



Climate Update

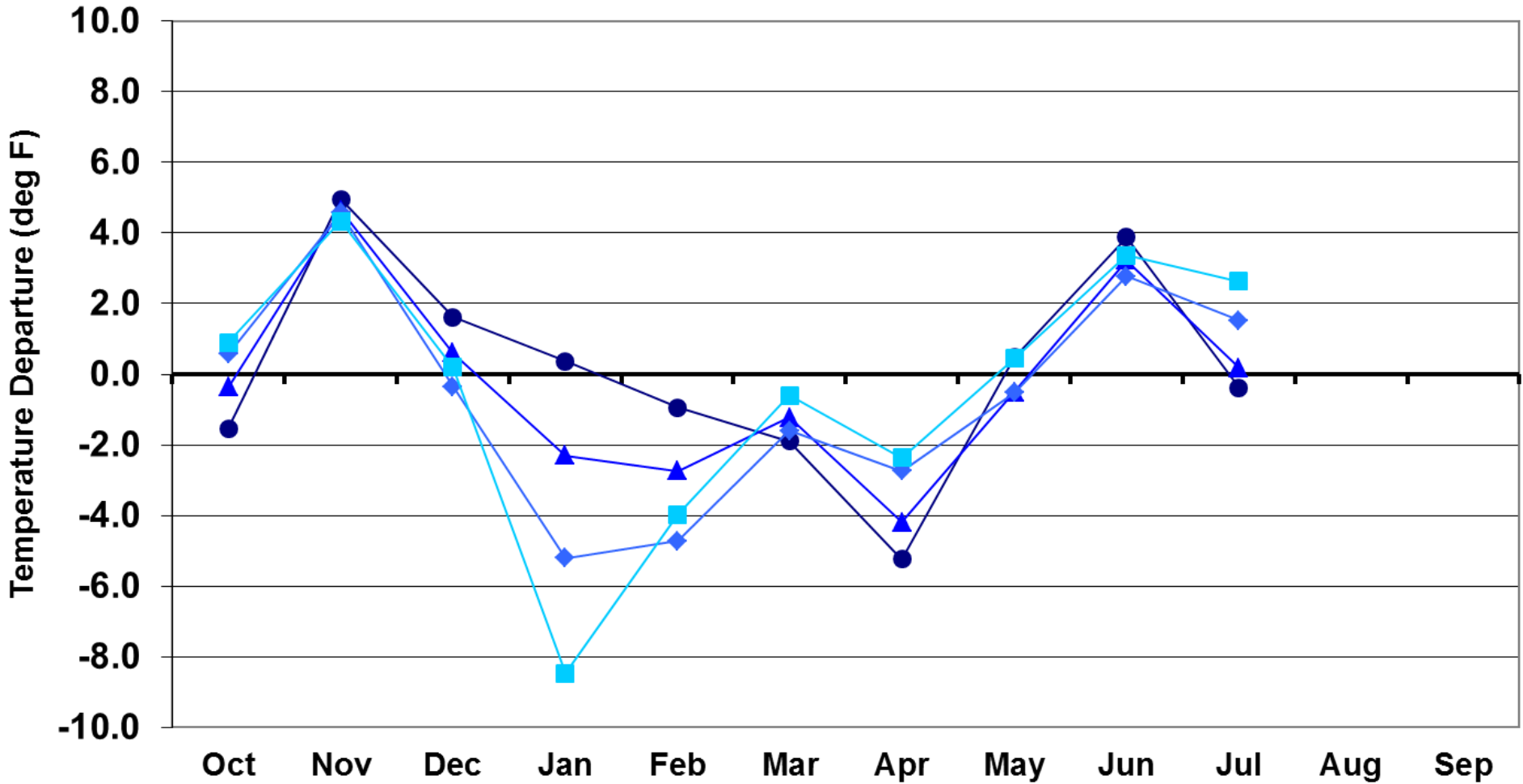
Nolan Doesken
Colorado Climate Center

Colorado State Climatologist
Colorado State University

Presented to
Water Availability Task Force
20 August 2013
Denver, CO

Water Year 2013 Temperature Departures

Water Year 2013



● Eastern Plains

▲ Foothills

◆ Mountains

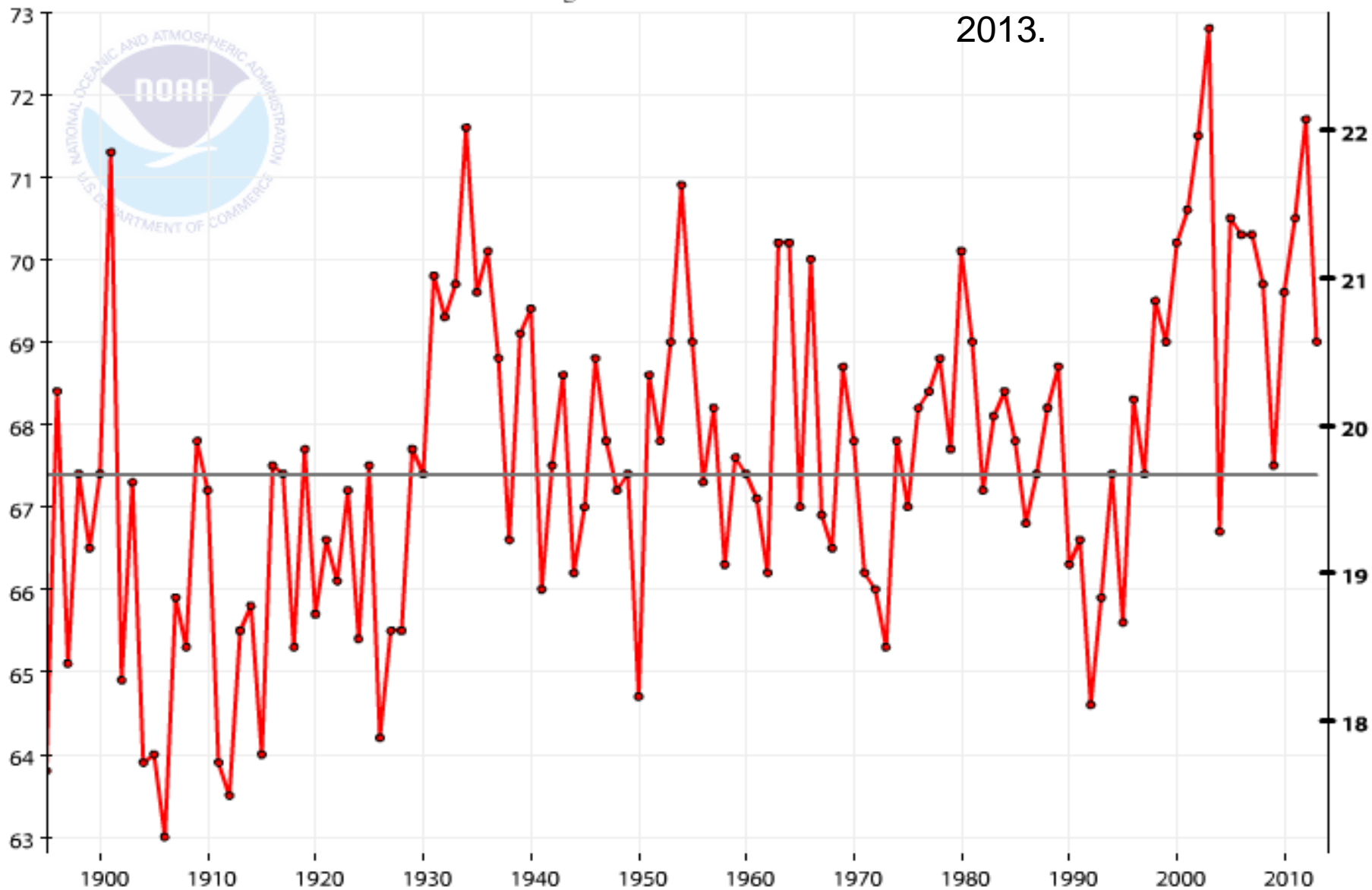
■ Western Valleys

July Average Temperature History for Colorado (NCDC)

Colorado, Temperature, July

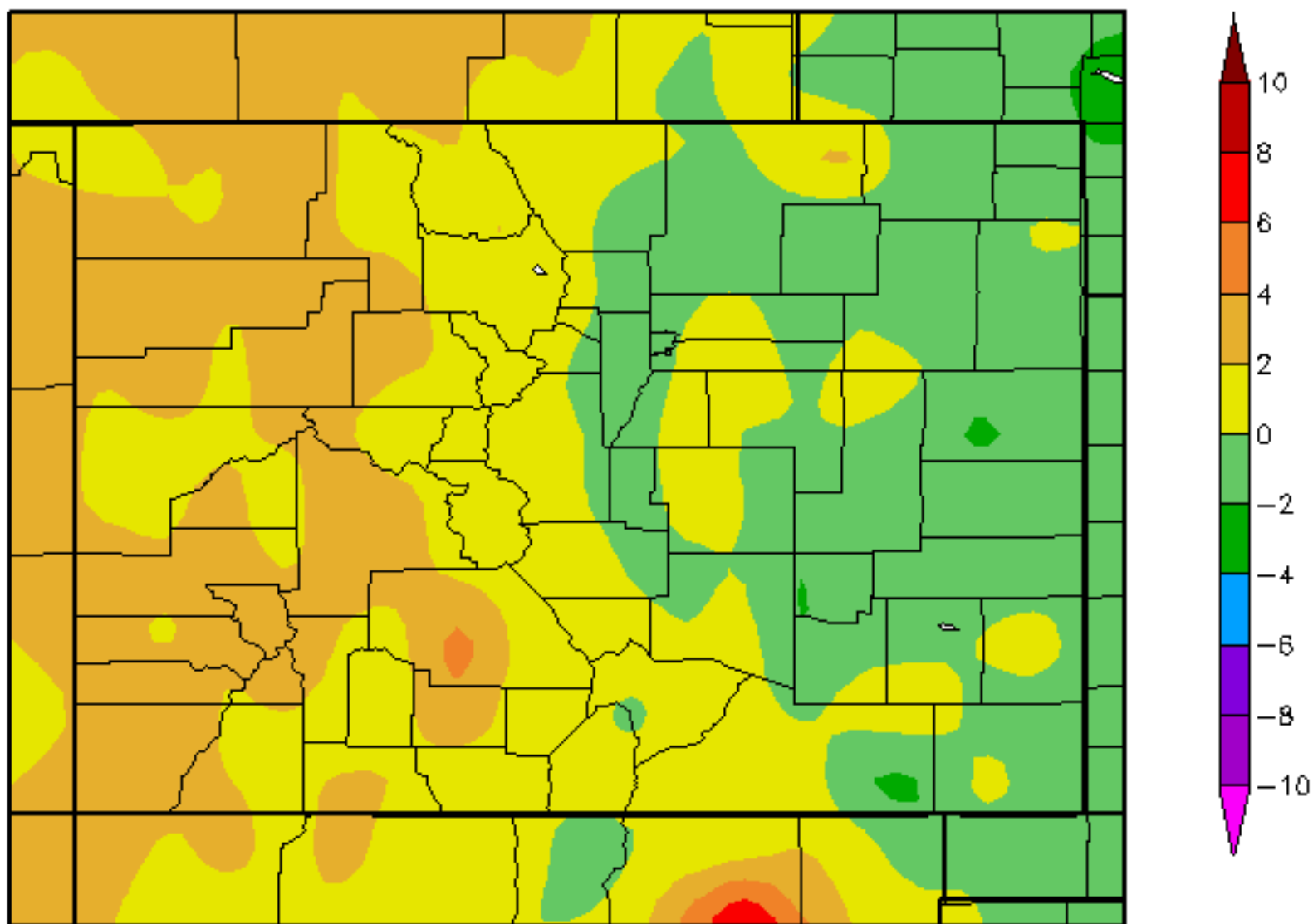
— 1901-2000 Avg: 67.4°F ●— Temperature

69.0 Ranks as the 27th warmest on record 1895-2013.



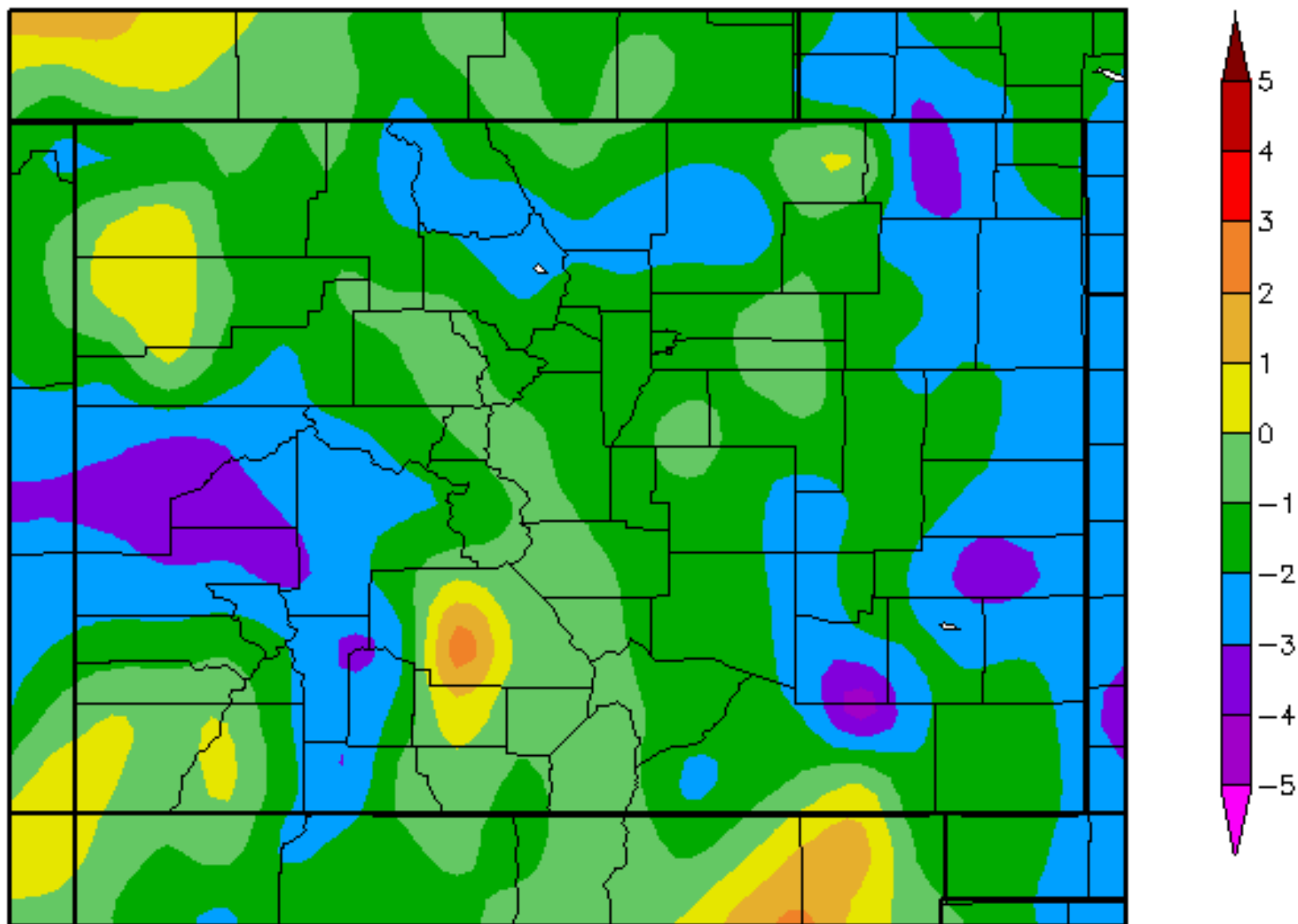
Departure from Normal Temperature (F)

7/1/2013 – 7/31/2013

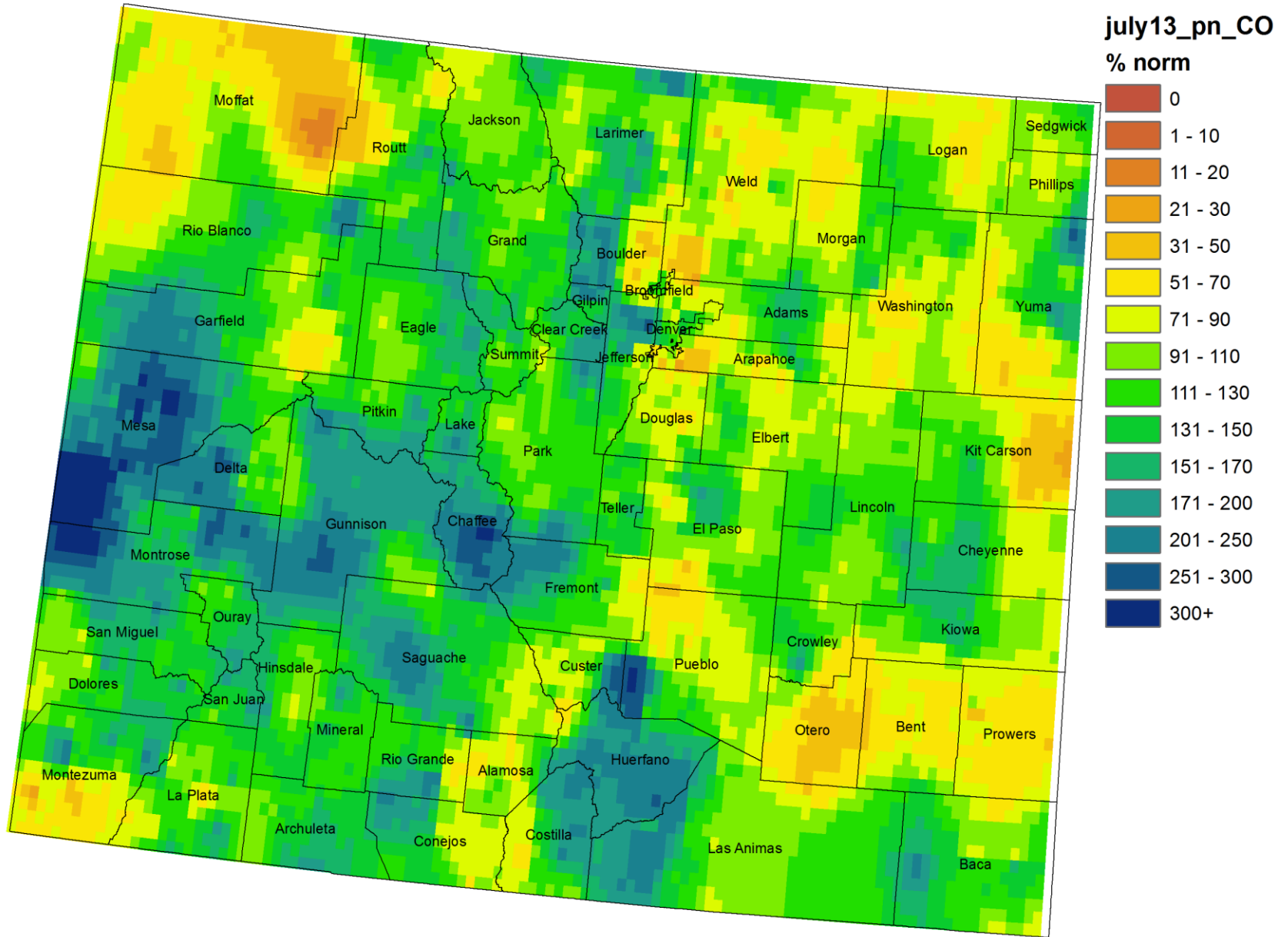


Departure from Normal Temperature (F)

