



Climate Update

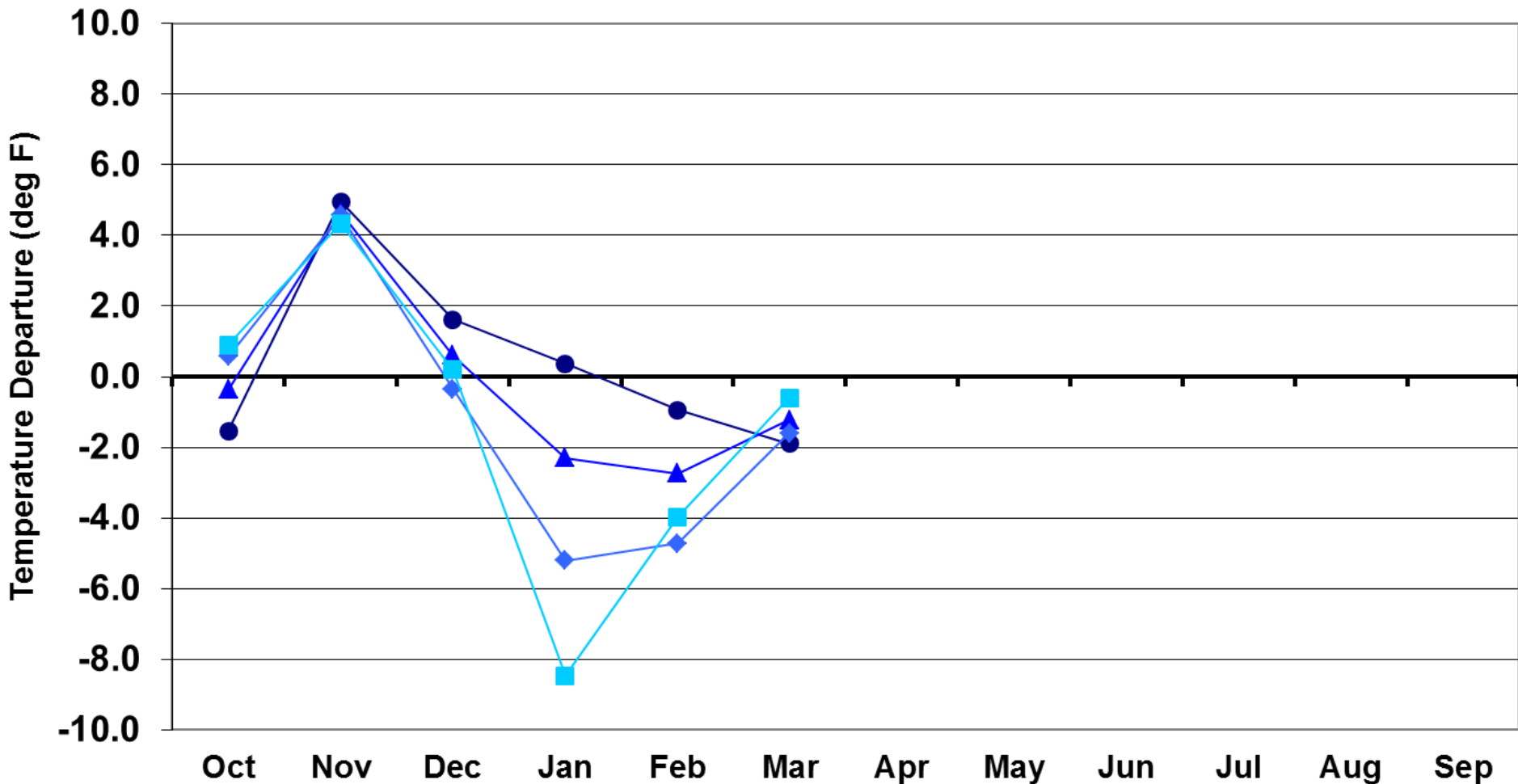
Nolan Doesken
Colorado Climate Center

Atmospheric Science Department
Colorado State University

Presented to
Water Availability Task Force
18 April 2013
Denver, CO

Water Year 2013 Temperature Departures

Water Year 2013



● Eastern Plains

▲ Foothills

◆ Mountains

■ Western Valleys

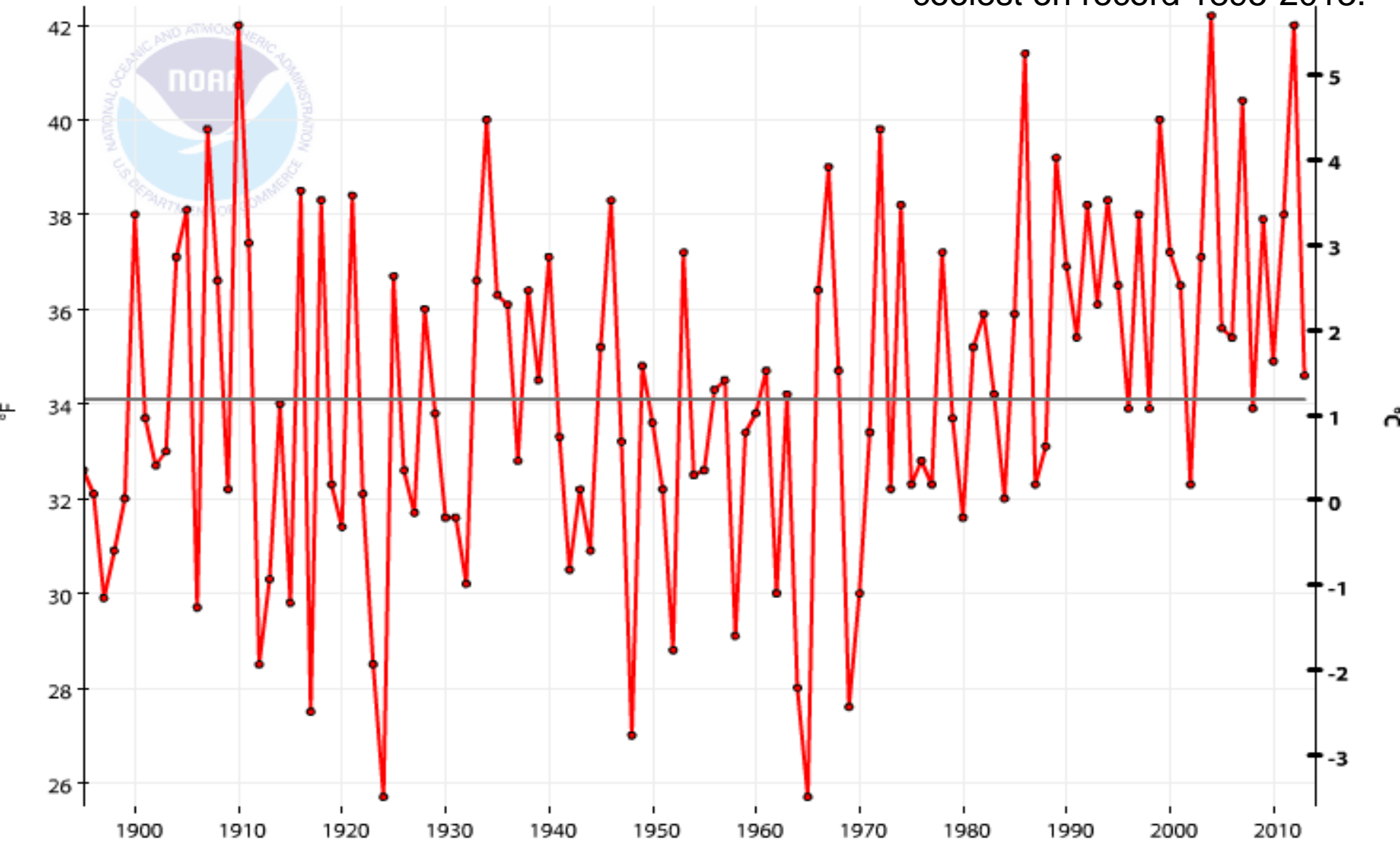
March Average Temperature History for Colorado (NCDC)

Colorado, Temperature, March

— 1901-2000
Avg: 34.1°F

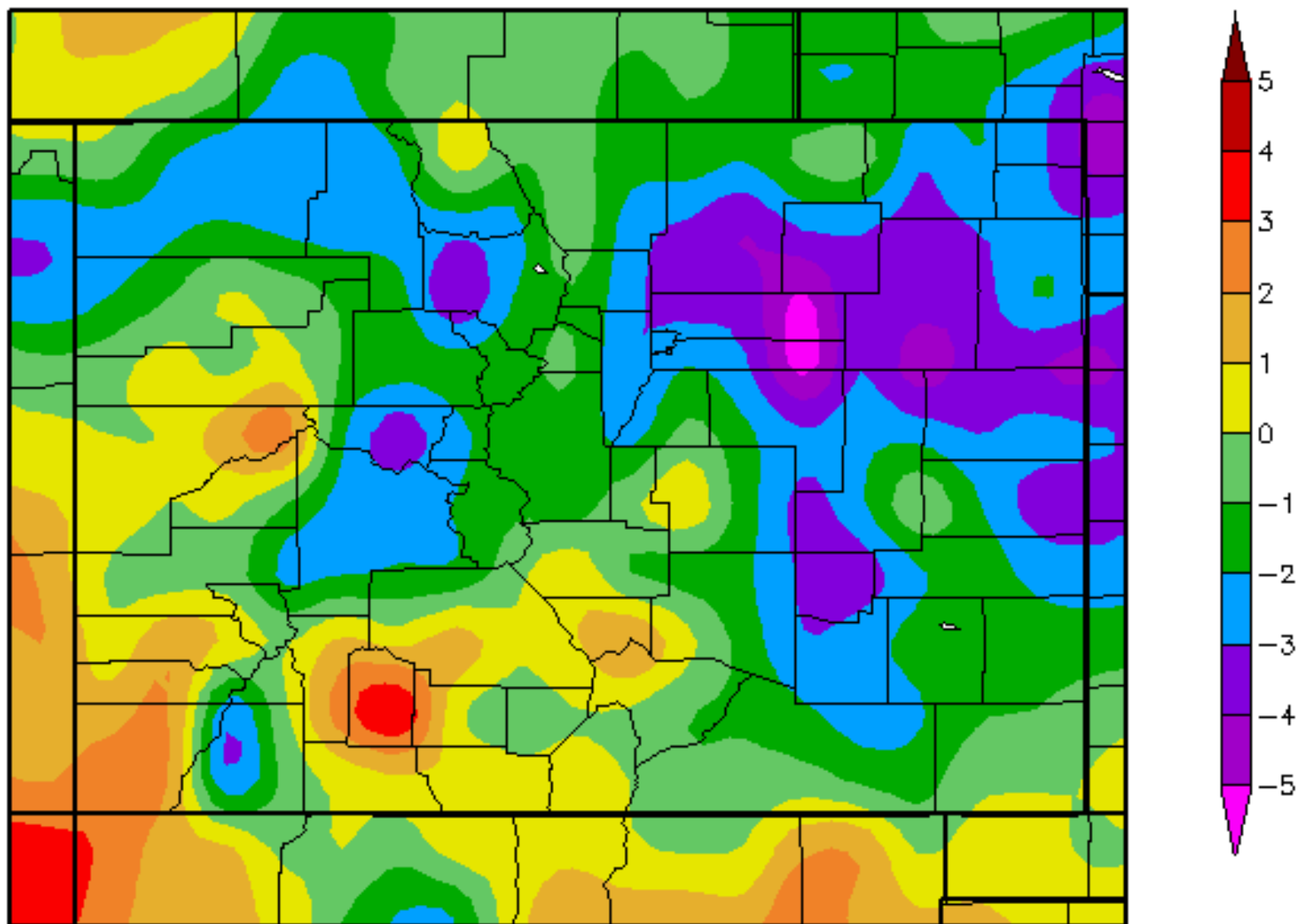
—●— Temperature

34.6 Ranks as the 66th
coolest on record 1895-2013.



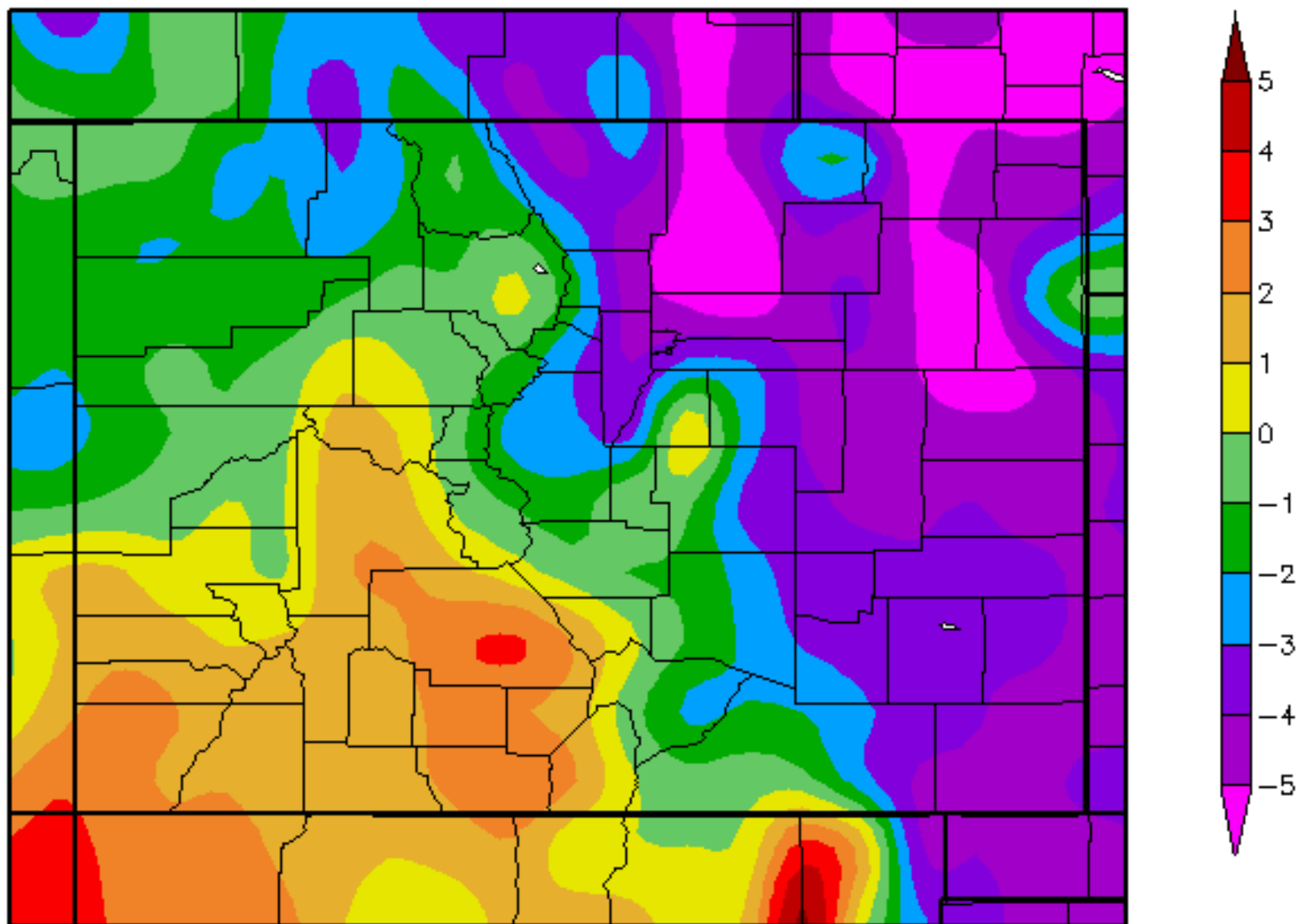
Departure from Normal Temperature (F)

3/1/2013 – 3/31/2013



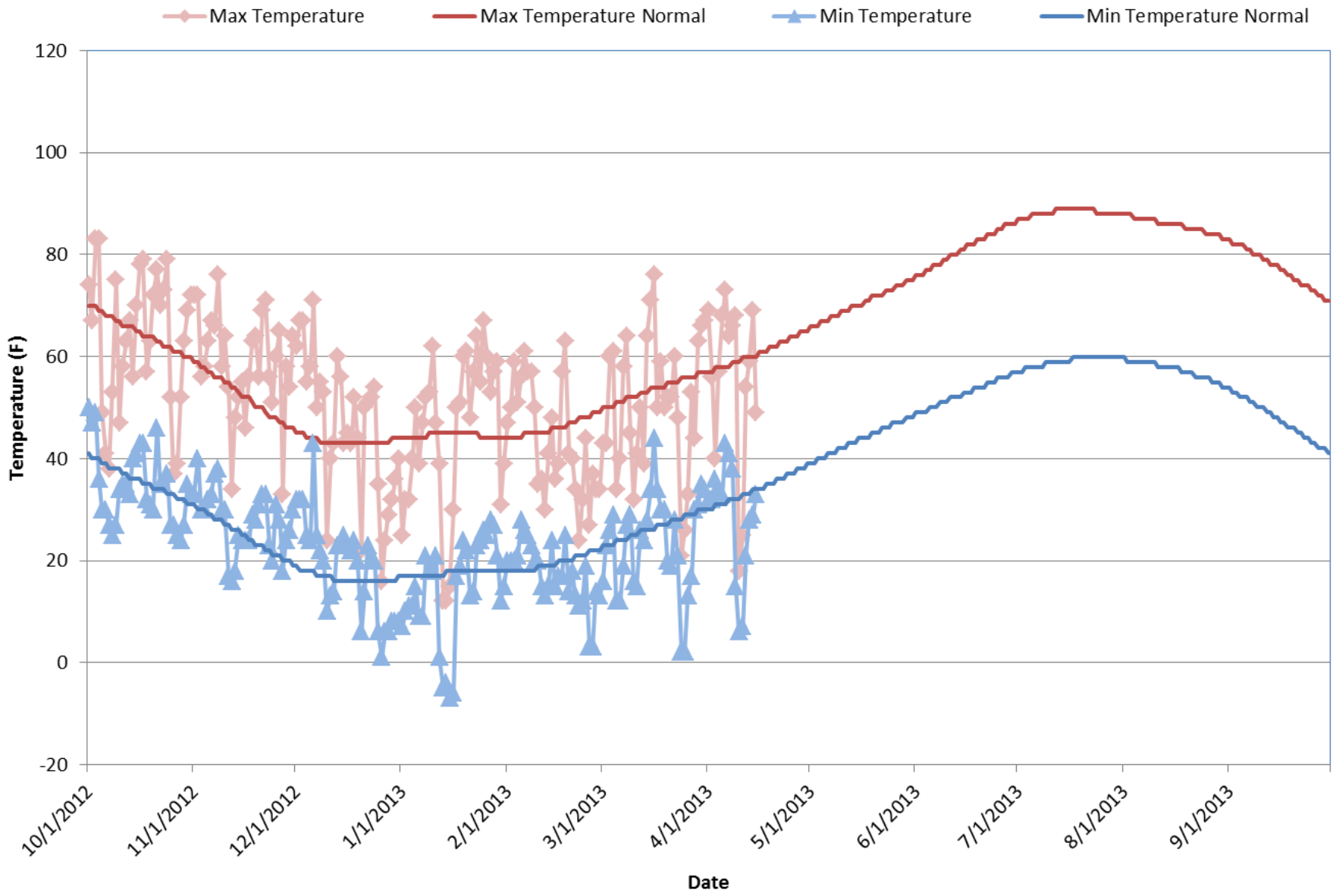
Departure from Normal Temperature (F)

4/1/2013 - 4/16/2013



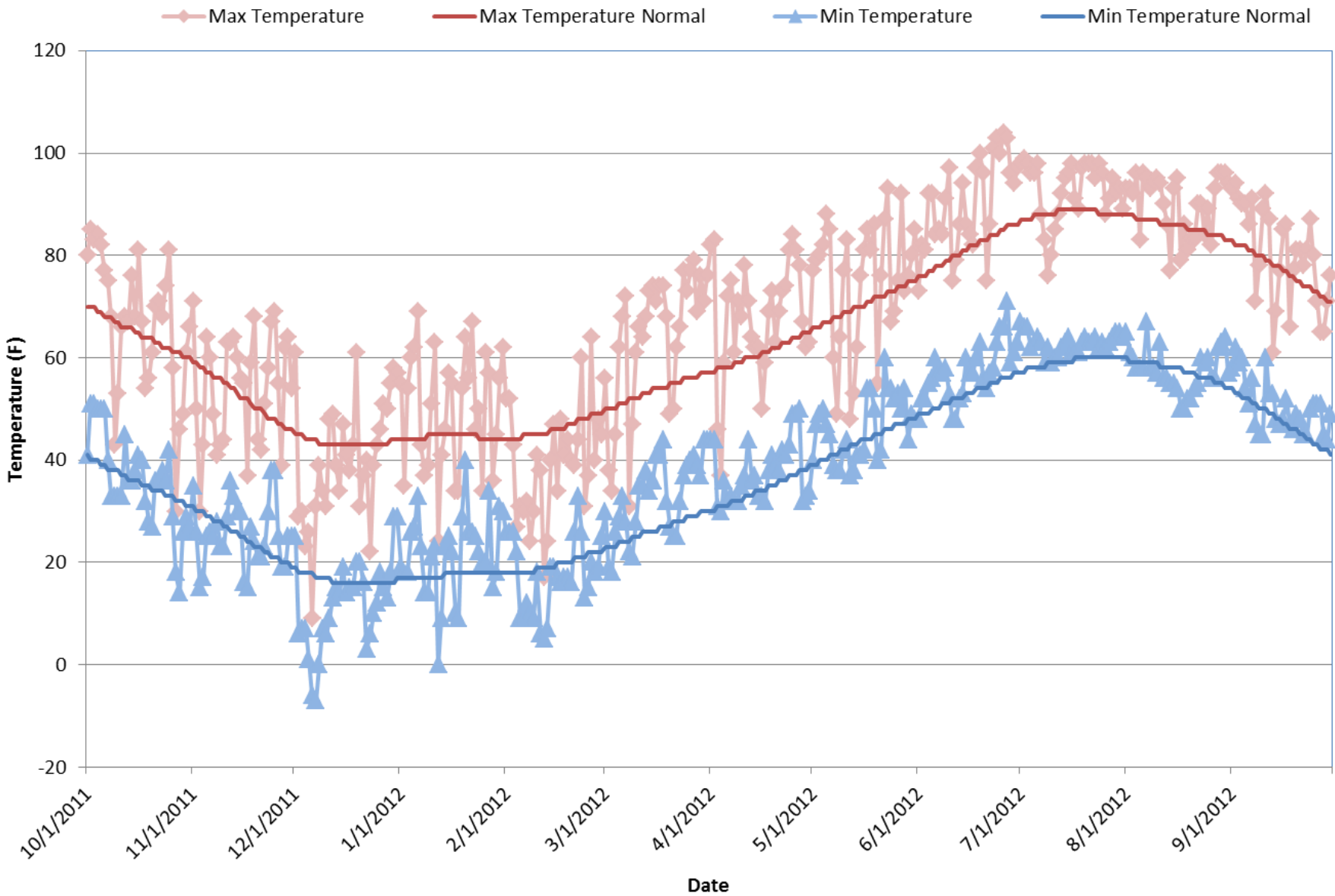
Denver Stapleton Daily Max/Min Temperatures and Normals

