Climate Update

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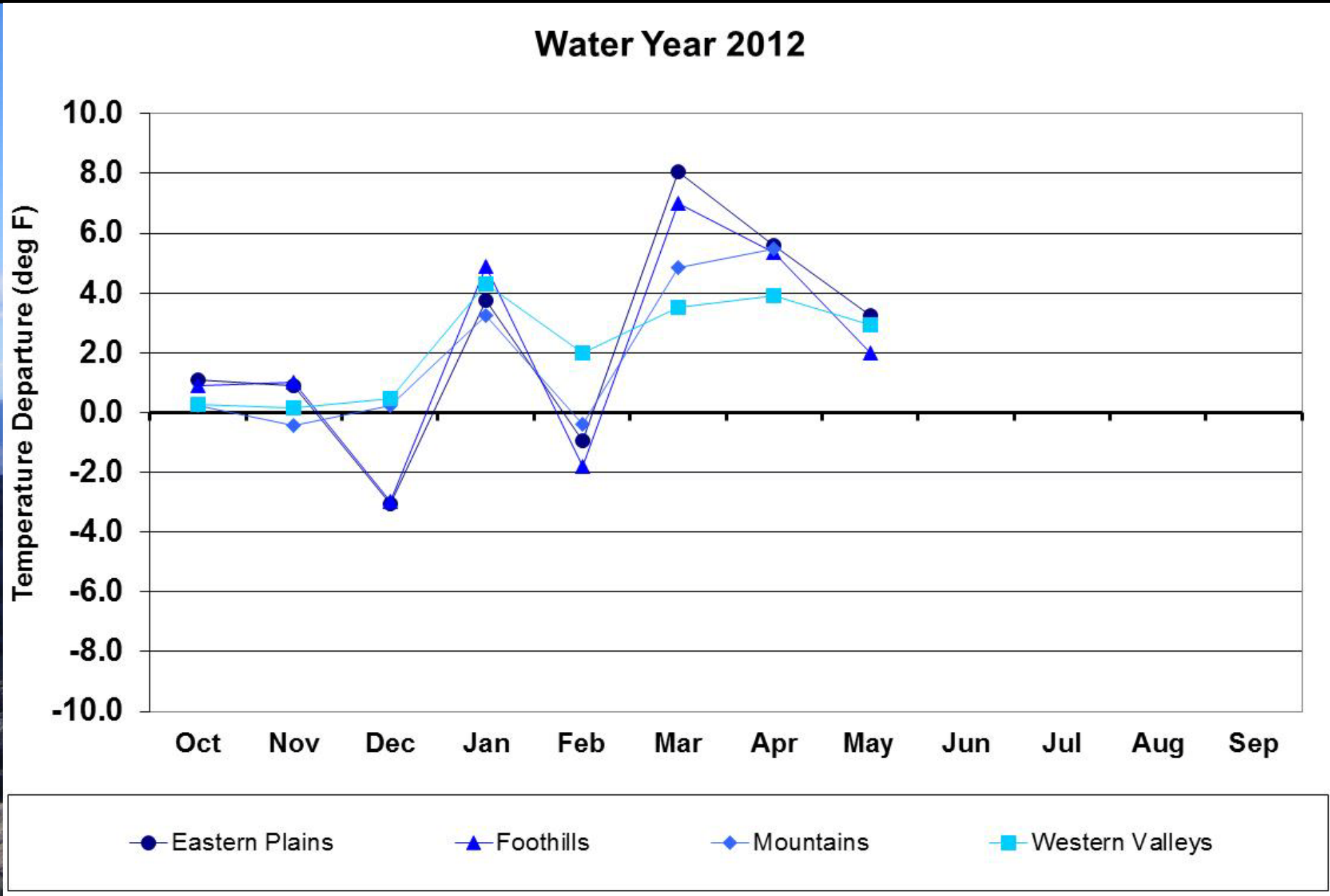
Colorado Climate Center

Atmospheric Science Department
Colorado State University

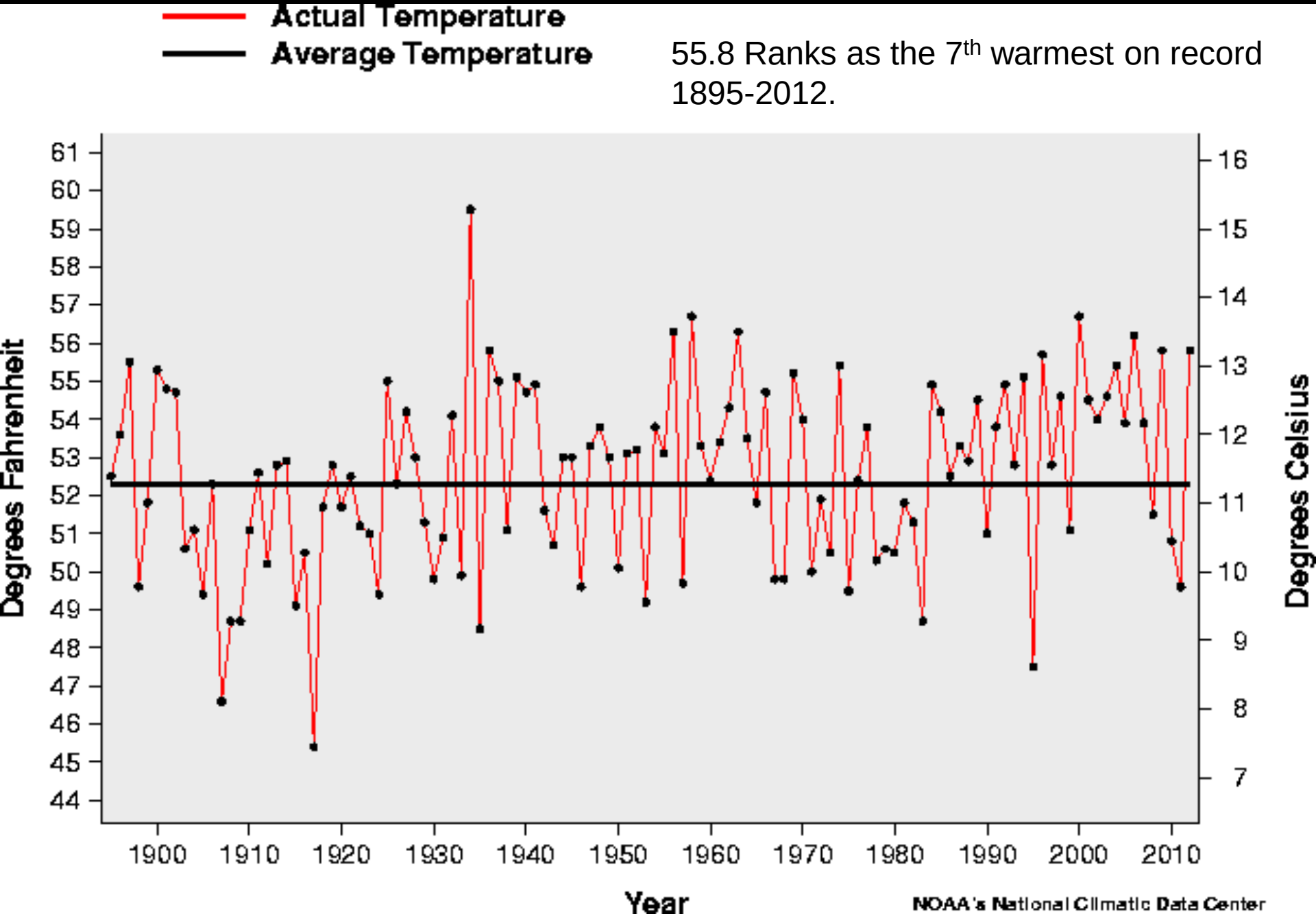
Presented to
Water Availability Task Force
June 20, 2012
Denver, CO

Prepared by Wendy Ryan

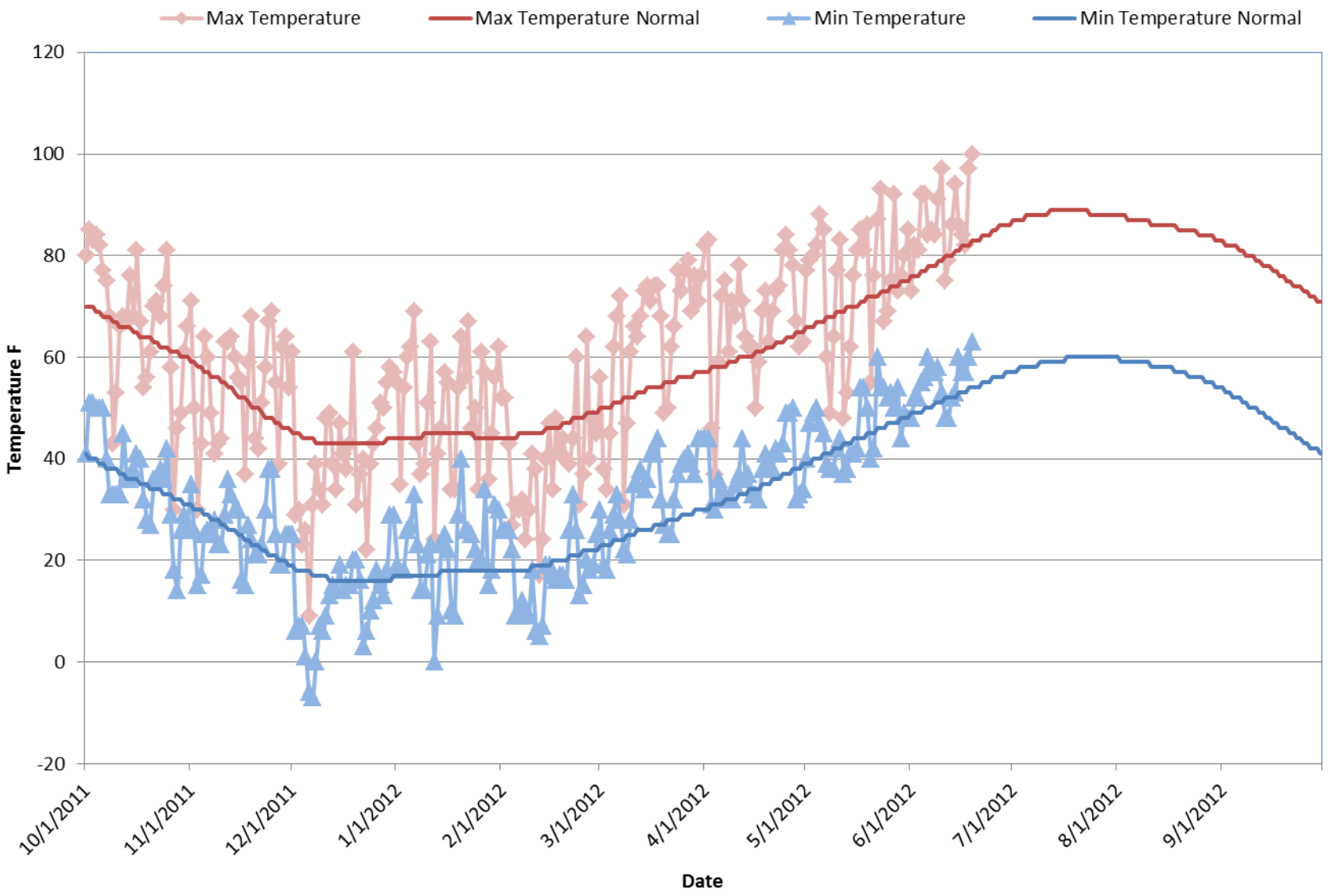
Water Year 2012 Temperature Departures



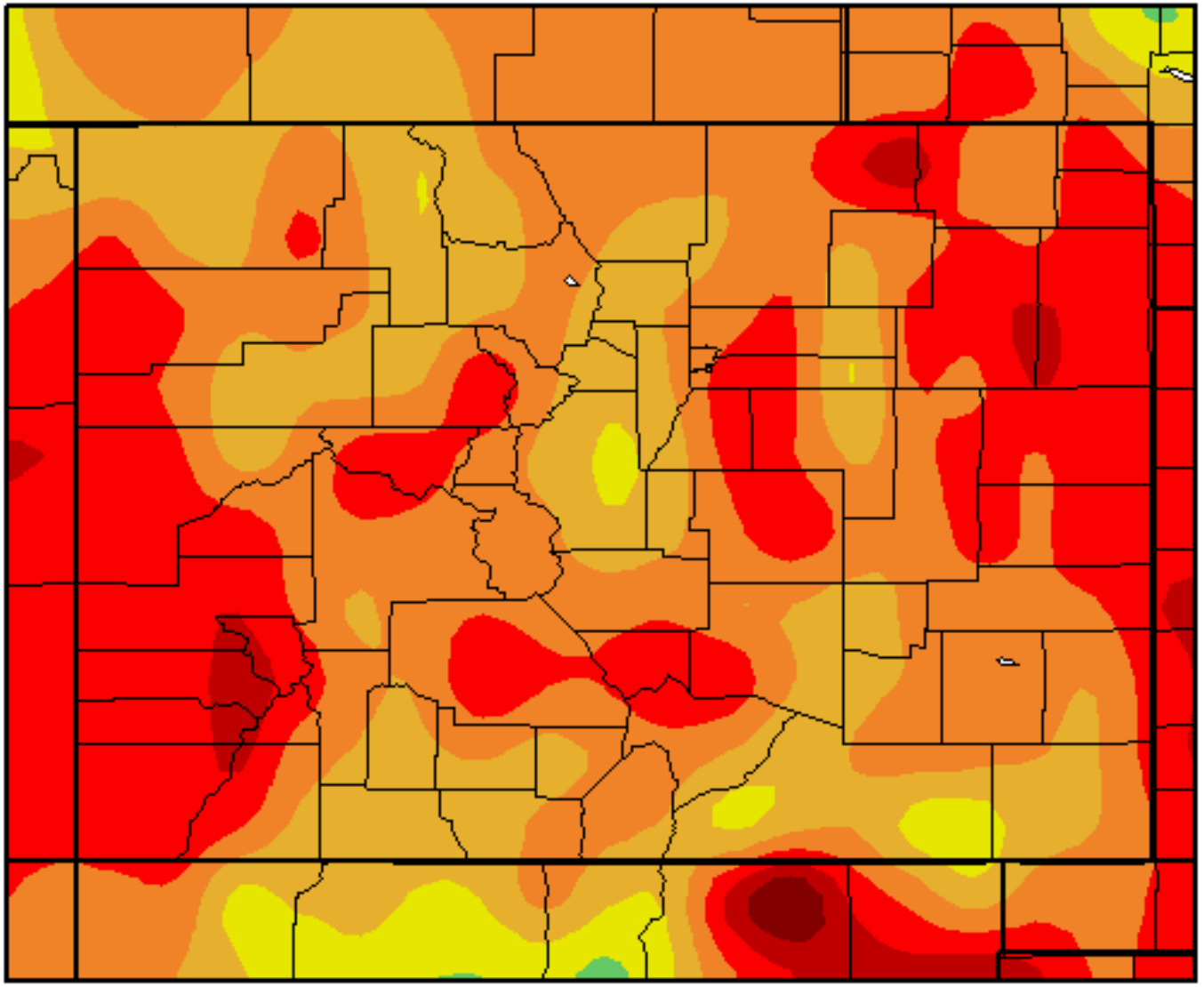
May Average Temperature History for Colorado (NCDC)



Denver Stapleton Daily Max/Min Temperatures and Normals



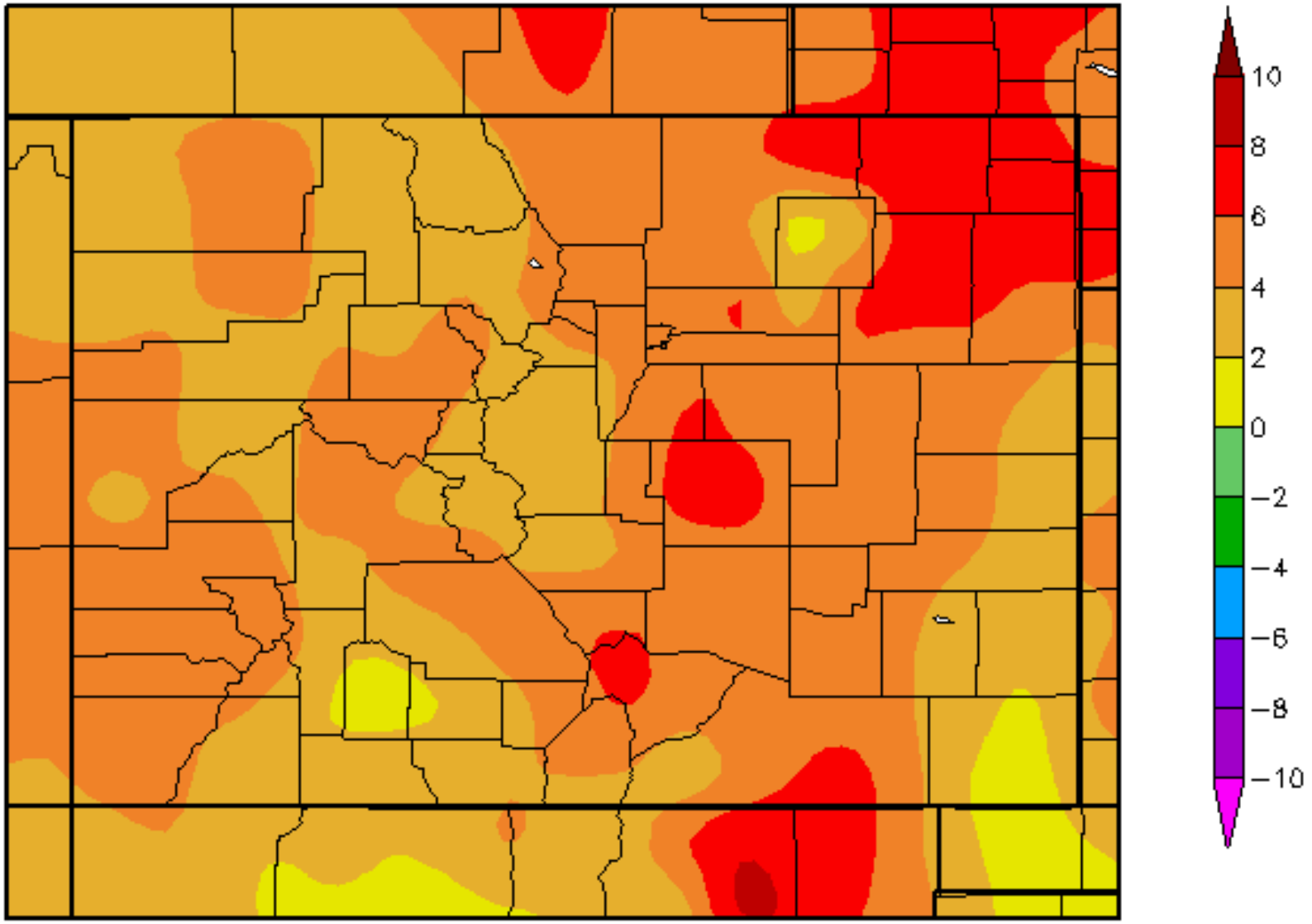
Departure from Normal Temperature (F)
5/1/2012 – 5/31/2012



Generated 6/11/2012 at HPRCC using provisional data.

