Colorado Weather Update

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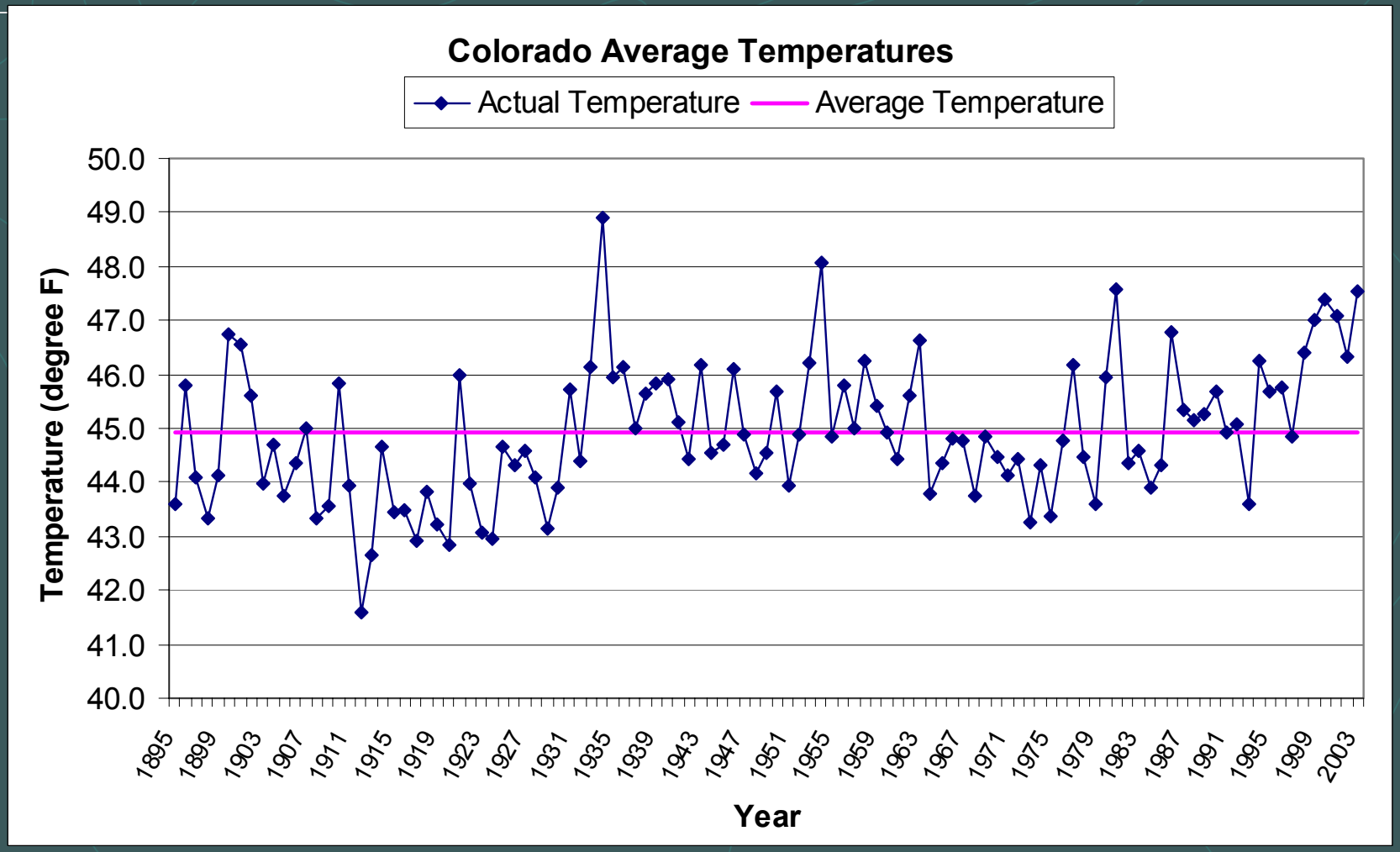
Colorado Climate Center
Colorado State University

http://ccc.atmos.colostate.edu

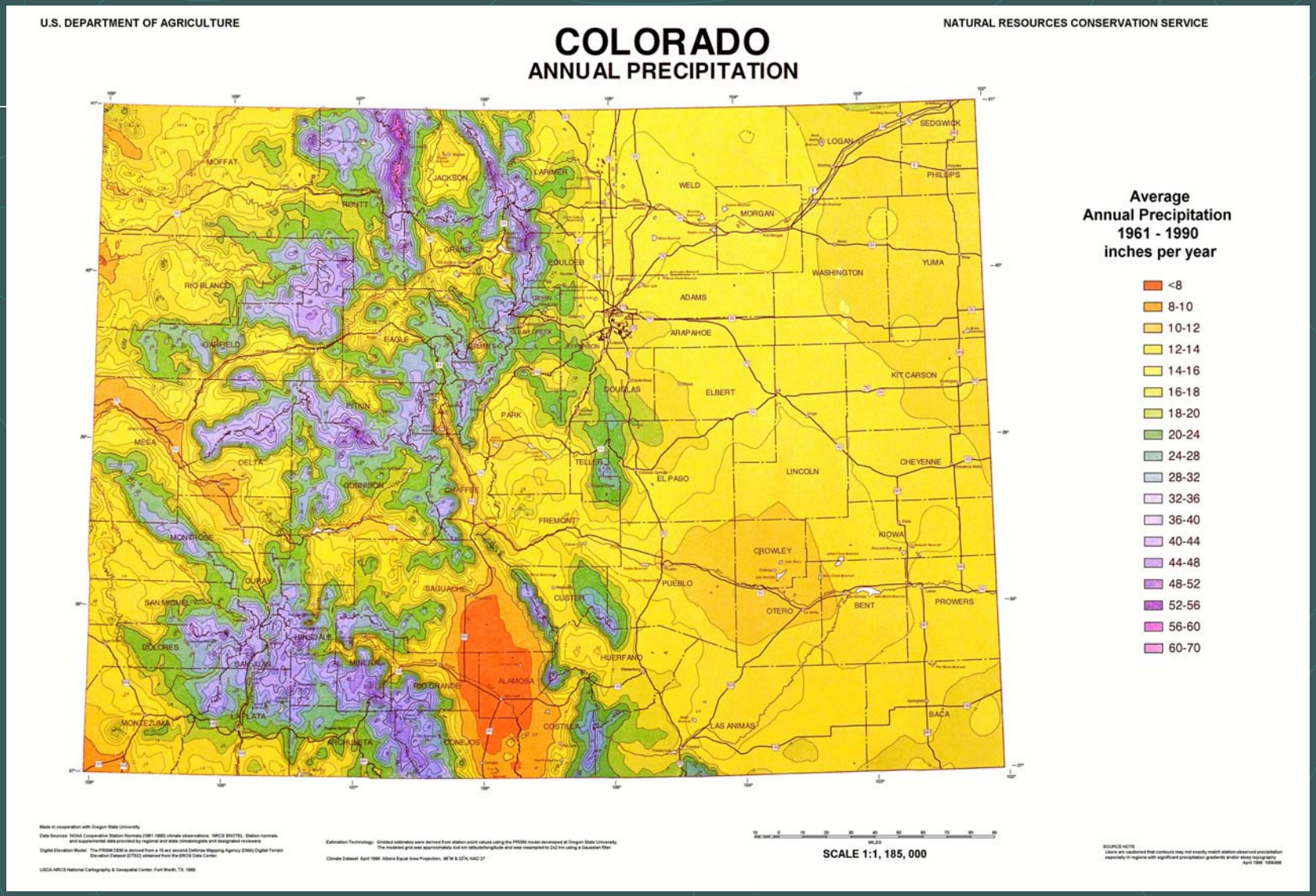
Presented at Colorado Wheat Day, Colorado Wheat Growers Association, November 20, 2004, Estes Park, Colorado

Prepared by Odie Bliss

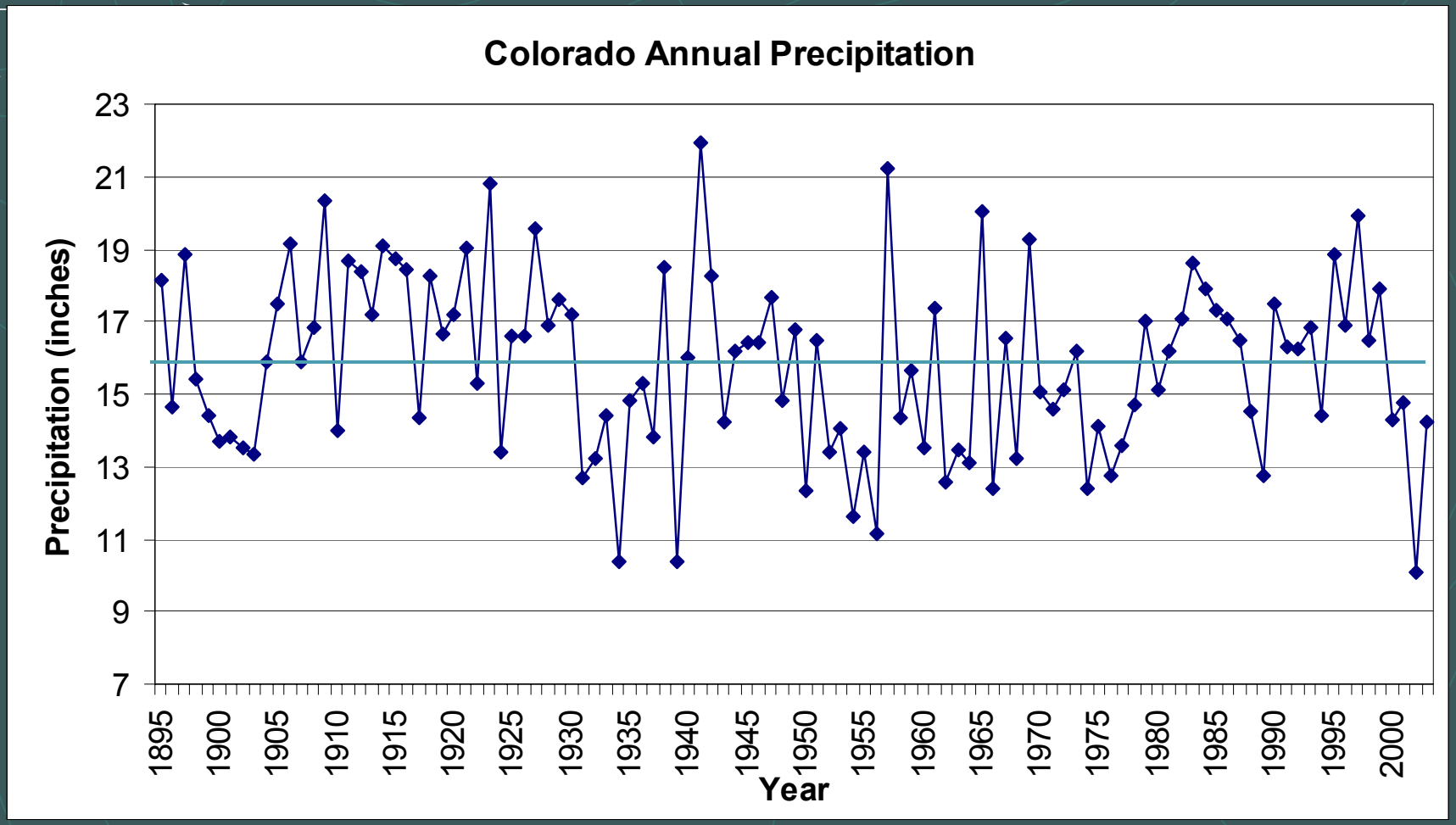
Statewide Mean Annual Temperature History