Water Year 2013

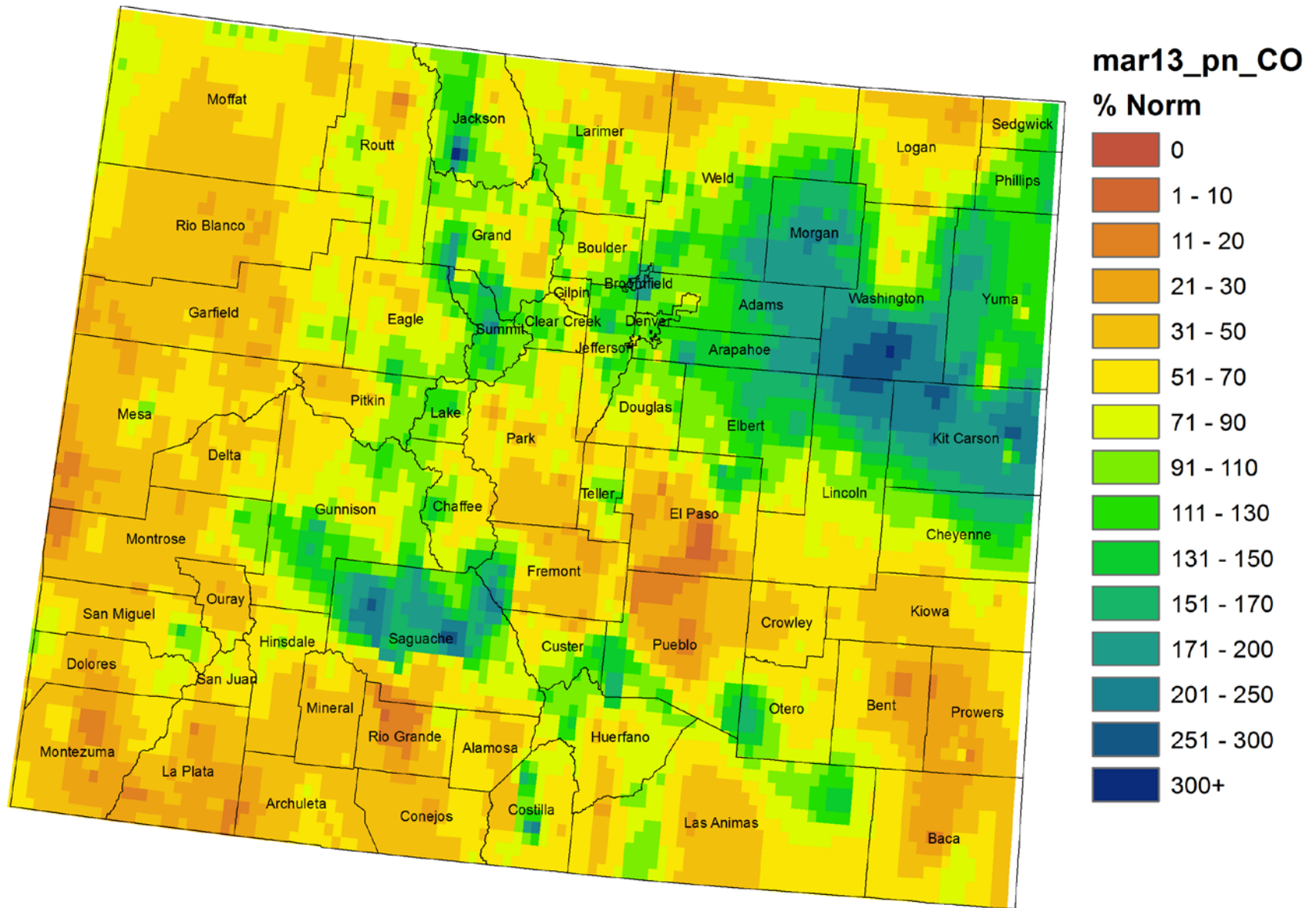


Denver Stapleton Daily Max/Min Temperatures and Normals

Water Year 2012

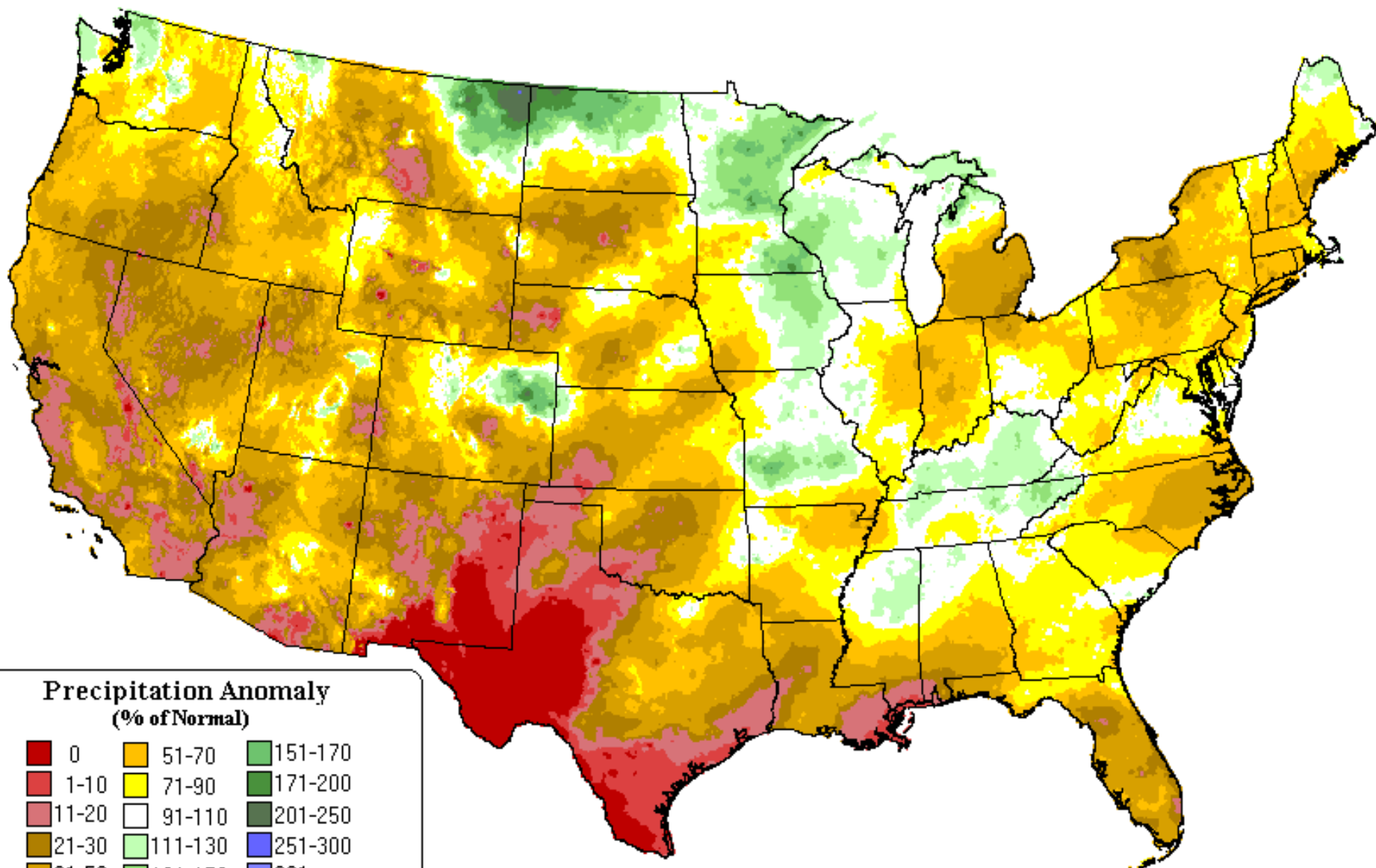


Colorado March 2013 Precipitation as Percentage of Normal



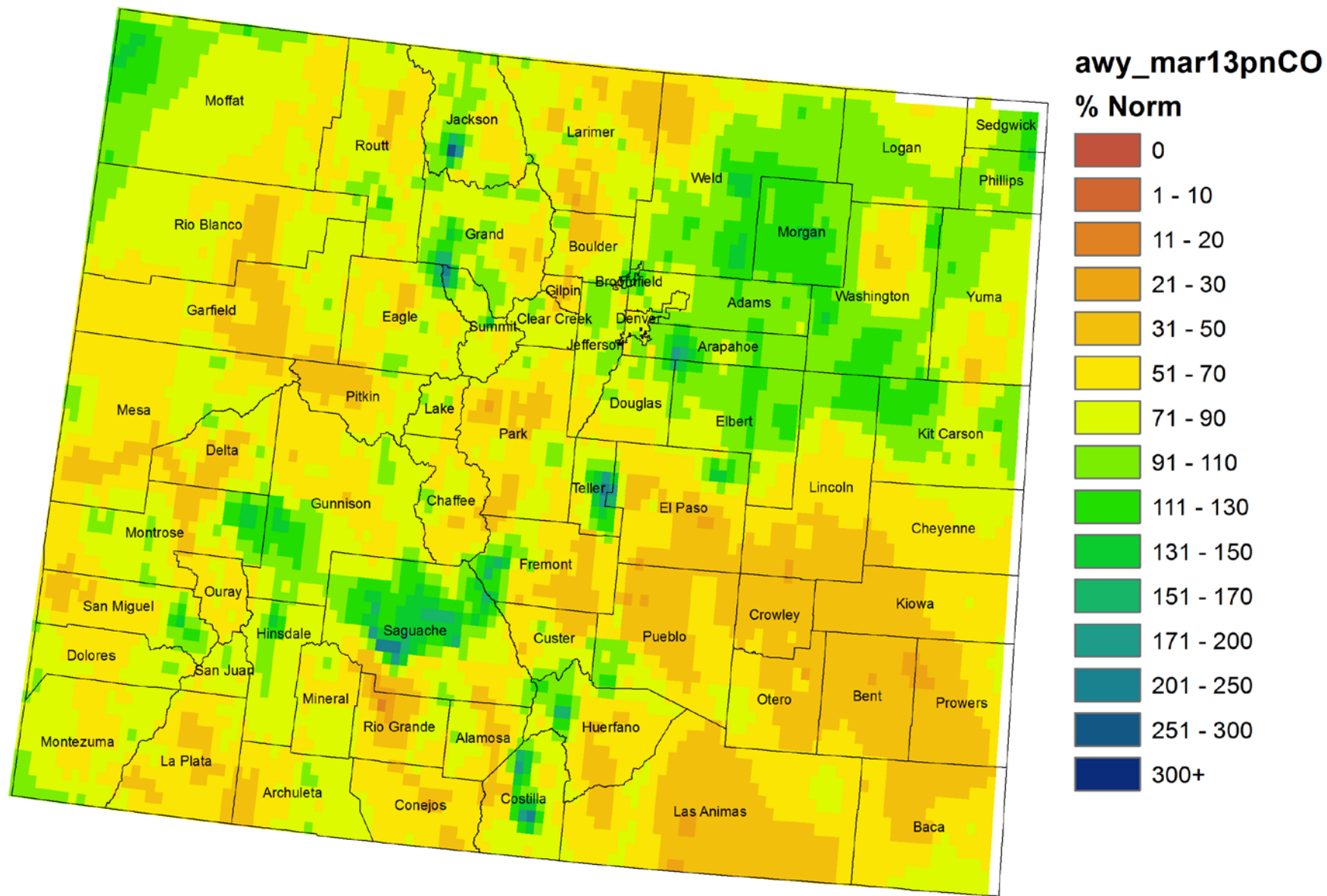
Precipitation Anomaly: Mar 2013

Provisional Data

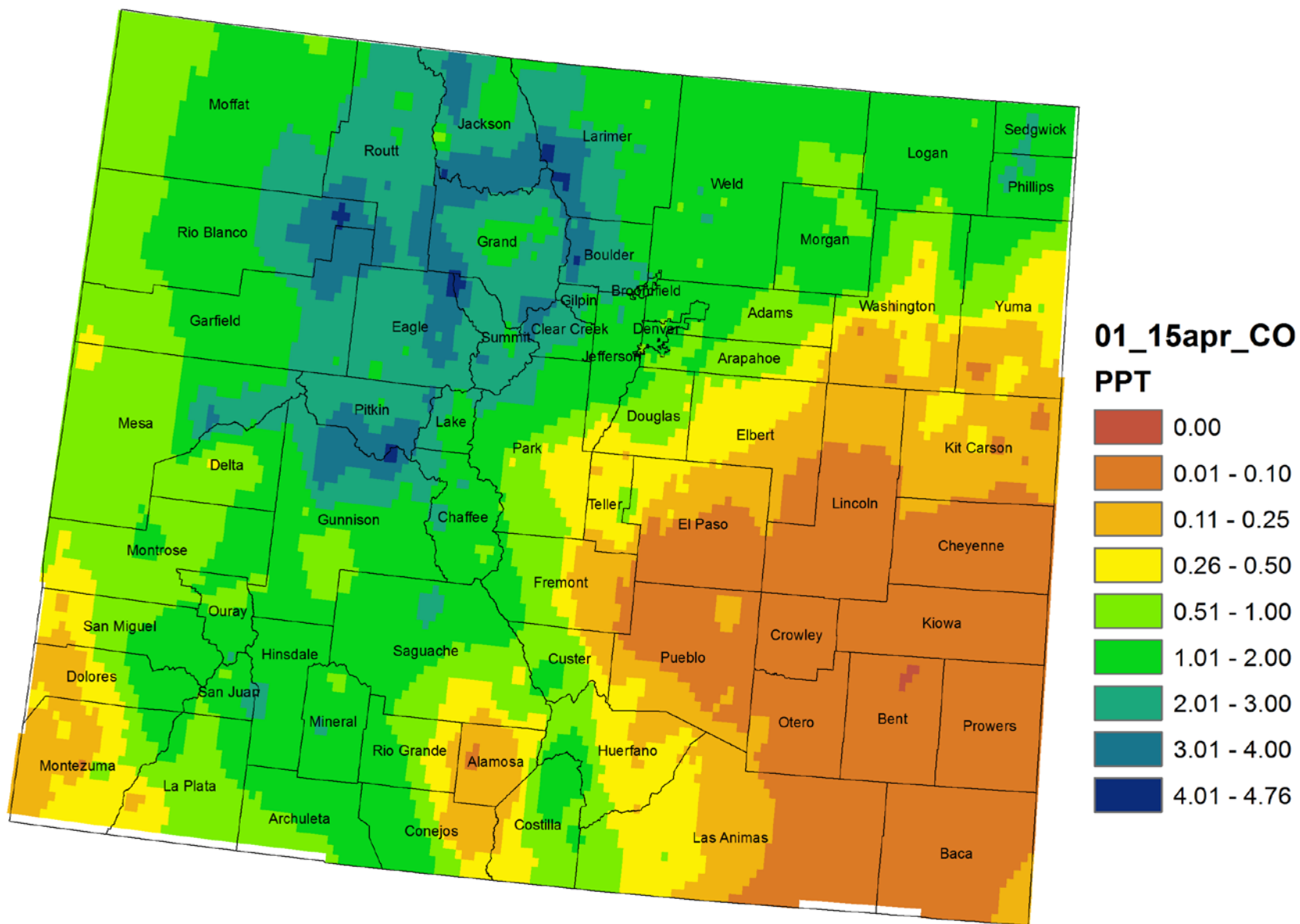


Copyright (c) 2013, PRISM Climate Group, Oregon State University
<http://prism.oregonstate.edu> - Map created Apr 12 2013

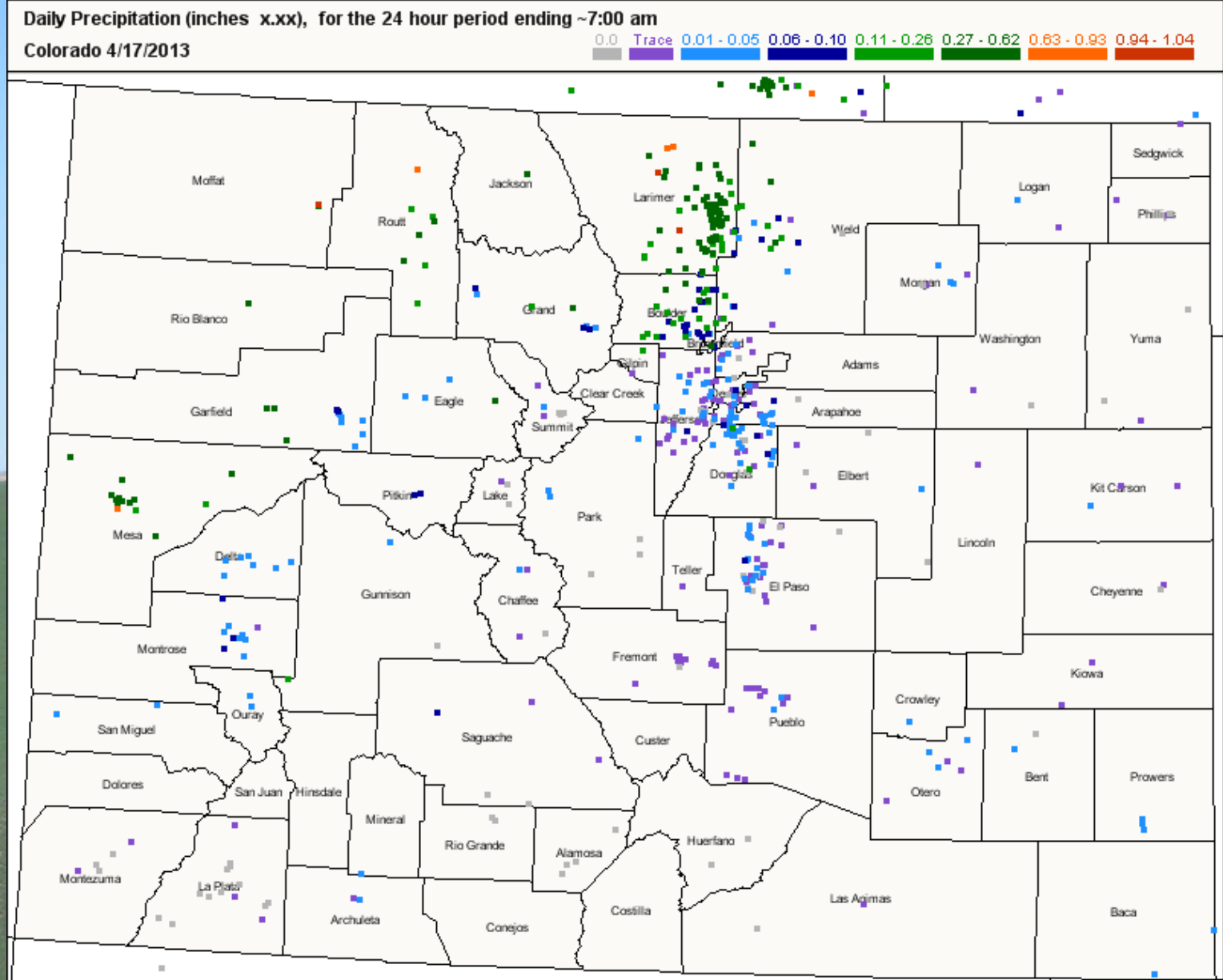
Colorado Water Year 2013 Precipitation as Percentage of Normal (October 2012 - March 2013)



