Climate Update

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Atmospheric Science Department
Colorado State University

Presented by Reagan Waskom

http://ccc.atmos.colostate.edu

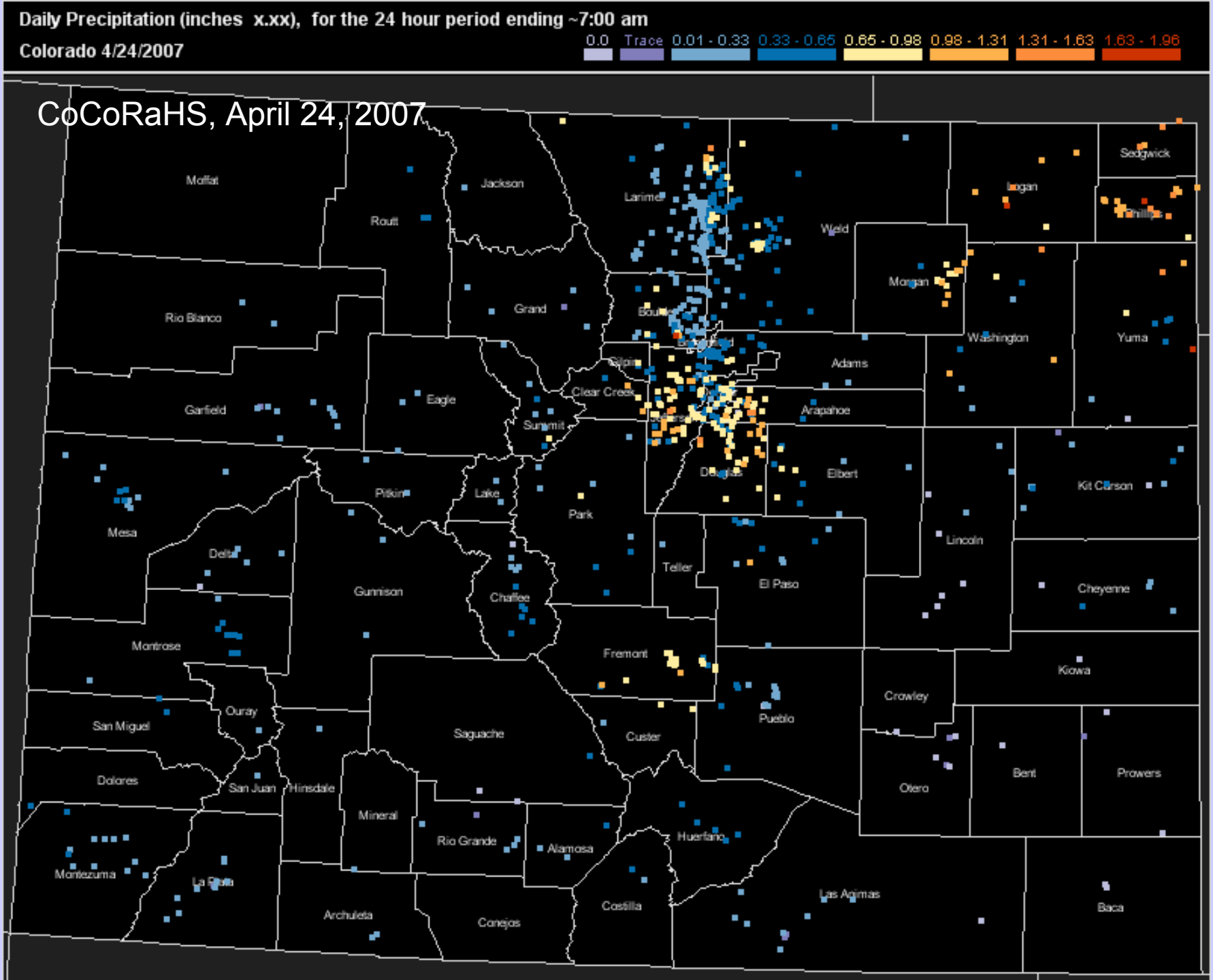
**Presented to Water Availability Task Force,
Denver, CO, May 15, 2007**

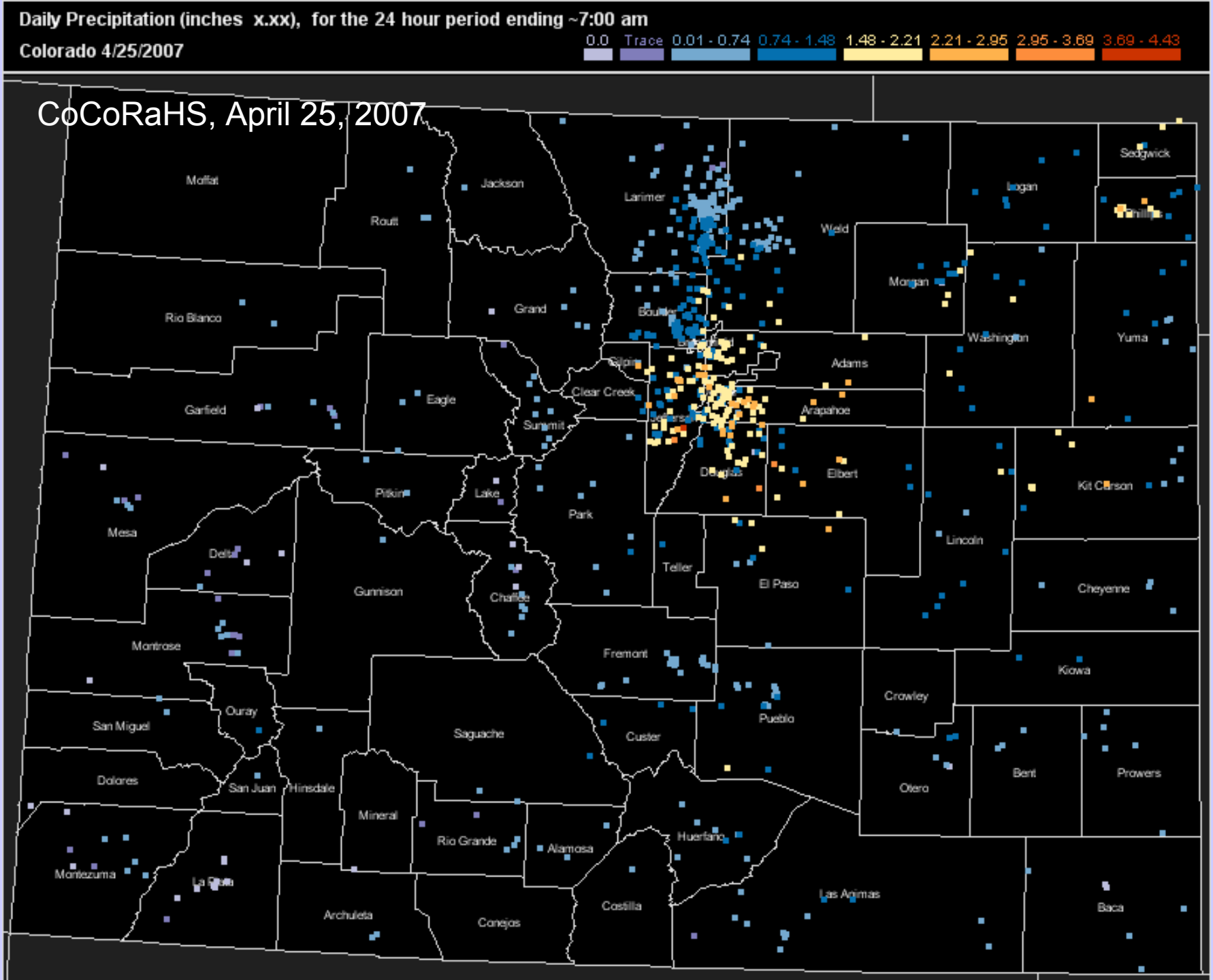
Prepared by Odie Bliss

What has happened since we last met?

Weather Events:

- April 23 – 25, Central and Northeast Colorado major storm
- April 26 – 30, Dry and warming
- May 1, Southern Colorado major storm
- May 4 – 6, Front Range major storm
- May 8 – 14, Very warm, snowmelt underway


Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am
Colorado 4/24/2007
0.0
Trace
0.01 - 0.33
0.33 - 0.65
0.65 - 0.98
0.98 - 1.31
1.31 - 1.63
1.63 - 1.96
CoCoRaHS, April 24, 2007
Moffat
Routt
Jackson
Larimer
Weld
Sedgwick
Logan
Phillips
Rio Blanco
Grand
Boulder
Morgan
Washington
Yuma
Garfield
Eagle
Clear Creek
Adams
Summit
Arapahoe
Douglas
Elbert
Kit Carson
Pitkin
Lake
Park
Mesa
Delta
Teller
El Paso
Lincoln
Cheyenne
Gunnison
Chaffee
Montrose
Fremont
Kiowa
Crowley
Ouray
San Miguel
Saguache
Custer
Pueblo
Dolores
San Juan
Hinsdale
Mineral
Rio Grande
Alamosa
Huerfano
Otero
Bent
Prowers
Montezuma
La Plata
Archuleta
Conejos
Costilla
Las Animas
Baca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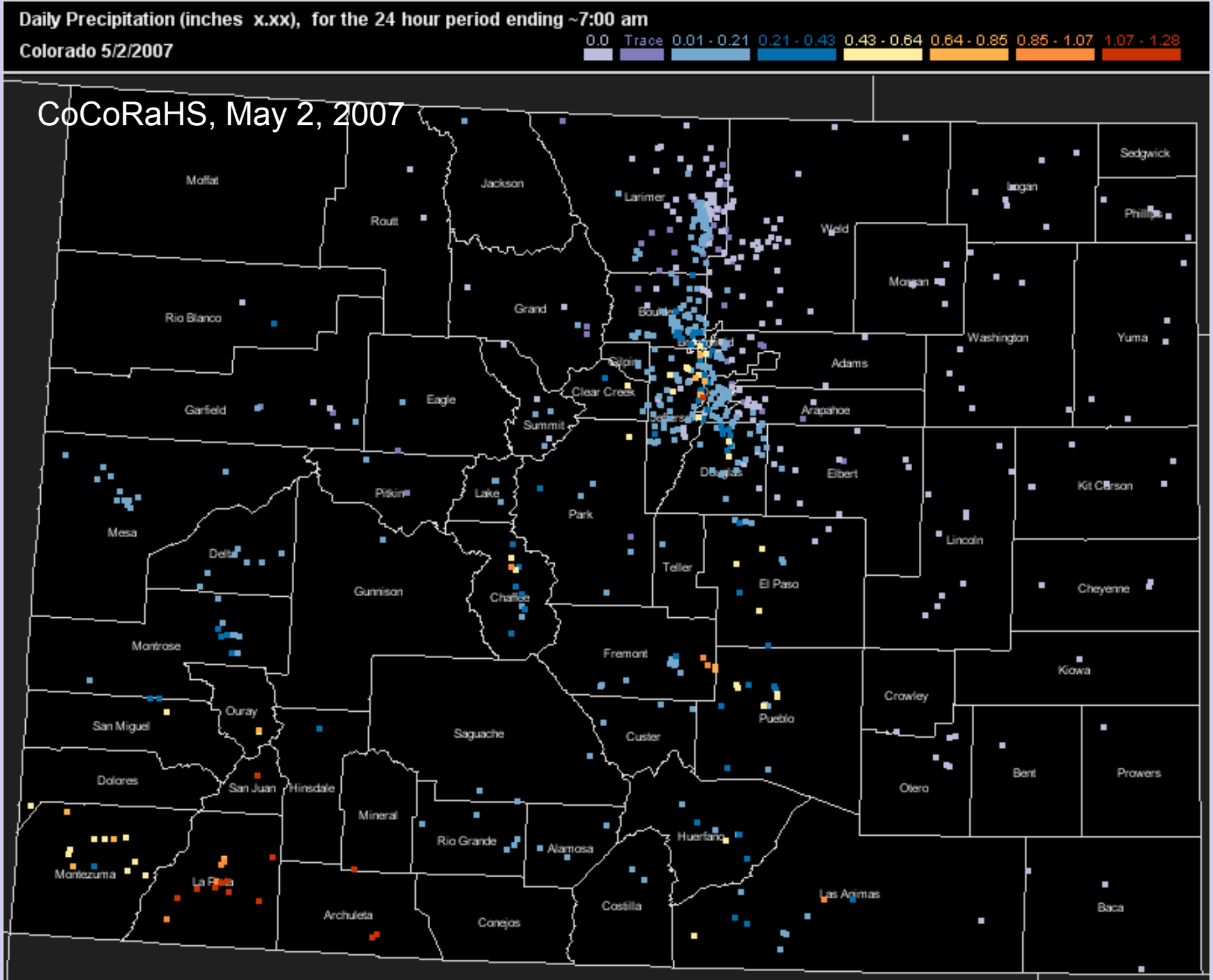
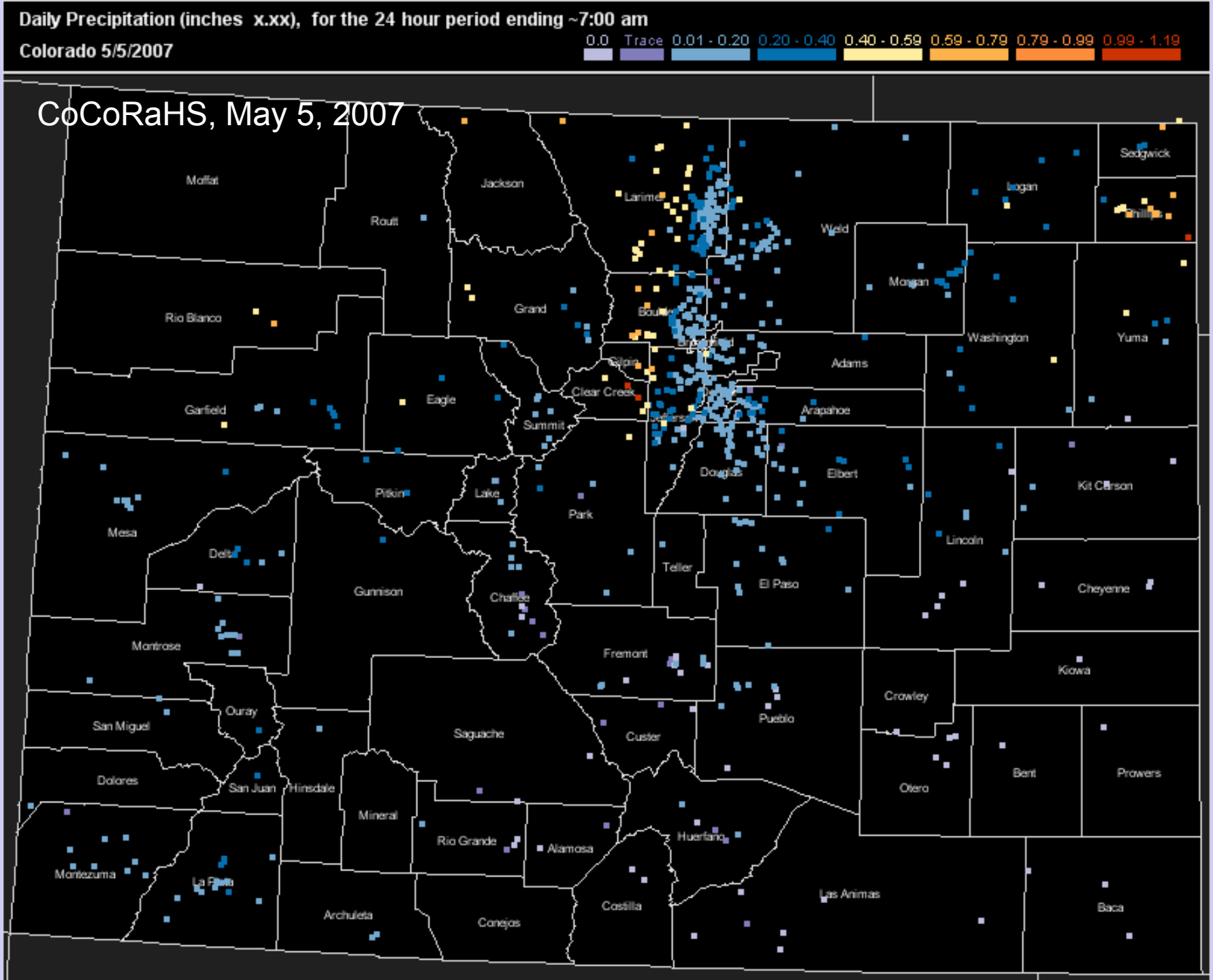
Colorado 4/25/2007
0.0 Trace 0.01 - 0.74 0.74 - 1.48 1.48 - 2.21 2.21 - 2.95 2.95 - 3.69 3.69 - 4.43
CoCoRaHS, April 25, 2007
Moffat
Routt
Jackson
Larimer
Weld
Logan
Sedgwick
Rio Blanco
Grand
Morgan
Washington
Yuma
Garfield
Eagle
Clear Creek
Adams
Arapahoe
Summit
Elbert
Kit Carson
Pitkin
Lake
Park
Lincoln
Mesa
Delta
Teller
El Paso
Cheyenne
Gunnison
Chaffee
Montrose
Fremont
Kiowa
Crowley
Ouray
San Miguel
Saguache
Custer
Pueblo
Dolores
San Juan
Hinsdale
Mineral
Rio Grande
Alamosa
Huerfano
Otero
Bent
Prowers
Montezuma
La Plata
Archuleta
Conejos
Costilla
Las Animas
Baca


Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am
Colorado 5/2/2007
0.0 Trace 0.01 - 0.21 0.21 - 0.43 0.43 - 0.64 0.64 - 0.85 0.85 - 1.07 1.07 - 1.28
CoCoRaHS, May 2, 2007
Moffat
Routt
Jackson
Larimer
Weld
Logan
Sedgwick
Phillips
Rio Blanco
Grand
Boulder
Morgan
Washington
Yuma
Garfield
Eagle
Summit
Clear Creek
Gilpin
Adams
Arapahoe
Douglas
Elbert
Kit Carson
Lincoln
Cheyenne
Mesa
Delta
Pitkin
Lake
Park
Teller
El Paso
Gunnison
Chaffee
Fremont
Crowley
Kiowa
Montrose
Ouray
San Miguel
Saguache
Custer
Pueblo
Otero
Bent
Prowers
Dolores
San Juan
Hinsdale
Mineral
Rio Grande
Alamosa
Huerfano
Las Animas
Baca
Montezuma
La Plata
Archuleta
Conejos
Costilla


Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am
Colorado 5/5/2007
0.0
Trace
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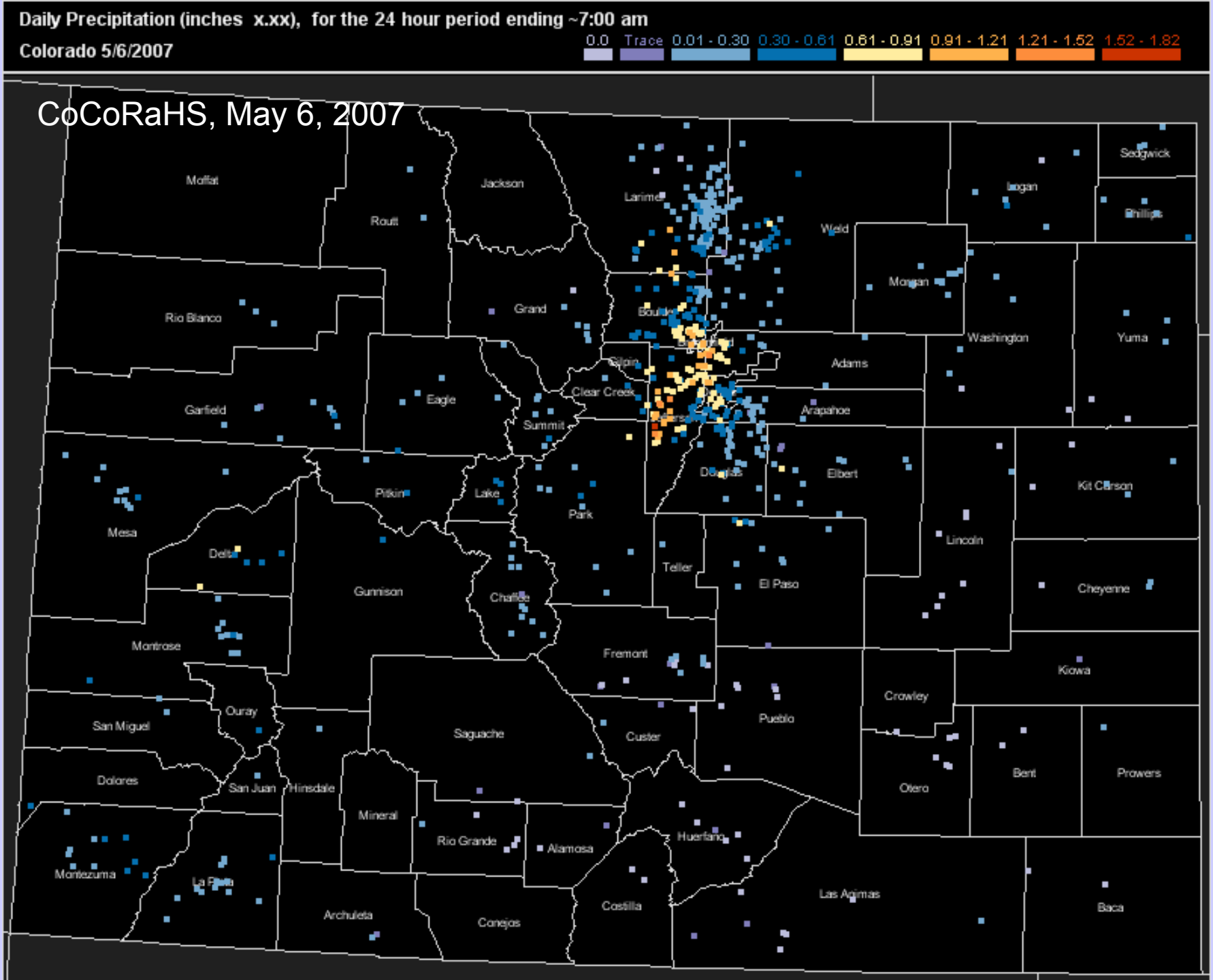
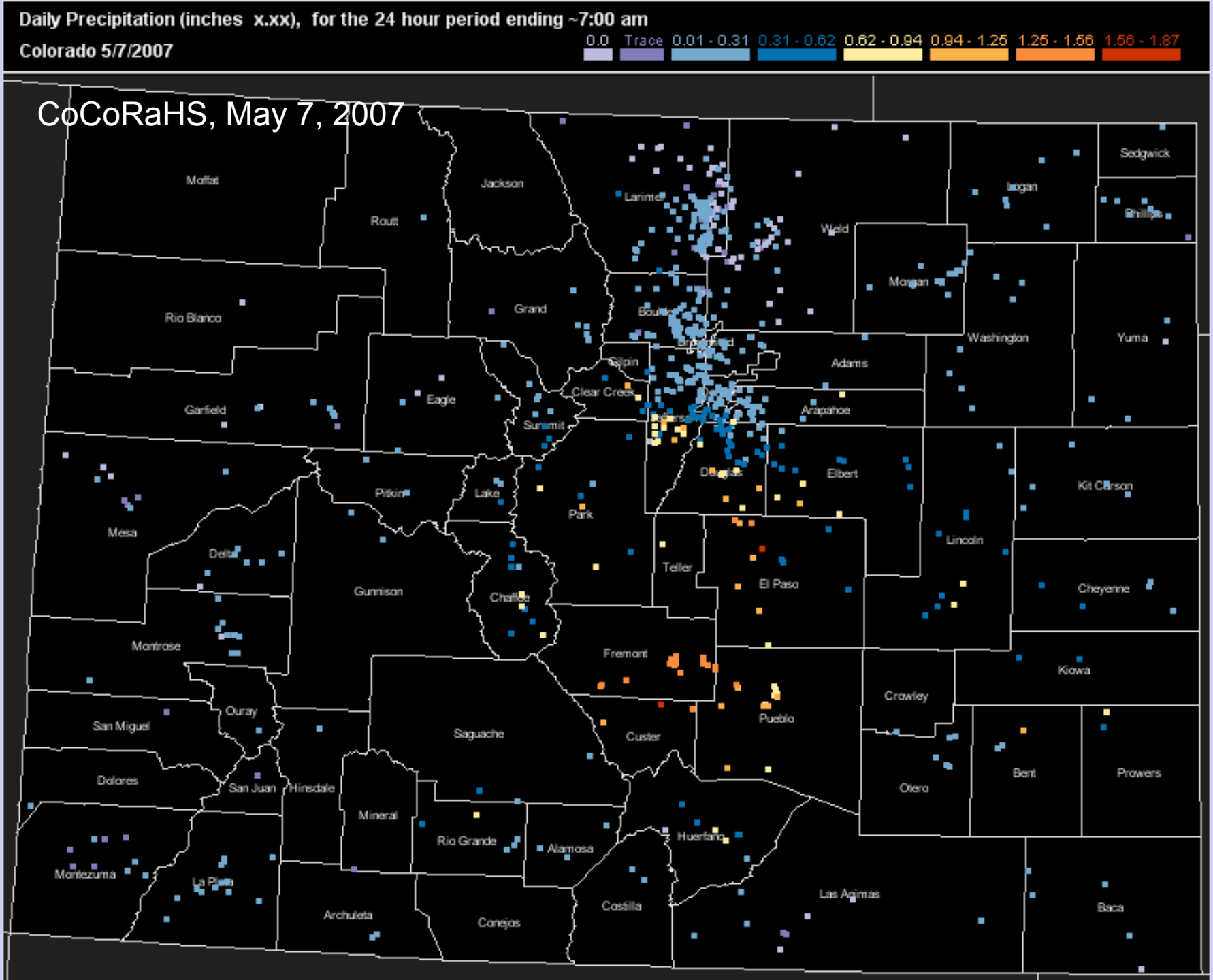
0.20 - 0.40
0.40 - 0.59
0.59 - 0.79
0.79 - 0.99
0.99 - 1.19
CoCoRaHS, May 5, 2007
Moffat
Routt
Jackson
Larimer
Weld
Logan
Sedgwick
Phillips
Rio Blanco
Grand
Boulder
Morgan
Washington
Yuma
Garfield
Eagle
Clear Creek
Gilpin
Adams
Arapahoe
Summit
Pitkin
Lake
Park
Douglas
Elbert
Kit Carson
Mesa
Delta
Gunnison
Chaffee
Teller
El Paso
Lincoln
Cheyenne
Montrose
Fremont
Kiowa
Ouray
San Miguel
Saguache
Custer
Pueblo
Crowley
Dolores
San Juan
Hinsdale
Mineral
Rio Grande
Alamosa
Huerfano
Otero
Bent
Prowers
Montezuma
La Plata
Archuleta
Conejos
Costilla
Las Animas
Baca


Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am
Colorado 5/6/2007
0.0
Trace
0.01 - 0.30
0.30 - 0.61
0.61 - 0.91
0.91 - 1.21
1.21 - 1.52
1.52 - 1.82
CoCoRaHS, May 6, 2007
Moffat
Routt
Jackson
Larimer
Weld
Logan
Sedgwick
Phillips
Rio Blanco
Grand
Boulder
Morgan
Washington
Yuma
Garfield
Eagle
Clear Creek
Summit
Adams
Arapahoe
Elbert
Kit Carson
Pitkin
Lake
Park
Douglas
Lincoln
Mesa
Delta
Gunmison
Chaffee
Teller
El Paso
Cheyenne
Montrose
Fremont
Kiowa
Ouray
San Miguel
Saguache
Custer
Pueblo
Crowley
Dolores
San Juan
Hinsdale
Mineral
Rio Grande
Alamosa
Huerfano
Otero
Bent
Prowers
Montezuma
La Plata
Archuleta
Conejos
Costilla
Las Animas
Baca


Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am
Colorado 5/7/2007
0.0
Trace
0.01 - 0.31
0.31 - 0.62
0.62 - 0.94
0.94 - 1.25
1.25 - 1.56
1.56 - 1.87
CoCoRaHS, May 7, 2007
Moffat
Routt
Jackson
Larimer
Weld
Logan
Sedgwick
Phillips
Rio Blanco
Grand
Morgan
Washington
Yuma
Garfield
Eagle
Clear Creek
Adams
Arapahoe
Summit
Elbert
Kit Carson
Pitkin
Lake
Park
Lincoln
Mesa
Delta
Teller
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Gunnison
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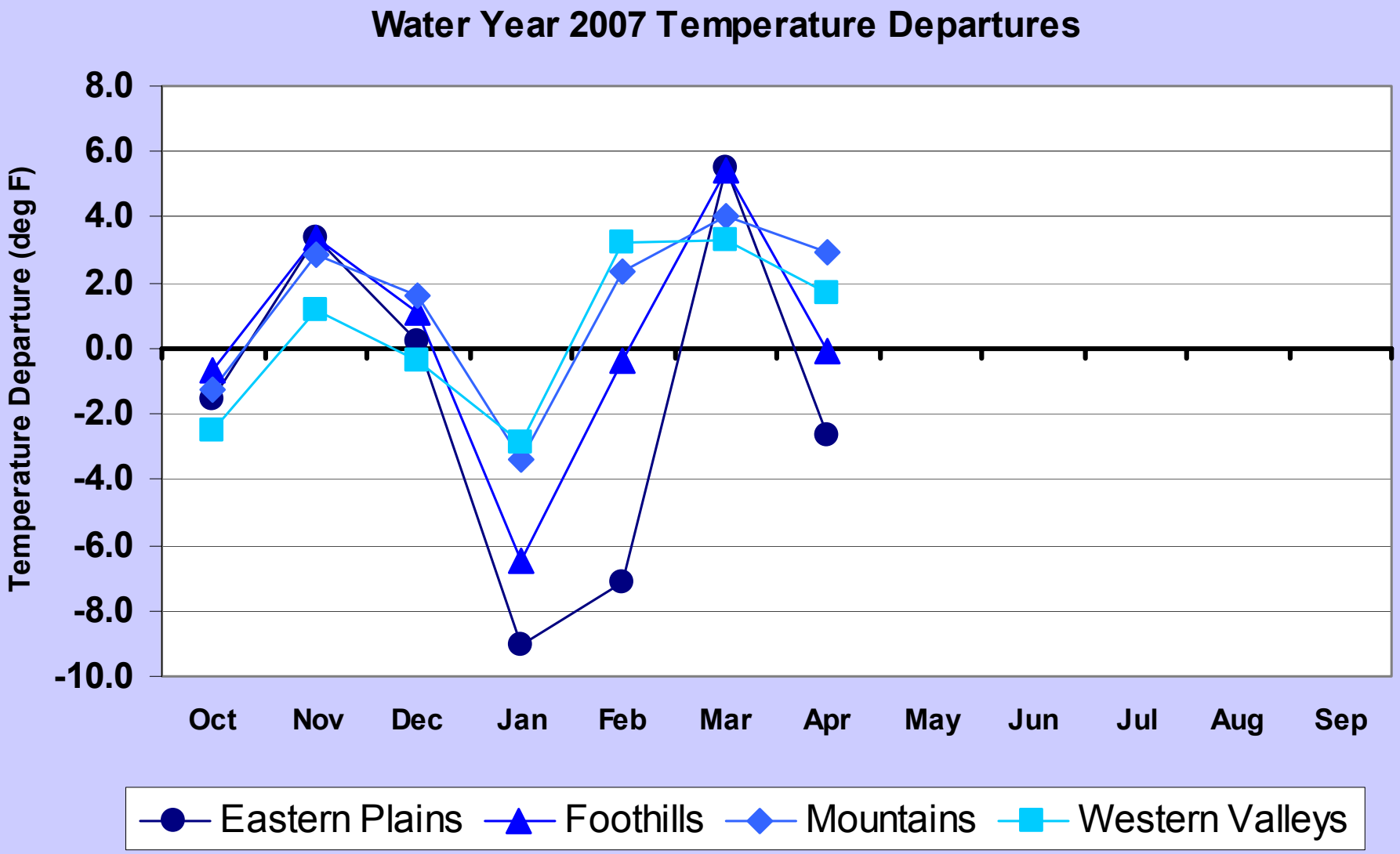
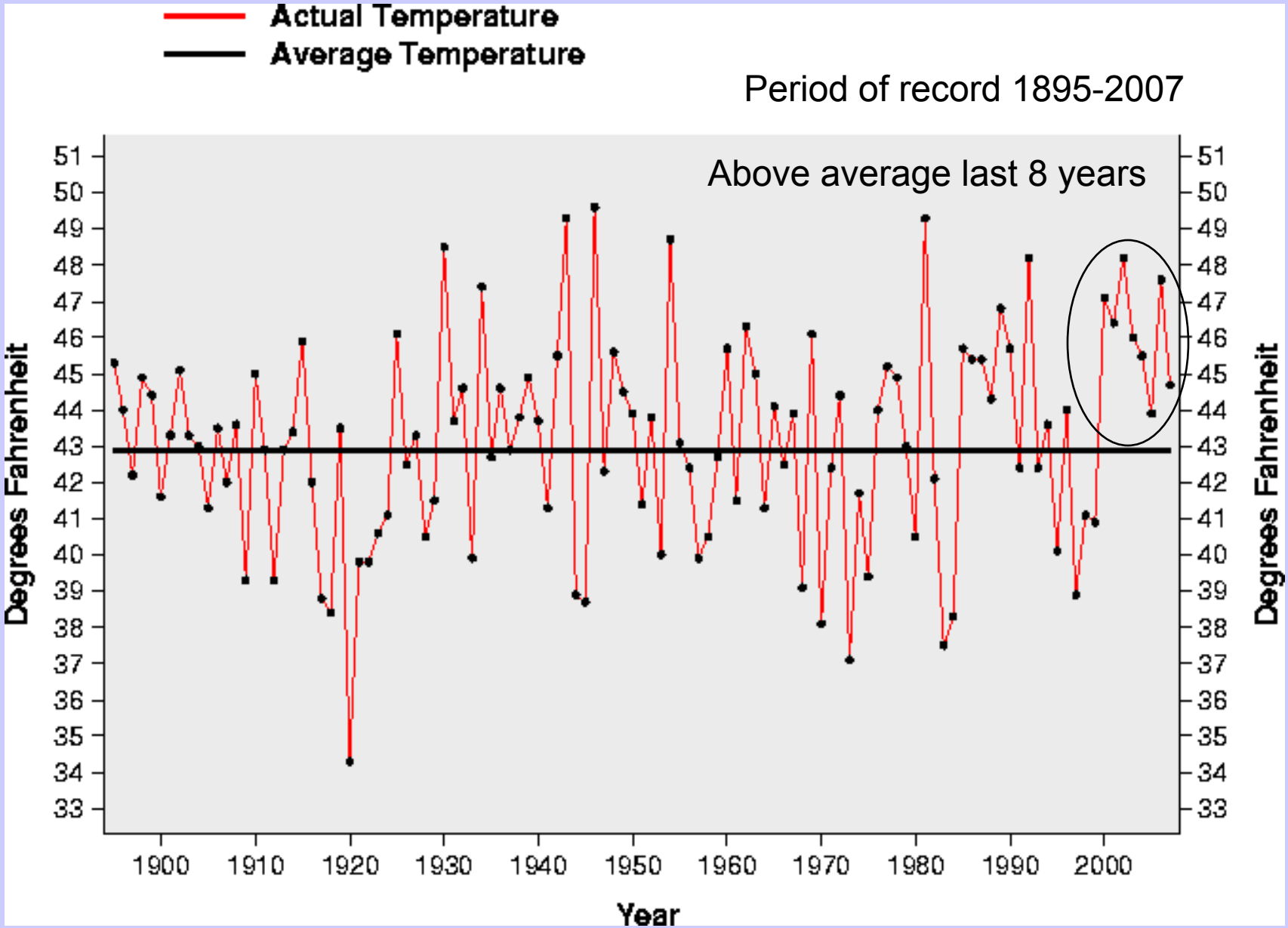
Montrose
Fremont
Kiowa
Crowley
Ouray
San Miguel
Saguache
Custer
Pueblo
Otero
Bent
Prowers
Dolores
San Juan
Hinsdale
Mineral
Rio Grande
Alamosa
Huerfano
Montezuma
La Plata
Archuleta
Conejos
Costilla
Las Animas
Baca