Regional Climate Centers

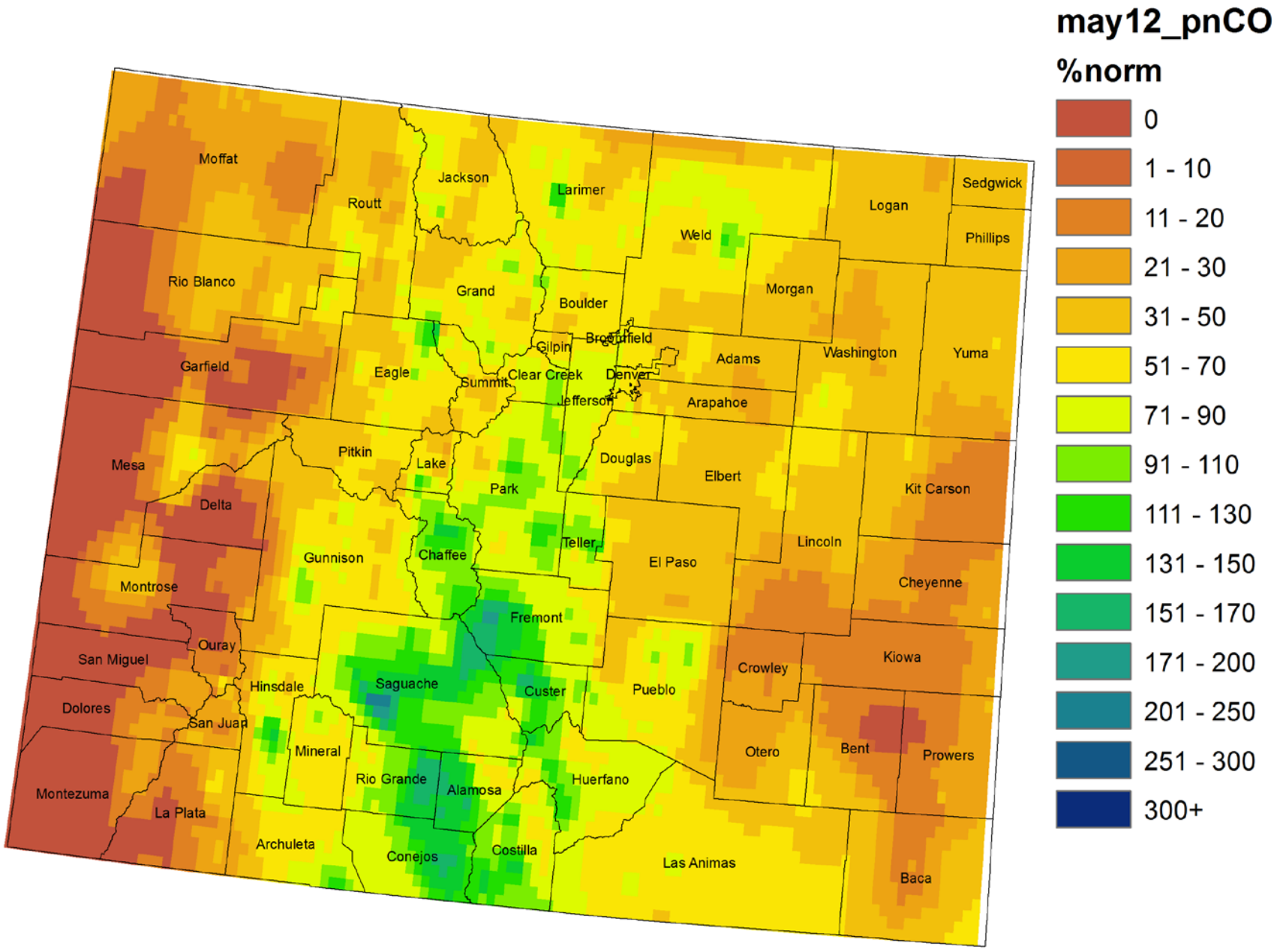
Departure from Normal Temperature (F)
6/1/2012 – 6/18/2012



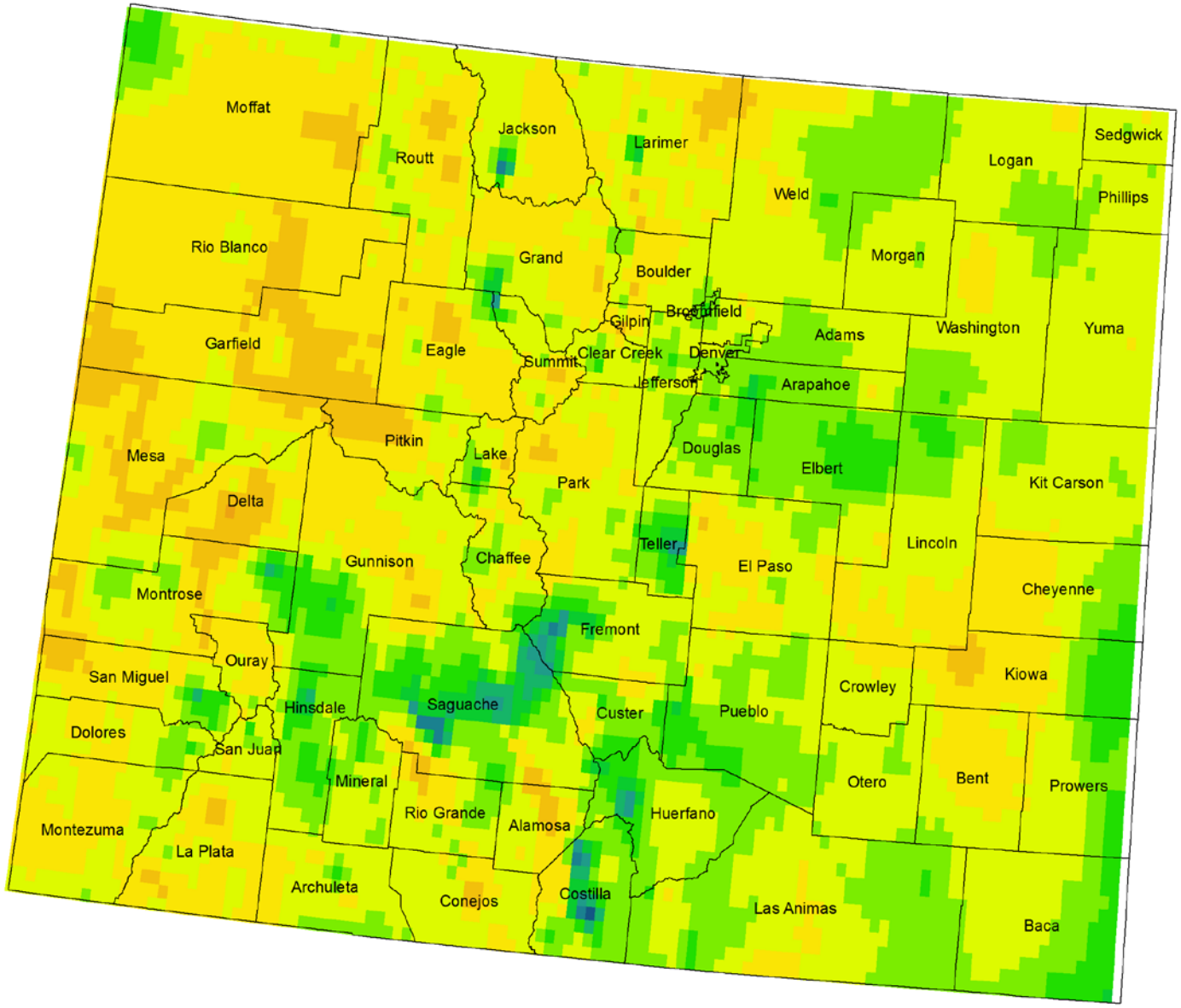
Generated 6/19/2012 at HPRCC using provisional data.

Regional Climate Centers

Colorado May 2012 Precipitation as Percentage of Normal



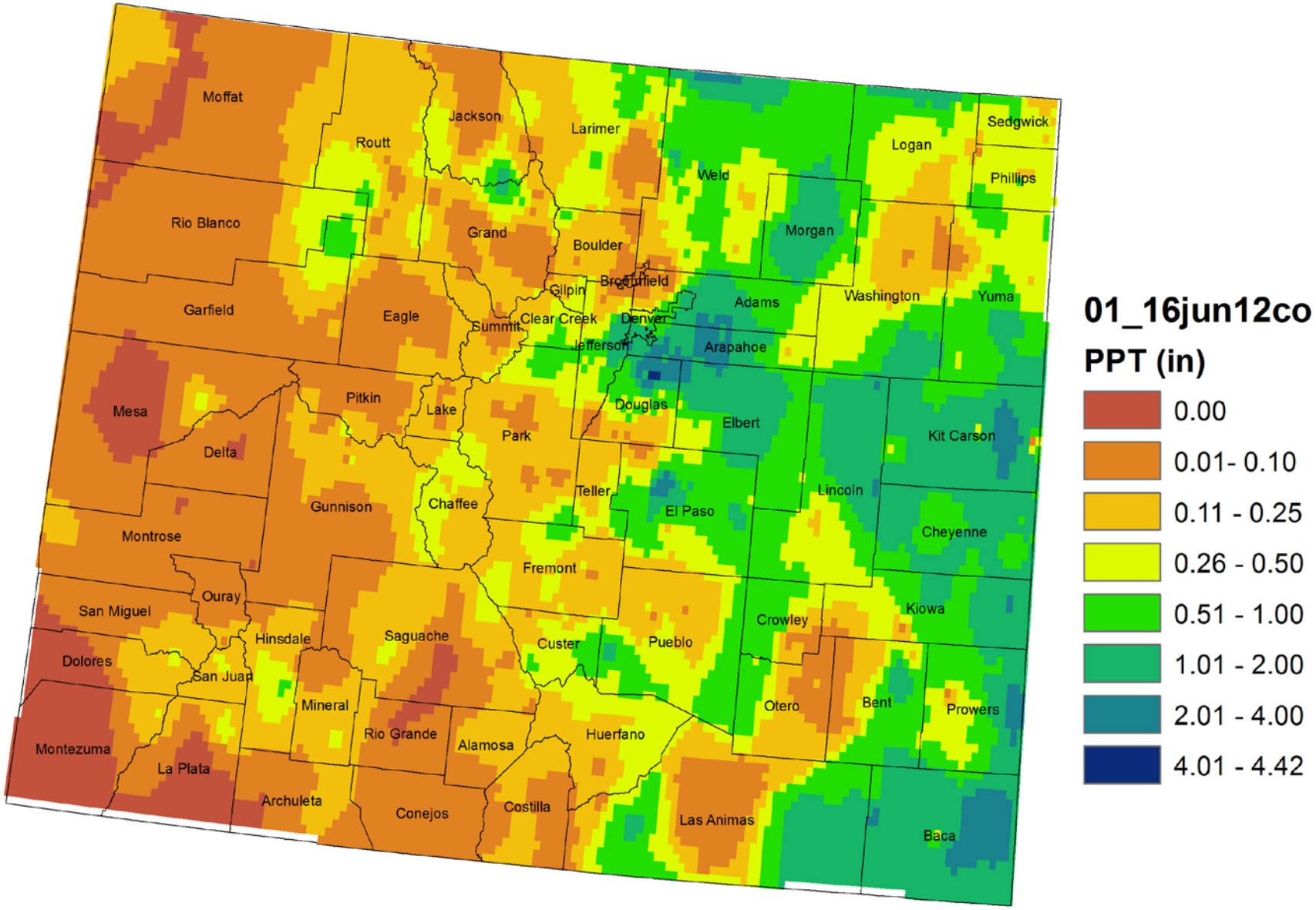
Colorado Water Year 2012 Precipitation as Percentage of Normal
(Oct 2011 - May 2012)



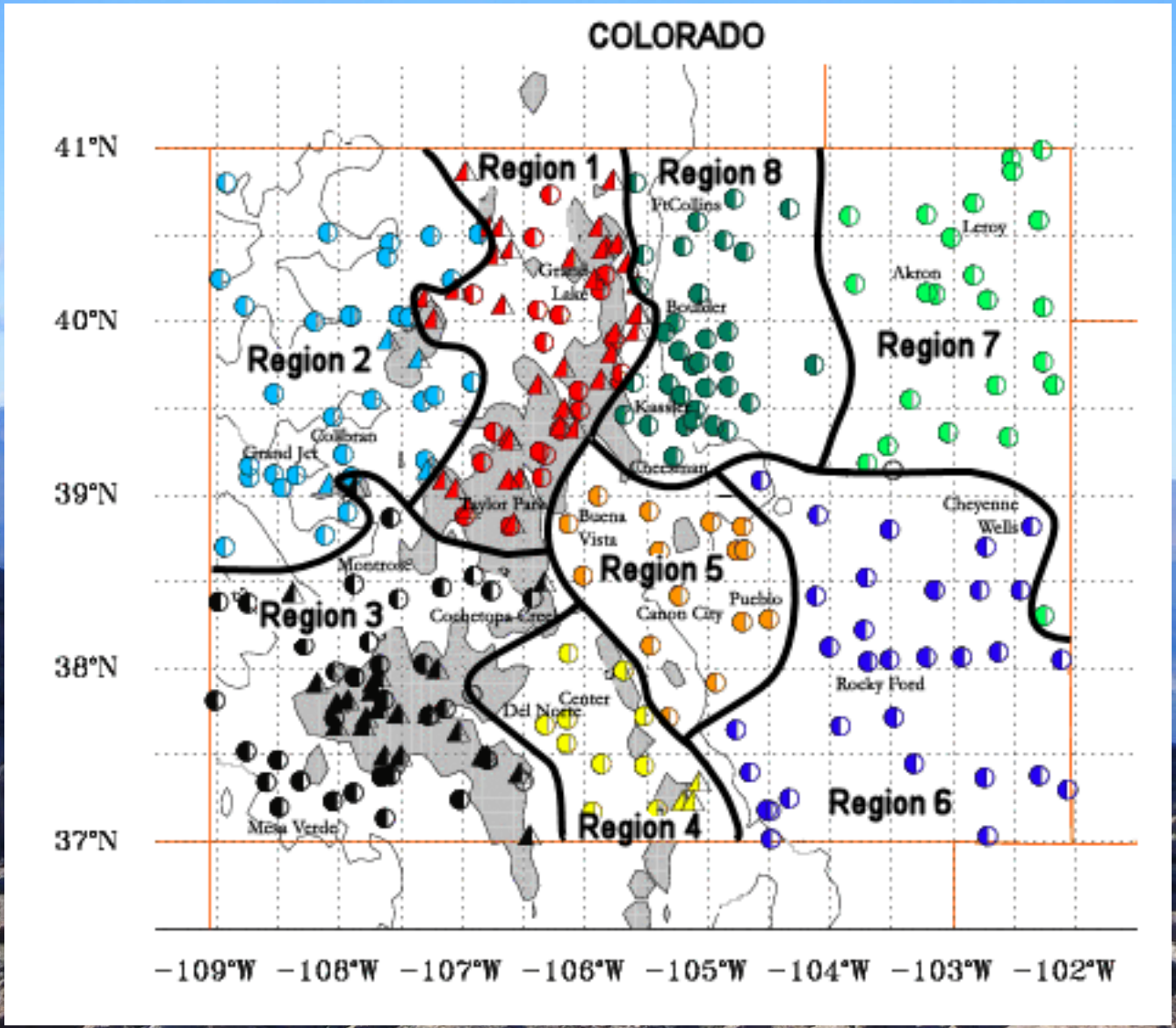
awy_may12pnCO
%norm

- 0
- 1 - 10
- 11 - 20
- 21 - 30
- 31 - 50
- 51 - 70
- 71 - 90
- 91 - 110
- 111 - 130
- 131 - 150
- 151 - 170
- 171 - 200
- 201 - 250
- 251 - 300
- 300+

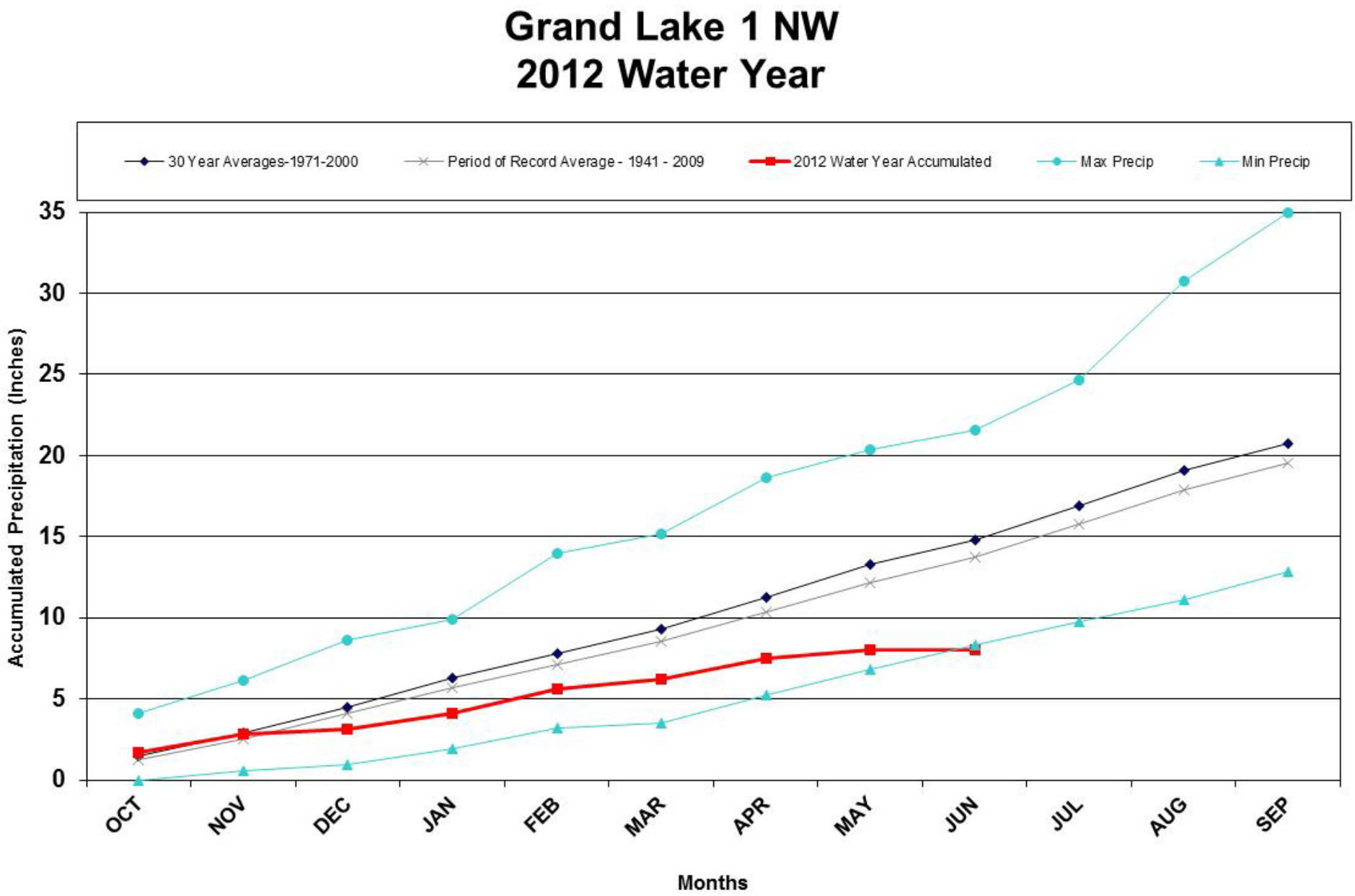
Colorado Precipitation (in) June 1-16, 2012



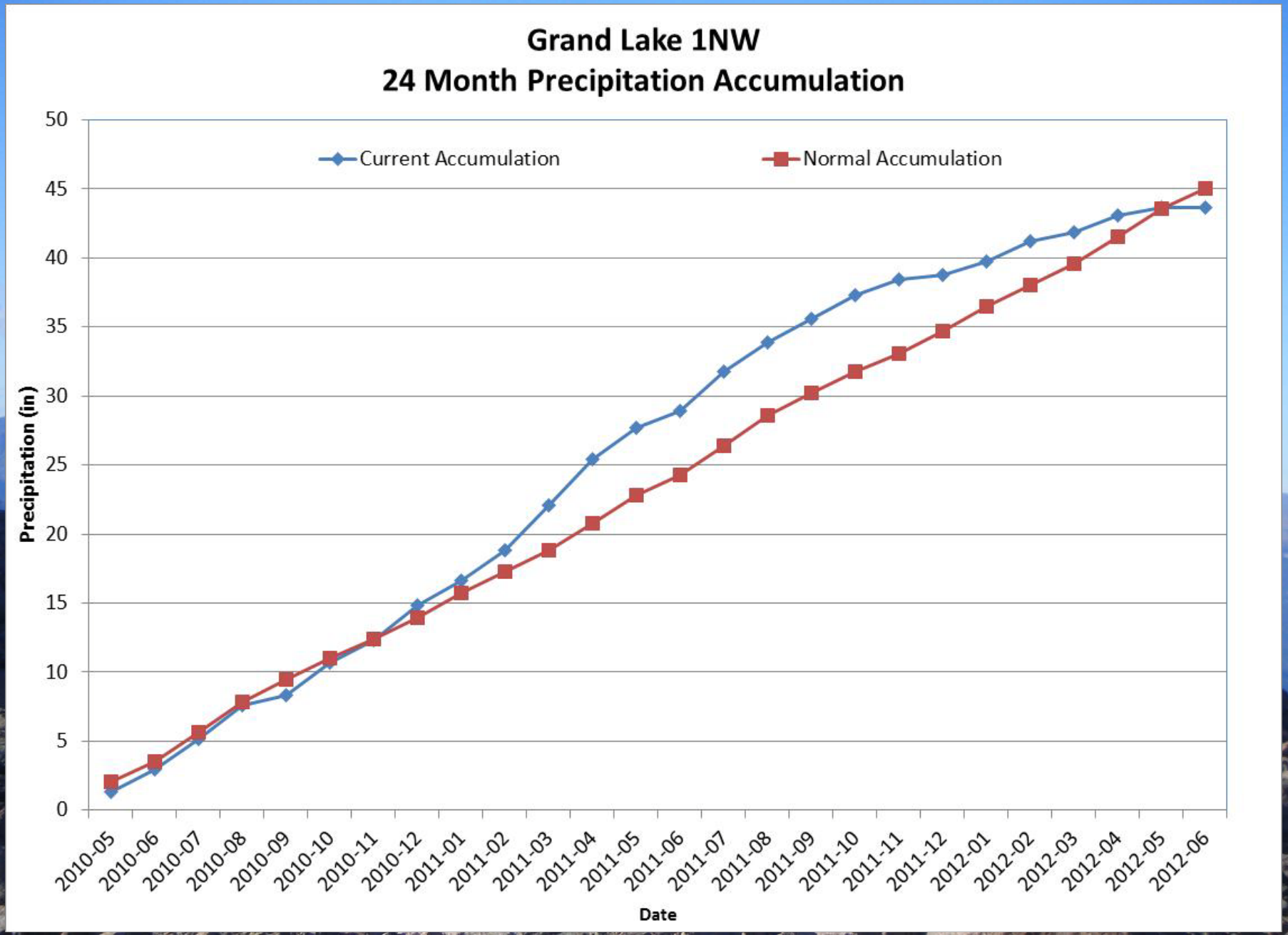
Climate divisions defined by Dr. Klaus Wolter of NOAA's Climate Diagnostic Center in Boulder, CO