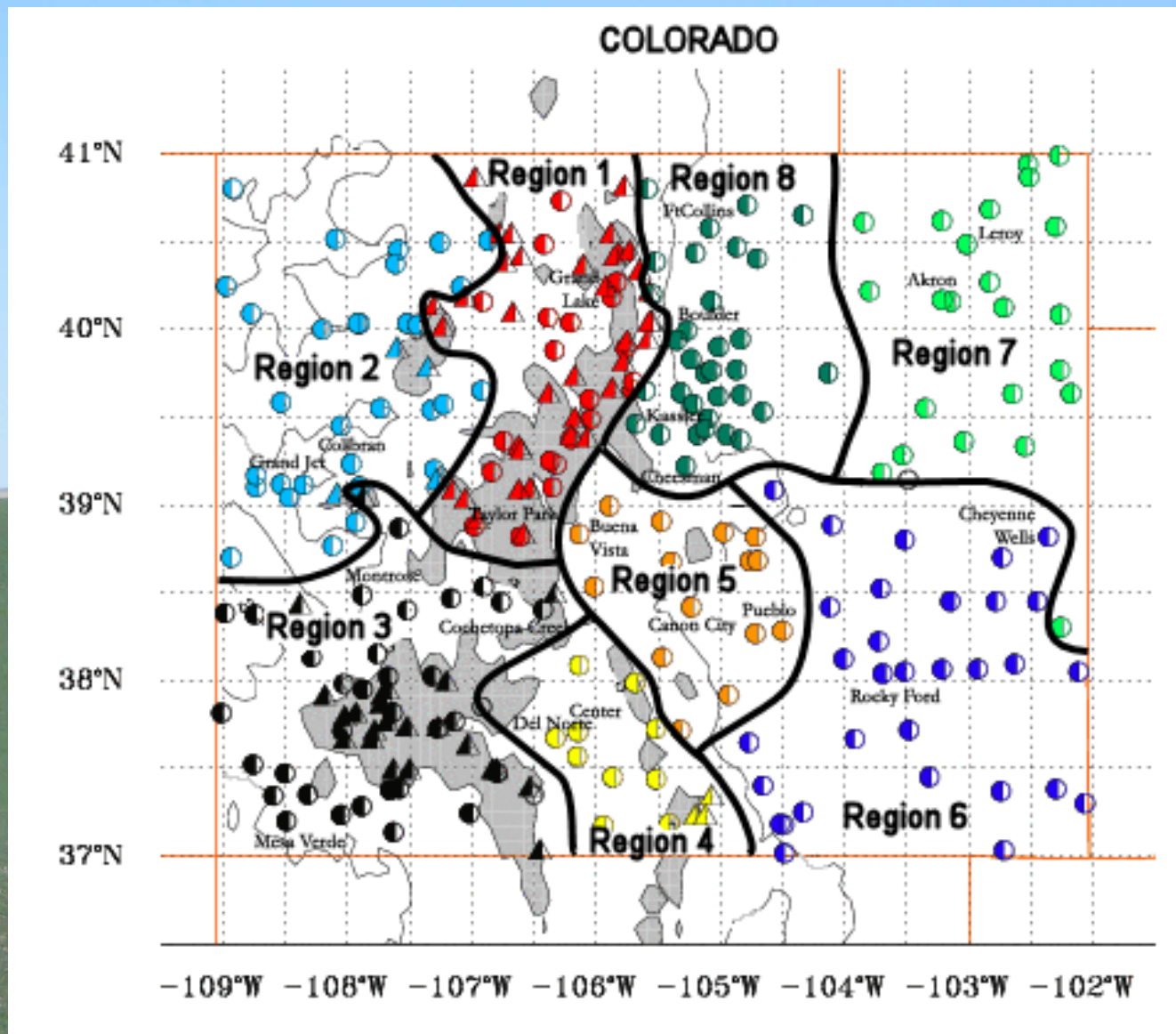
Colorado Month to Date Precipitation (in) 1 - 15 April 2013



CoCoRaHS Map 17 April 2013

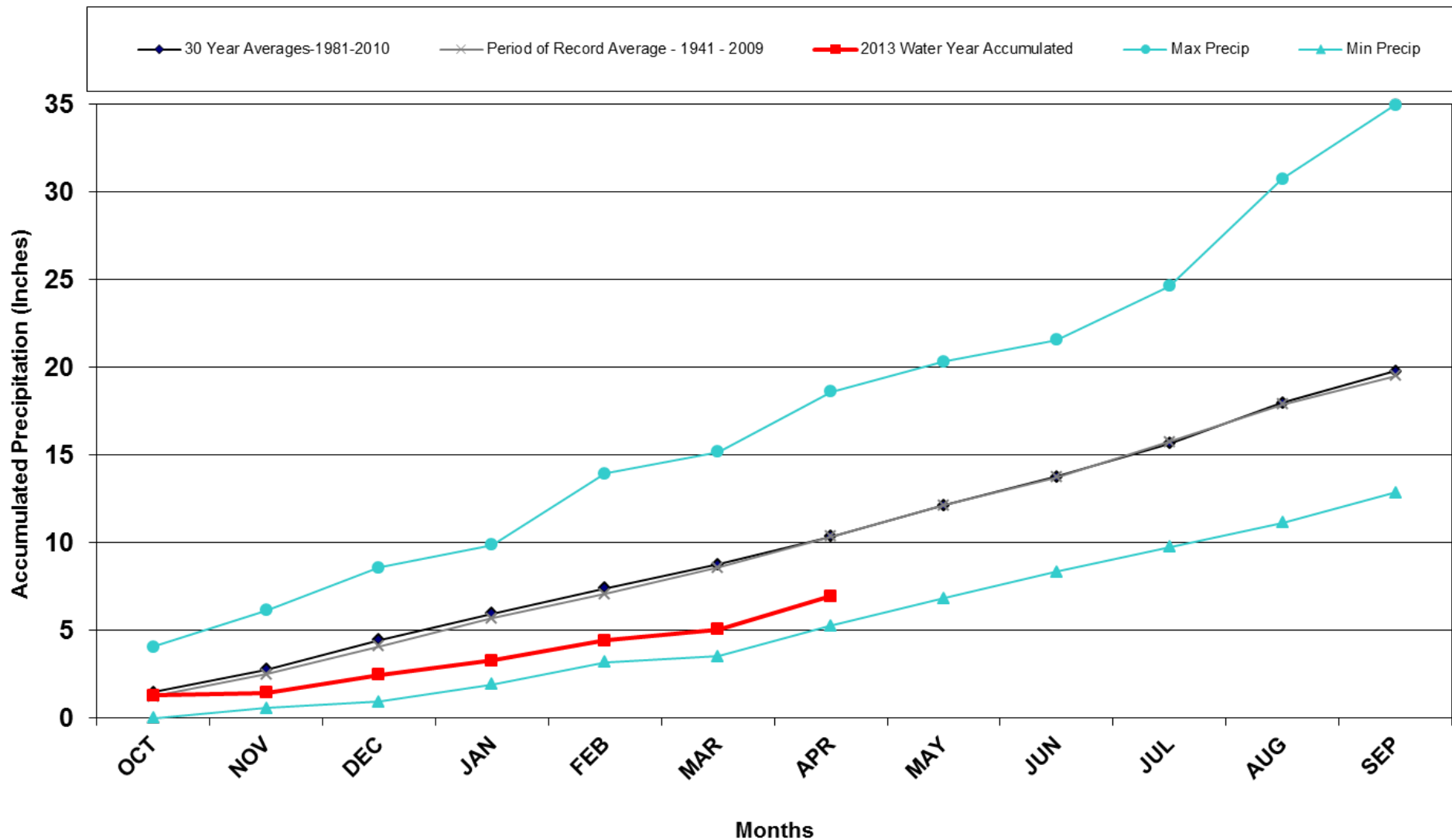


Climate divisions defined by Dr. Klaus Wolter of NOAA's Climate Diagnostic Center in Boulder, CO