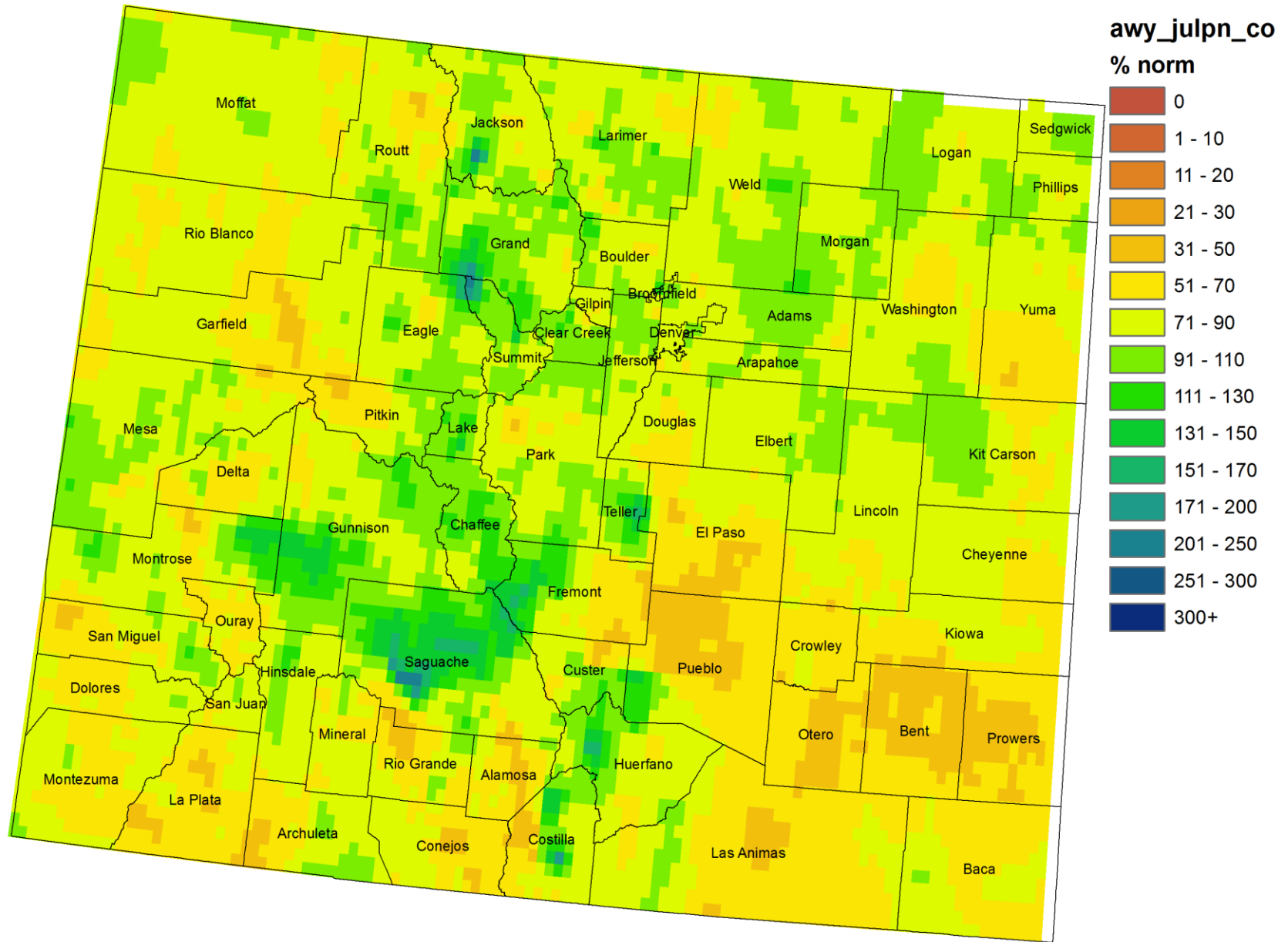
8/1/2013 – 8/18/2013



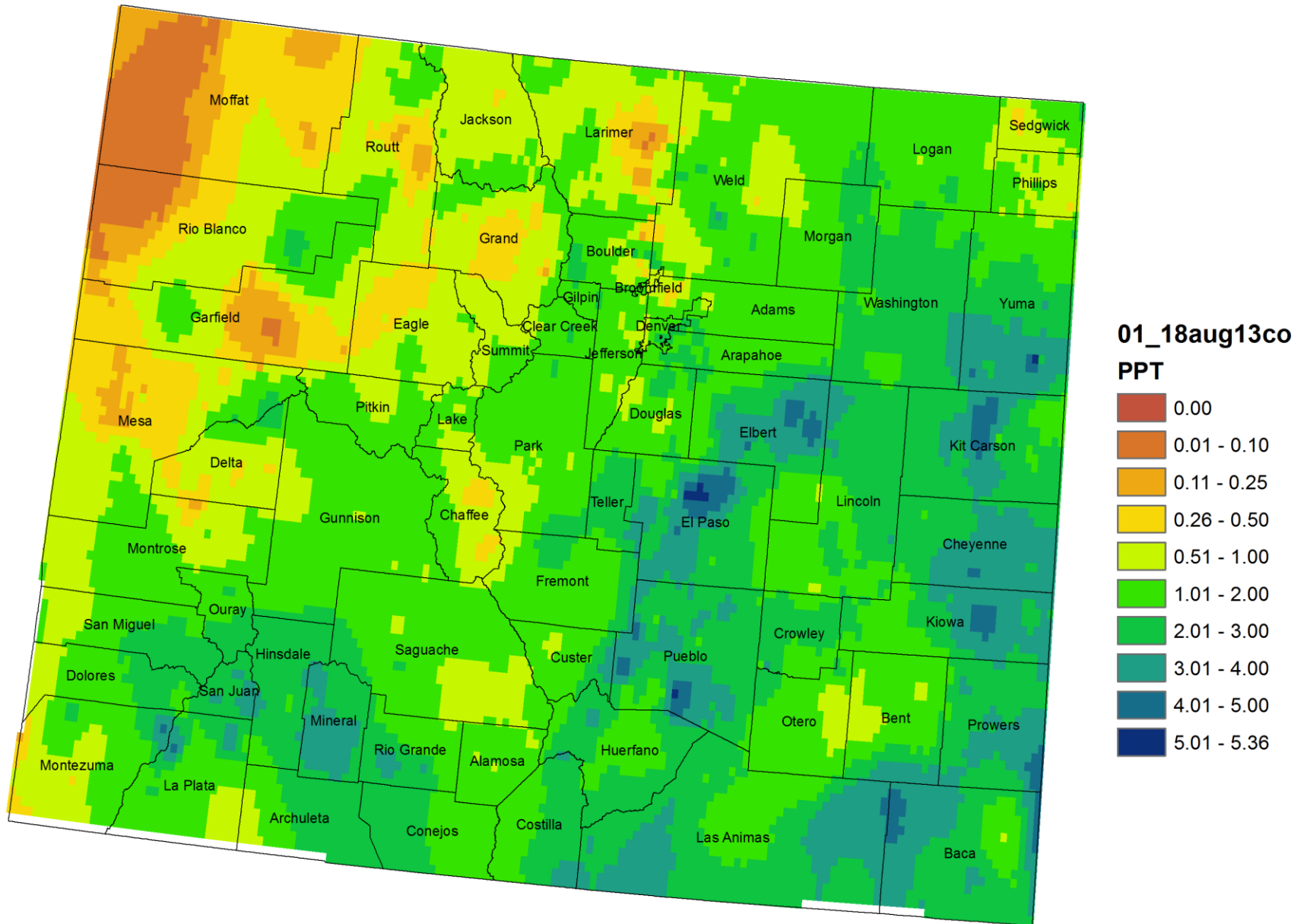
Colorado July 2013 Precipitation as a Percentage of Normal



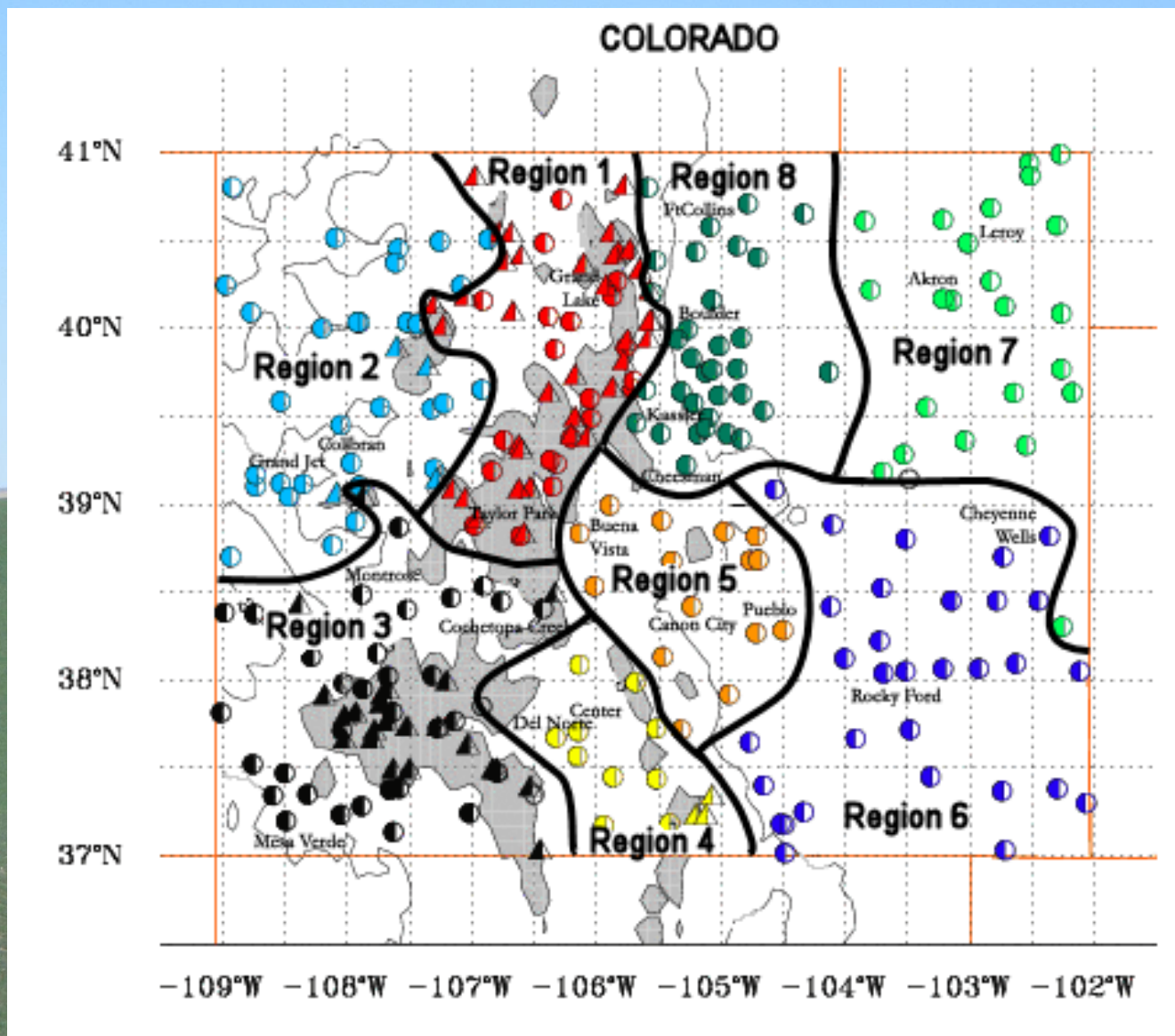
Colorado Water Year 2013 Precipitation as a Percentage of Normal (October 2012 - July 2013)



Colorado Month to Date Precipitation (in) 1 - 18 August 2013

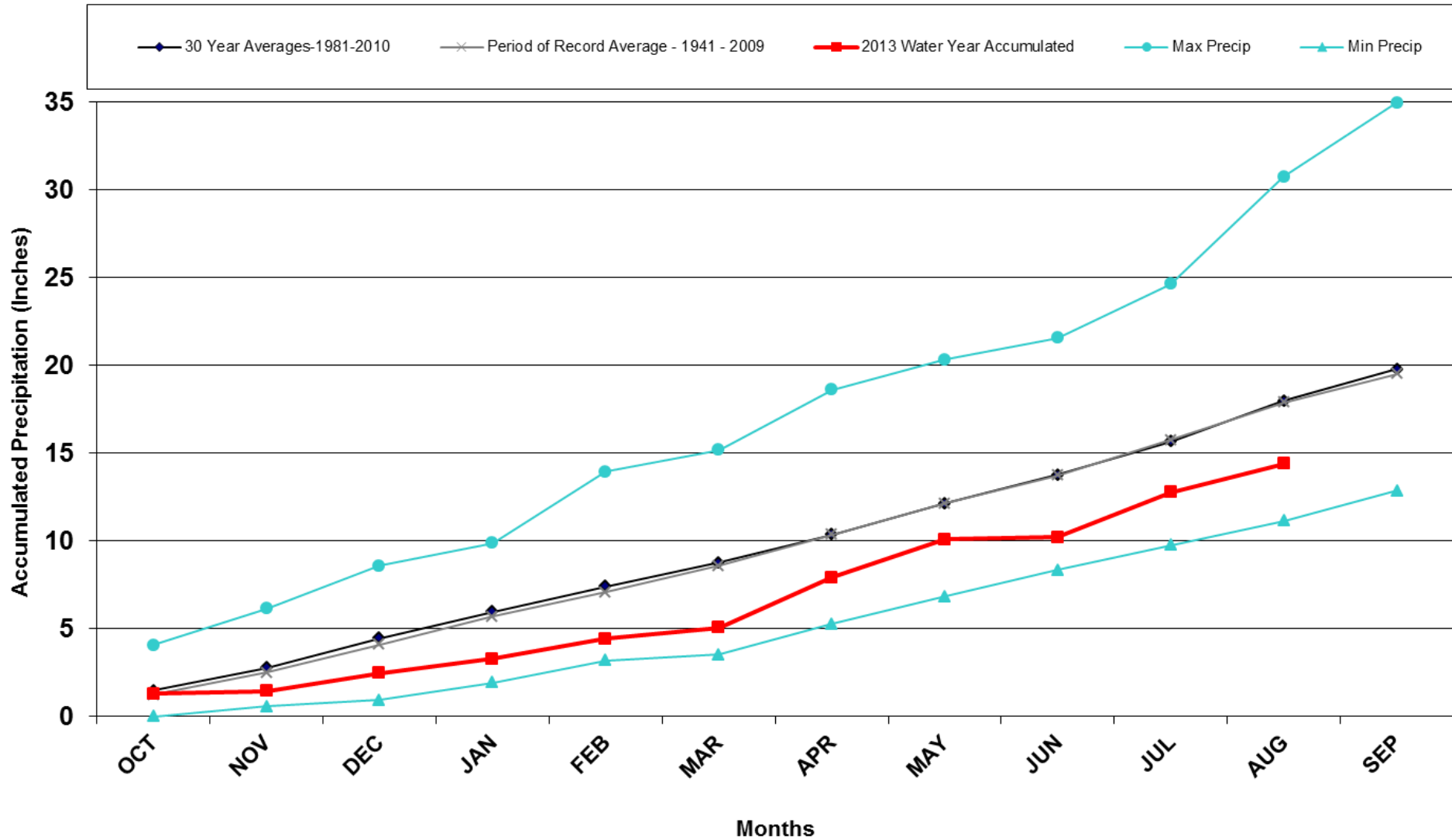


Climate divisions defined by Dr. Klaus Wolter of NOAA's Climate Diagnostic Center in Boulder, CO