Colorado Average Precipitation

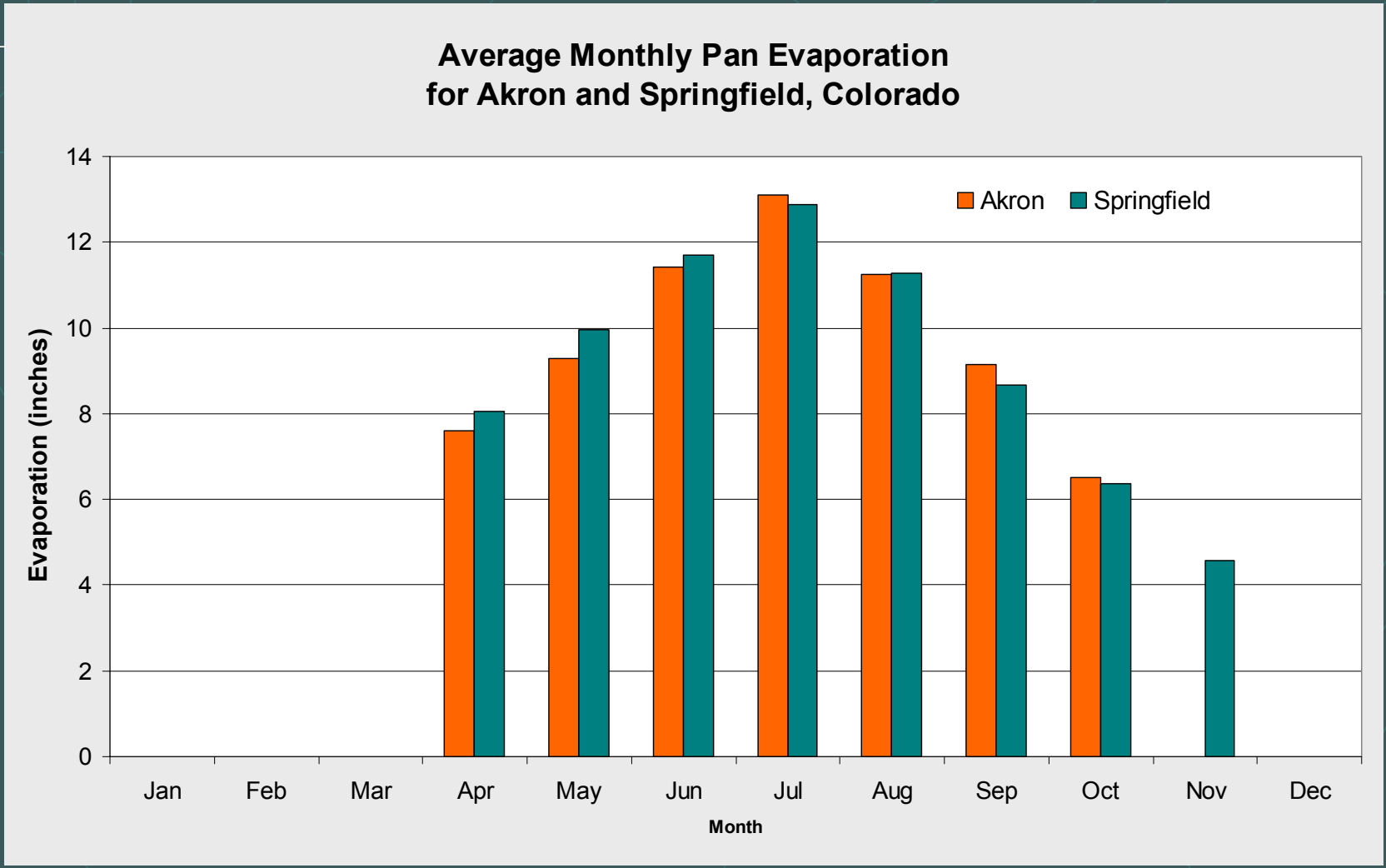


Statewide Annual Precipitation History

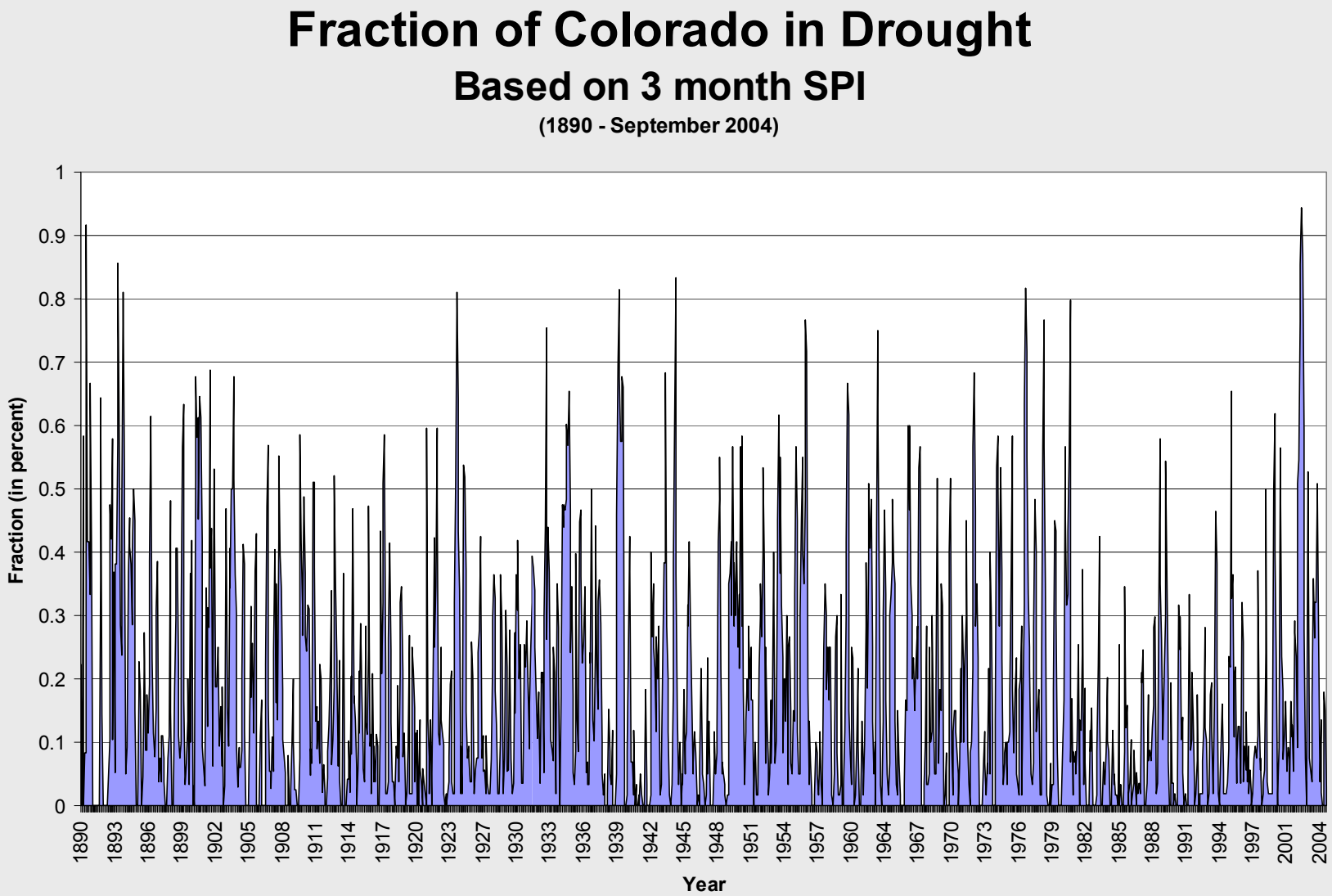


http://lwf.ncdc.noaa.gov/oa/climate/research/cag3/CO.html

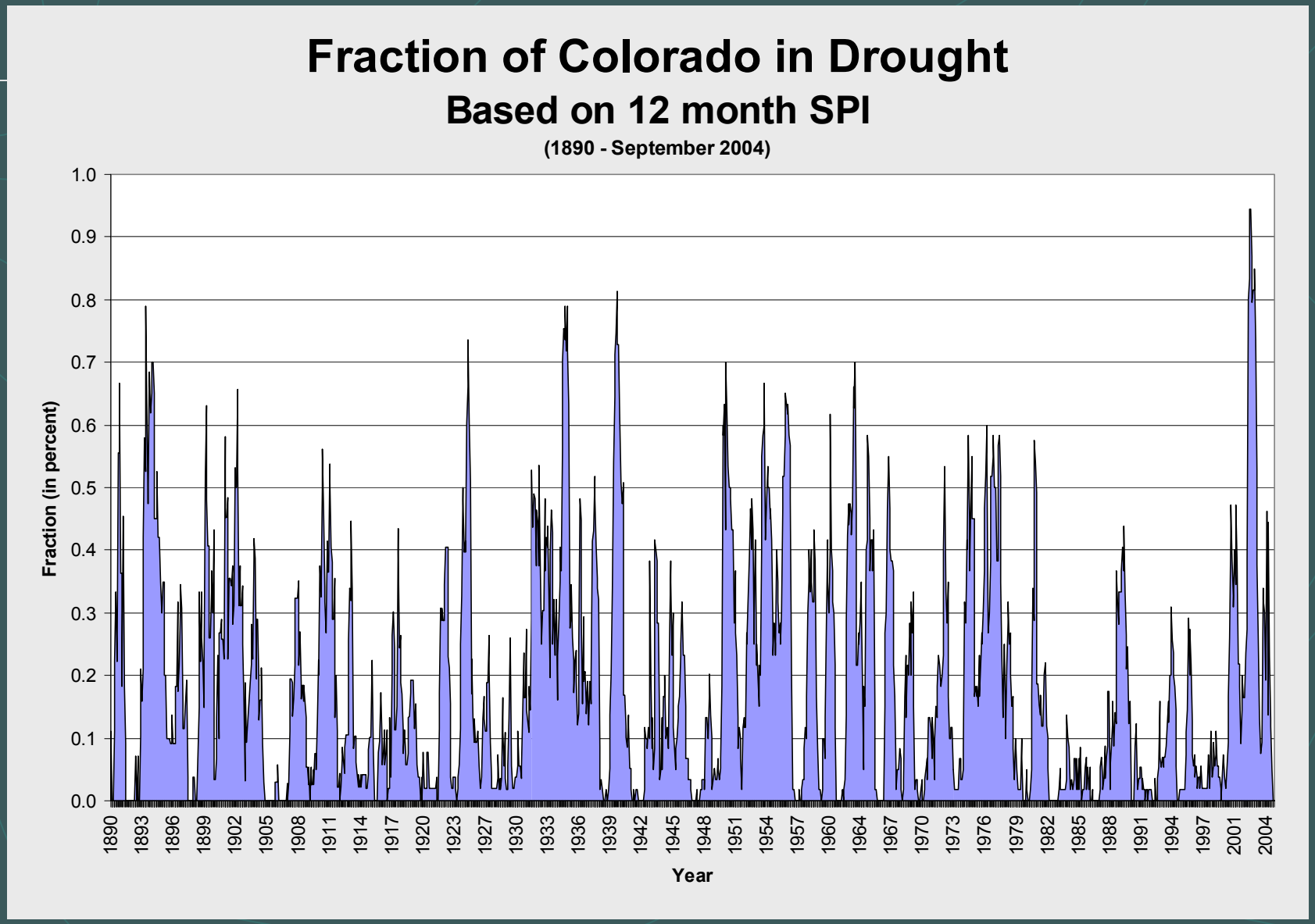
Monthly Average Pan Evaporation



3-Month SPI


Fraction of Colorado in Drought
Based on 3 month SPI
(1890 - September 2004)
Fraction (in percent)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1890
1893
1896
1899
1902
1905
1908
1911
1914
1917
1920
1923
1927
1930
1933
1936
1939
1942
1945
1948
1951
1954
1957
1960
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
2001
2004
Year

