



Climate Update



Nolan Doesken
Colorado Climate Center

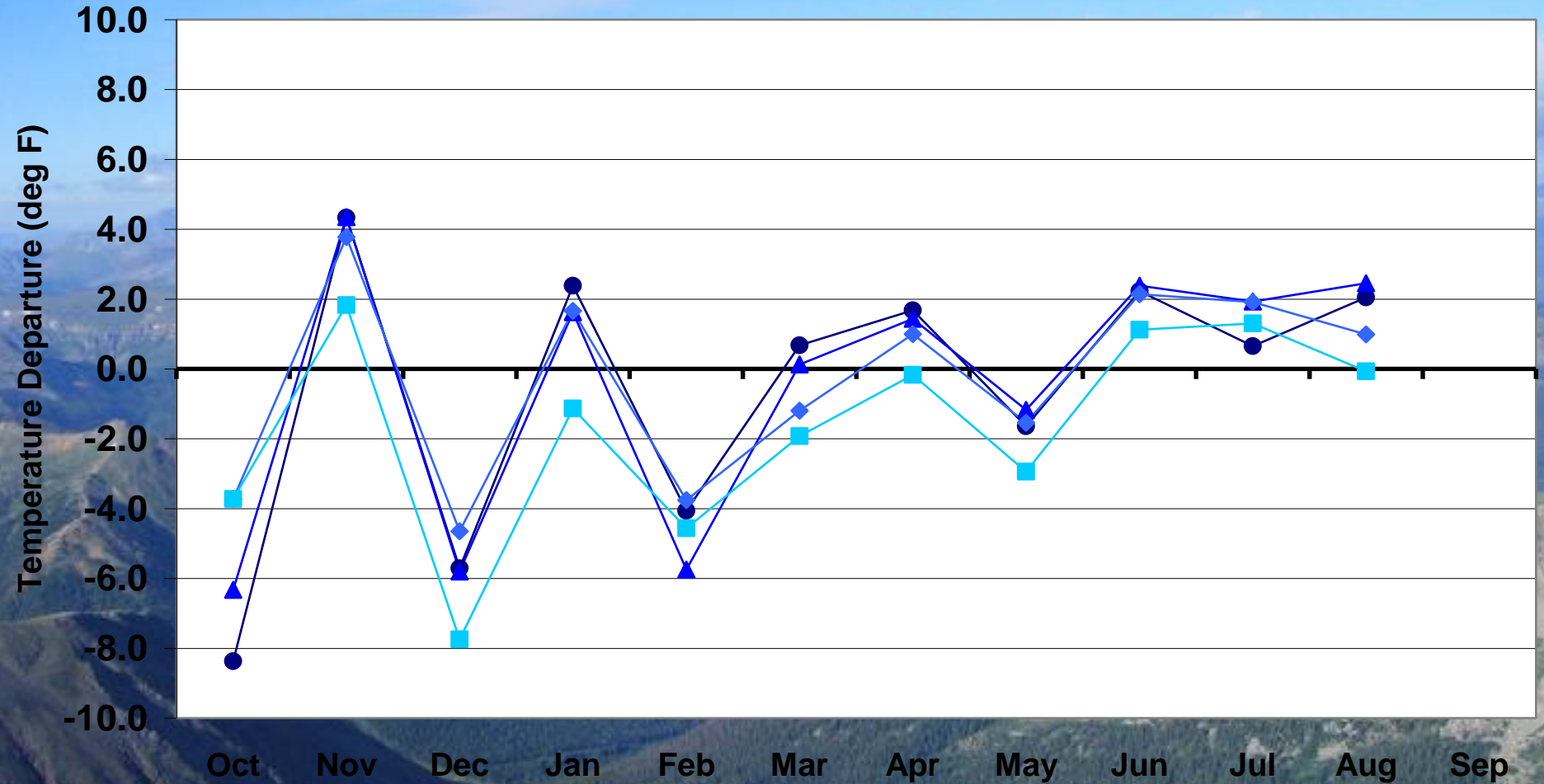
Atmospheric Science Department
Colorado State University

Presented to
Water Availability Task Force
September 27, 2010
Denver, CO

Prepared by Wendy Ryan

Water Year 2010 Temperature Departures

Water Year 2010



● Eastern Plains

▲ Foothills

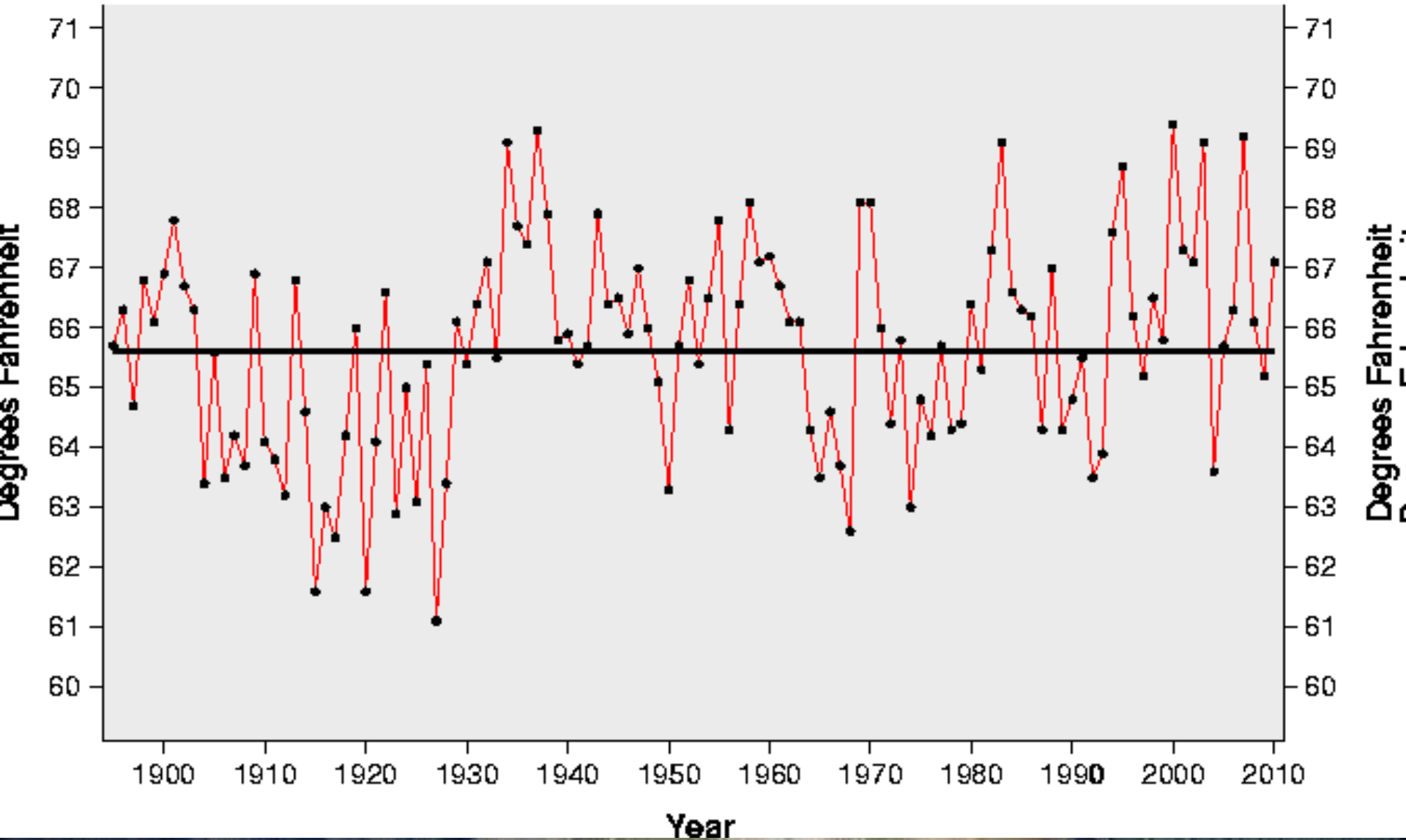
◆ Mountains

■ Western Valleys

August Average Temperature History for Colorado (NCDC)

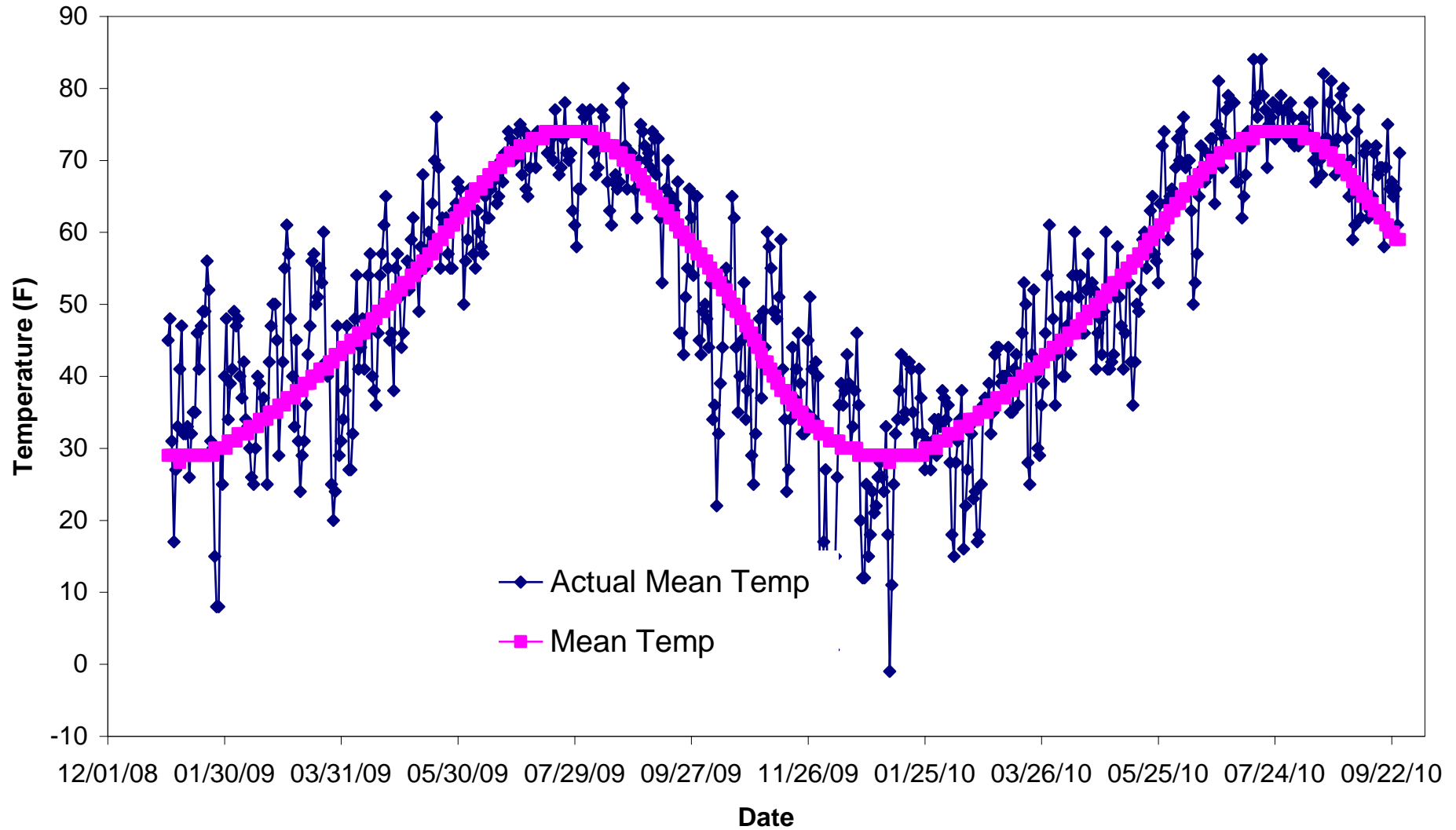
- Actual Temperature
- Average Temperature

Rank: 67.1 degrees is 20th warmest for period of record 1895-2010



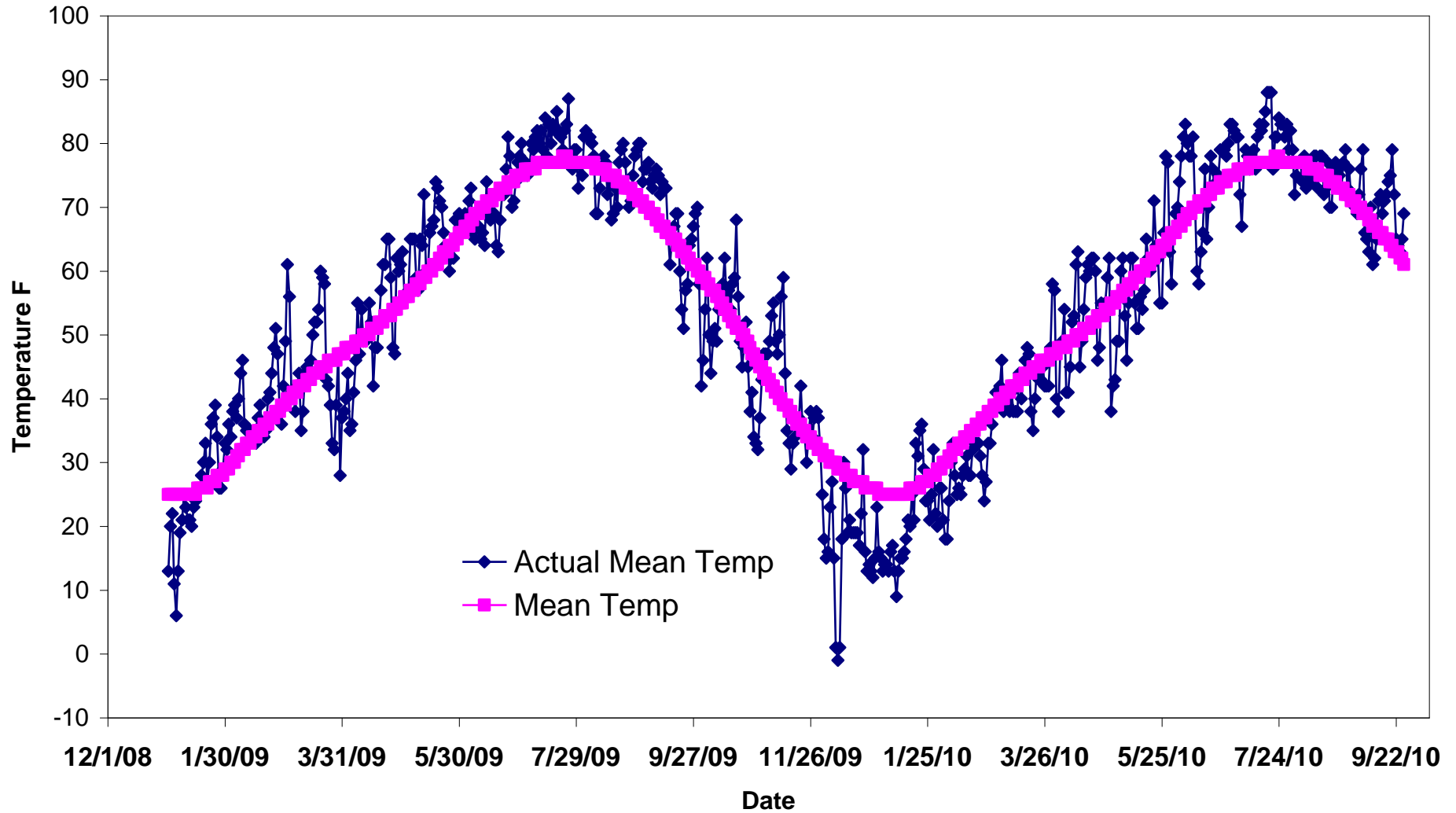
Denver, CO Jan 1, 2009 - September 26, 2010