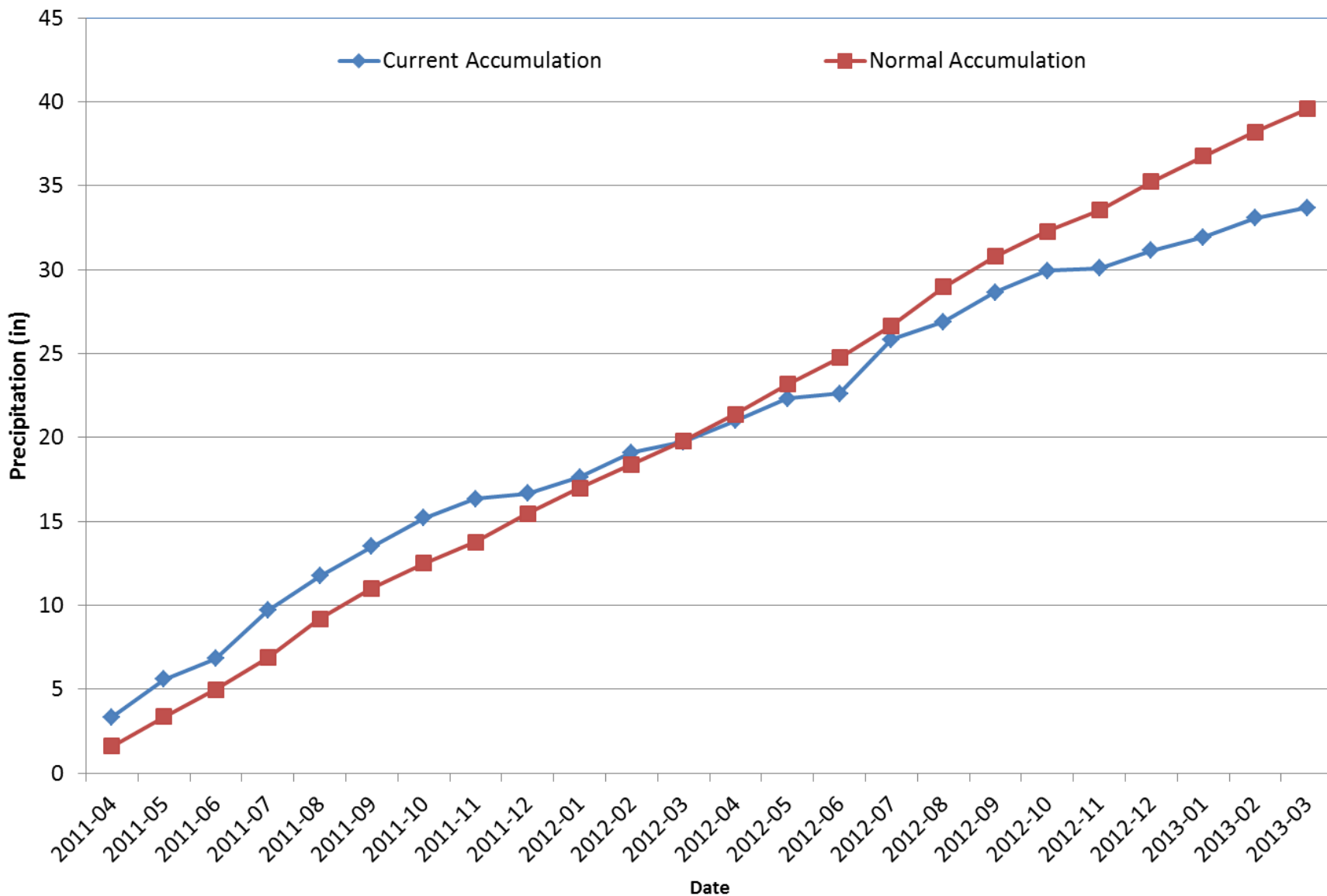
Division 1 – Grand Lake 1NW

Grand Lake 1 NW 2013 Water Year



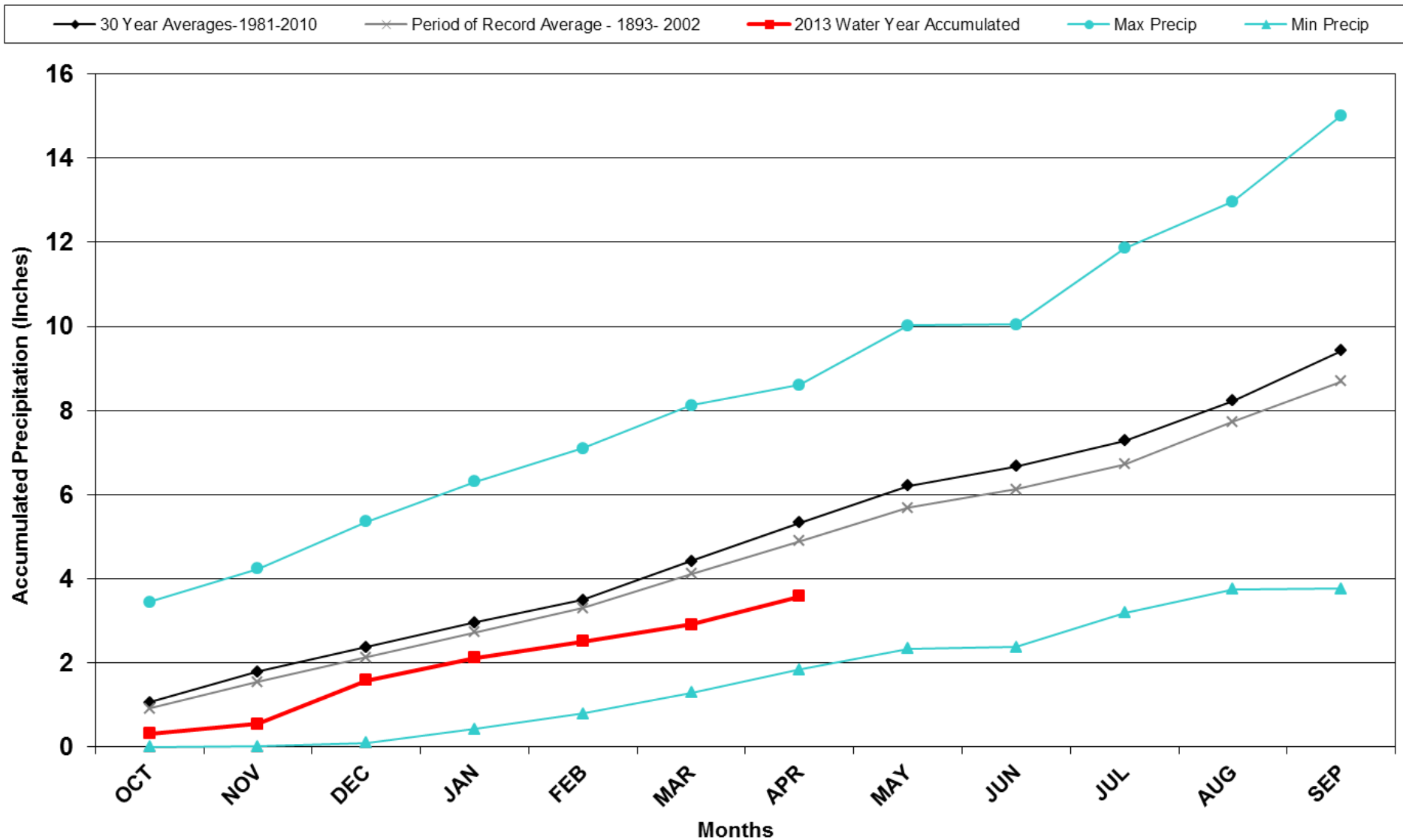
Division 1 – Grand Lake 1NW

Grand Lake 1NW 24 Month Precipitation Accumulation



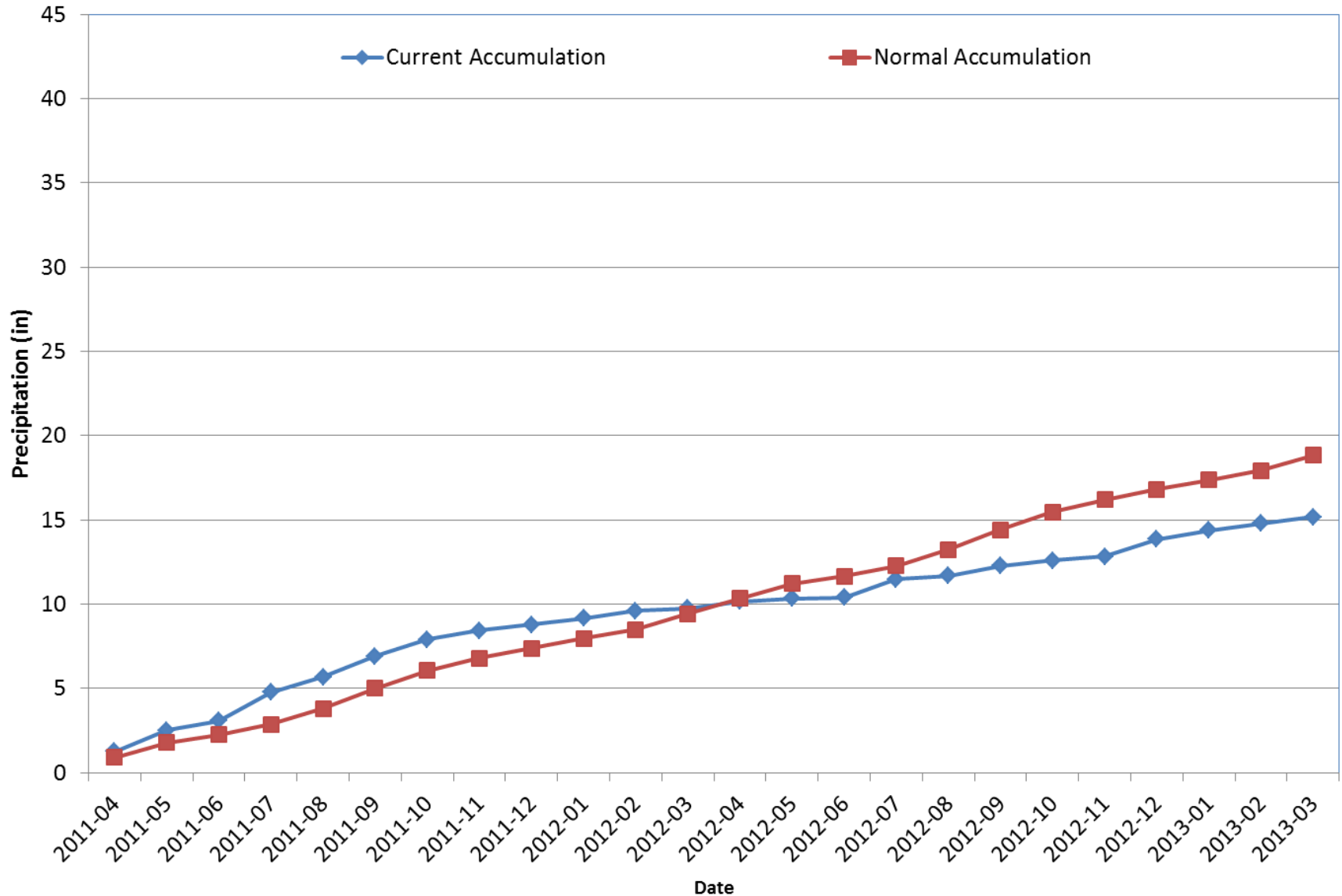
Division 2 – Grand Junction

Grand Junction WSFO 2013 Water Year



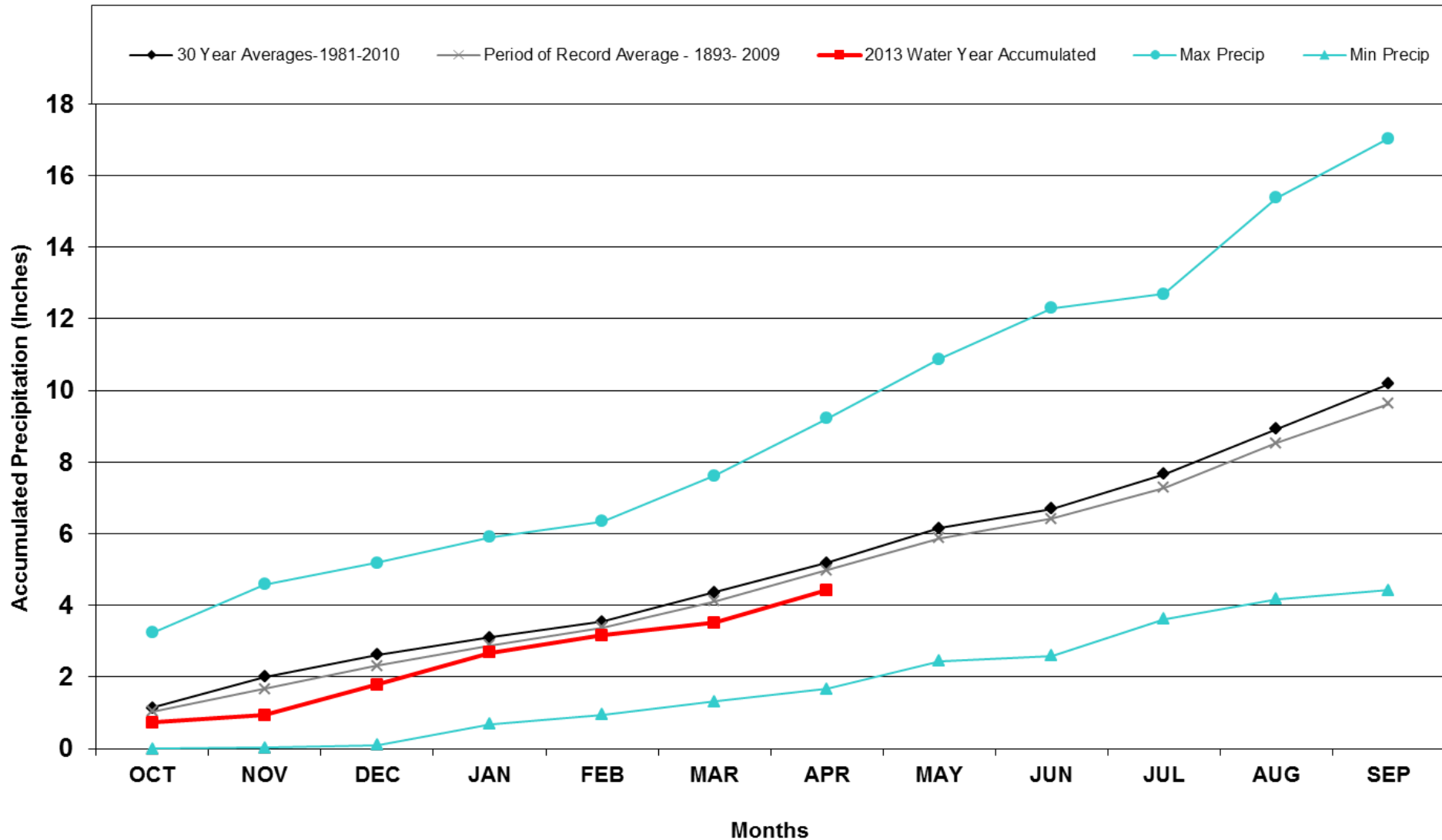
Division 2 – Grand Junction

Grand Junction 24 Month Precipitation Accumulation



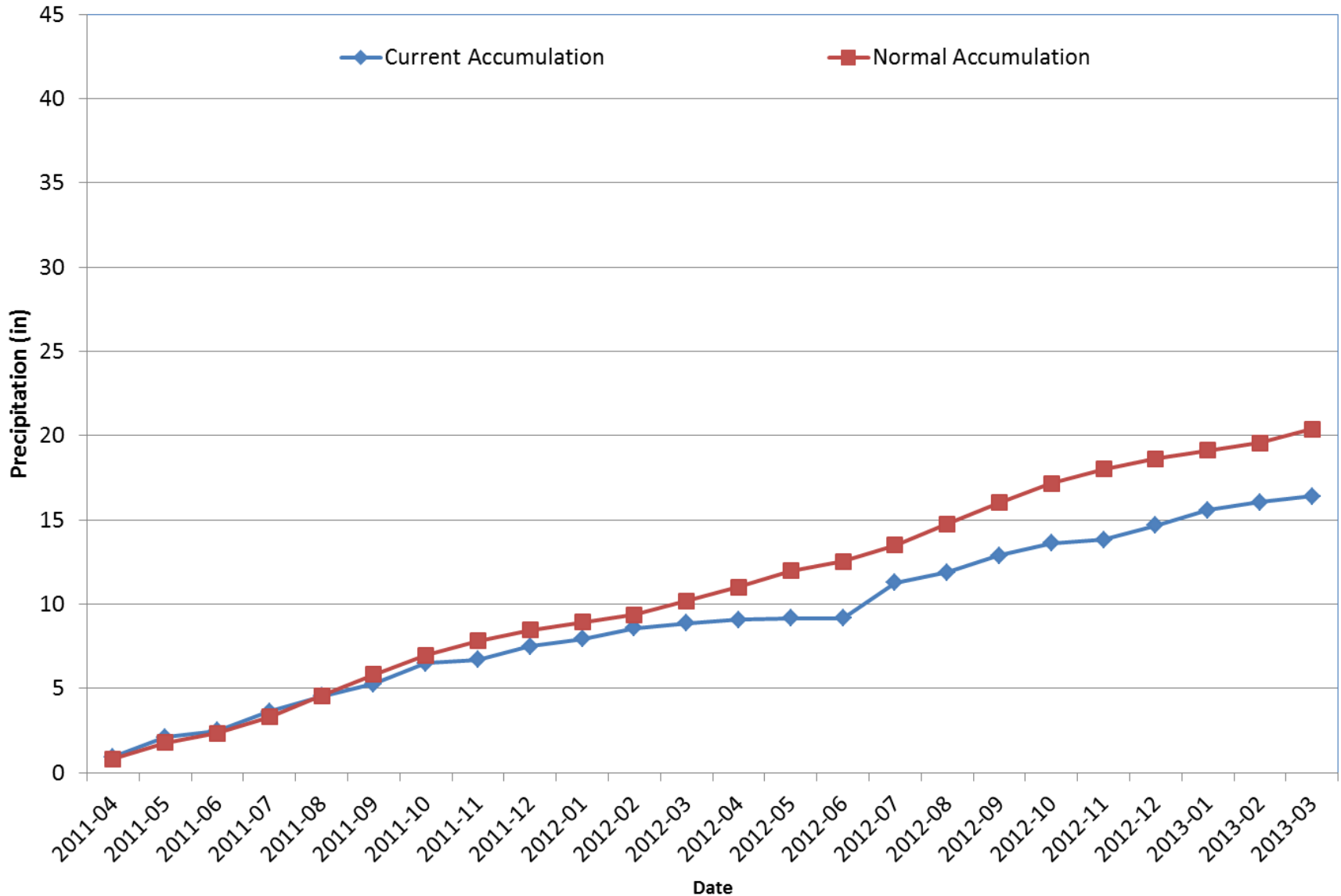
Division 3 – Montrose

Montrose #2 2013 Water Year



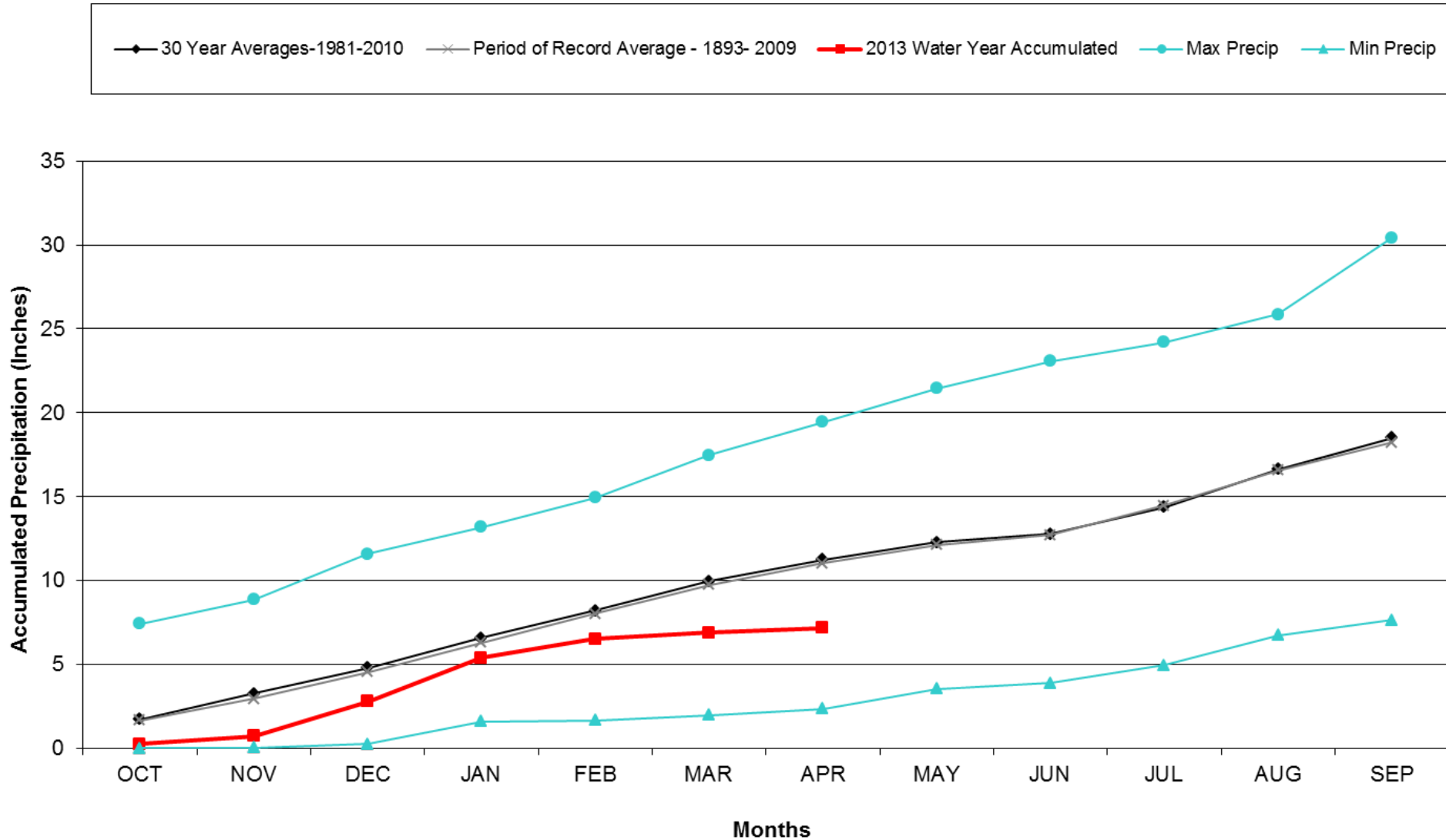
Division 3 – Montrose

Montrose #2 24 Month Precipitation Accumulation



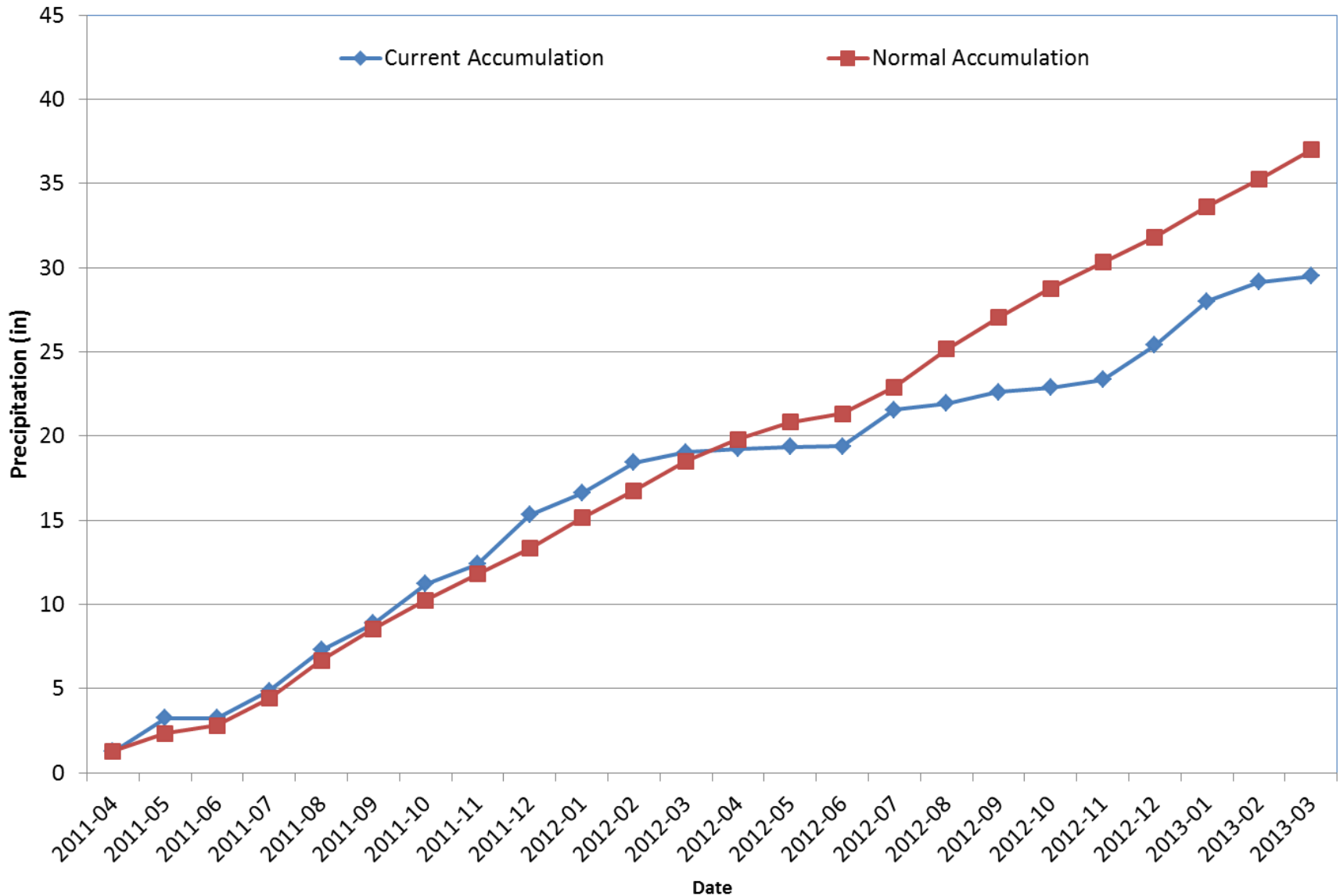
Division 3 – Mesa Verde NP

Mesa Verde NP 2013 Water Year