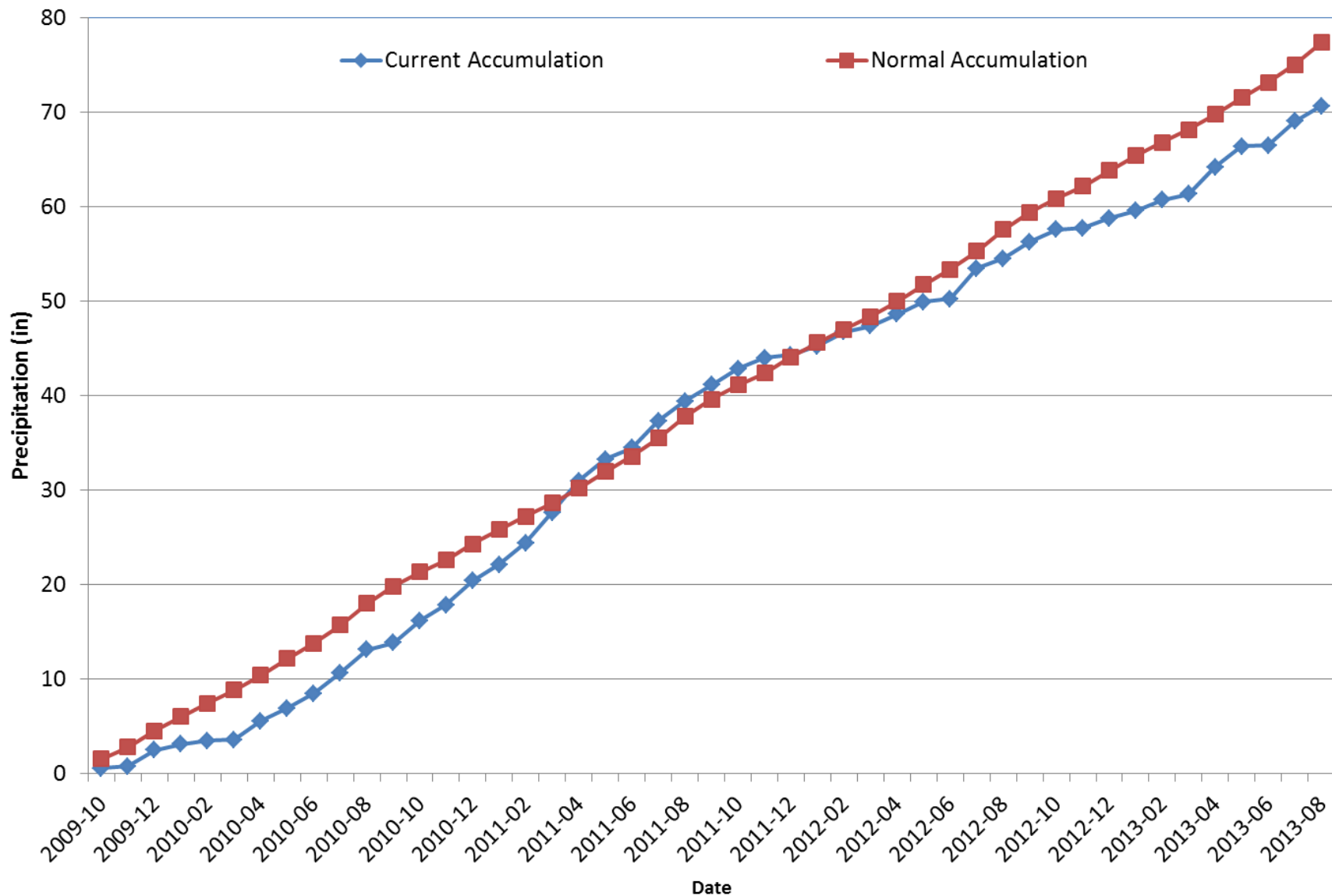
Division 1 – Grand Lake 1NW

Grand Lake 1 NW 2013 Water Year



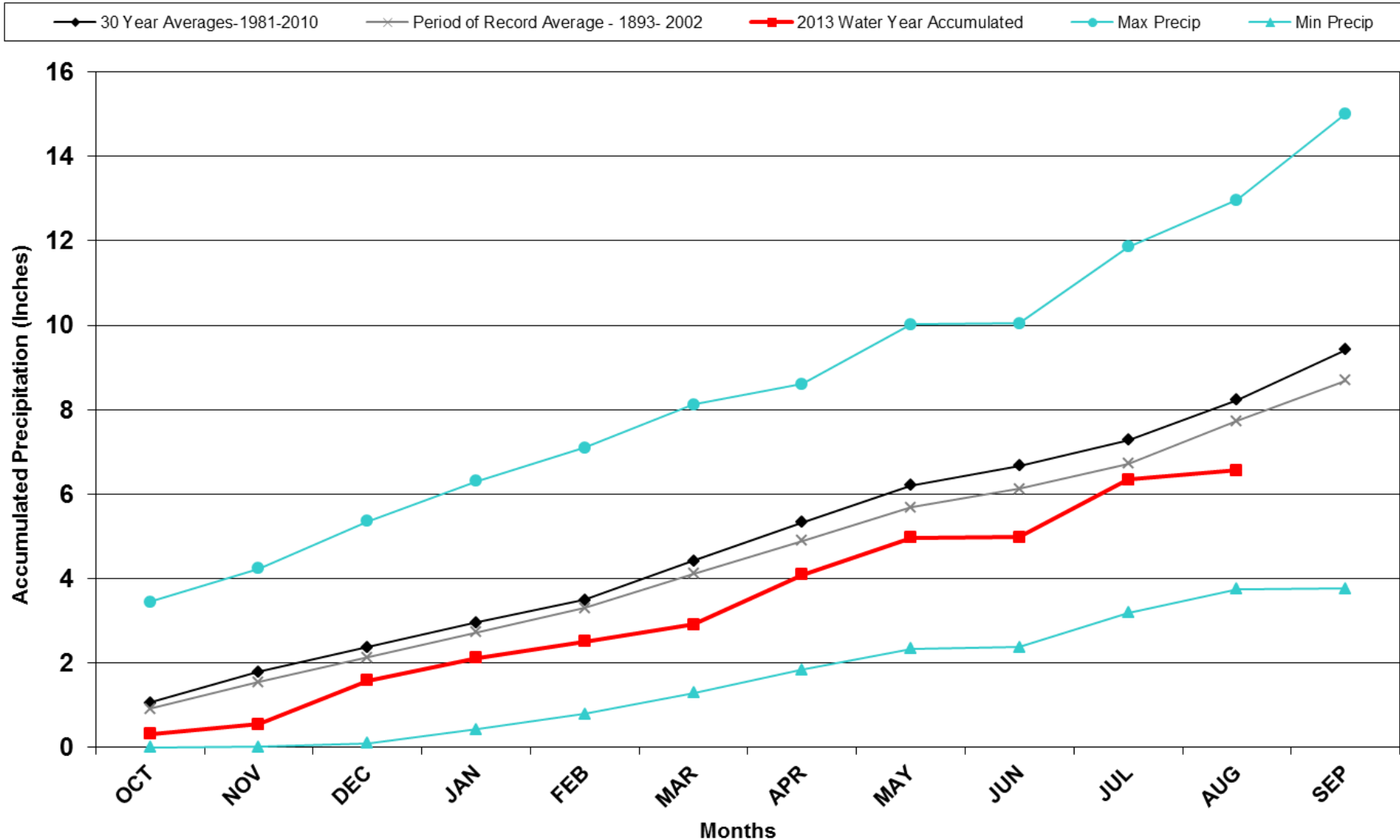
Division 1 – Grand Lake 1NW

Grand Lake 1NW Precipitation Accumulation



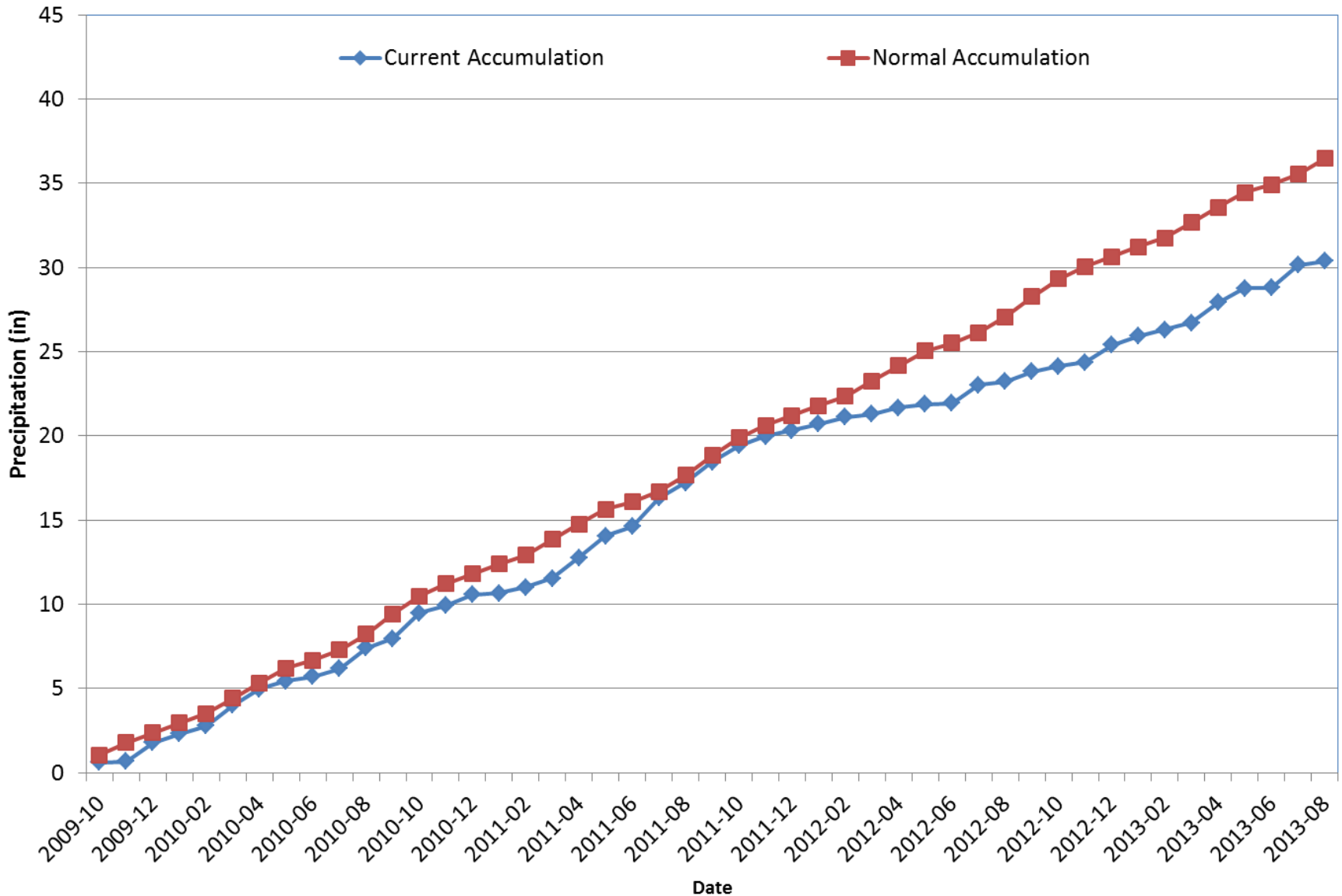
Division 2 – Grand Junction

Grand Junction WSFO 2013 Water Year



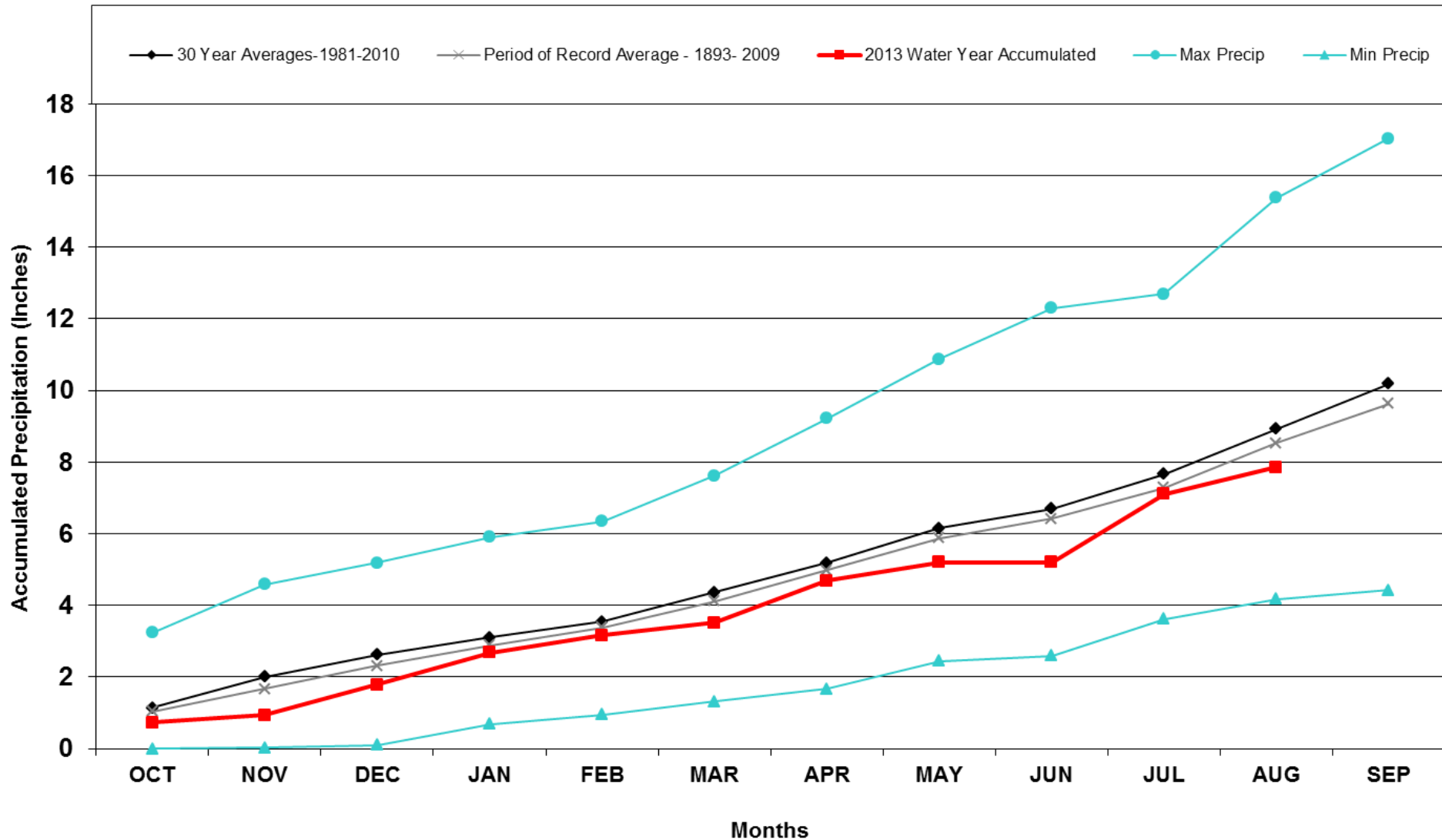
Division 2 – Grand Junction

Grand Junction Precipitation Accumulation



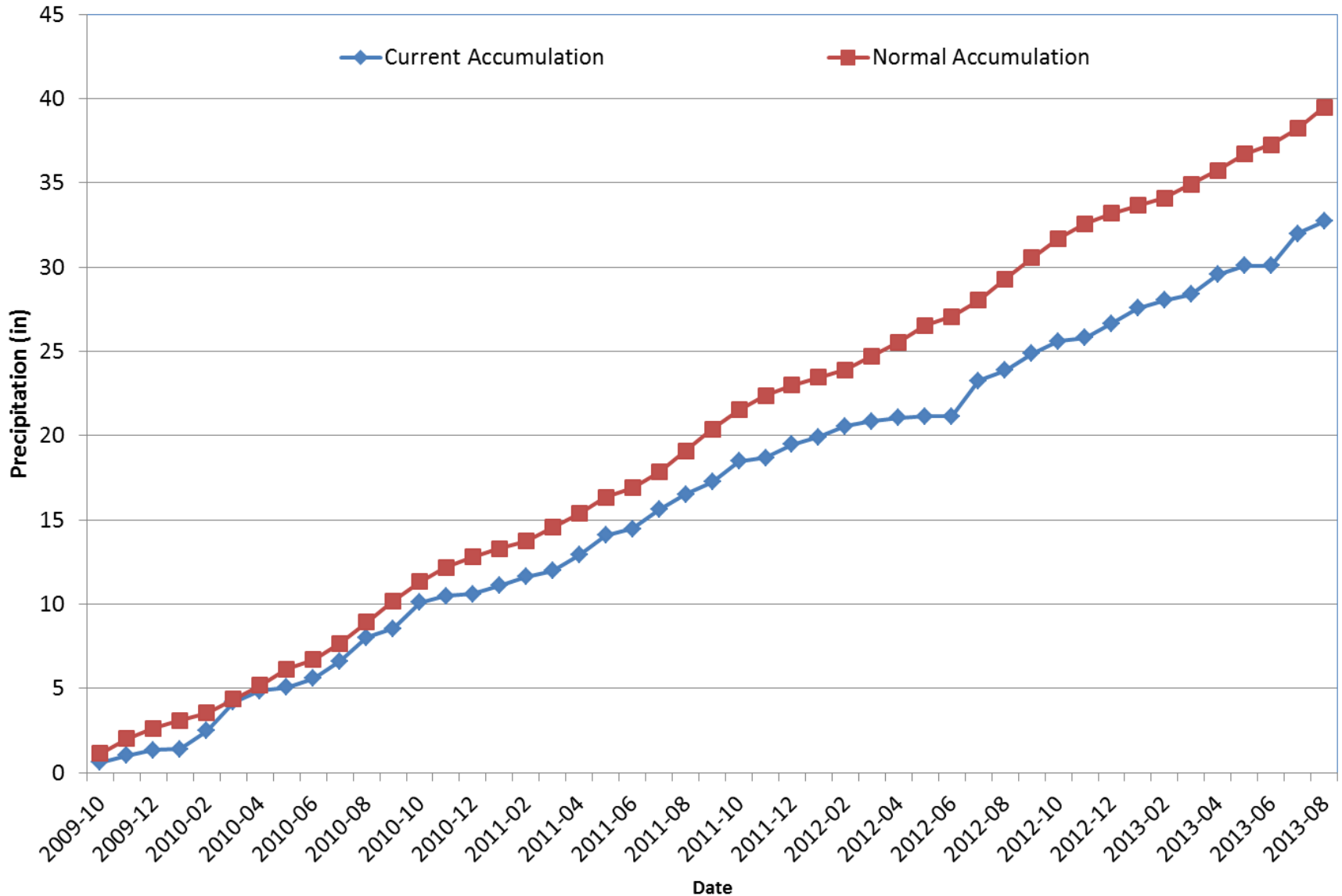
Division 3 – Montrose

Montrose #2 2013 Water Year



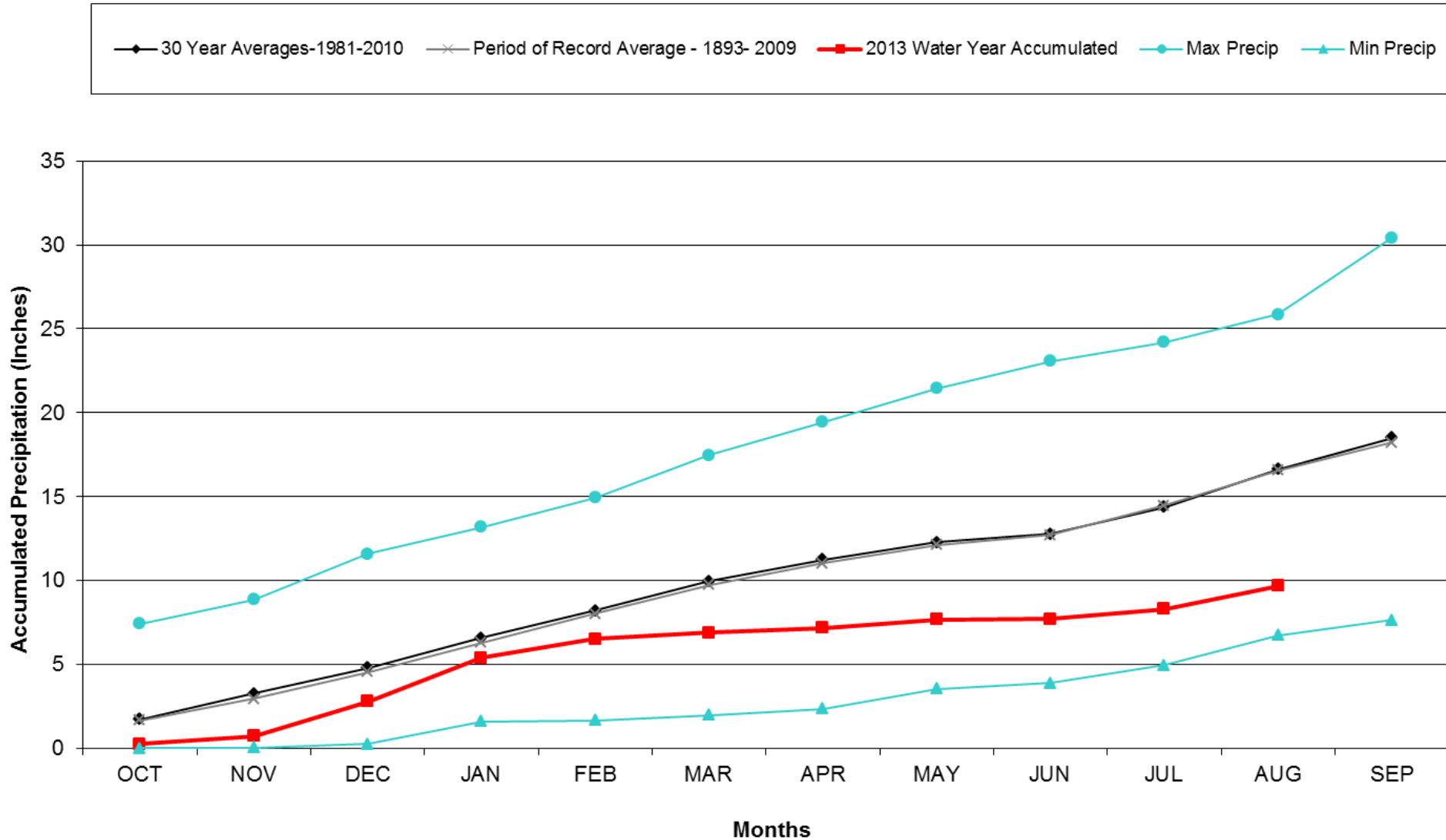
Division 3 – Montrose

Montrose #2 Precipitation Accumulation