Mean and Actual Daily Temperature

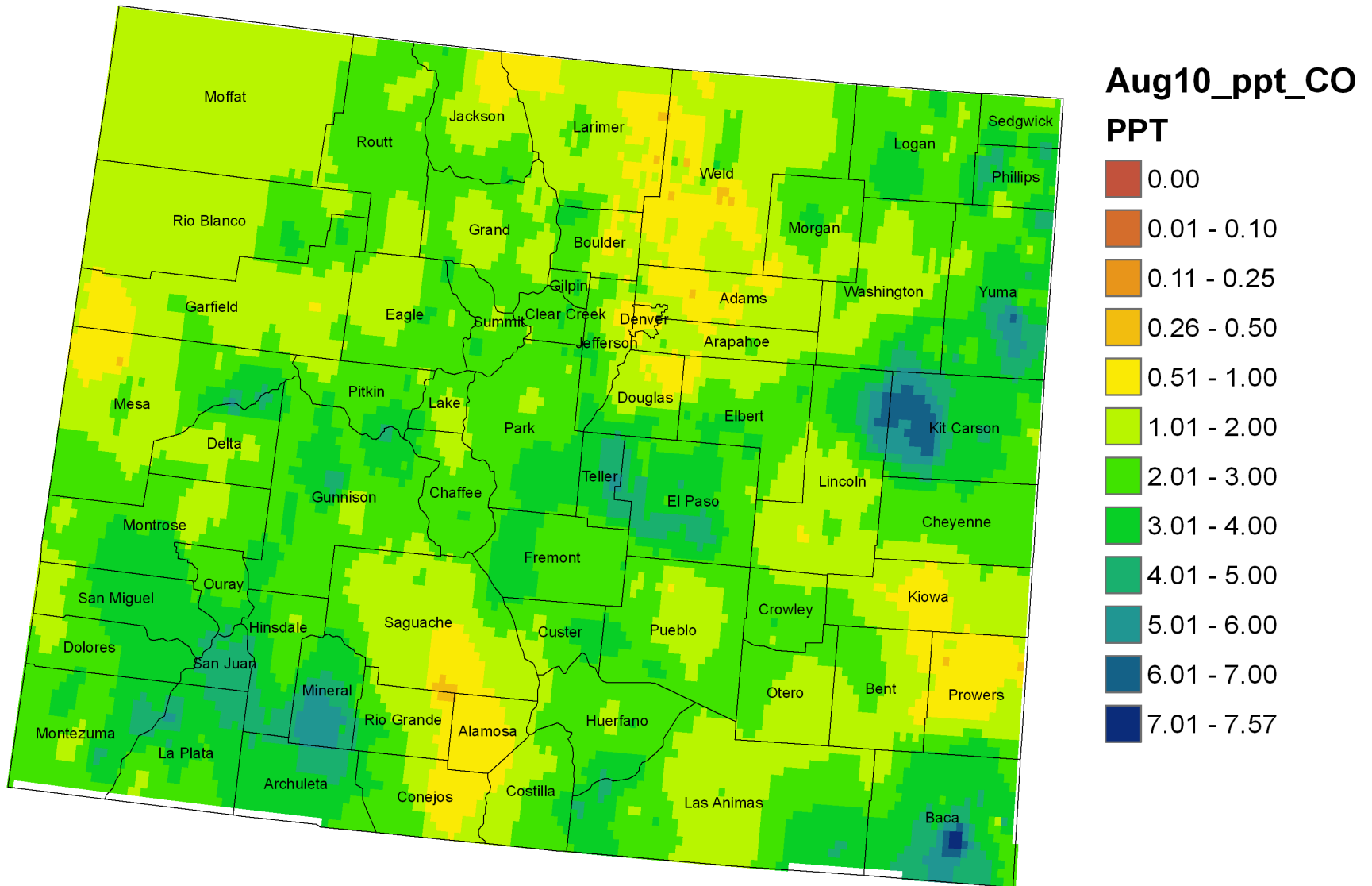


Grand Junction Jan 1, 2009 - September 26, 2010

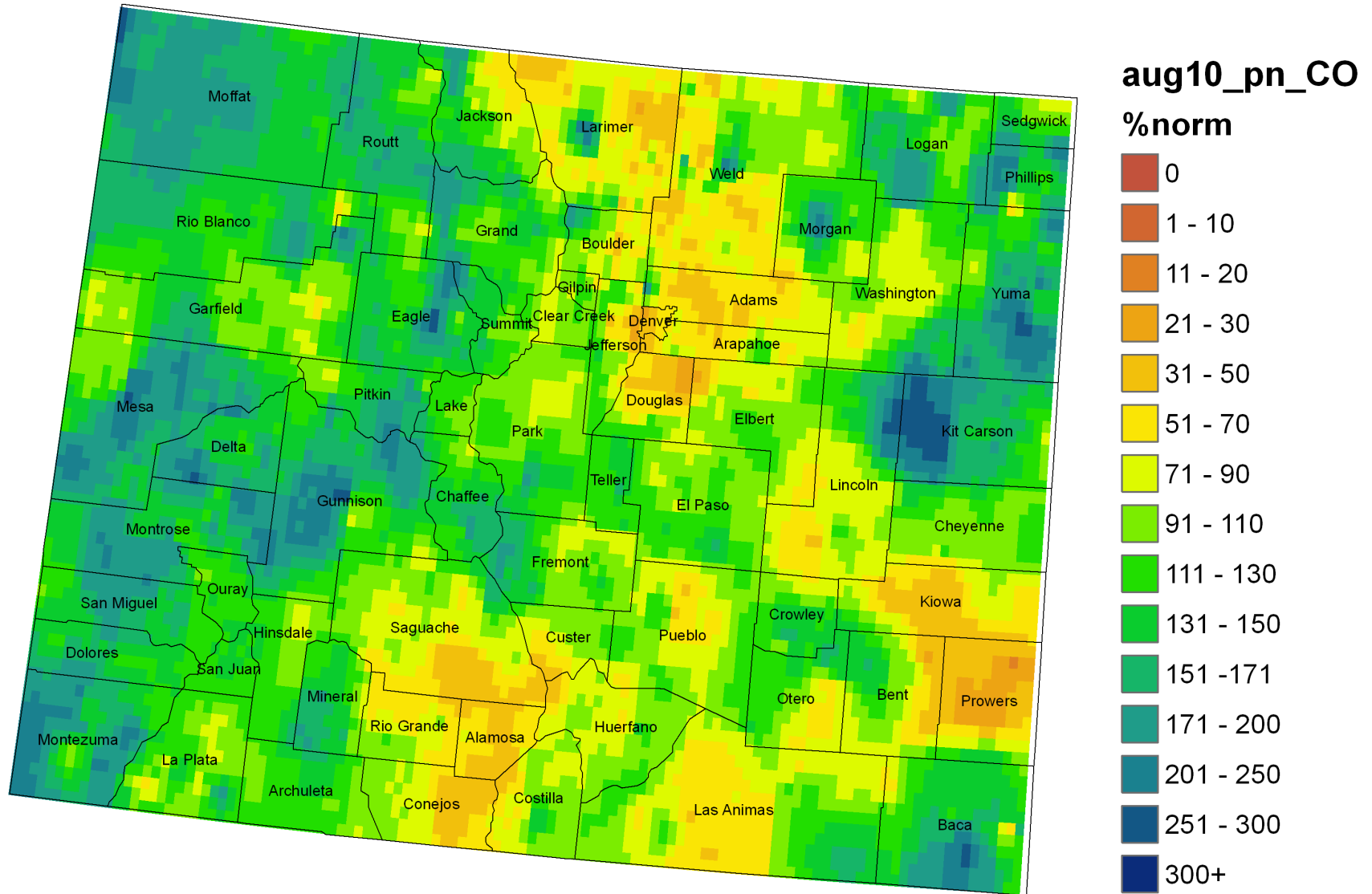
Mean and Actual Daily Temperature



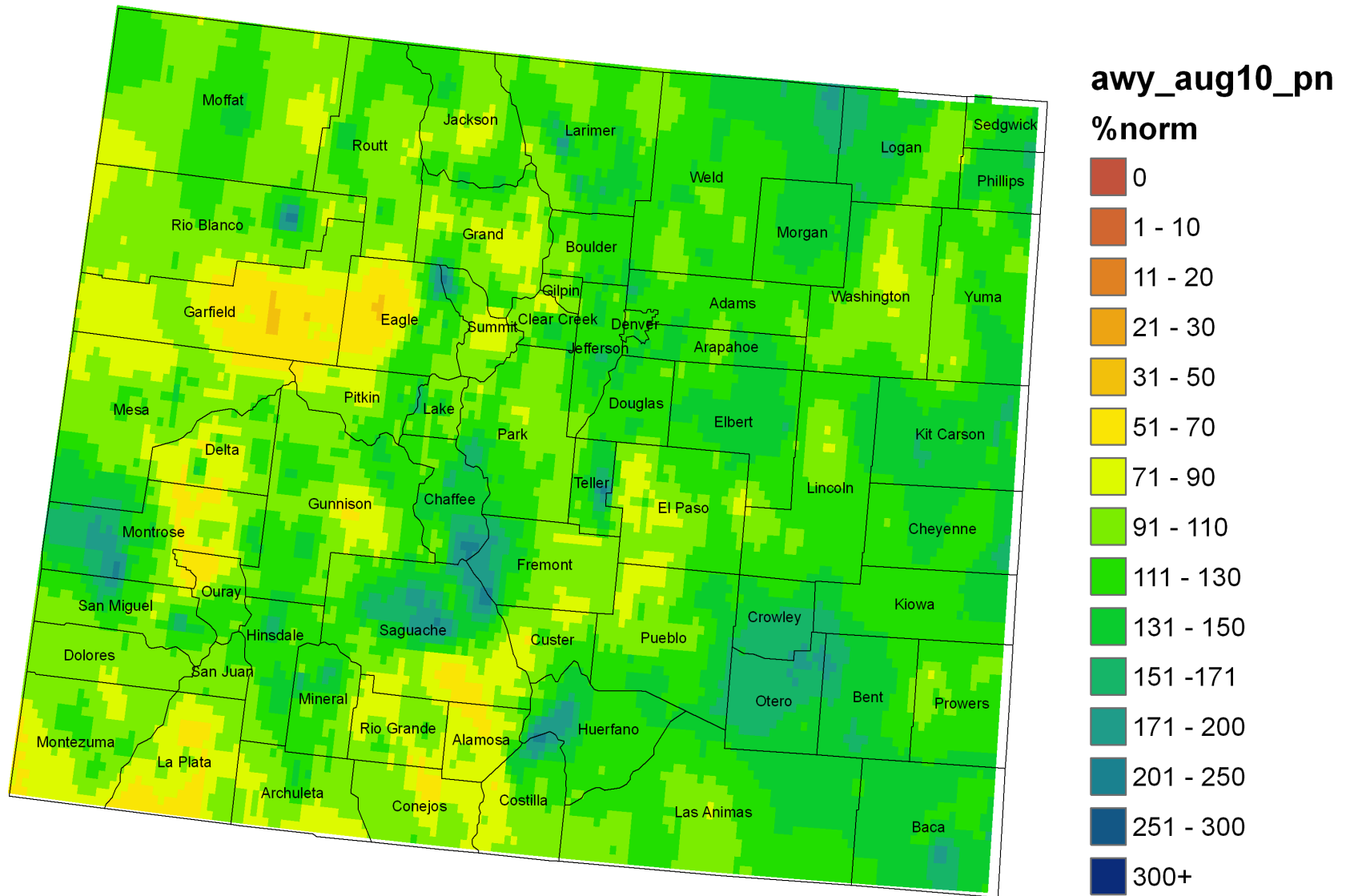
Colorado August 2010 Precipitation (in)



Colorado August 2010 Precipitation as Percentage of Normal

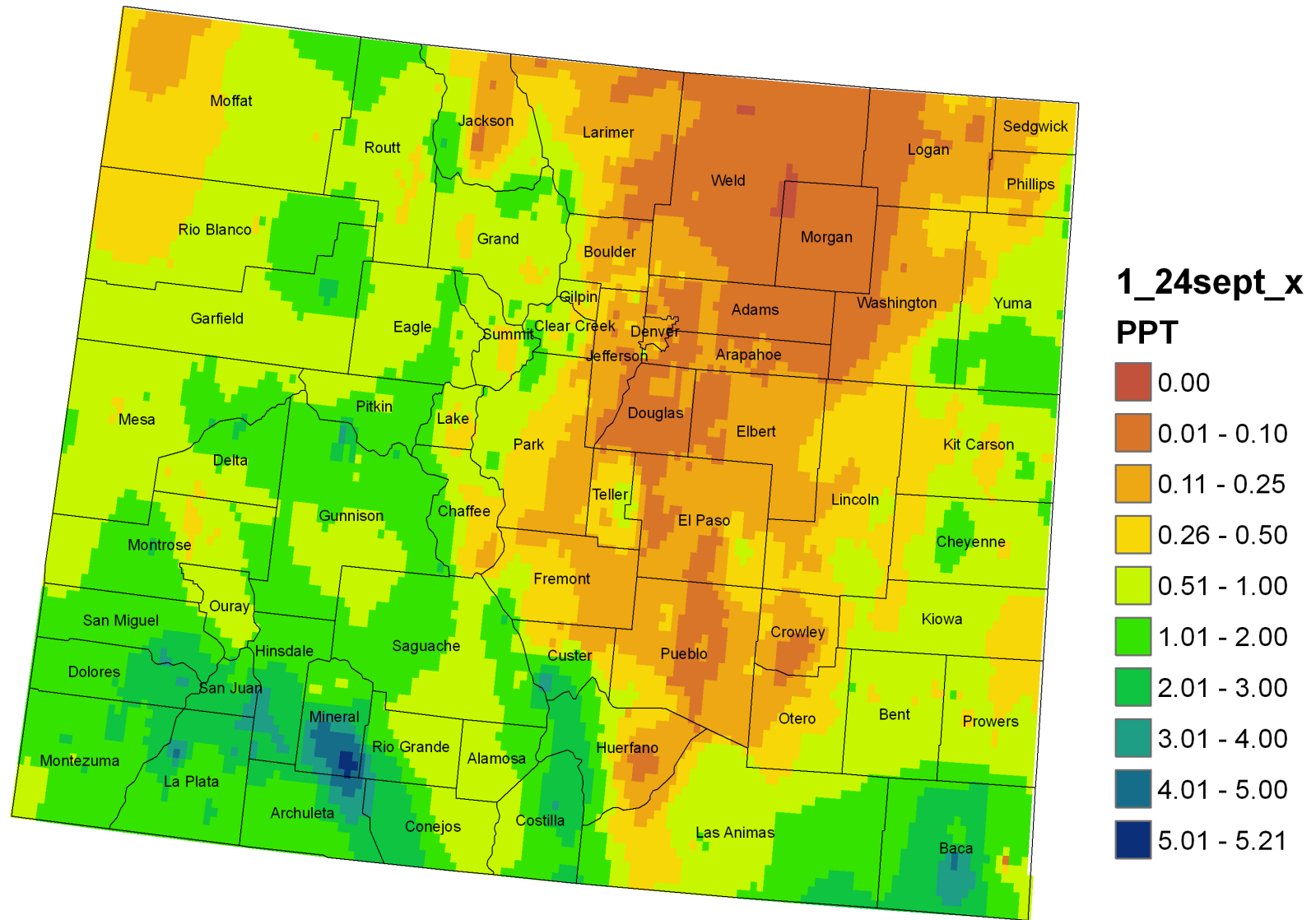


Colorado Water Year Precipitation as Percentage of Average (Oct 09 - Aug 10)