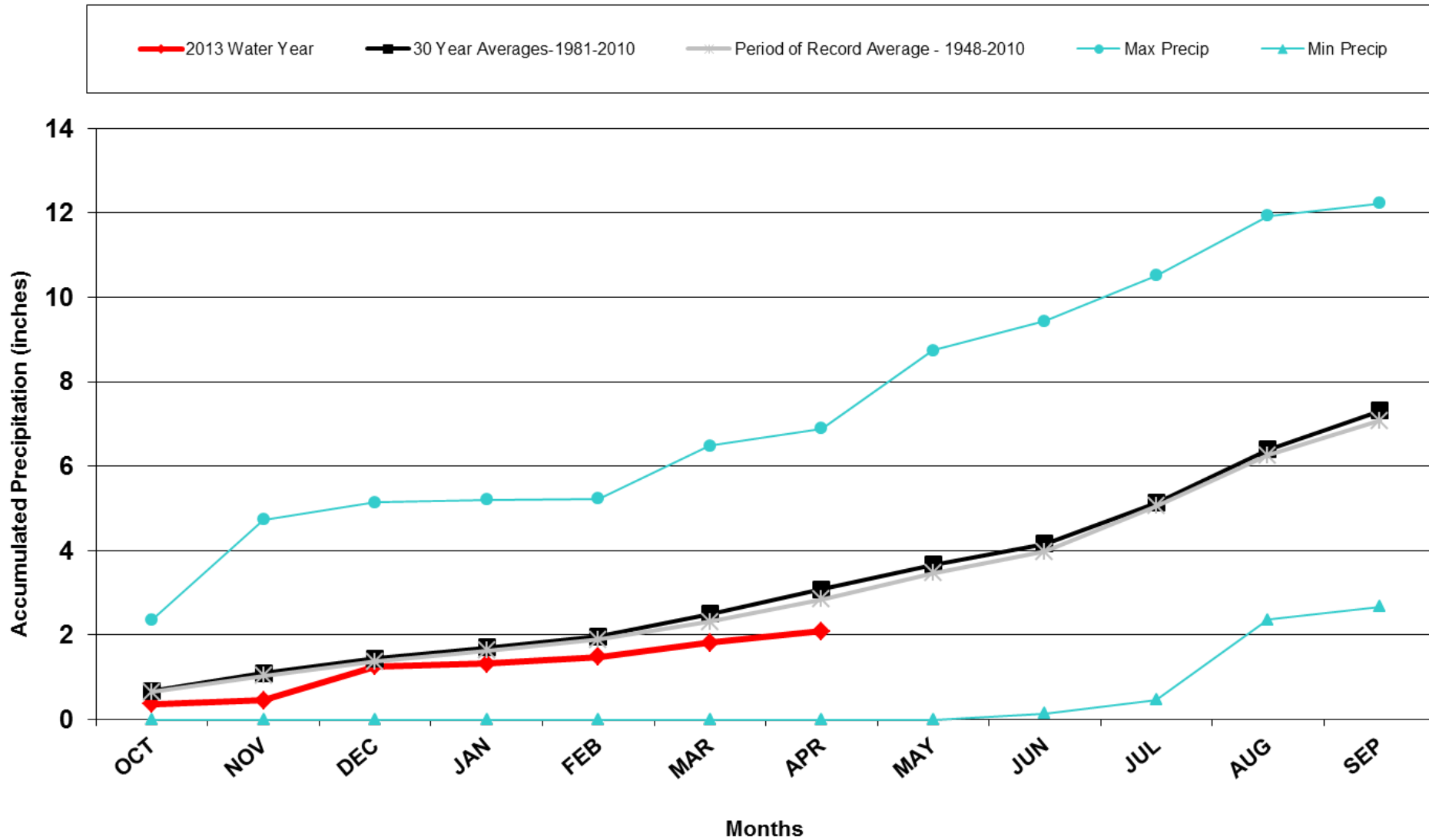
Division 3 – Mesa Verde NP

Mesa Verde NP 24 Month Precipitation Accumulation



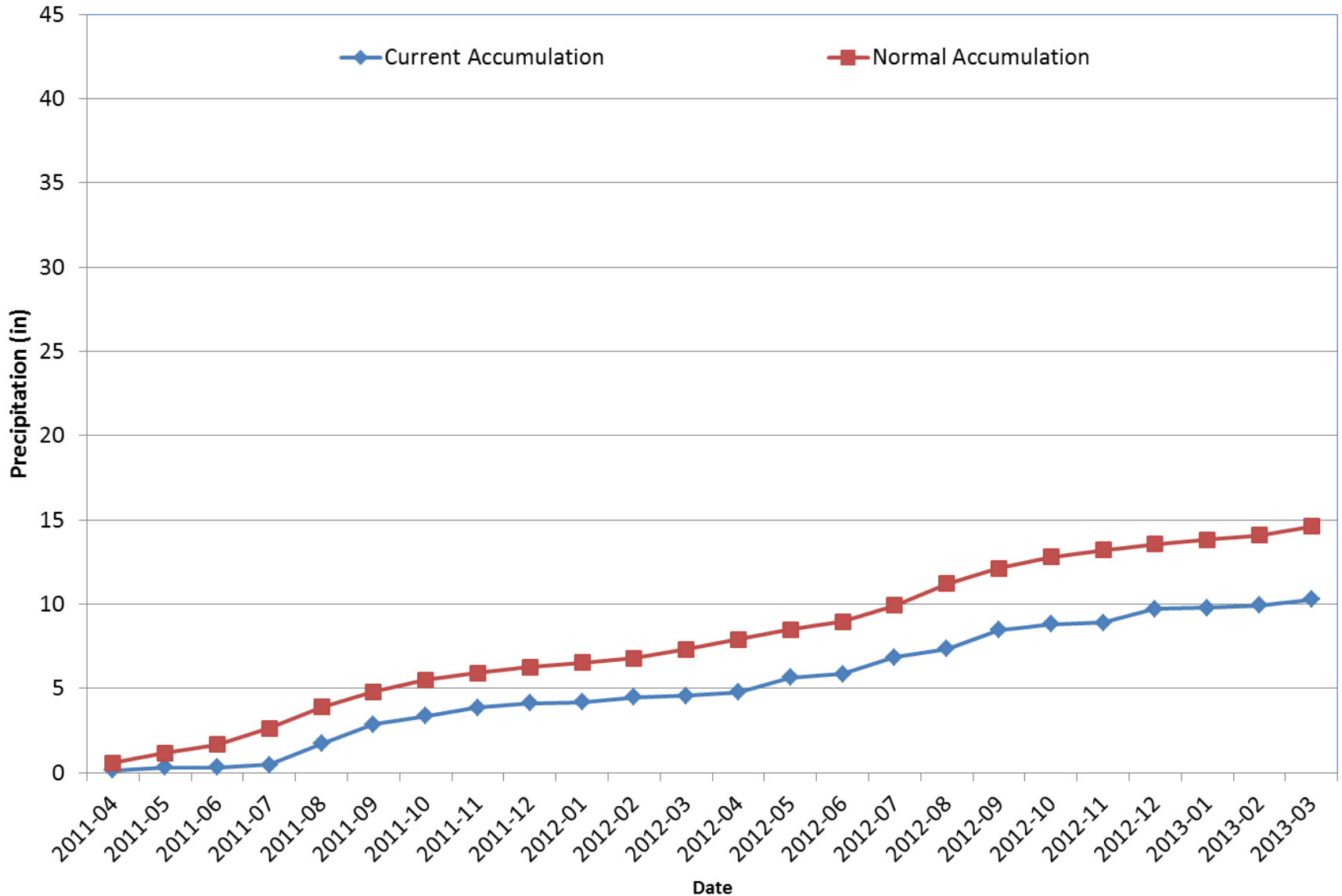
Division 4 – Alamosa

Alamosa WSO 2013 Water Year



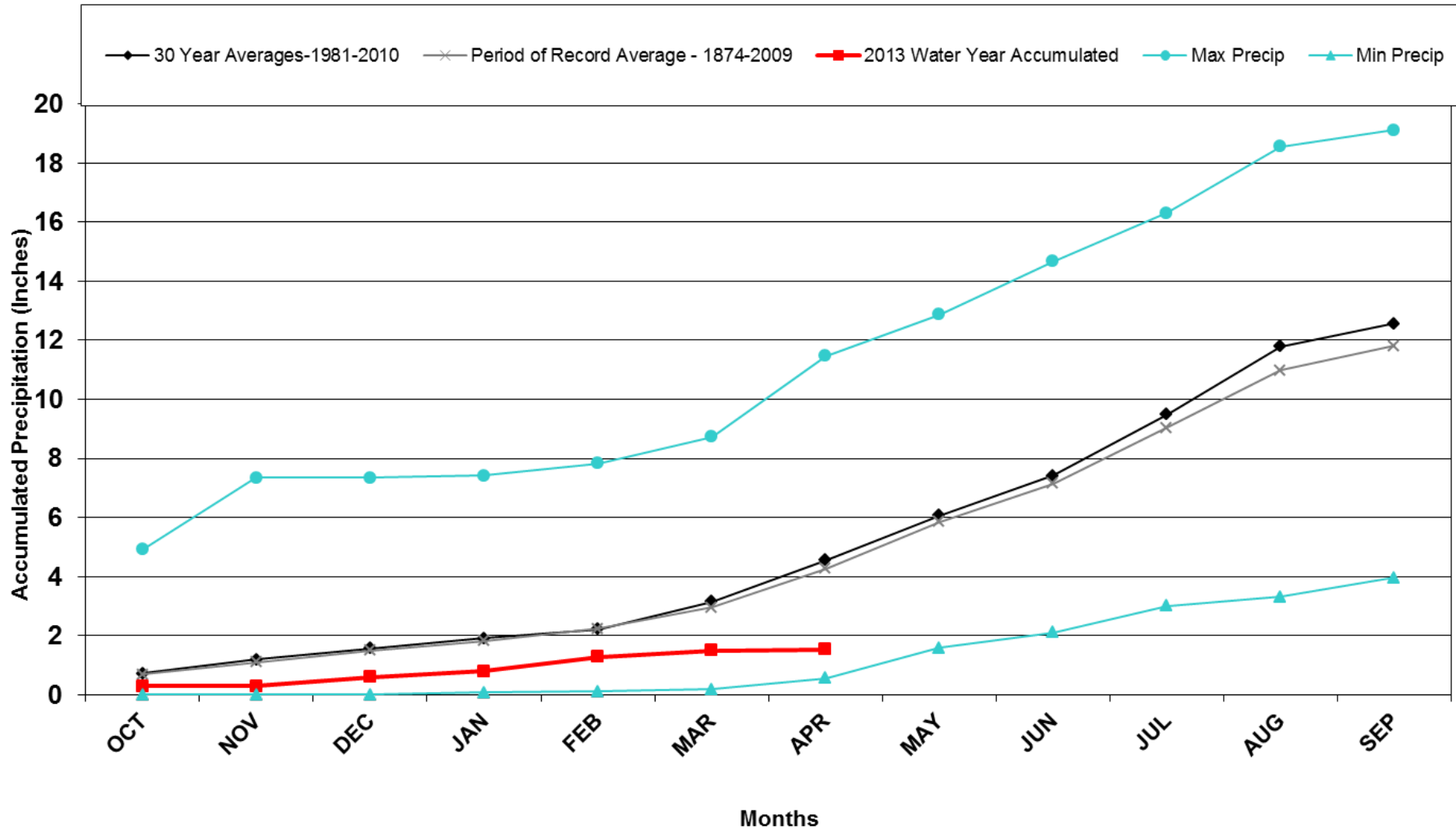
Division 4 – Alamosa

Alamosa WSO 24 Month Precipitation Accumulation



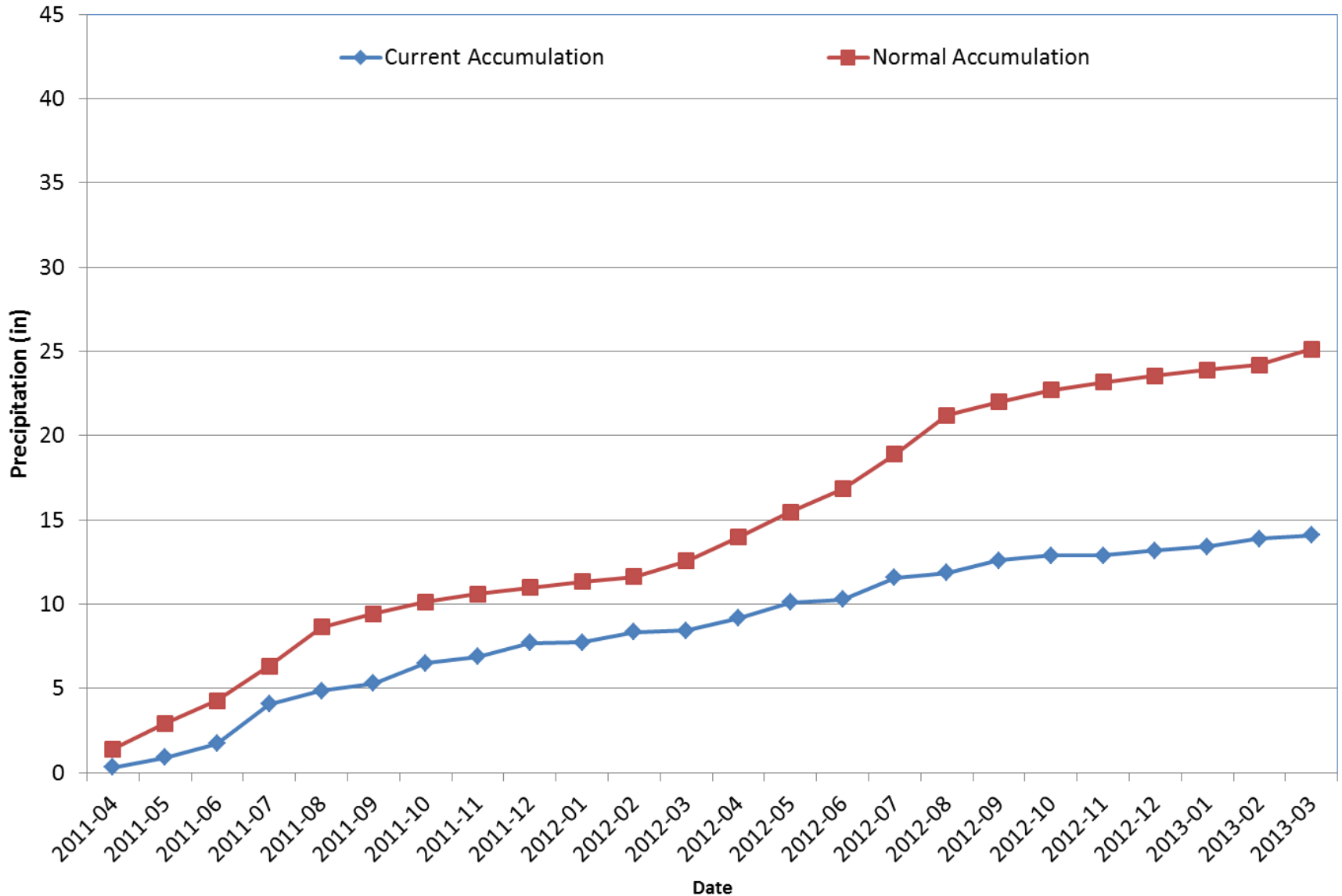
Division 5 – Pueblo

Pueblo WSO 2013 Water Year



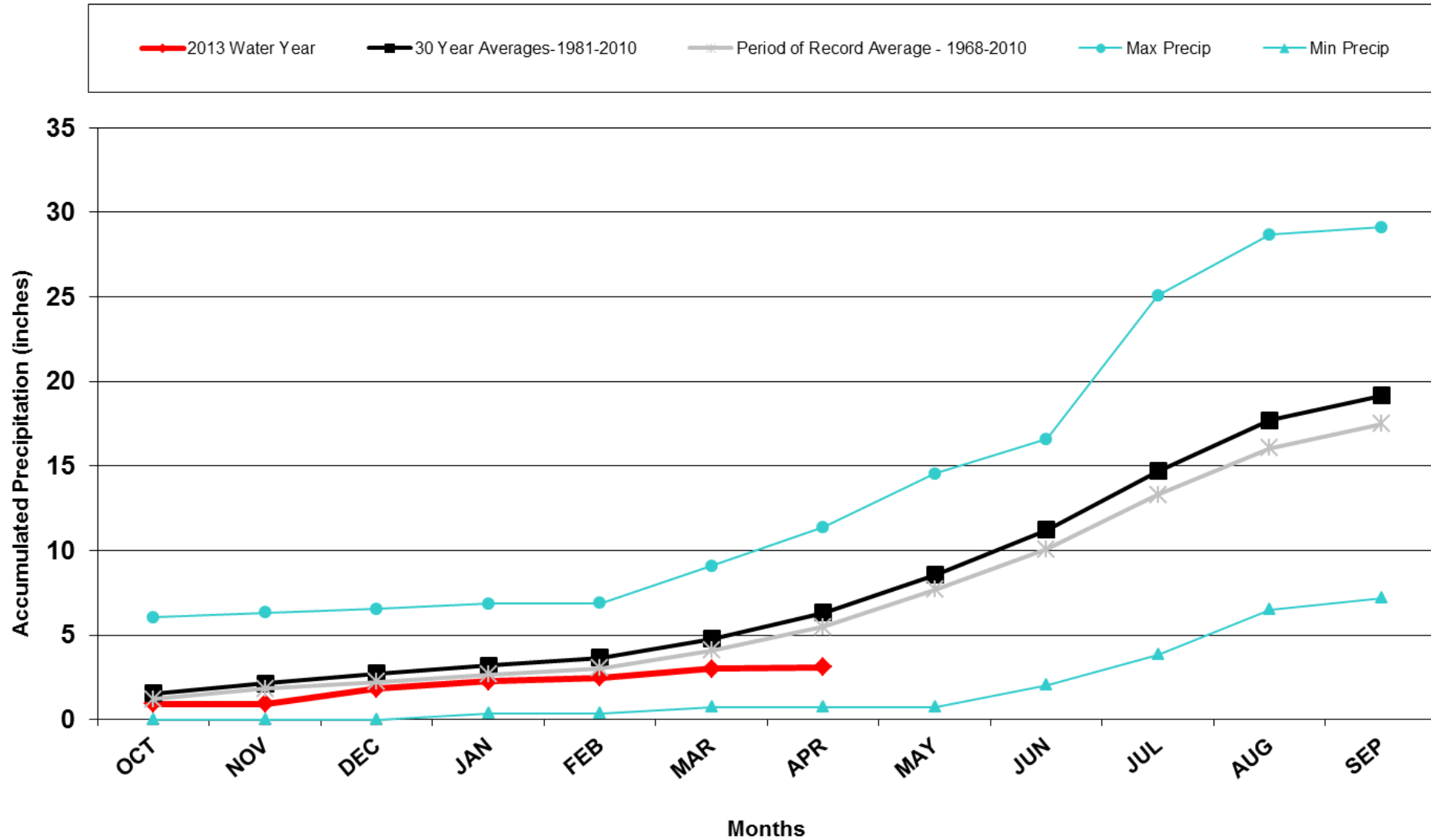
Division 5 – Pueblo

Pueblo Memorial AP 24 Month Precipitation Accumulation



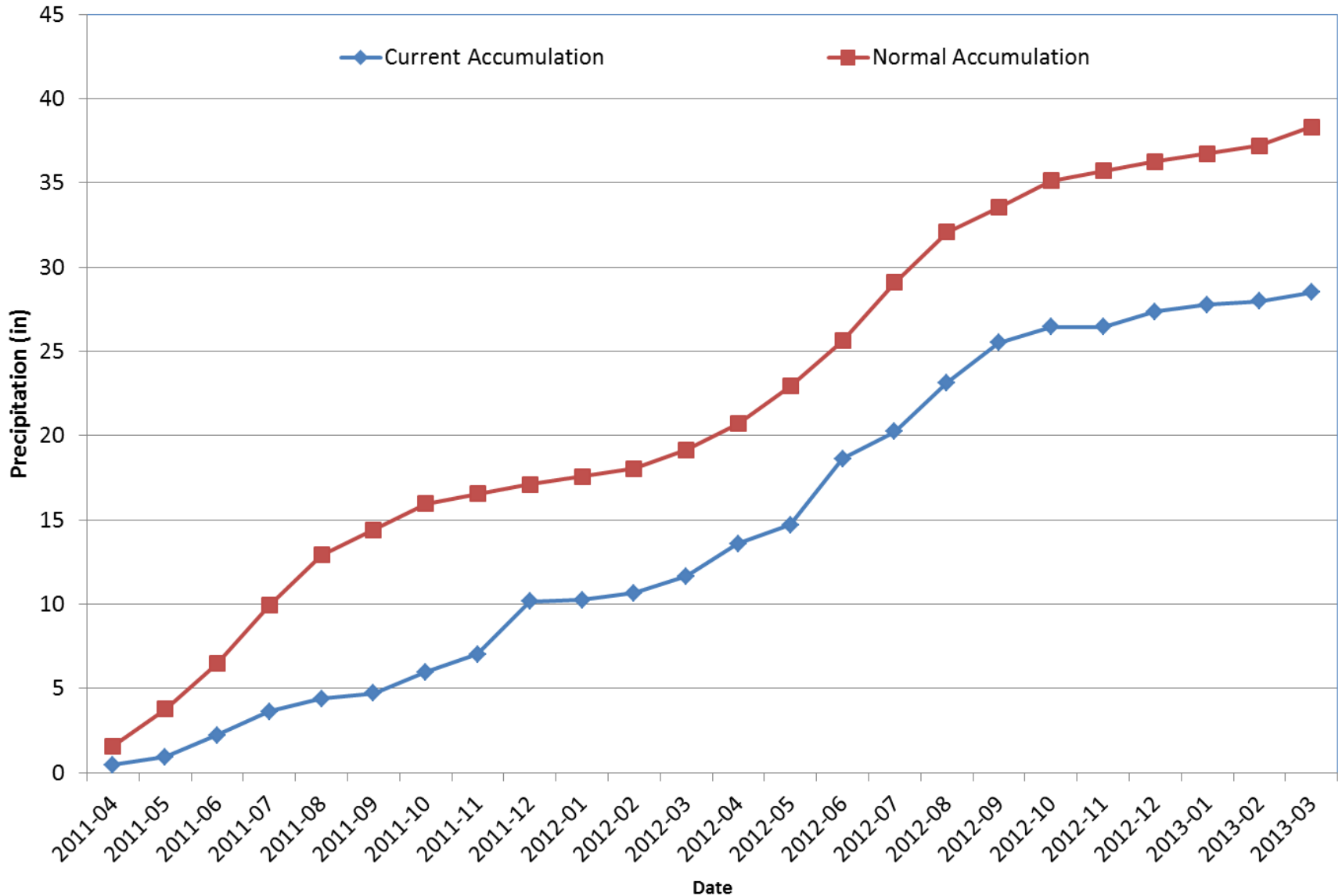
Division 6 - Walsh

Walsh 2013 Water Year



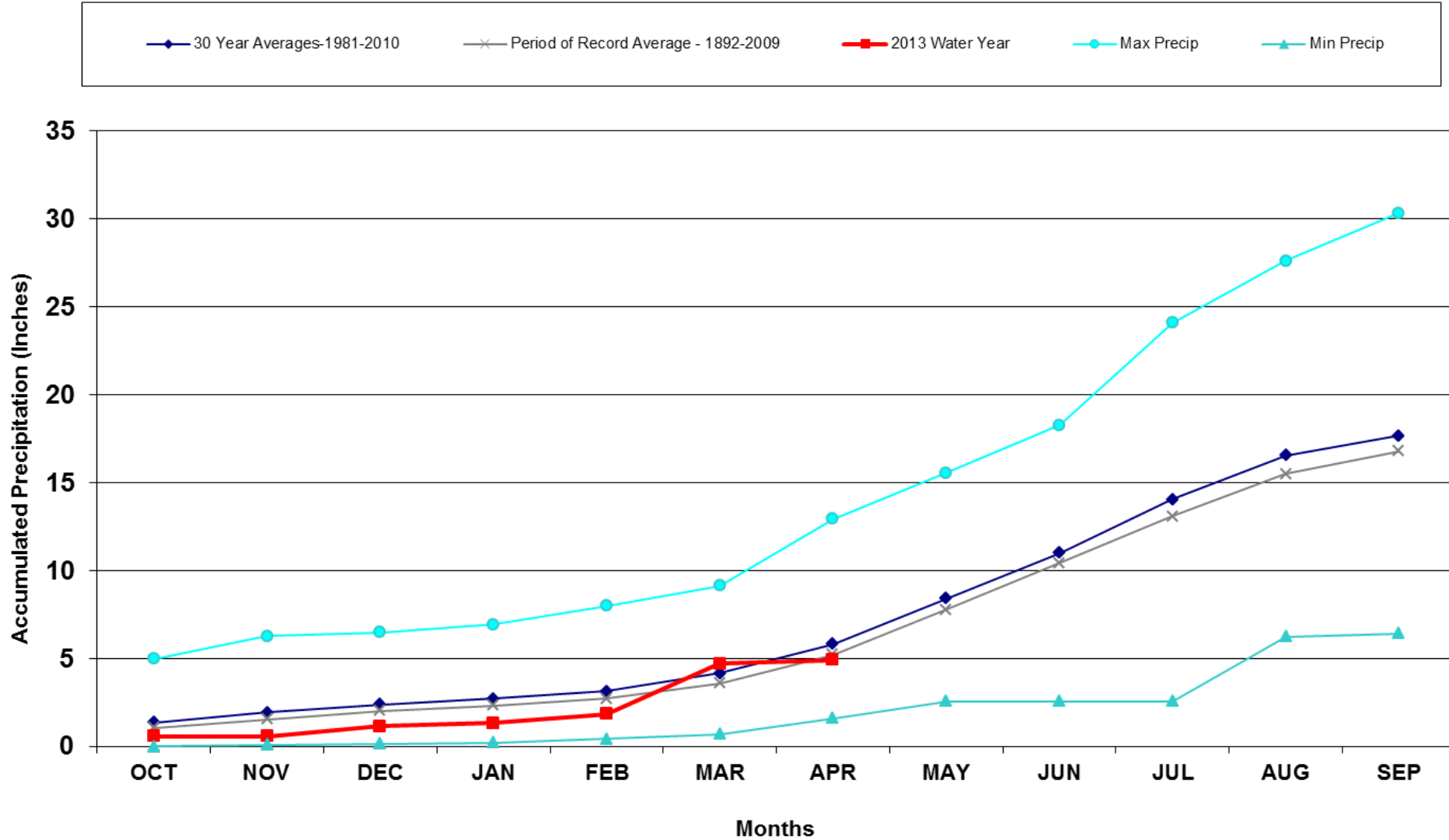
Division 6 - Walsh

Walsh 1W 24 Month Precipitation Accumulation



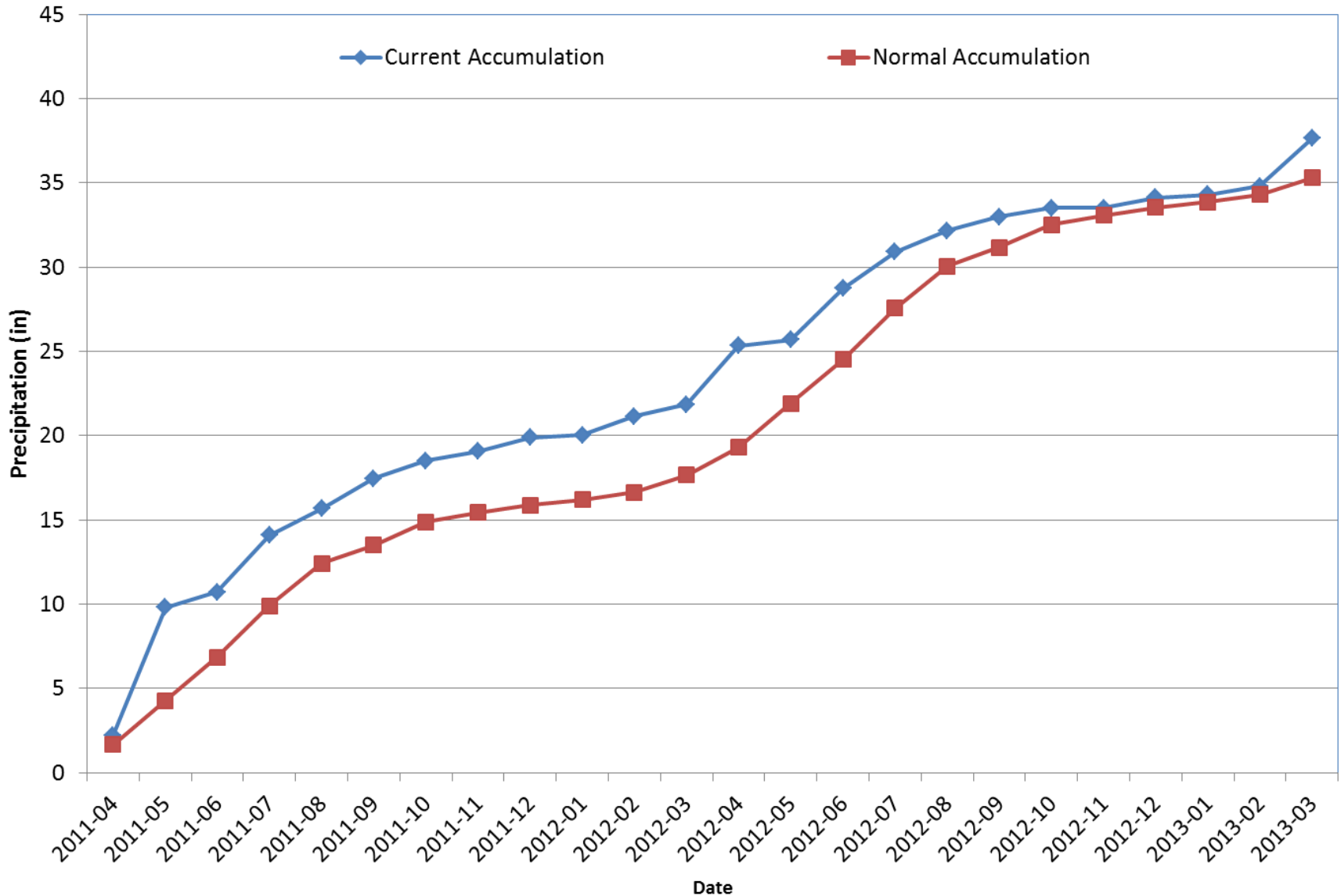