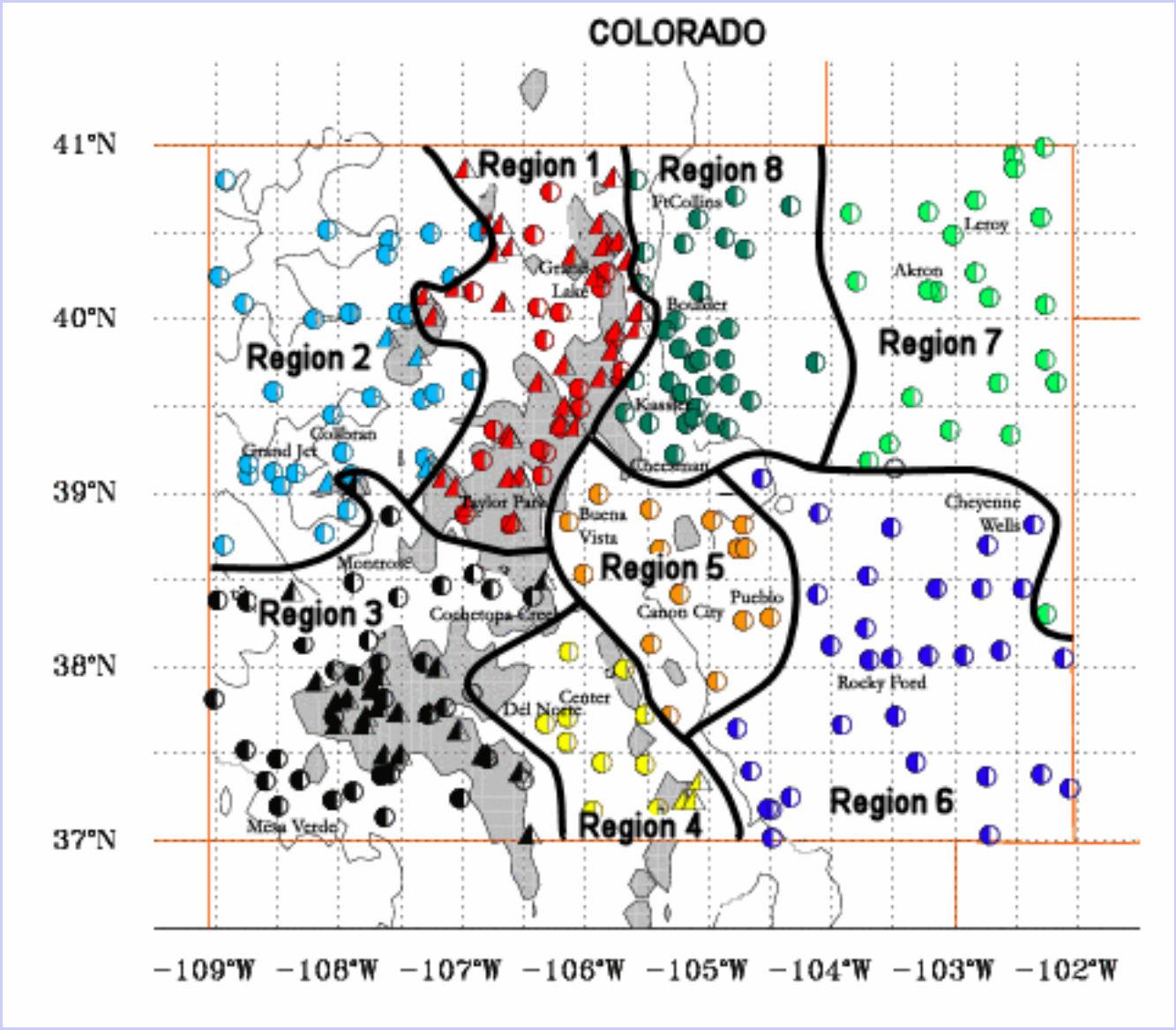
Water Year 2007 Temperature Departures



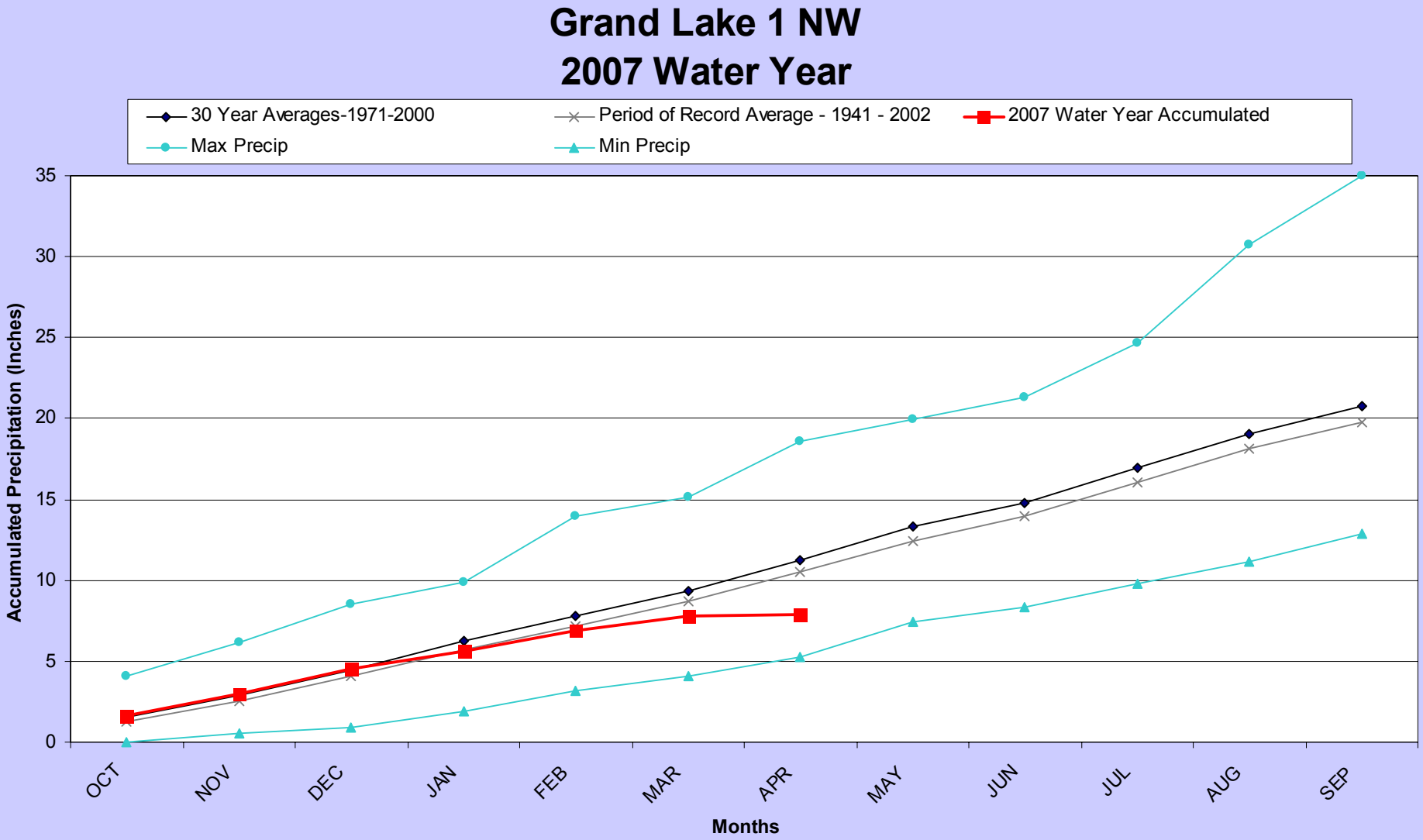
April Average Temperature History for Colorado



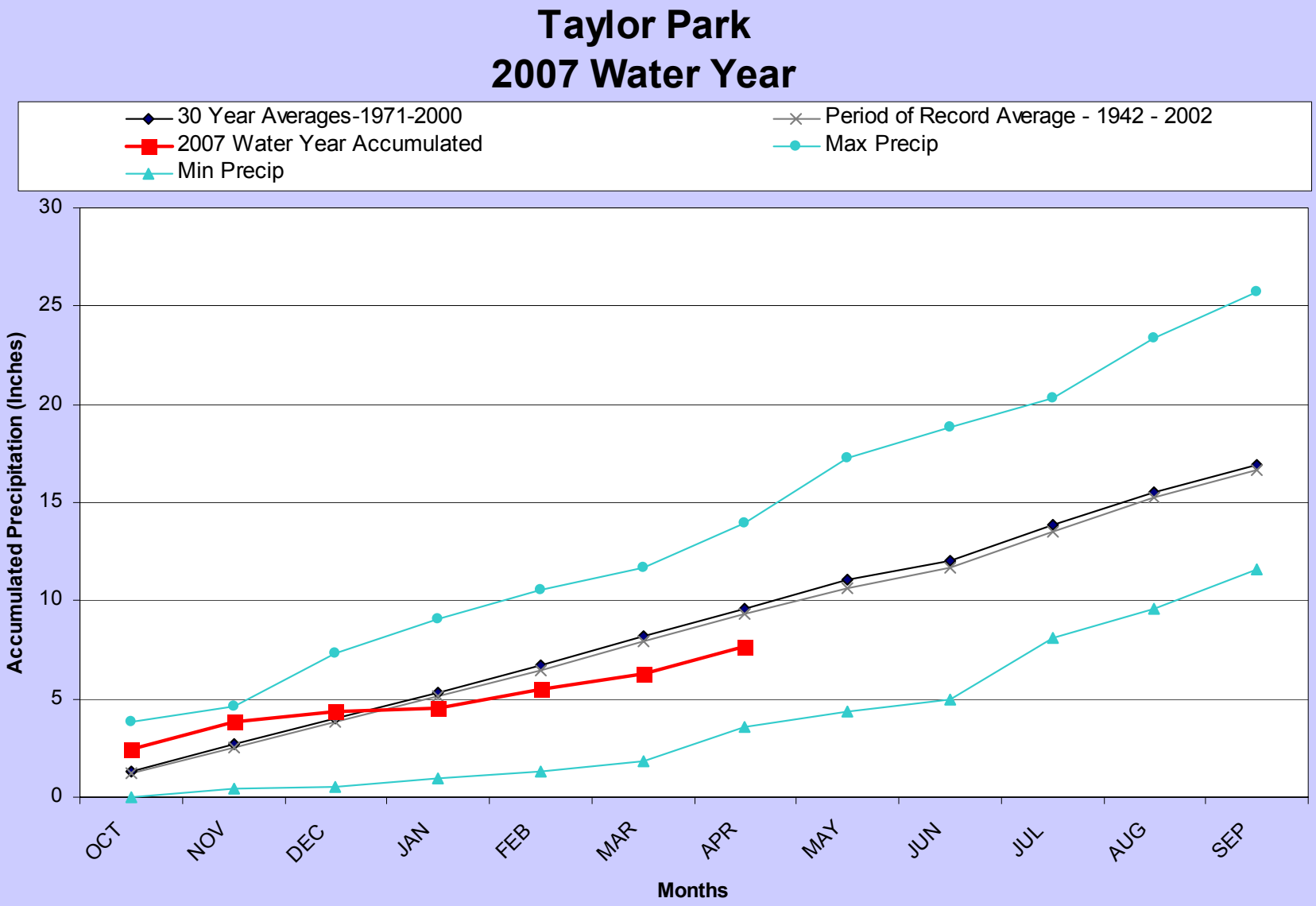
Climate divisions defined by Dr. Klaus Wolter of NOAA's Climate Diagnostic Center in Boulder, CO