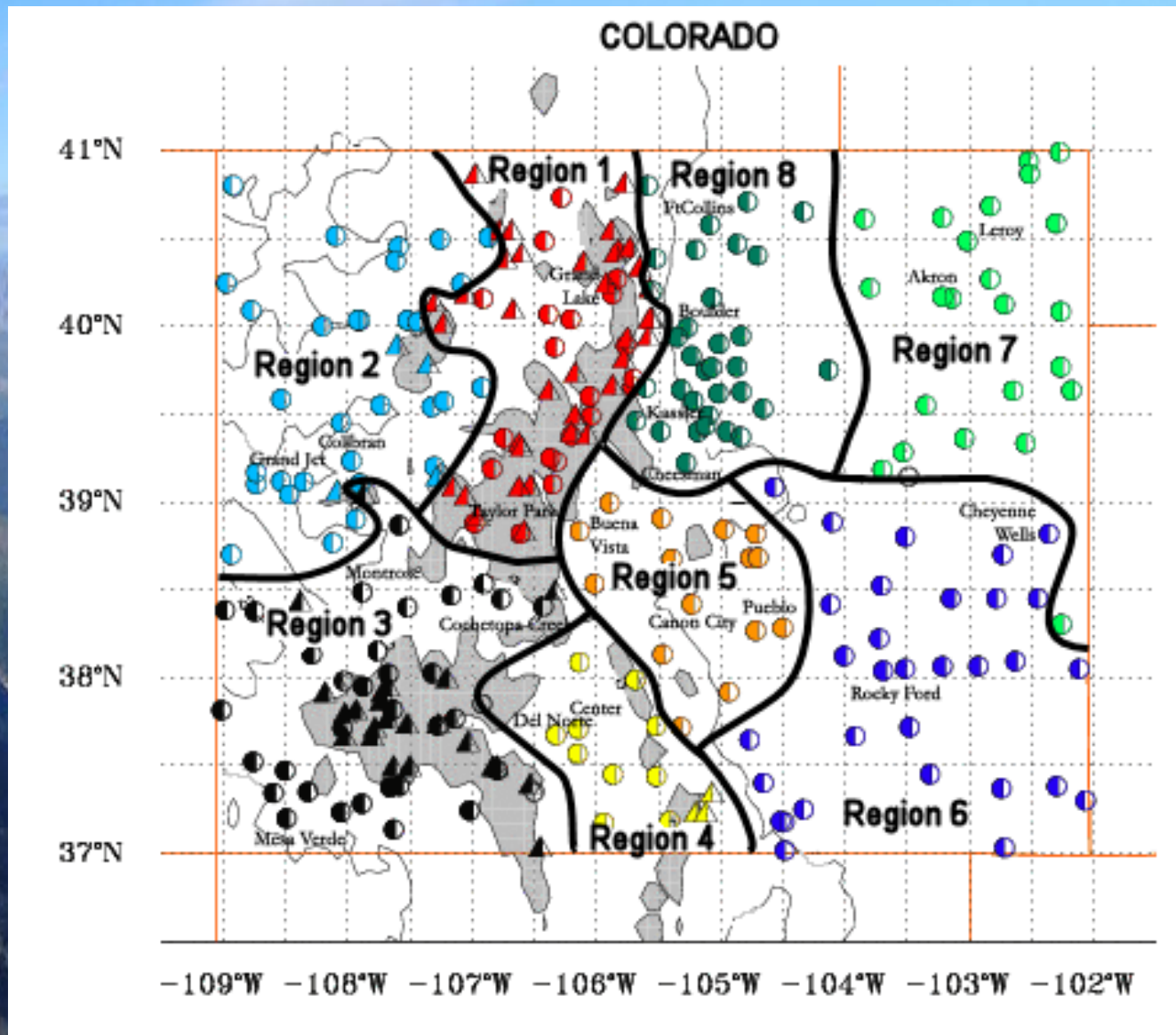


Colorado September 2010 Precipitation (in)

1 - 24 September 2010

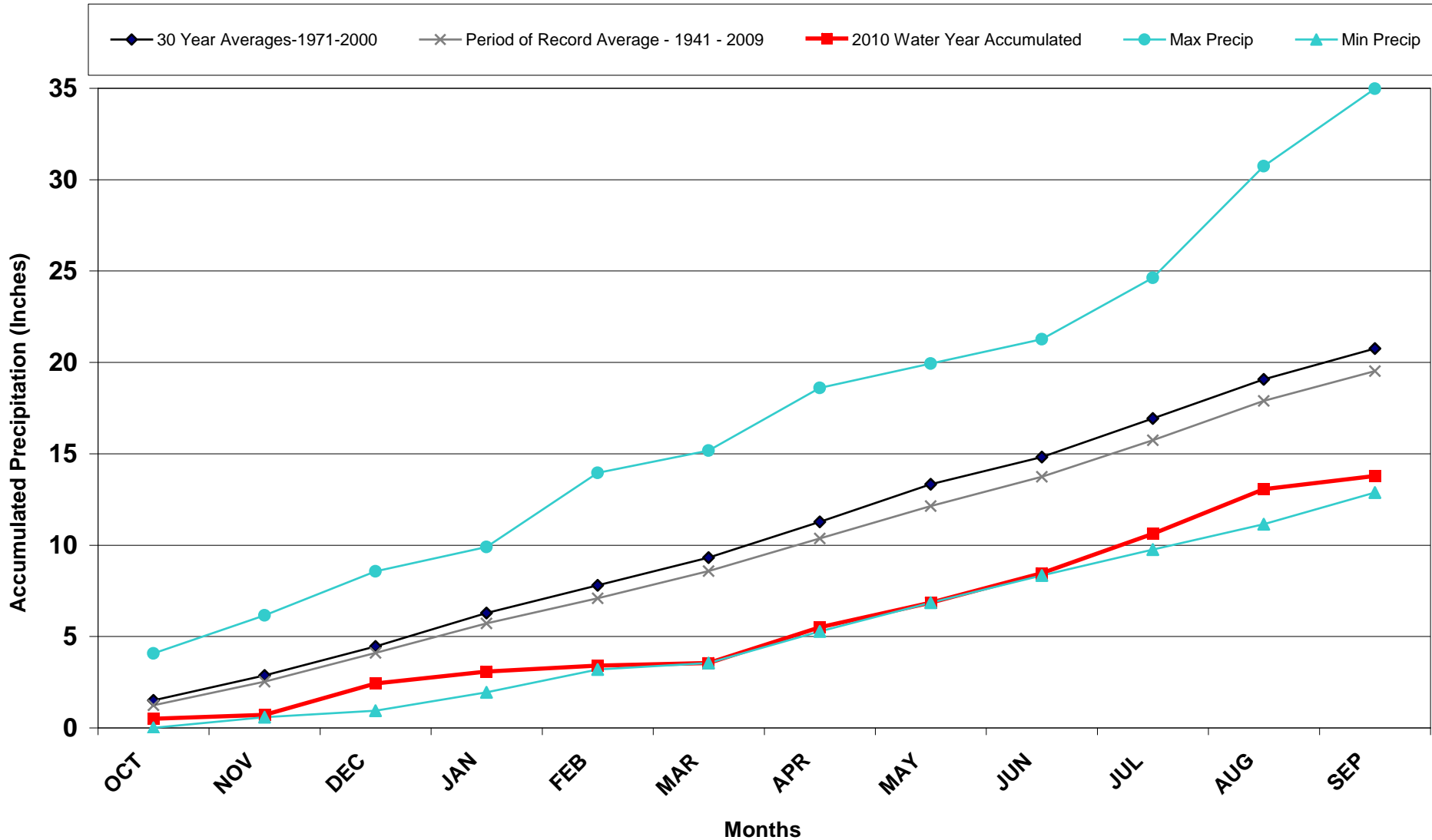


Climate divisions defined by Dr. Klaus Wolter of NOAA's Climate Diagnostic Center in Boulder, CO