Division 6 - Burlington

Burlington 2013 Water Year



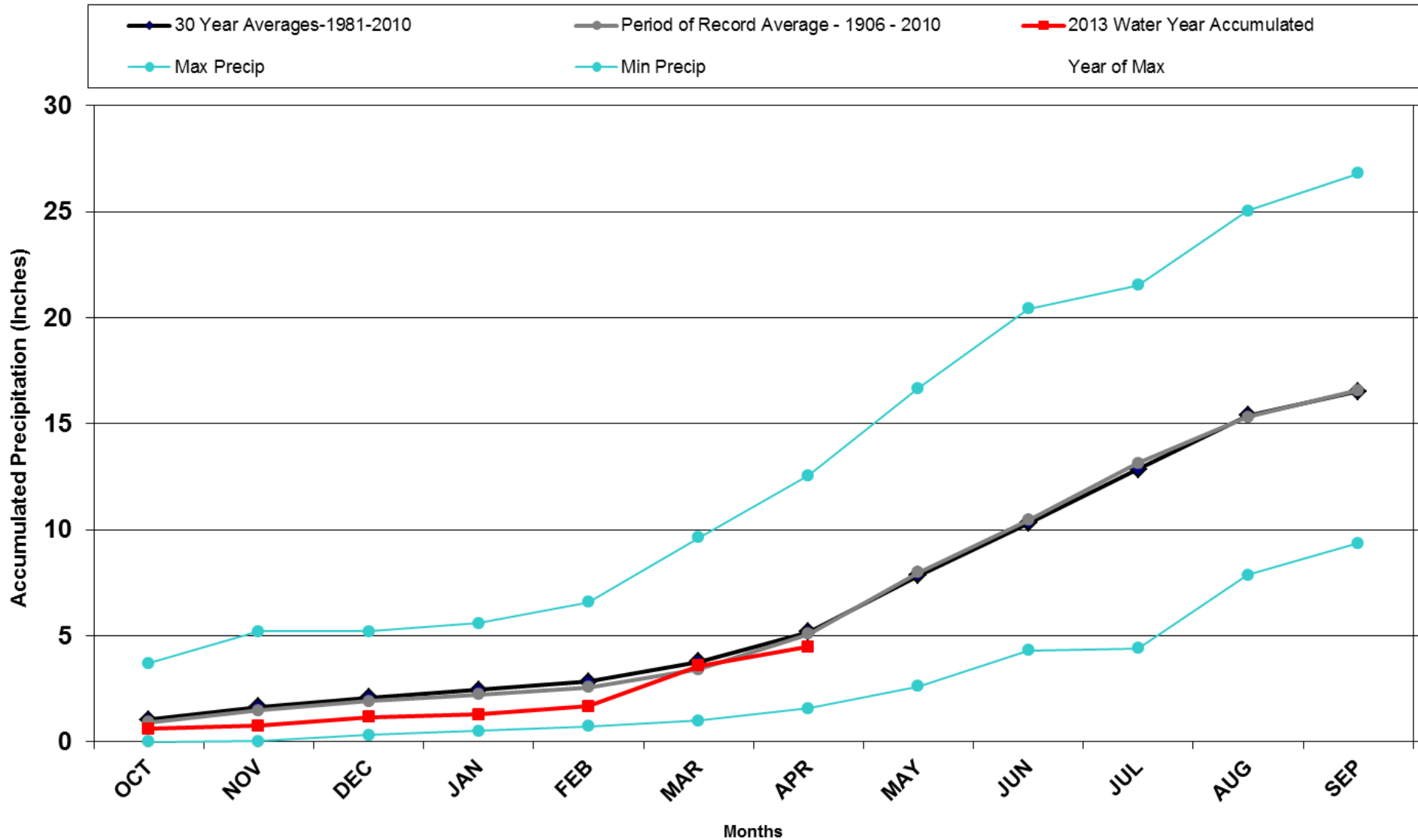
Division 6 - Burlington

Burlington, CO 24 Month Precipitation Accumulation



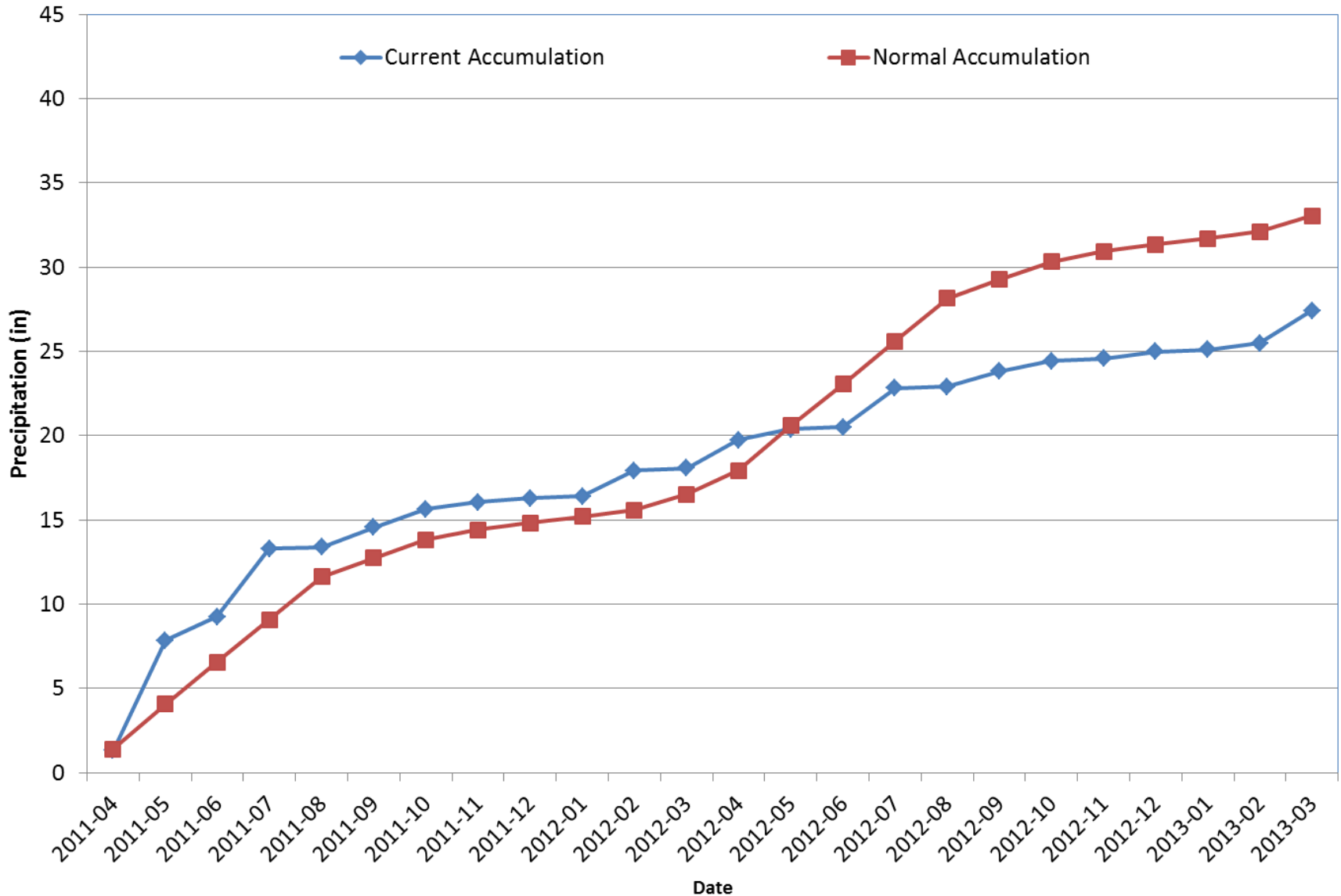
Division 7 – Akron

Akron 4E 2013 Water Year



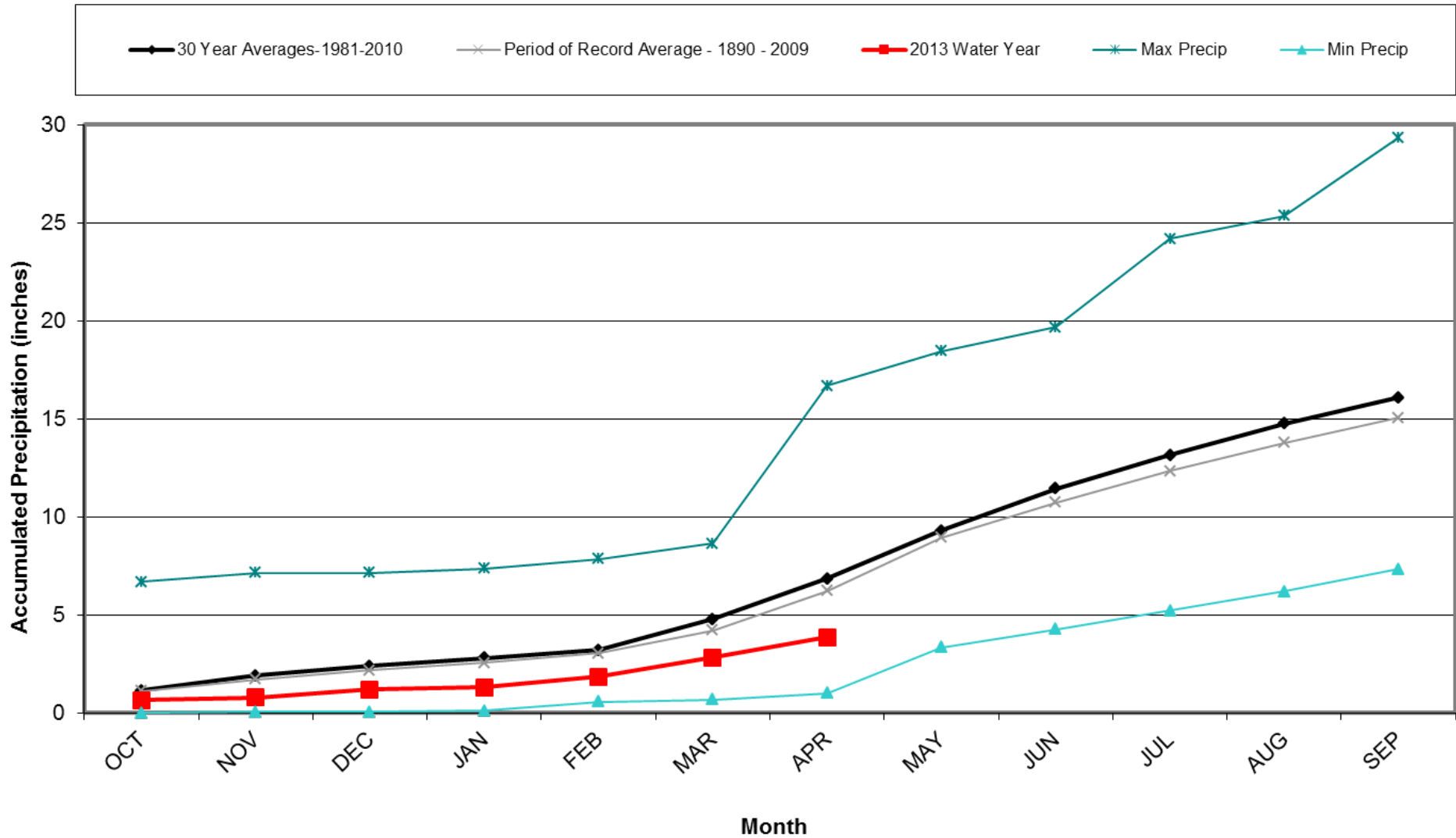
Division 7 – Akron

Akron 4E 24 Month Precipitation Accumulation



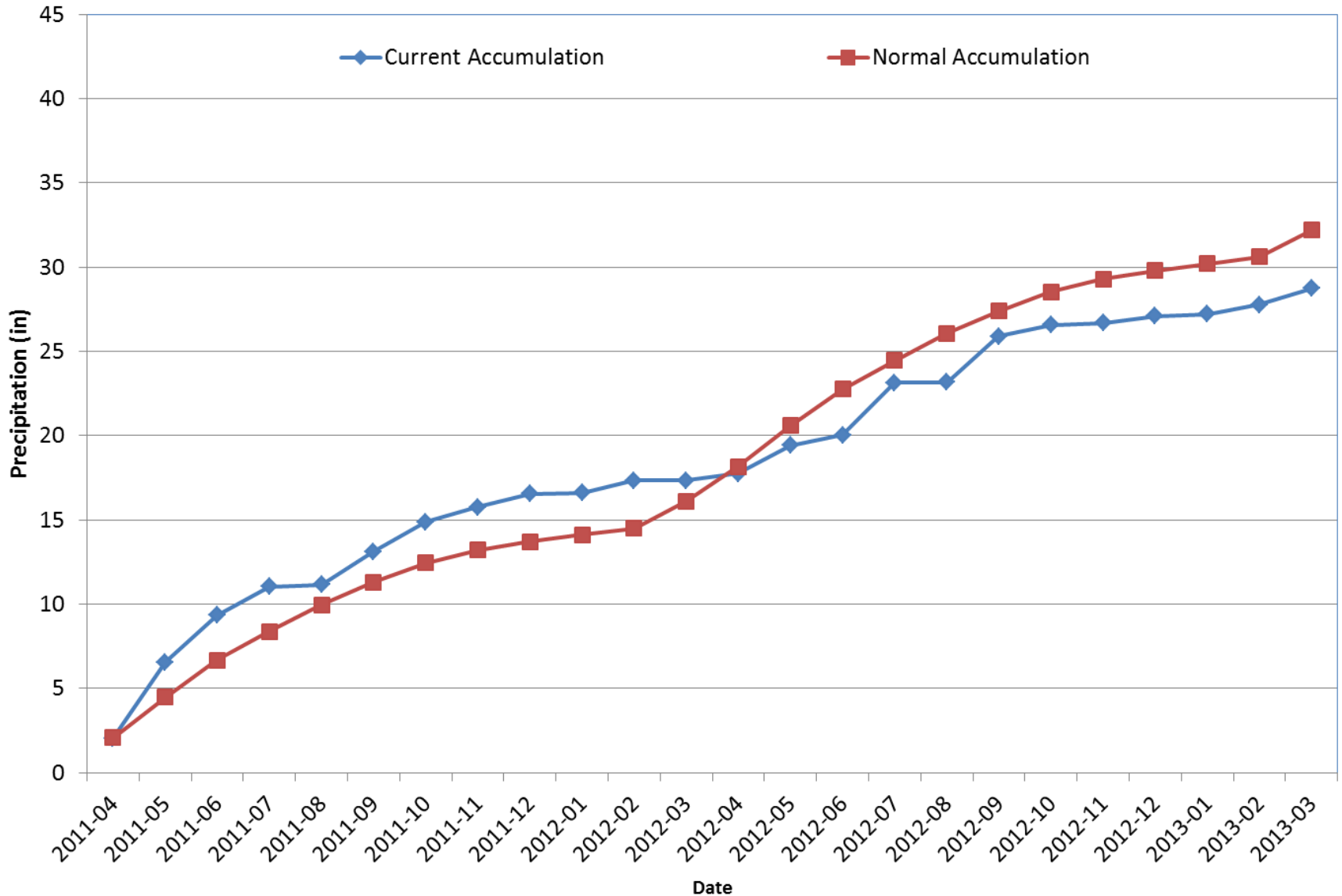
Division 8 – Fort Collins

Fort Collins 2013 Water Year



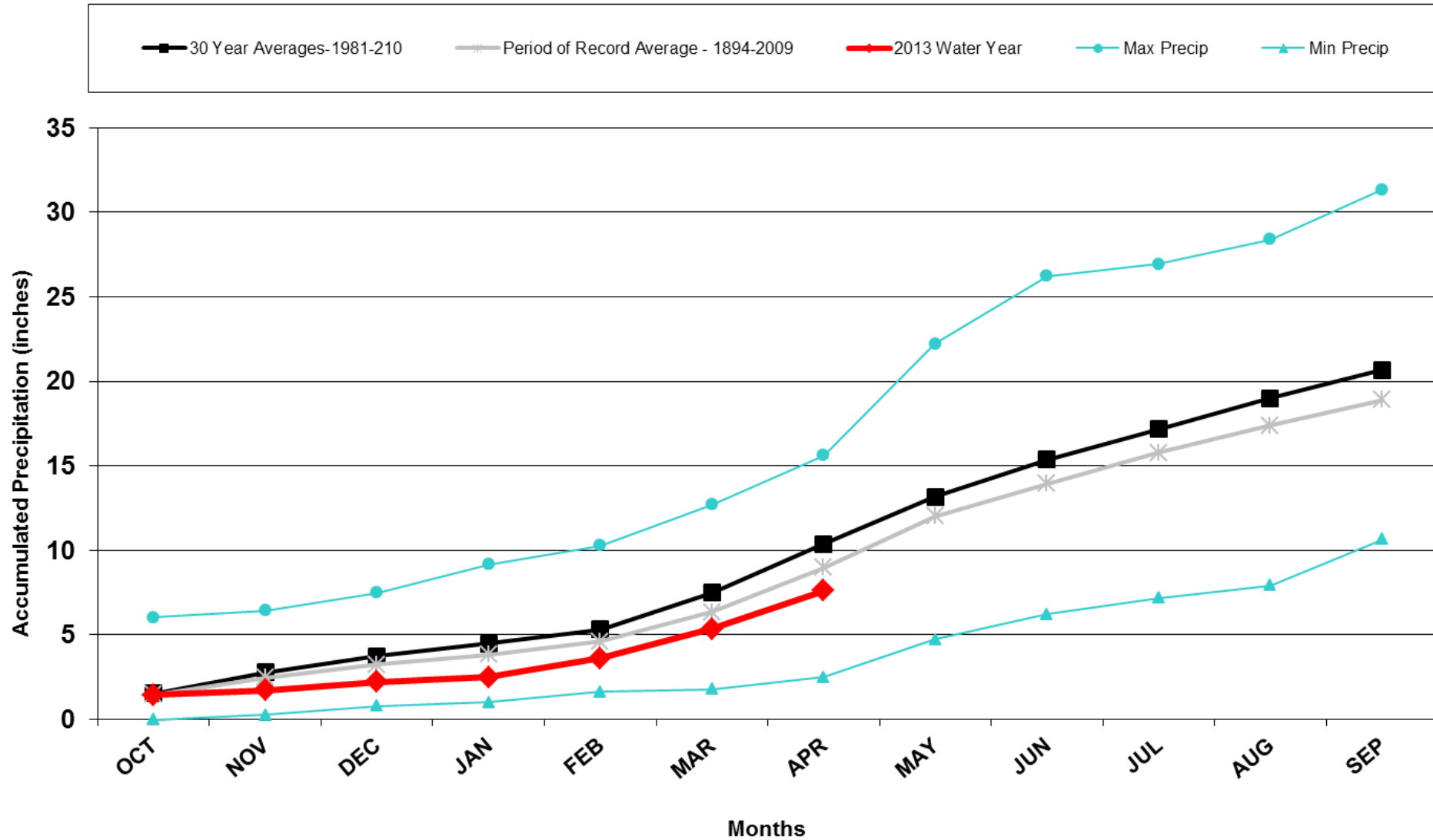
Division 8 – Fort Collins

Fort Collins 24 Month Precipitation Accumulation



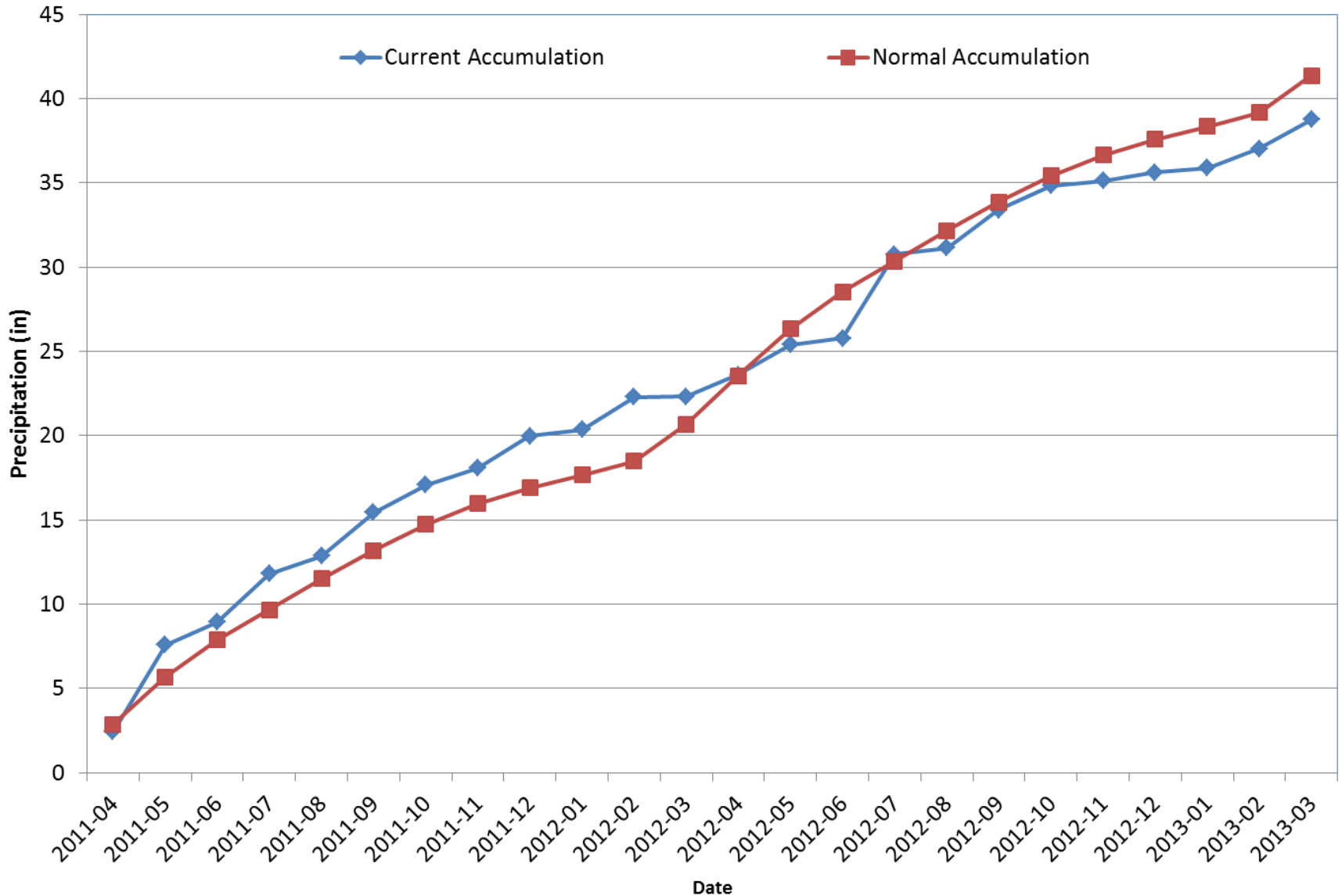
Division 8 - Boulder

Boulder 2013 Water Year



Division 8 - Boulder

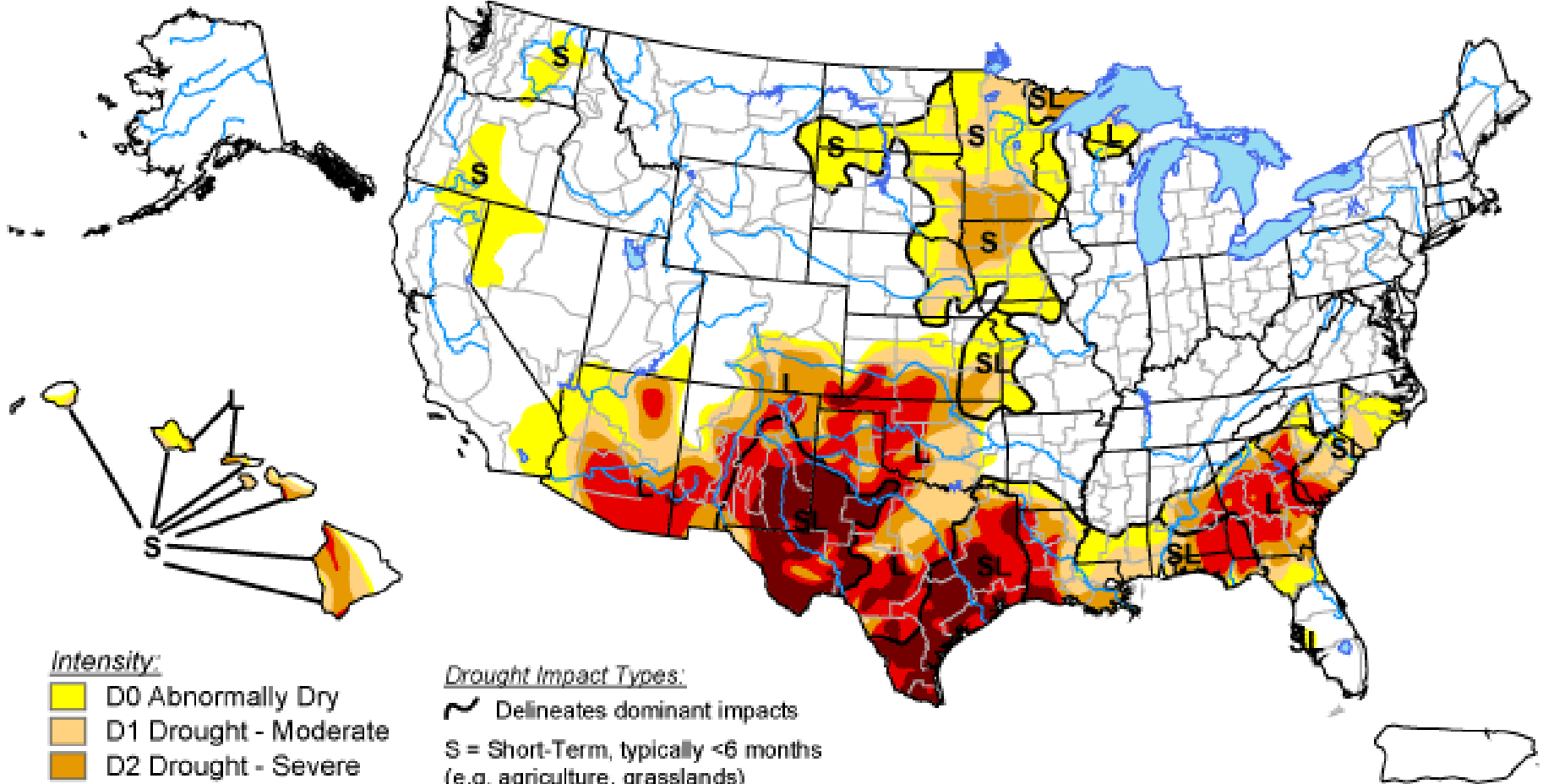