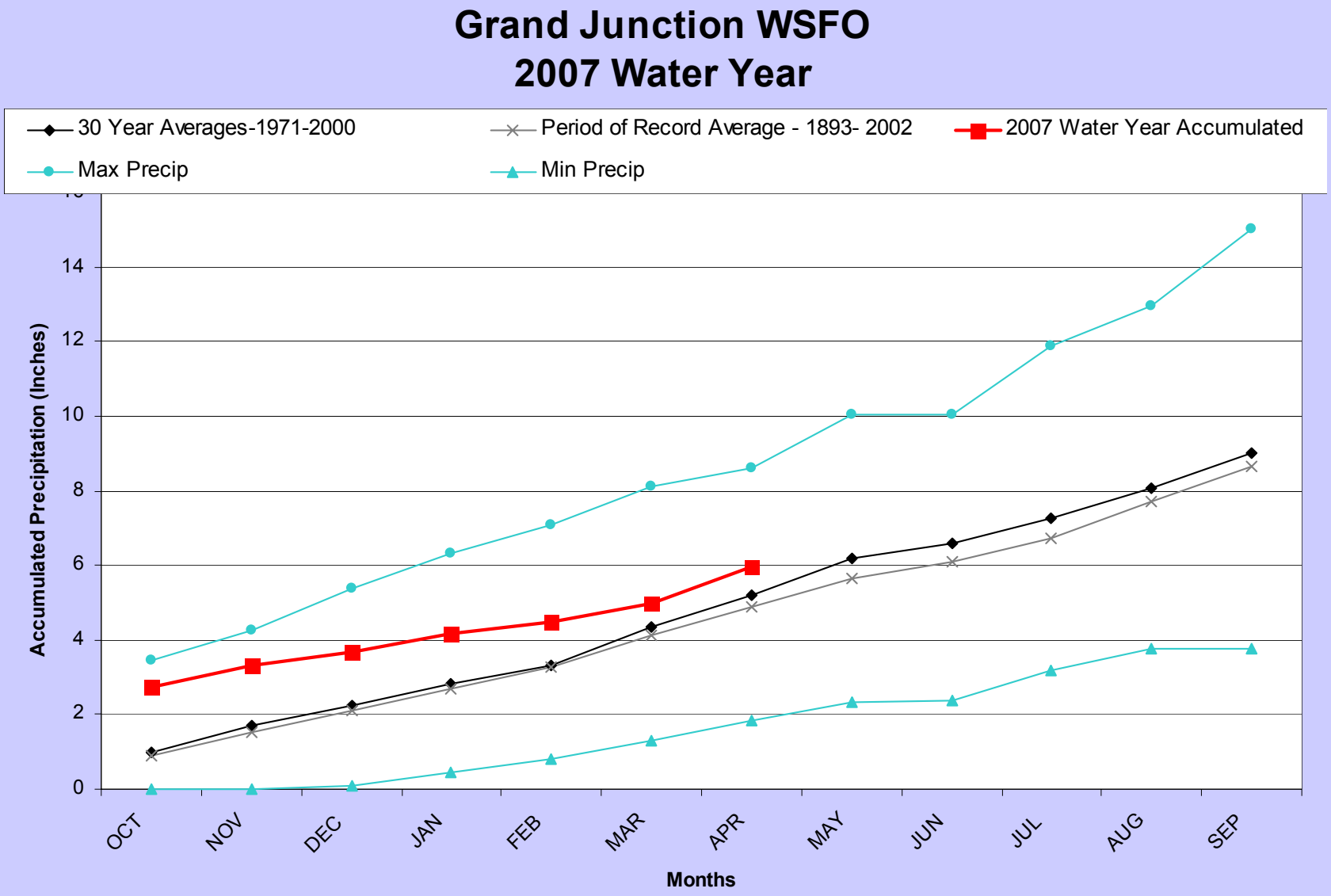
Division 1– Grand Lake 1NW



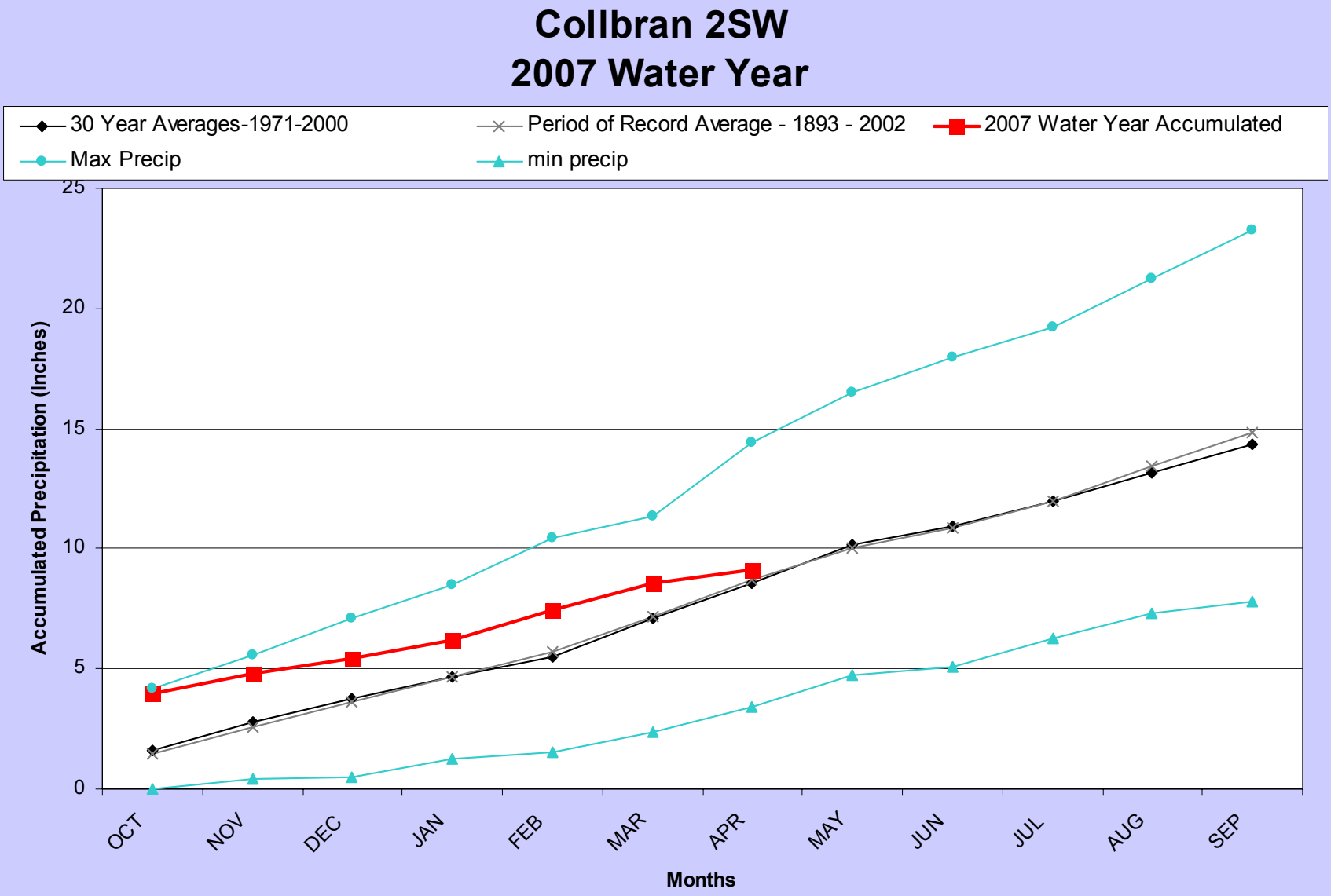
Division 1 – Taylor Park



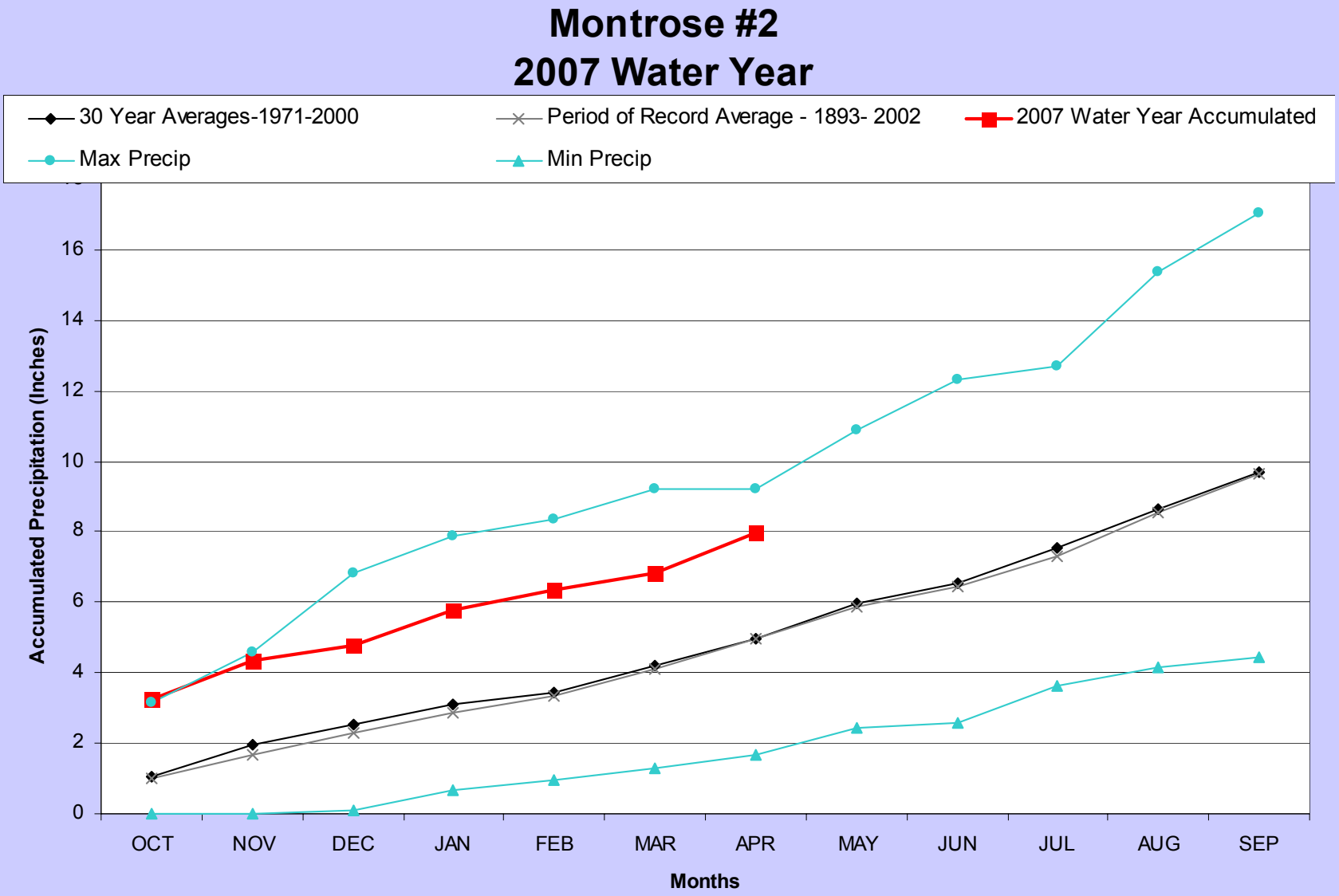
Division 2 – Grand Junction



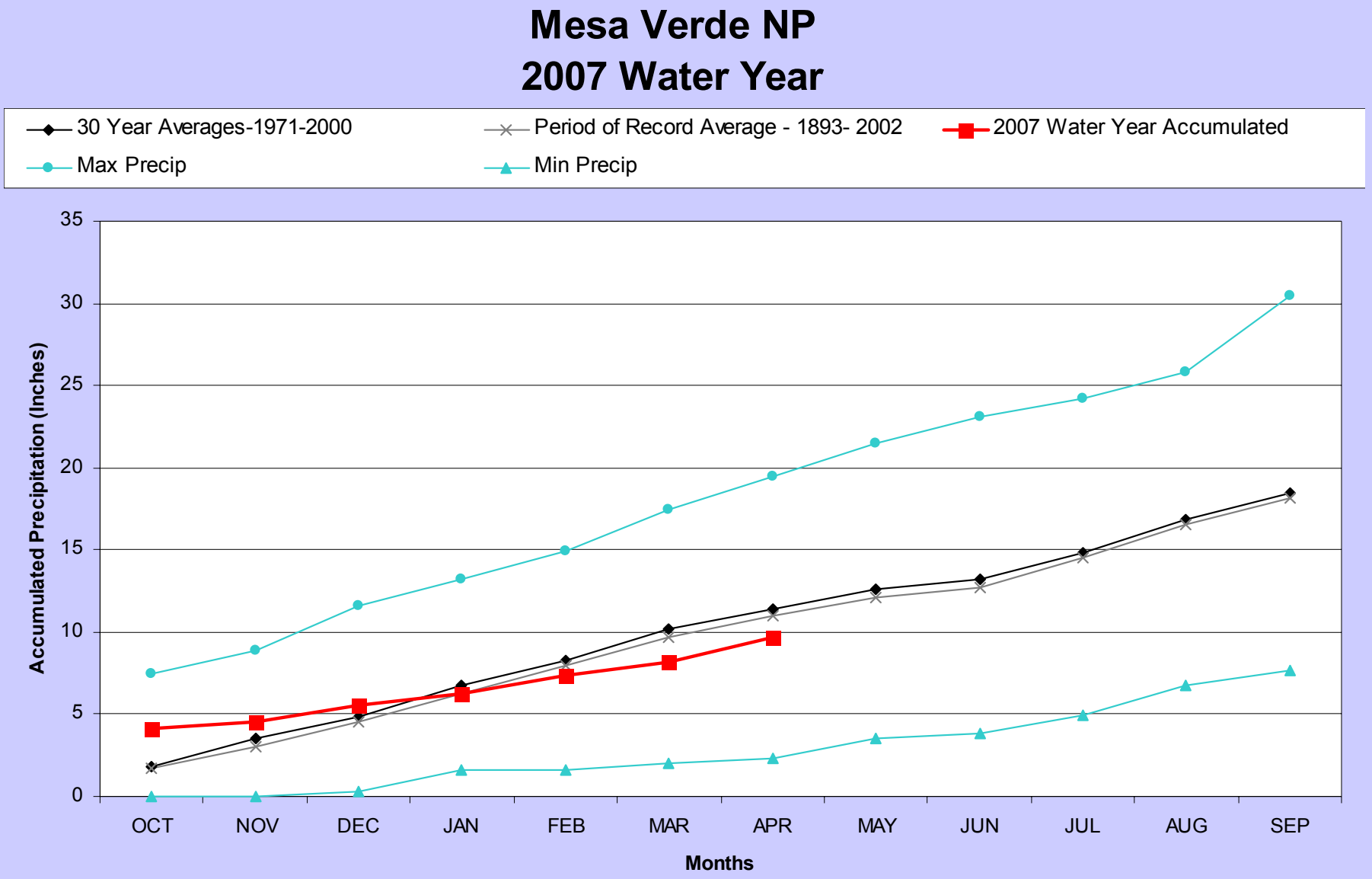
Division 2– Collbran



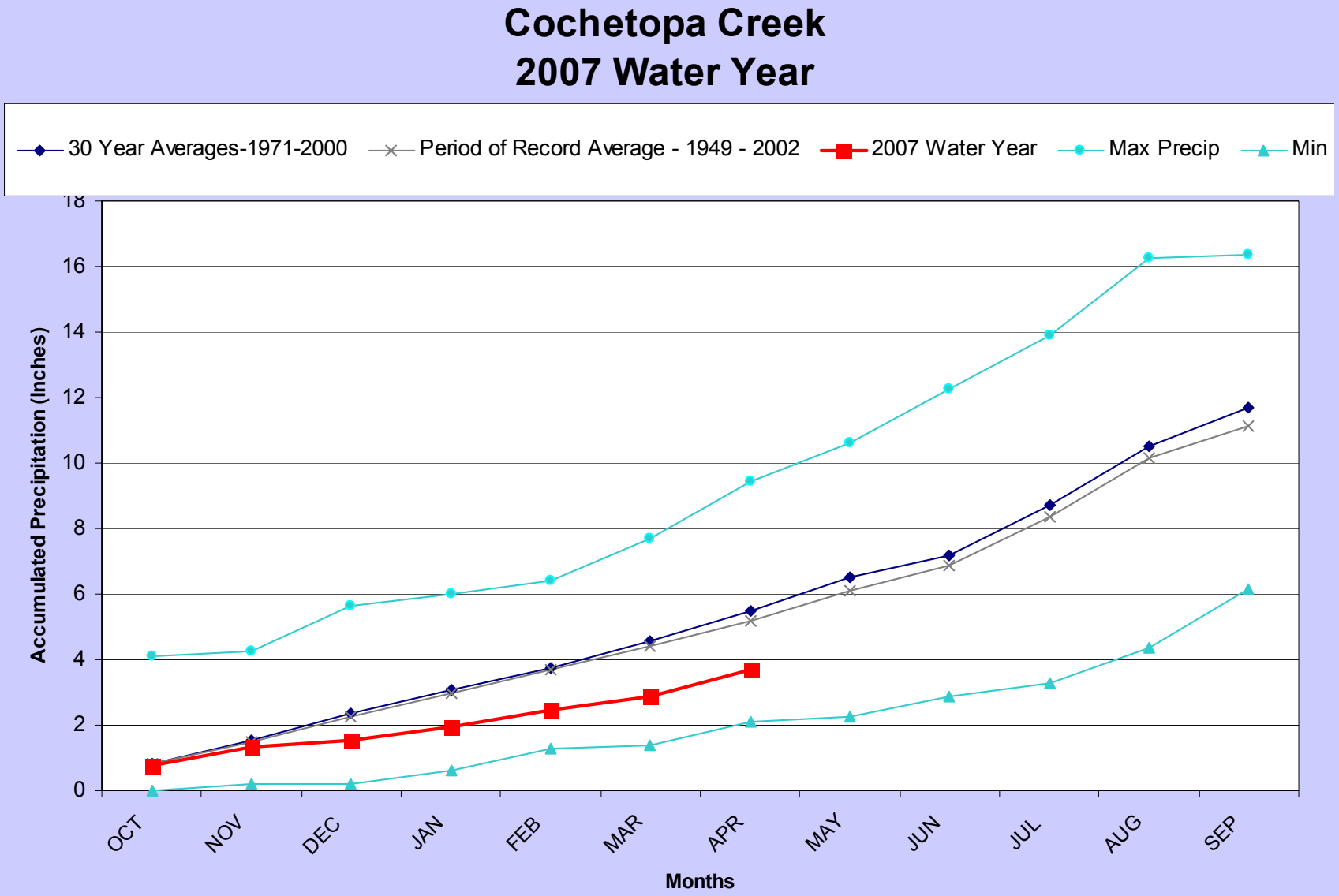
Division 3 – Montrose



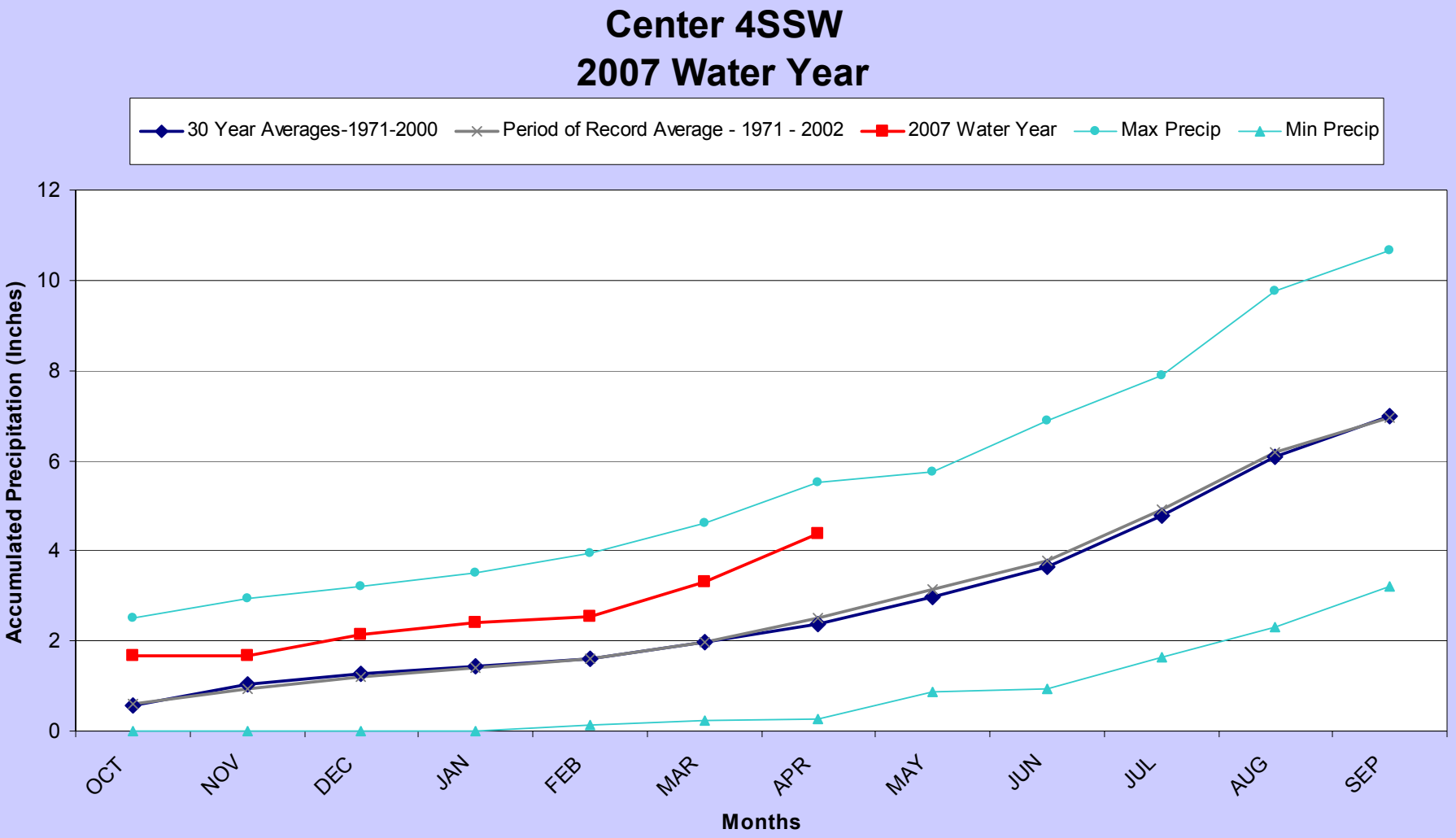
Division 3 – Mesa Verde



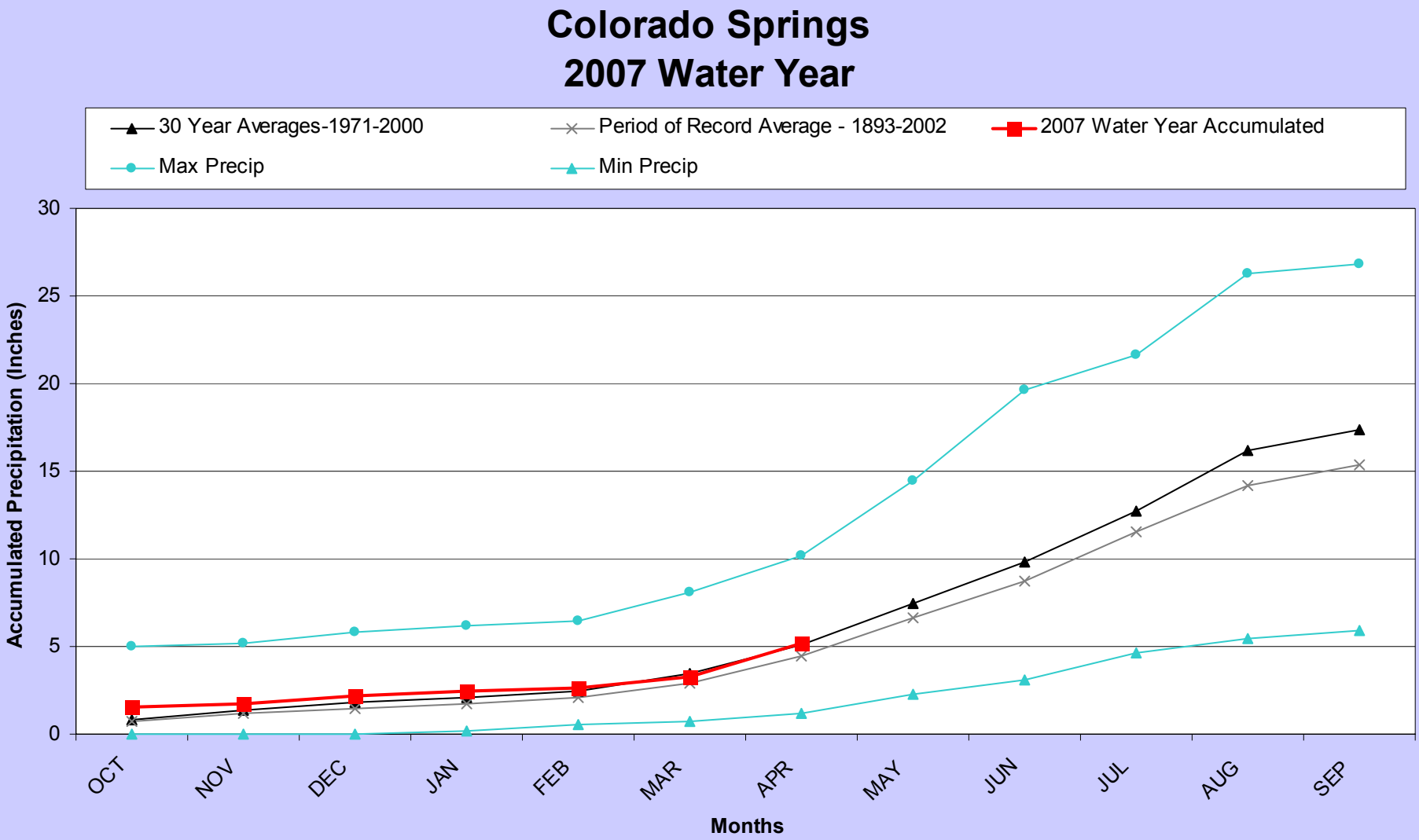