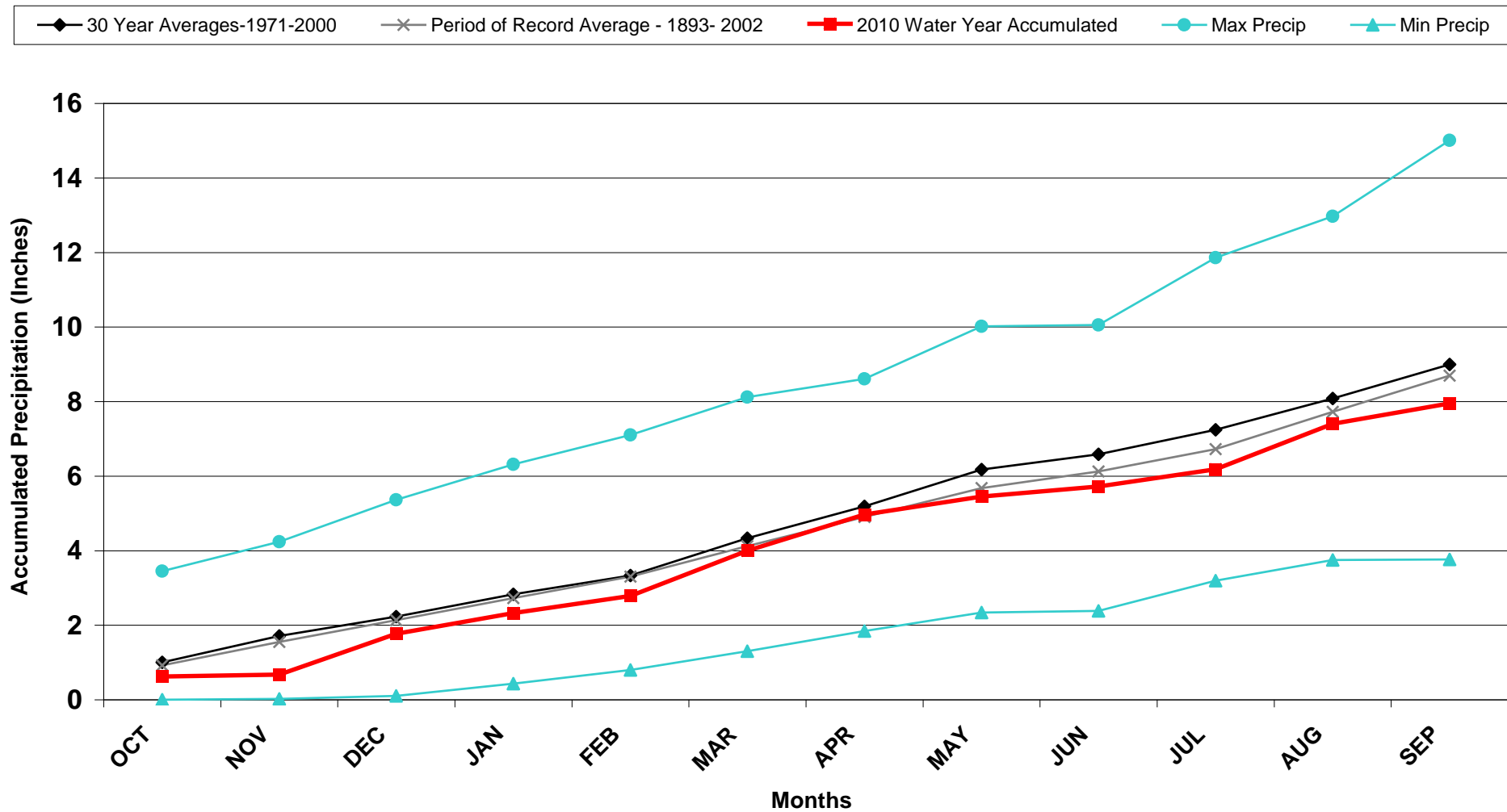
Division 1 – Grand Lake 1NW

Grand Lake 1 NW 2010 Water Year



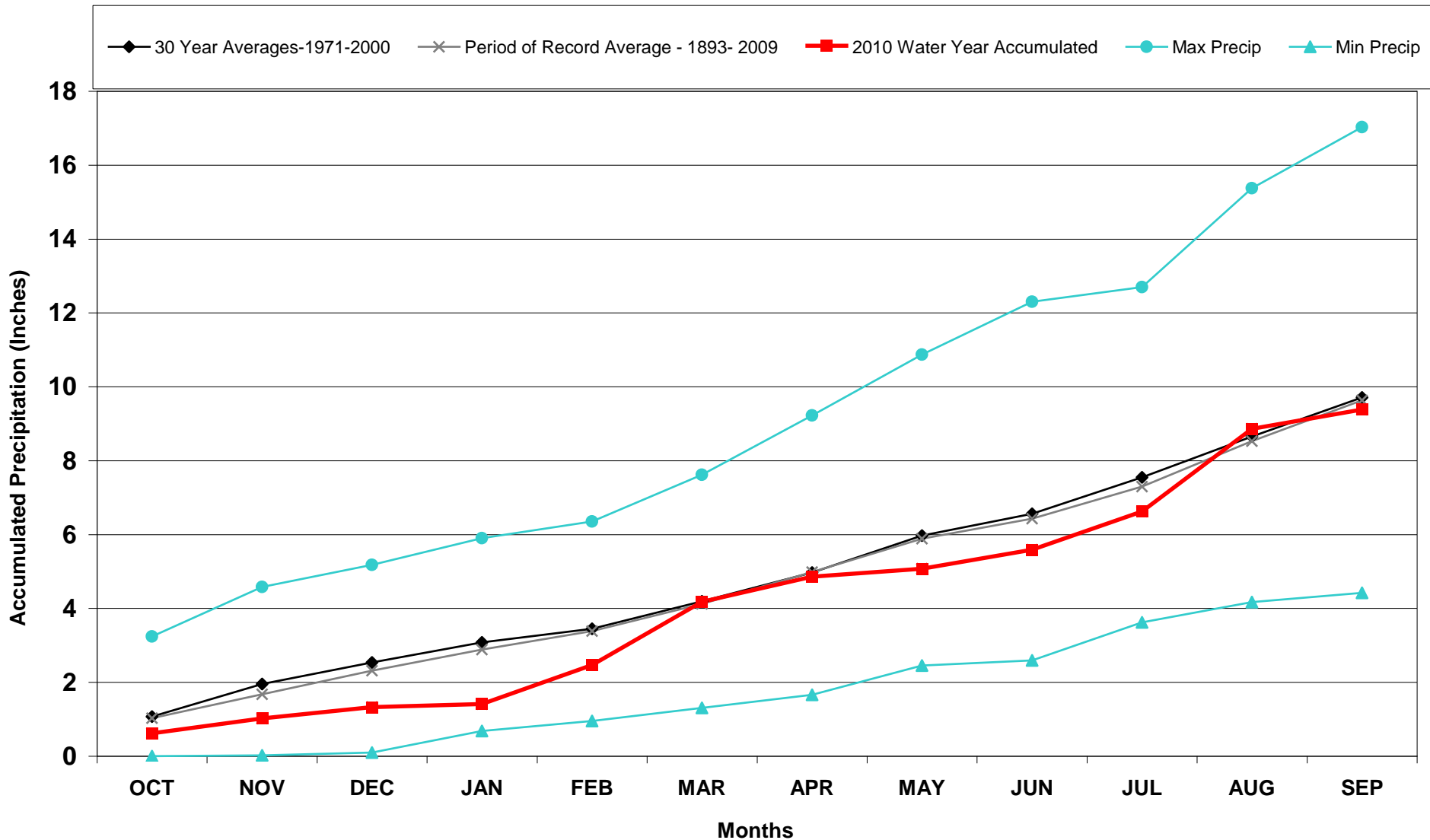
Division 2 – Grand Junction

Grand Junction WSFO 2010 Water Year



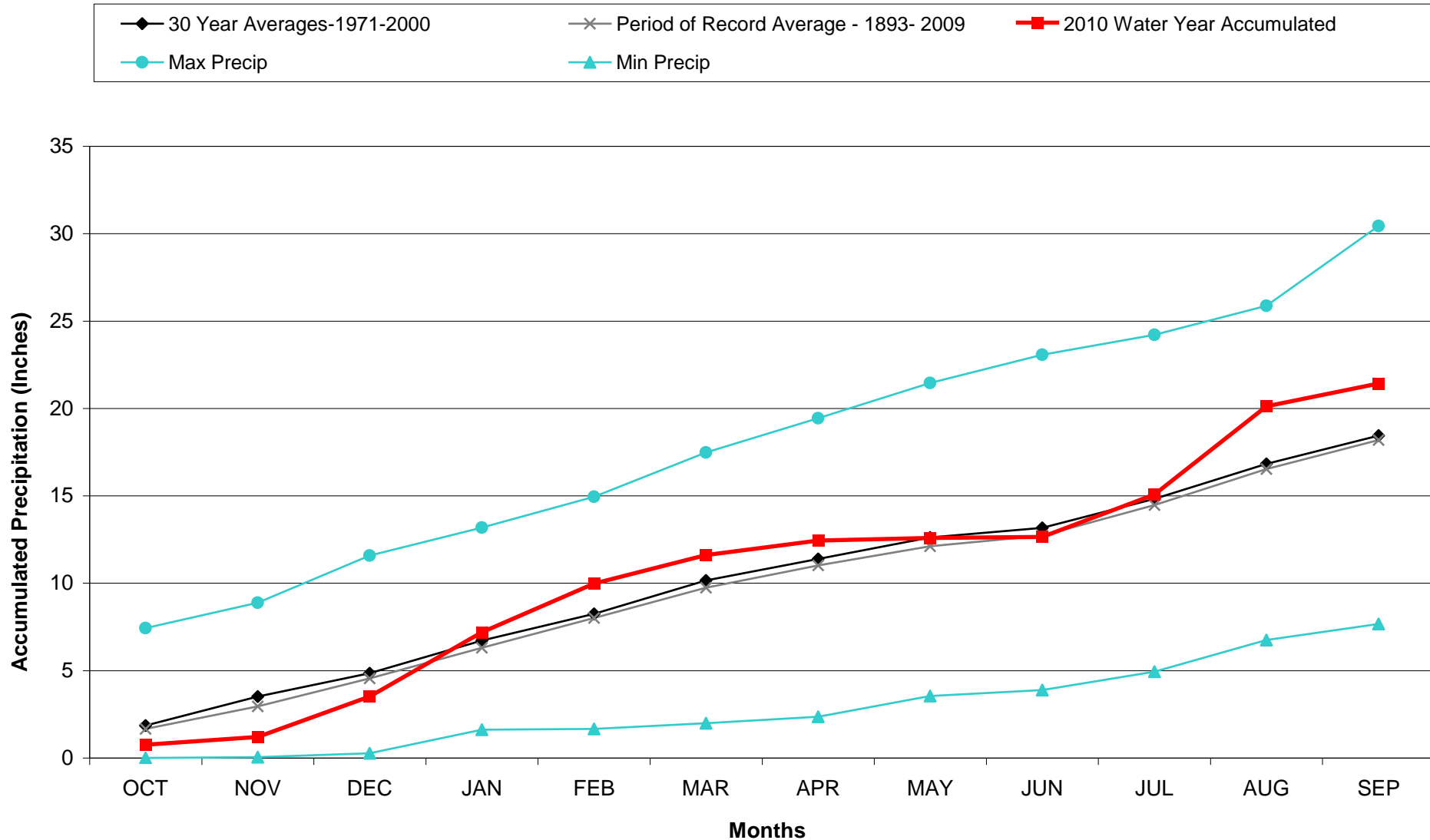
Division 3 – Montrose

Montrose #2 2010 Water Year



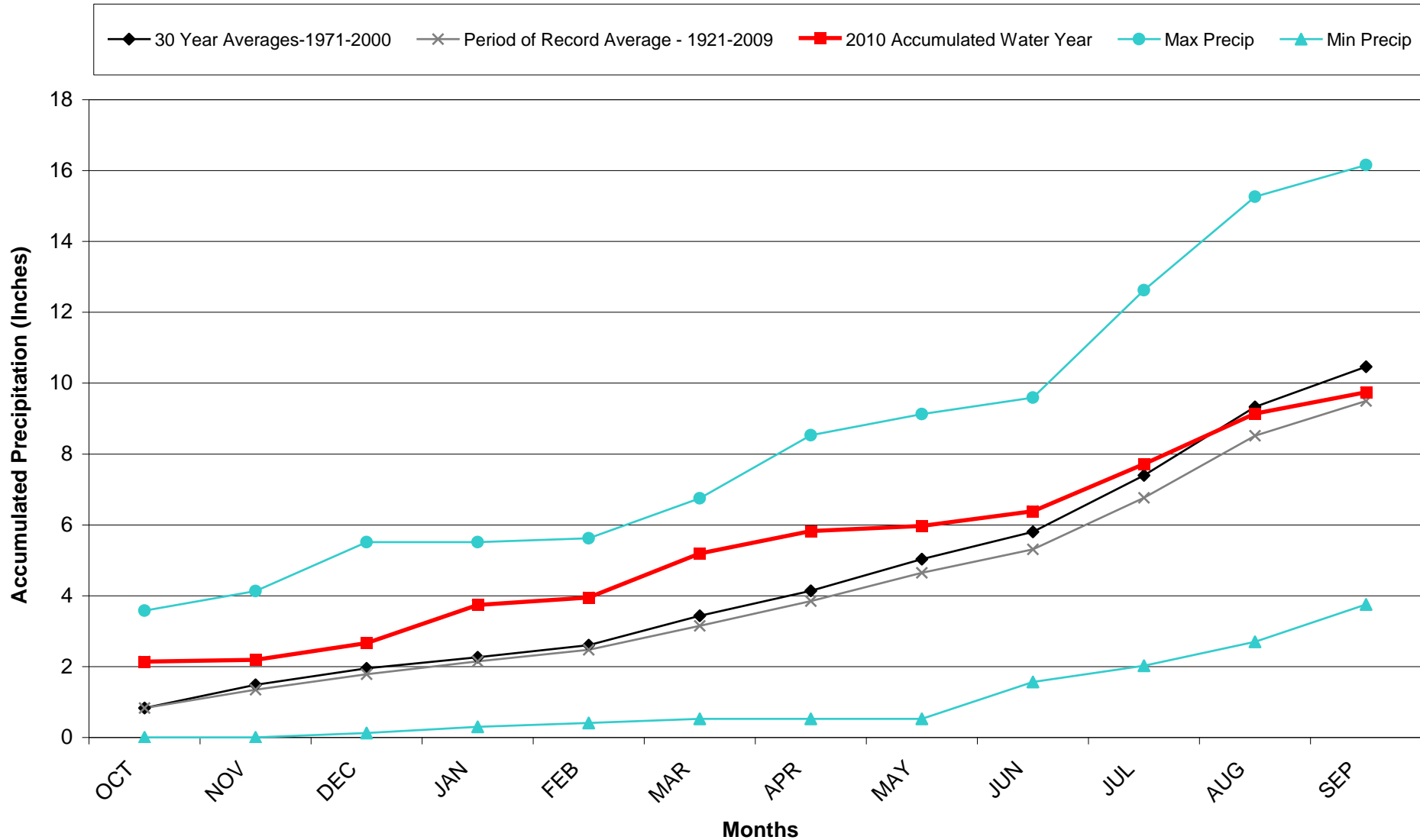
Division 3 – Mesa Verde NP

Mesa Verde NP 2010 Water Year



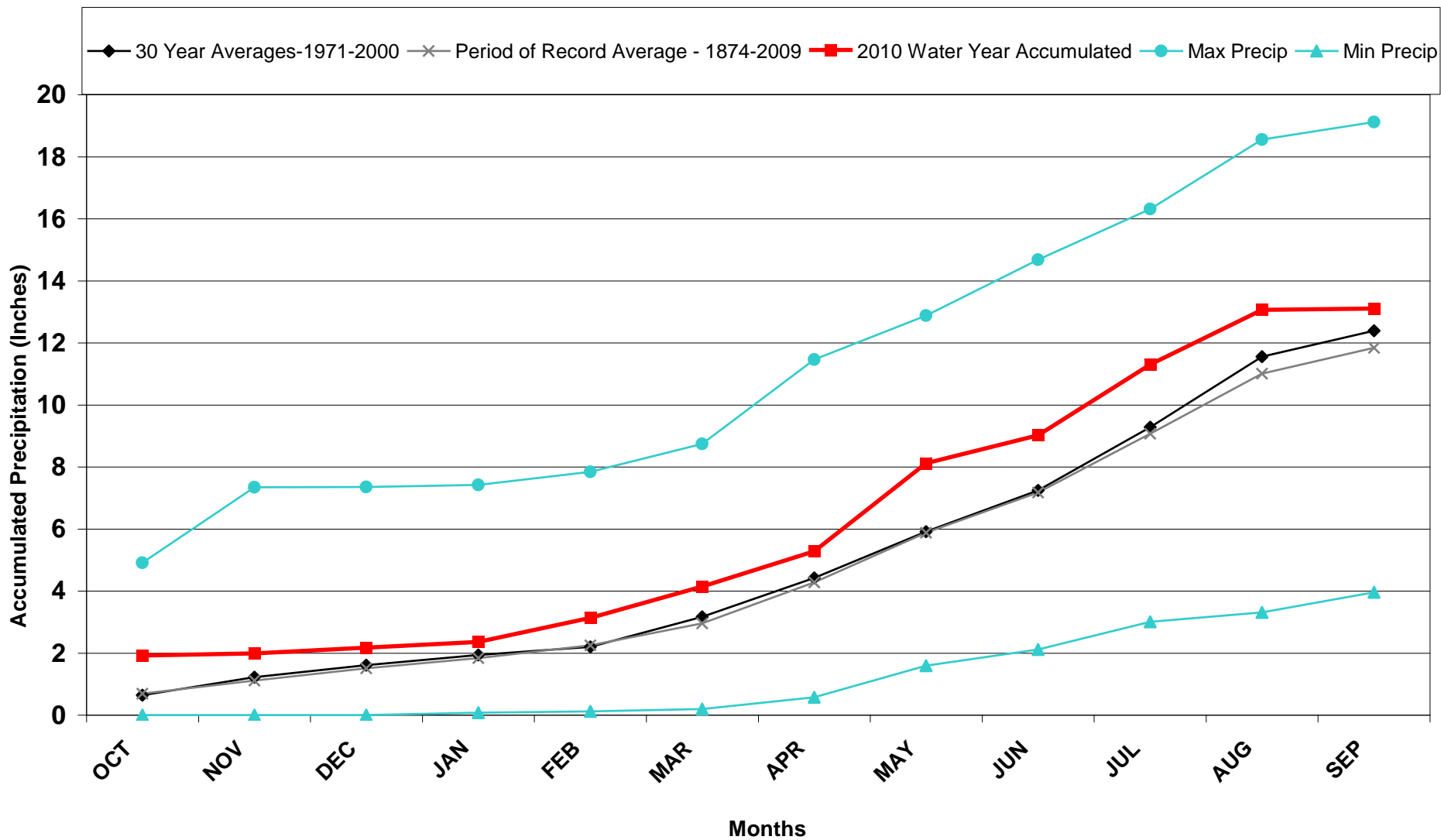
Division 4 – Del Norte

Del Norte 2010 Water Year



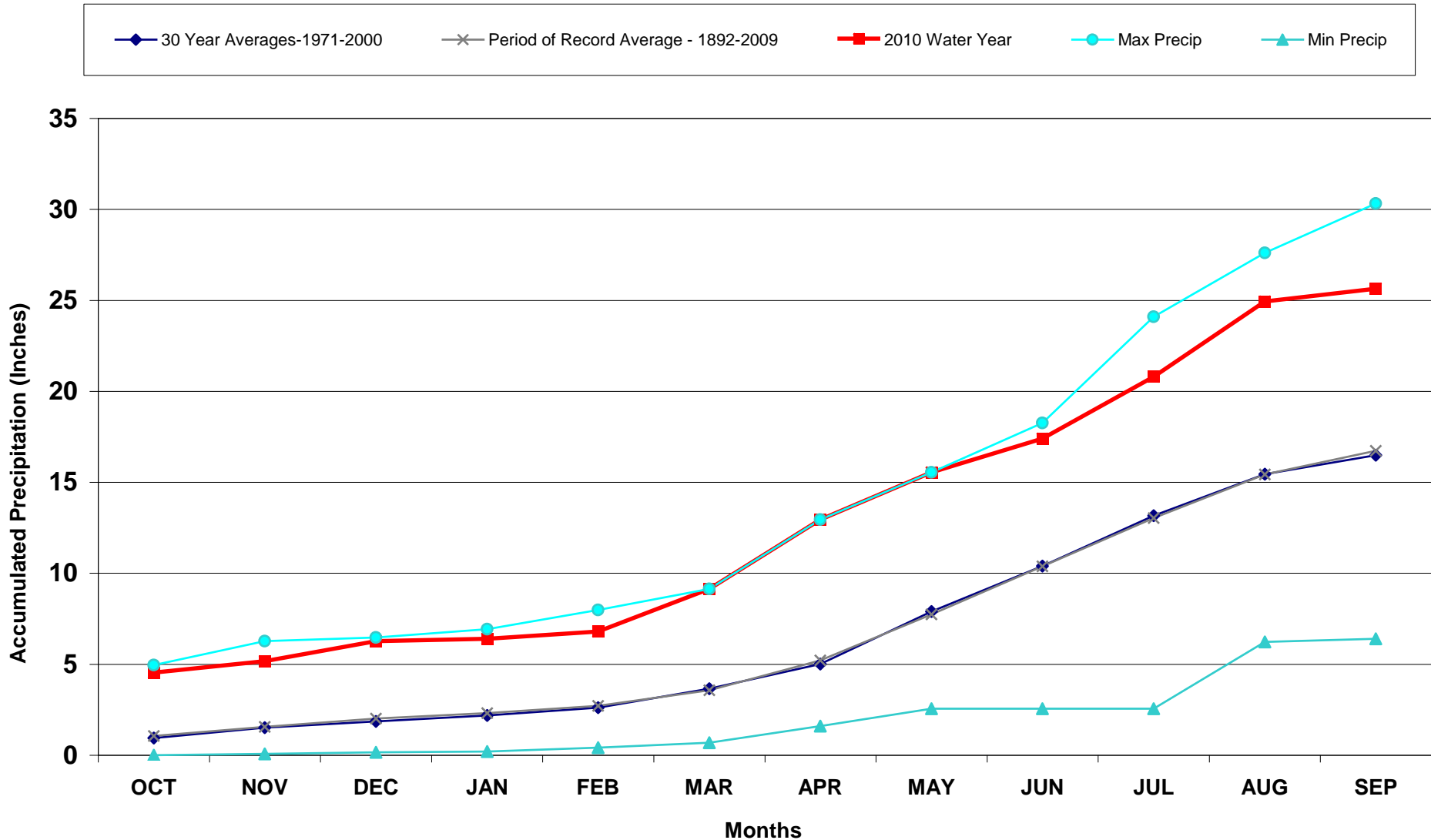