Boulder 24 Month Precipitation Accumulation








U.S. Drought Monitor

December 6, 2011


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/>



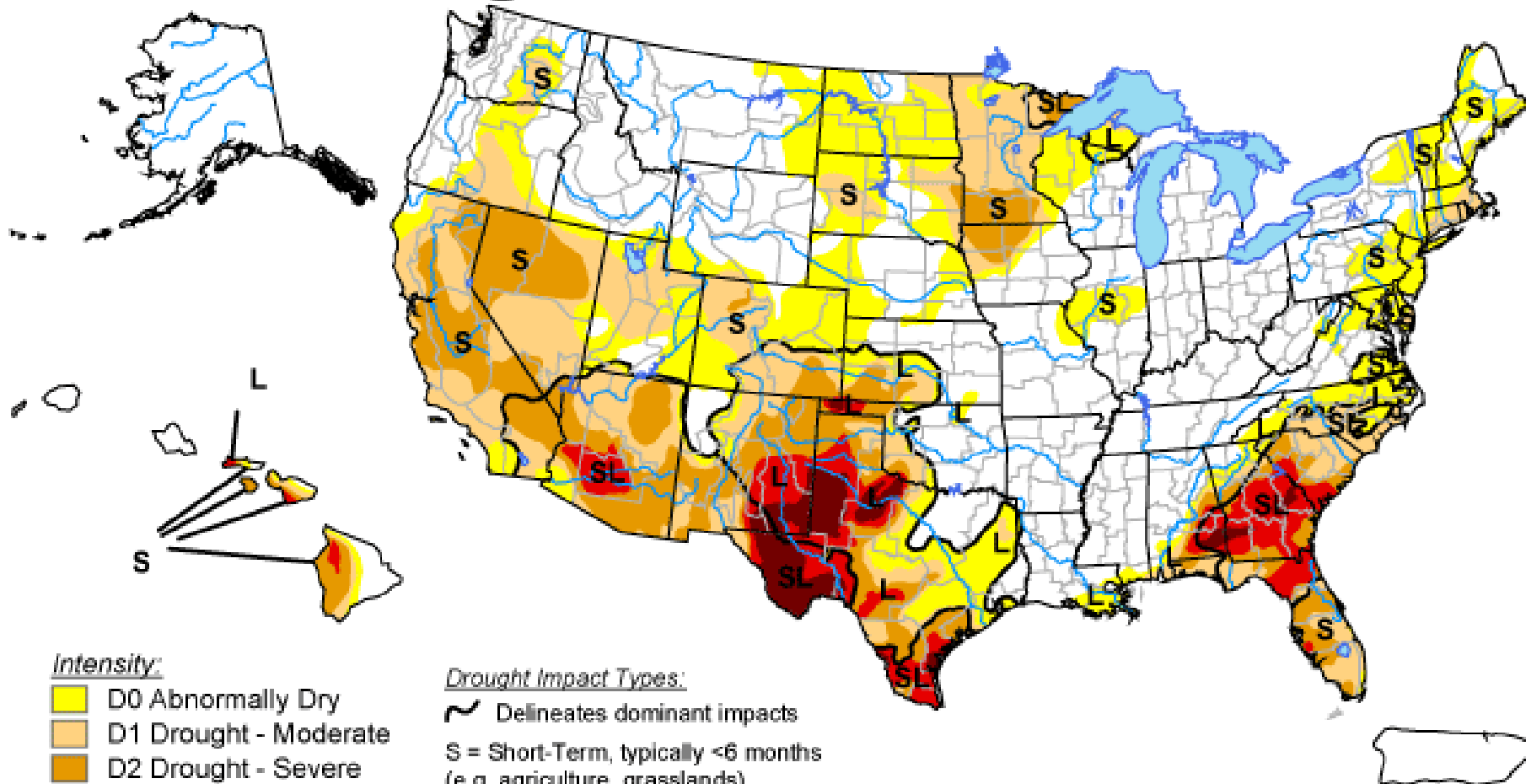
Released Thursday, December 8, 2011

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






U.S. Drought Monitor

March 27, 2012


Valid 7 a.m. EDT



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 29, 2012

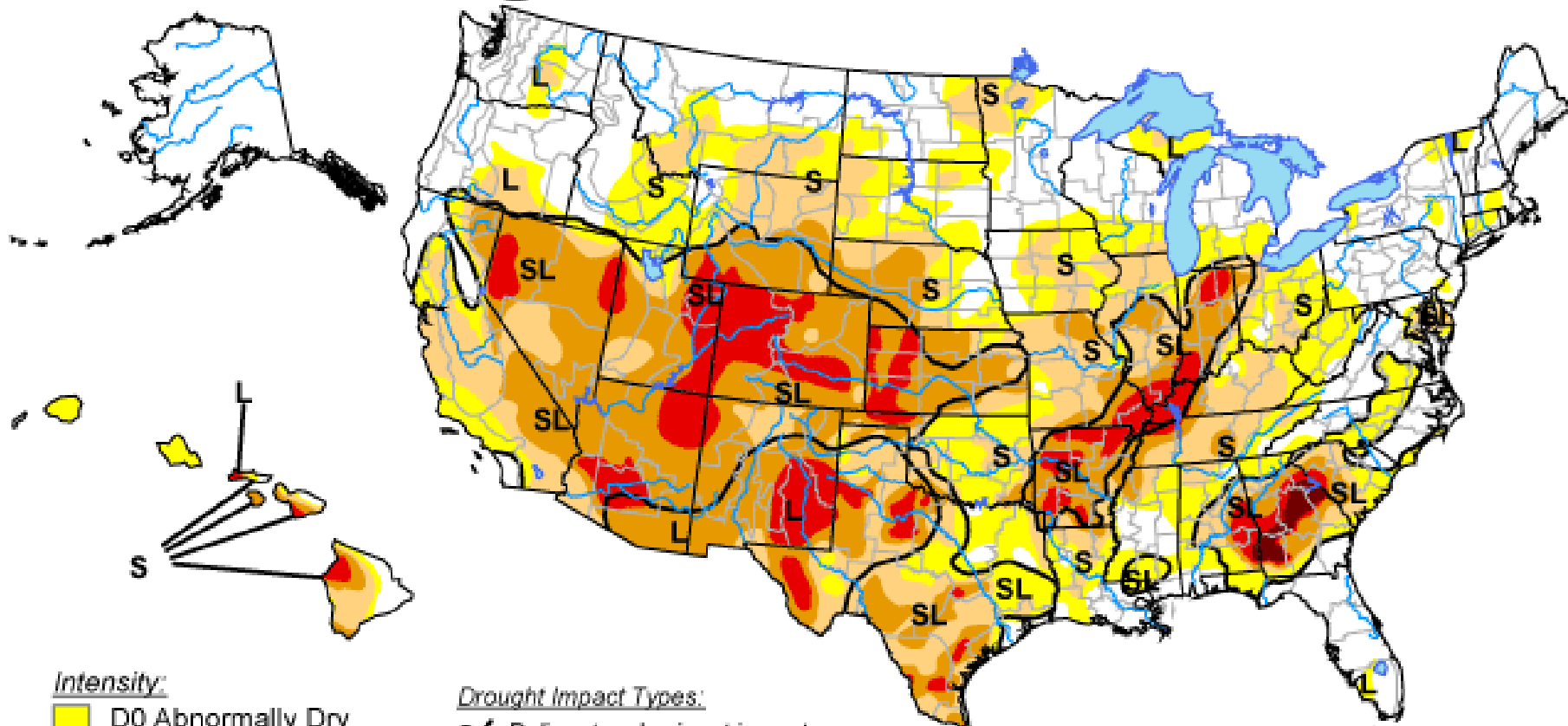
Author: Eric Luebehusen, U.S. Department of Agriculture

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






U.S. Drought Monitor

June 26, 2012


Valid 7 a.m. EDT



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, June 28, 2012

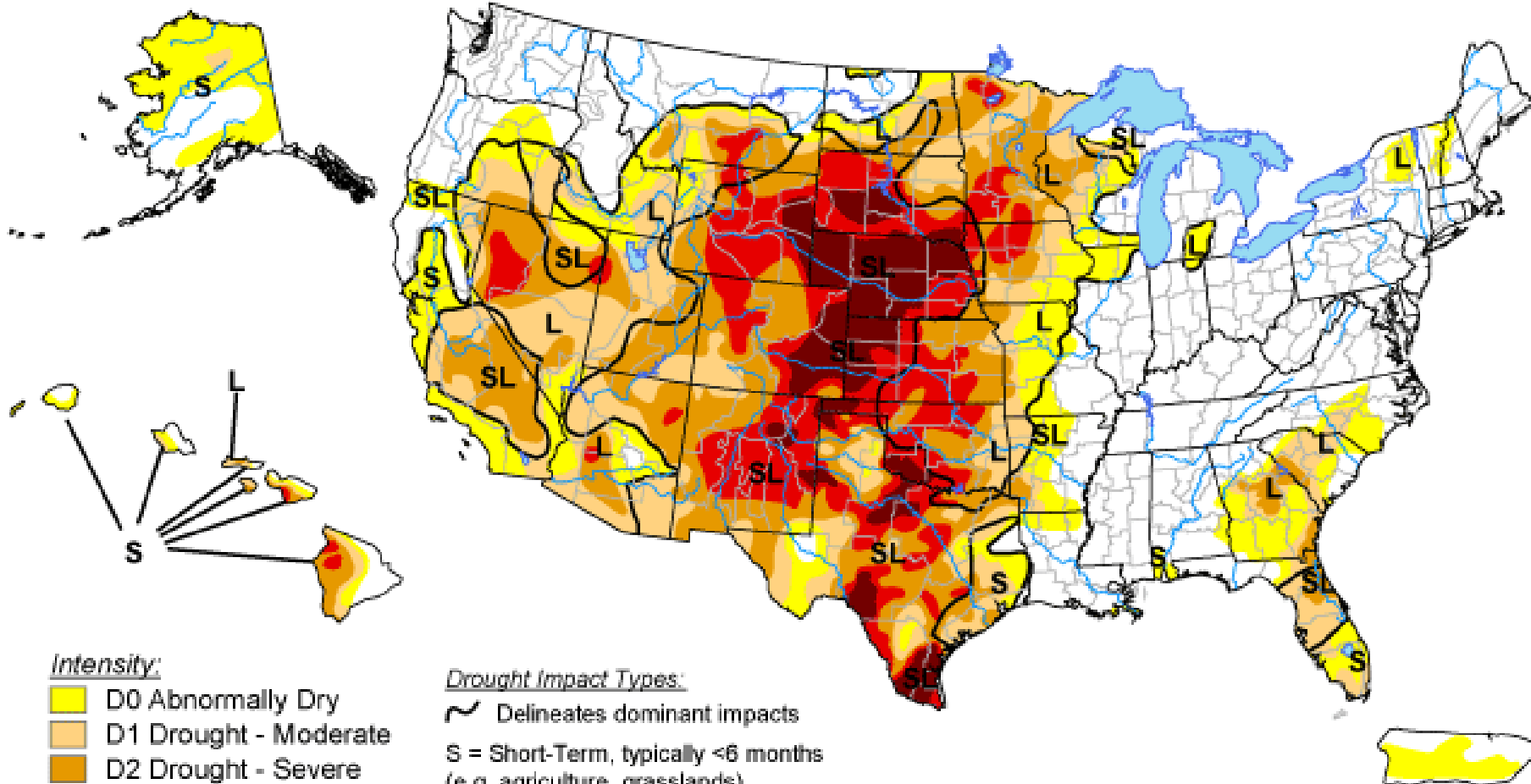
Author: Richard Heim/L. Love-Brotak, NOAA/NESDIS/NCDC