Division 3 – Cochetopa Creek



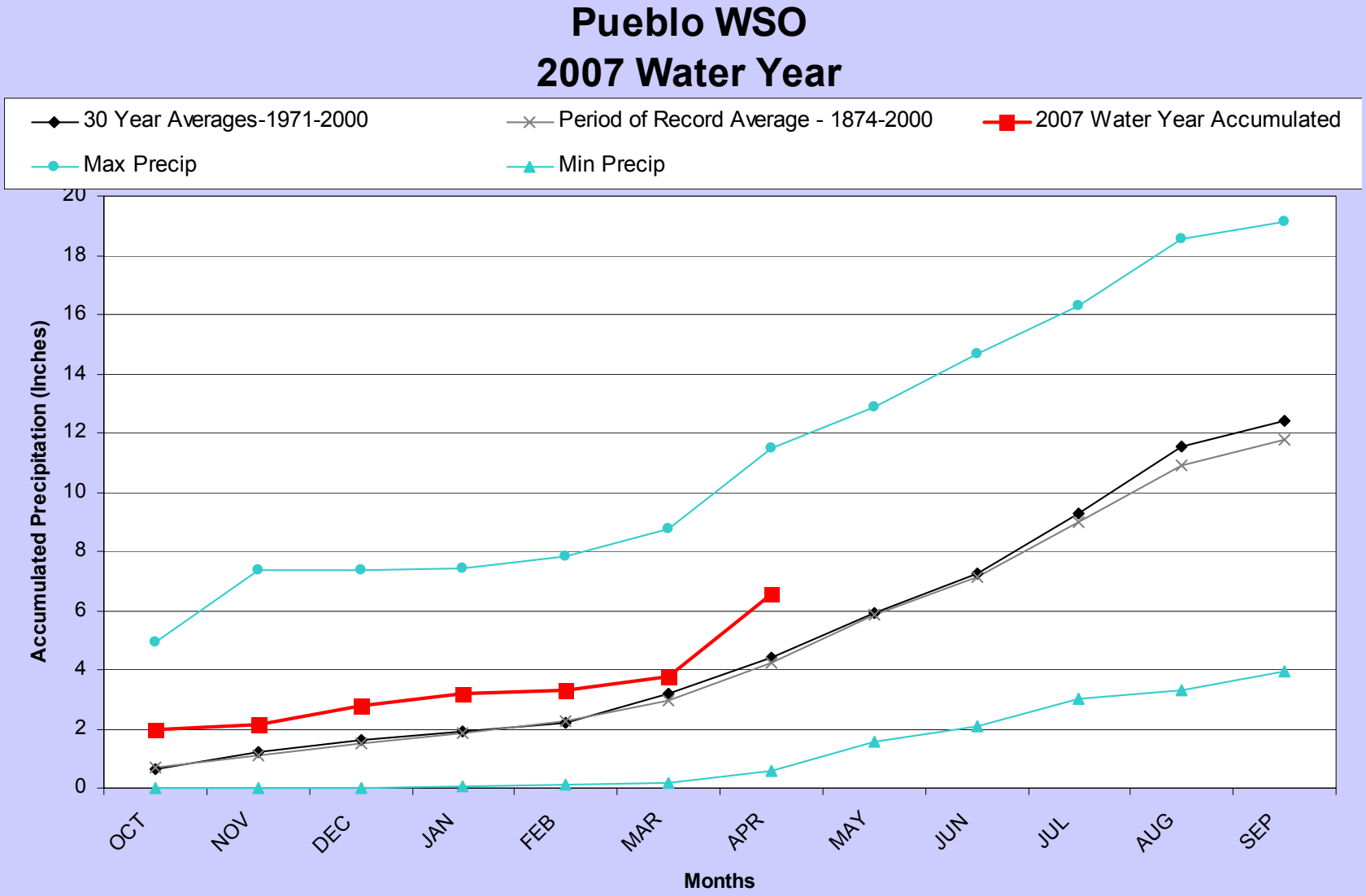
Division 4 – Center



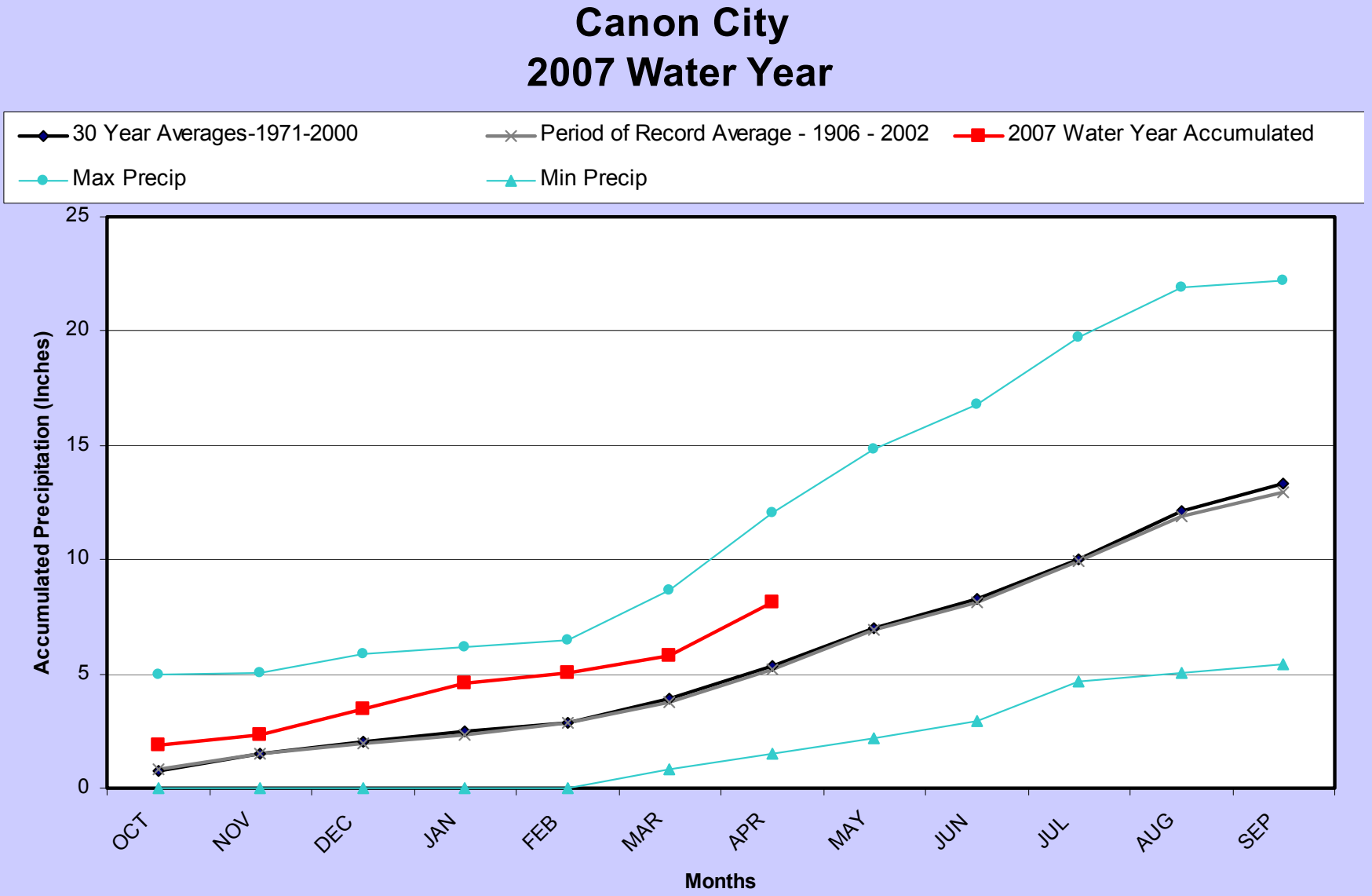
Division 5 – Colorado Springs



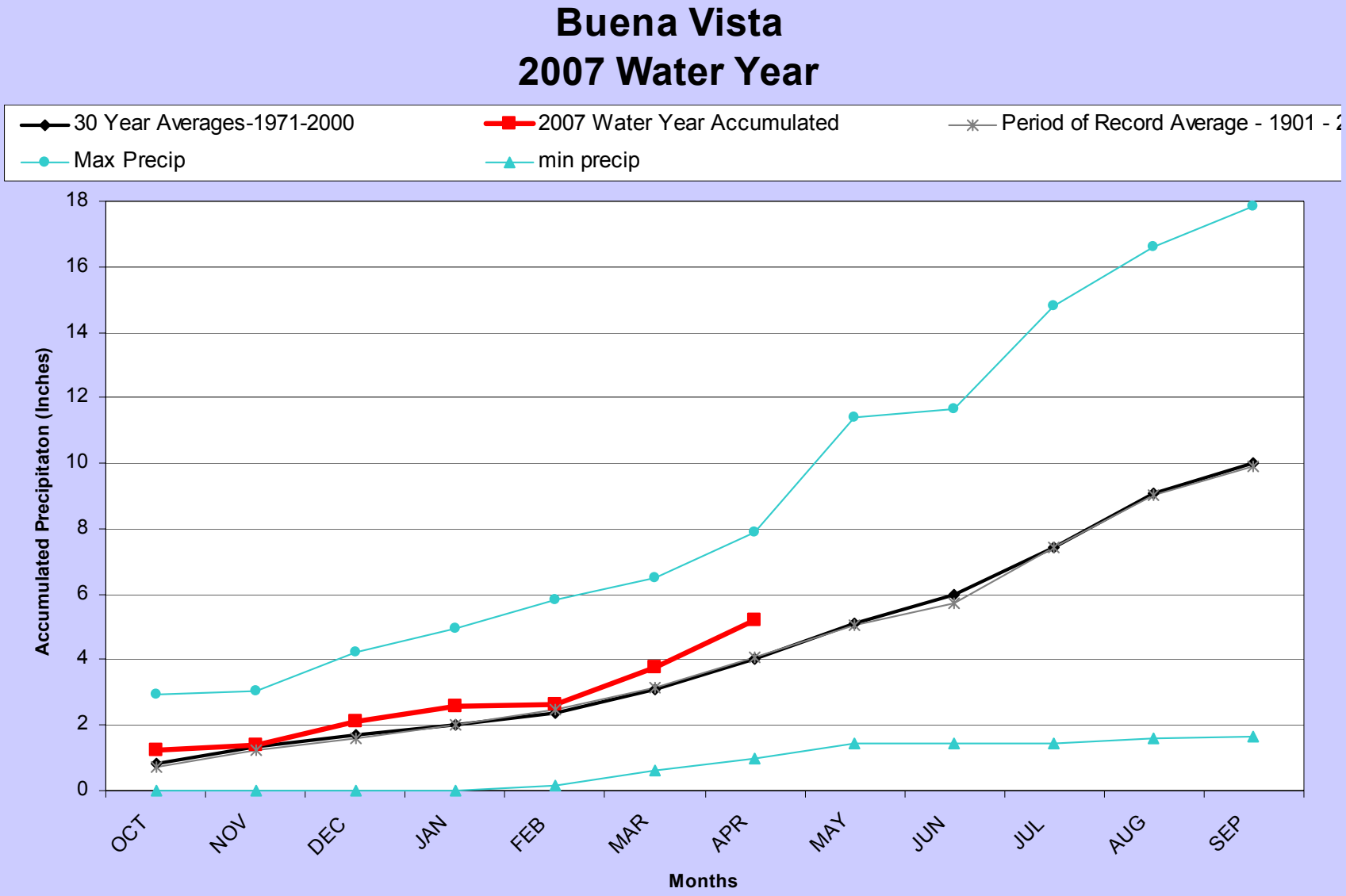
Division 5 – Pueblo



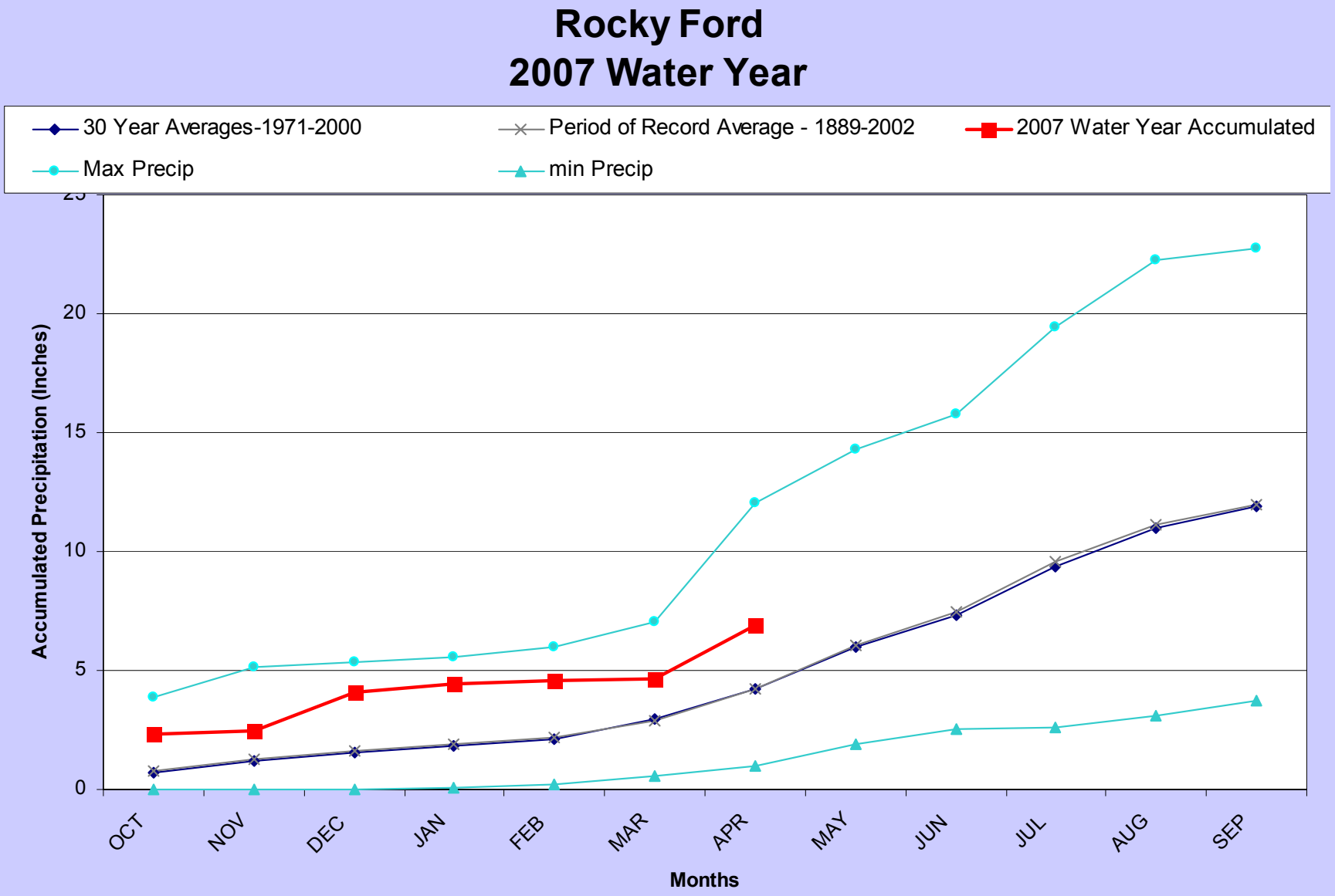
Division 5 – Canon City



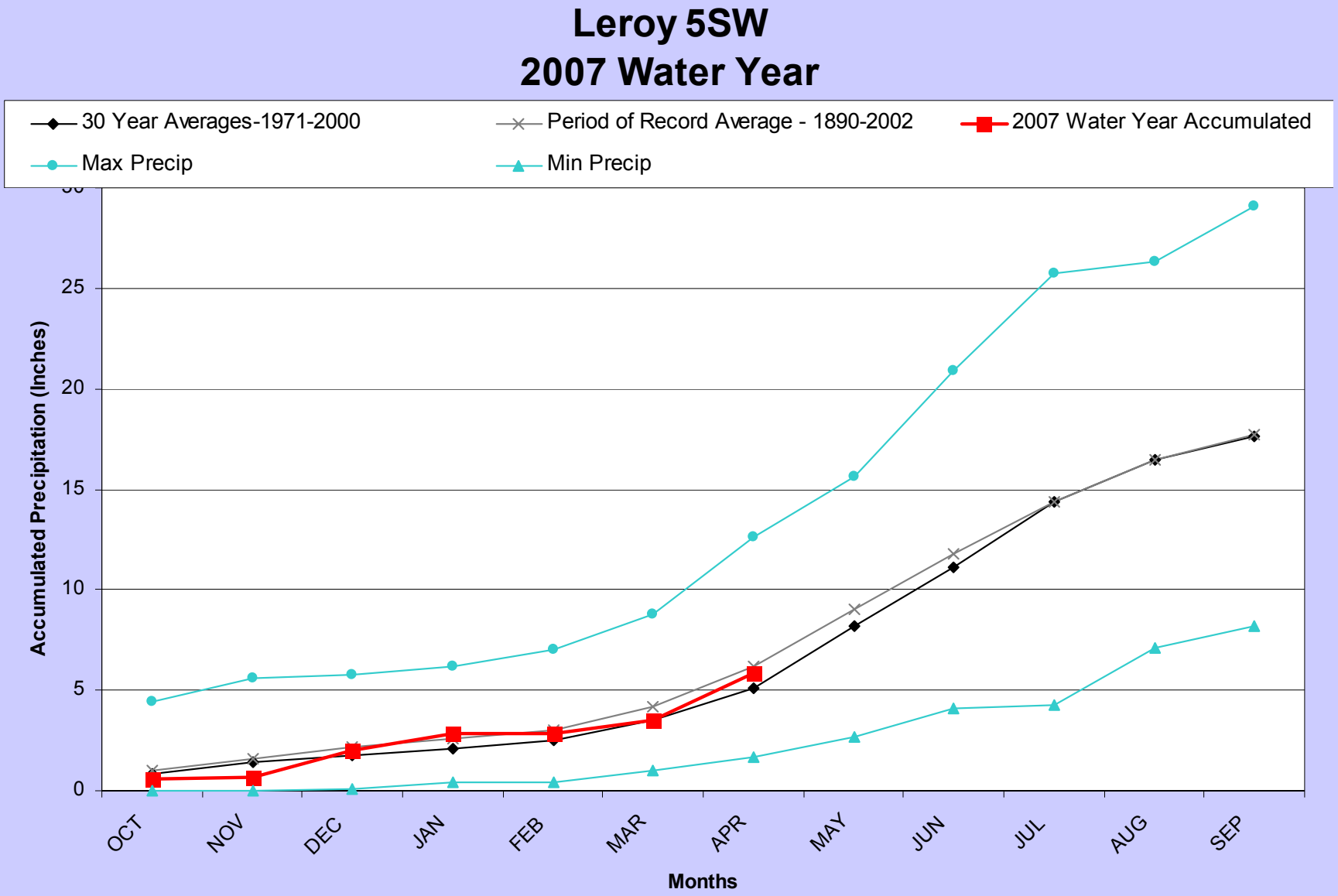
Division 5 – Buena Vista



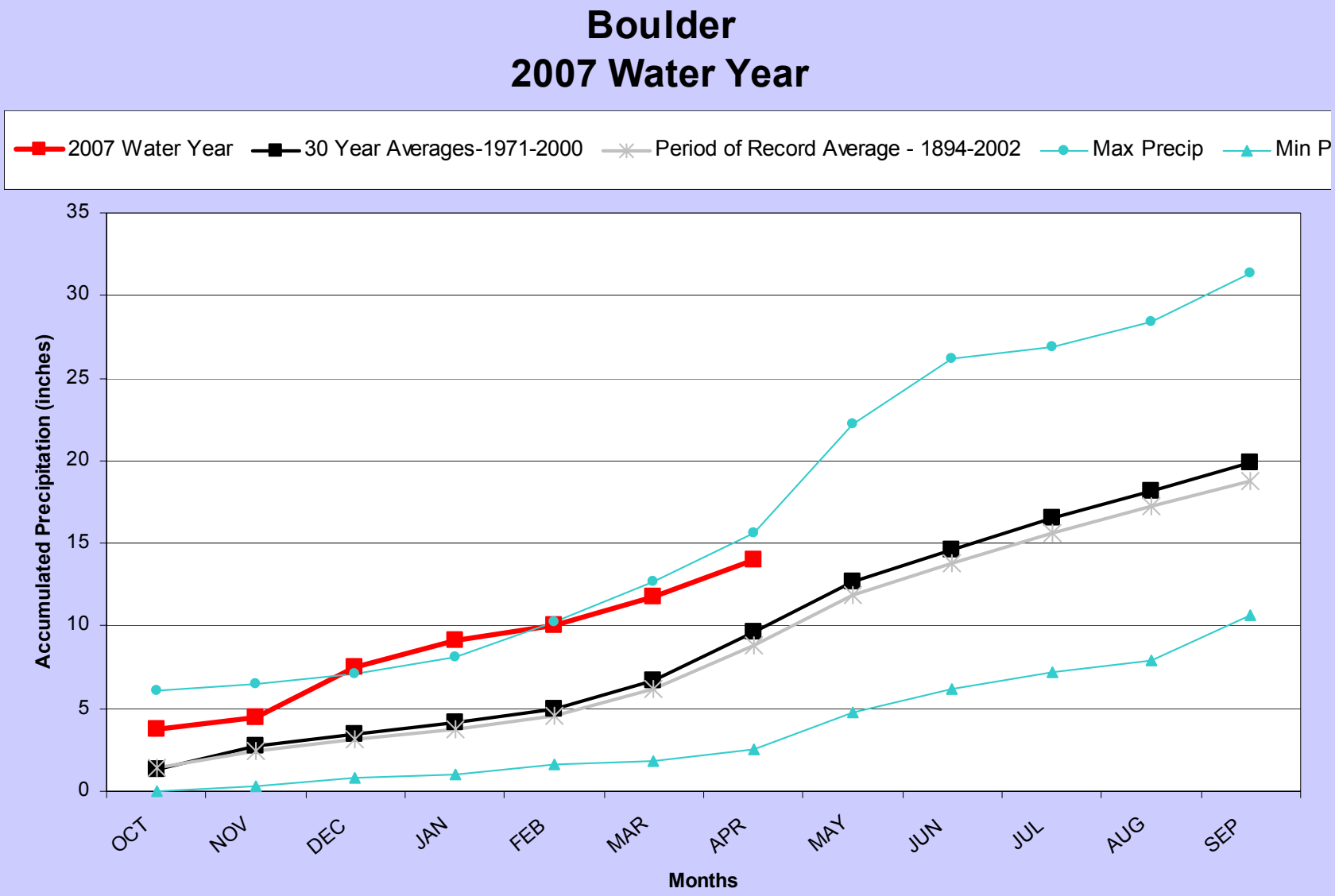
Division 6 – Rocky Ford