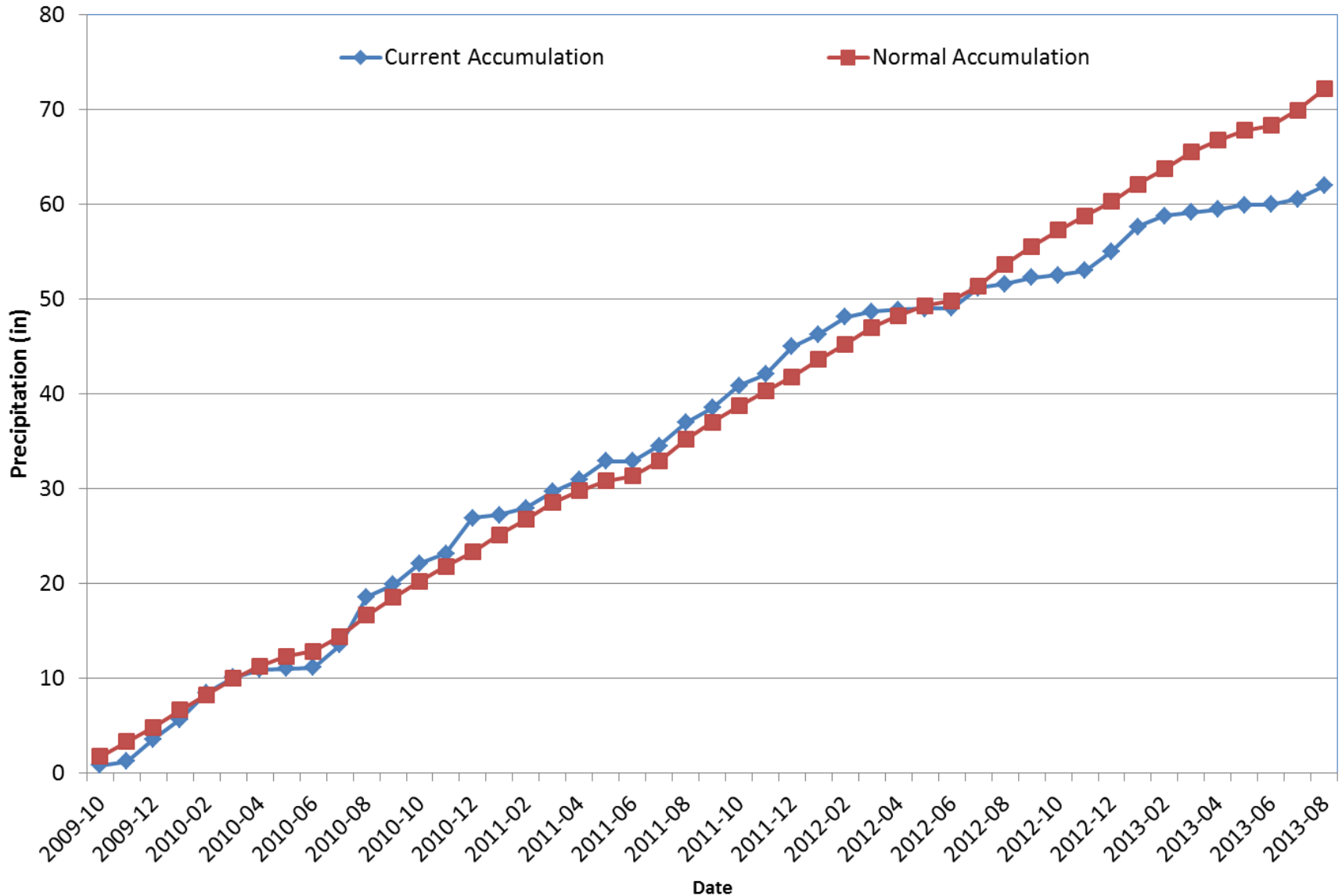
Division 3 – Mesa Verde NP

Mesa Verde NP 2013 Water Year



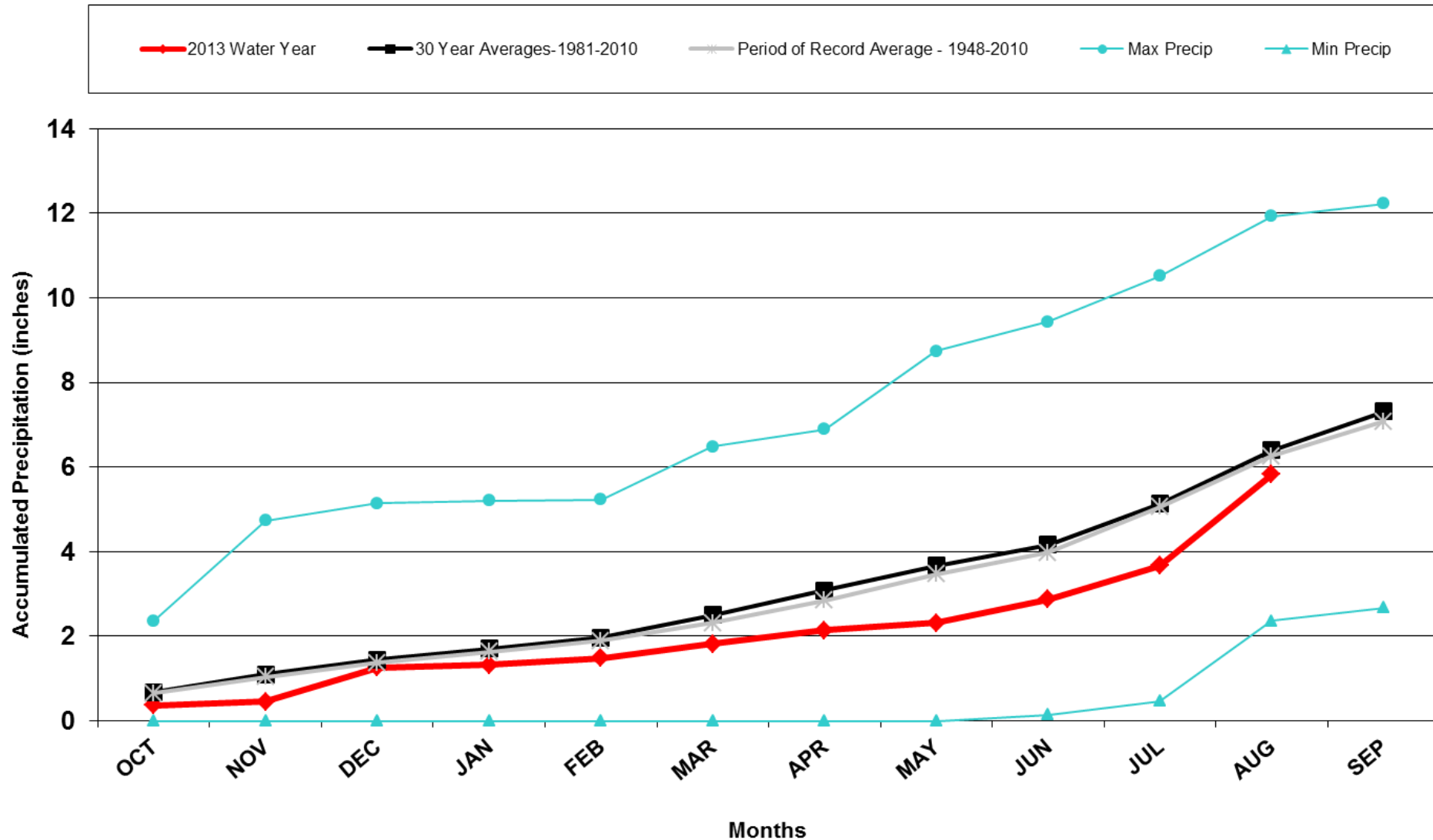
Division 3 – Mesa Verde NP

Mesa Verde NP Precipitation Accumulation



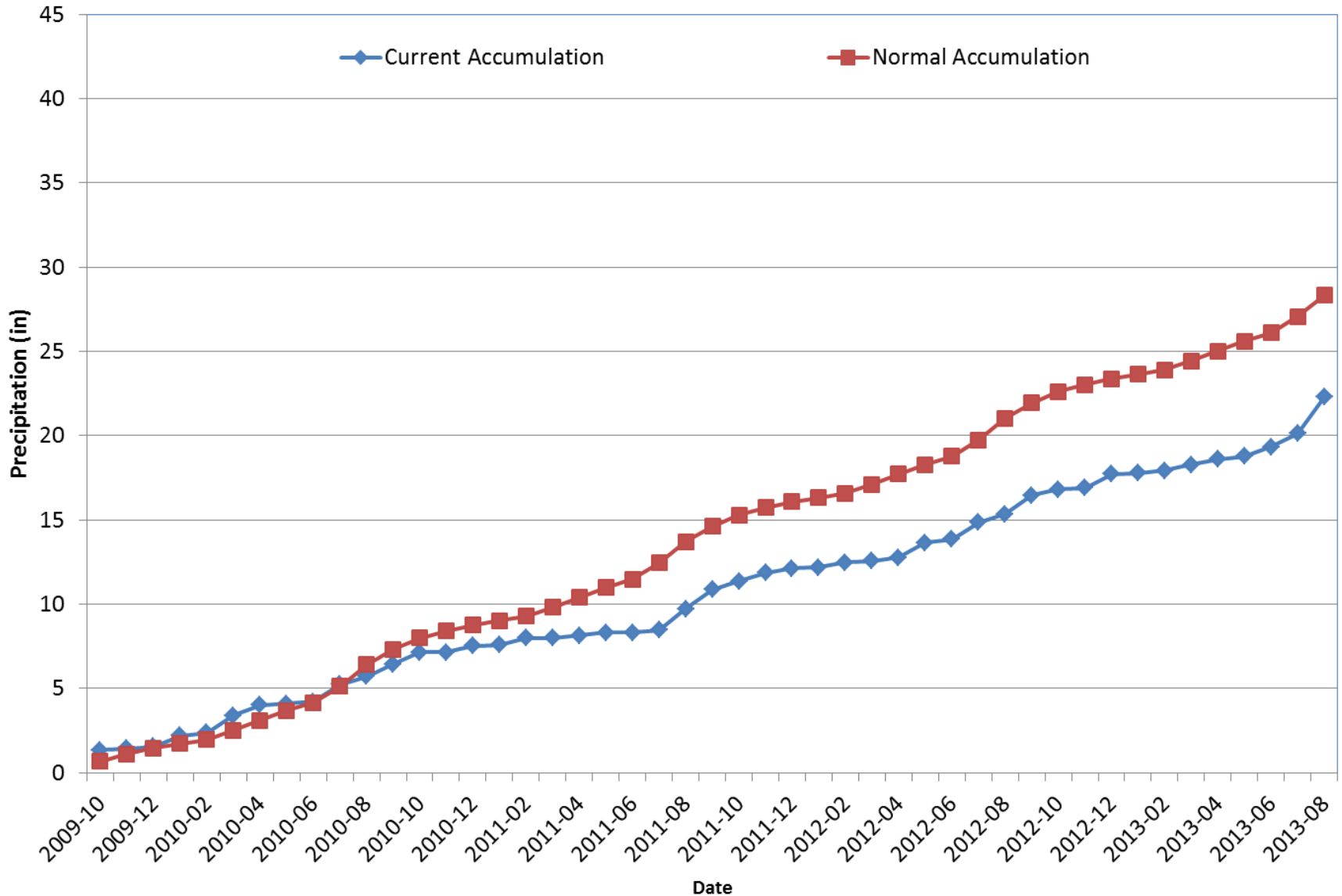
Division 4 – Alamosa

Alamosa WSO 2013 Water Year



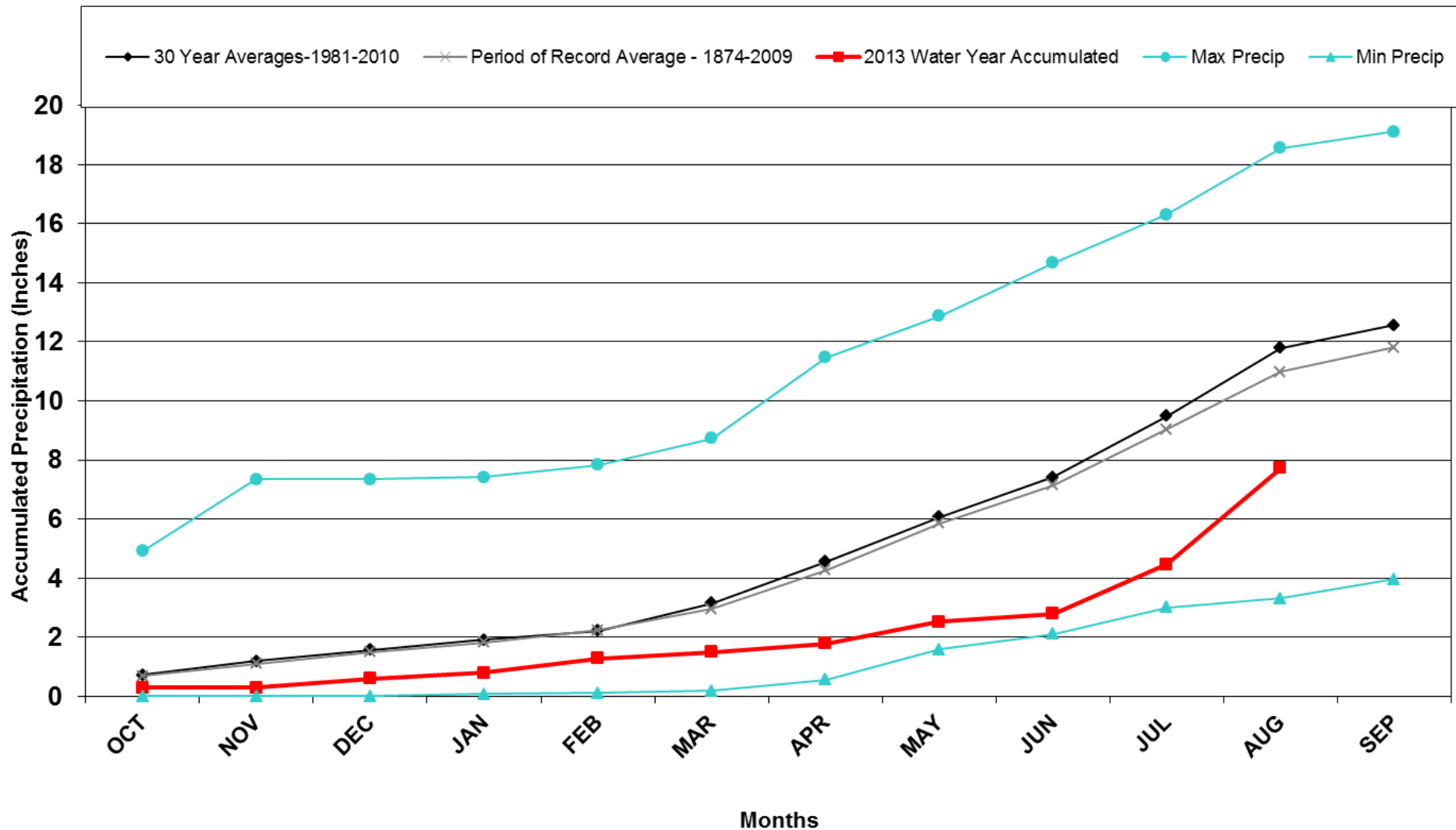
Division 4 – Alamosa

Alamosa WSO Precipitation Accumulation



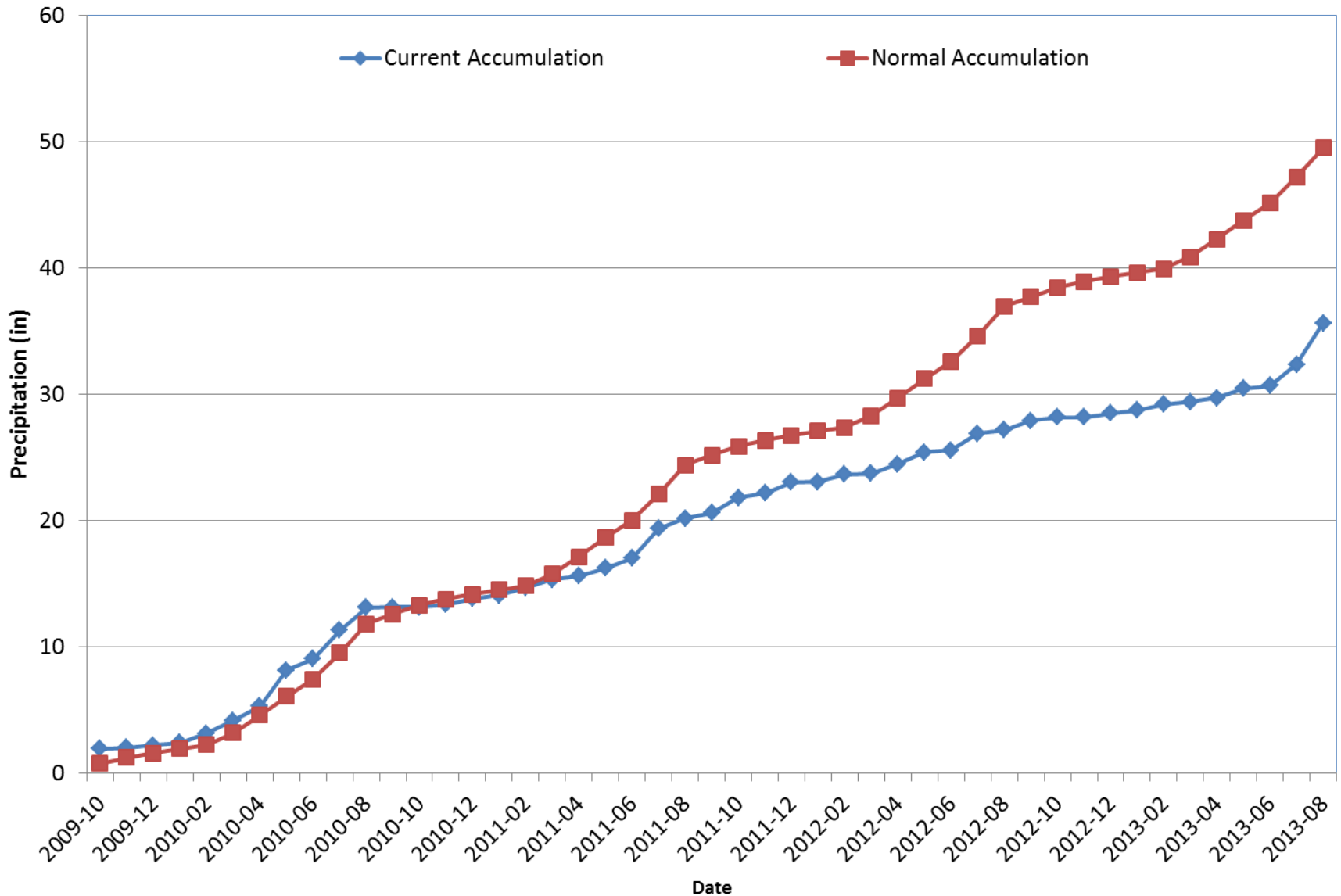
Division 5 – Pueblo

Pueblo WSO 2013 Water Year



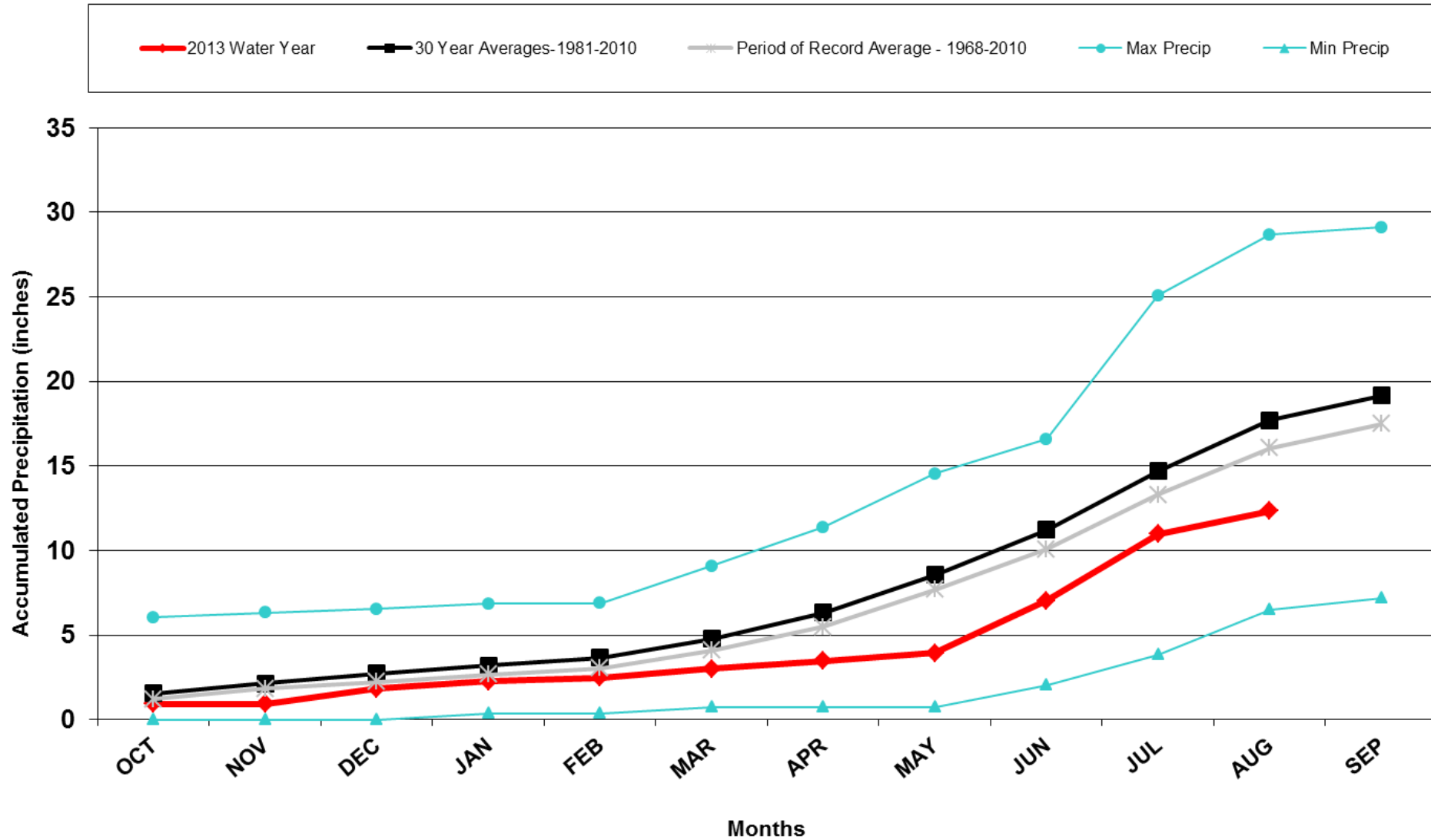
Division 5 – Pueblo

Pueblo Memorial AP Precipitation Accumulation



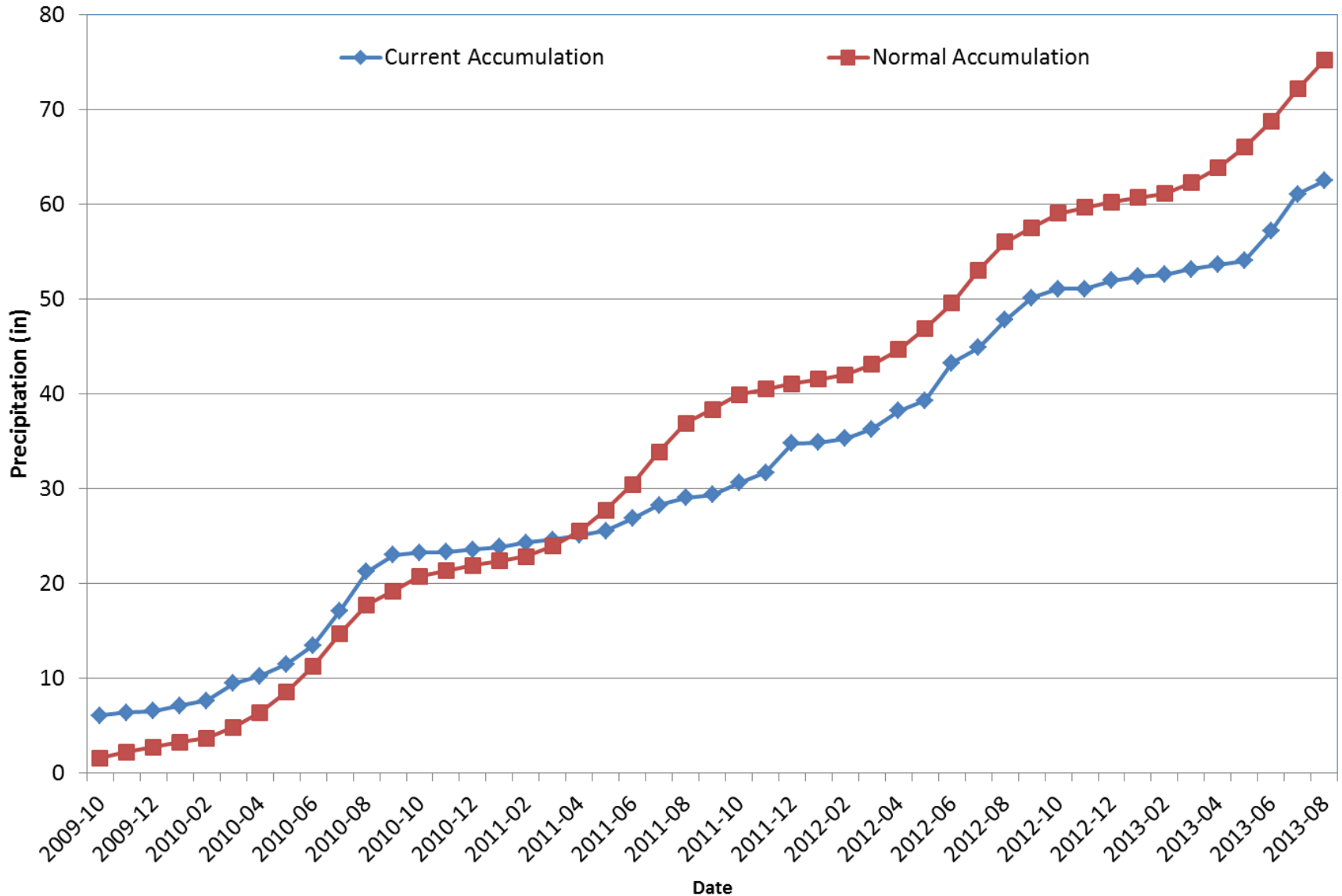
Division 6 - Walsh