Division 5 – Pueblo

Pueblo WSO 2010 Water Year



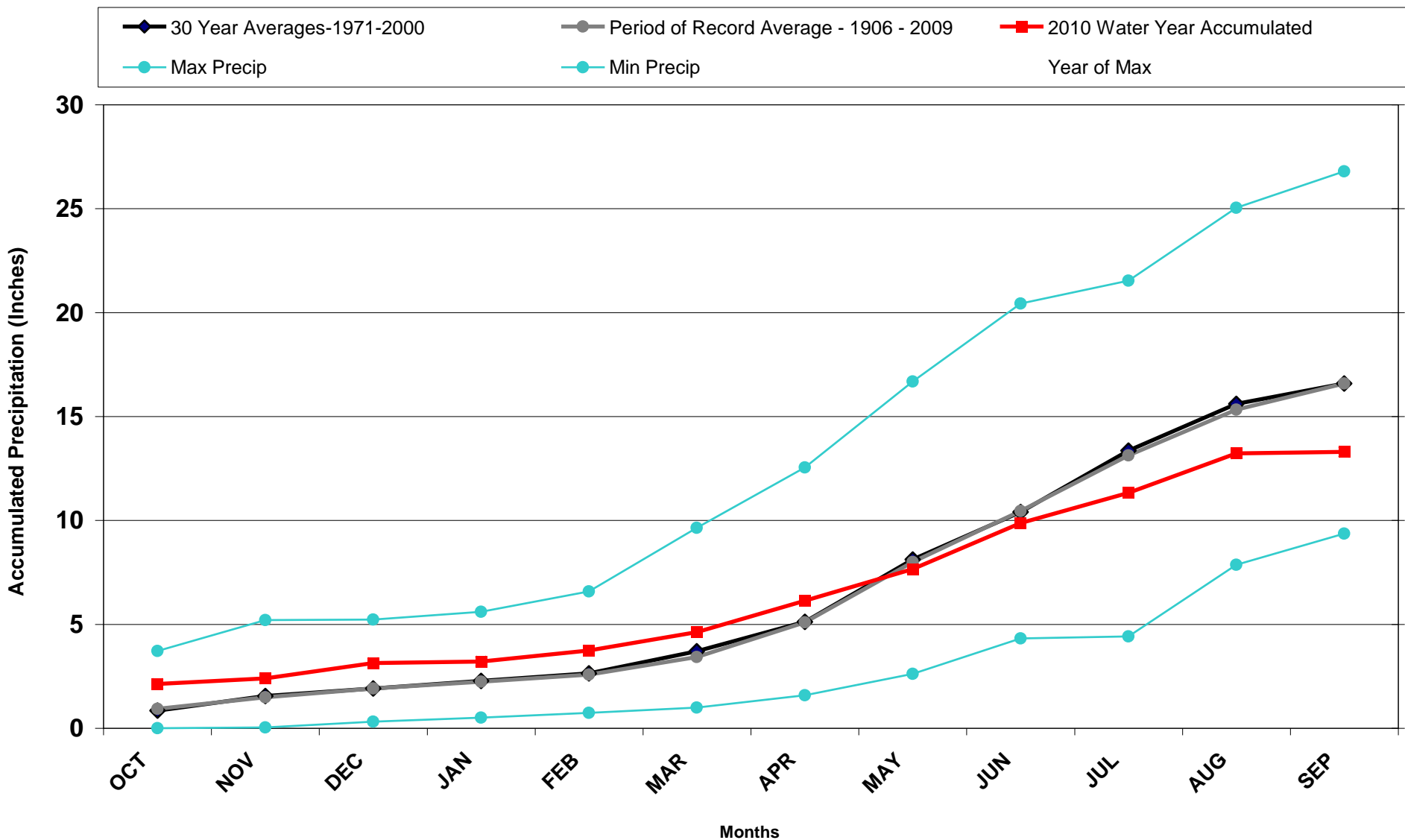
Division 6 - Burlington

Burlington 2010 Water Year



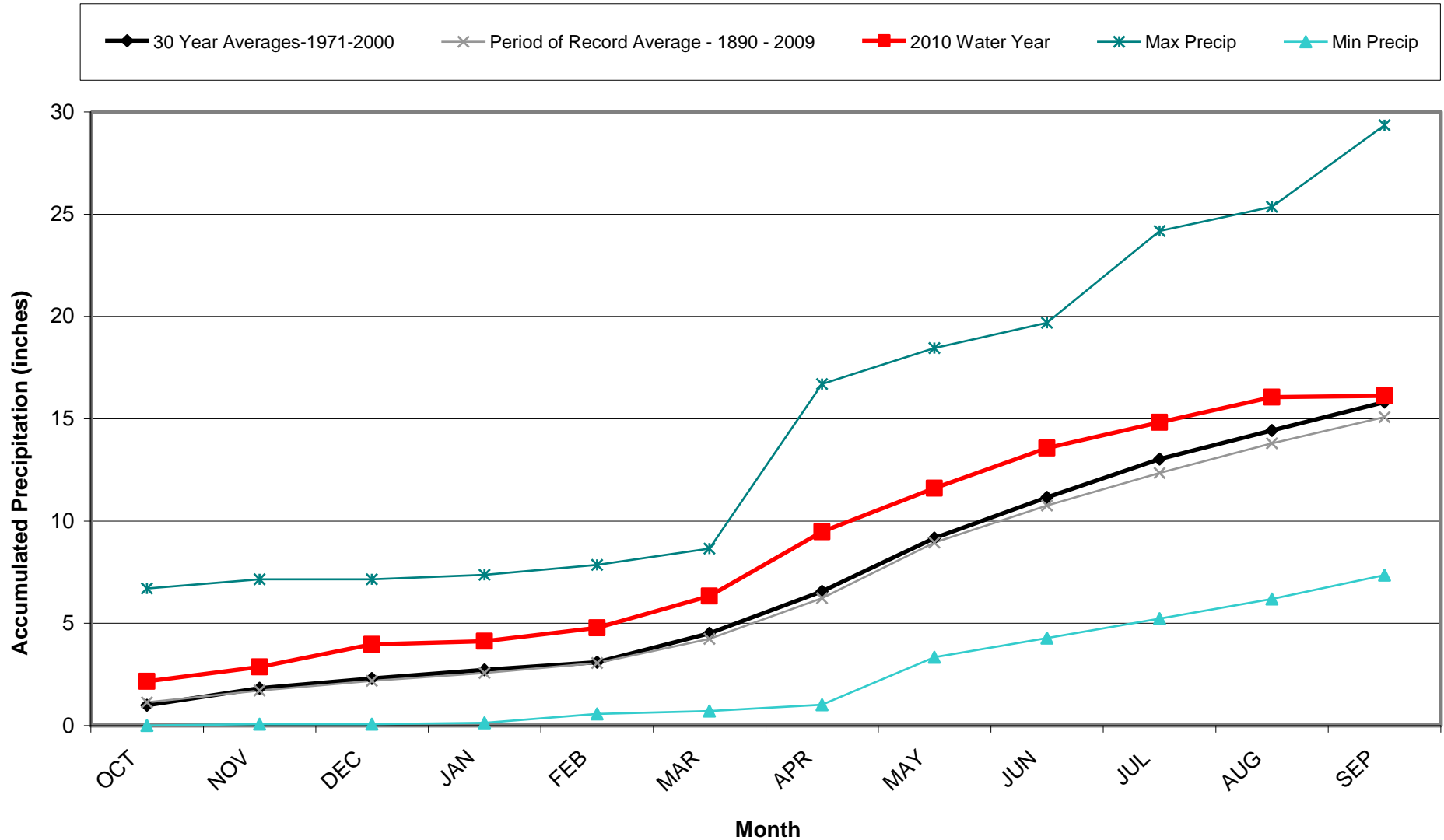
Division 7 – Akron

Akron 4E 2010 Water Year



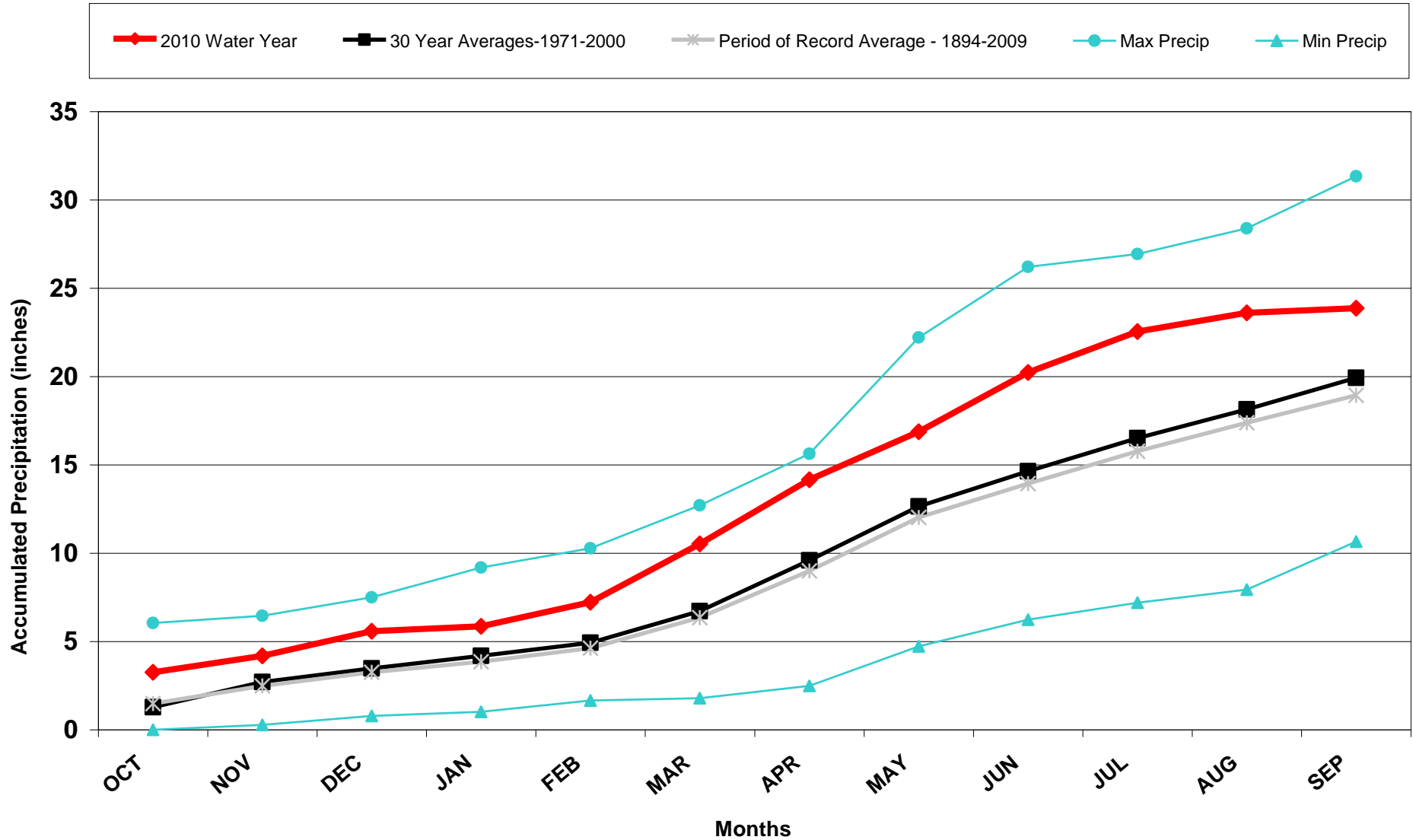
Division 8 – Fort Collins

Fort Collins 2010 Water Year

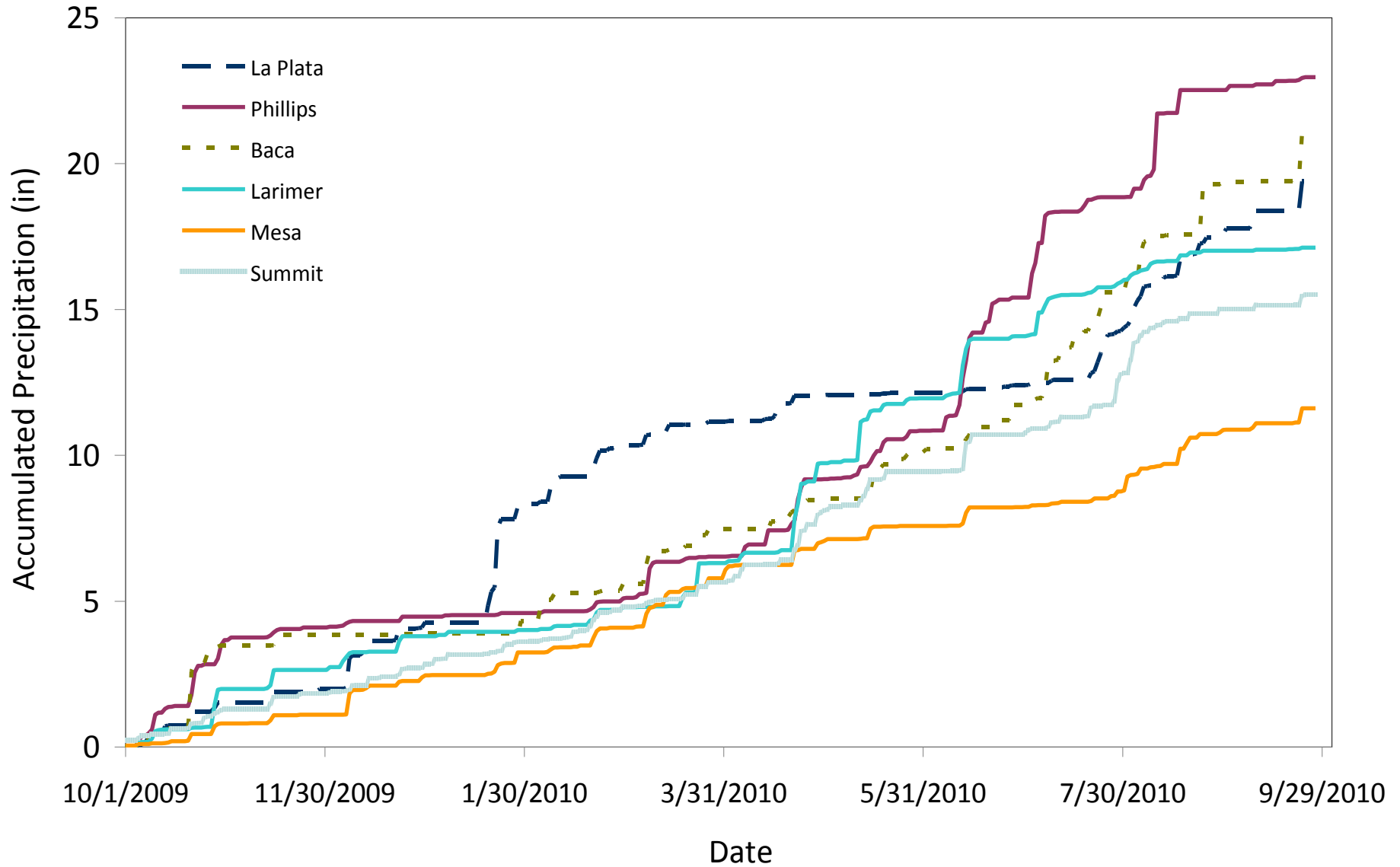


Division 8 - Boulder

Boulder 2010 Water Year



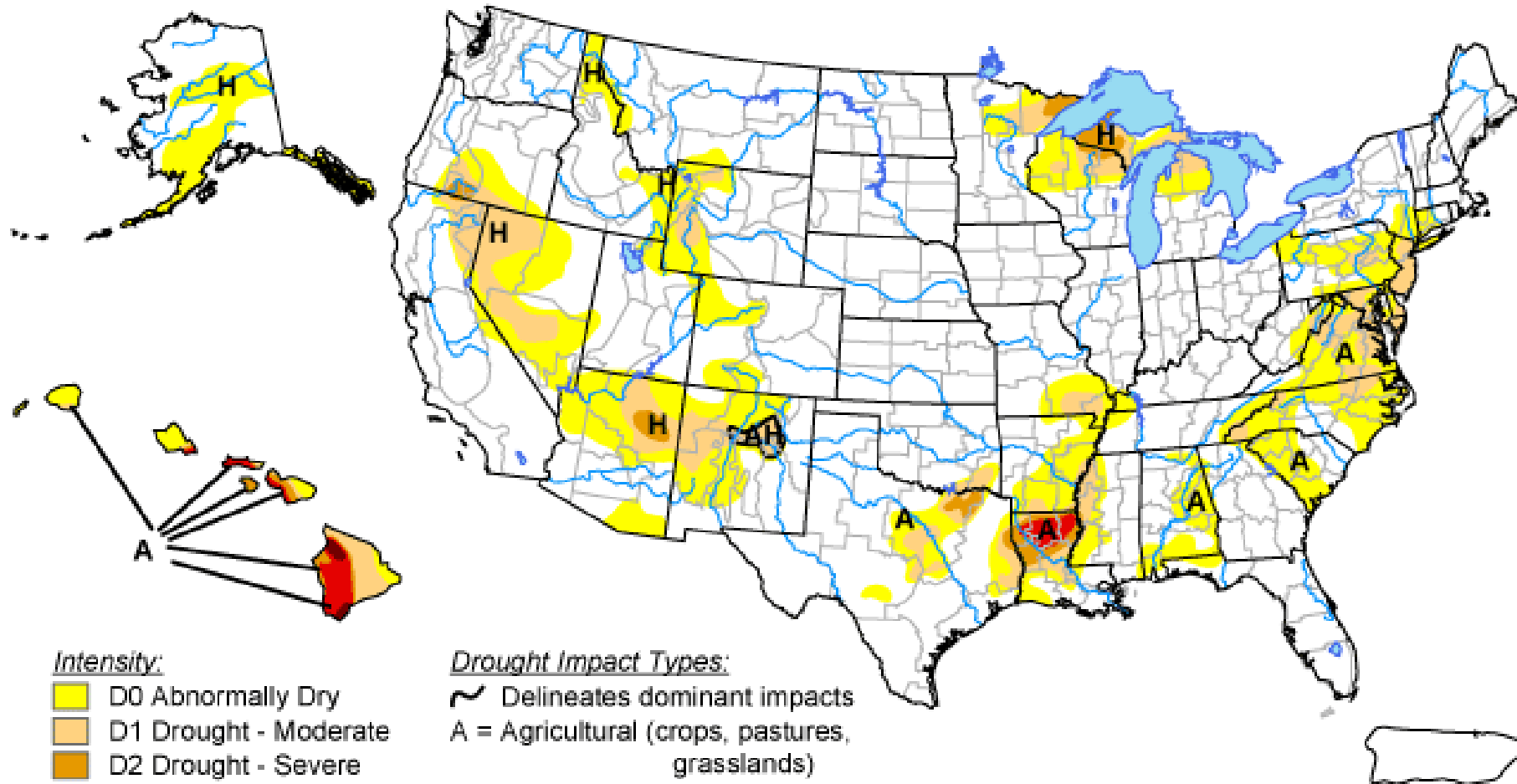
CoCoRaHS Daily Accumulated Precipitation for Water Year 2010 (Oct 1, 2009 - Sept 27, 2010)