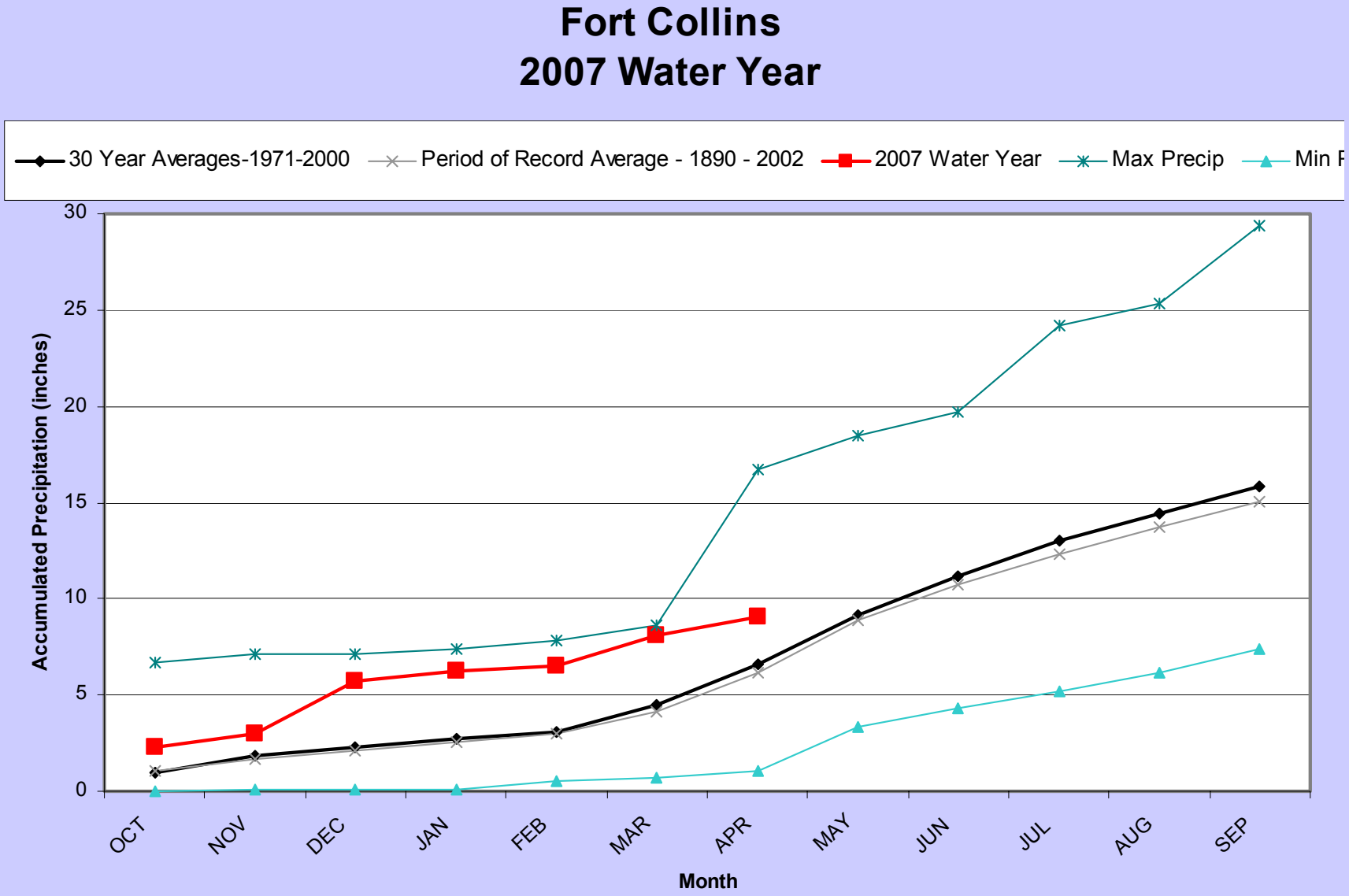
Division 7 – Leroy



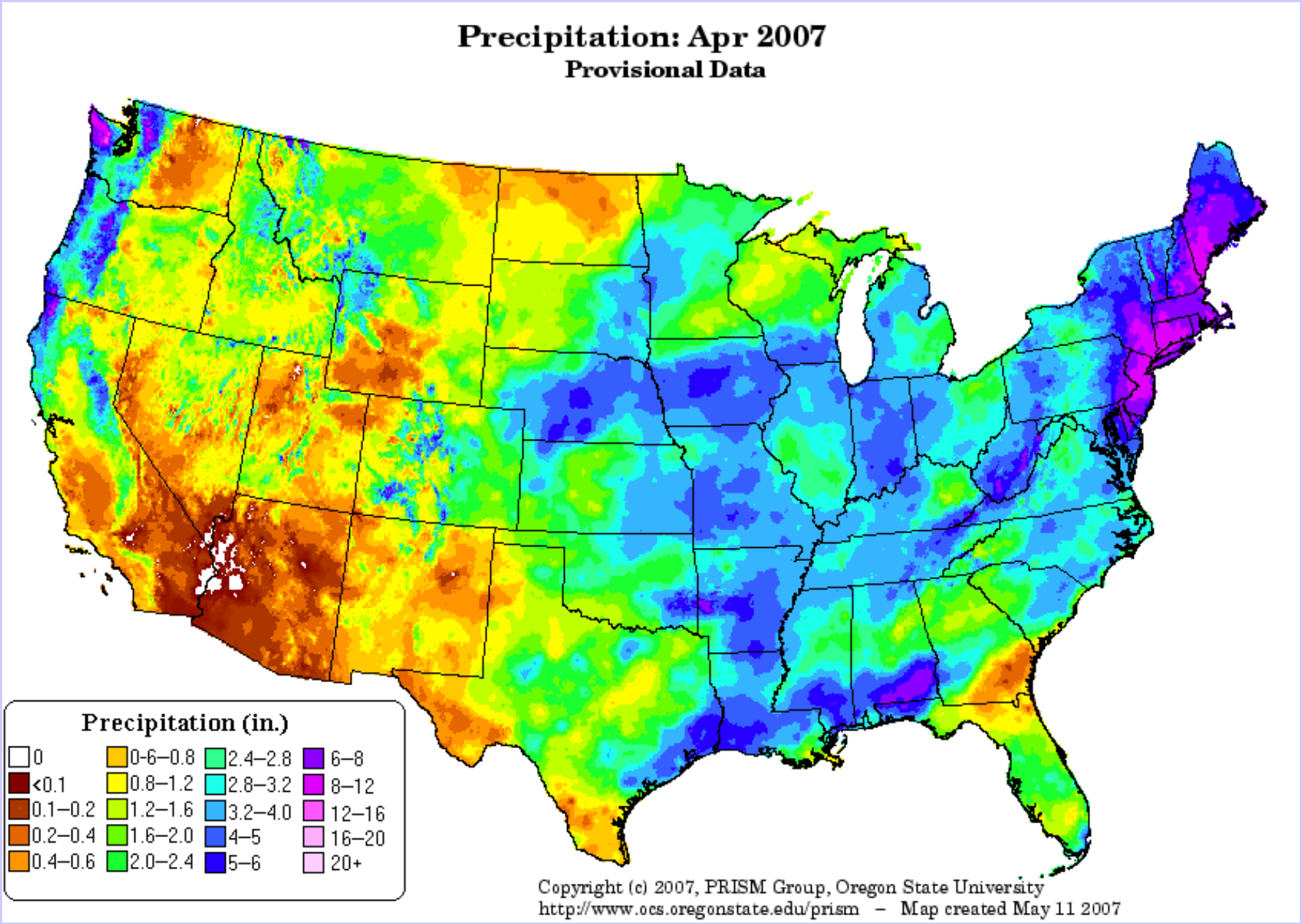
Division 8 – Boulder



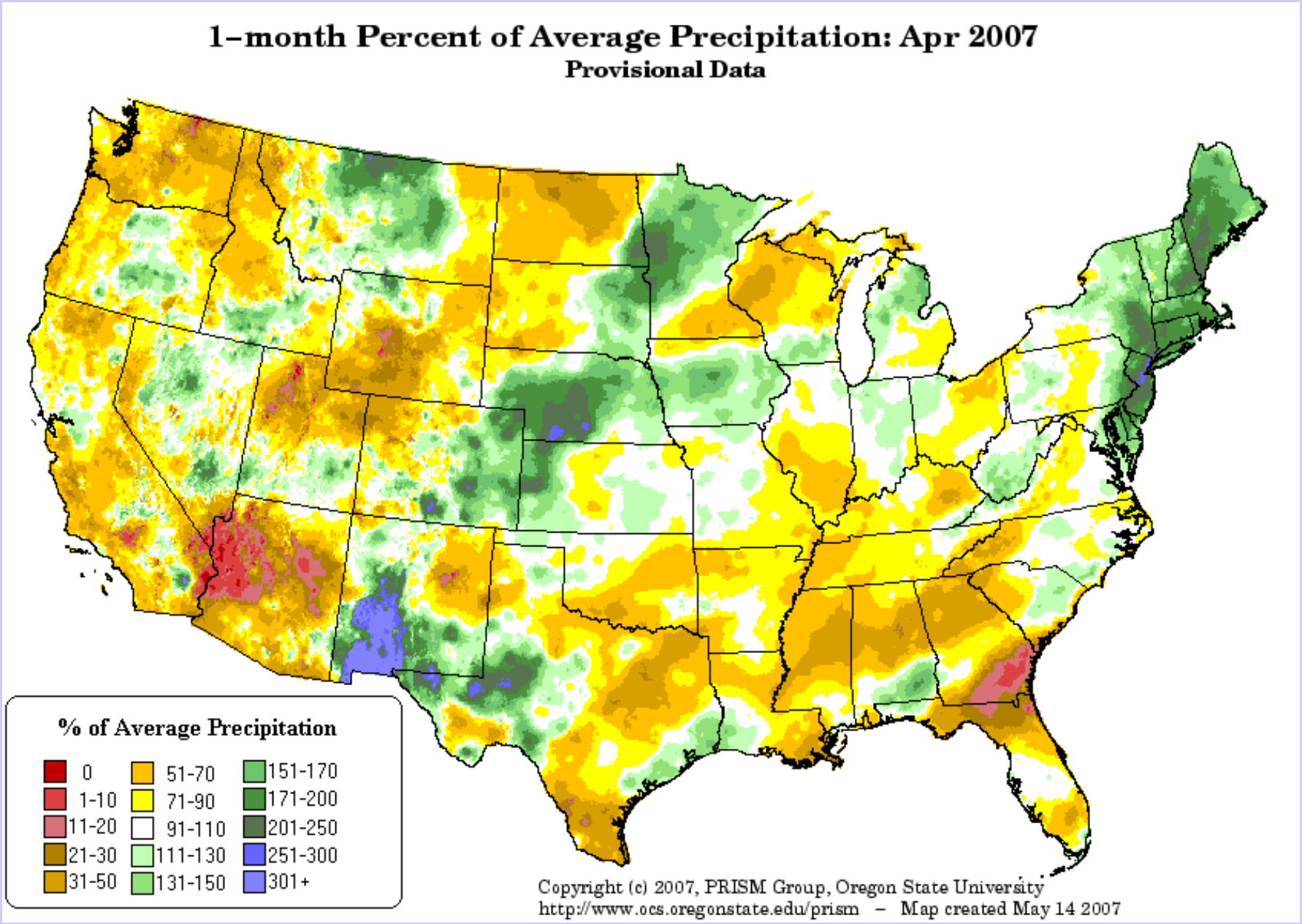
Division 8 – Fort Collins



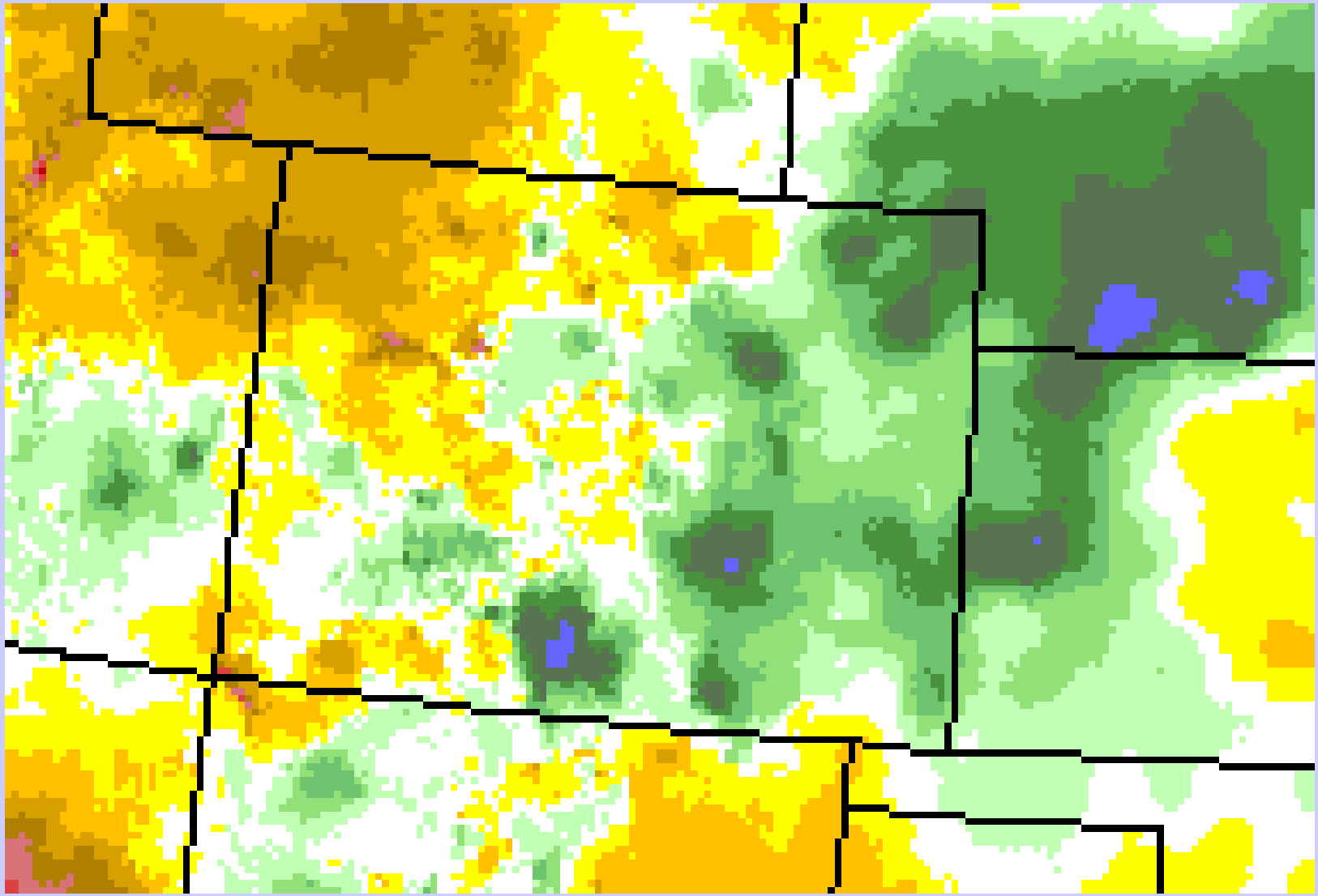
April 2007 Precipitation (Prism)



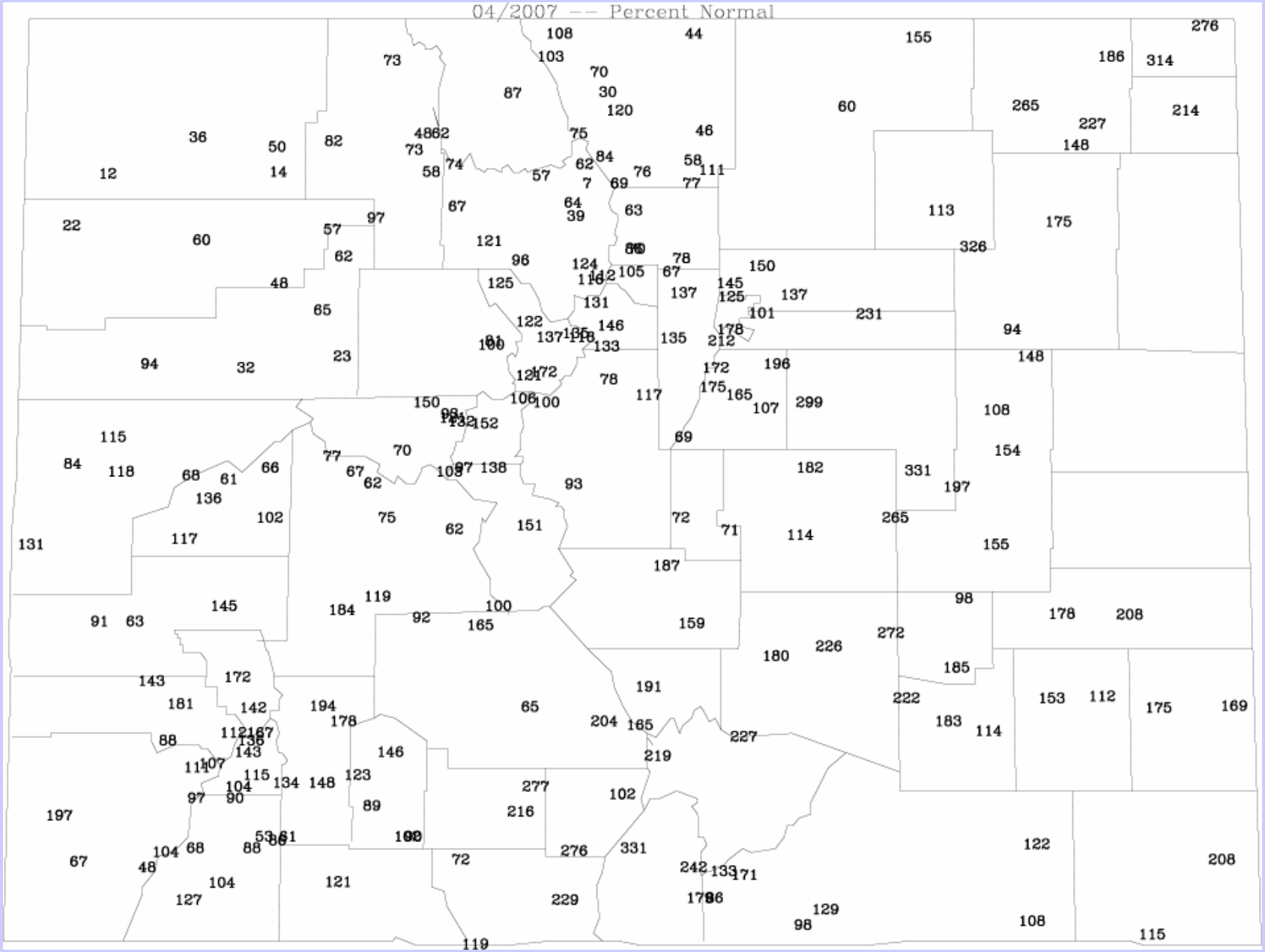
April 2007 Percent of Average (Prism)



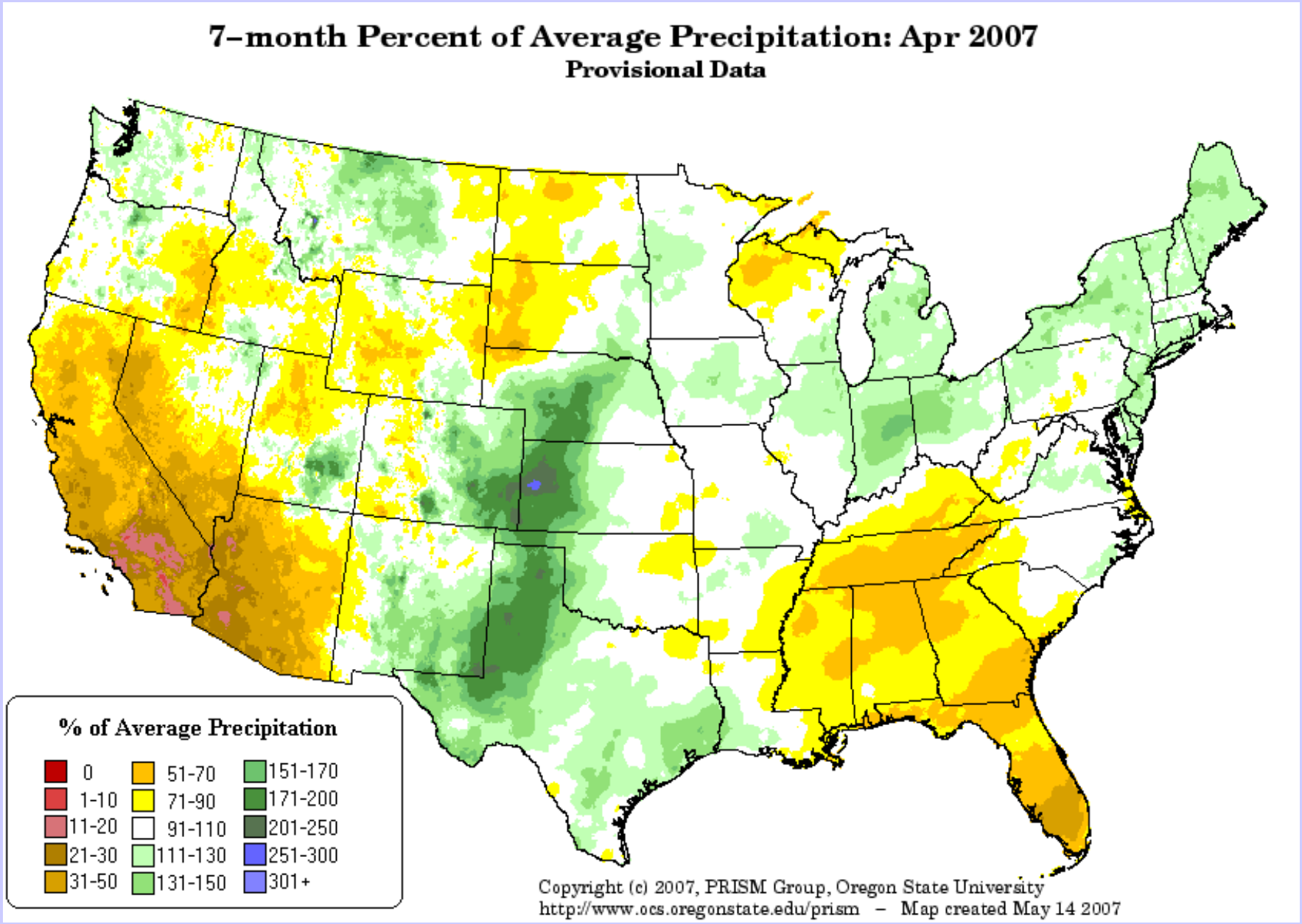
April 2007 Percent of Average (Prism)