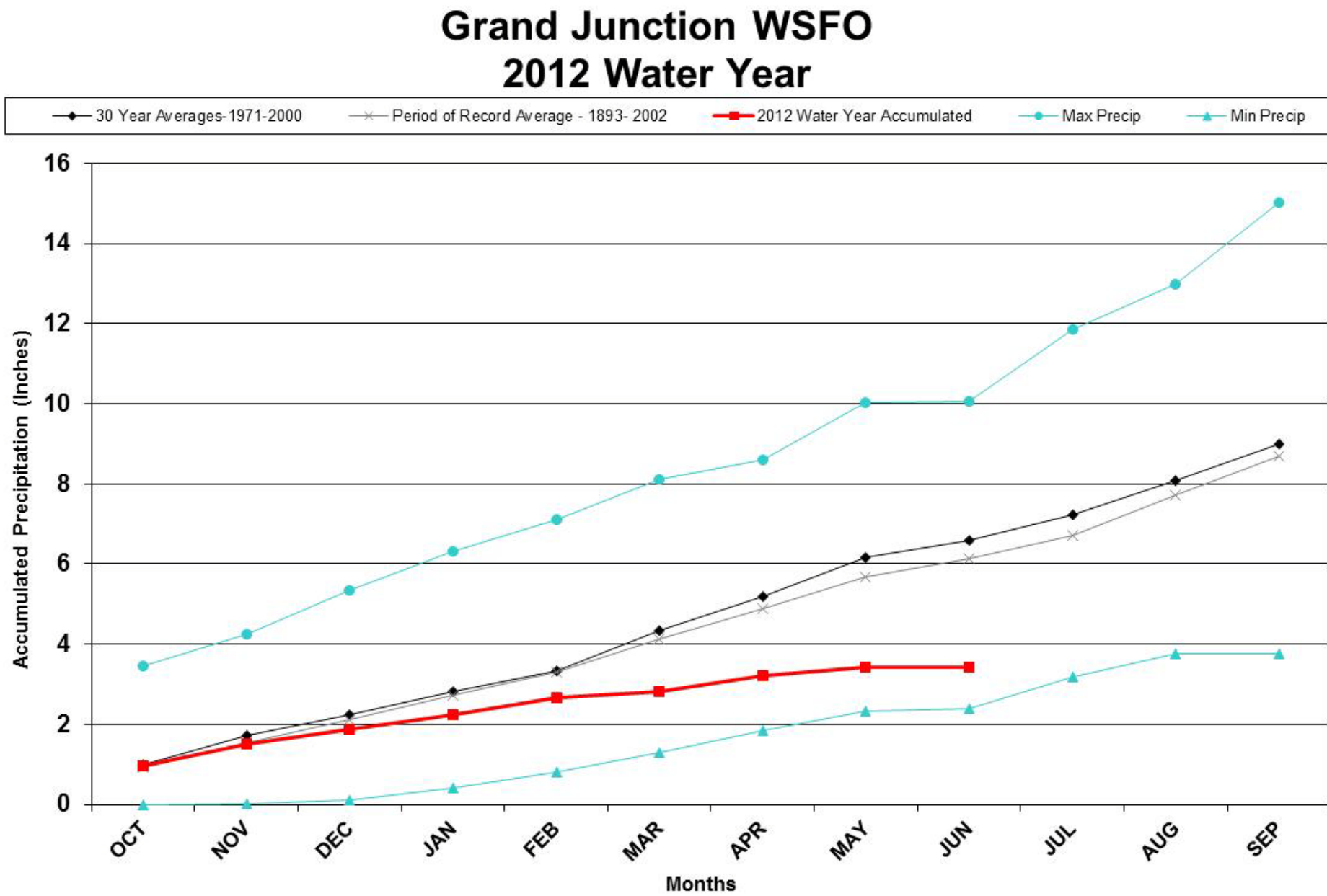
Division 1 – Grand Lake 1NW



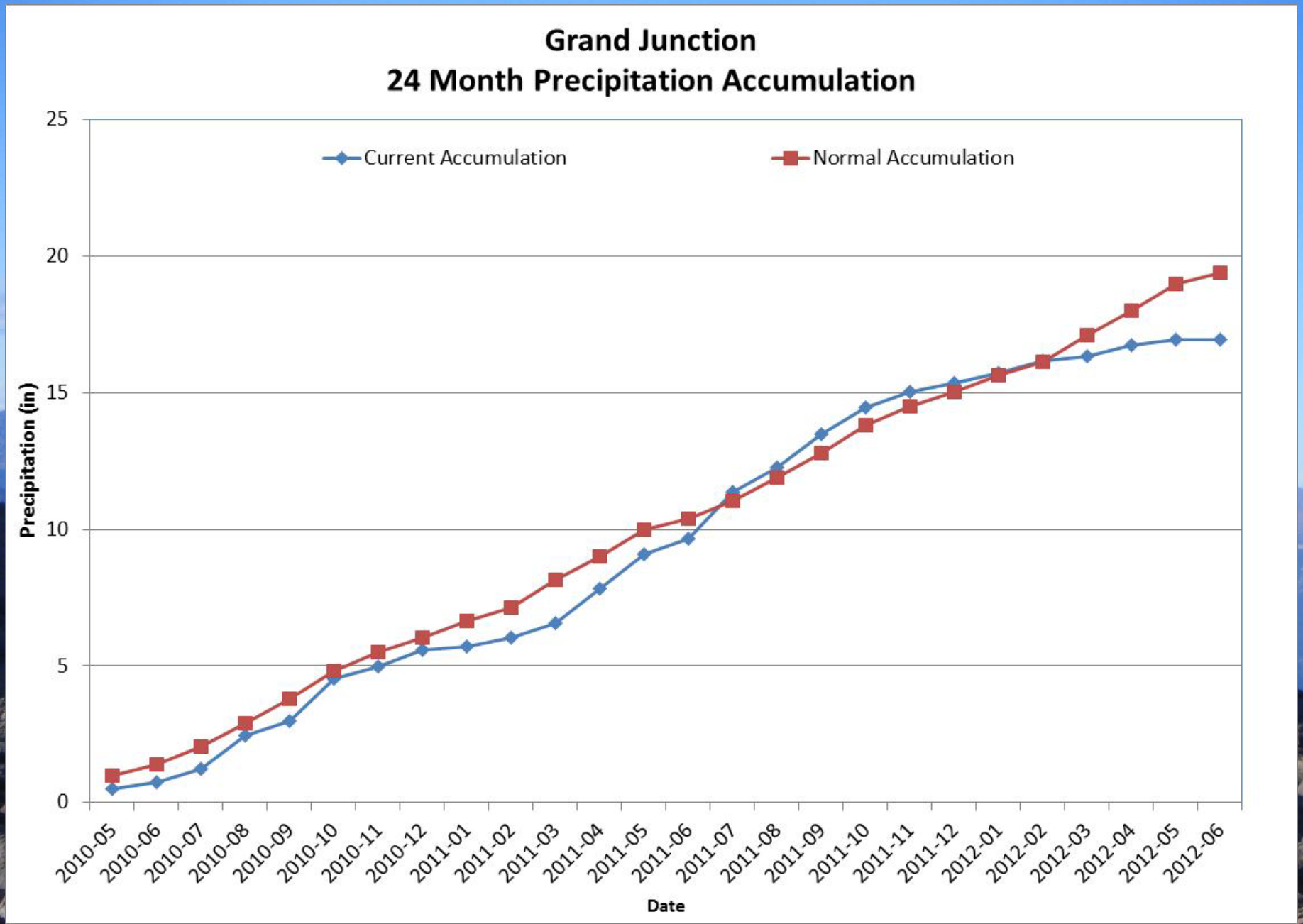
Division 1 – Grand Lake 1NW



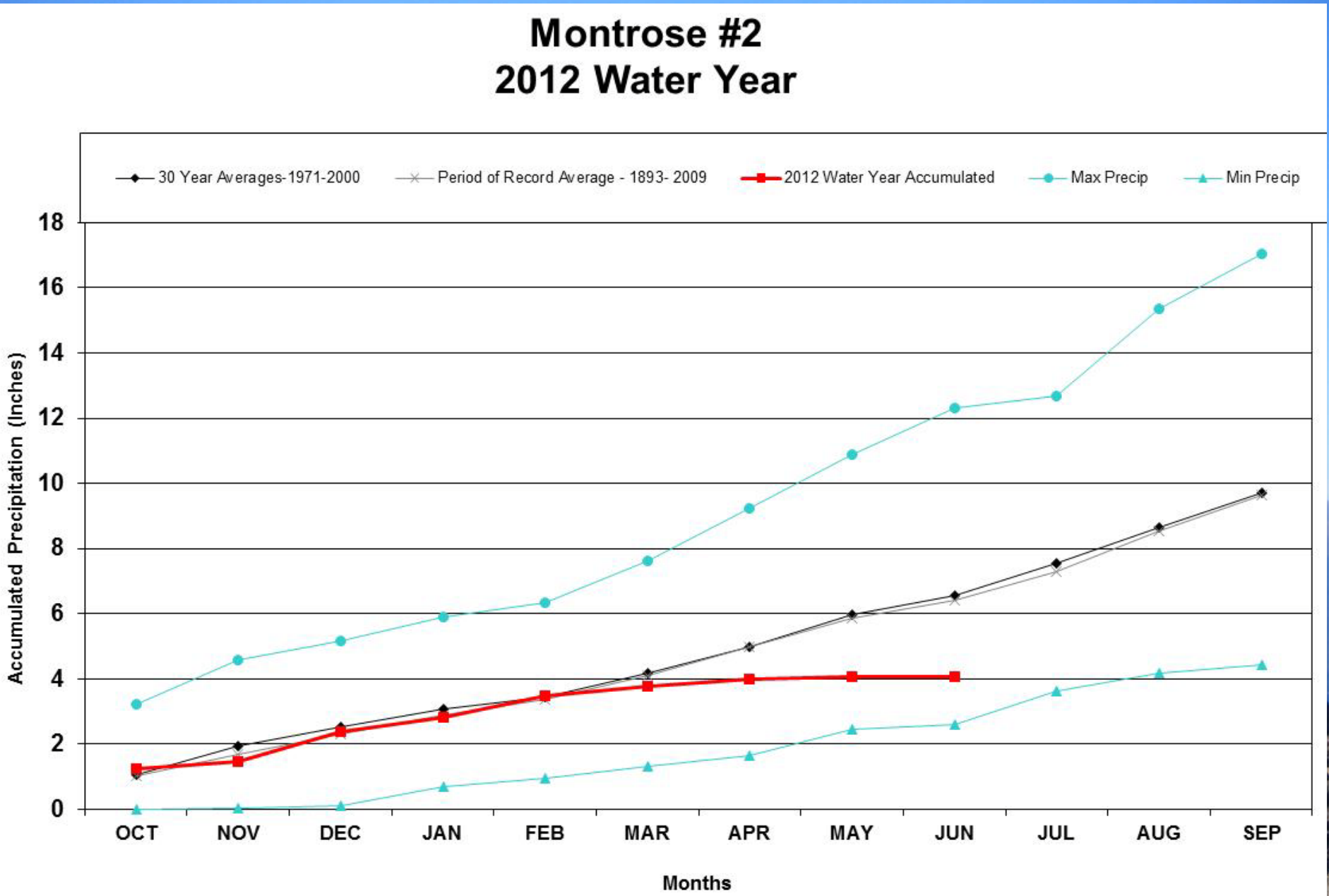
Division 2 – Grand Junction



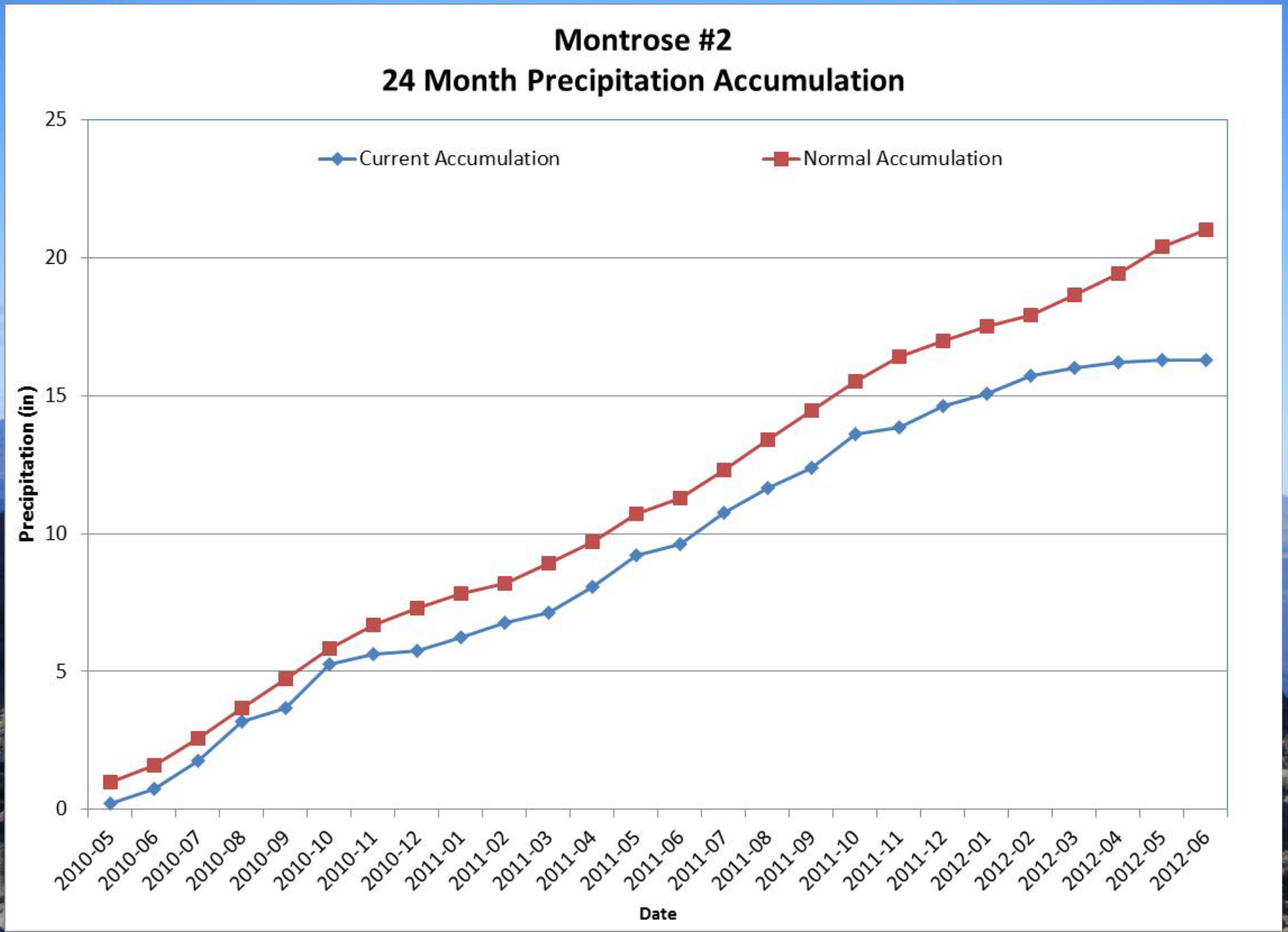
Division 2 – Grand Junction



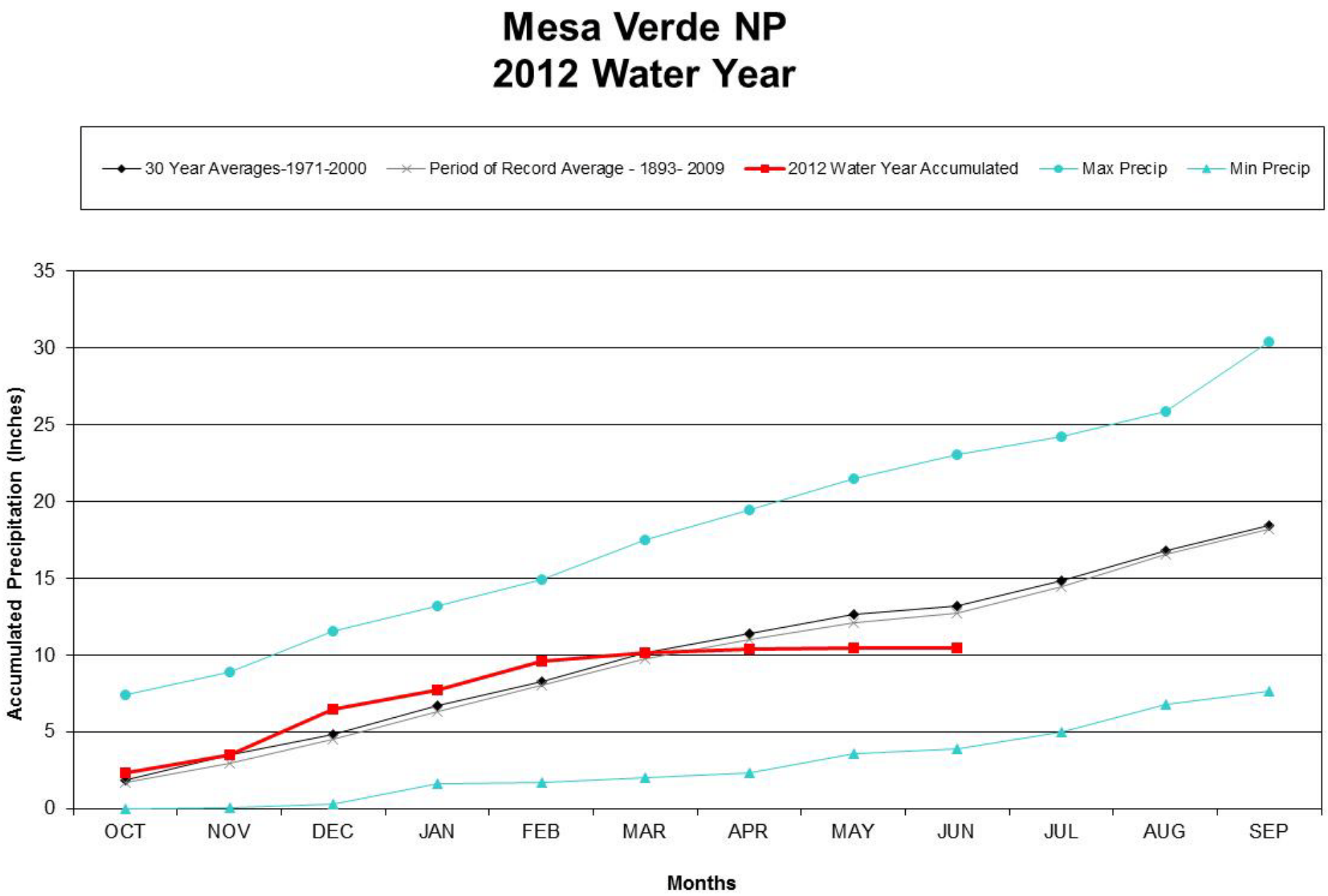
Division 3 – Montrose



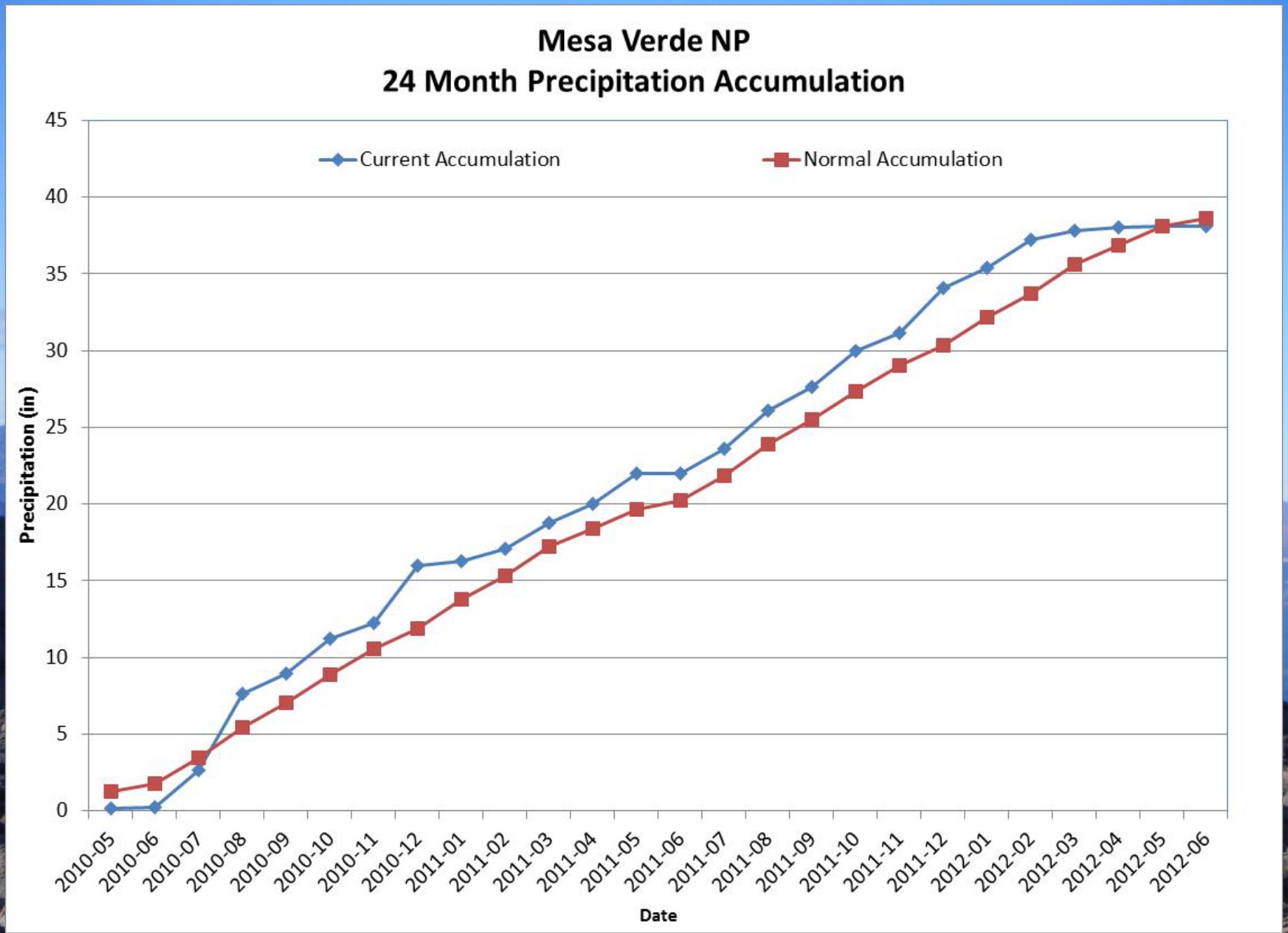
Division 3 – Montrose



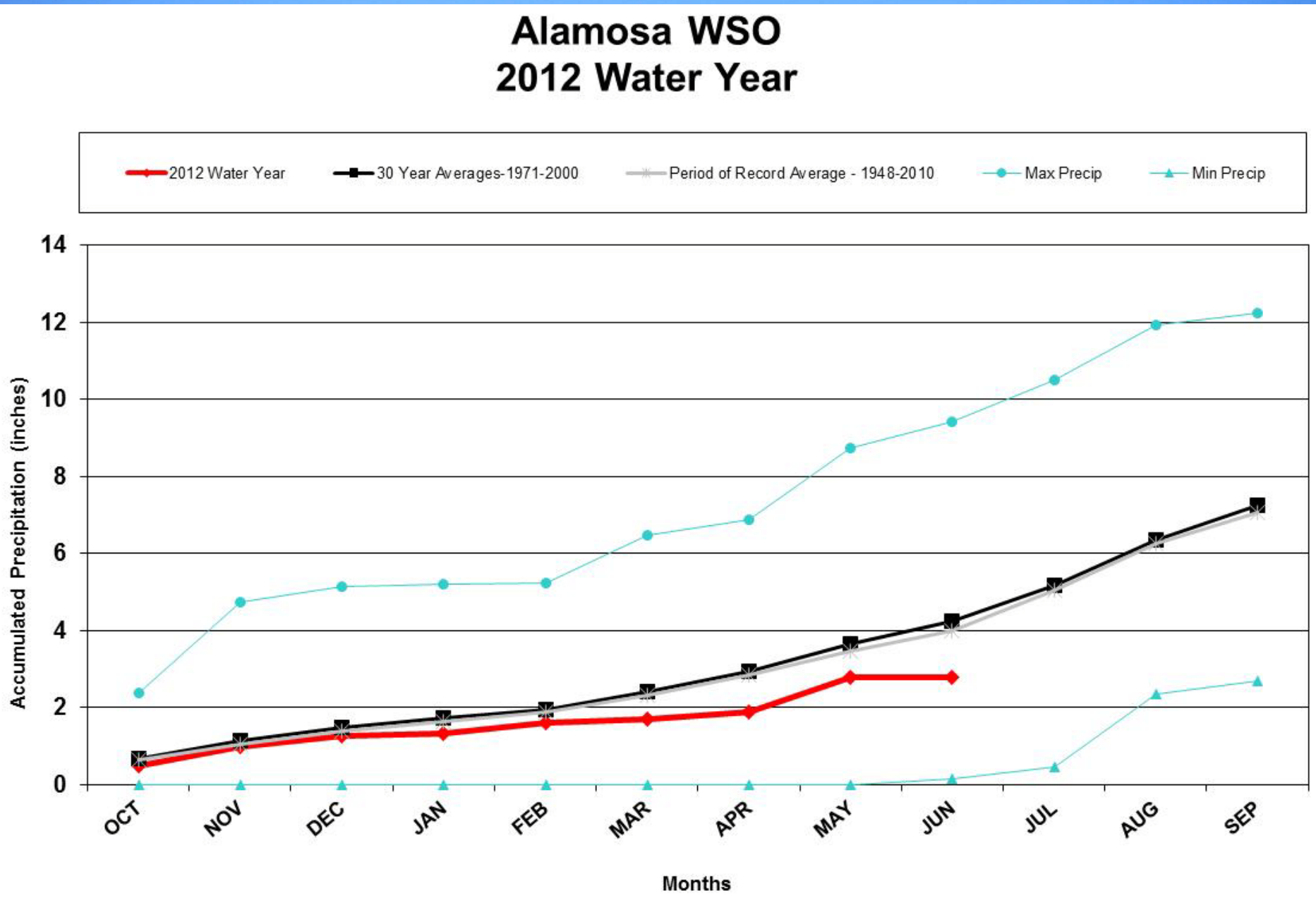
Division 3 – Mesa Verde NP