Walsh 2013 Water Year

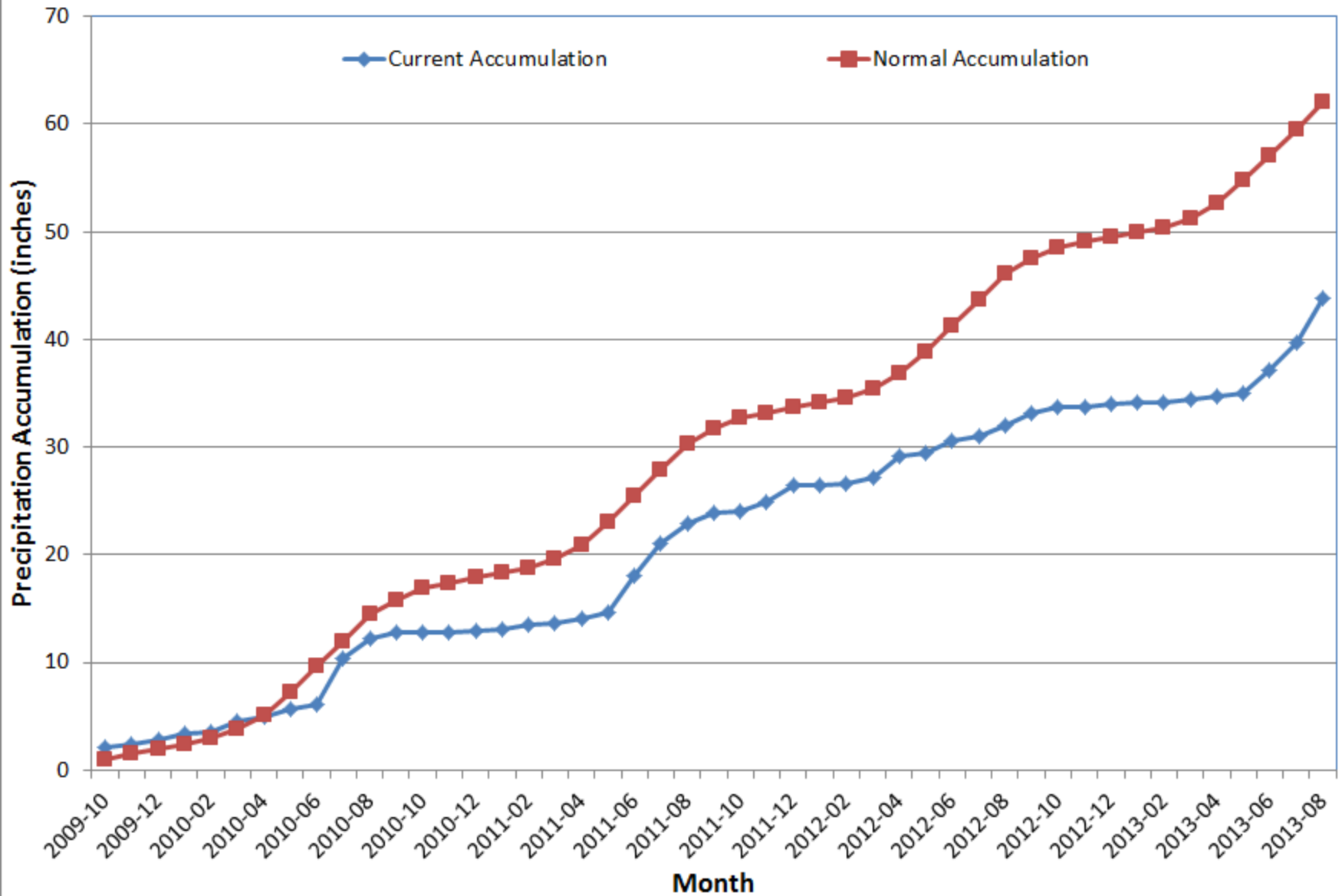


Division 6 - Walsh

Walsh 1W Precipitation Accumulation

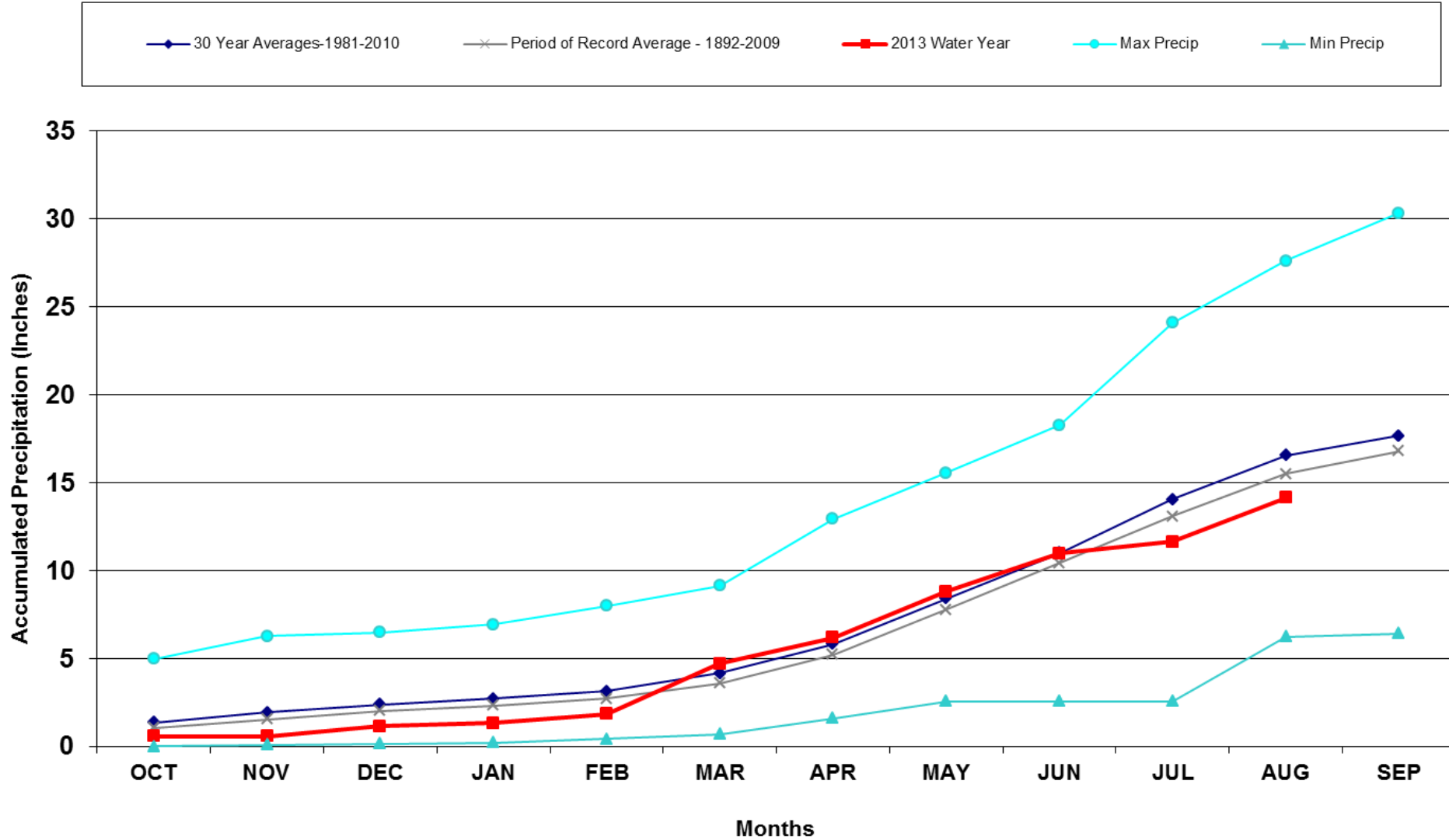


Lamar Accumulated Precipitation



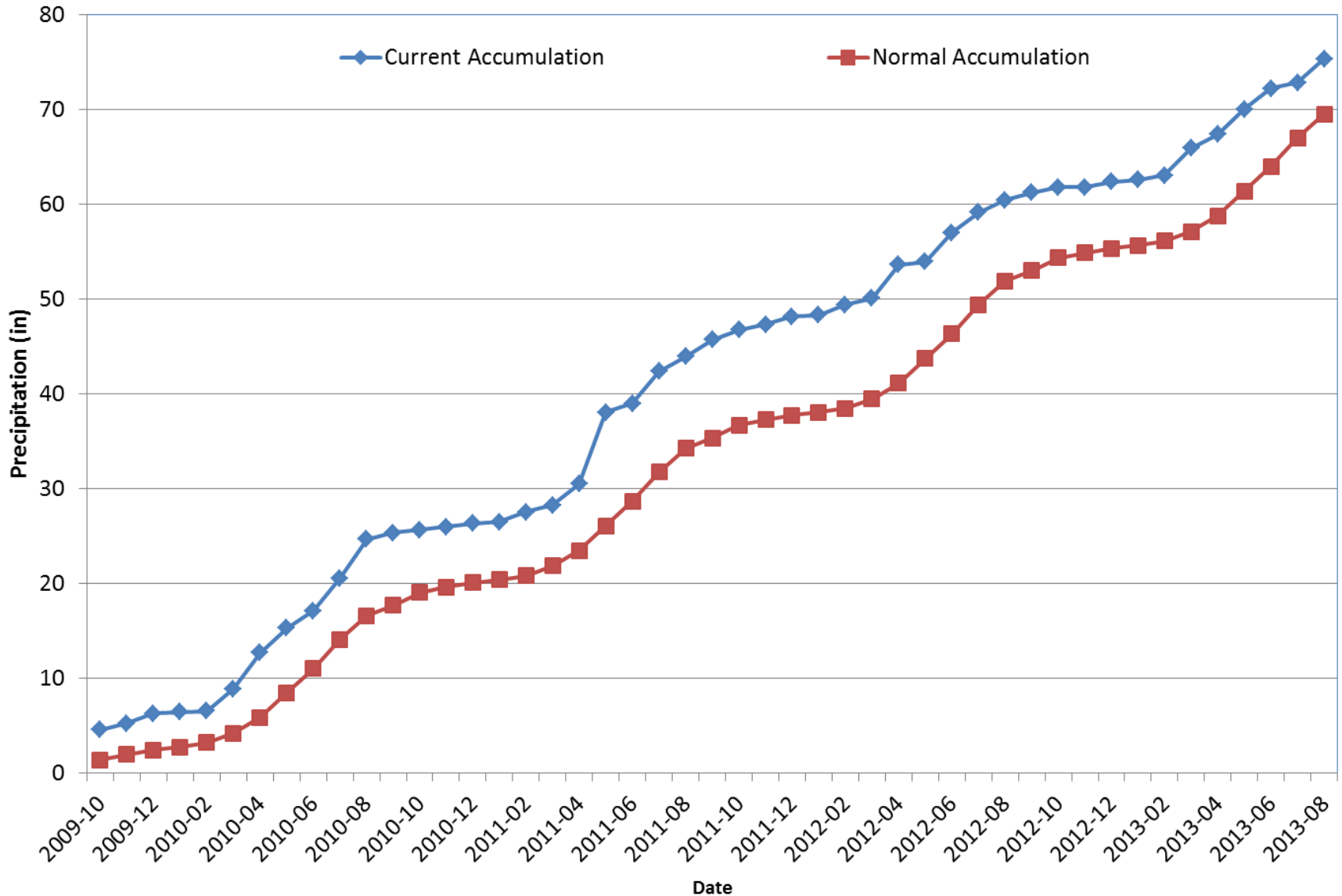
Division 6 - Burlington

Burlington 2013 Water Year



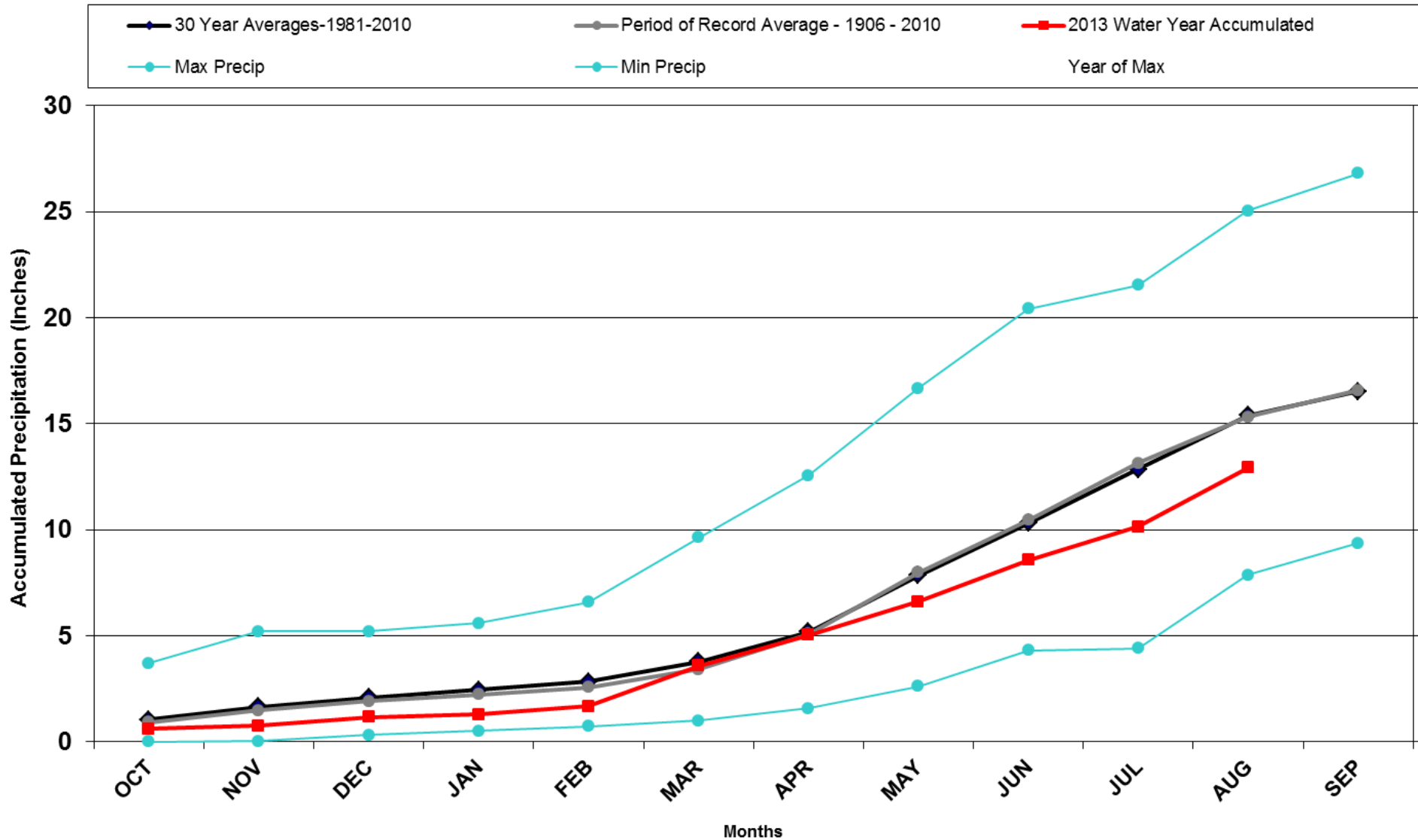
Division 6 - Burlington

Burlington, CO Precipitation Accumulation



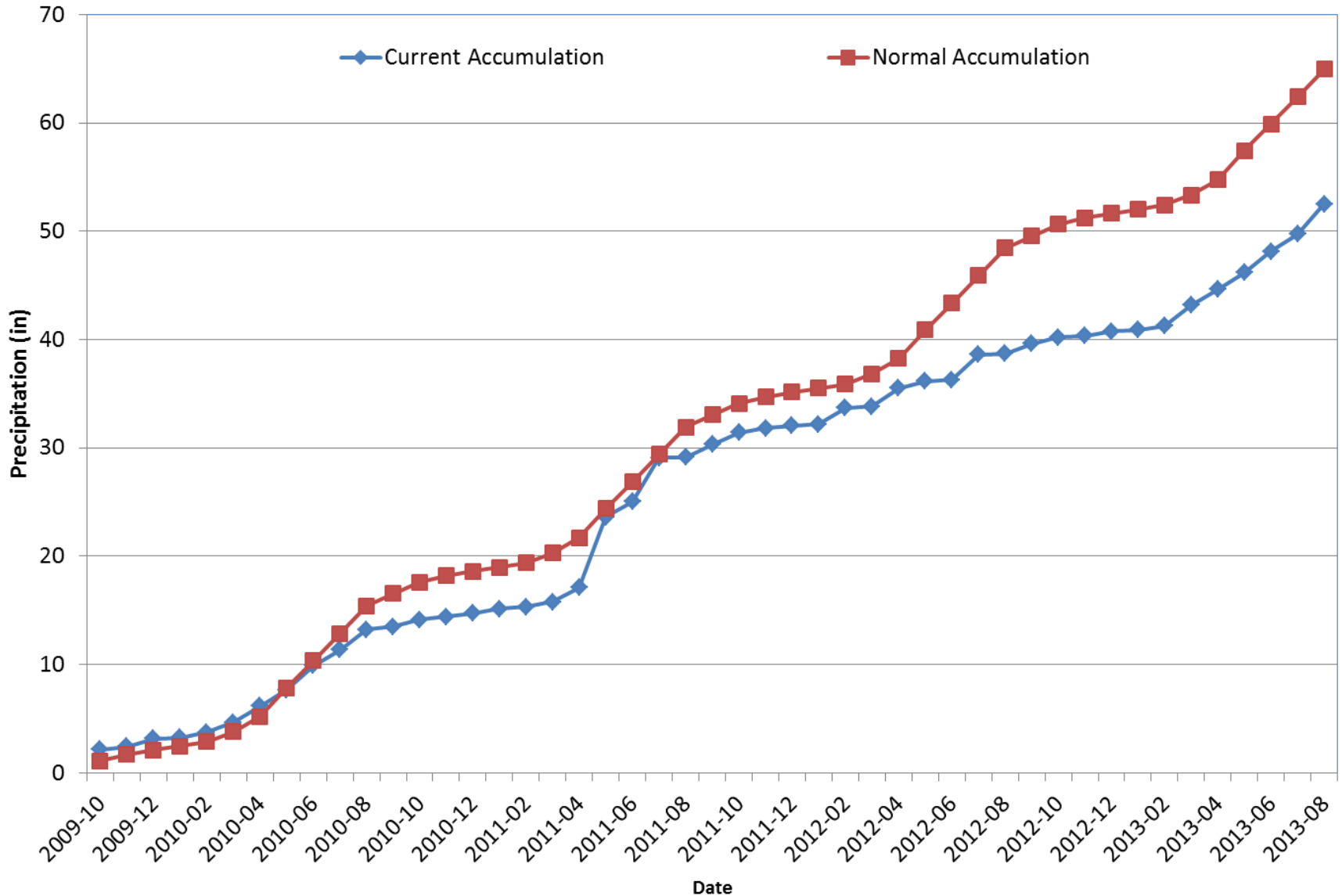
Division 7 – Akron

Akron 4E 2013 Water Year



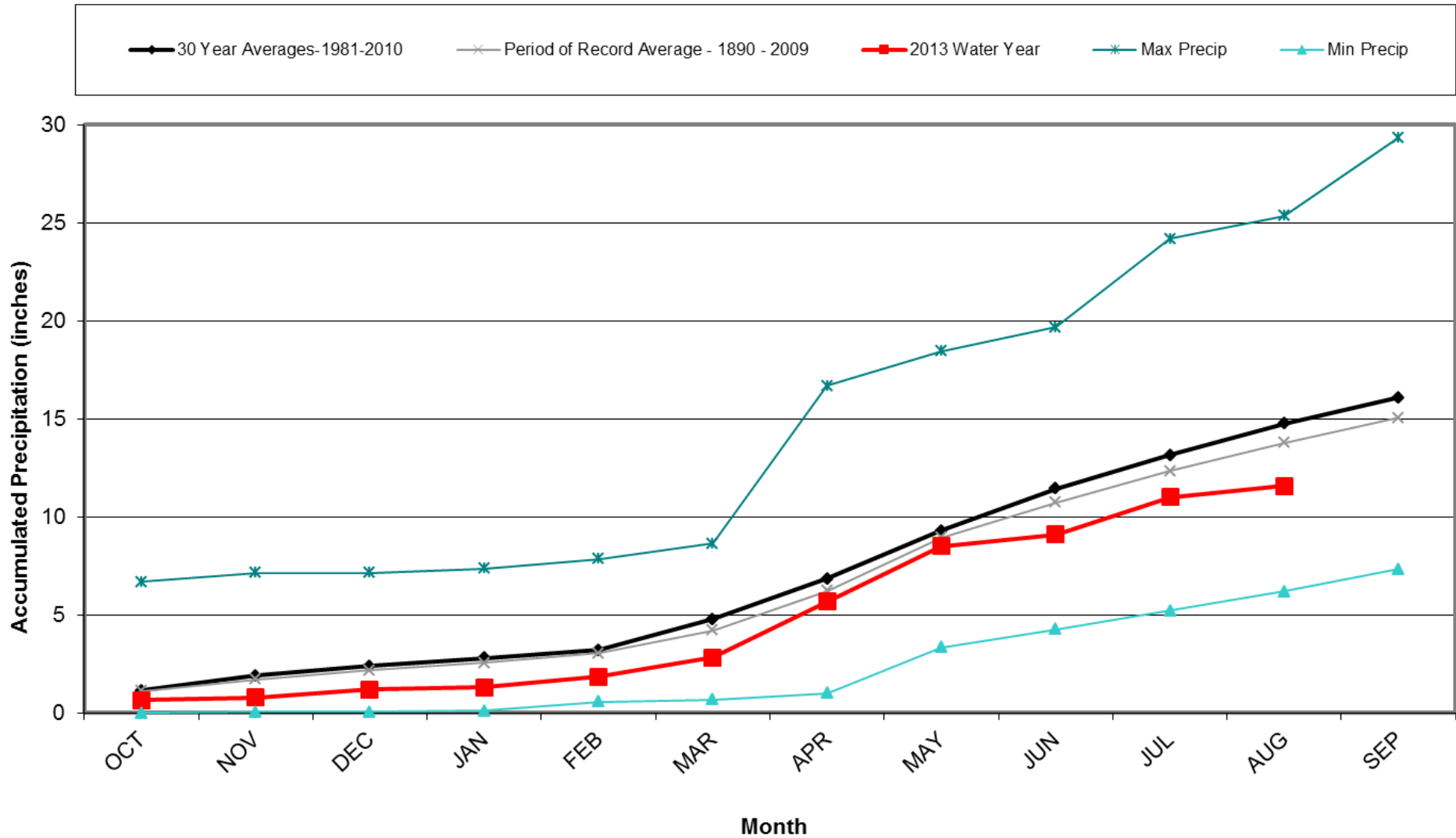
Division 7 – Akron

Akron 4E Precipitation Accumulation



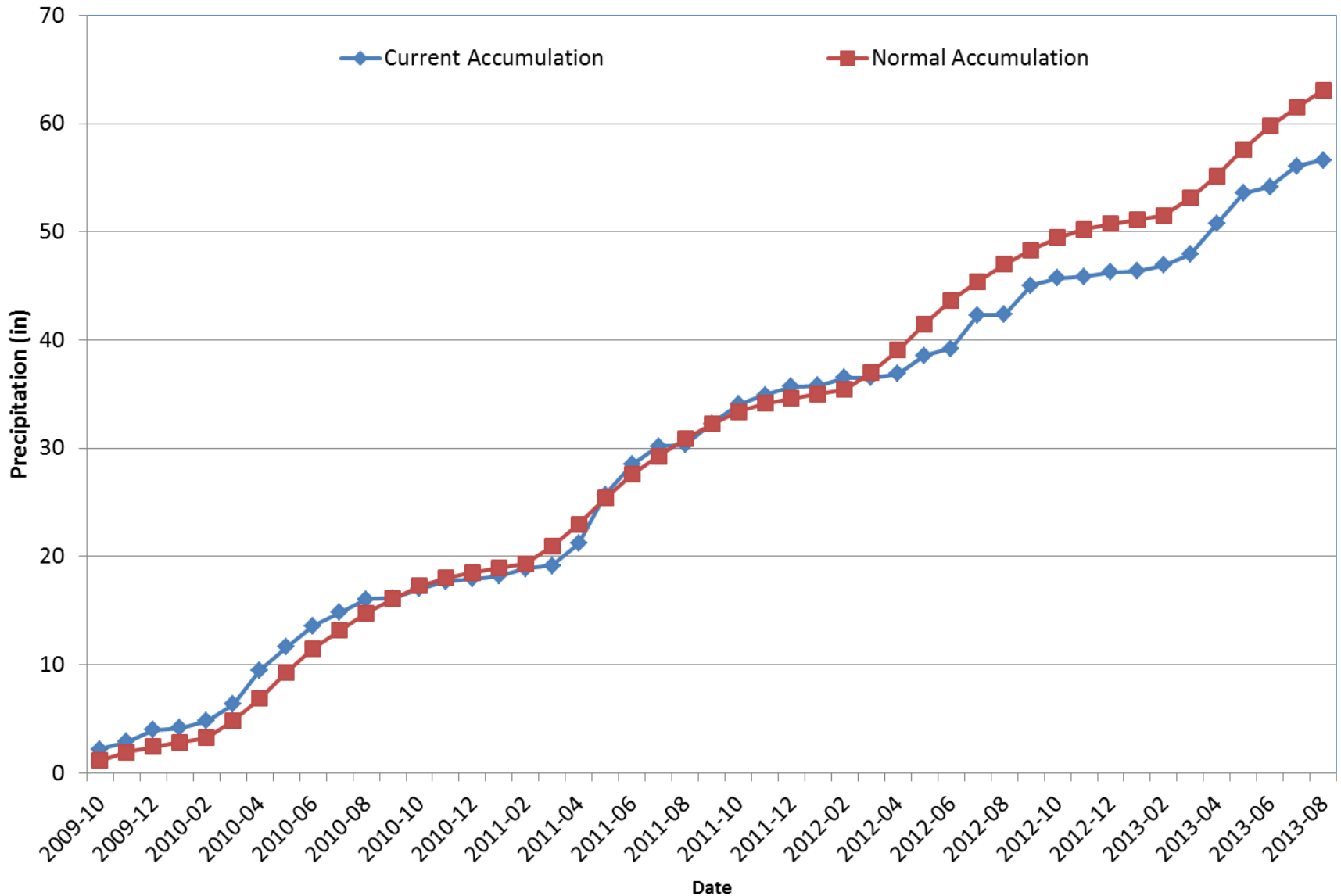
Division 8 – Fort Collins