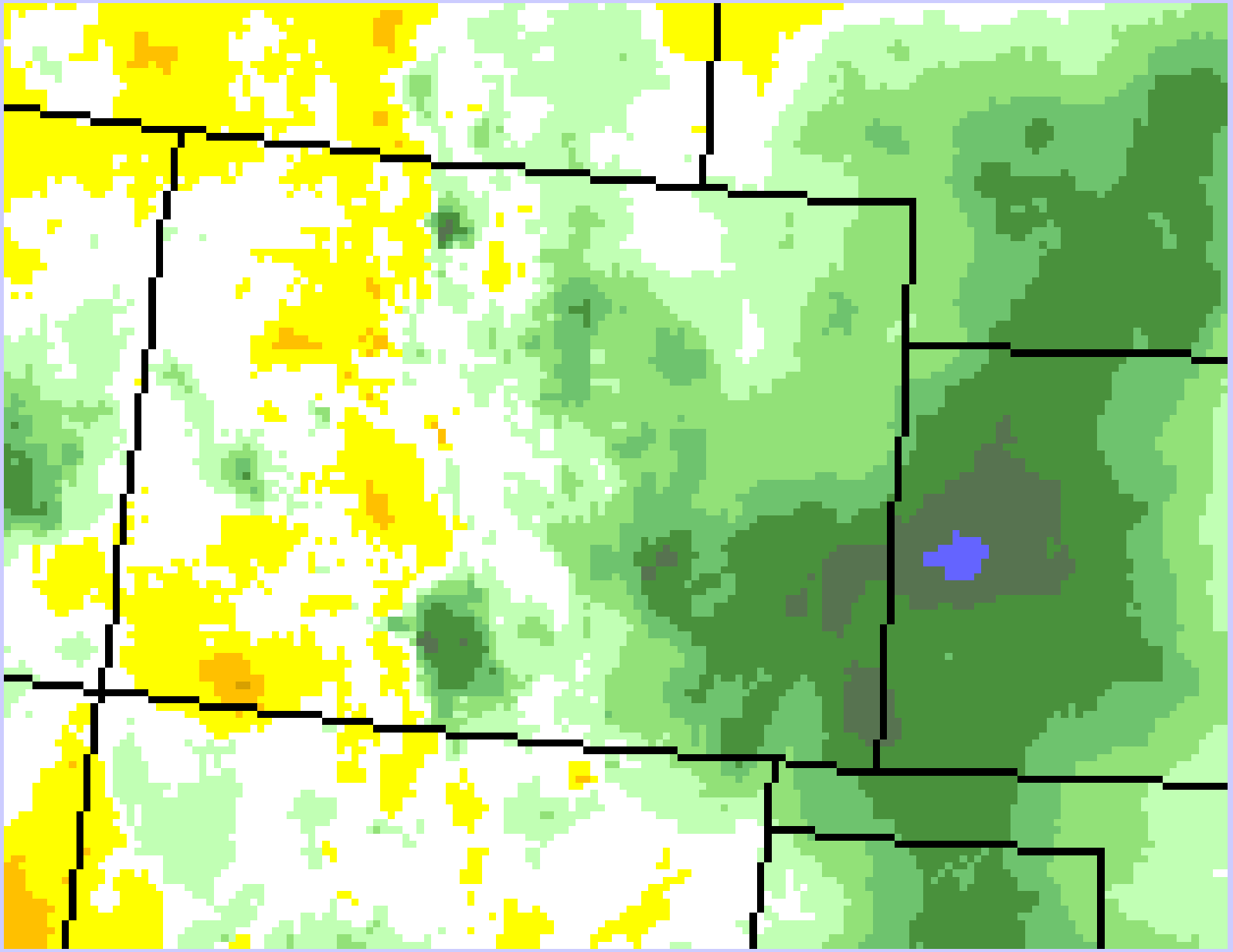
April 2007 Percent of Average



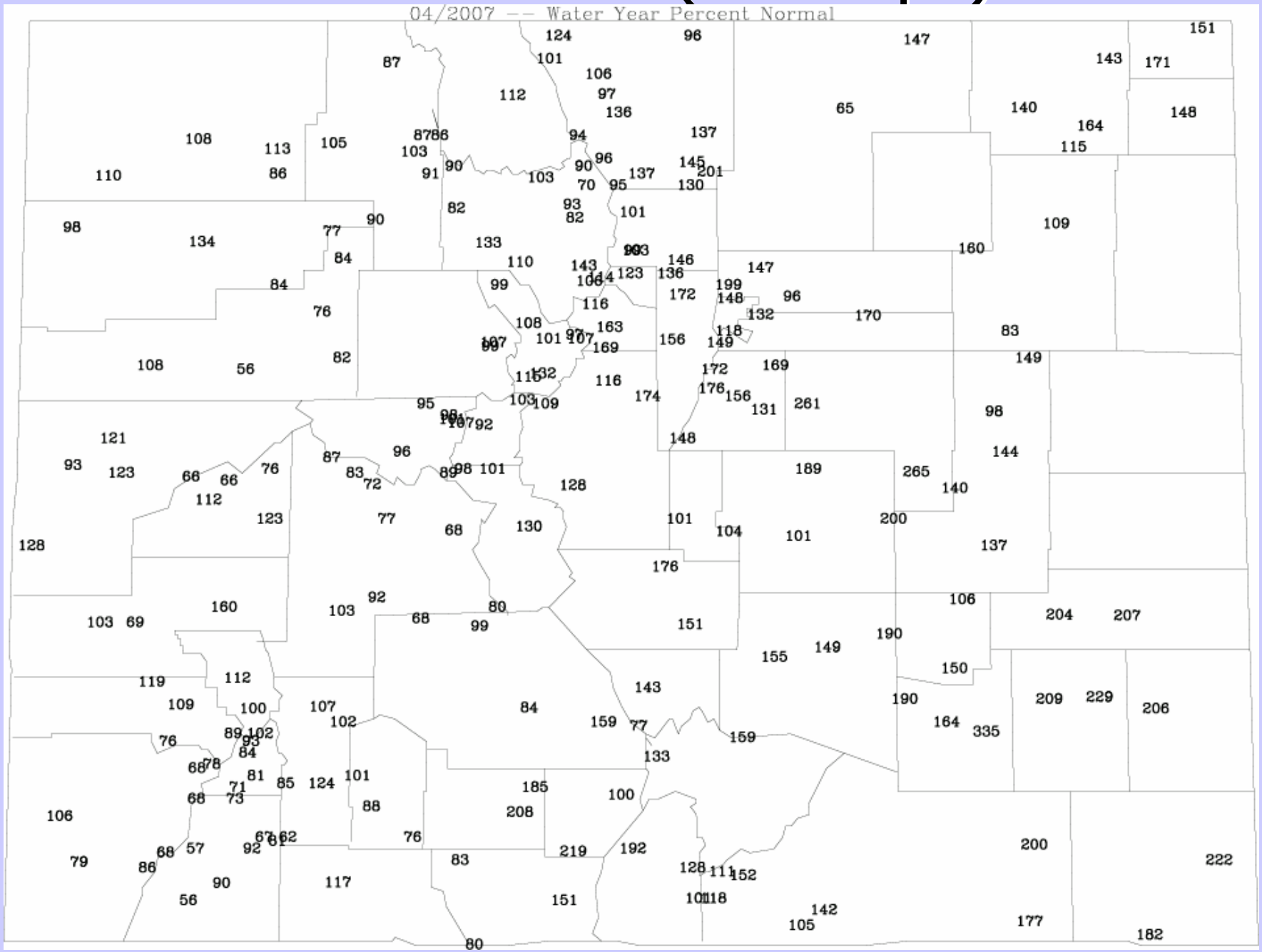
Water Year 2007 (Oct-Apr) Prism



Water Year 2007 (Oct-Apr) Prism



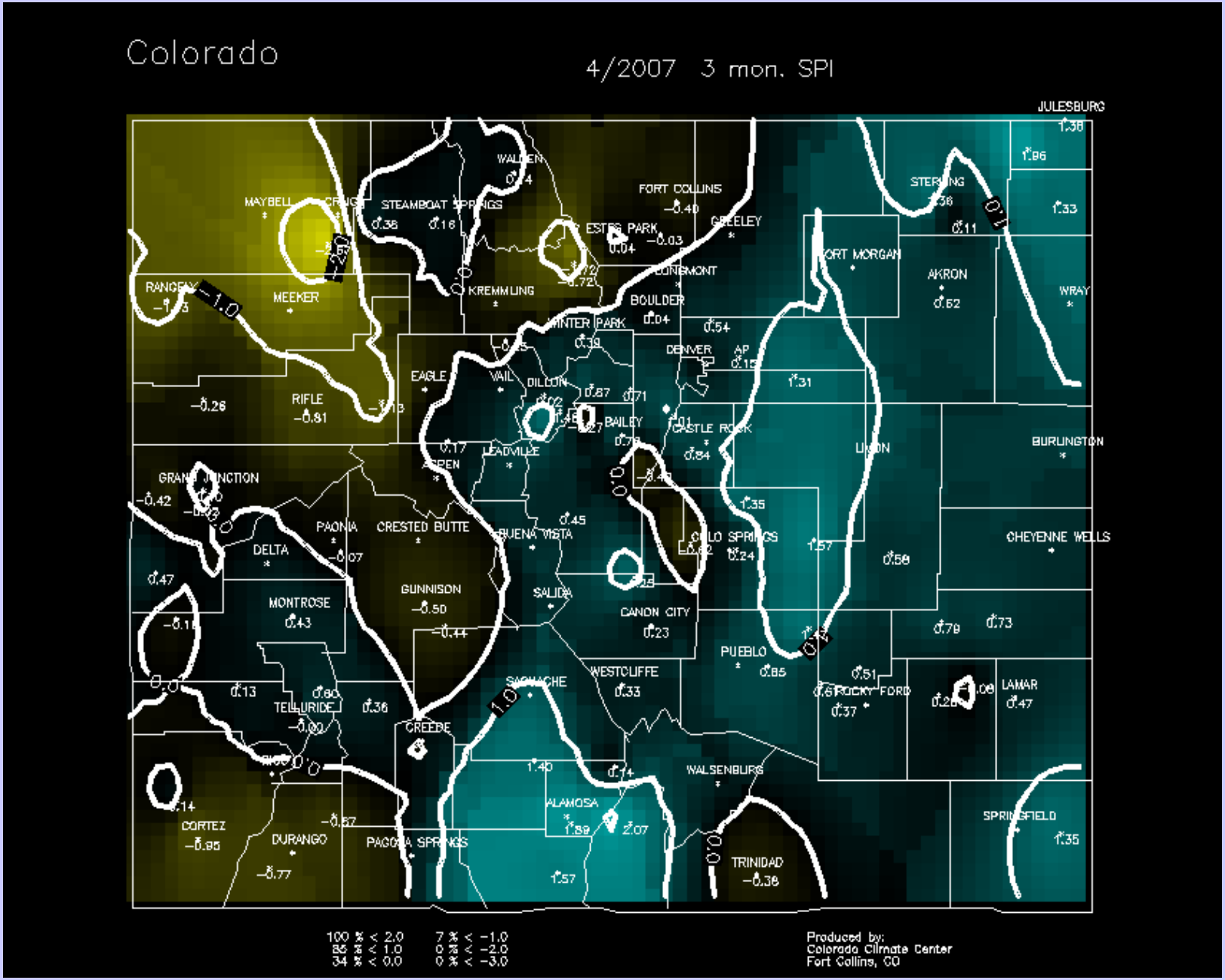
Water Year 2007 (Oct-Apr)



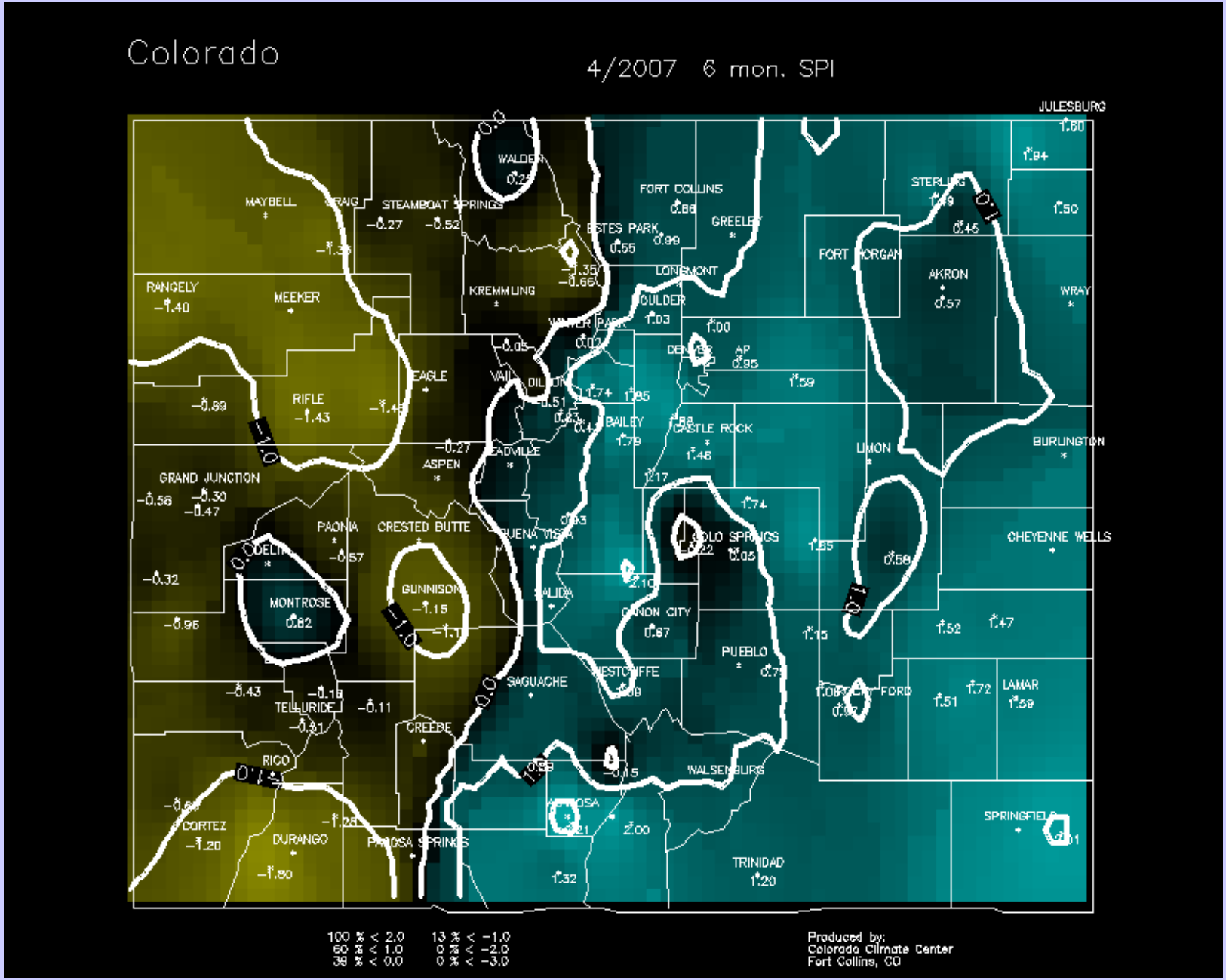
Summary:

- Fairly typical spring weather so far, with combination of regional storms and dry periods
- Recent weather, abnormally warm statewide
- Overall, reasonable moisture conditions Front Range eastward, but still dry parts of Larimer and Weld County
- Western Colorado very dry, especially northwest

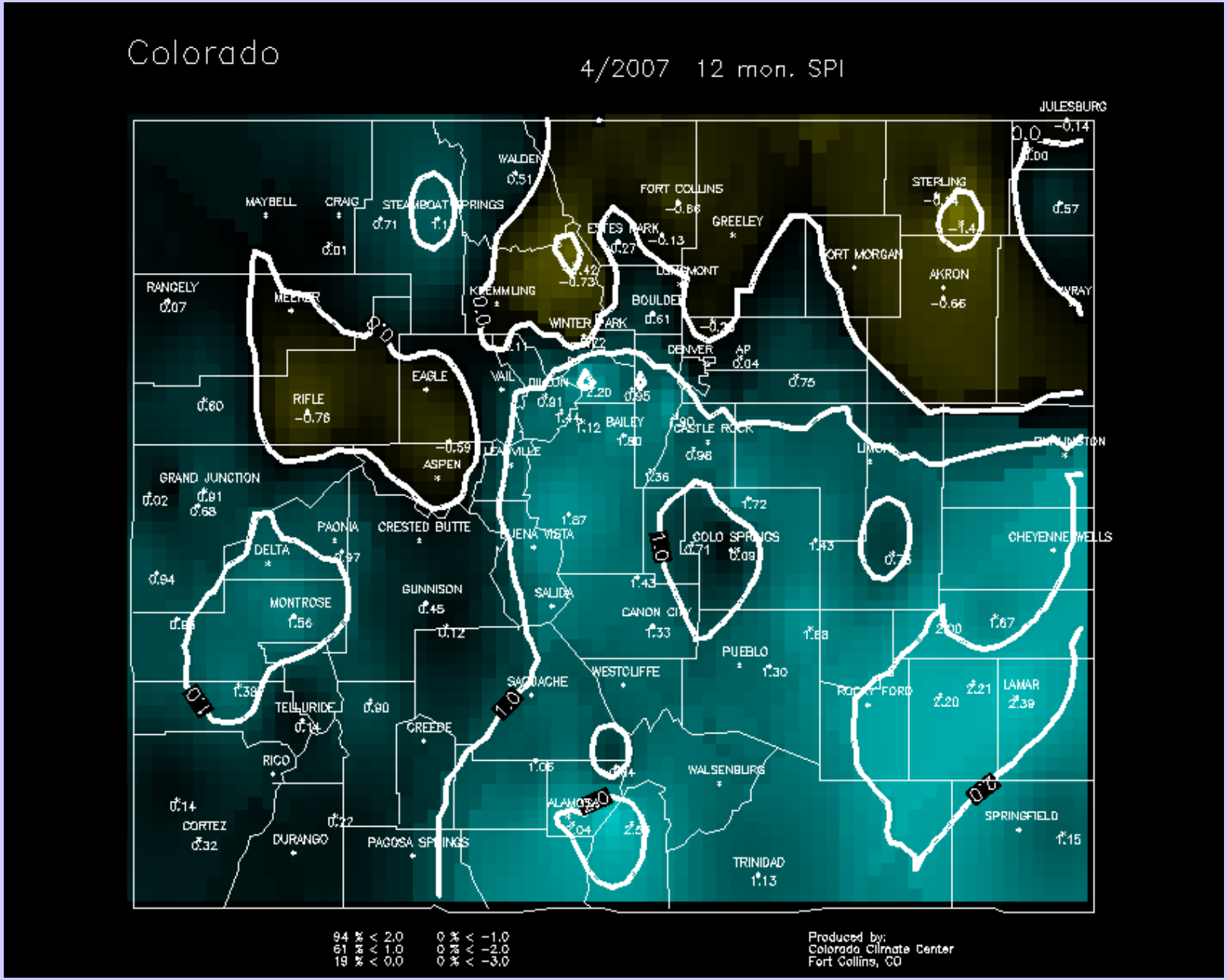
3 Month SPI


Colorado
4/2007 3 mon. SPI
JULESBURG
STERLING
FORT COLLINS
GREELEY
FORT MORGAN
AKRON
WRAY
BURLINGTON
CHEYENNE WELLS
LAMAR
SPRINGFIELD
TRINIDAD
WALSENBURG
WESTCLIFFE
CANON CITY
PUEBLO
ROCKY FORD
SALIDA
GUNNISON
CRESTED BUTTE
PAONIA
DELTA
GRAND JUNCTION
MONTROSE
CORTEZ
DURANGO
PAGOSA SPRINGS
ALAMOSA
CREEDE
SAGUACHE
TELLURIDE
RIFLE
MEEKER
RANGELY
MAYBELL
CRAIG
STEAMBOAT SPRINGS
KREMMLING
WALDEN
ESTES PARK
LONGMONT
BOULDER
WINTER PARK
DENVER AP
CASTLE ROCK
EAGLE
VAIL
DILLON
ASPEN
LEADVILLE
BUENA VISTA
BAILEY
LIMON
100 % < 2.0
85 % < 1.0
34 % < 0.0
7 % < -1.0
0 % < -2.0
0 % < -3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