12-Month SPI


Fraction of Colorado in Drought
Based on 12 month SPI
(1890 - September 2004)
Fraction (in percent)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
1890
1893
1896
1899
1902
1905
1908
1911
1914
1917
1920
1923
1927
1930
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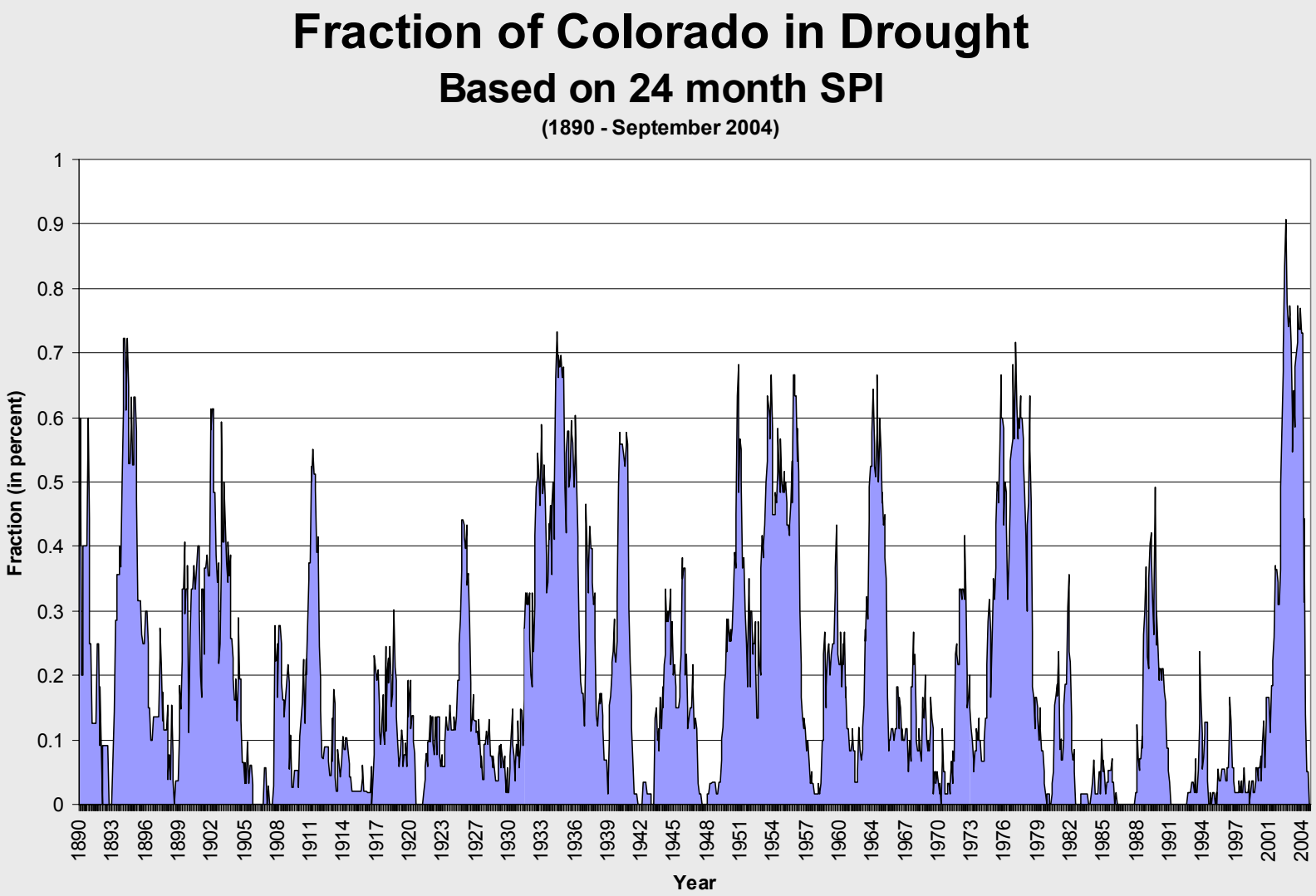
1994
1997
2001
2004
Year

24-Month SPI


Fraction of Colorado in Drought
Based on 24 month SPI
(1890 - September 2004)
Fraction (in percent)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1890
1893
1896
1899
1902
1905
1908
1911
1914
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1923
1927
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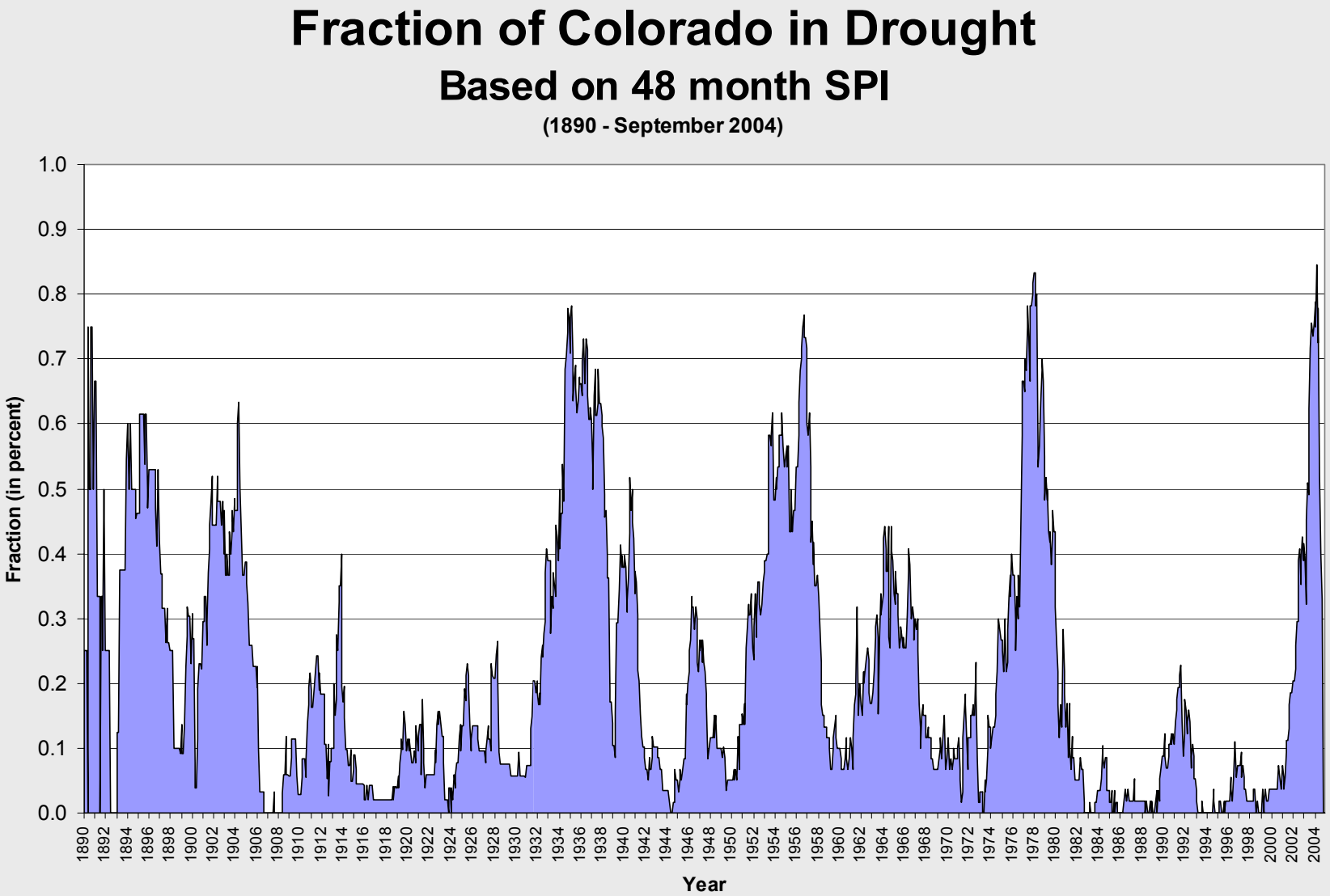
1994
1997
2001
2004
Year