Fort Collins 2013 Water Year



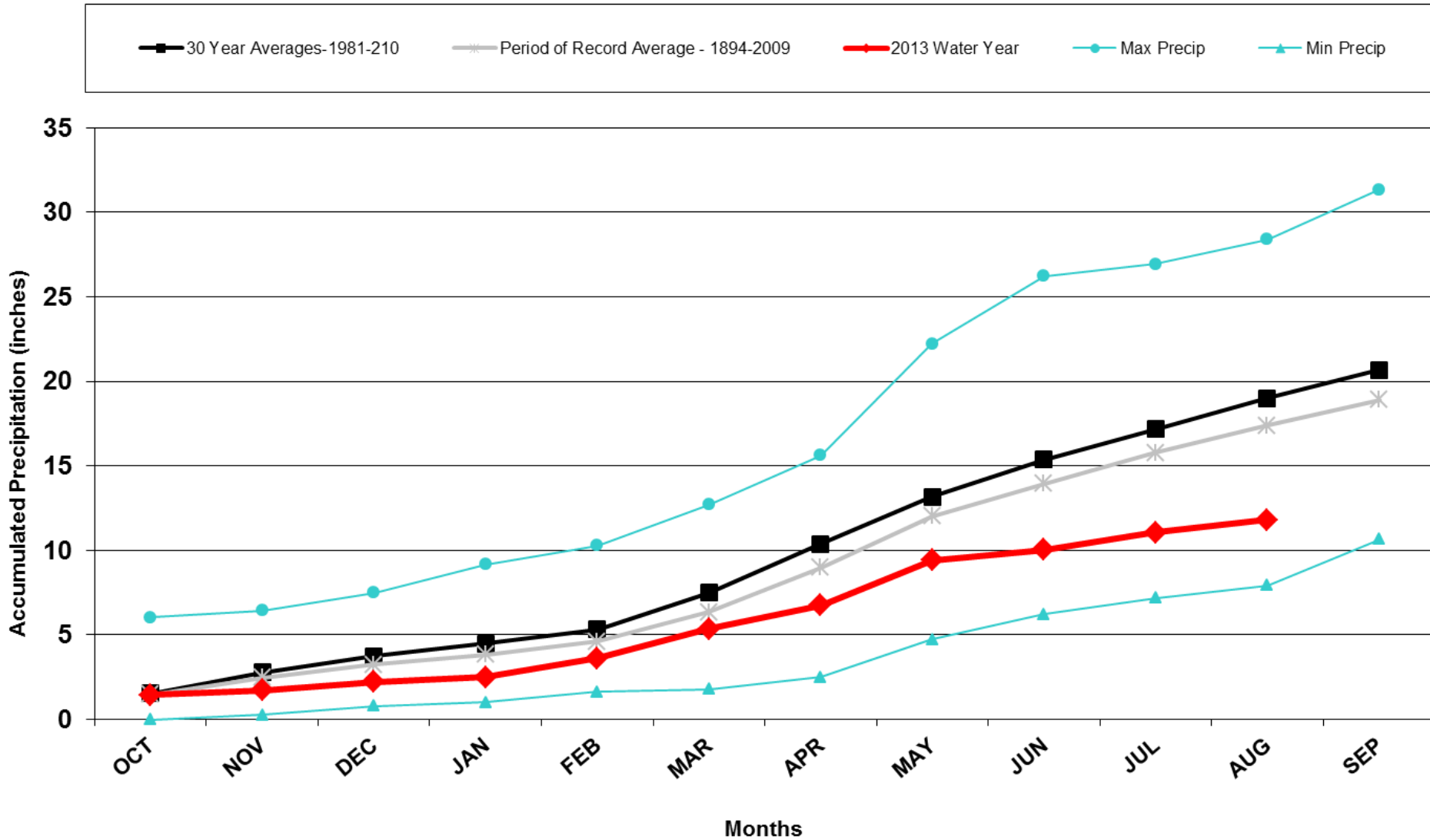
Division 8 – Fort Collins

Fort Collins Precipitation Accumulation



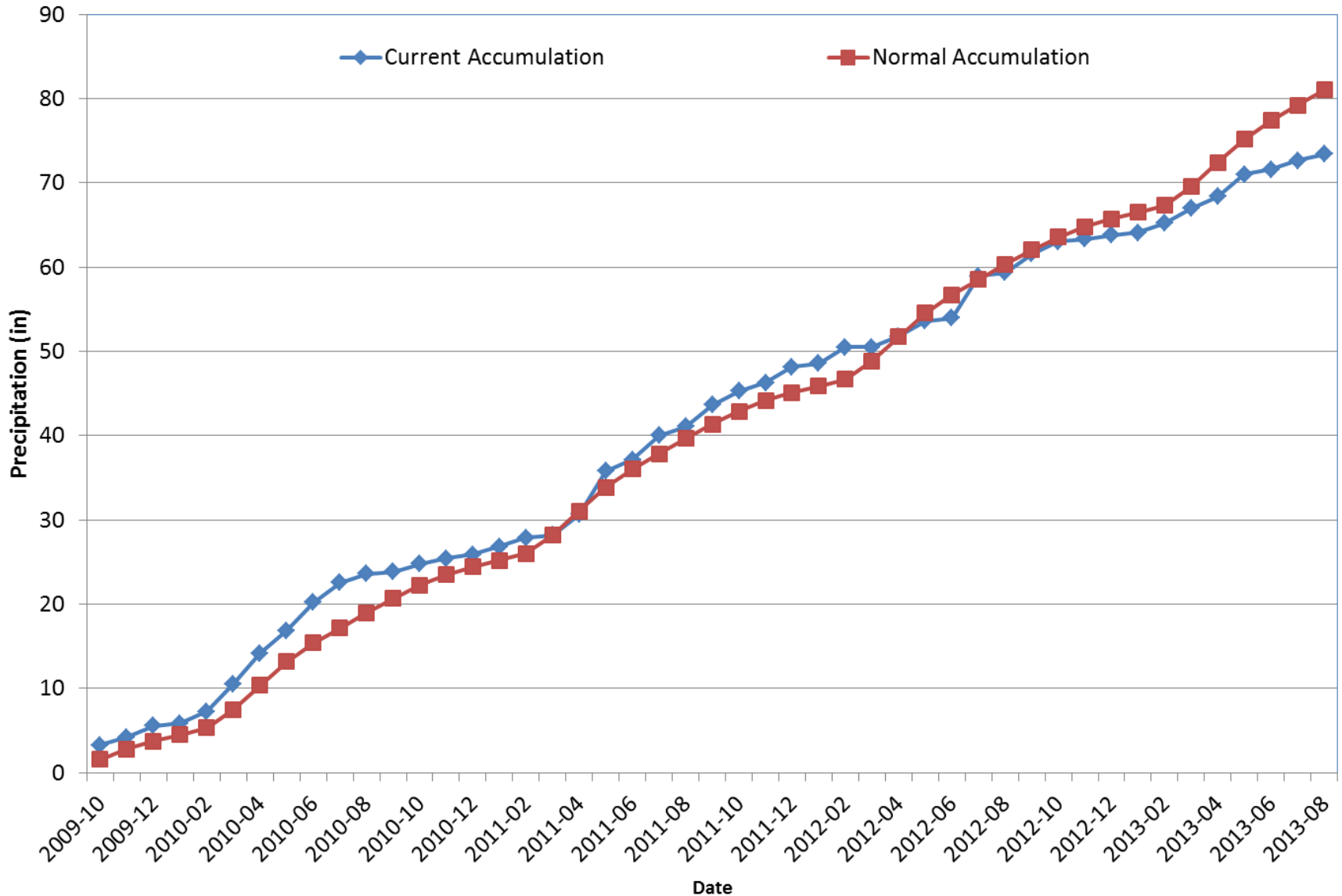
Division 8 - Boulder

Boulder 2013 Water Year



Division 8 - Boulder

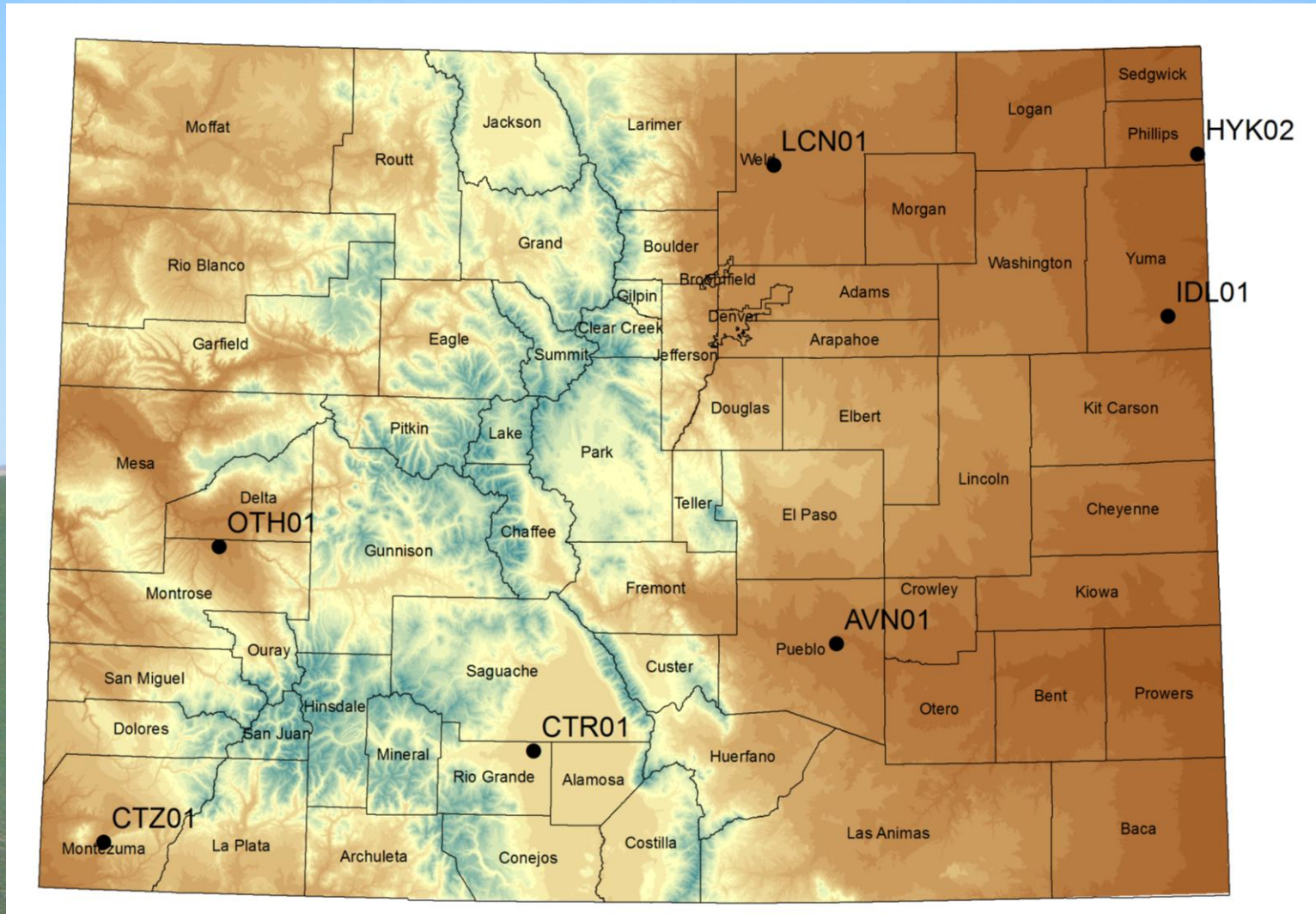
Boulder Precipitation Accumulation



Evapotranspiration

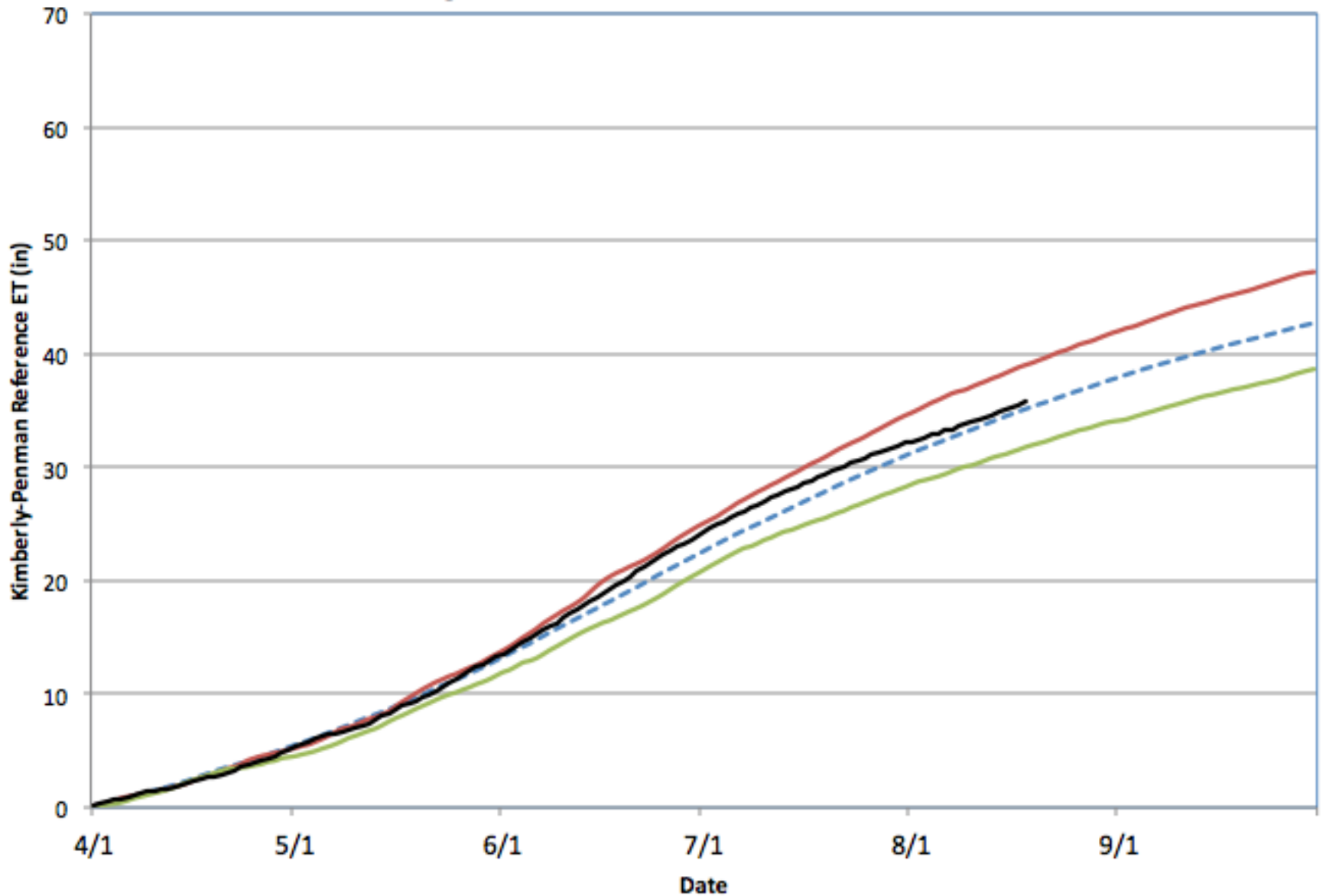


CoAgMet Reference Evapotranspiration Stations



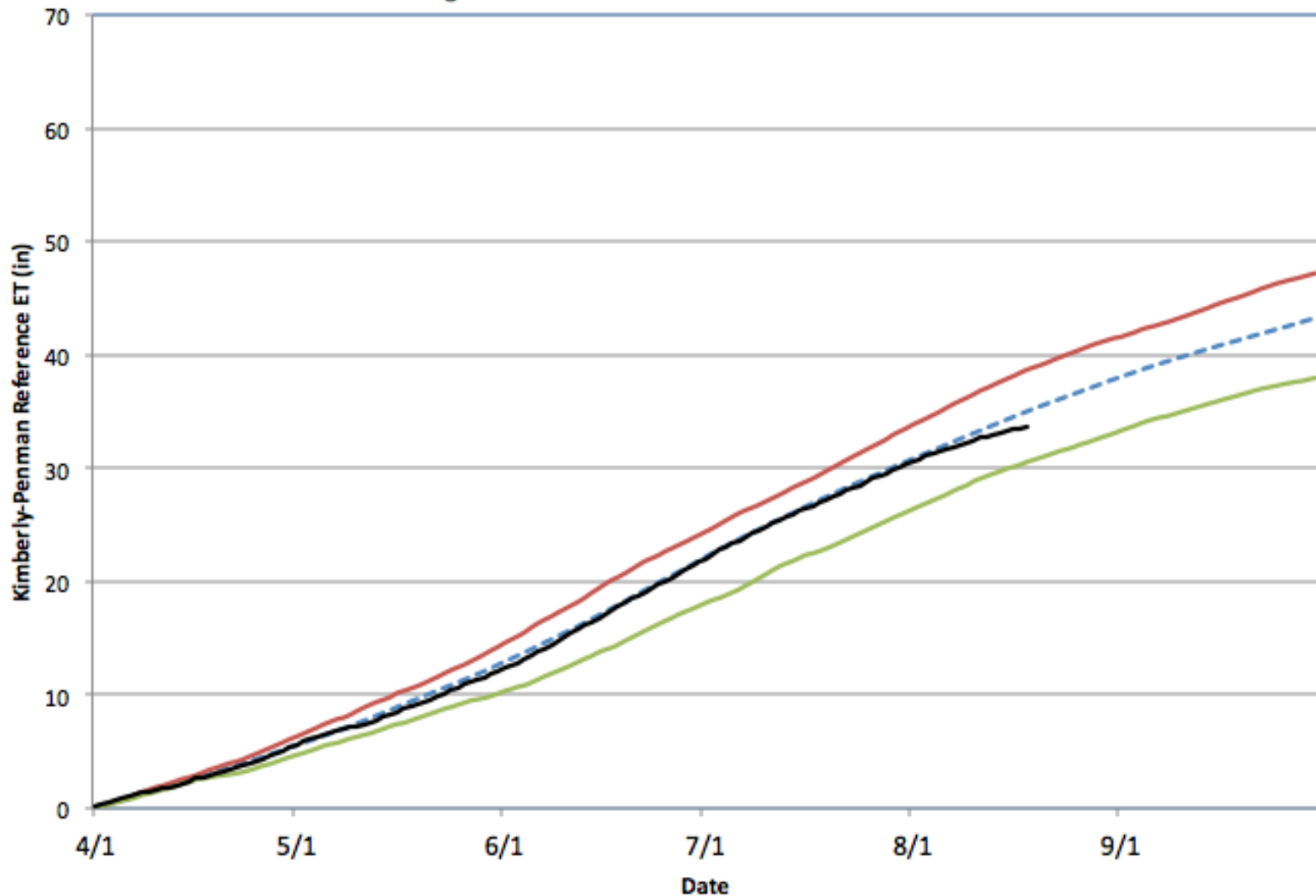
Olathe Kimberly-Penman Reference ET (1993 - 2013)

--- Average — 1994 — 1999 — 2013



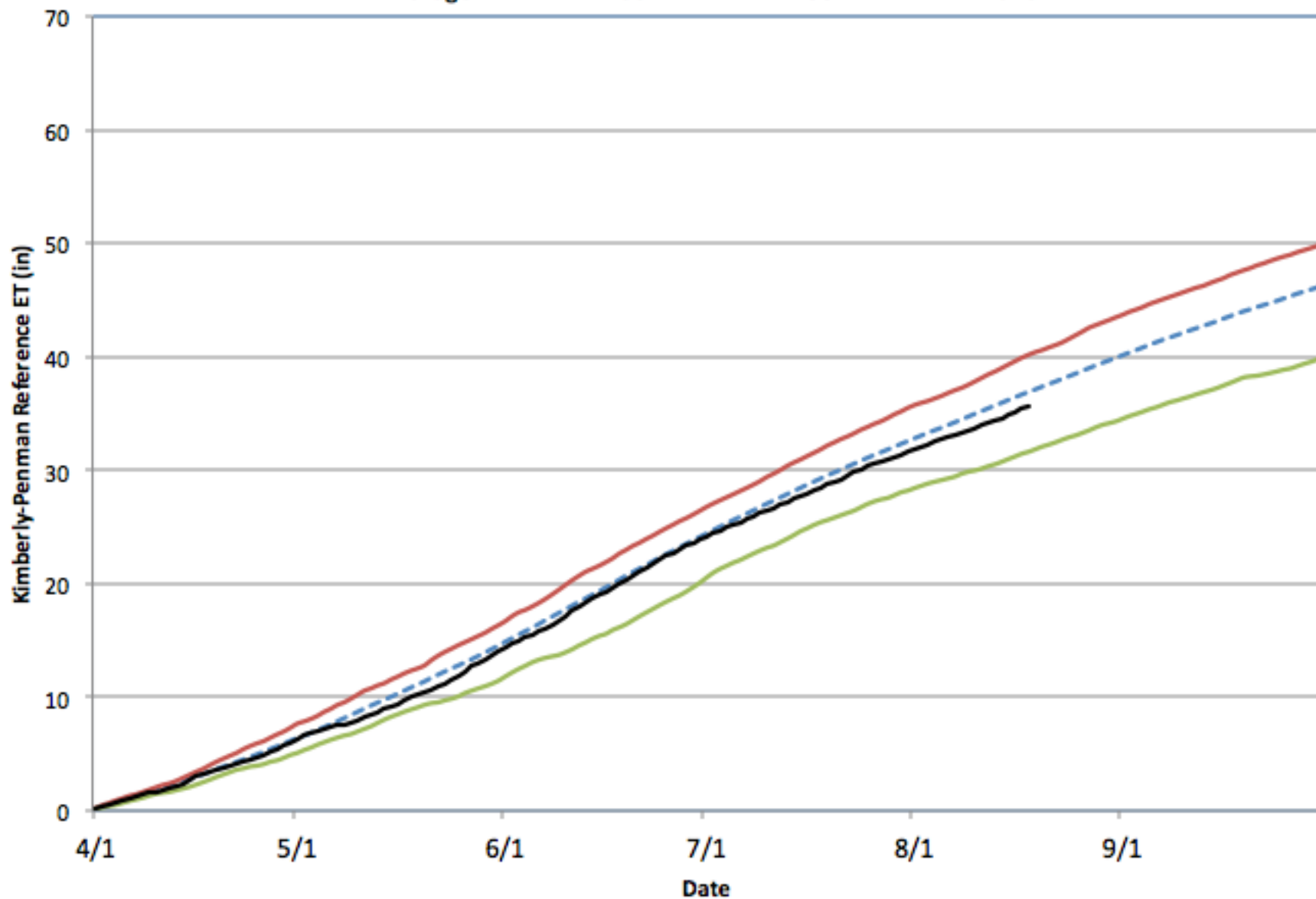
Cortez Kimberly-Penman Reference ET (1992 - 2013)