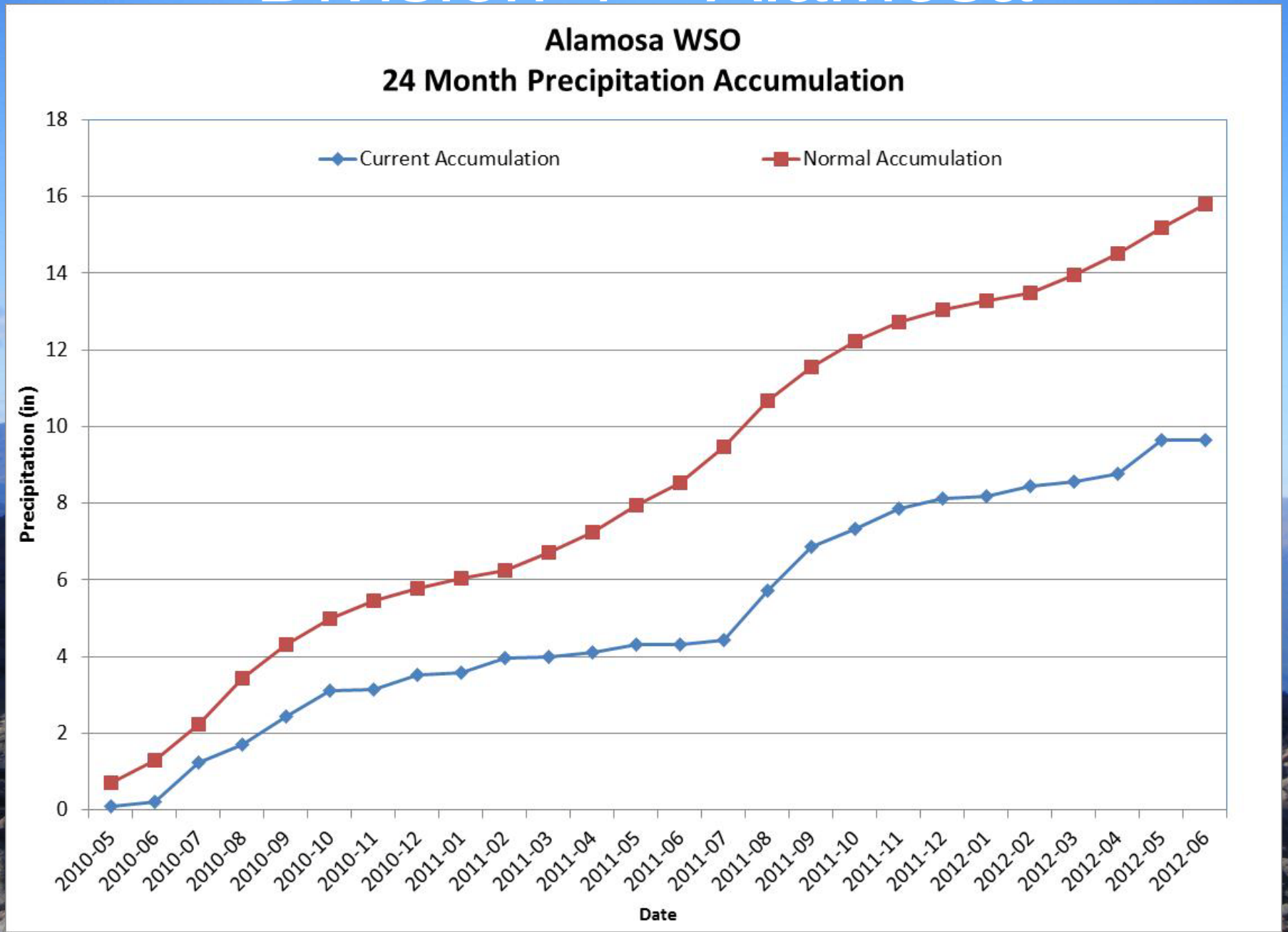
Division 3 – Mesa Verde NP



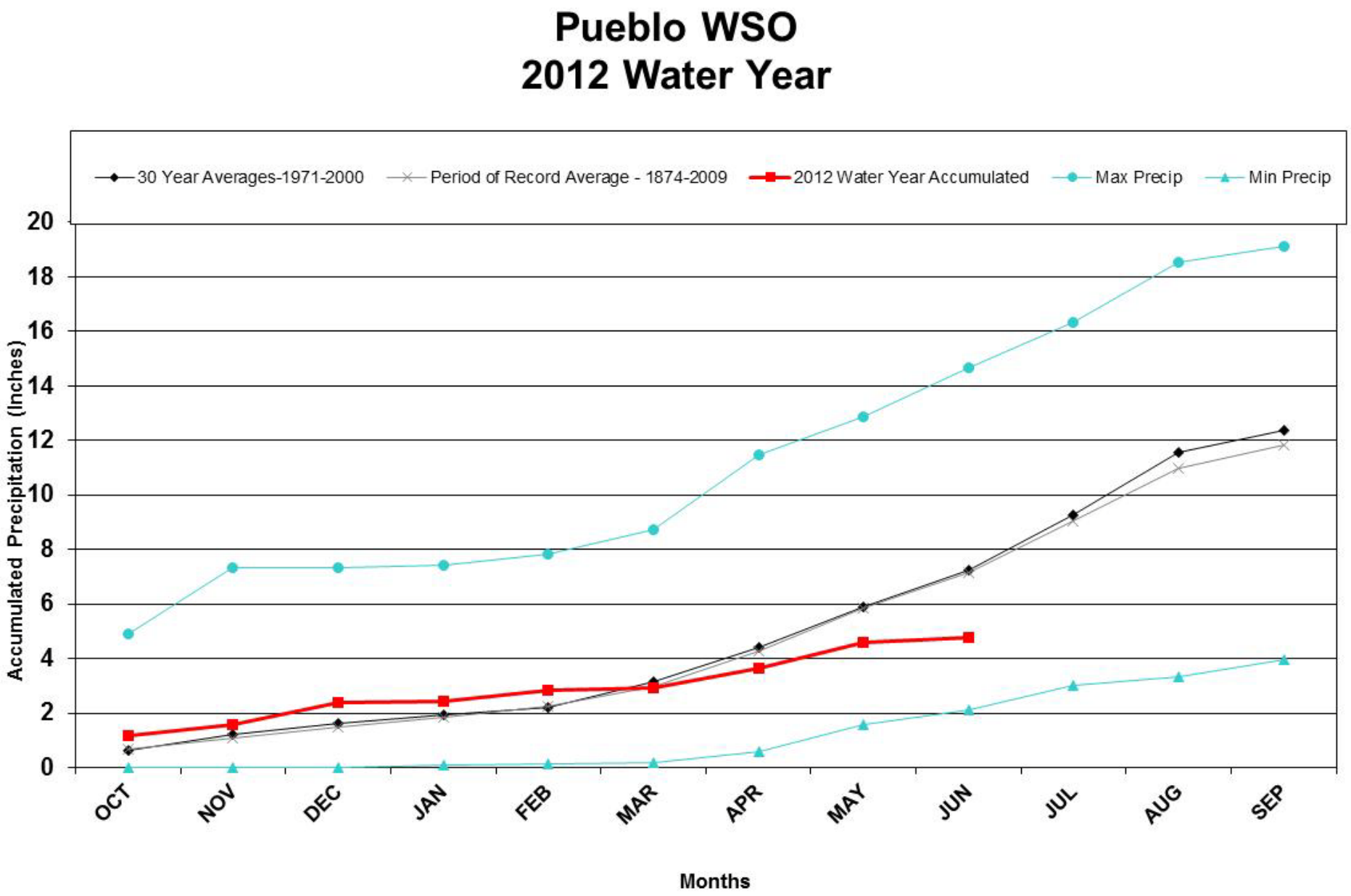
Division 4 – Alamosa



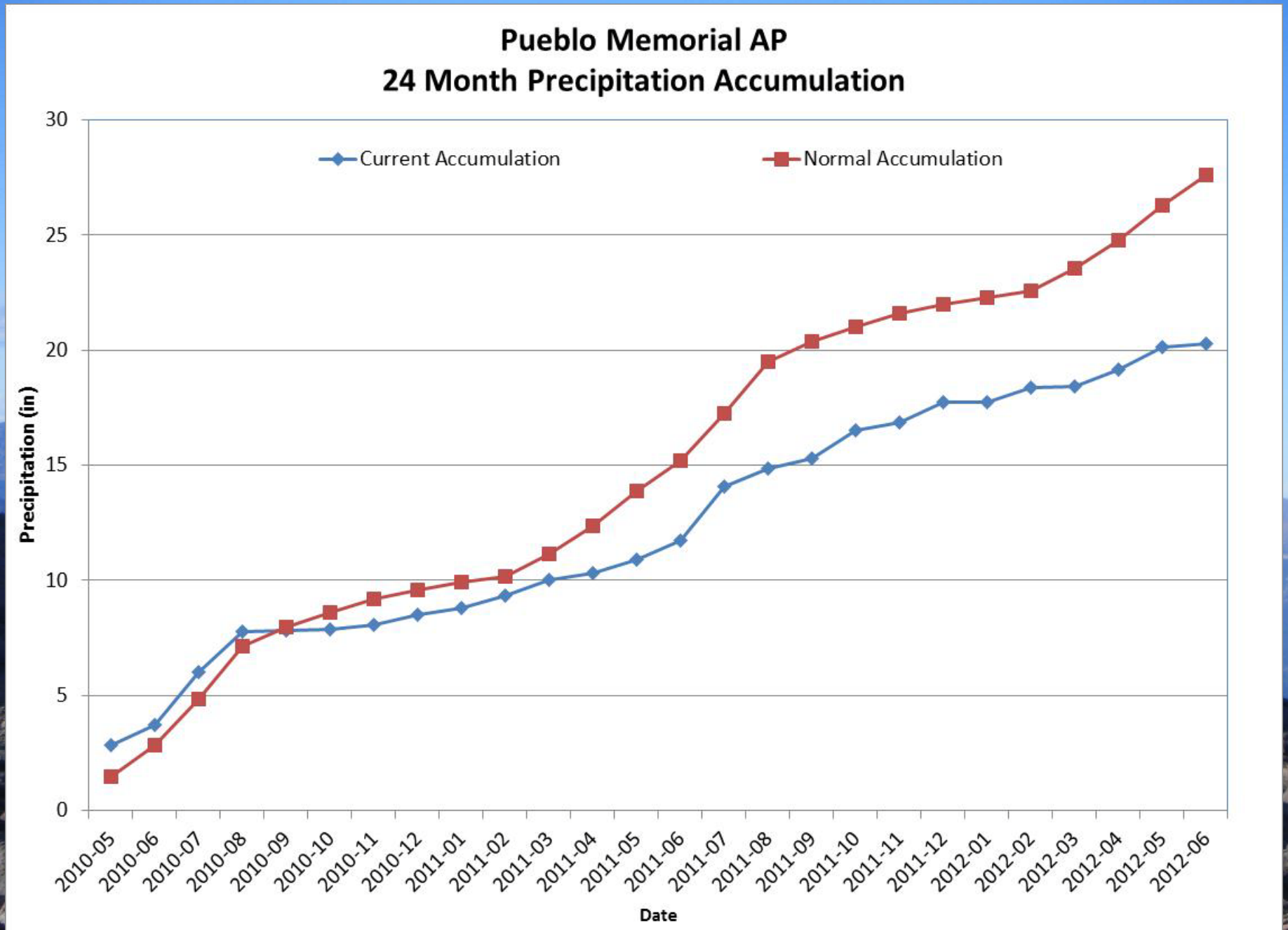
Division 4 – Alamosa



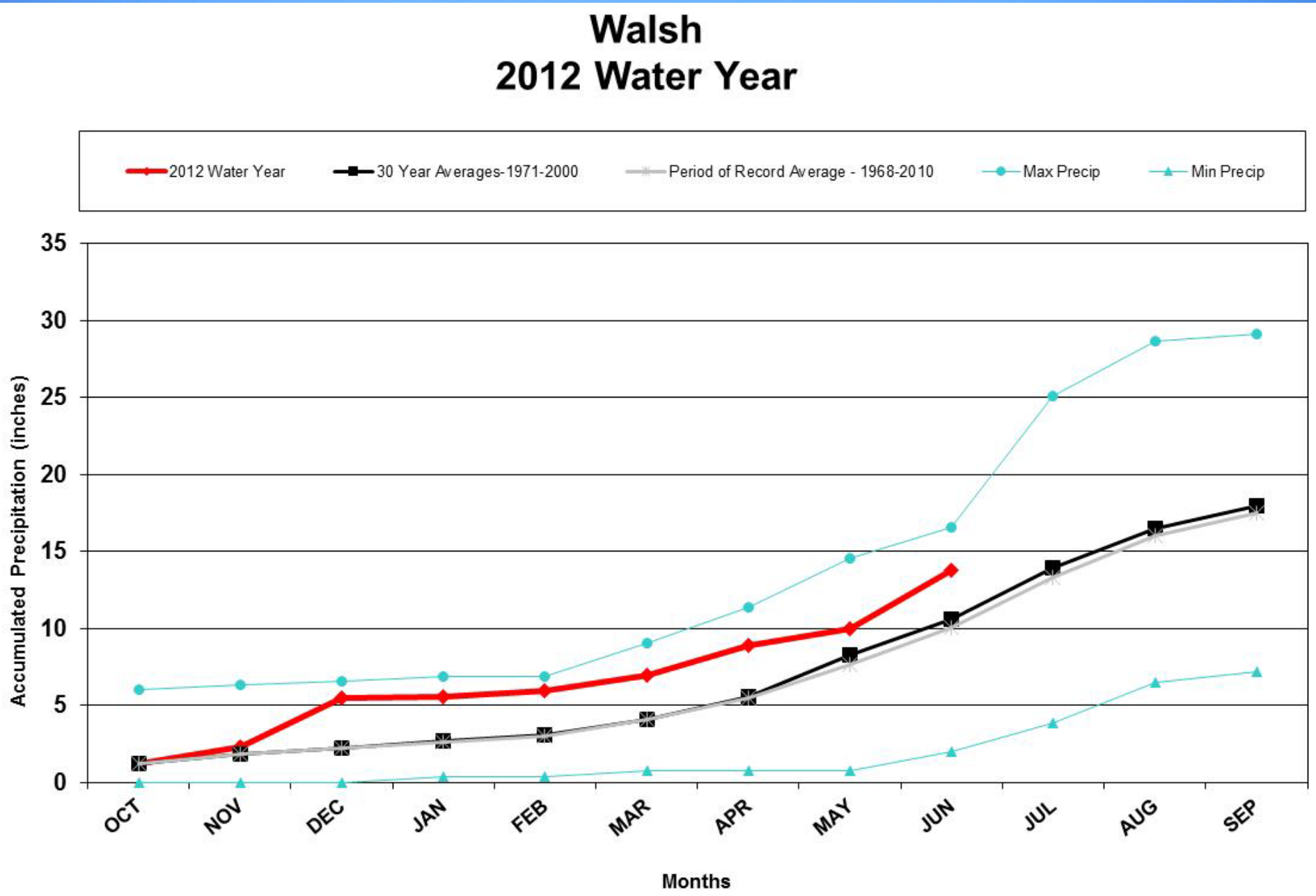
Division 5 – Pueblo



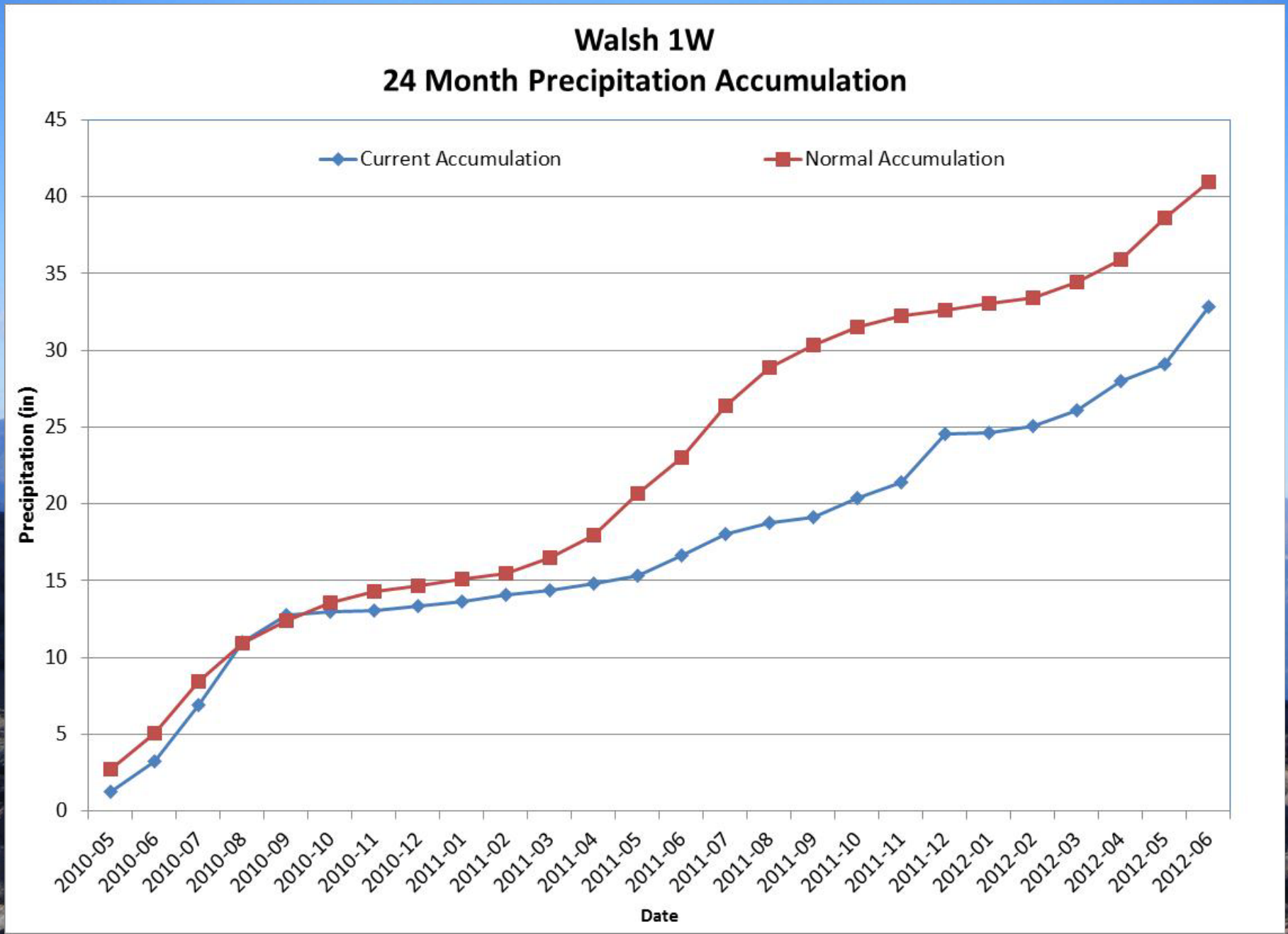
Division 5 – Pueblo



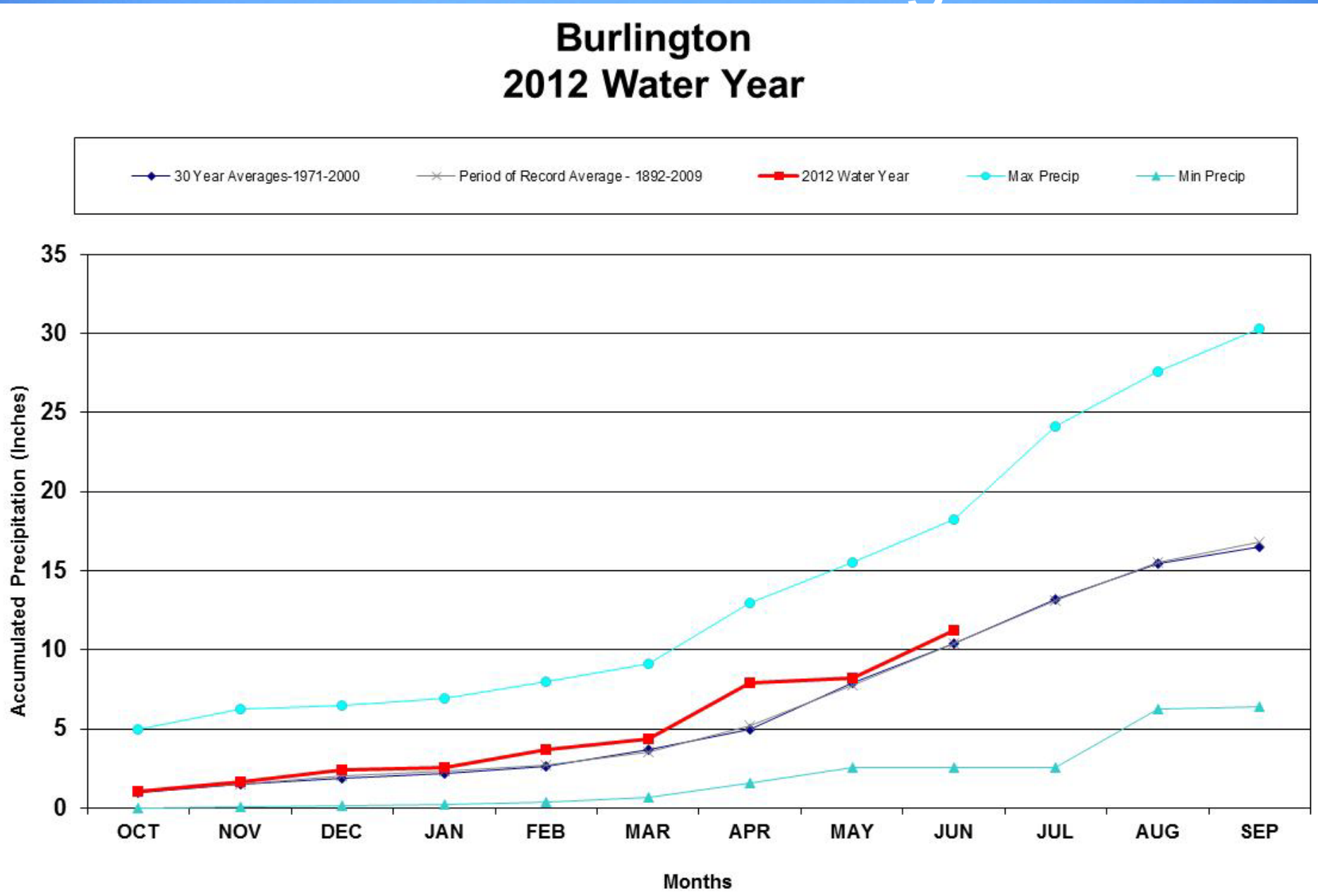
Division 6 - Walsh



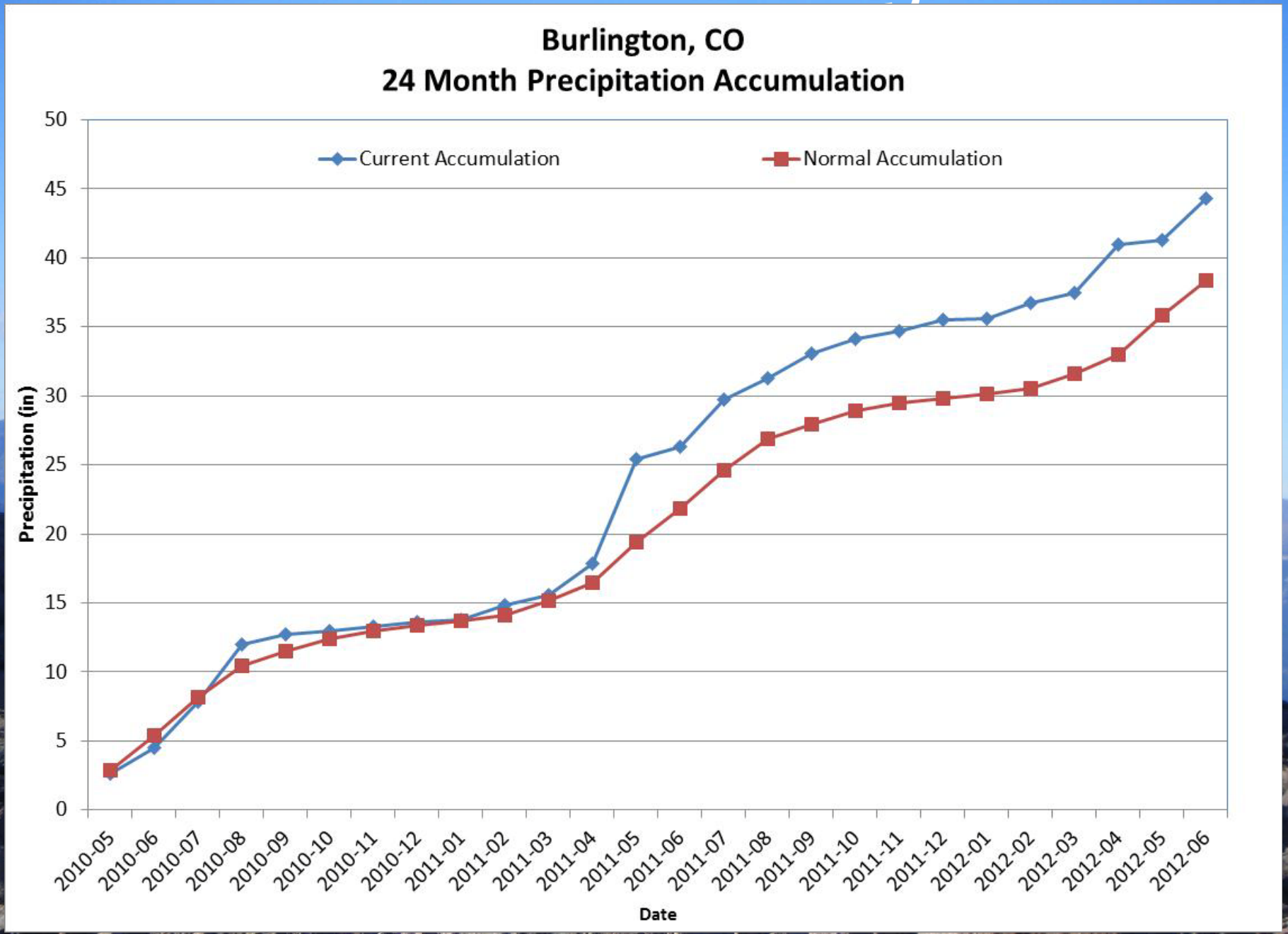
Division 6 - Walsh