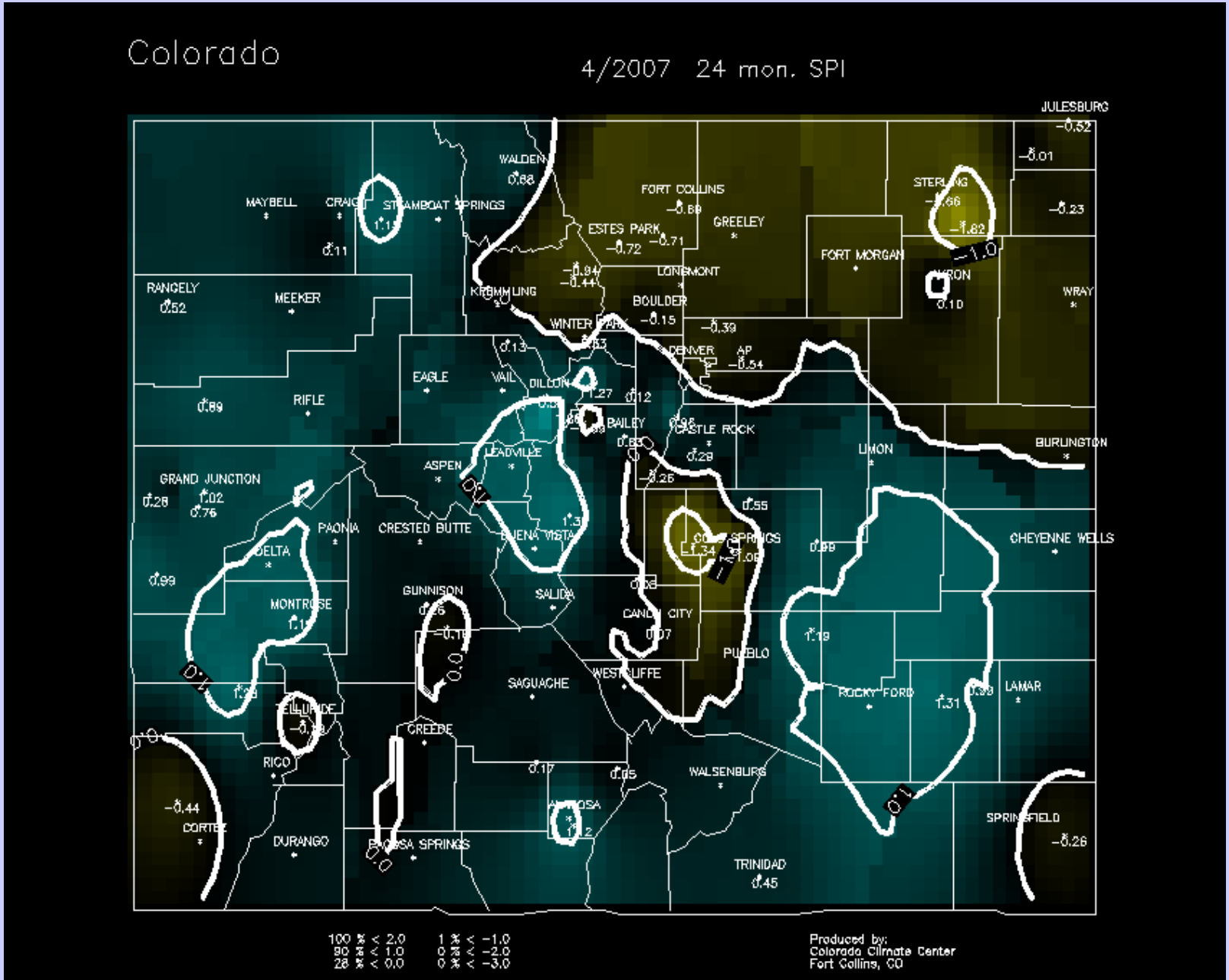
6 Month SPI


Colorado
4/2007 6 mon. SPI
JULESBURG
WALDEN
MAYBELL
CRAIG
STEAMBOAT SPRINGS
FORT COLLINS
STERLING
ESTES PARK
GREELEY
FORT MORGAN
LONGMONT
AKRON
WRAY
RANGELY
MEEKER
KREMMLING
BOULDER
EAGLE
VAIL
DILLON
AP
RIFLE
BAILEY
CASTLE ROCK
BURLINGTON
ASPEN
LEADVILLE
LIMON
GRAND JUNCTION
PAONIA
CRESTED BUTTE
BUENA VISTA
COLO SPRINGS
CHEYENNE WELLS
DELTA
GUNNISON
SALIDA
MONTROSE
CANON CITY
PUEBLO
SAGUACHE
WESTCLIFFE
LAMAR
TELLURIDE
CREEDE
RICO
WALSENBURG
CORTEZ
DURANGO
PAGOSA SPRINGS
SPRINGFIELD
TRINIDAD
100 % < 2.0
60 % < 1.0
38 % < 0.0
13 % < -1.0
0 % < -2.0
0 % < -3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

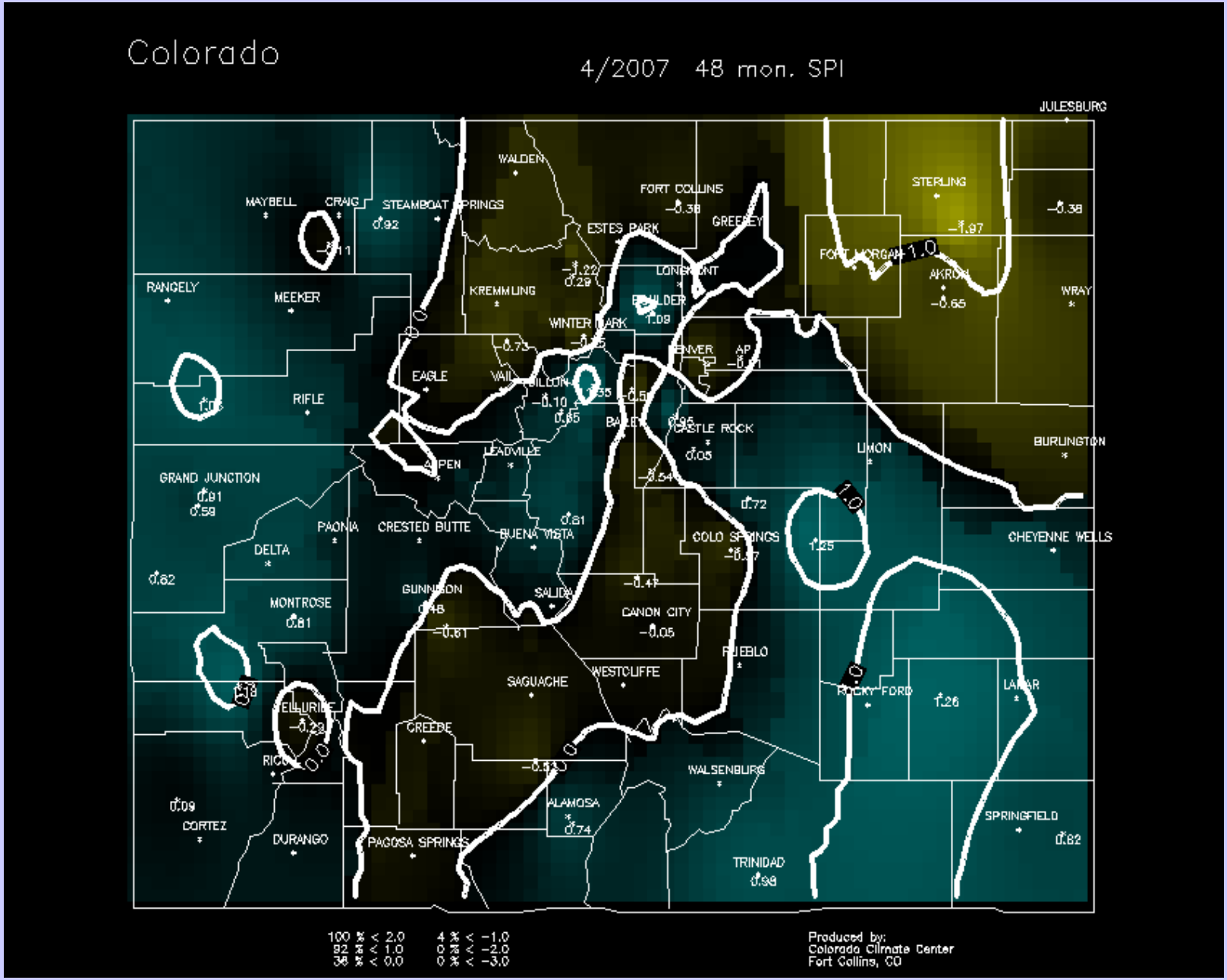
12 Month SPI


Colorado
4/2007 12 mon. SPI
JULESBURG
WALDEN
MAYBELL
CRAIG
STEAMBOAT SPRINGS
FORT COLLINS
STERLING
ESTES PARK
GREELEY
FORT MORGAN
AKRON
KREMMLING
LOVELAND
BOULDER
WRAY
RANGELY
MEEKER
WINTER PARK
DENVER AP
EAGLE
VAIL
DILLON
RIFLE
BAILEY
CASTLE ROCK
ASPEN
LEADVILLE
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
CORTEZ
DURANGO
PAGOSA SPRINGS
SPRINGFIELD
TRINIDAD
94 % < 2.0
61 % < 1.0
19 % < 0.0
0 % < -1.0
0 % < -2.0
0 % < -3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

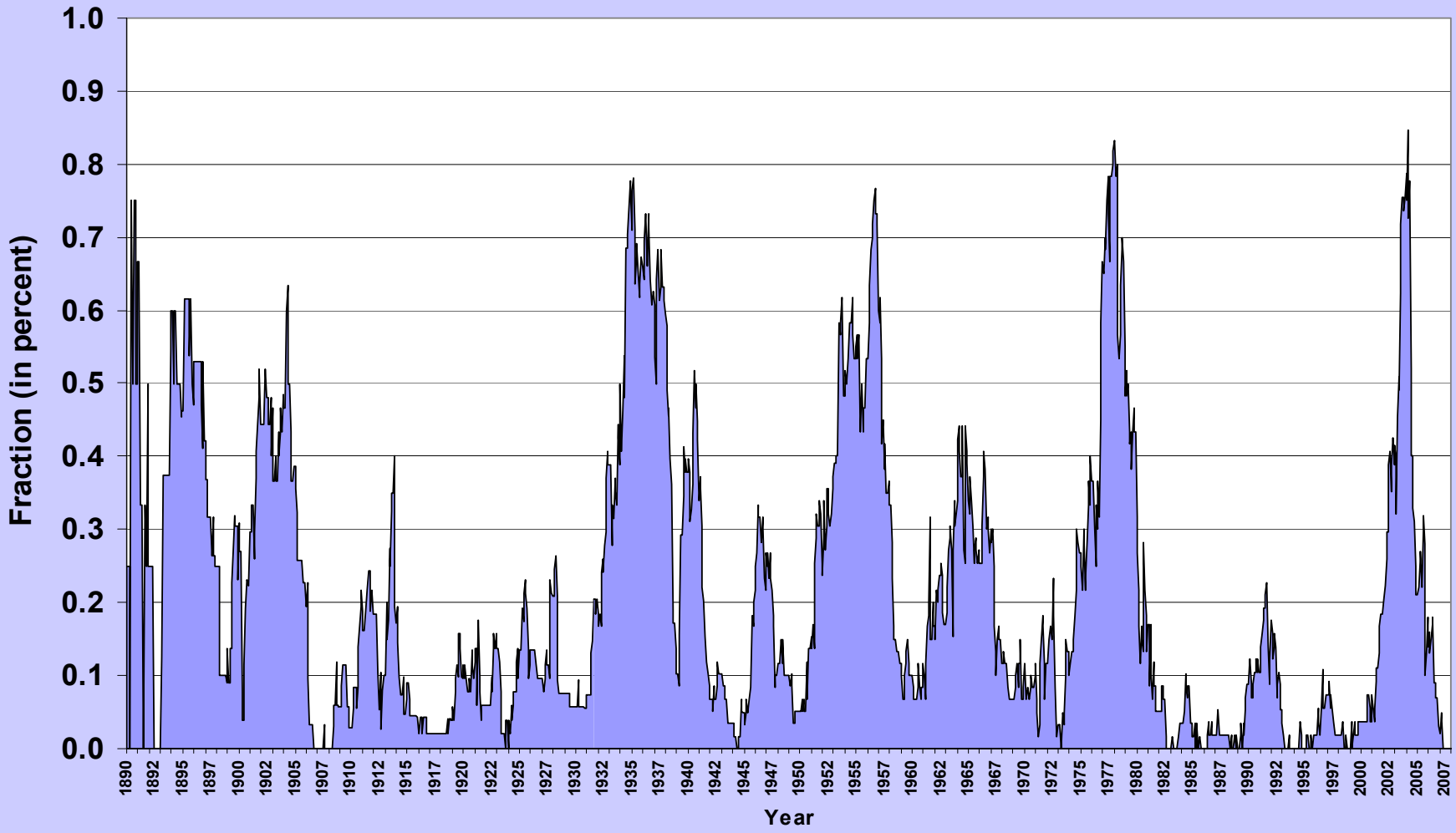
24 Month SPI


Colorado
4/2007 24 mon. SPI
JULESBURG
WALDEN
MAYBELL
CRAIG
STEAMBOAT SPRINGS
FORT COLLINS
GREELEY
ESTES PARK
STERLING
FORT MORGAN
LONGMONT
BOULDER
WRAY
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
CHEYENNE WELLS
DELTA
GUNNISON
SALIDA
MONTROSE
CANON CITY
PUEBLO
SAGUACHE
WESTCLIFFE
ROCKY FORD
LAMAR
CREEDE
RICO
WALSENBURG
CORTEZ
DURANGO
SPRINGFIELD
TRINIDAD
100 % < 2.0
90 % < 1.0
28 % < 0.0
1 % < -1.0
0 % < -2.0
0 % < -3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

48 Month SPI

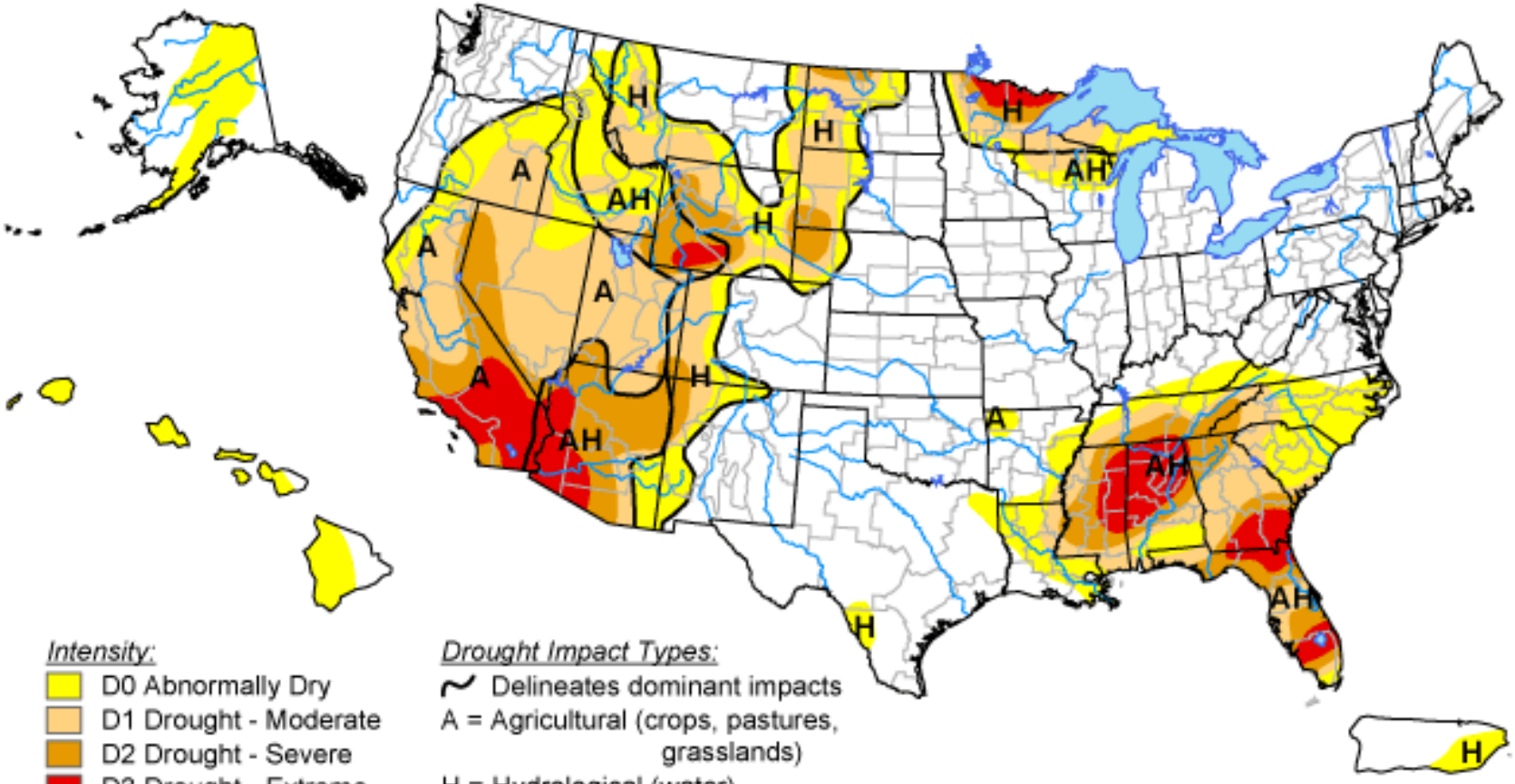

Colorado
4/2007 48 mon. SPI
JULESBURG
WALDEN
MAYBELL
CRAIG
STEAMBOAT SPRINGS
FORT COLLINS
STERLING
ESTES PARK
GREELEY
FORT MORGAN
AKRON
WRAY
RANGELY
MEEKER
KREMMLING
LONGMONT
BOULDER
WINTER PARK
DENVER AP
EAGLE
VAIL
BEAVER
RIFLE
CASTLE ROCK
LIMON
BURLINGTON
LEADVILLE
ASPEN
GRAND JUNCTION
PAONIA
CRESTED BUTTE
BUENA VISTA
COLO SPRINGS
CHEYENNE WELLS
DELTA
GUNNISON
SALIDA
MONTROSE
CANON CITY
PUEBLO
SAGUACHE
WESTCLIFFE
ROCKY FORD
LAMAR
TELLURIDE
CREEDE
RICO
WALSENBURG
ALAMOSA
SPRINGFIELD
CORTEZ
DURANGO
PAGOSA SPRINGS
TRINIDAD
100 % < 2.0
92 % < 1.0
38 % < 0.0
4 % < -1.0
0 % < -2.0
0 % < -3.0
Produced by:
Colorado Climate Center
Fort Collins, CO

Standardized Precipitation Index



U.S. Drought Monitor

May 8, 2007
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

USDA National Drought Mitigation Center

Released Thursday, May 10, 2007

Author: Brian Fuchs, National Drought Mitigation Center

Colorado Climate Center

Data and Power Point Presentations available for downloading

http://ccc.atmos.colostate.edu

- **click on “Drought”**
- **then click on “Presentations”**

Colorado State University
Knowledge to Go Places