48-Month SPI


Fraction of Colorado in Drought
Based on 48 month SPI
(1890 - September 2004)
Fraction (in percent)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
1890
1892
1894
1896
1898
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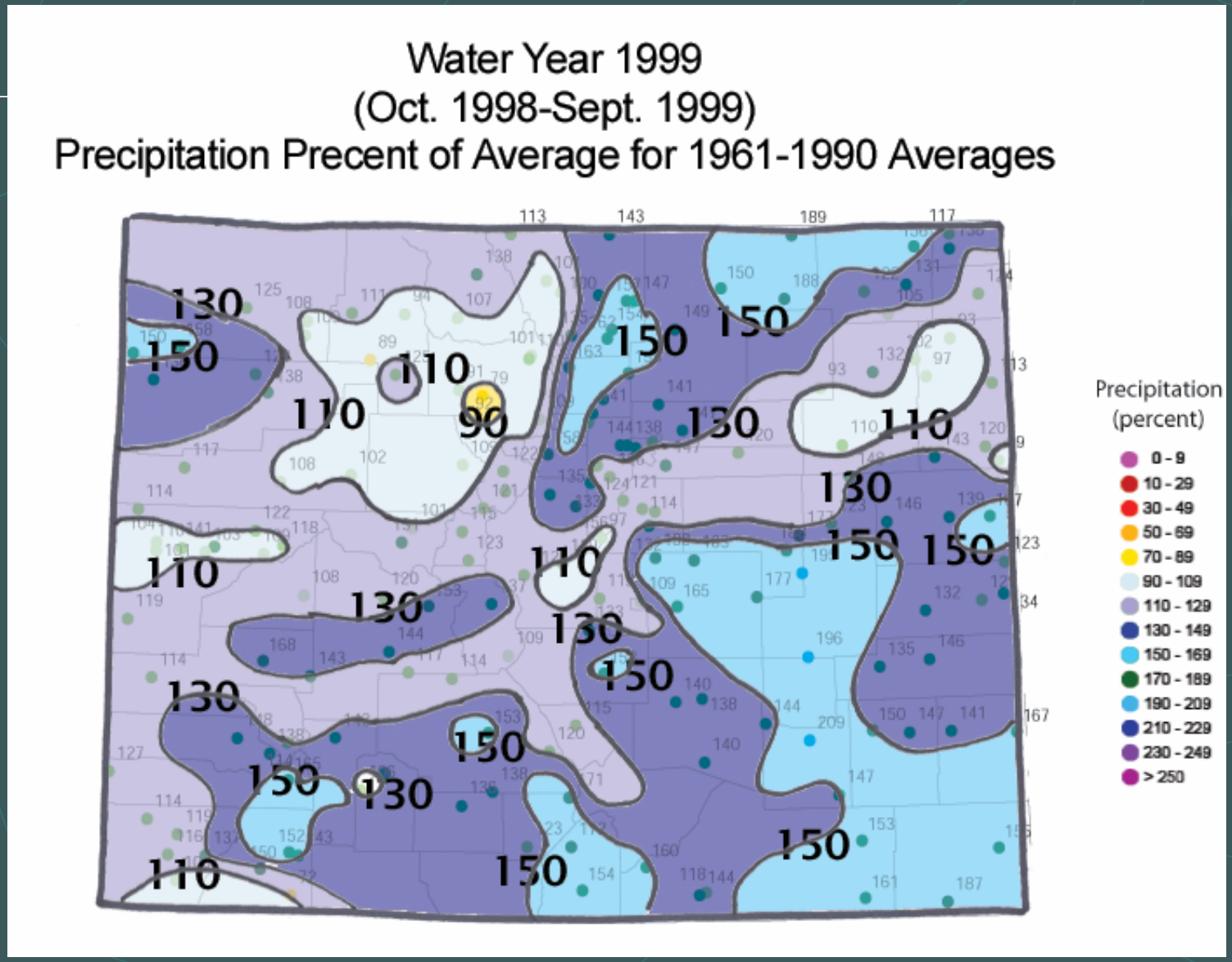
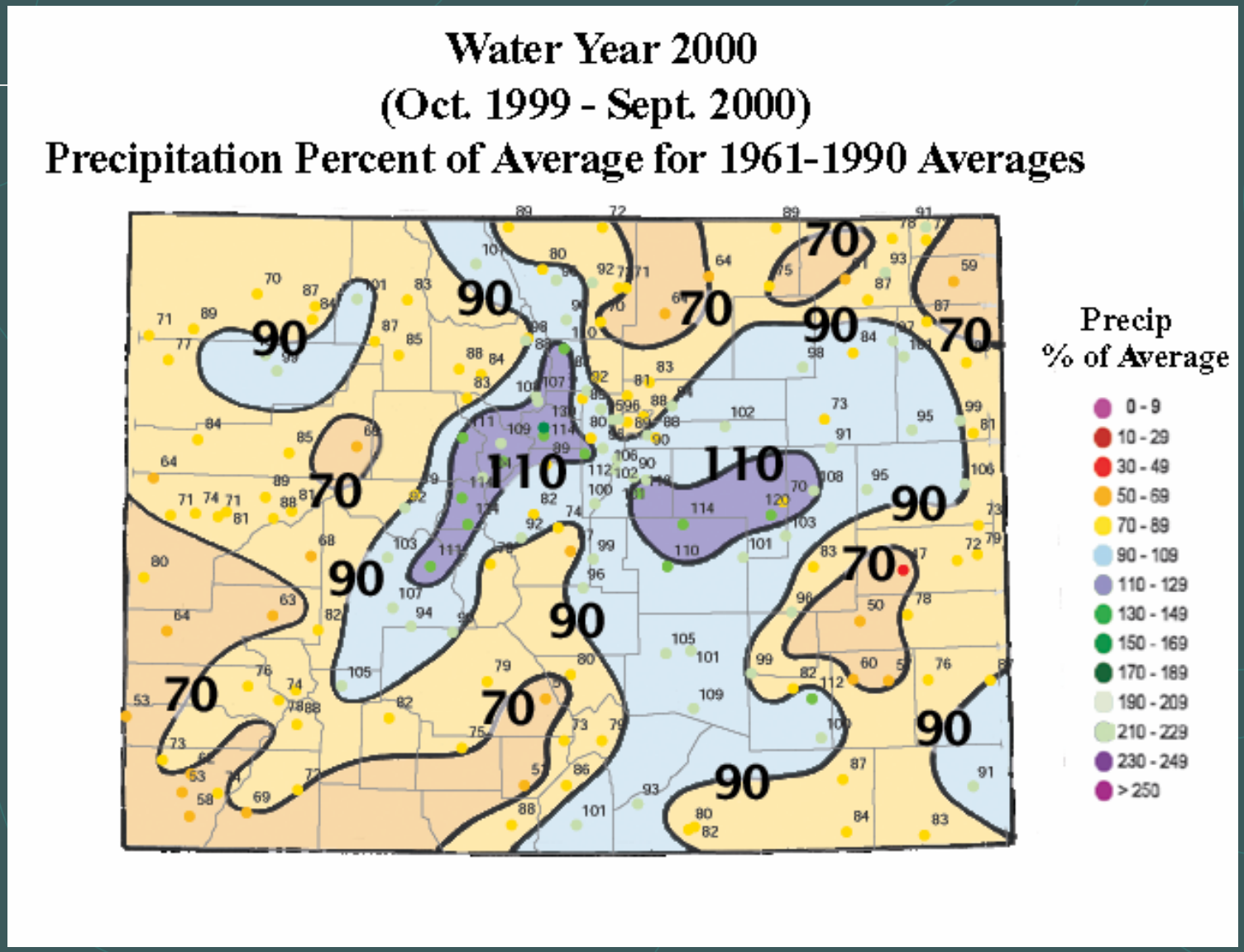
1996
1998
2000
2002
2004
Year