--- Average — 2000 — 1995 — 2013



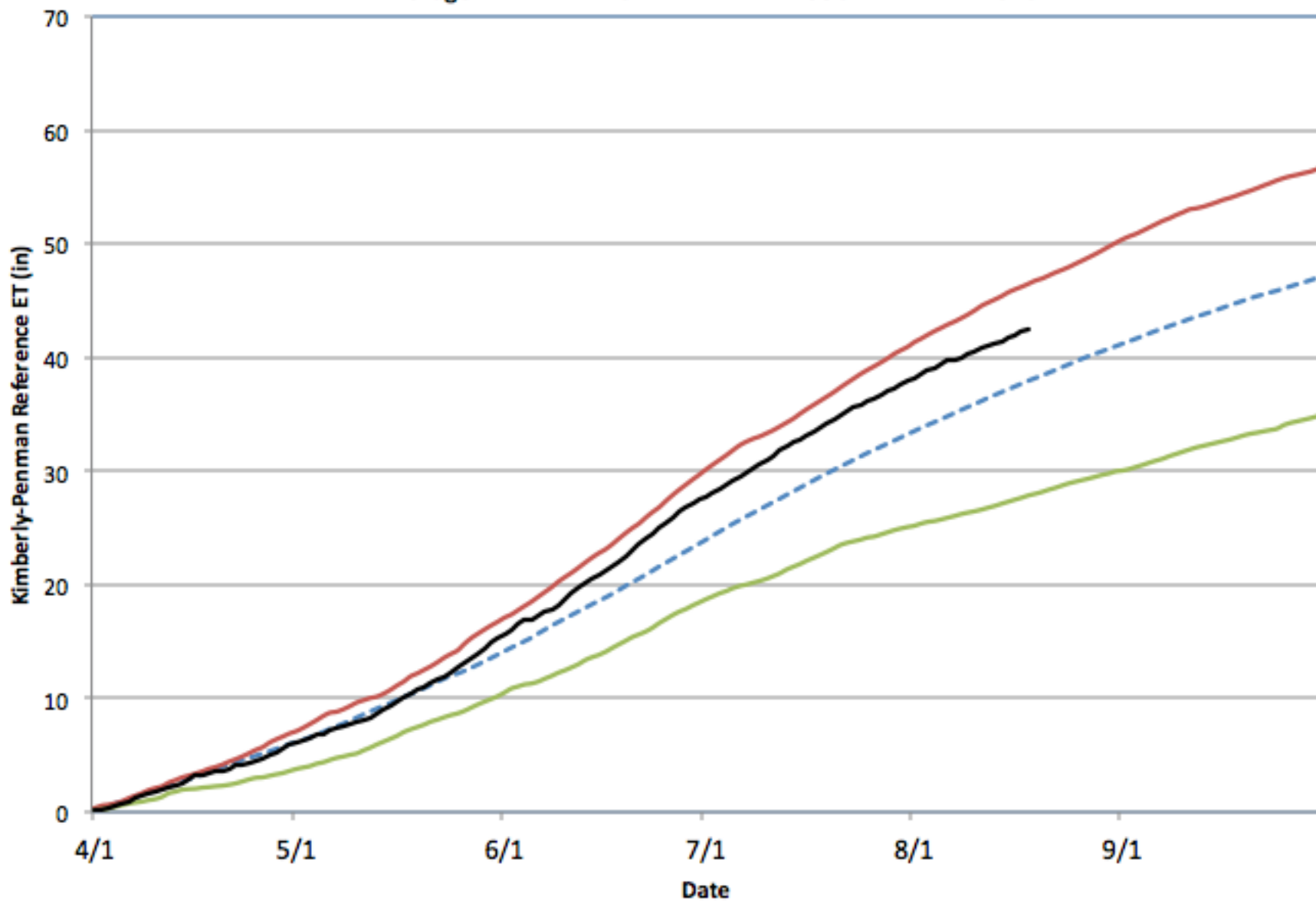
Center Kimberly-Penman Reference ET (1994 - 2013)

--- Average — 2002 — 1997 — 2013

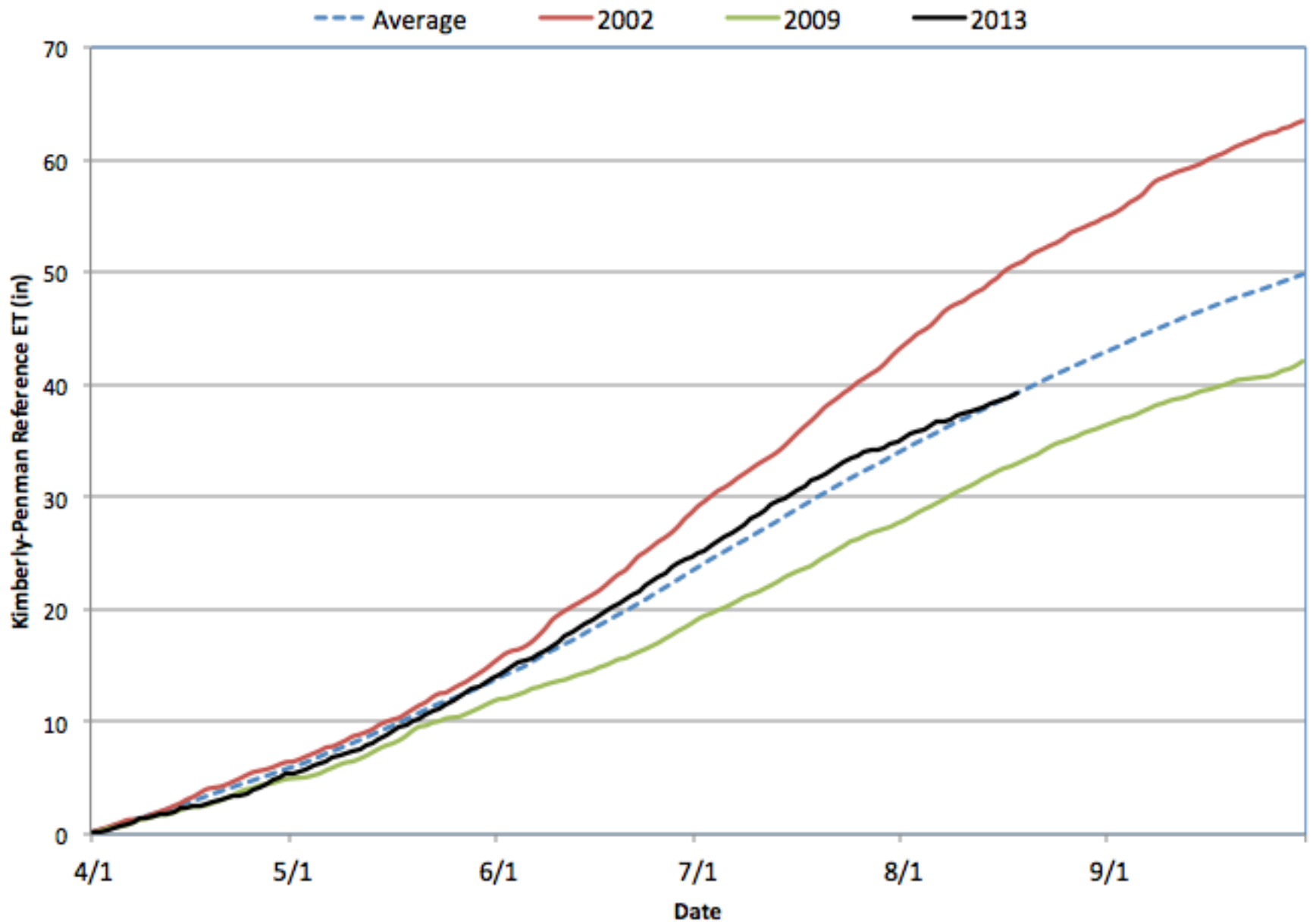


Avondale Kimberly-Penman Reference ET (1993 - 2013)

--- Average — 2012 — 1998 — 2013

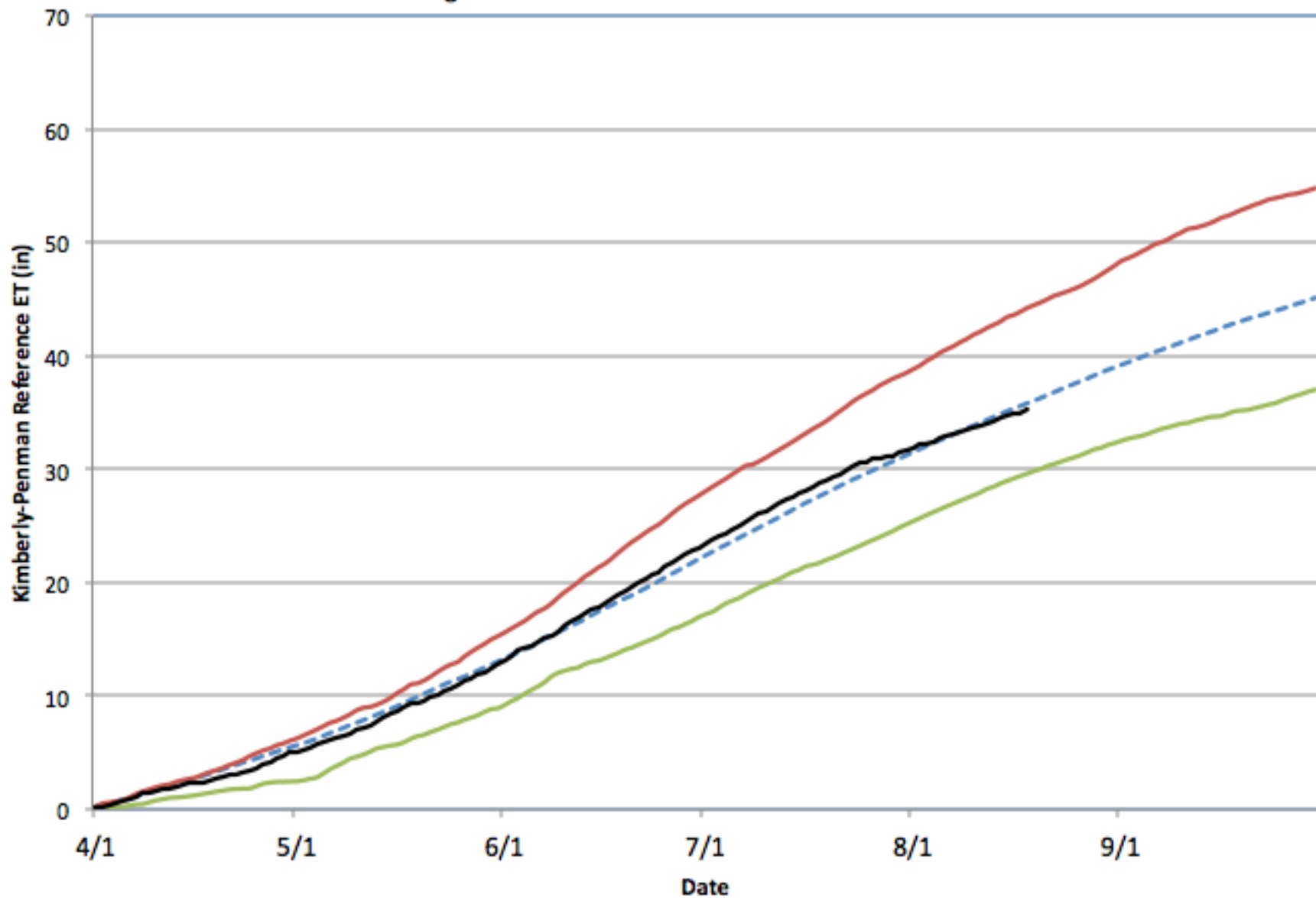


Idalia Kimberly-Penman Reference ET (1992 - 2013)



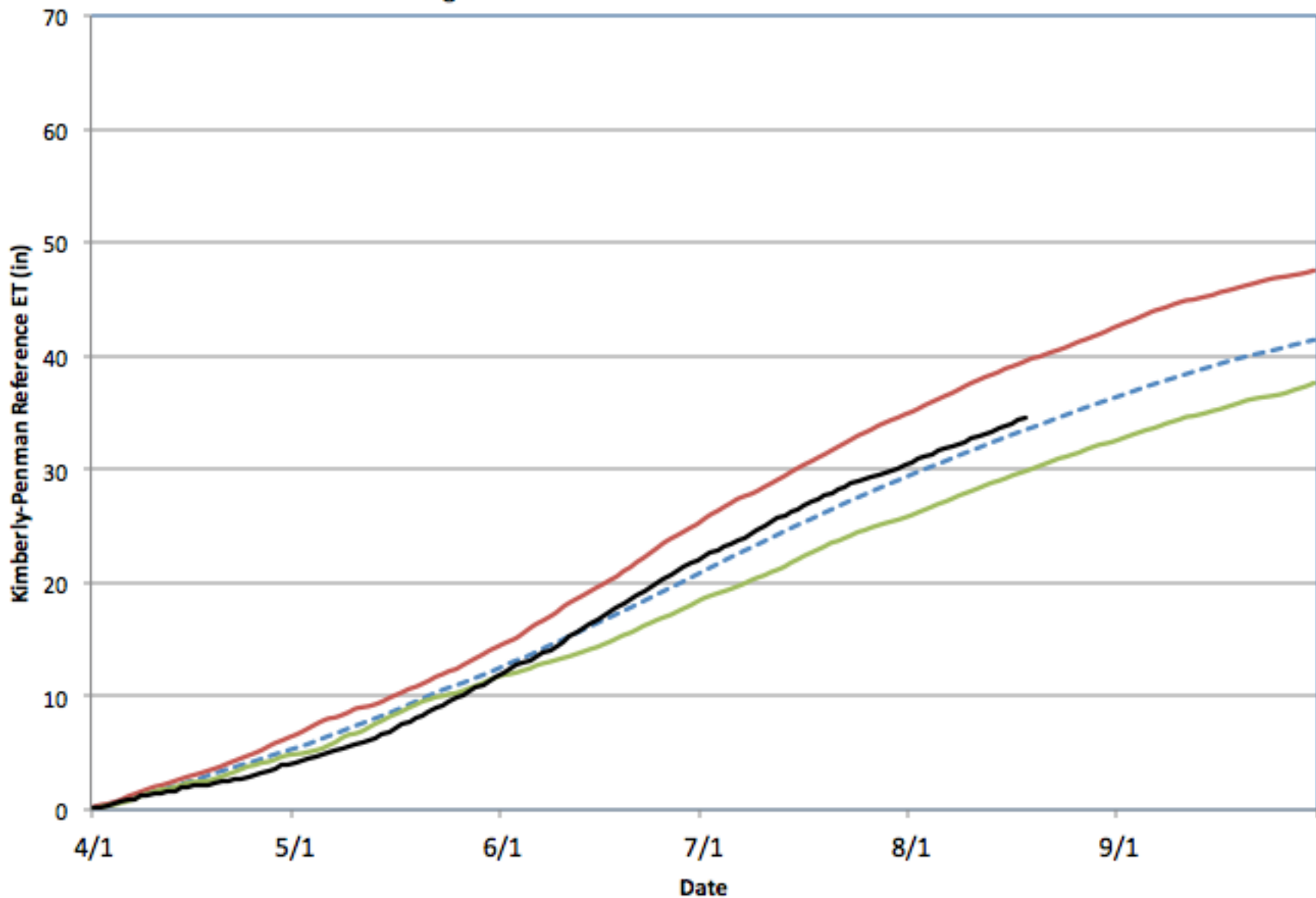
Holyoke Kimberly-Penman Reference ET (1992 - 2013)

--- Average — 2012 — 1999 — 2013



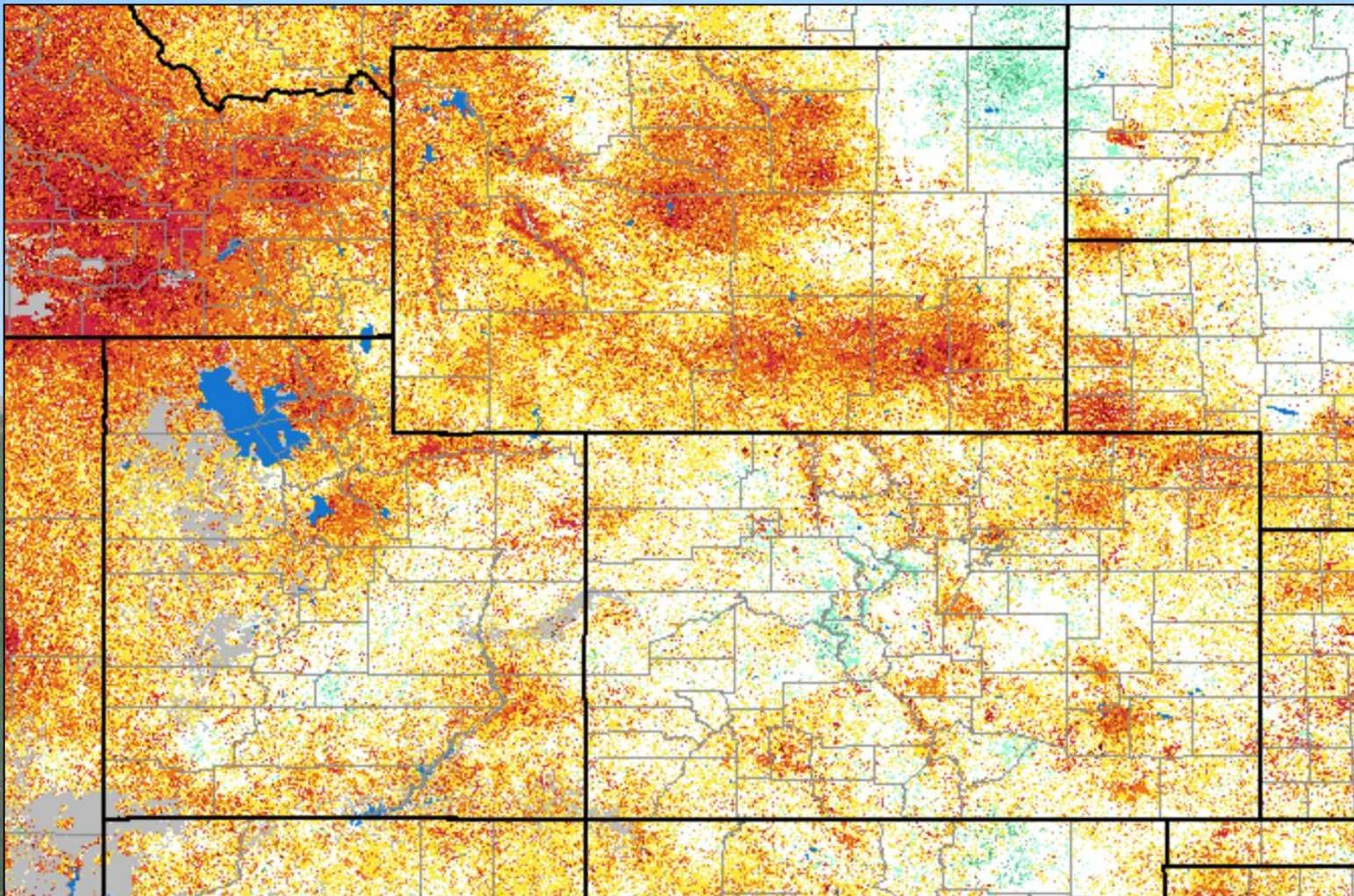
Lucerne Kimberly-Penman Reference ET (1992 - 2013)

--- Average — 2012 — 2009 — 2013



VegDRI

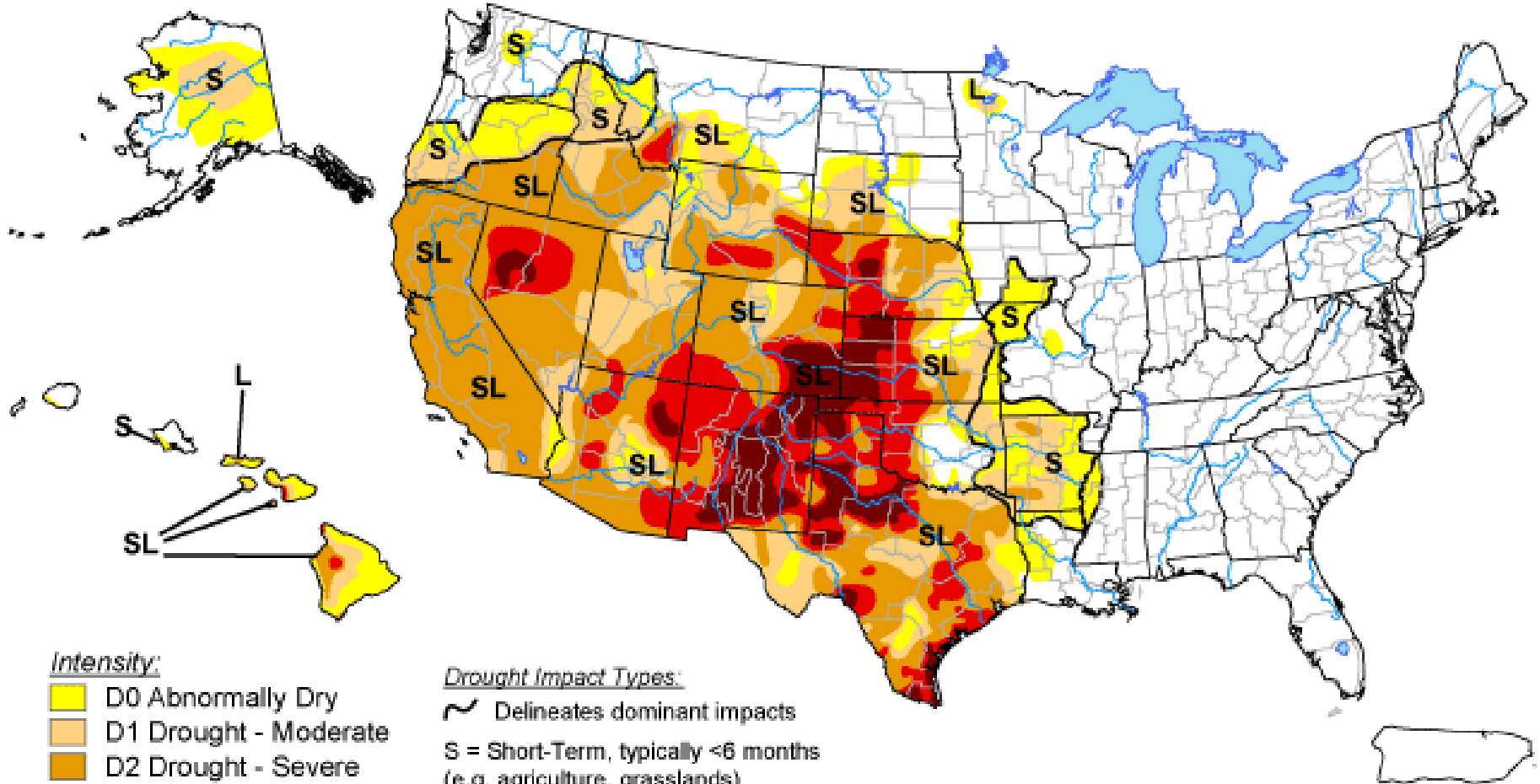
18 August 2013








U.S. Drought Monitor

July 16, 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.