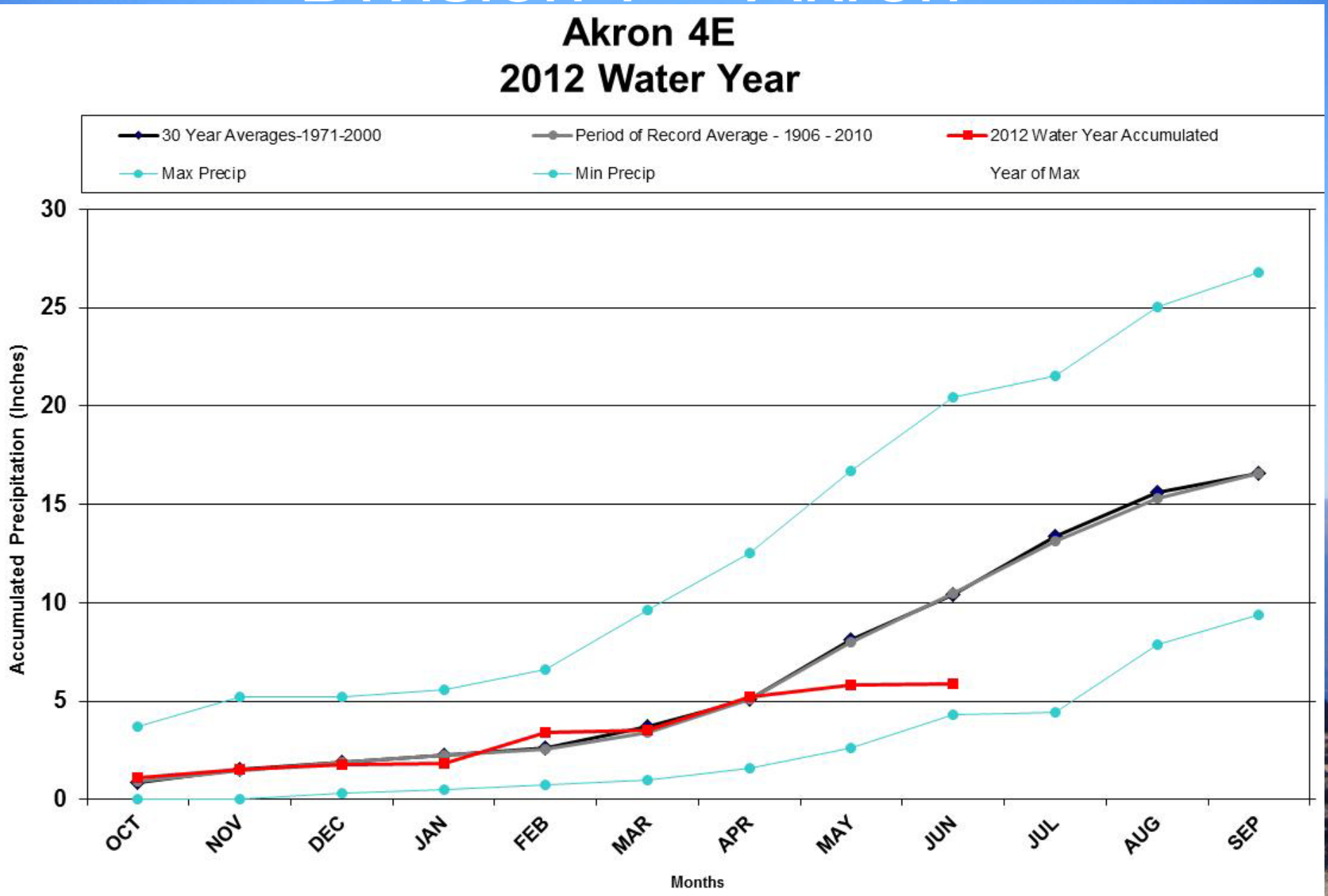
Division 6 - Burlington



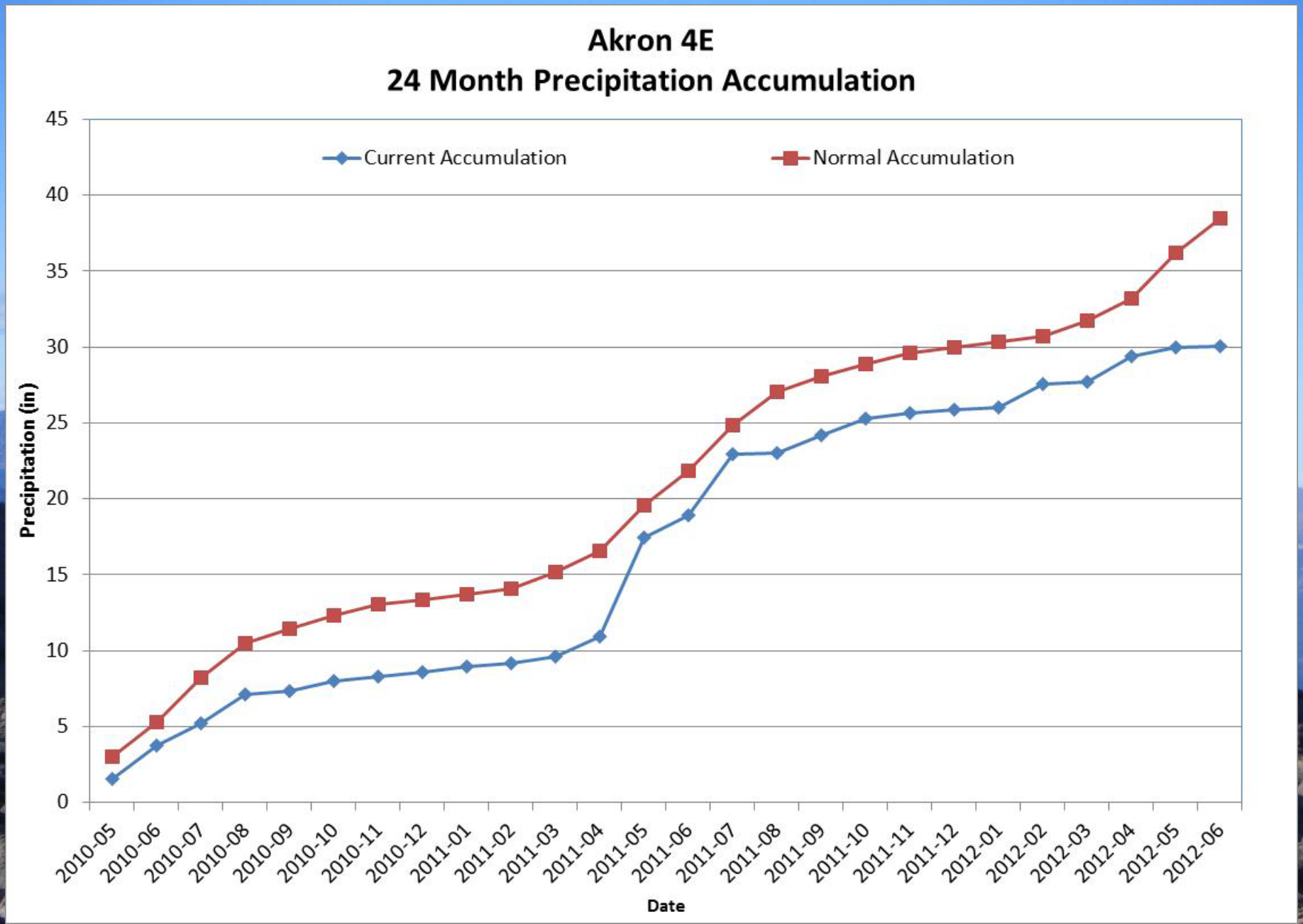
Division 6 - Burlington



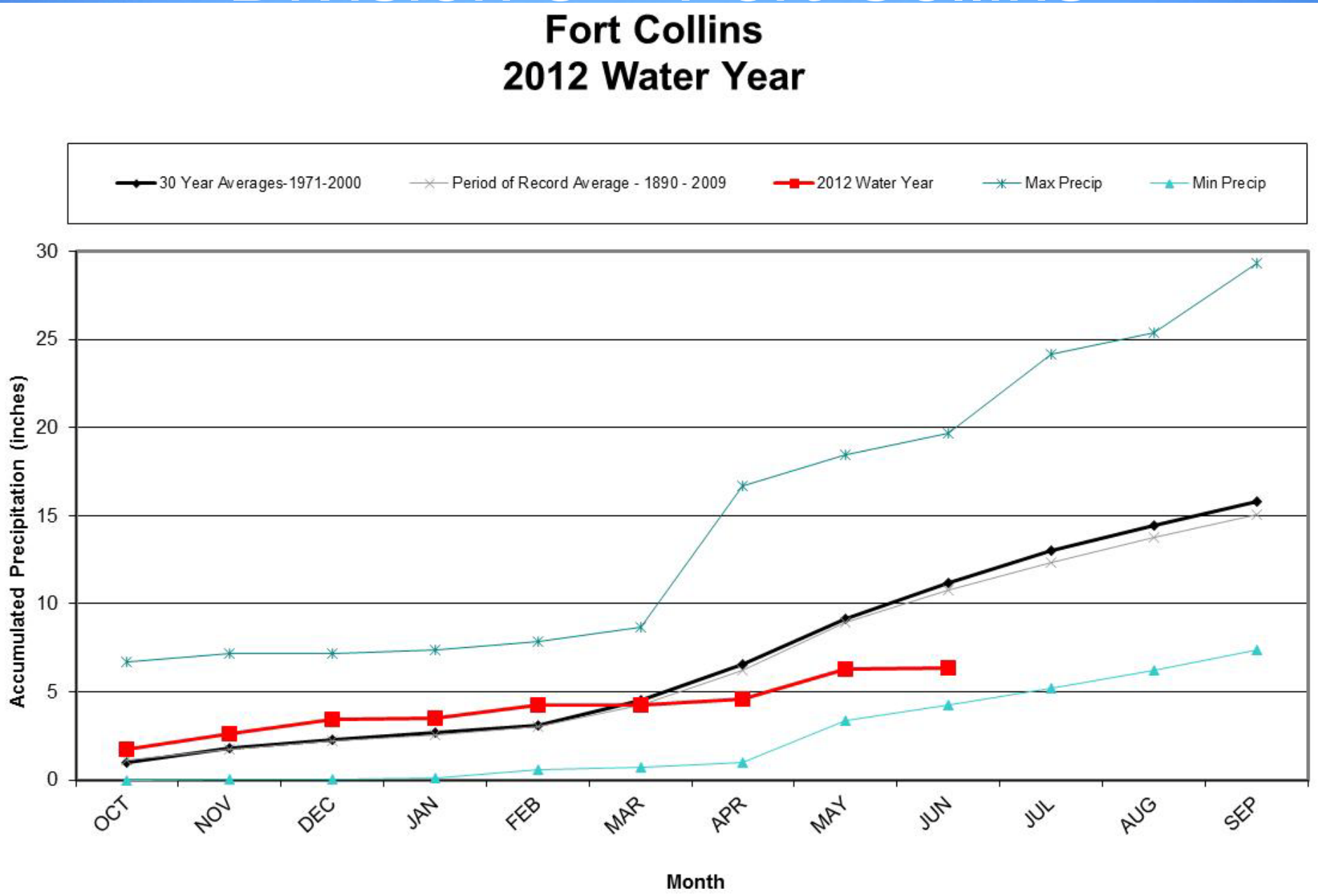
Division 7 – Akron



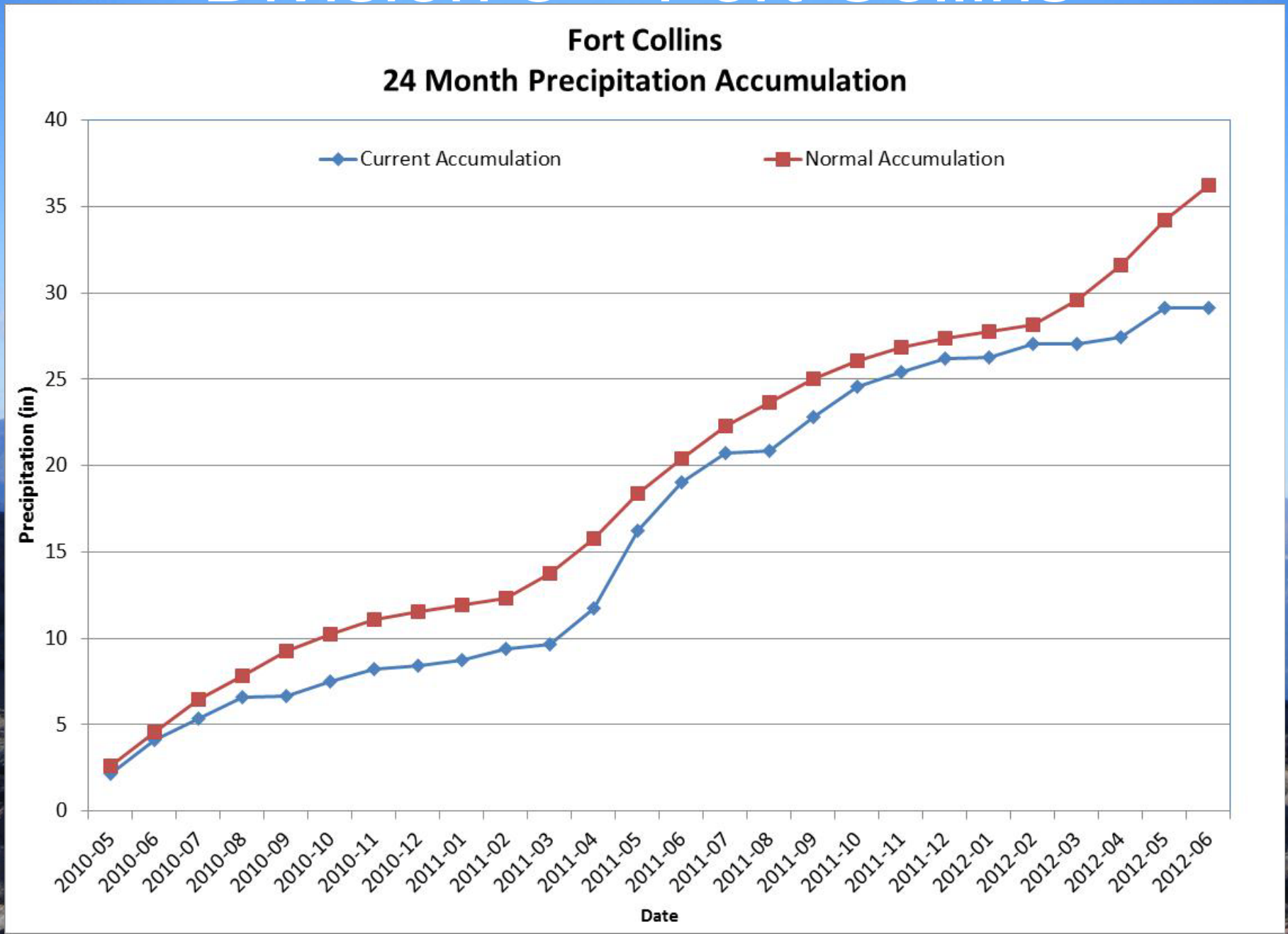
Division 7 – Akron



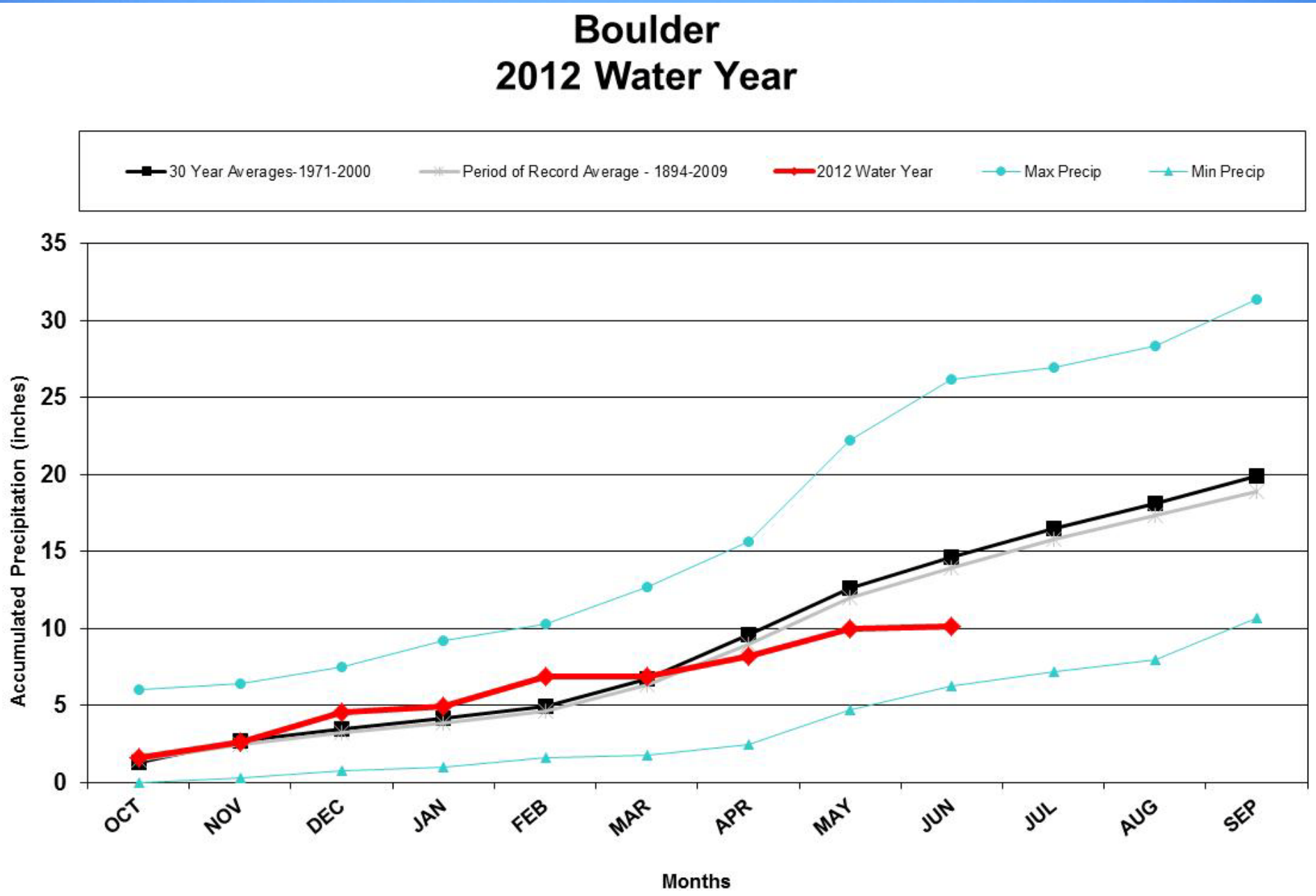
Division 8 – Fort Collins



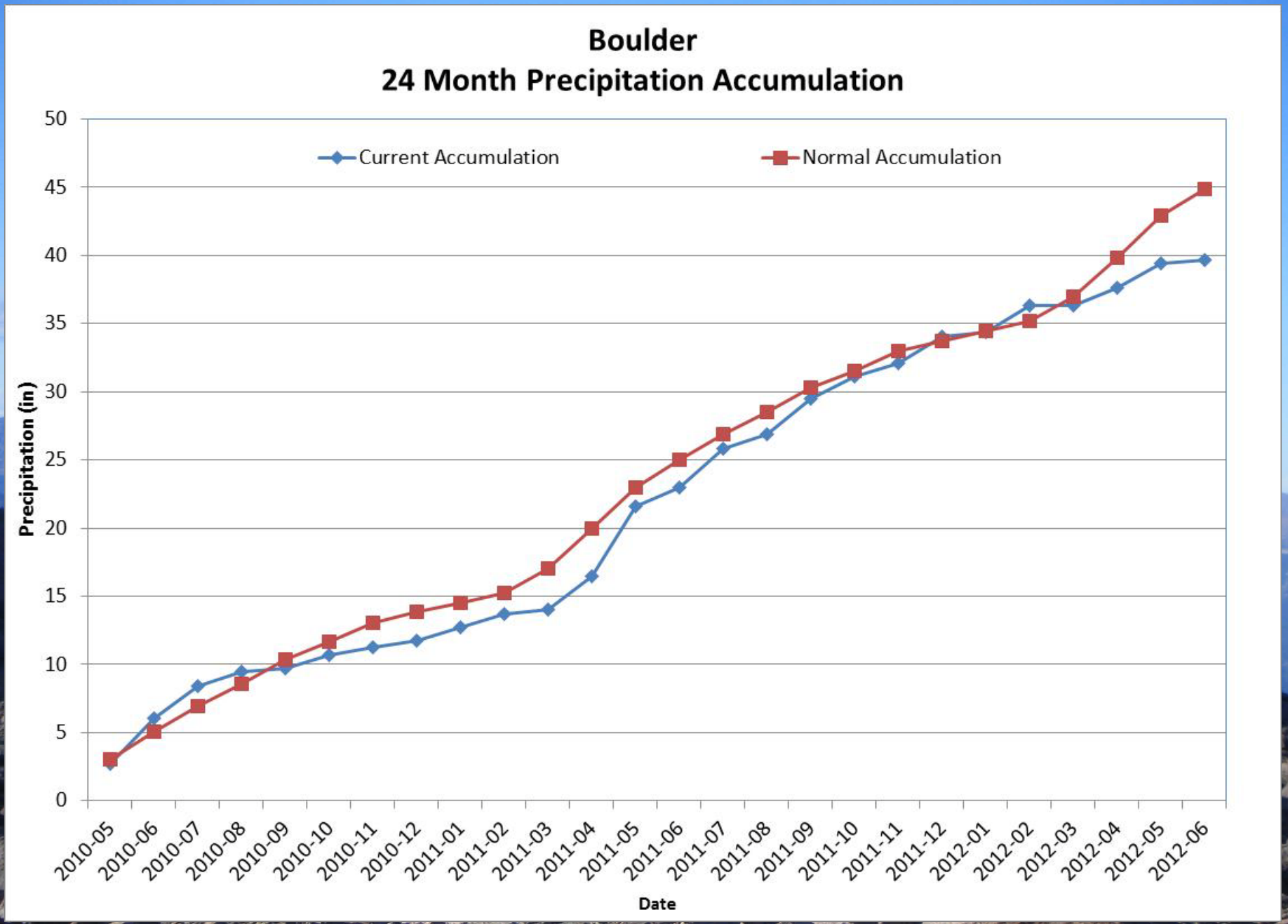
Division 8 – Fort Collins



Division 8 - Boulder

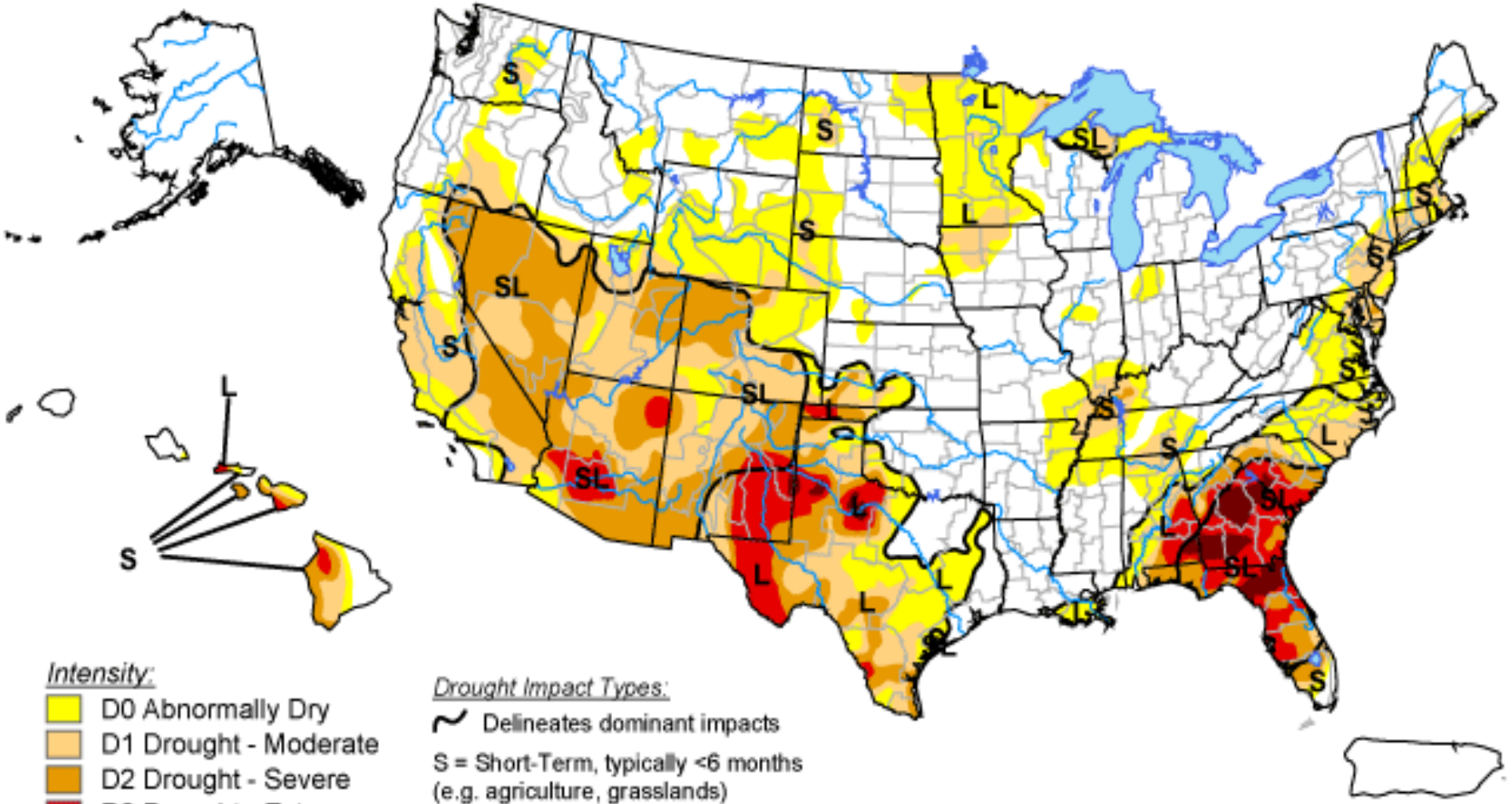


Division 8 - Boulder