The Evolution of Our Recent Drought

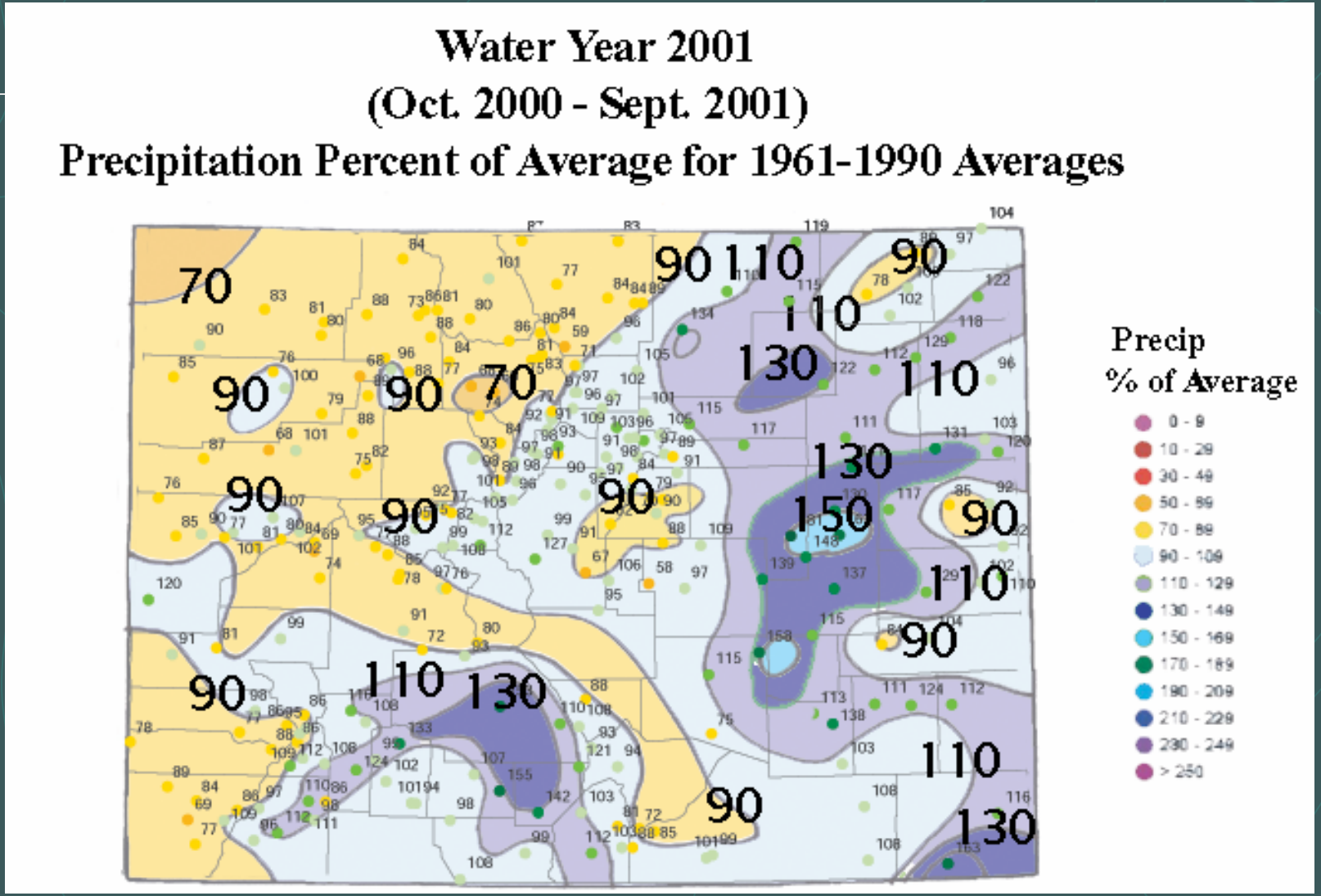
1999 Water Year Precipitation



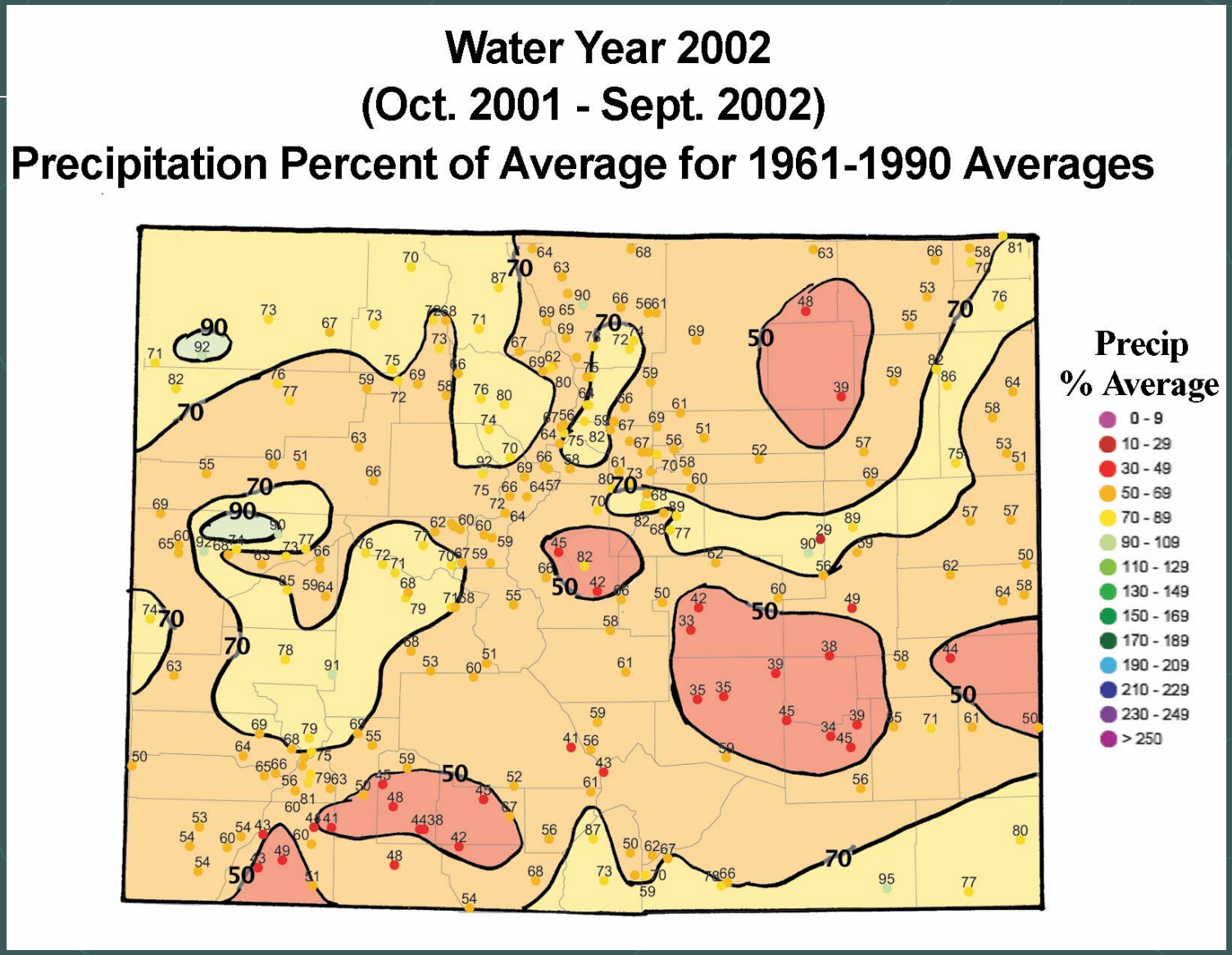
2000 Water Year Precipitation



2001 Water Year Precipitation

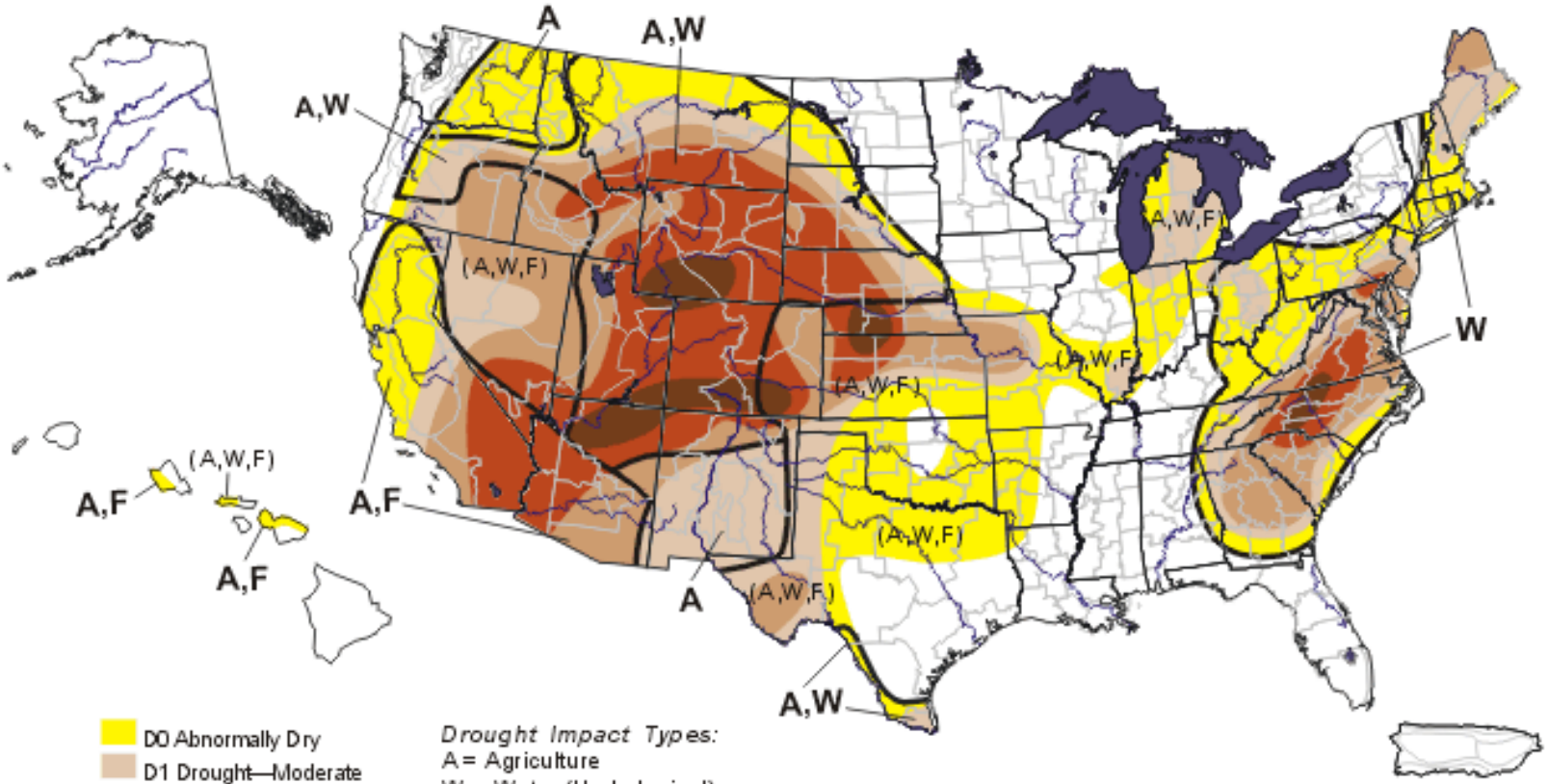


2002 Water Year Precipitation



U.S. Drought Monitor

October 1, 2002
Valid 8 a.m. EDT



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

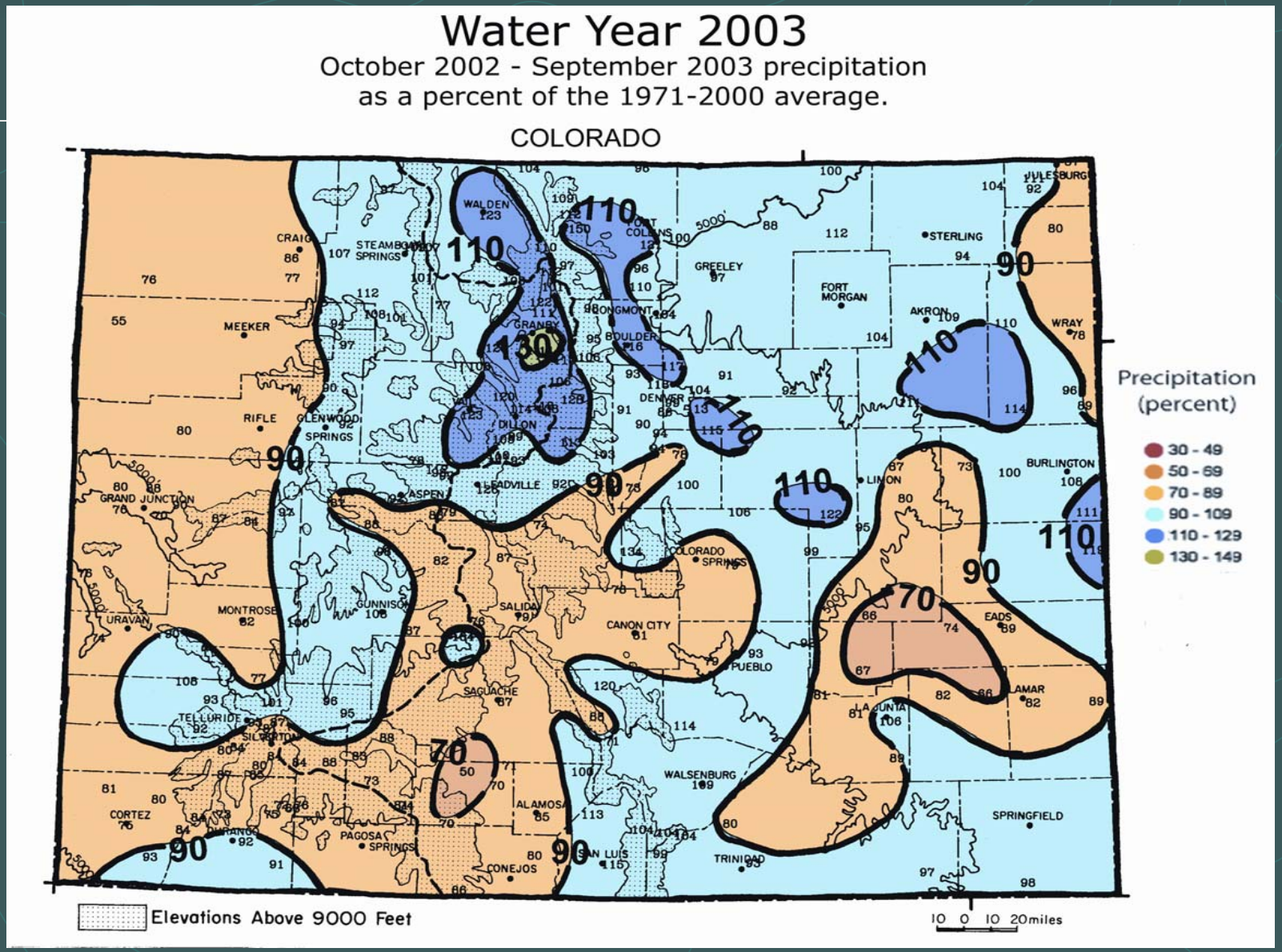
Drought Impact Types:
A = Agriculture
W = Water (Hydrological)
F = Fire danger (Wildfires)
Delineates dominant impacts
(No type = All 3 impacts)