U.S. Drought Monitor

July 13, 2010

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
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

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

<http://drought.unl.edu/dm>



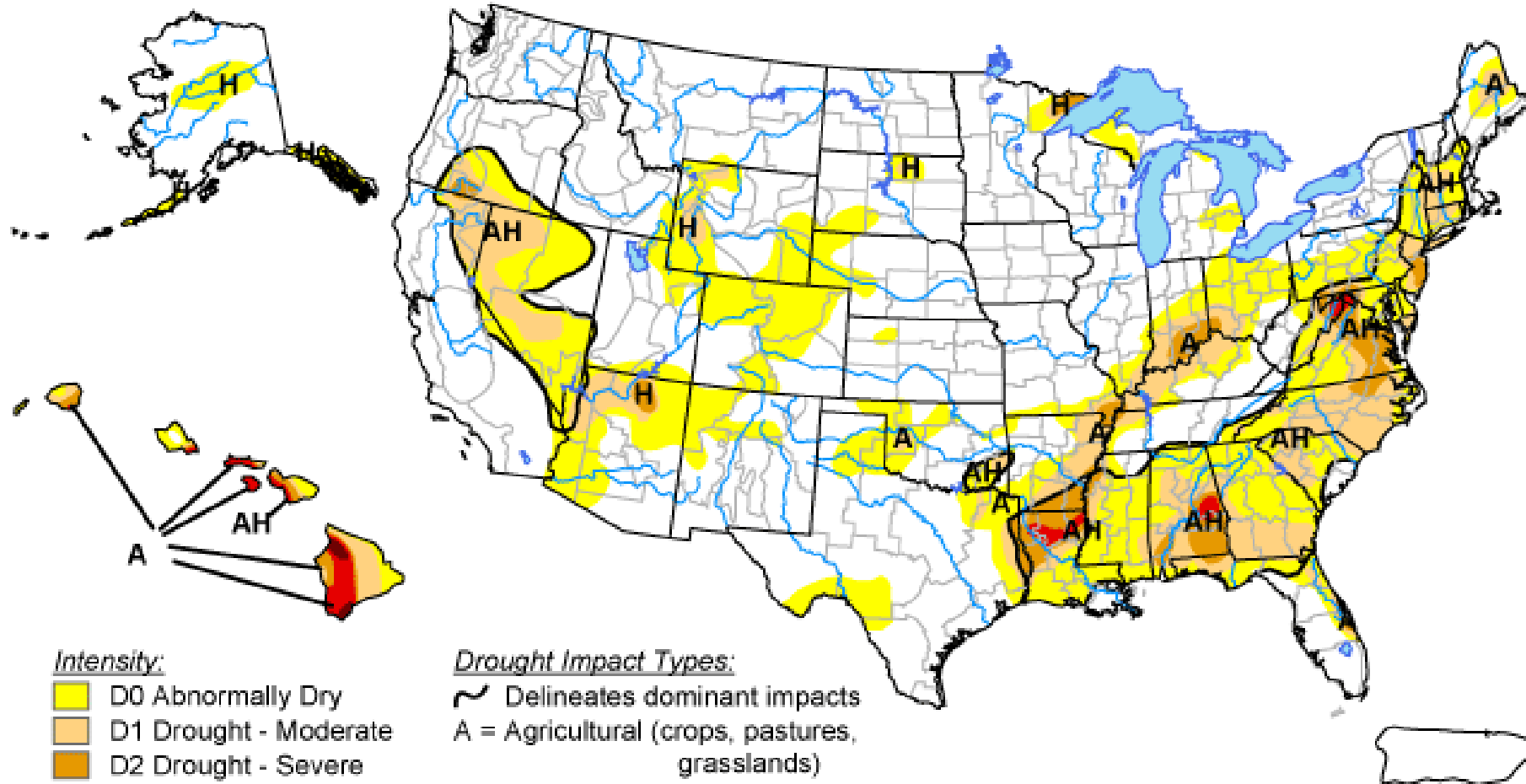
Released Thursday, July 15, 2010

Author: Anthony Artusa, NOAA/NWS/NCEP/CPC






U.S. Drought Monitor

September 21, 2010

Valid 8 a.m. EDT



Intensity:

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

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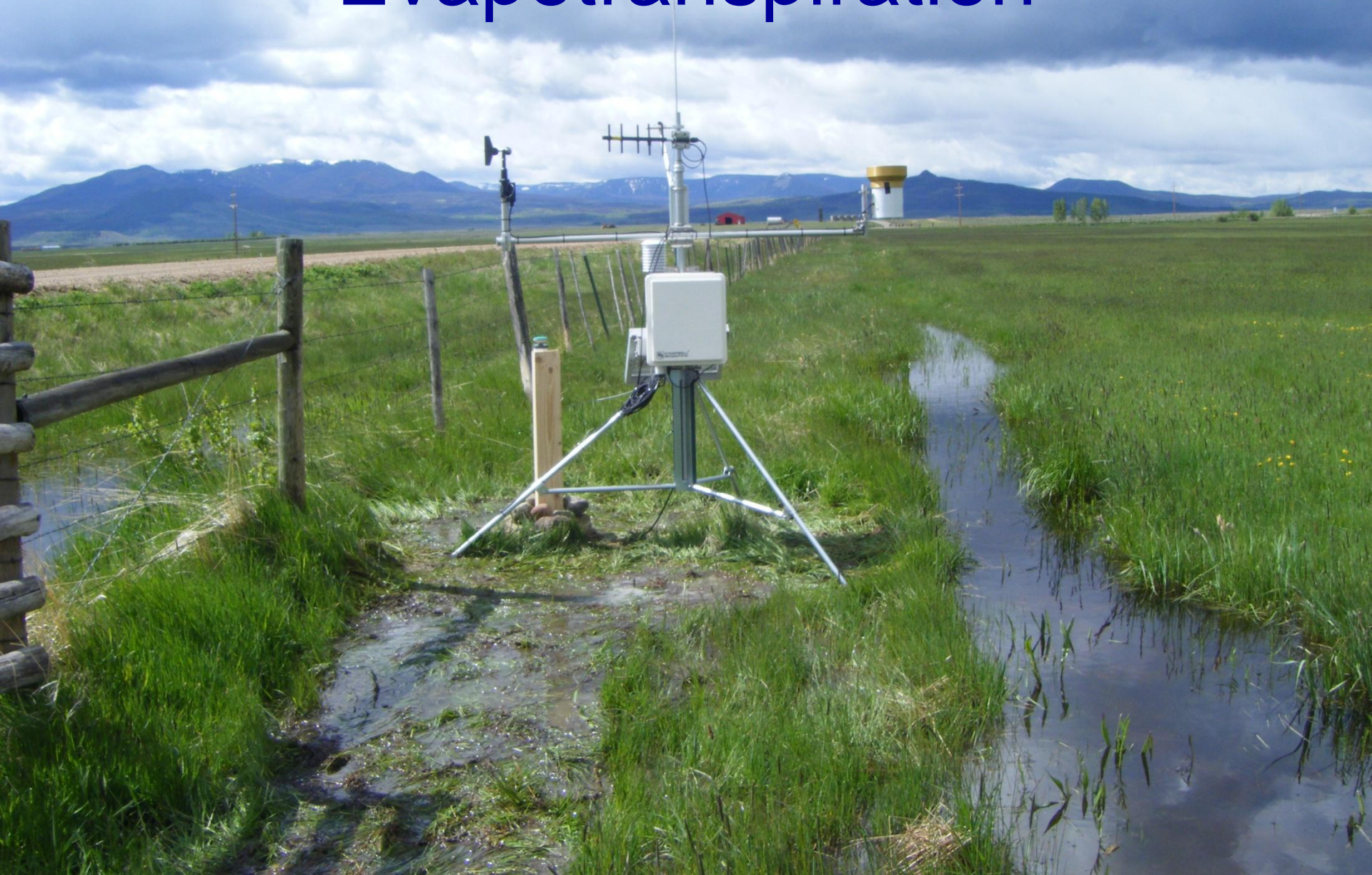


Released Thursday, September 23, 2010

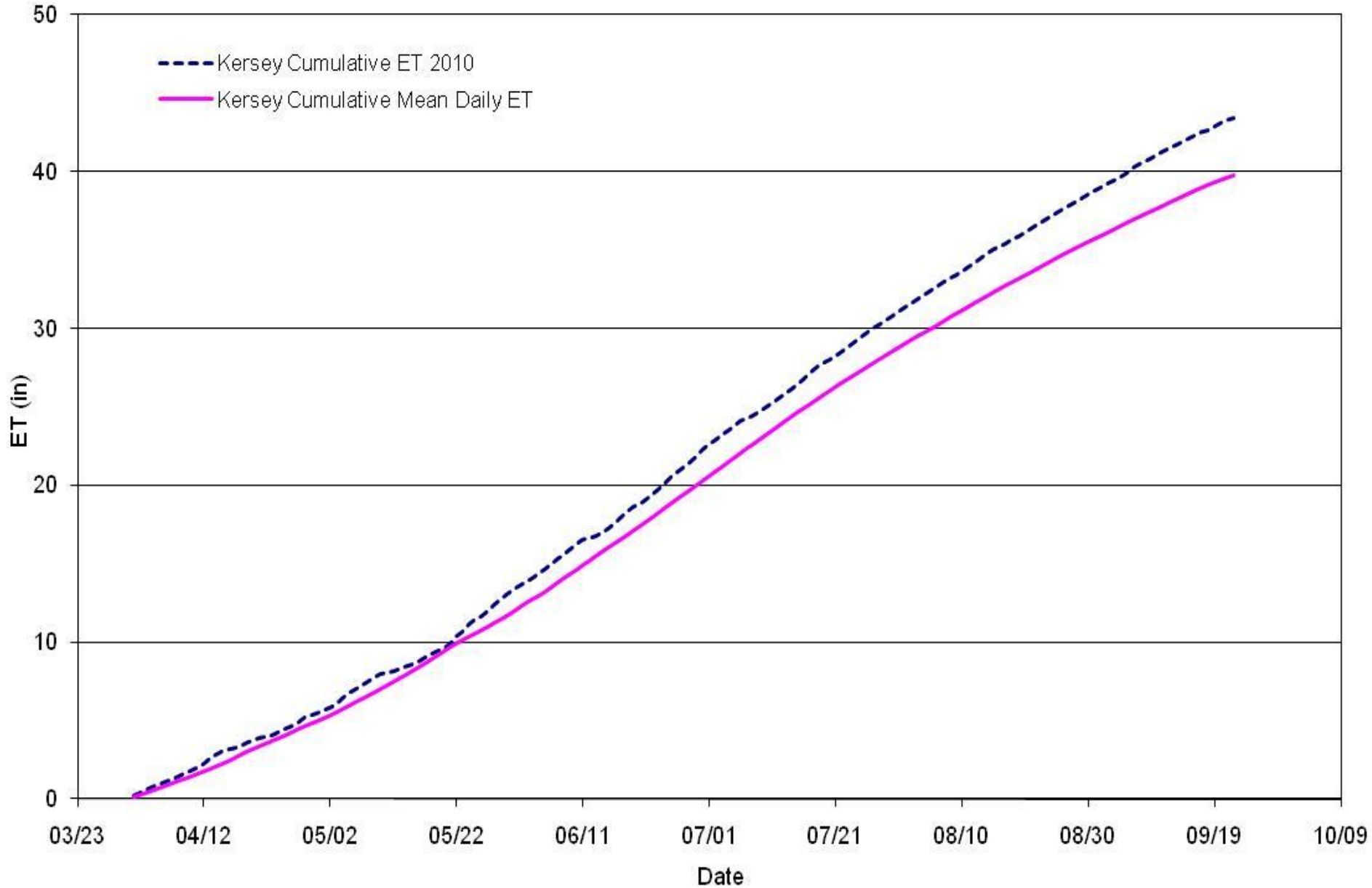
Author: Richard Heim/Liz Love-Brotak, NOAA/NESDIS/NCDC