U.S. Drought Monitor

May 15, 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.

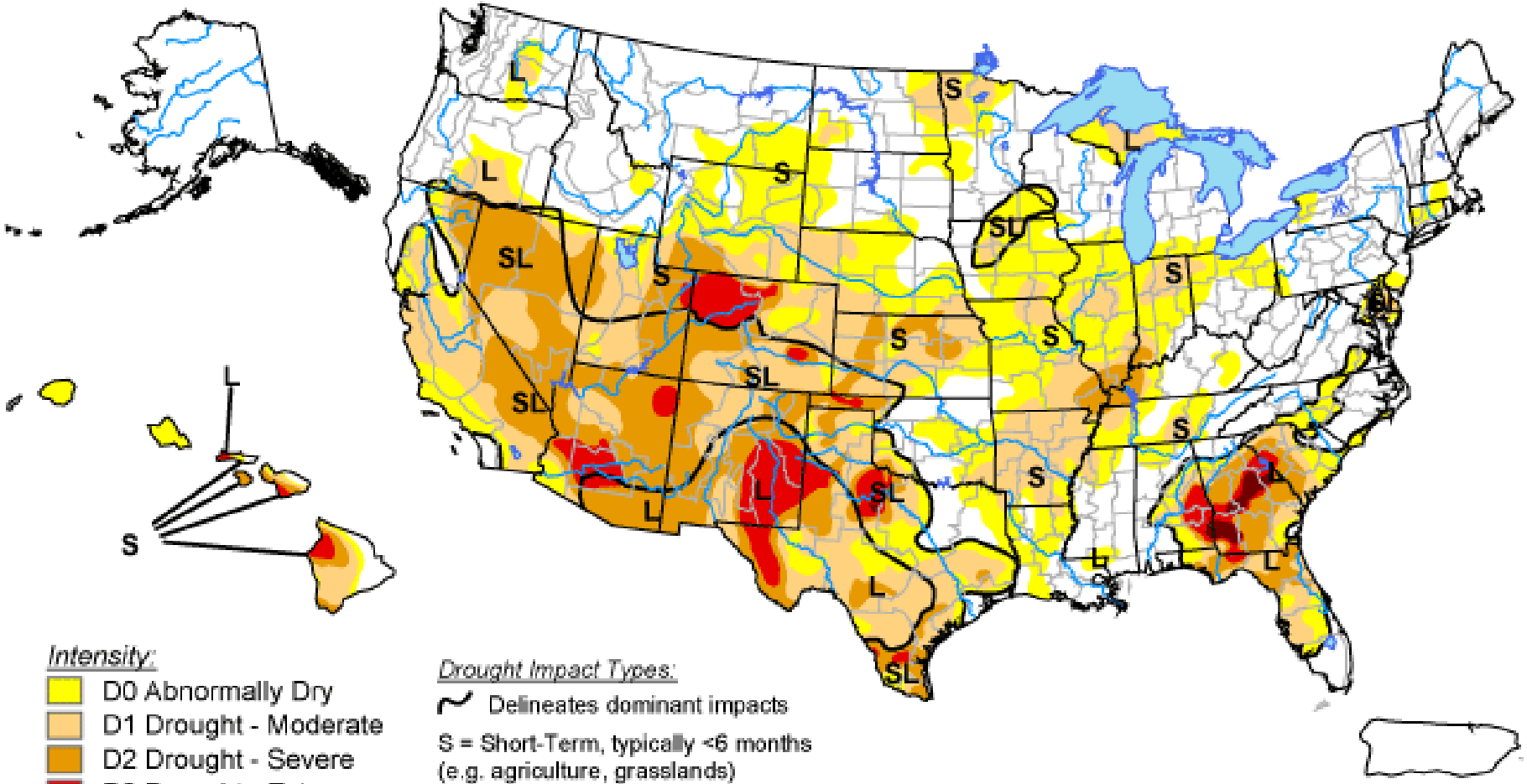
http://droughtmonitor.unl.edu/

Released Thursday, May 17, 2012

Author: Brad Rippey, U.S.Department of Agriculture

U.S. Drought Monitor

June 12, 2012
Valid 7 a.m. EDT



Intensity:
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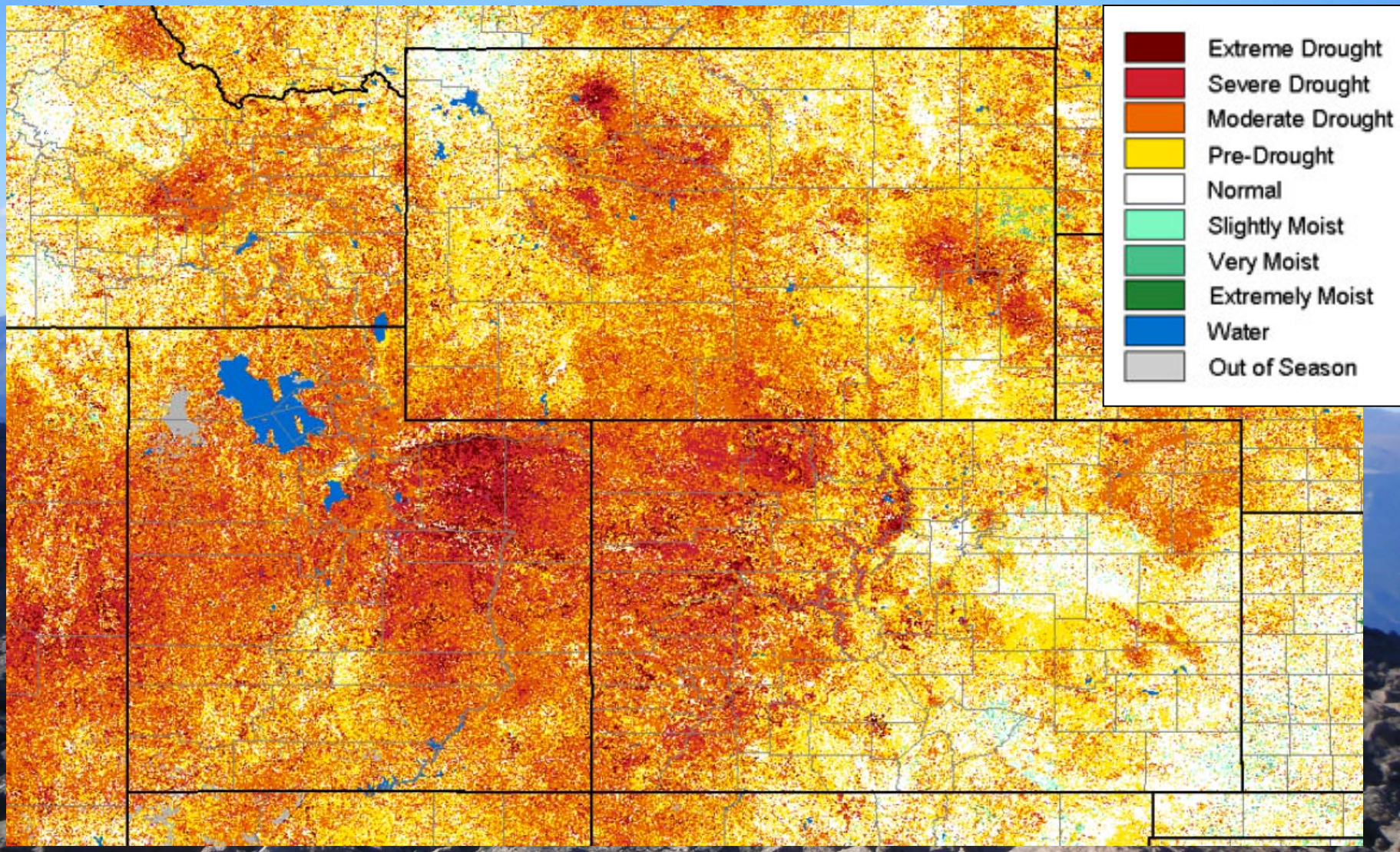
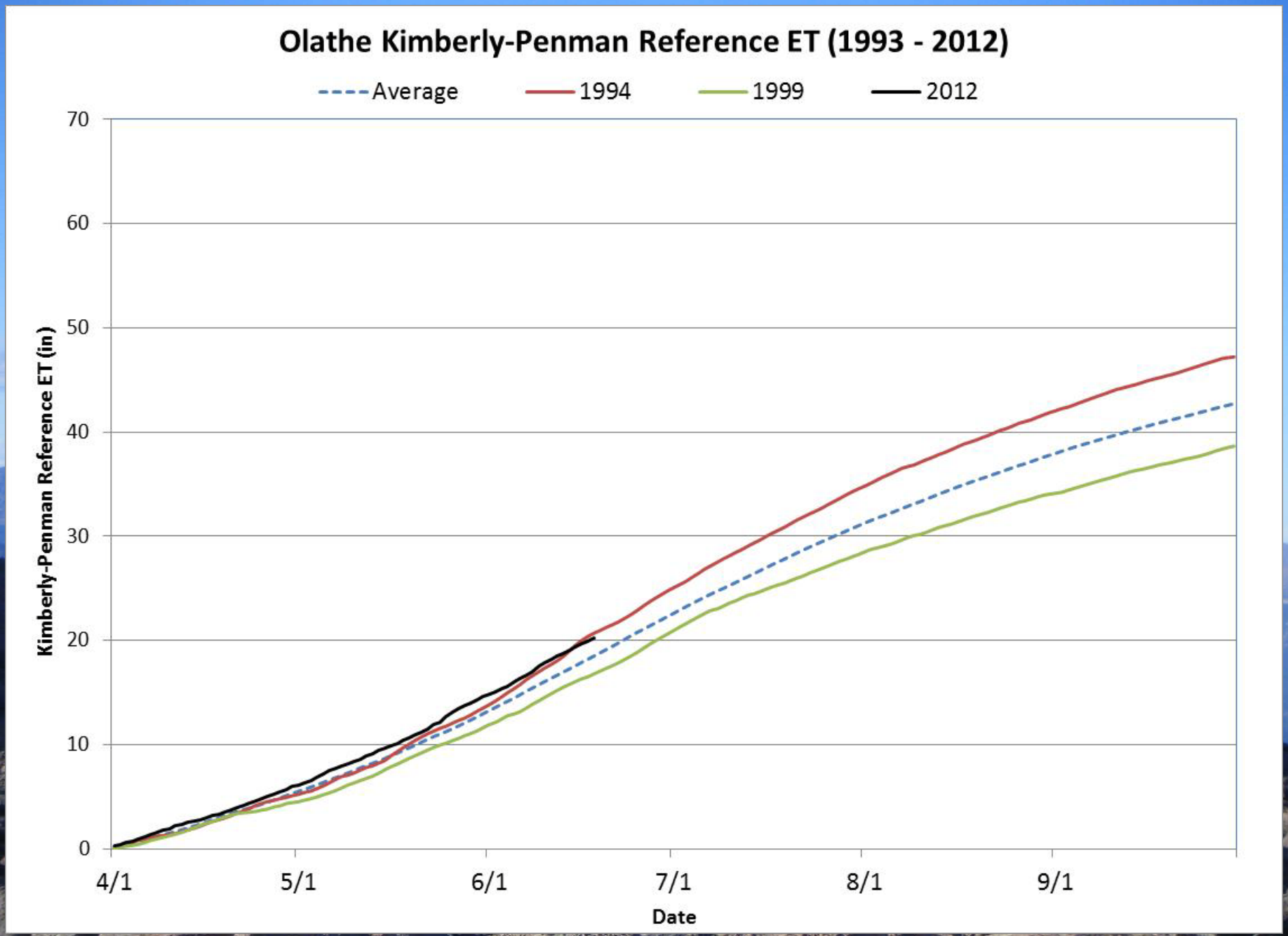
http://droughtmonitor.unl.edu/