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

http://drought.unl.edu/dm

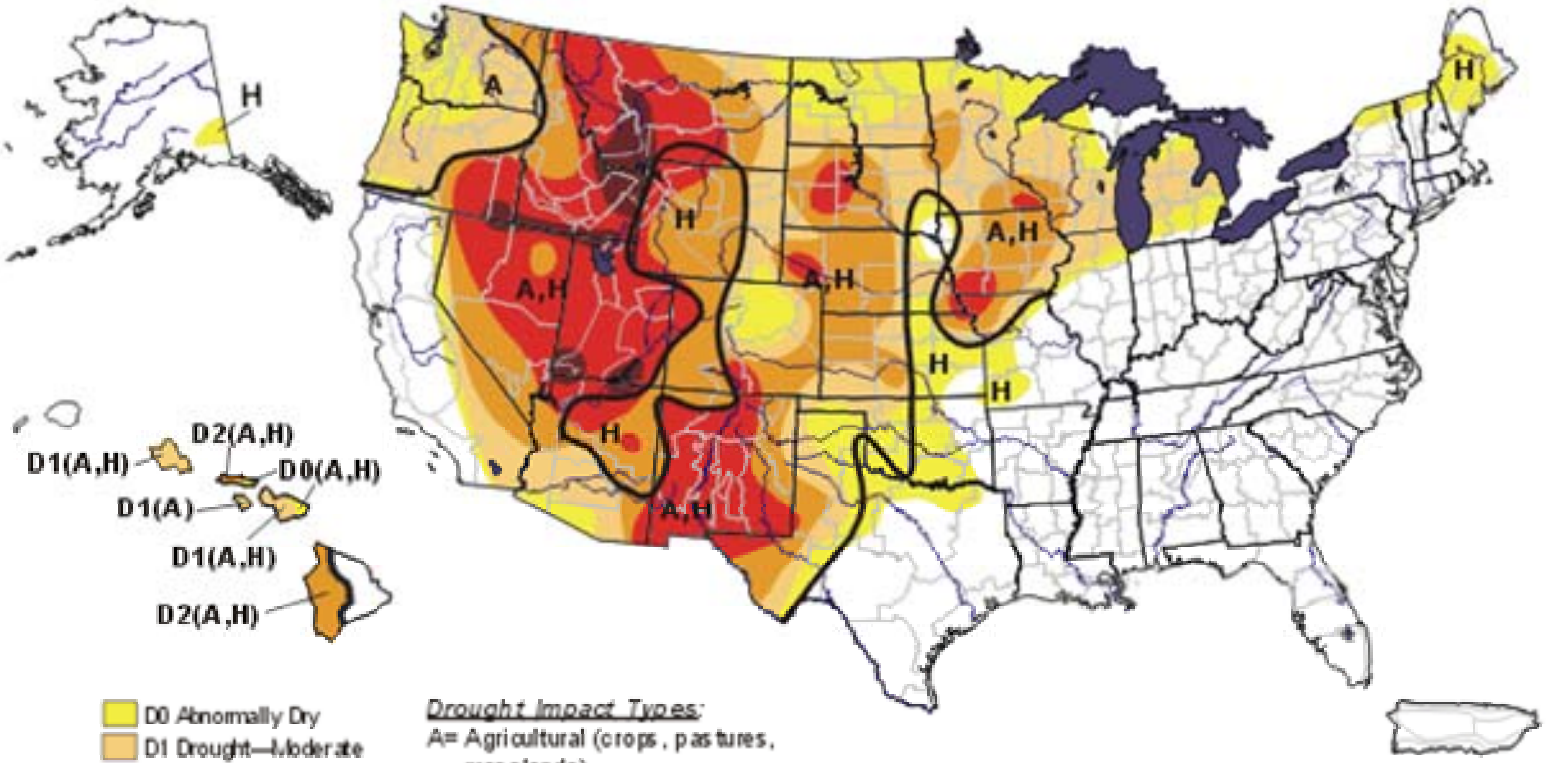
Released Thursday, October 3, 2002
Author: *Rich Tinker, CPC/NCEP/NWS/NOAA*

2003 Water Year Precipitation



U.S. Drought Monitor

September 30, 2003
Valid 8 a.m. EDT



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

Drought Impact Types:
A= Agricultural (crops, pastures, grasslands)
H= Hydrological (water)
No type = both impacts
Delineates dominant impacts

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

http://drought.unl.edu/dm

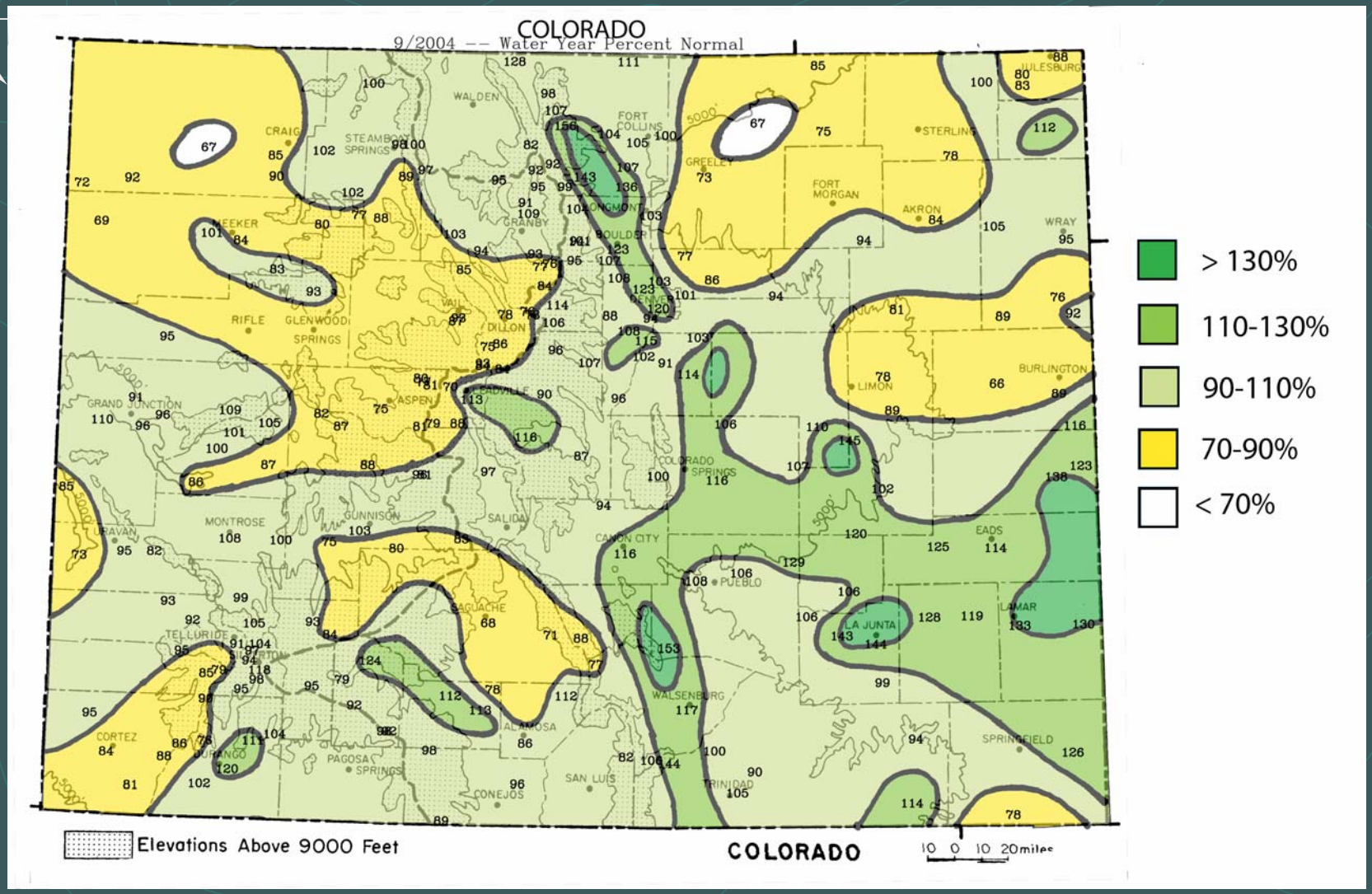
USDA

Released Thursday, October 2, 2003

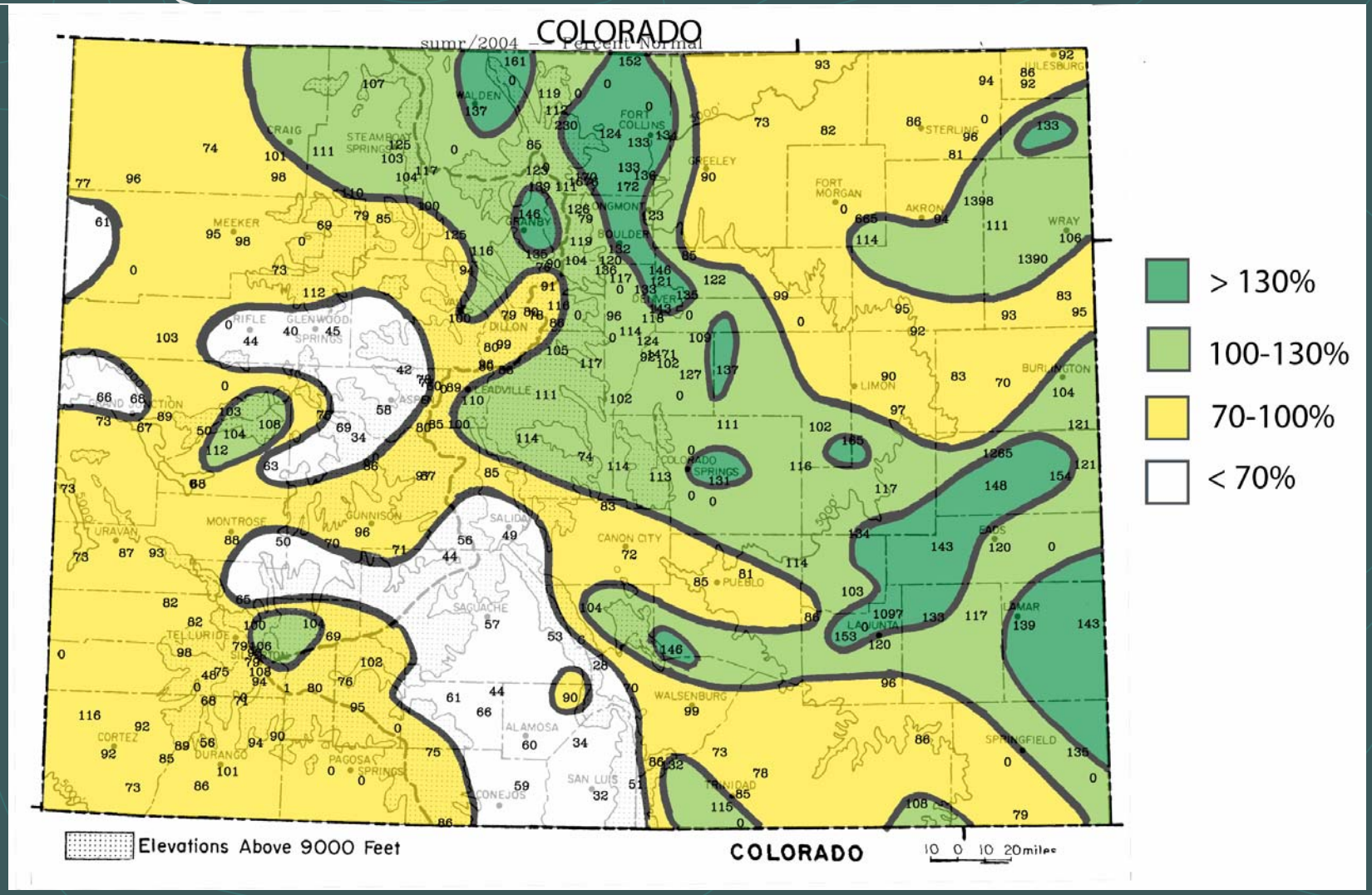
Author: *Candace Tankersley/Scott Stephens, NOAA/NCDC*

Where Do We Stand Now?