<http://drought.unl.edu/dm>

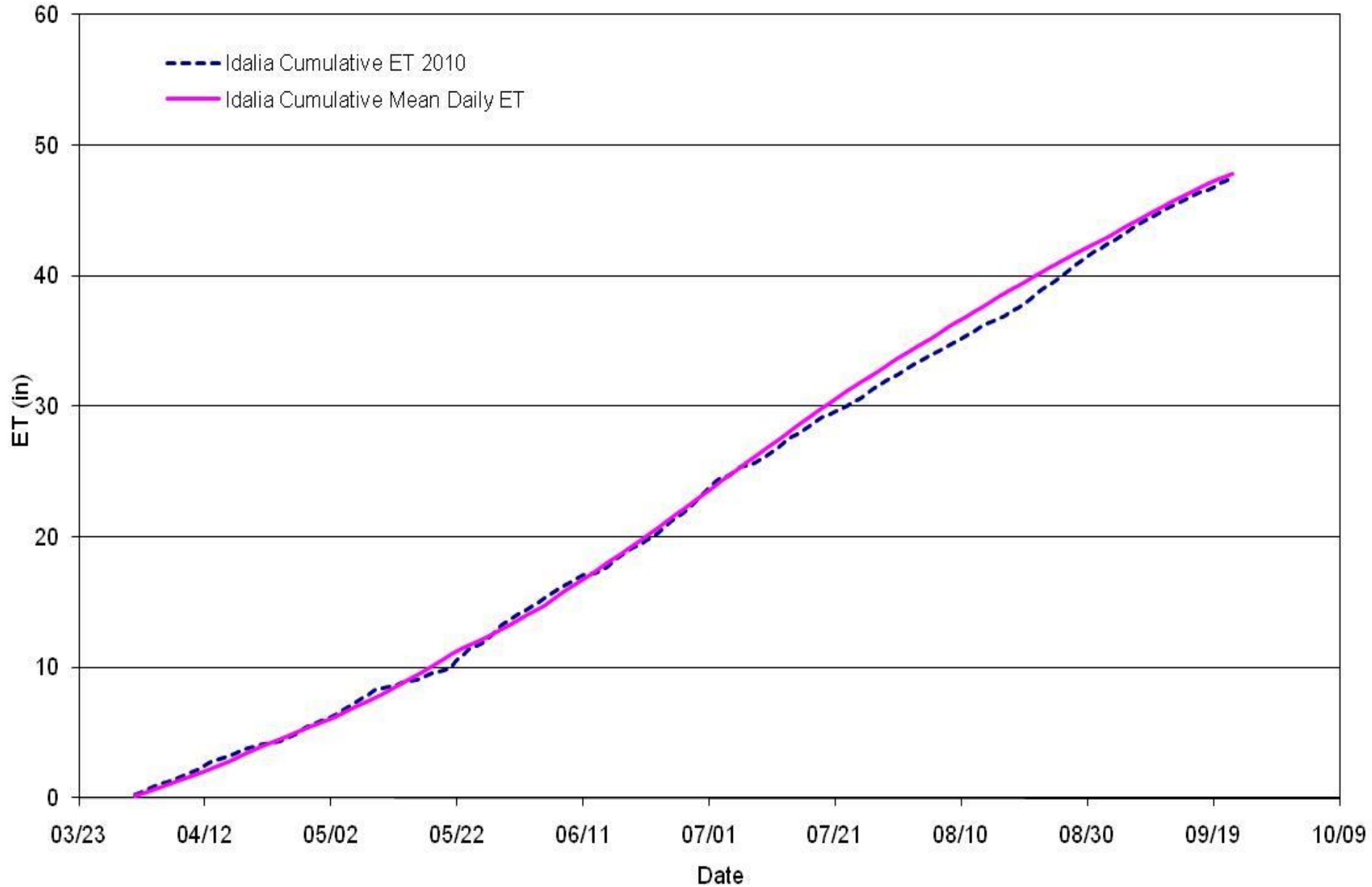
Evapotranspiration



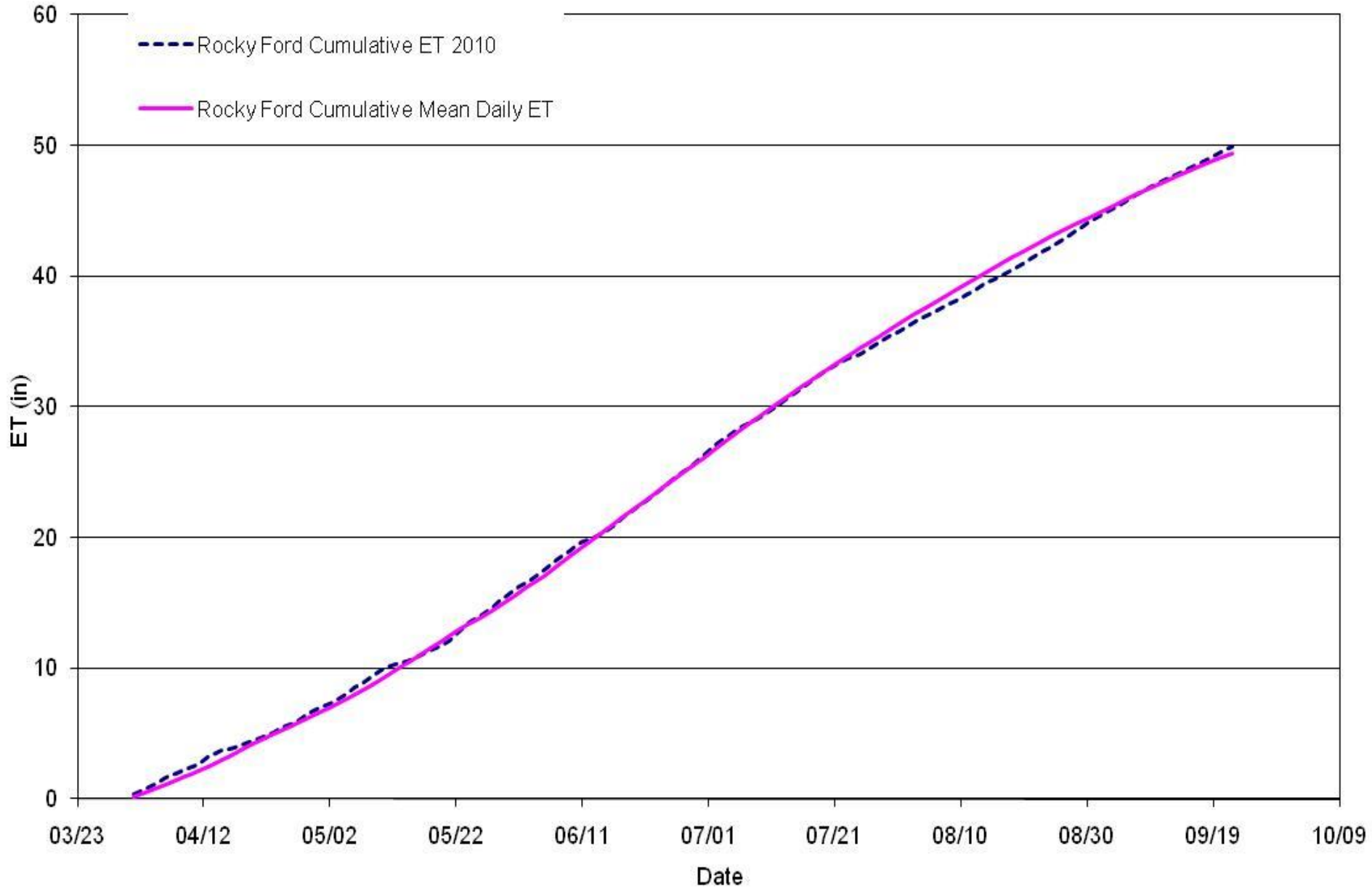
Kersey 2010 Evapotranspiration (Kimberly-Penman)



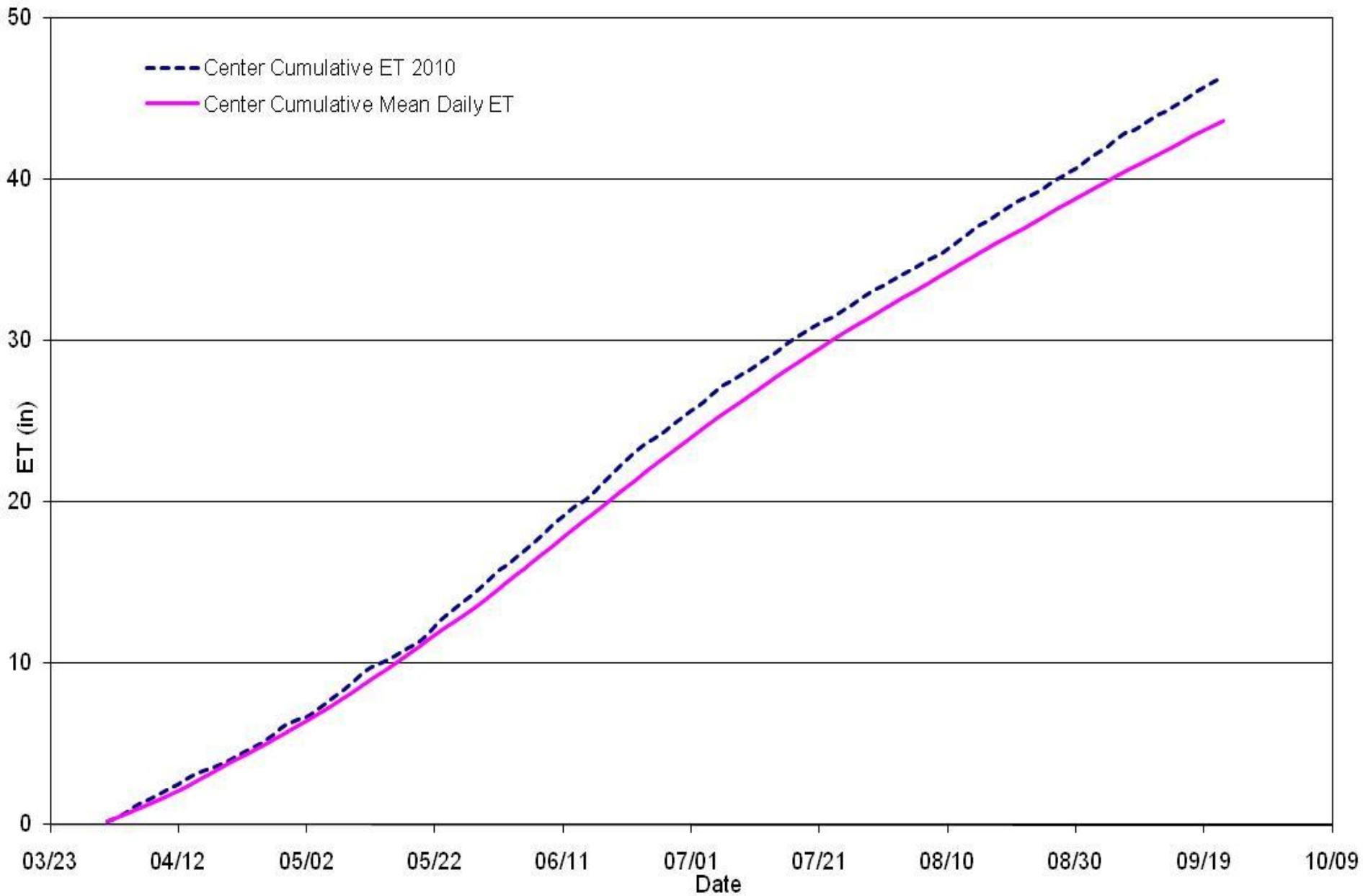
Idalia 2010 Evapotranspiration (Kimberly-Penman)



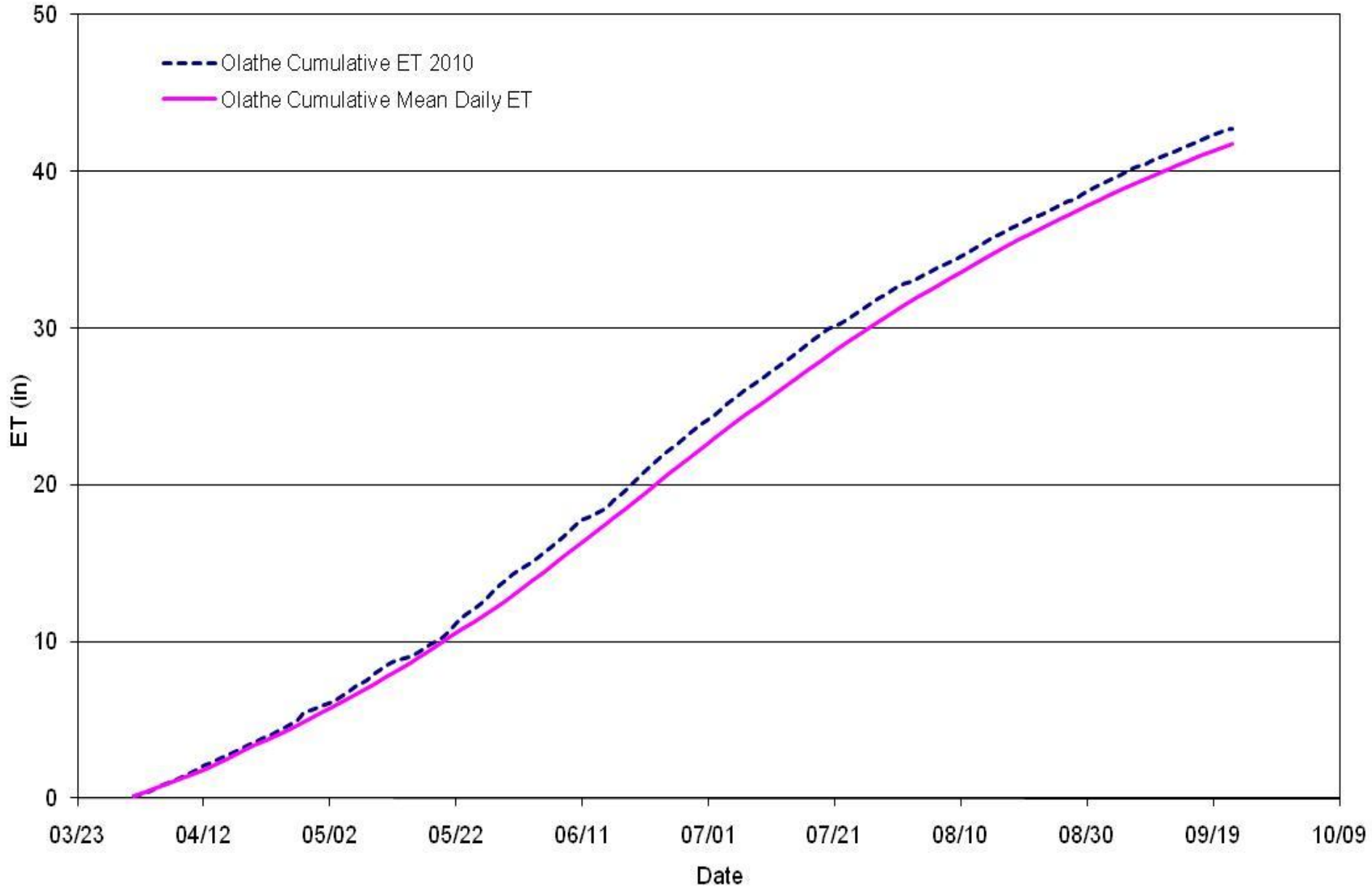
Rocky Ford 2010 Evapotranspiration (Kimberly-Penman)



Center 2010 Evapotranspiration (Kimberly-Penman)

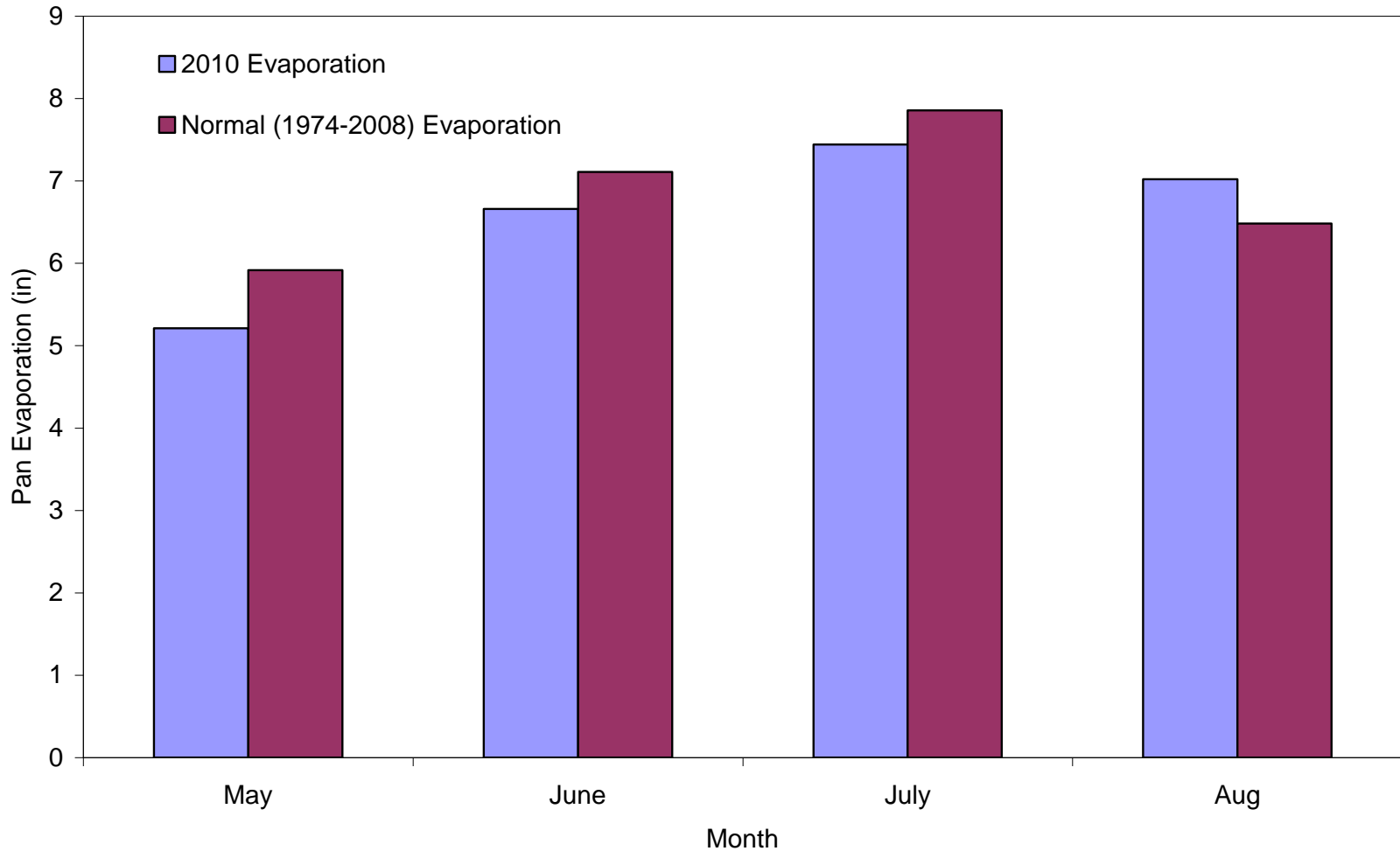


Olathe 2010 Evapotranspiration (Kimberly-Penman)