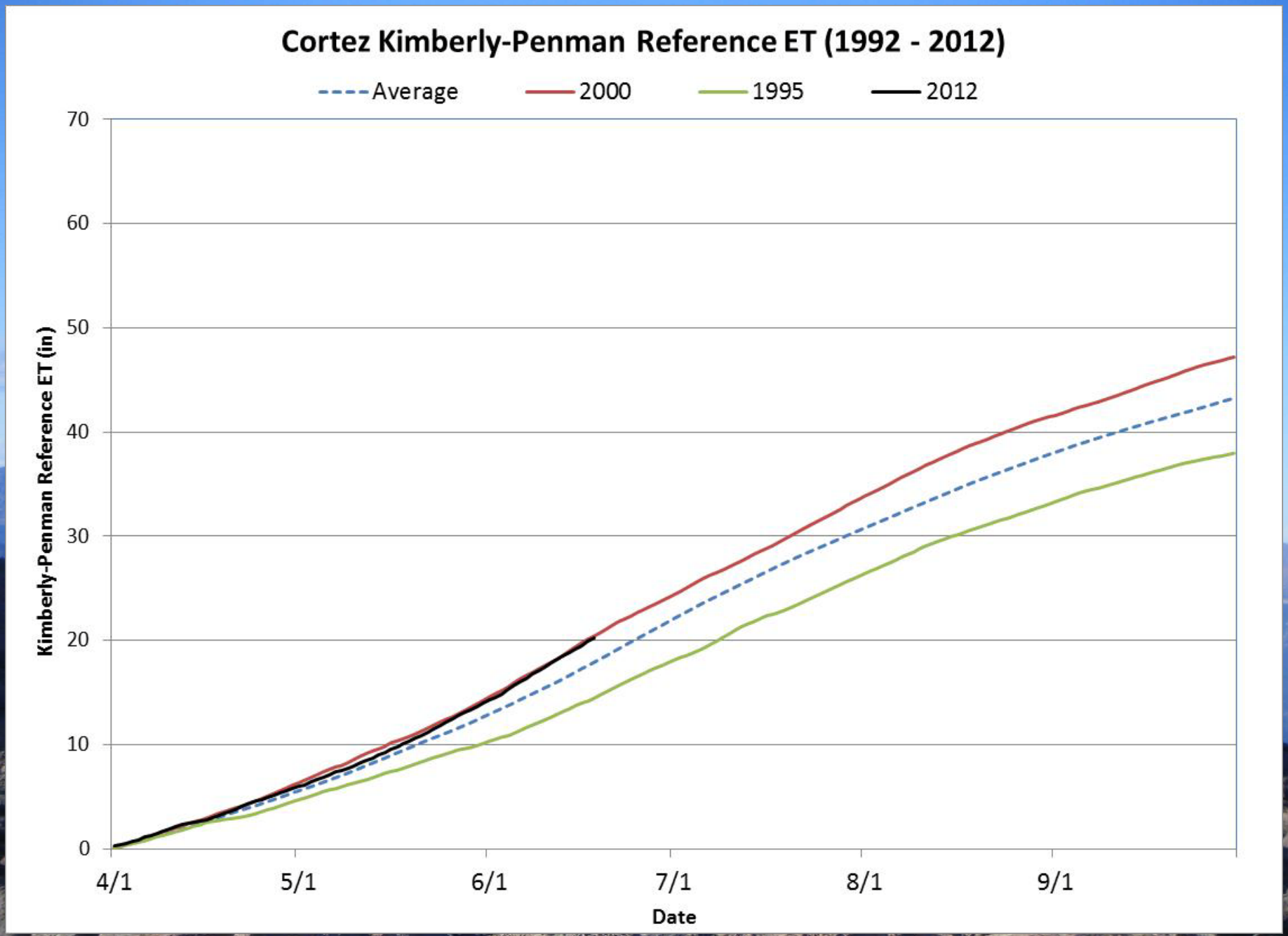
Released Thursday, June 14, 2012

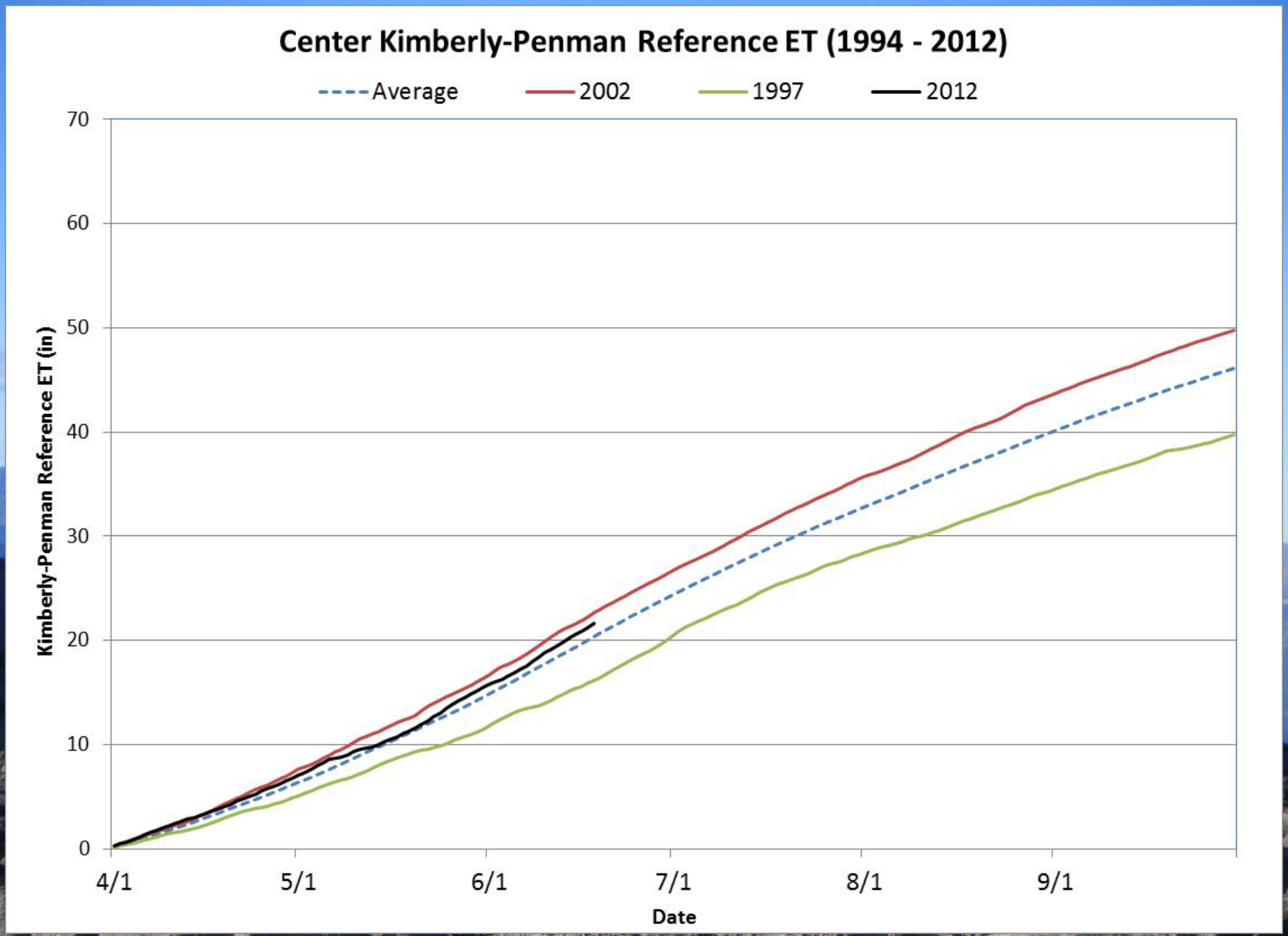
Author: David Miskus, NOAA/NWS/NCEP/CPC

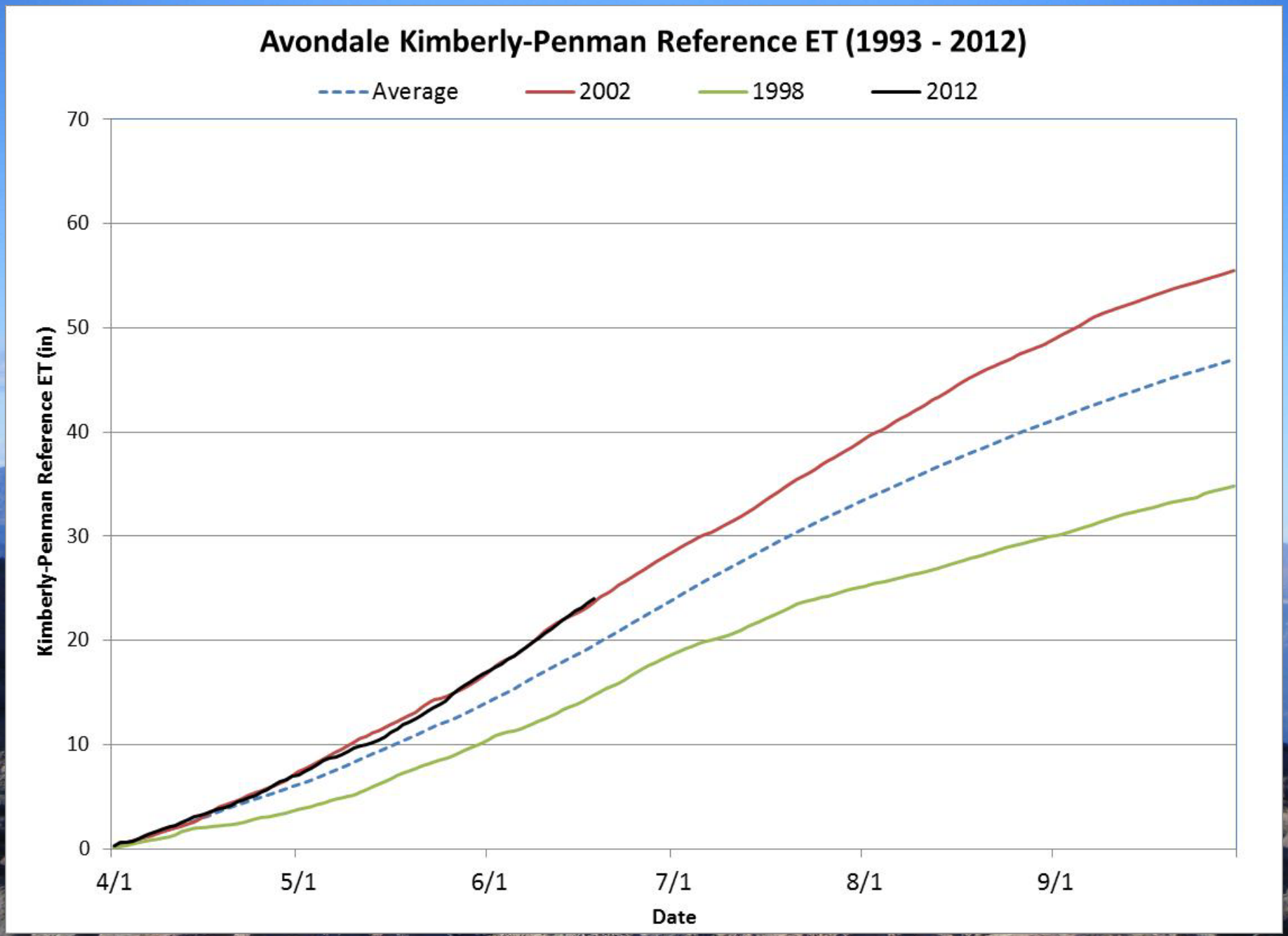
eMODIS VegDRI Vegetation
17 June 2012

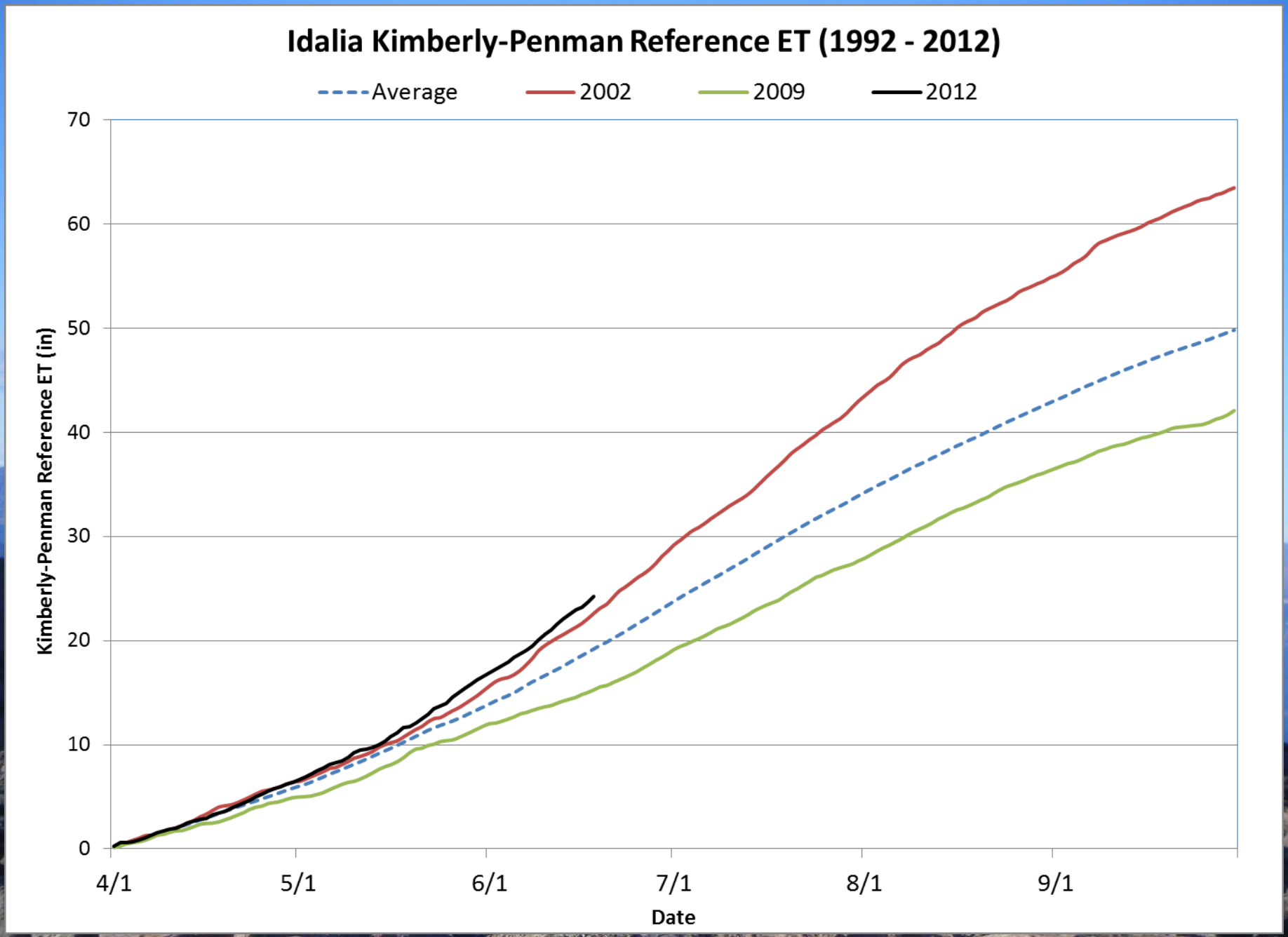


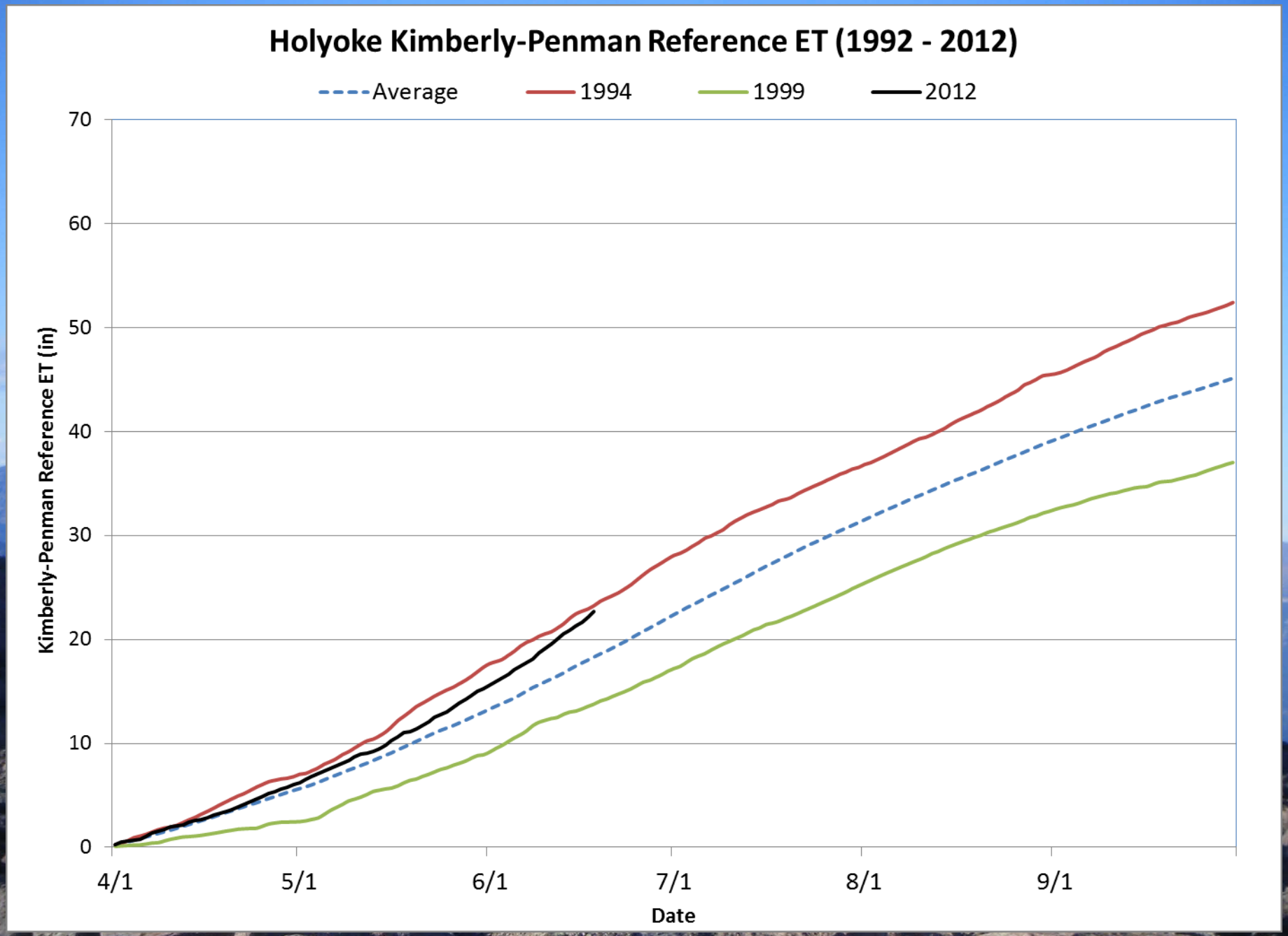

Olathe Kimberly-Penman Reference ET (1993 - 2012)
Average
1994
1999
2012
70
60
50
40
30
20
10
0
Kimberly-Penman Reference ET (in)
4/1
5/1
6/1
7/1
8/1
9/1
Date