Water Year 2004 Precipitation as Percent of Average

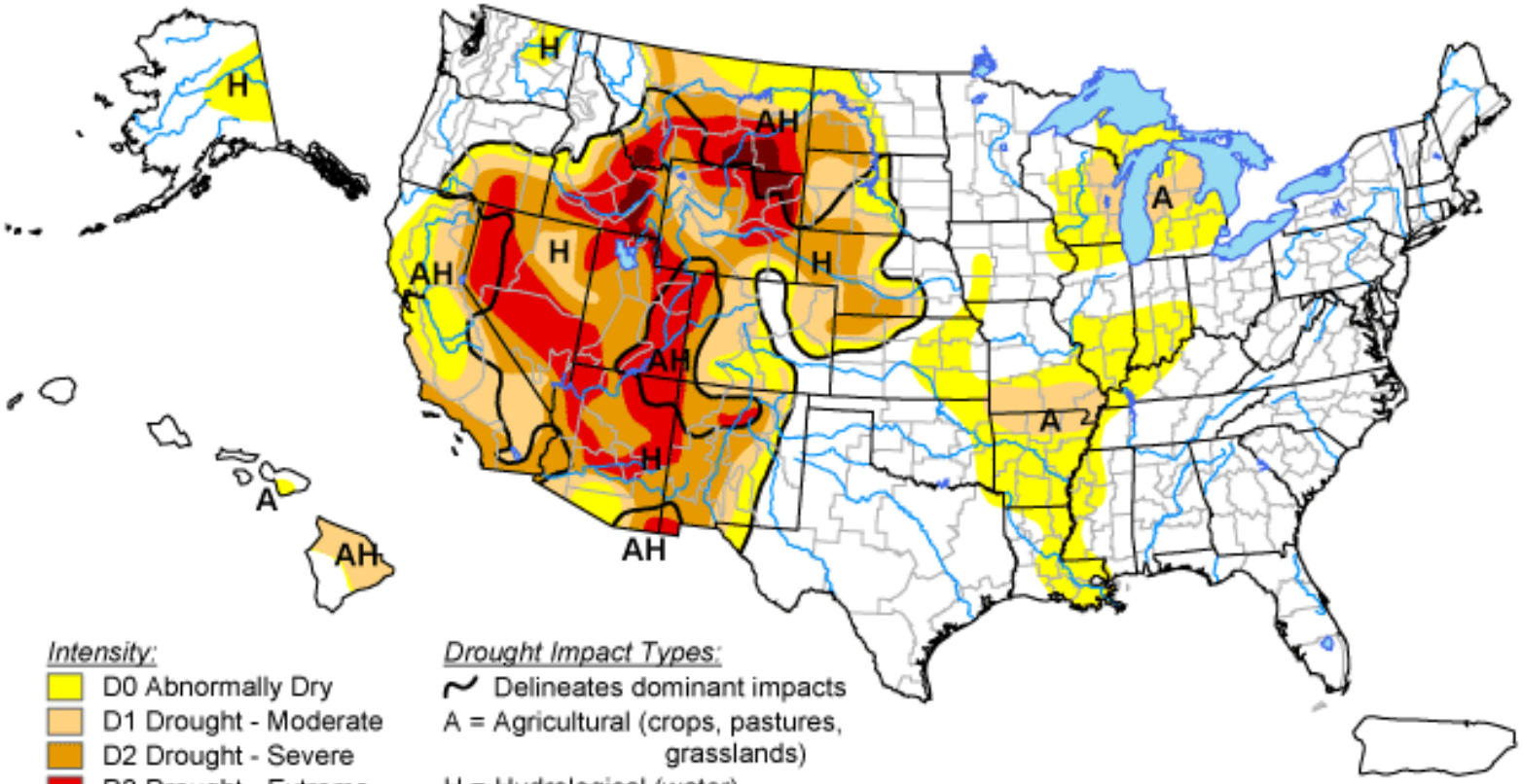


Growing Season (May-Sep) 2004 Precipitation as Percent of Average



U.S. Drought Monitor

October 5, 2004
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)
- (No type = Both impacts)

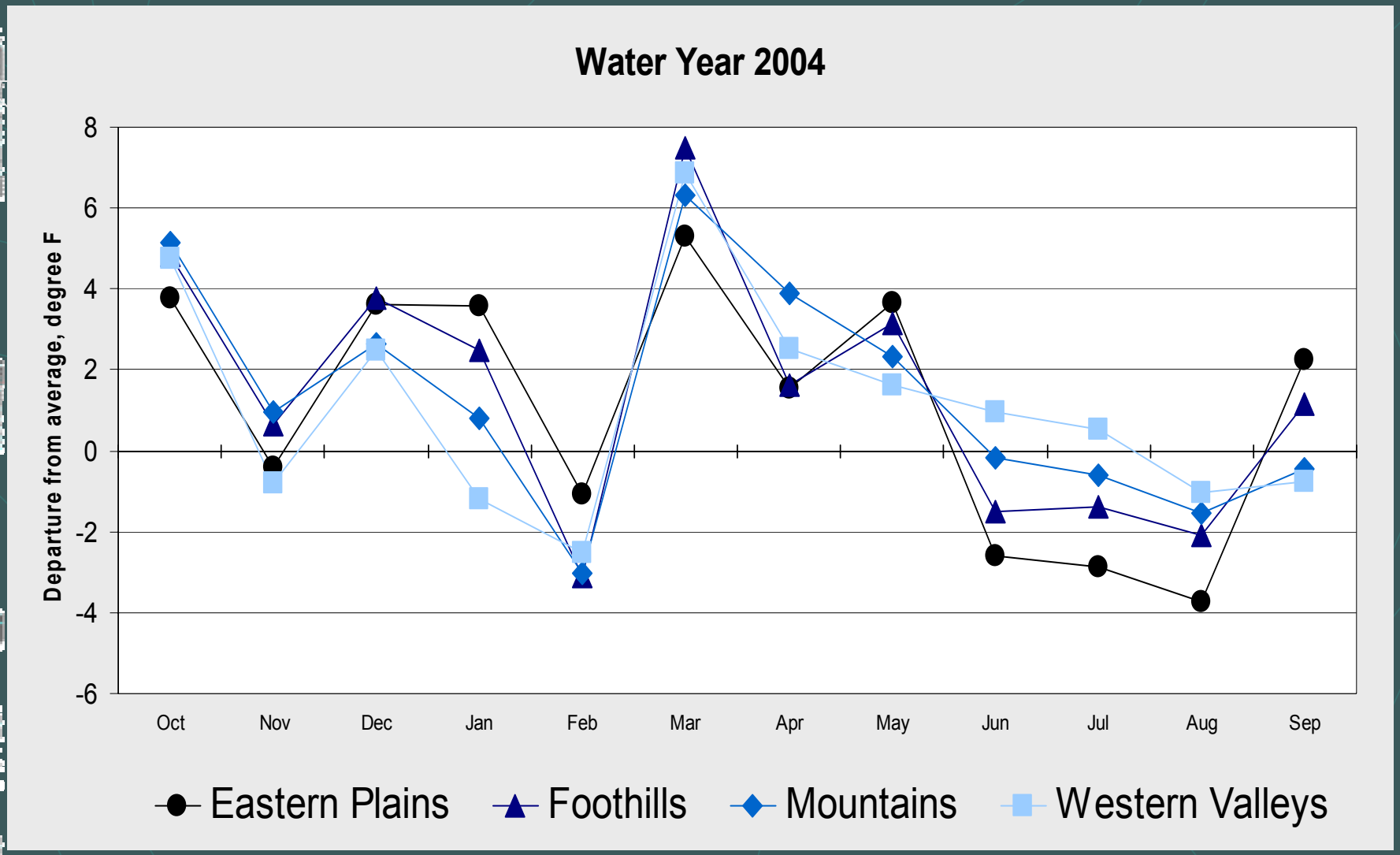
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