Pan Evaporation

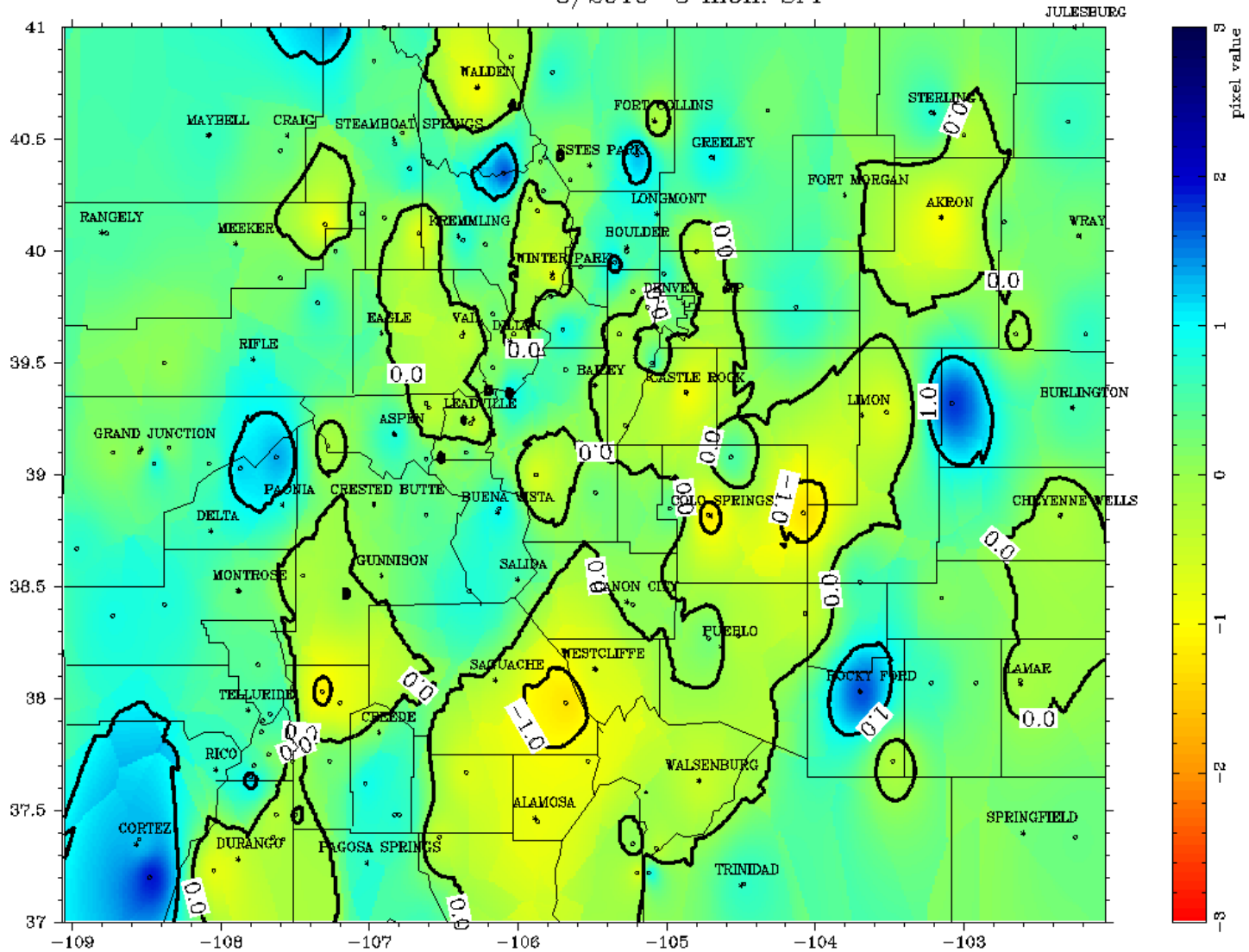
Fort Collins, CO Pan Evaporation Compared to Normal



3 Month SPI

Colorado

8/2010 3 mon. SPI



100 % < 2.0	1 % < -1.0
96 % < 1.0	0 % < -2.0
29 % < 0.0	0 % < -3.0

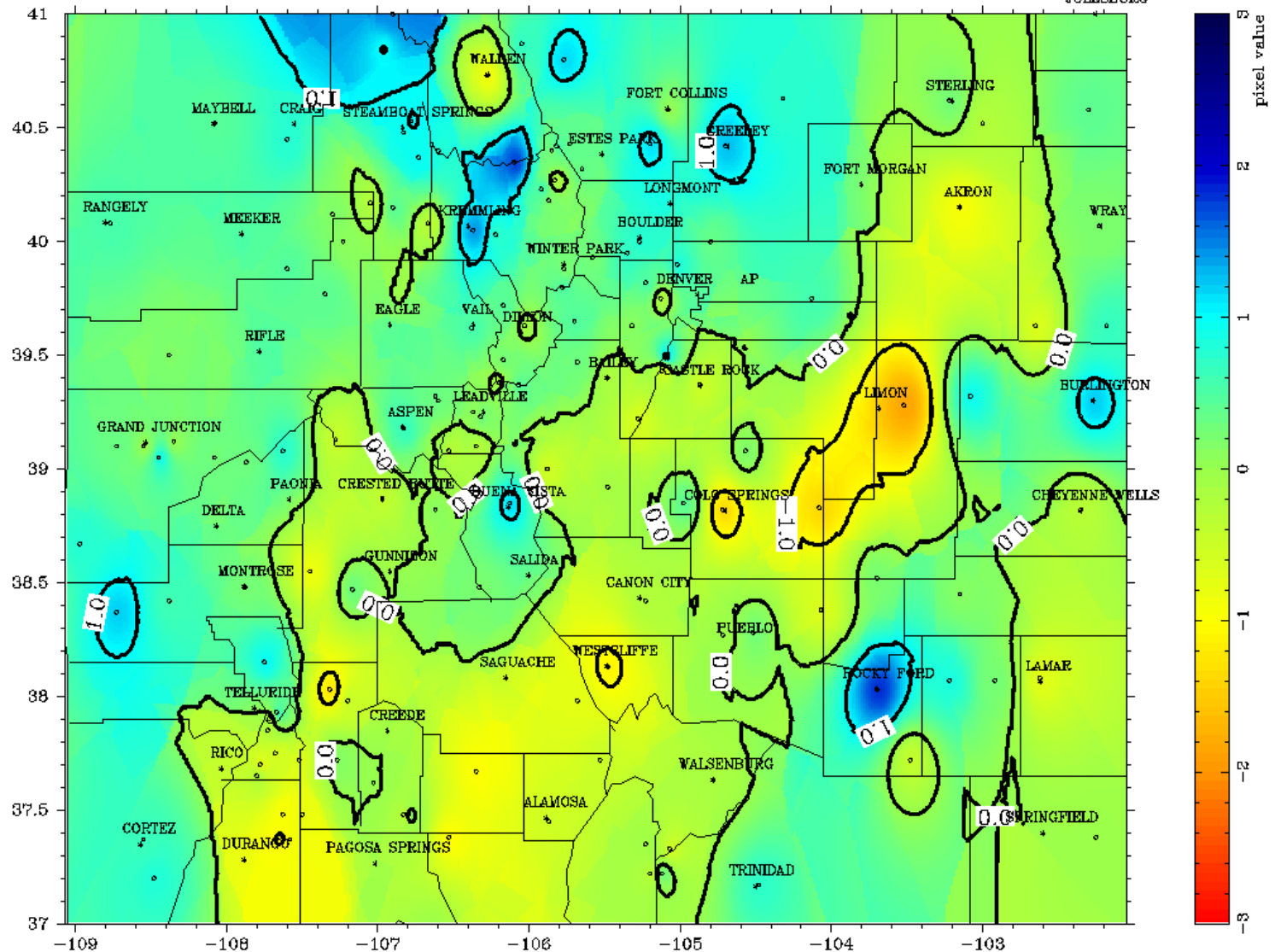
Produced by:
Colorado Climate Center
Fort Collins, CO

6 Month SPI

Colorado

8/2010 6 mon. SPI

JULESBURG



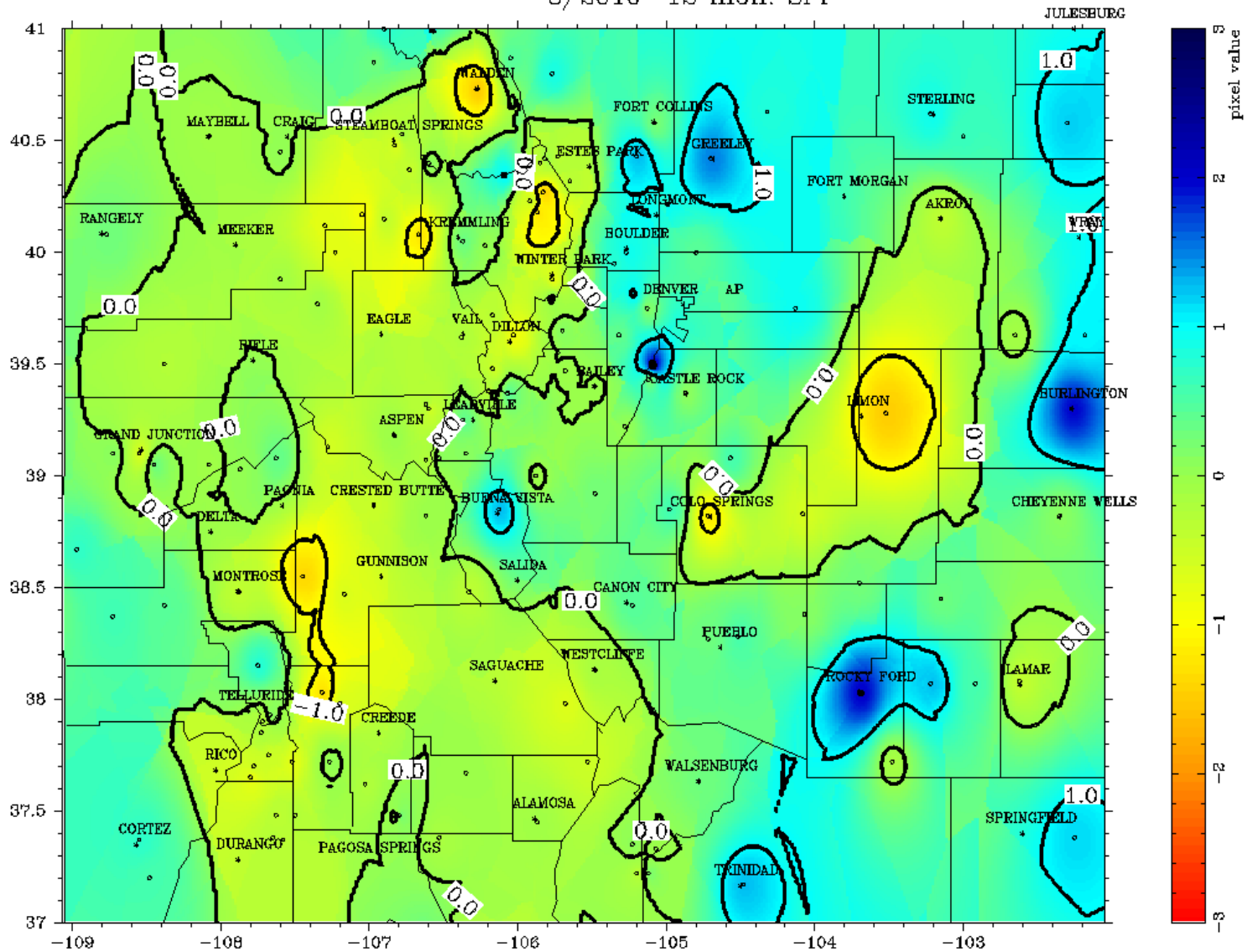
100 % < 2.0	2 % < -1.0
97 % < 1.0	0 % < -2.0
39 % < 0.0	0 % < -3.0

Produced by:
Colorado Climate Center
Fort Collins, CO

12 Month SPI

Colorado

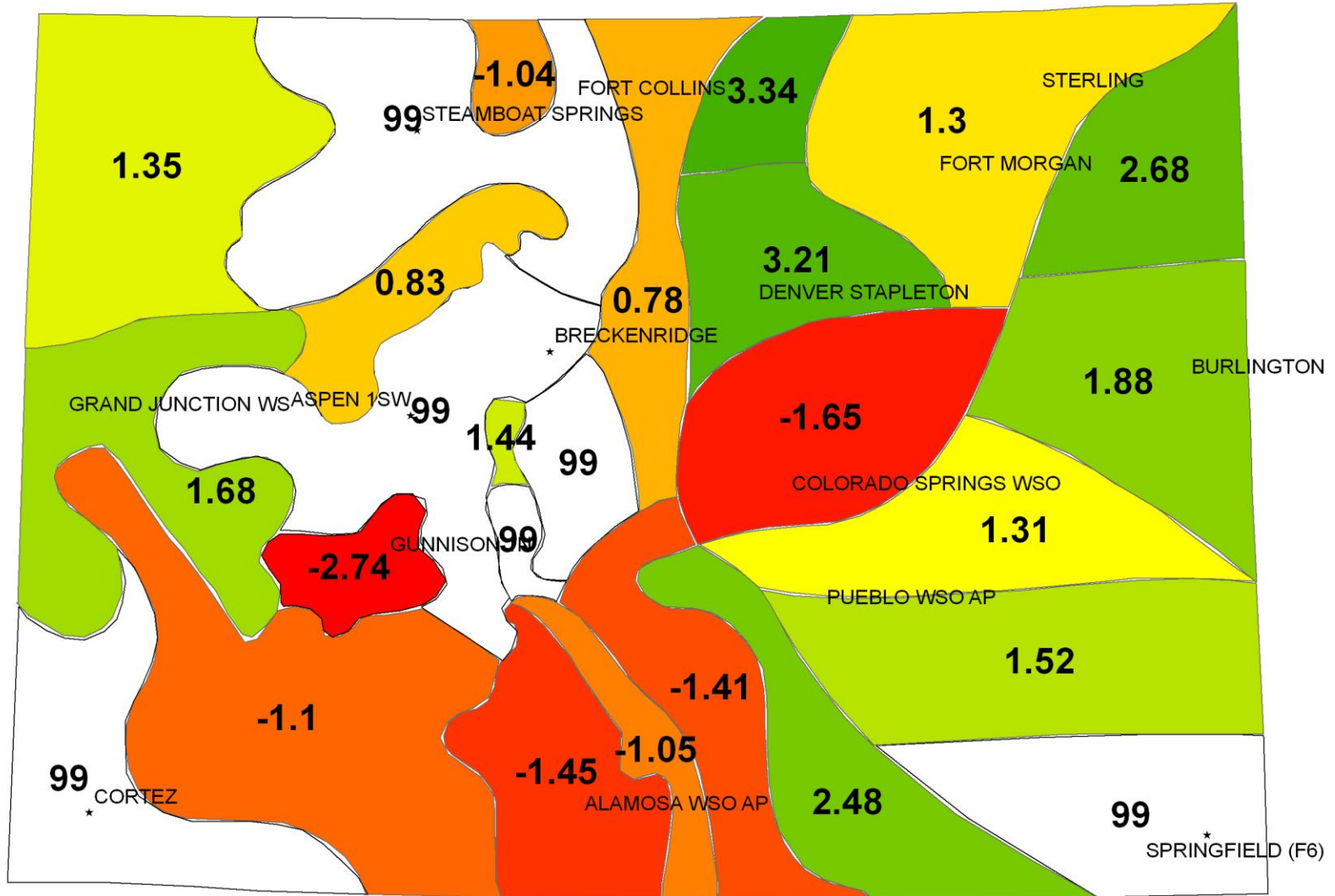
8/2010 12 mon. SPI



100 % < 2.0	2 % < -1.0
94 % < 1.0	0 % < -2.0
40 % < 0.0	0 % < -3.0

Produced by:
Colorado Climate Center
Fort Collins, CO

Modified Palmer Drought Severity Index for Colorado August 2010



Colorado Climate Center



Data and Power Point Presentations available for downloading

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