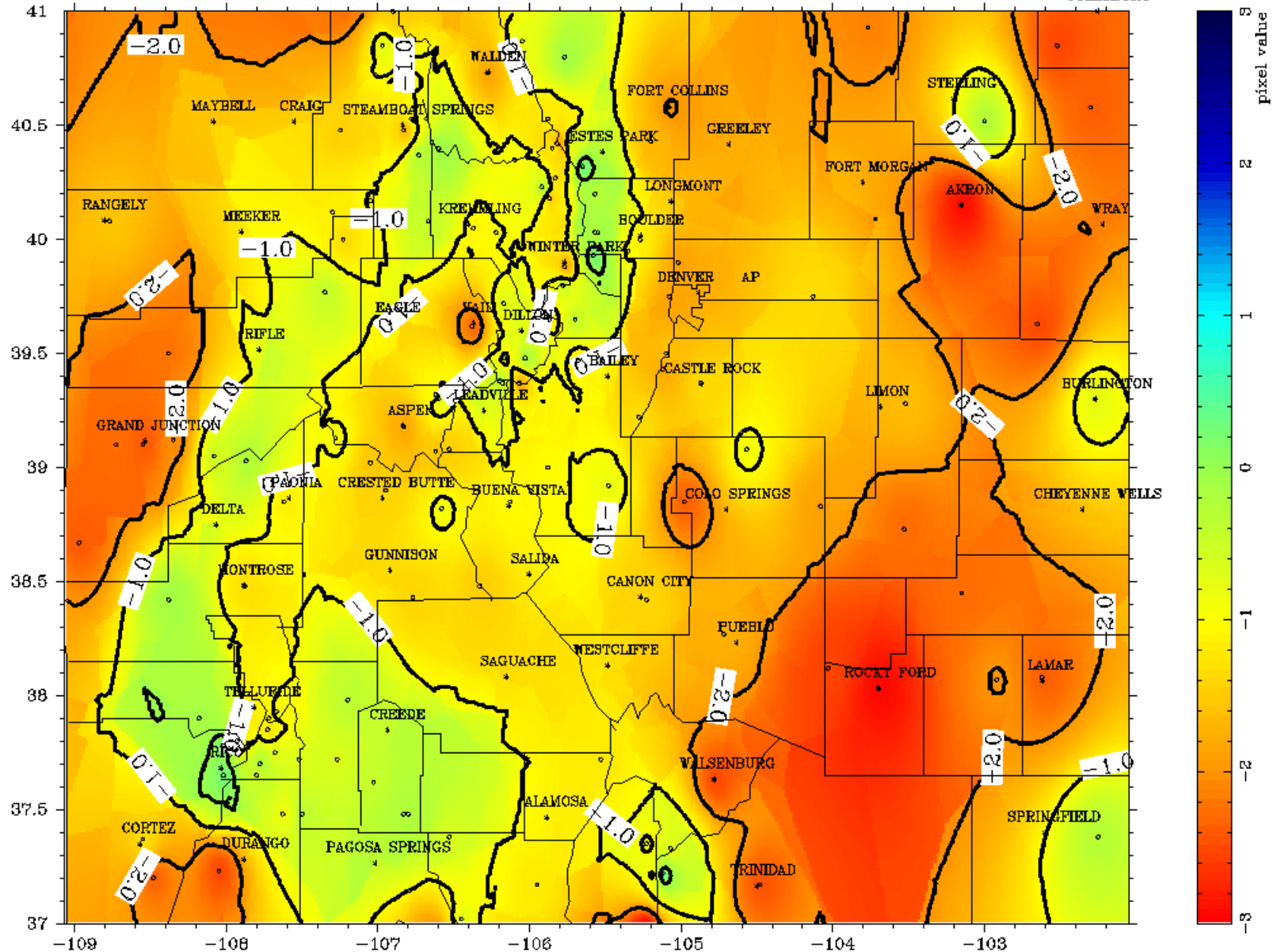
100 % < 2.0    30 % < -1.0  
96 % < 1.0    1 % < -2.0  
72 % < 0.0    0 % < -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO

# Colorado

12/2012 12 mon. SPI

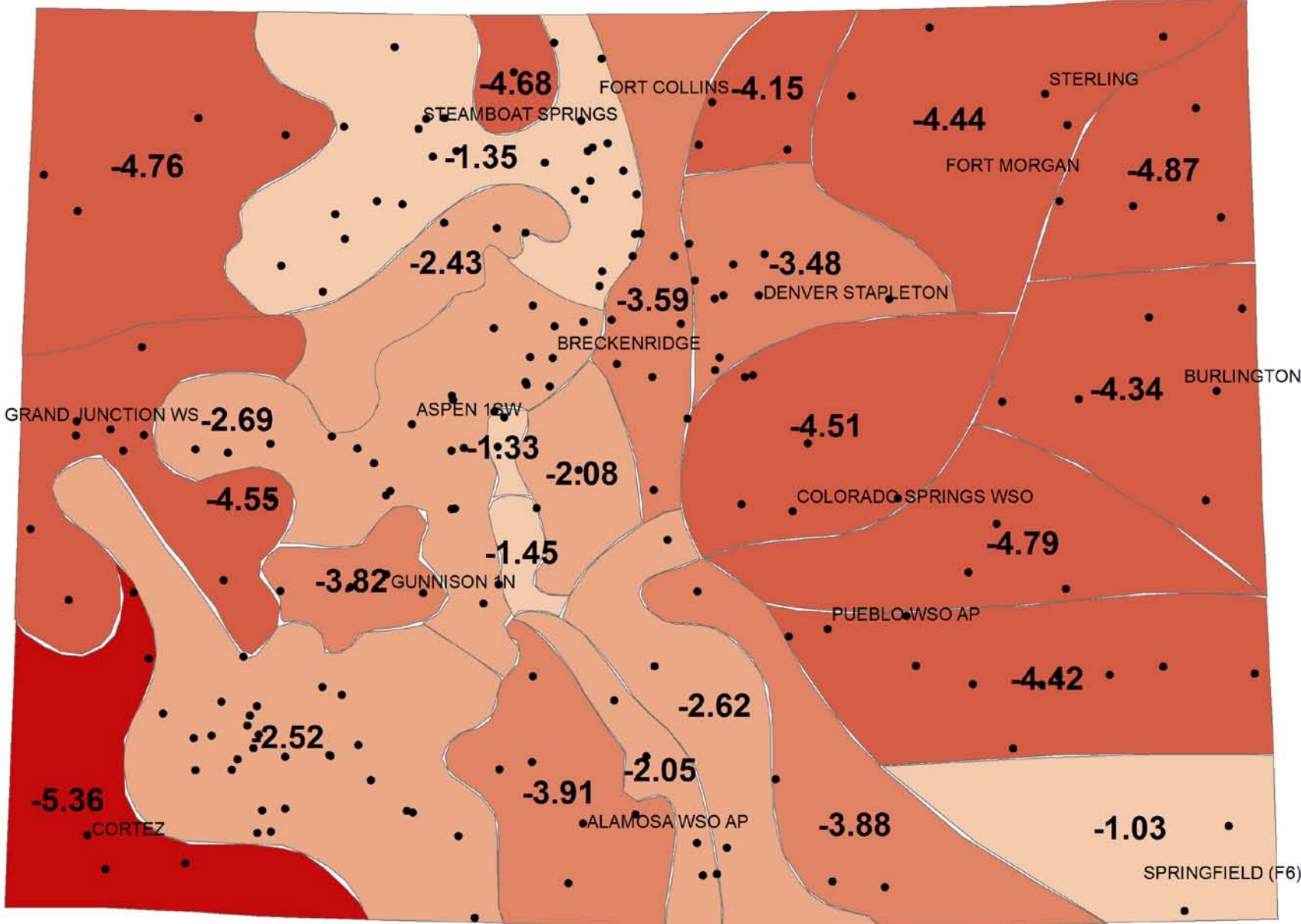
JULESBURG



100 % < 2.0	78 % < -1.0
100 % < 1.0	23 % < -2.0
100 % < 0.0	0 % < -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO

# Modified Palmer Drought Severity Index for Colorado December 2012



# Colorado Climate Center

Data and Power Point Presentations available for downloading

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