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






U.S. Drought Monitor

March 19, 2013


Valid 7 a.m. EDT



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/>

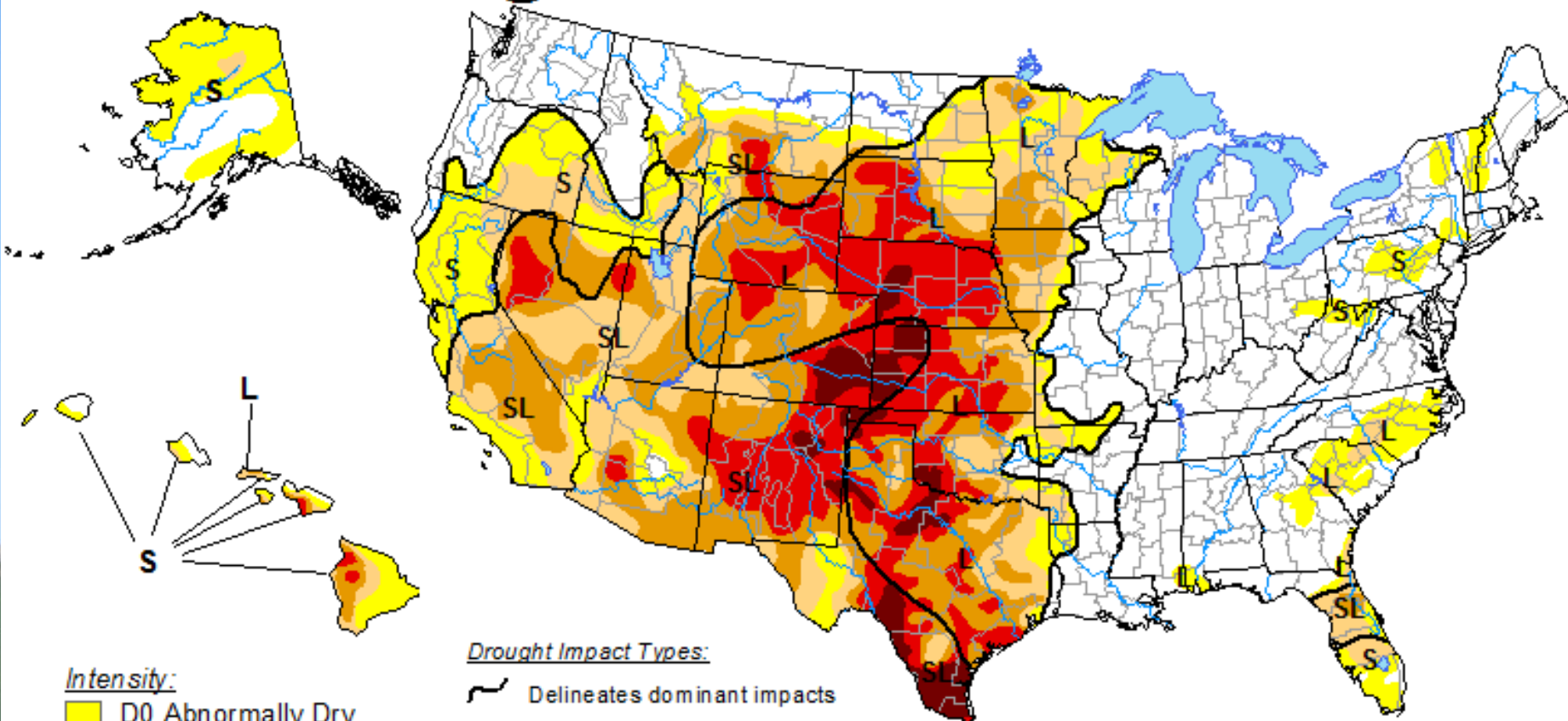


Released Thursday, March 21, 2013
Author: Anthony Artusa, NOAA/NWS/NCEP/CPC

U.S. Drought Monitor

April 16, 2013

Valid 8 a.m. EDT



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/>

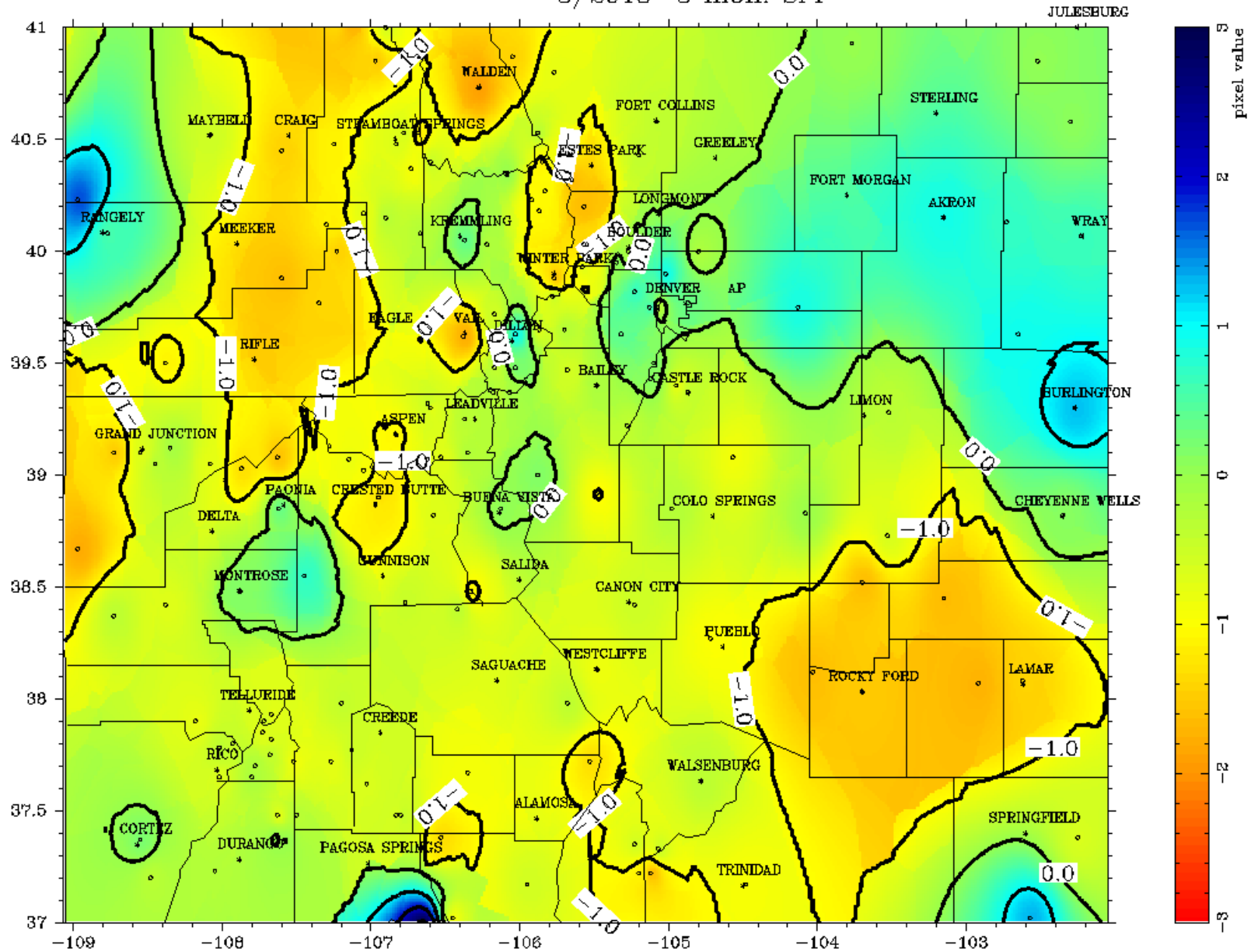


Released Thursday, April 18, 2013

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

Colorado

3/2013 3 mon. SPI



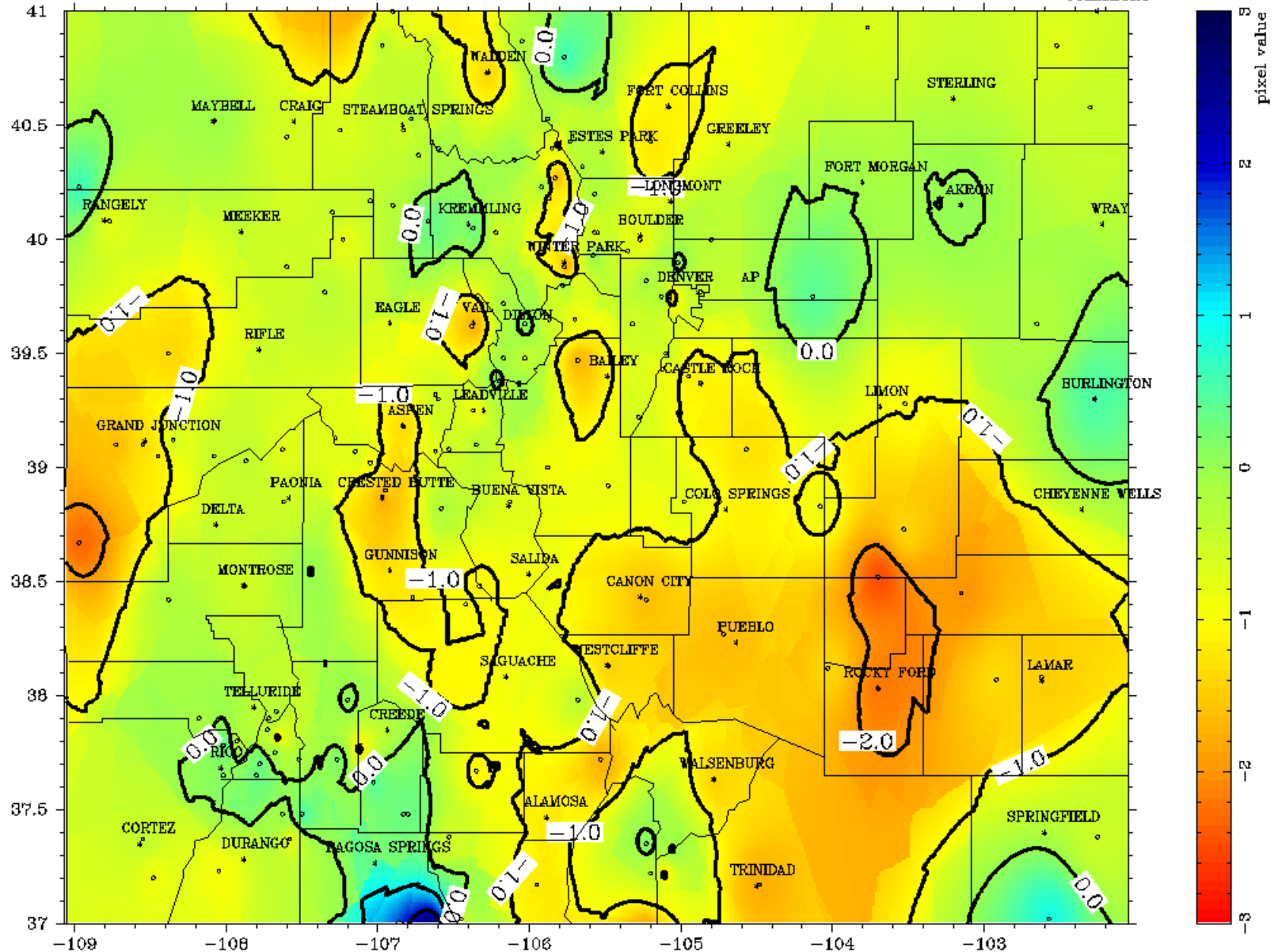
100 % < 2.0 21 % < -1.0
99 % < 1.0 0 % < -2.0
76 % < 0.0 0 % < -3.0

Produced by:
Colorado Climate Center
Fort Collins, CO

Colorado

3/2013 6 mon. SPI

JULESBURG



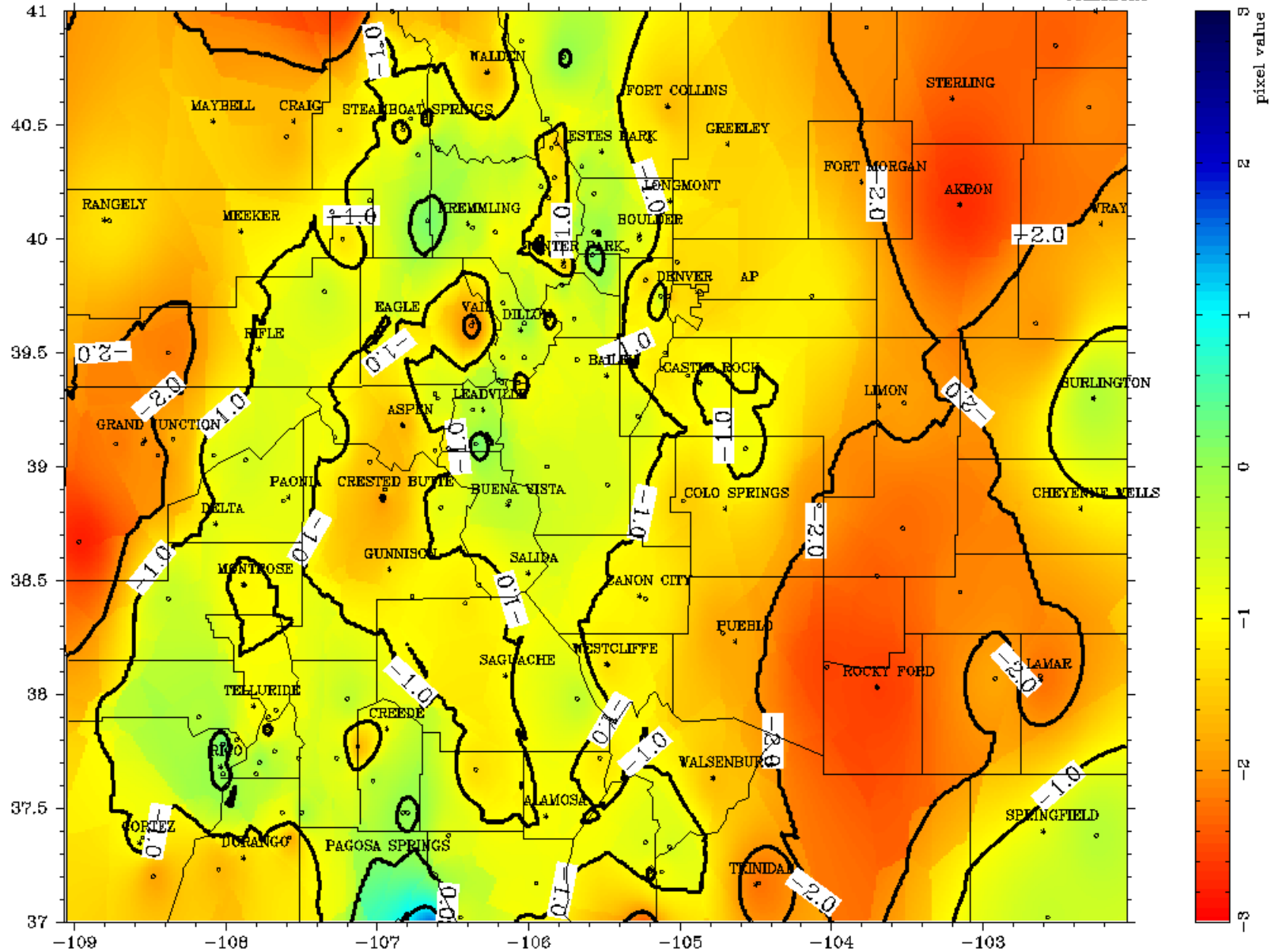
100 % < 2.0	30 % < -1.0
100 % < 1.0	1 % < -2.0
92 % < 0.0	0 % < -3.0

Produced by:
Colorado Climate Center
Fort Collins, CO

Colorado

3/2013 12 mon. SPI

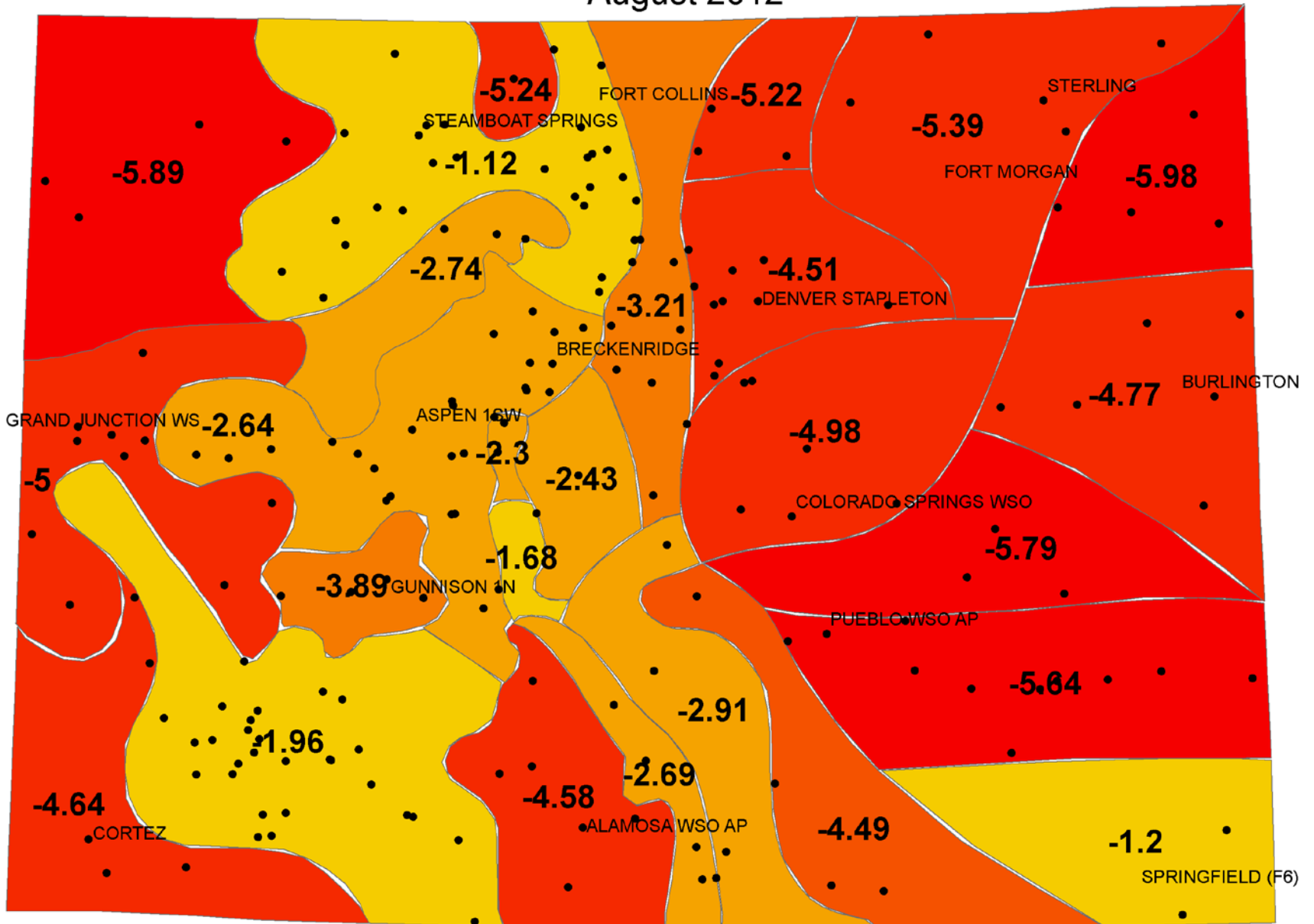
JULESBURG



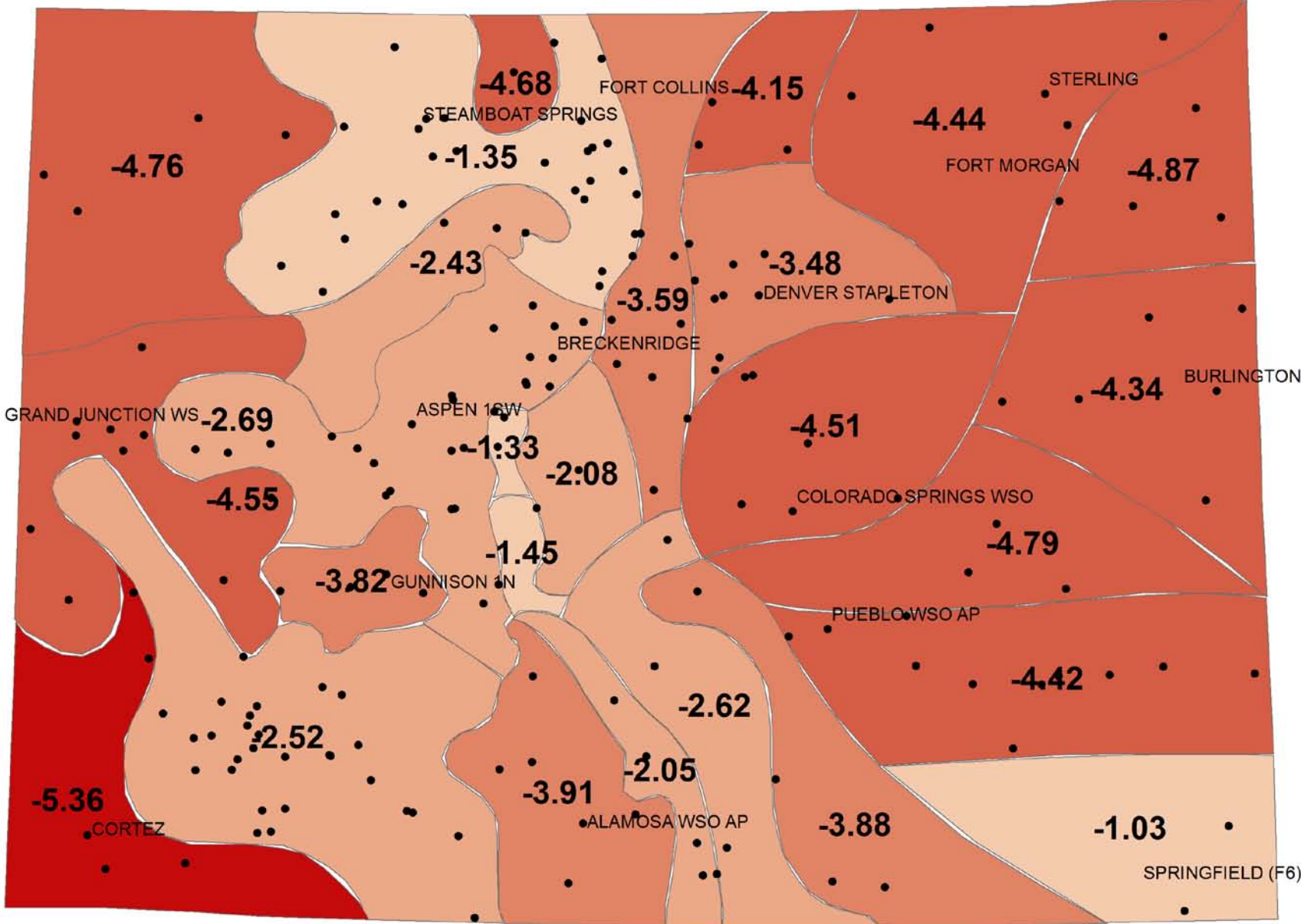
100 % < 2.0	67 % < -1.0
100 % < 1.0	21 % < -2.0
99 % < 0.0	0 % < -3.0

Produced by:
Colorado Climate Center
Fort Collins, CO

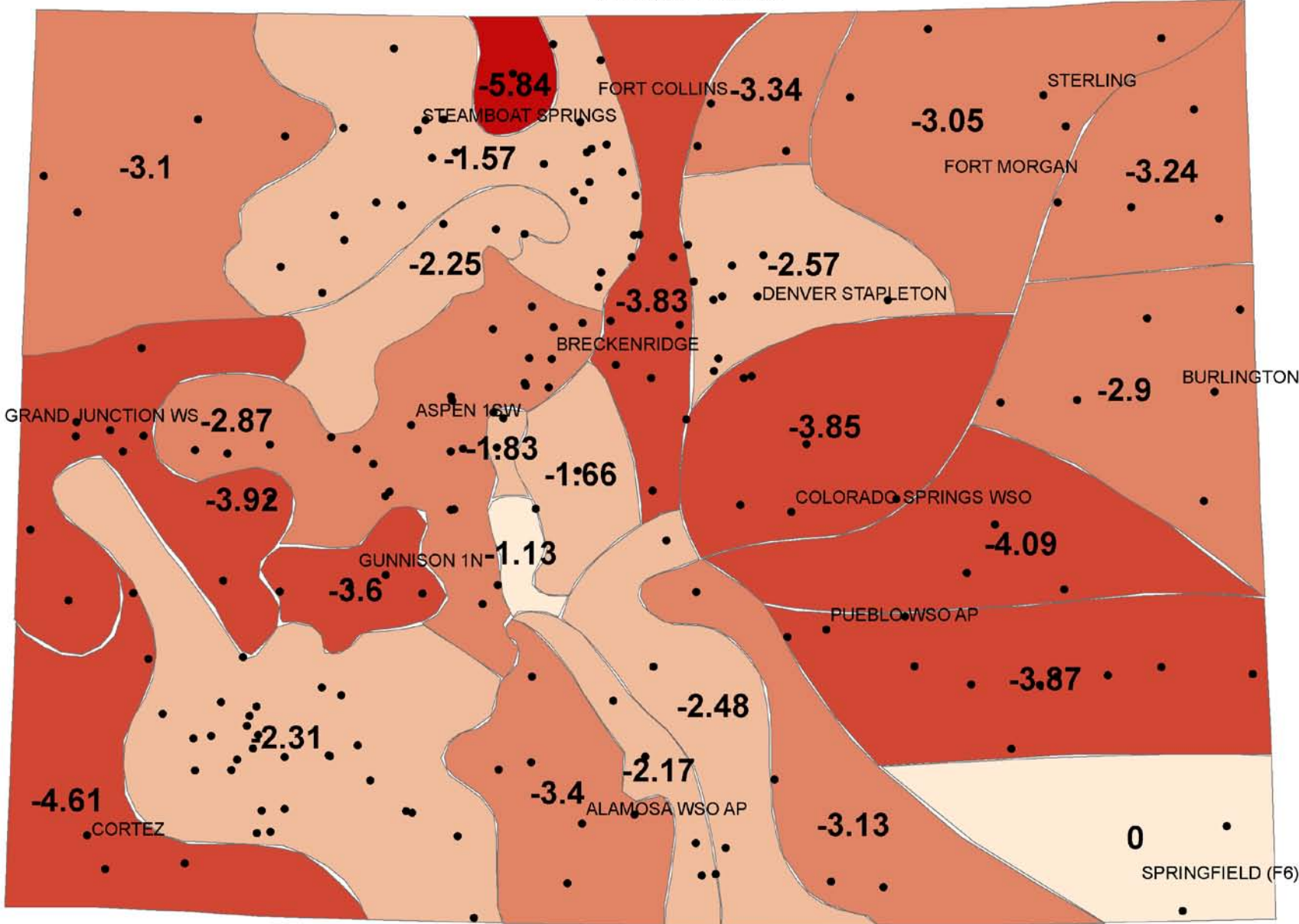
Modified Palmer Drought Severity Index for Colorado August 2012



Modified Palmer Drought Severity Index for Colorado December 2012



Modified Palmer Drought Severity Index for Colorado March 2013



Colorado Climate Center

Data and Power Point Presentations available for
downloading

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



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CLIMATE
CENTER

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University**
Knowledge to Go Places