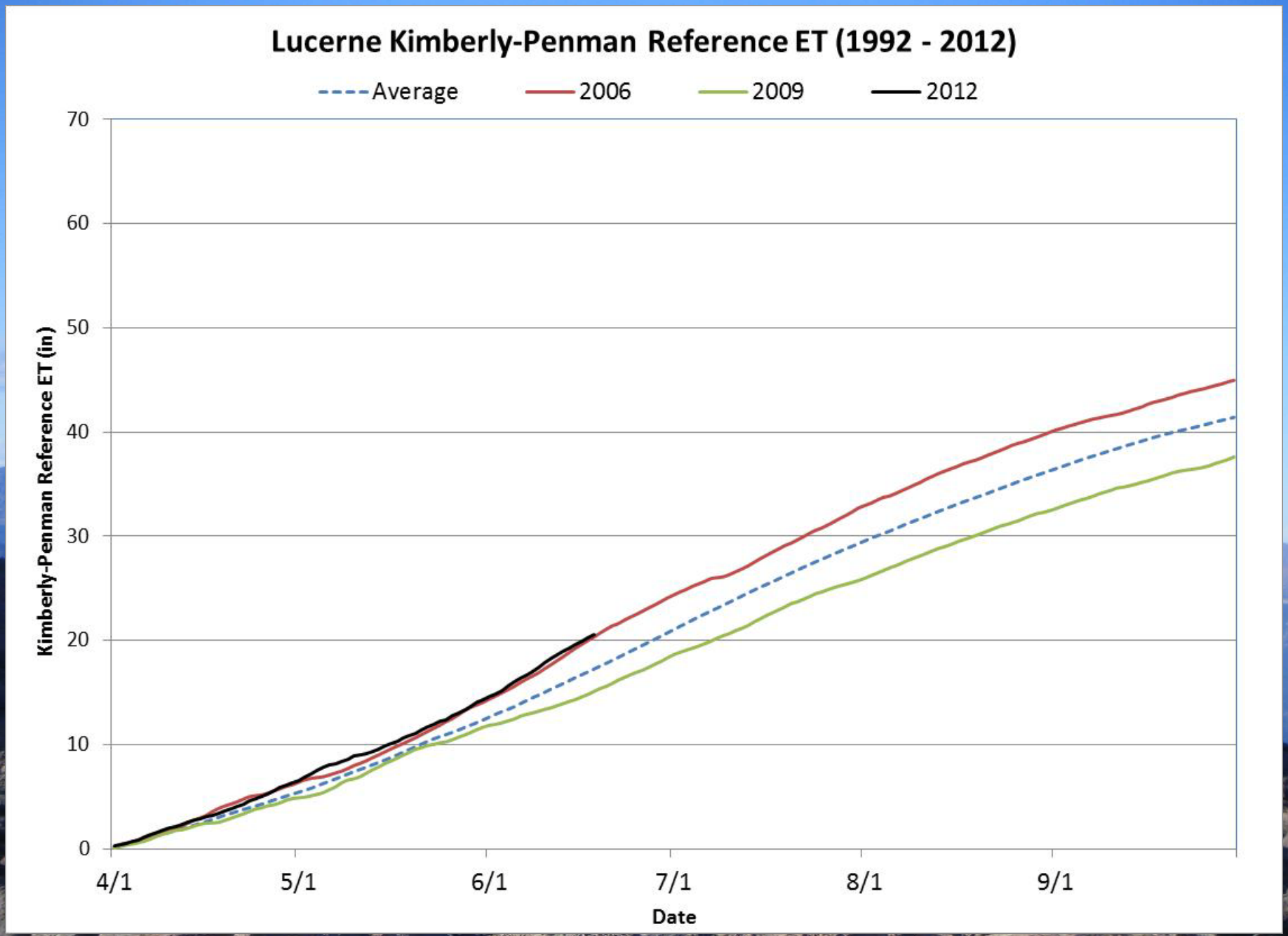

Cortez Kimberly-Penman Reference ET (1992 - 2012)
Average
2000
1995
2012
70
60
50
40
30
20
10
0
Kimberly-Penman Reference ET (in)
4/1
5/1
6/1
7/1
8/1
9/1
Date


Center Kimberly-Penman Reference ET (1994 - 2012)
Average
2002
1997
2012
70
60
50
40
30
20
10
0
Kimberly-Penman Reference ET (in)
4/1
5/1
6/1
7/1
8/1
9/1
Date

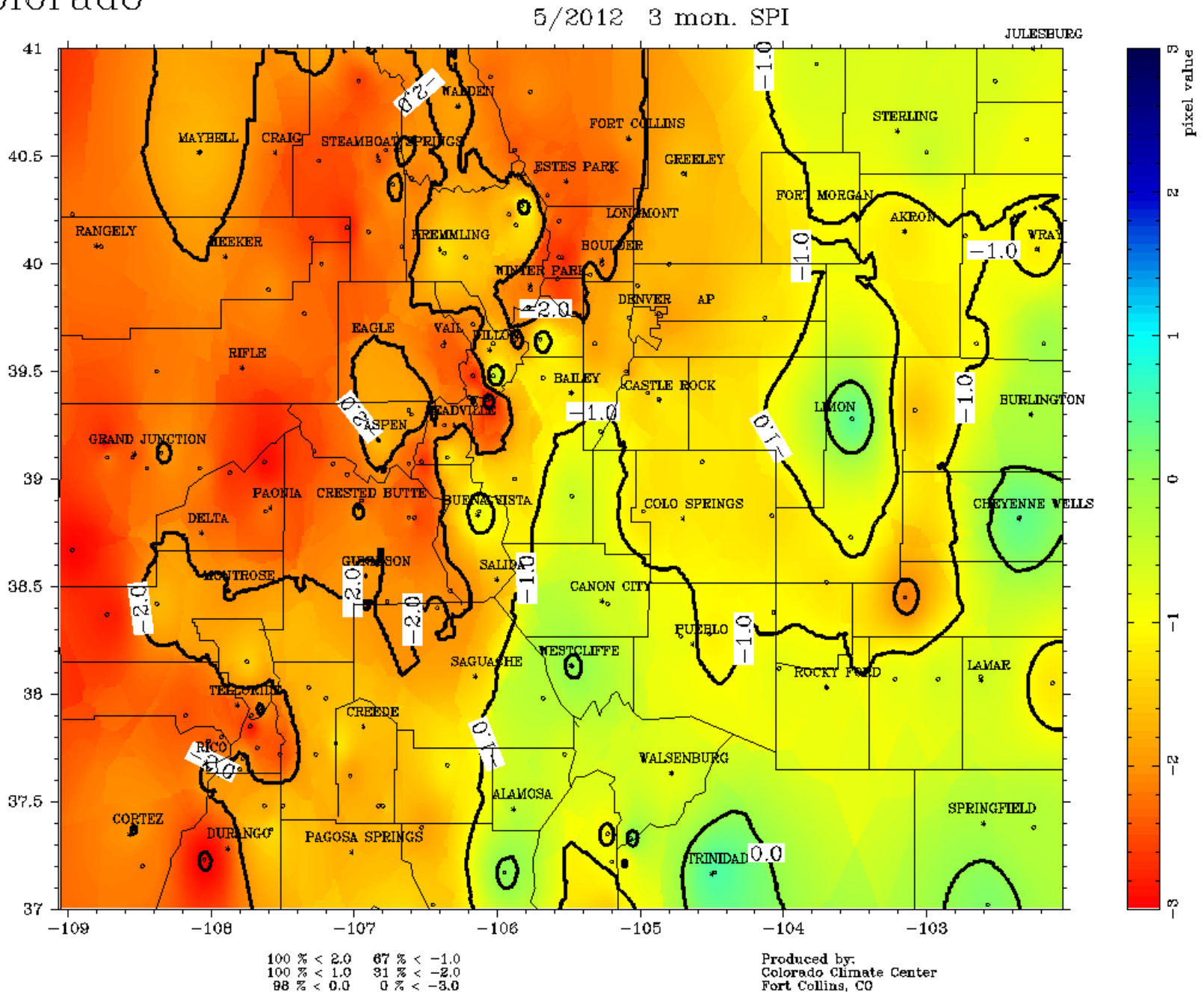

Avondale Kimberly-Penman Reference ET (1993 - 2012)
Average
2002
1998
2012
70
60
50
40
30
20
10
0
Kimberly-Penman Reference ET (in)
4/1
5/1
6/1
7/1
8/1
9/1
Date


Idalia Kimberly-Penman Reference ET (1992 - 2012)
Average
2002
2009
2012
70
60
50
40
30
20
10
0
Kimberly-Penman Reference ET (in)
4/1
5/1
6/1
7/1
8/1
9/1
Date

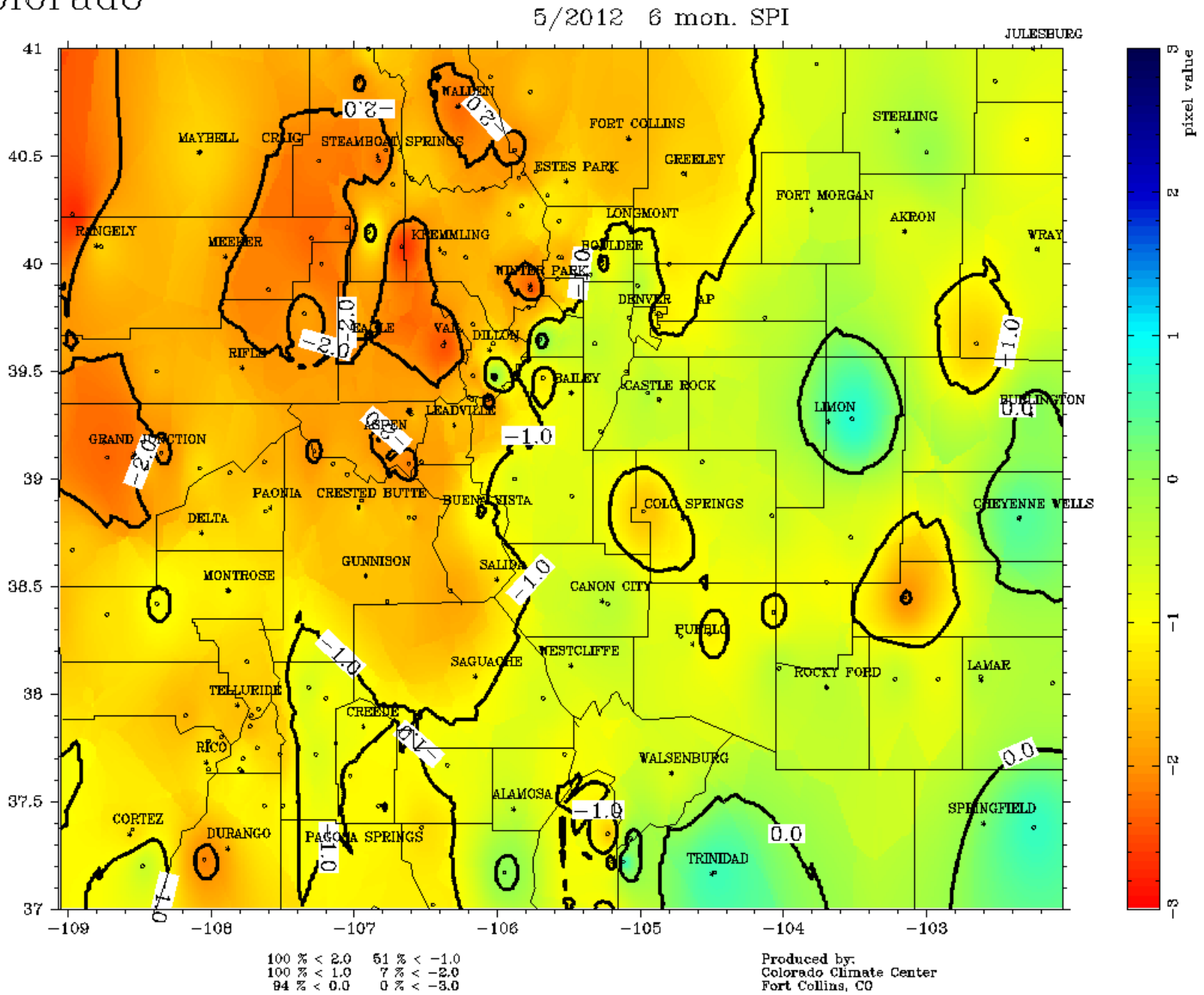

Holyoke Kimberly-Penman Reference ET (1992 - 2012)
Average
1994
1999
2012
70
60
50
40
30
20
10
0
Kimberly-Penman Reference ET (in)
4/1
5/1
6/1
7/1
8/1
9/1
Date


Lucerne Kimberly-Penman Reference ET (1992 - 2012)
Average
2006
2009
2012
70
60
50
40
30
20
10
0
Kimberly-Penman Reference ET (in)
4/1
5/1
6/1
7/1
8/1
9/1
Date

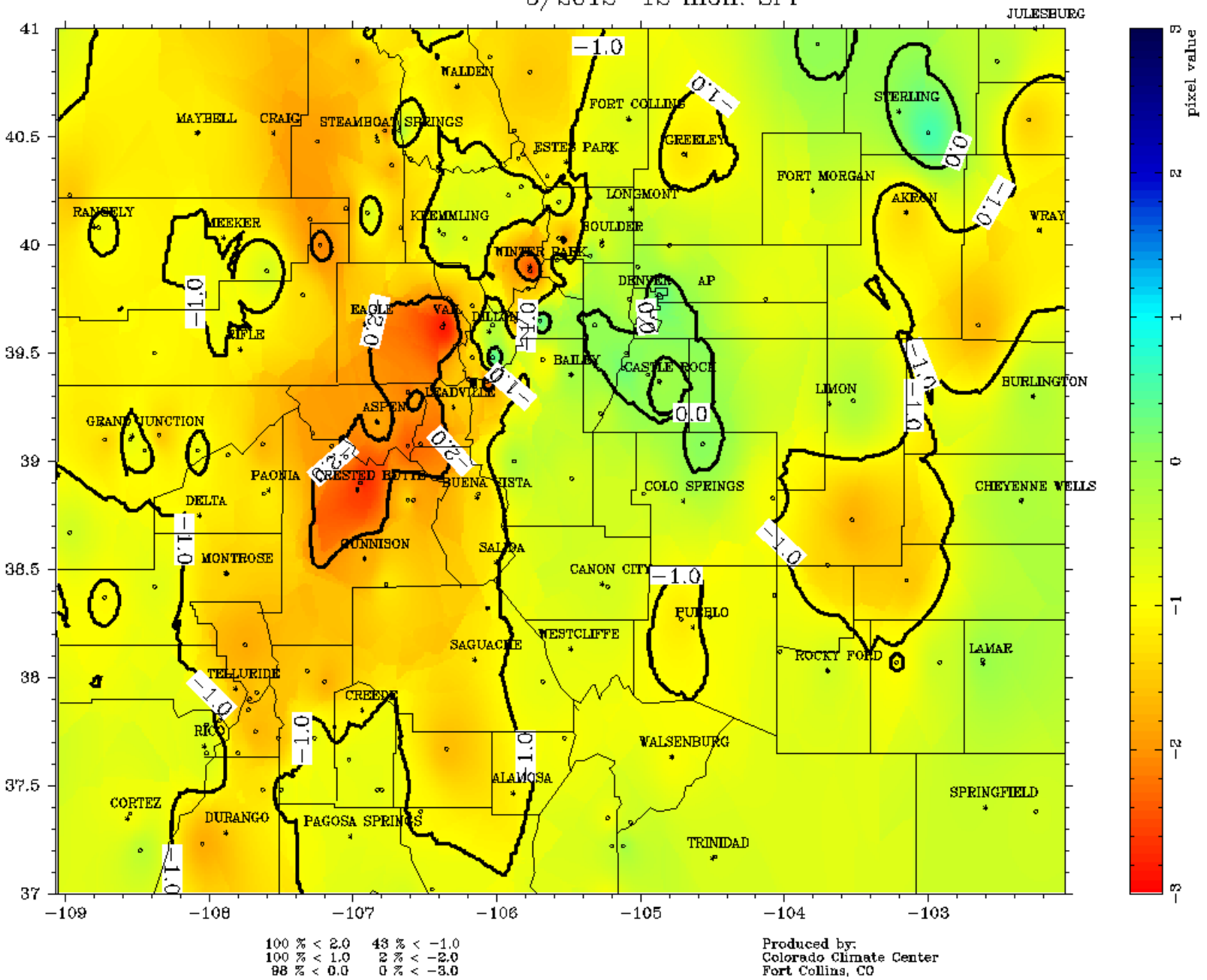
Colorado


5/2012 3 mon. SPI
JULESBURG
STERLING
FORT COLLINS
GREELEY
ESTES PARK
LONGMONT
BOULDER
FORT MORGAN
AKRON
WRAY
MAYBELL
CRAIG
STEAMBOAT SPRINGS
RANGELY
MEEKER
PREMMLING
WINTER PARK
DENVER AP
EAGLE
VAIL
RIFLE
BAILEY
CASTLE ROCK
LIMON
BURLINGTON
GRAND JUNCTION
ASPEN
PAONIA
CRESTED BUTTE
BUENA VISTA
COLO SPRINGS
CHEYENNE WELLS
DELTA
MONTROSE
SALIDA
CANON CITY
PUEBLO
WESTCLIFFE
SAGUACHE
ROCKY FORD
LAMAR
CREEDE
RICO
WALSENBURG
ALAMOSA
SPRINGFIELD
CORTEZ
DURANGO
PAGOSA SPRINGS
TRINIDAD
pixel value
100 % < 2.0 67 % < -1.0
100 % < 1.0 31 % < -2.0
98 % < 0.0 0 % < -3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

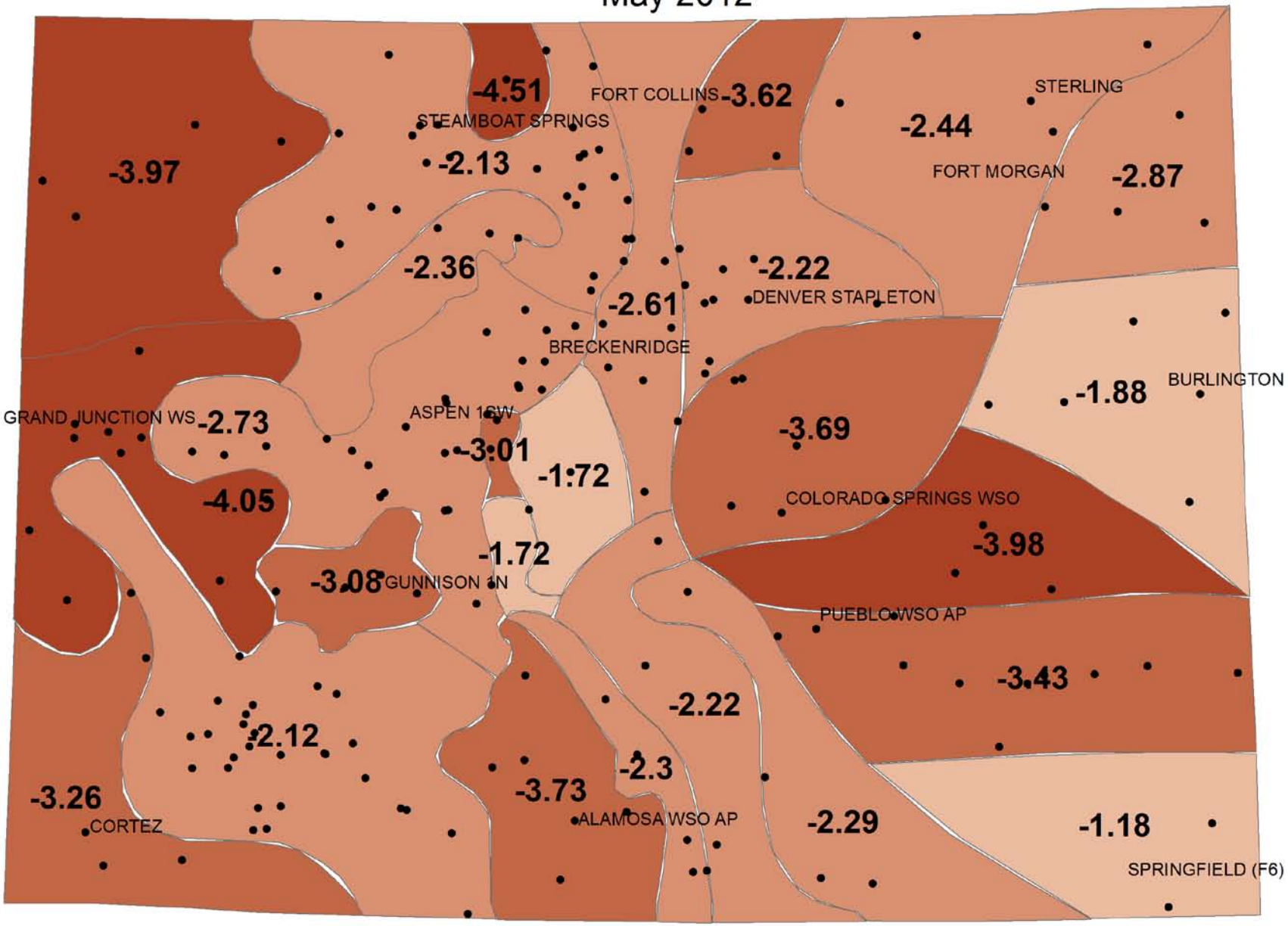
Colorado


5/2012 6 mon. SPI
JULESBURG
STERLING
FORT COLLINS
GREELEY
FORT MORGAN
AKRON
WRAY
LONGMONT
BOULDER
ESTES PARK
WALDEN
STEAMBOAT SPRINGS
CRAIG
MAYBELL
RANGELY
MEEKER
KREMMLING
WINTER PARK
DENVER AP
EAGLE
VAIL
DILLON
RIFLE
BAILEY
CASTLE ROCK
LIMON
BURLINGTON
LEADVILLE
ASPEN
GRAND JUNCTION
PAONIA
CRESTED BUTTE
BUENA VISTA
COLO. SPRINGS
CHEYENNE WELLS
DELTA
GUNNISON
SALIDA
MONTROSE
CANON CITY
PUEBLO
WESTCLIFFE
SAGUACHE
ROCKY FORD
LAMAR
TELLURIDE
CREEDE
RICO
WALSENBURG
ALAMOSA
SPRINGFIELD
CORTEZ
DURANGO
PAGOSA SPRINGS
TRINIDAD
41
40.5
40
39.5
39
38.5
38
37.5
37
−109
−108
−107
−106
−105
−104
−103
pixel value
100 % < 2.0 51 % < −1.0
100 % < 1.0 7 % < −2.0
94 % < 0.0 0 % < −3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

Colorado


5/2012 12 mon. SPI
JULESBURG
WALDEN
MAYBELL
CRAIG
STEAMBOAT SPRINGS
FORT COLLINS
STERLING
ESTES PARK
GREELEY
FORT MORGAN
LONGMONT
AKRON
WRAY
RANGELY
MEEKER
KREMMLING
BOULDER
WINTER PARK
DENVER AP
EAGLE
VAIL
DILLON
RIFLE
BAILEY
CASTLE ROCK
LIMON
BURLINGTON
LEADVILLE
ASPEN
GRAND JUNCTION
PAONIA
CRESTED BUTTE
BUENA VISTA
COLO SPRINGS
CHEYENNE WELLS
DELTA
GUNNISON
SALIDA
MONTROSE
CANON CITY
PUEBLO
WESTCLIFFE
SAGUACHE
ROCKY FORD
LAMAR
TELLURIDE
CREEDE
RICO
WALSENBURG
ALAMOSA
SPRINGFIELD
CORTEZ
DURANGO
PAGOSA SPRINGS
TRINIDAD
pixel value
100 % < 2.0
100 % < 1.0
98 % < 0.0
43 % < -1.0
2 % < -2.0
0 % < -3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

Modified Palmer Drought Severity Index for Colorado
May 2012



Colorado Climate Center

Data and Power Point Presentations available for downloading

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

COLORADO CLIMATE CENTER

Colorado State University
Knowledge to Go Places