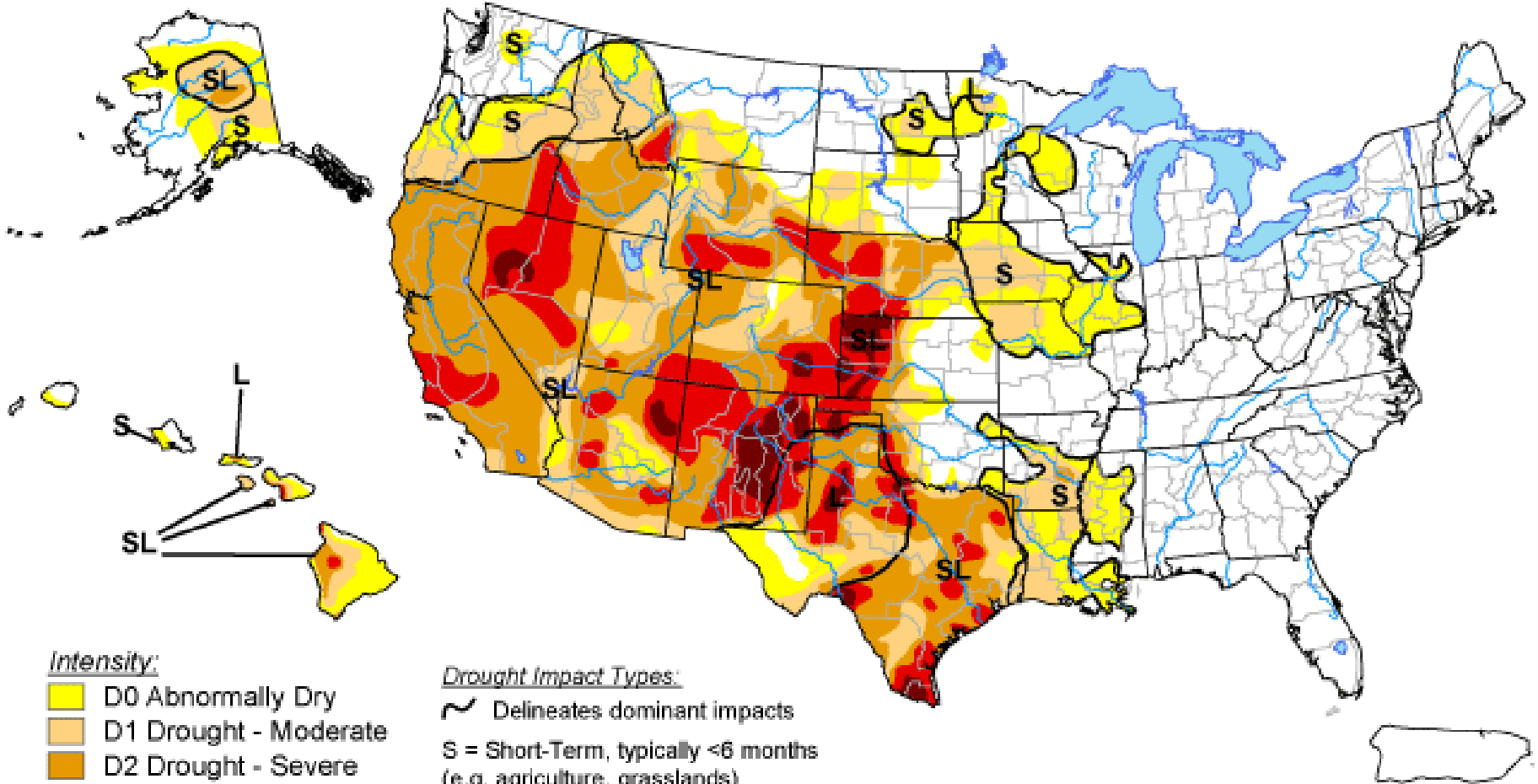
<http://droughtmonitor.unl.edu/>








Released Thursday, July 18, 2013
Author: Richard Heim, NOAA/NESDIS/NCDC

U.S. Drought Monitor


August 13, 2013
Valid 7 a.m. EDT



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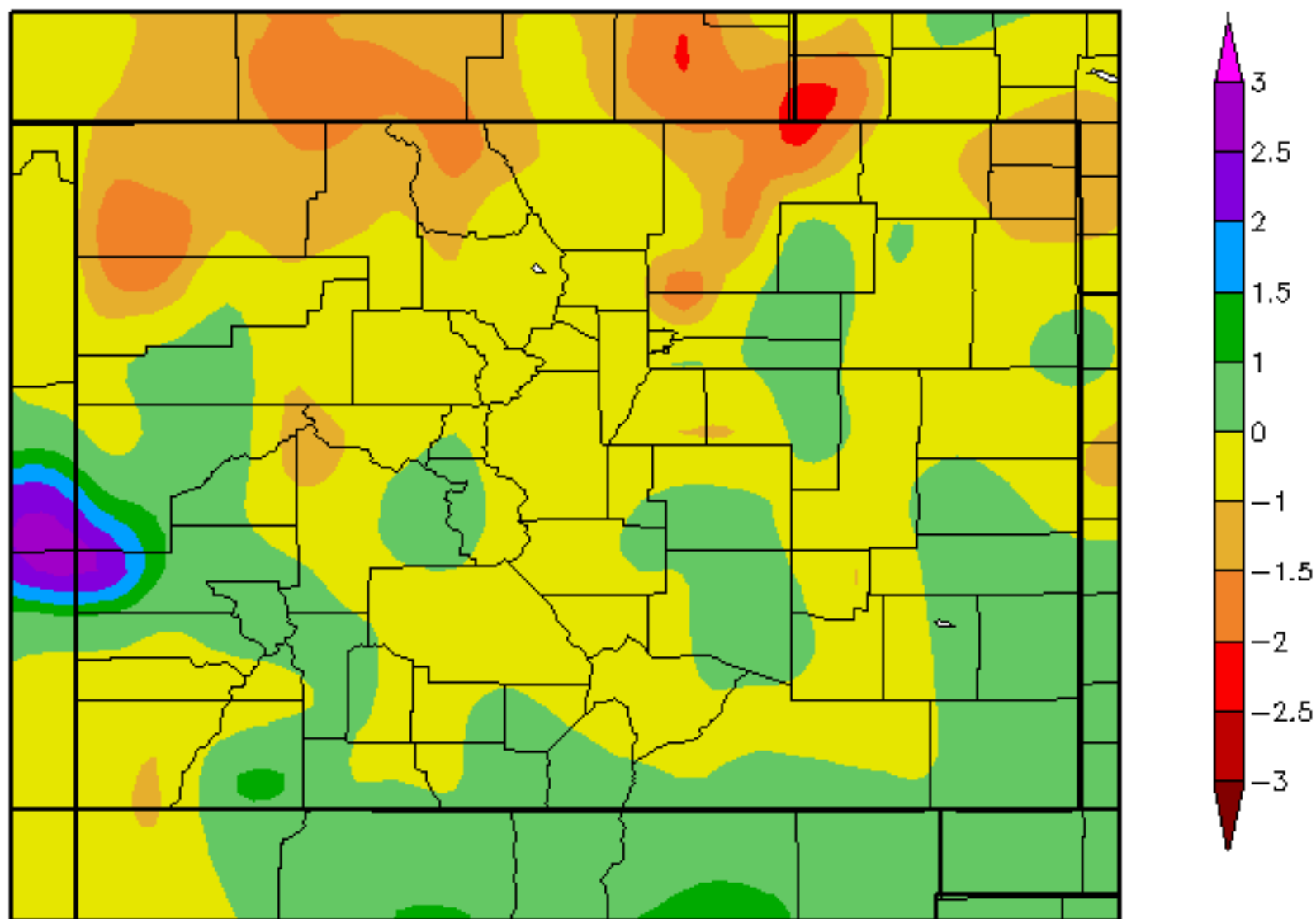
Released Thursday, August 15, 2013

Author: Michael Brewer/L. Love-Brotak, NOAA/NESDIS/NCDC

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

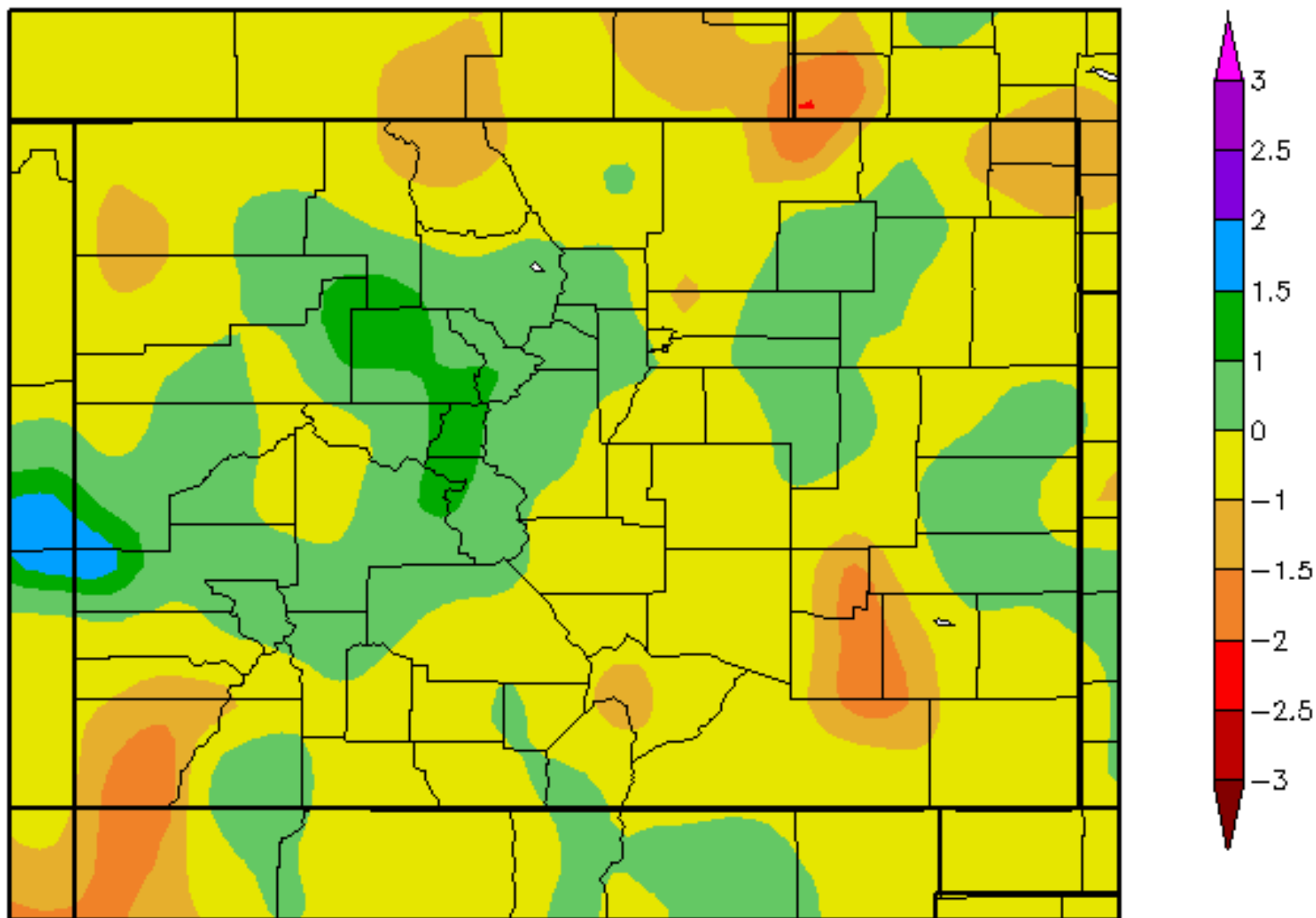
90 Day SPI

5/22/2013 - 8/19/2013



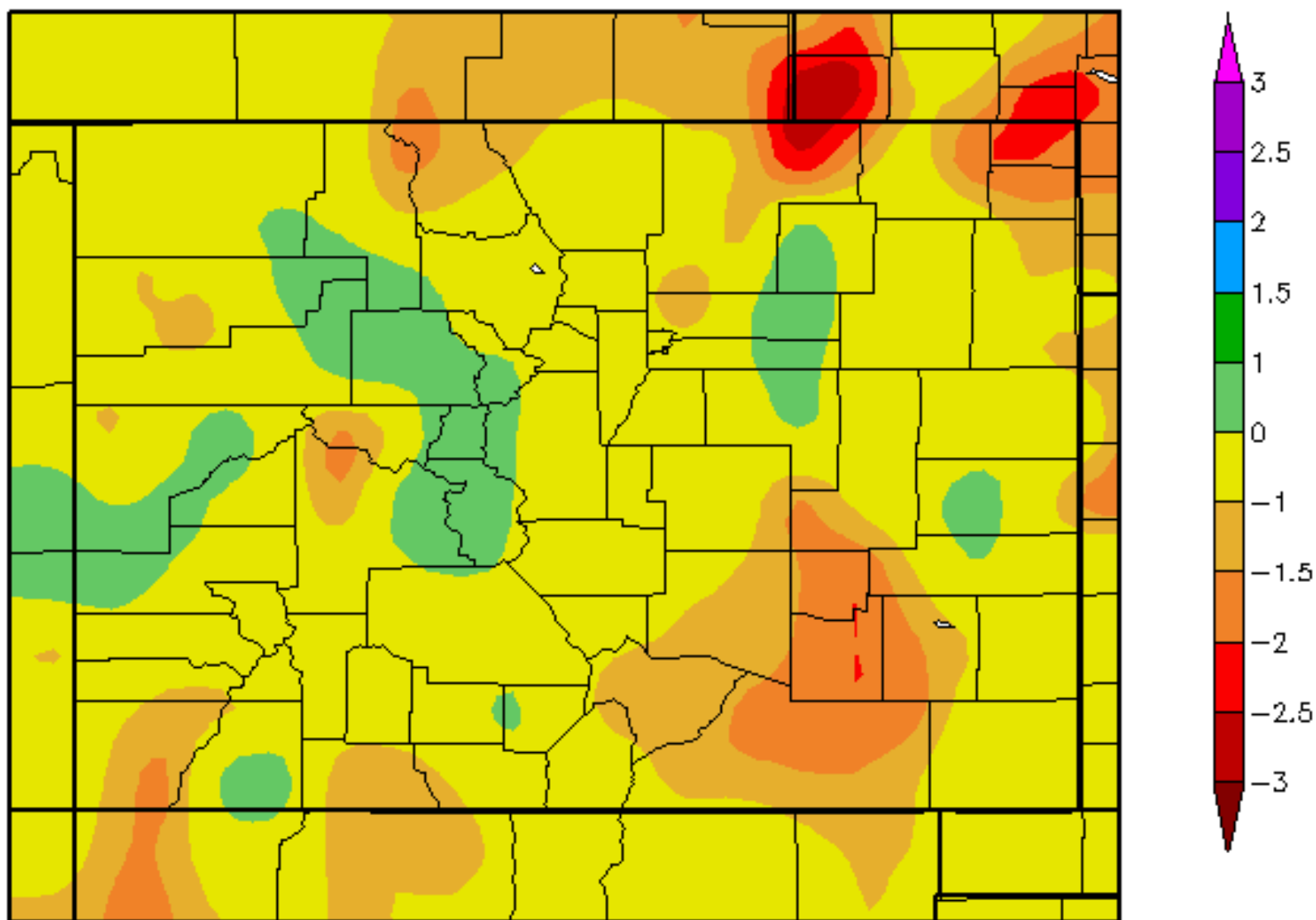
6 Month SPI

2/20/2013 - 8/19/2013



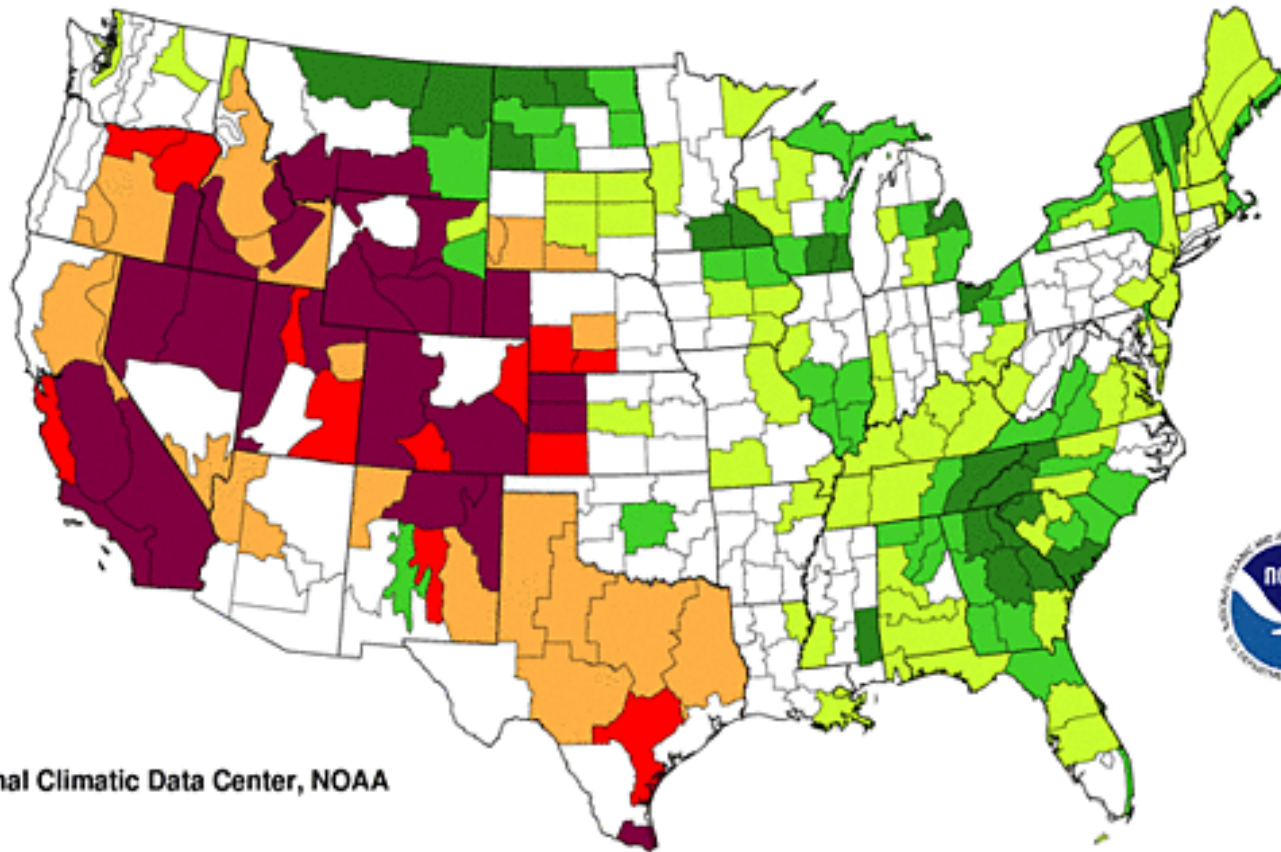
12 Month SPI

8/20/2012 - 8/19/2013










Palmer Drought Index Long-Term (Meteorological) Conditions

July 2013



National Climatic Data Center, NOAA

extreme drought	severe drought	moderate drought	mid-range	moderately moist	very moist	extremely moist
						
-4.00 and below	-3.00 to -3.99	-2.00 to -2.99	-1.99 to +1.99	+2.00 to +2.99	+3.00 to +3.99	+4.00 and above

Colorado Climate Center

Data and Power Point Presentations available for downloading

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