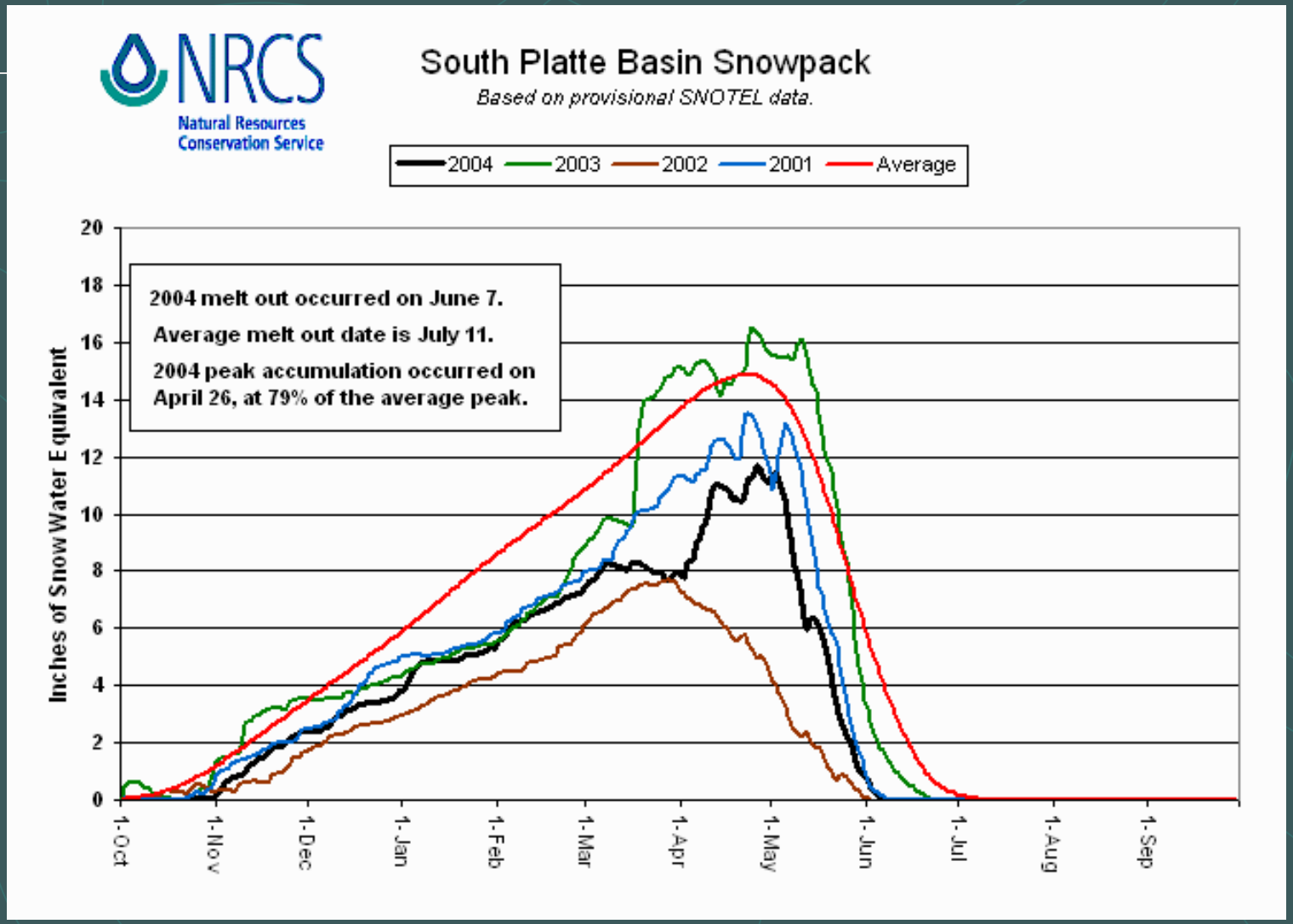
USDA National Drought Mitigation Center

Released Thursday, October 7, 2004
Author: Michael Hayes, NDMC

WY2004 Temperature Departures

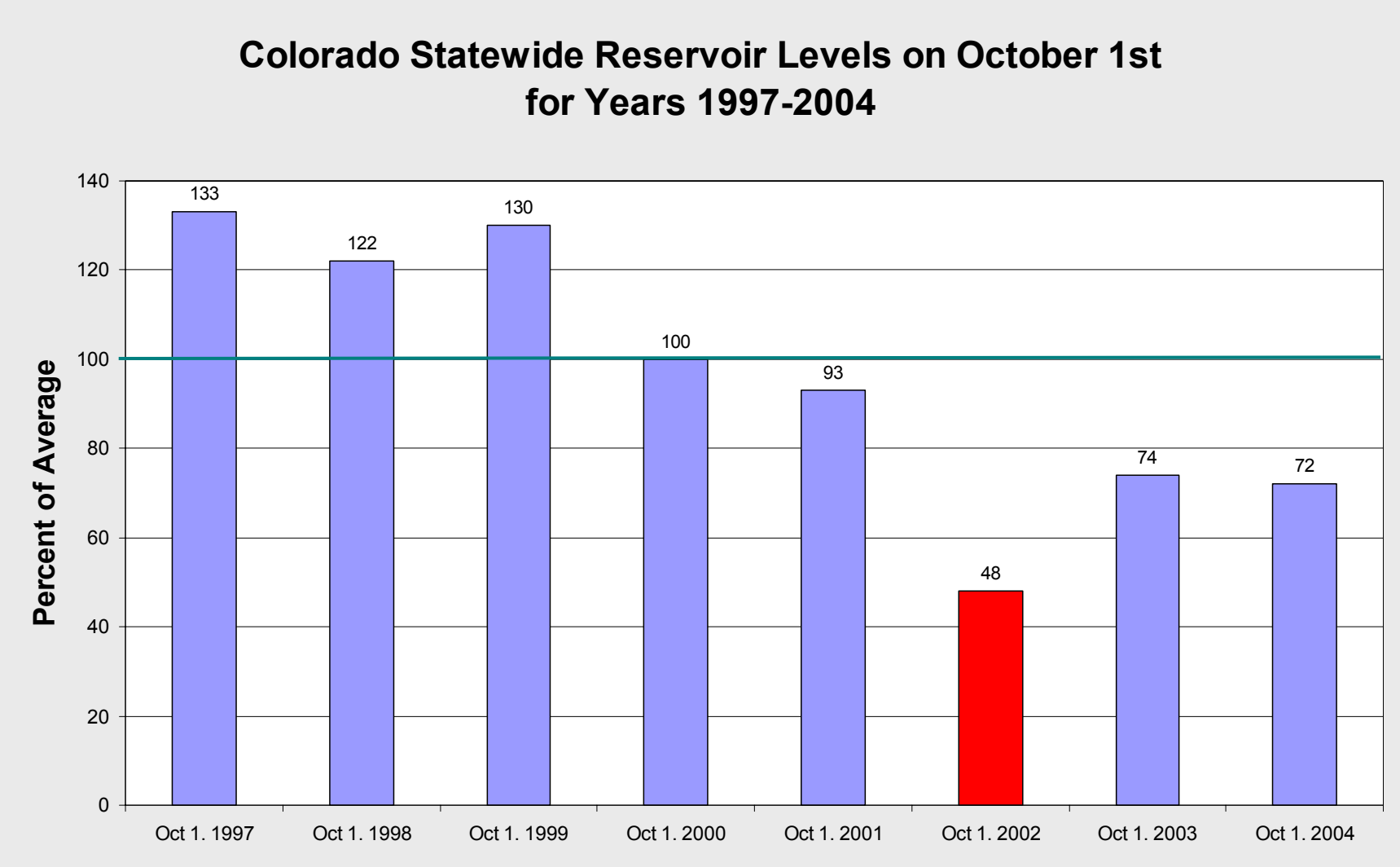


South Platte Basin Snowpack



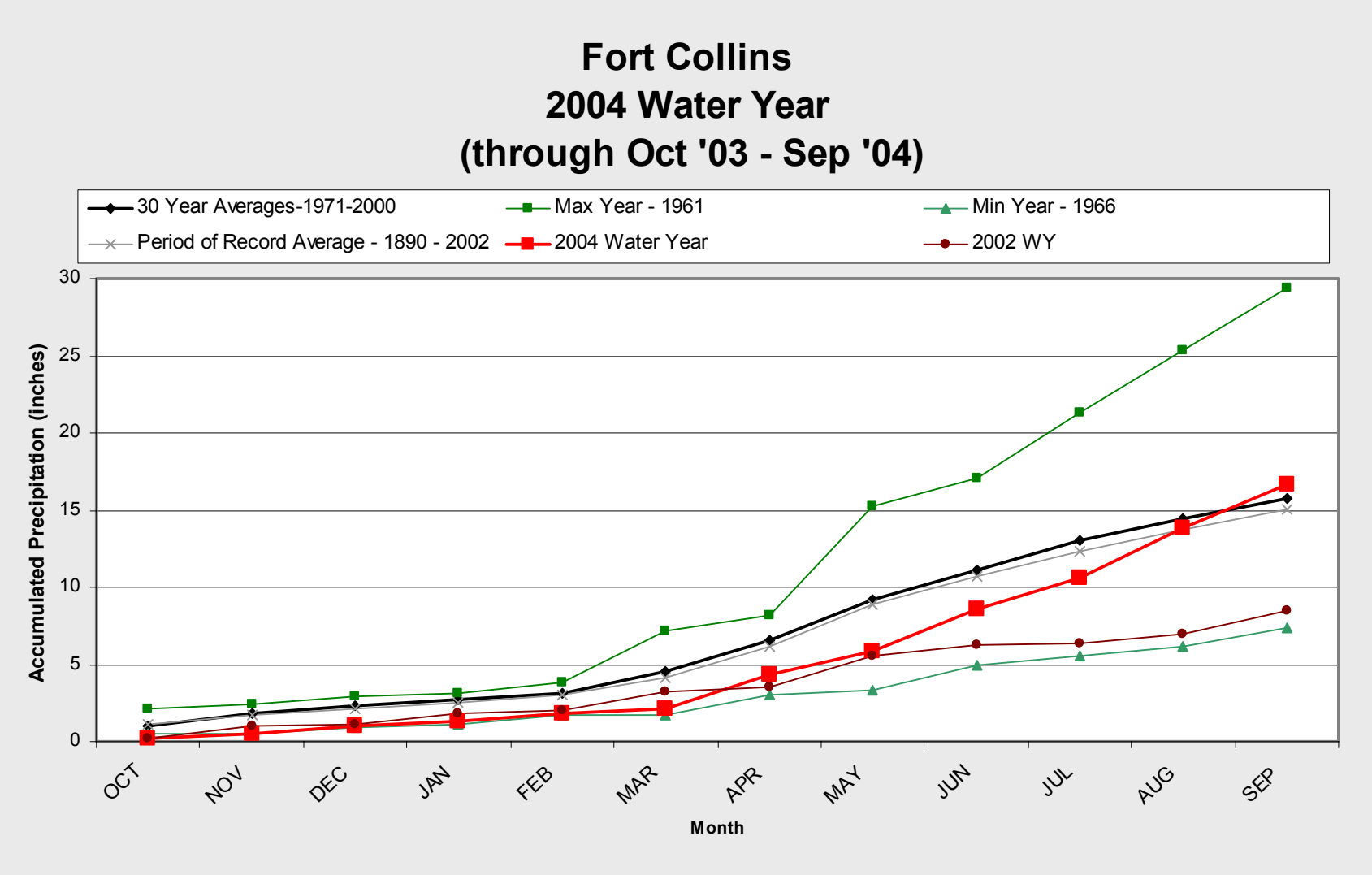
http://www.co.nrcs.usda.gov/snow/data/basins.html

Reservoir Levels

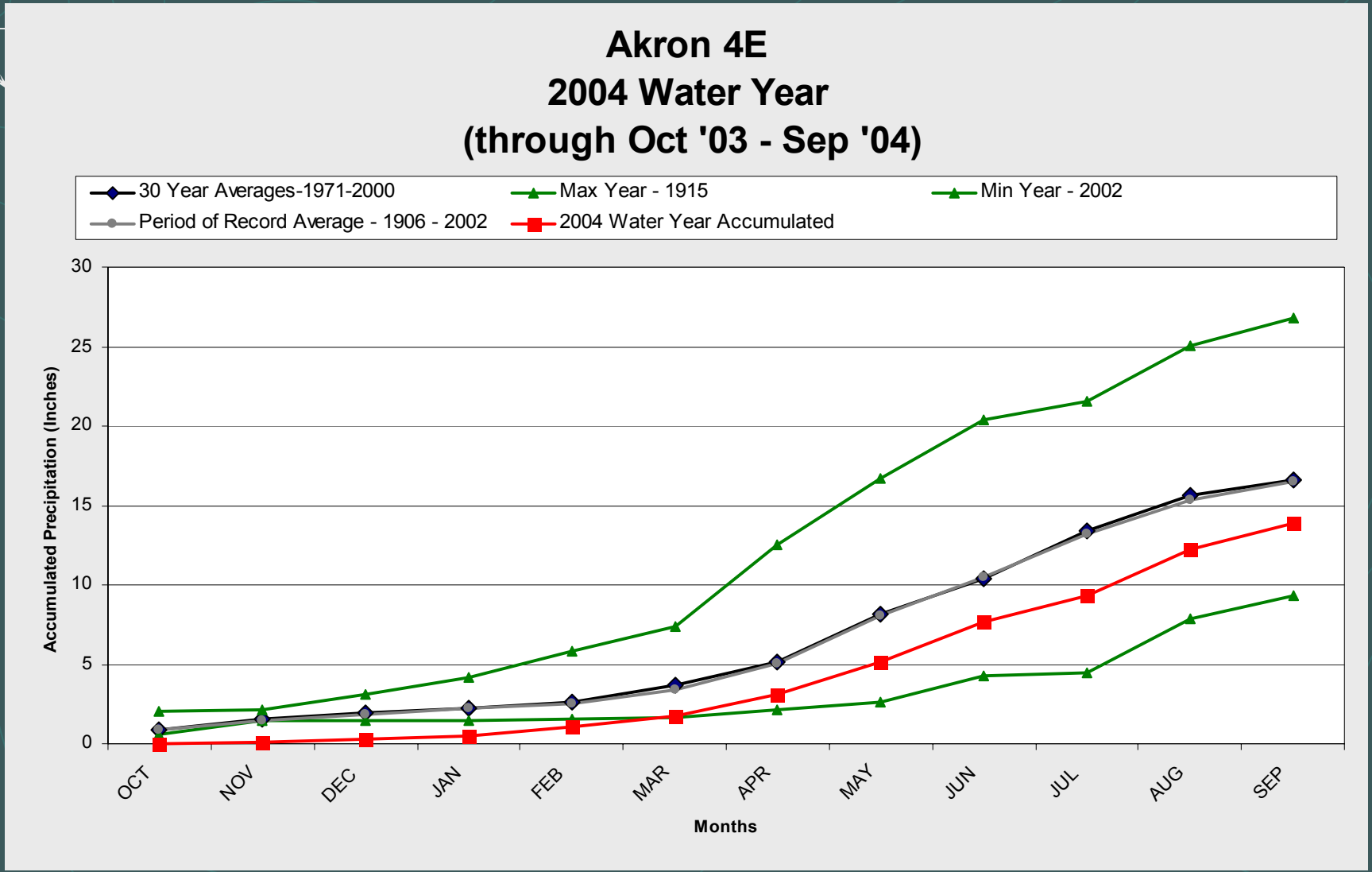


Provisional data from the NRCS

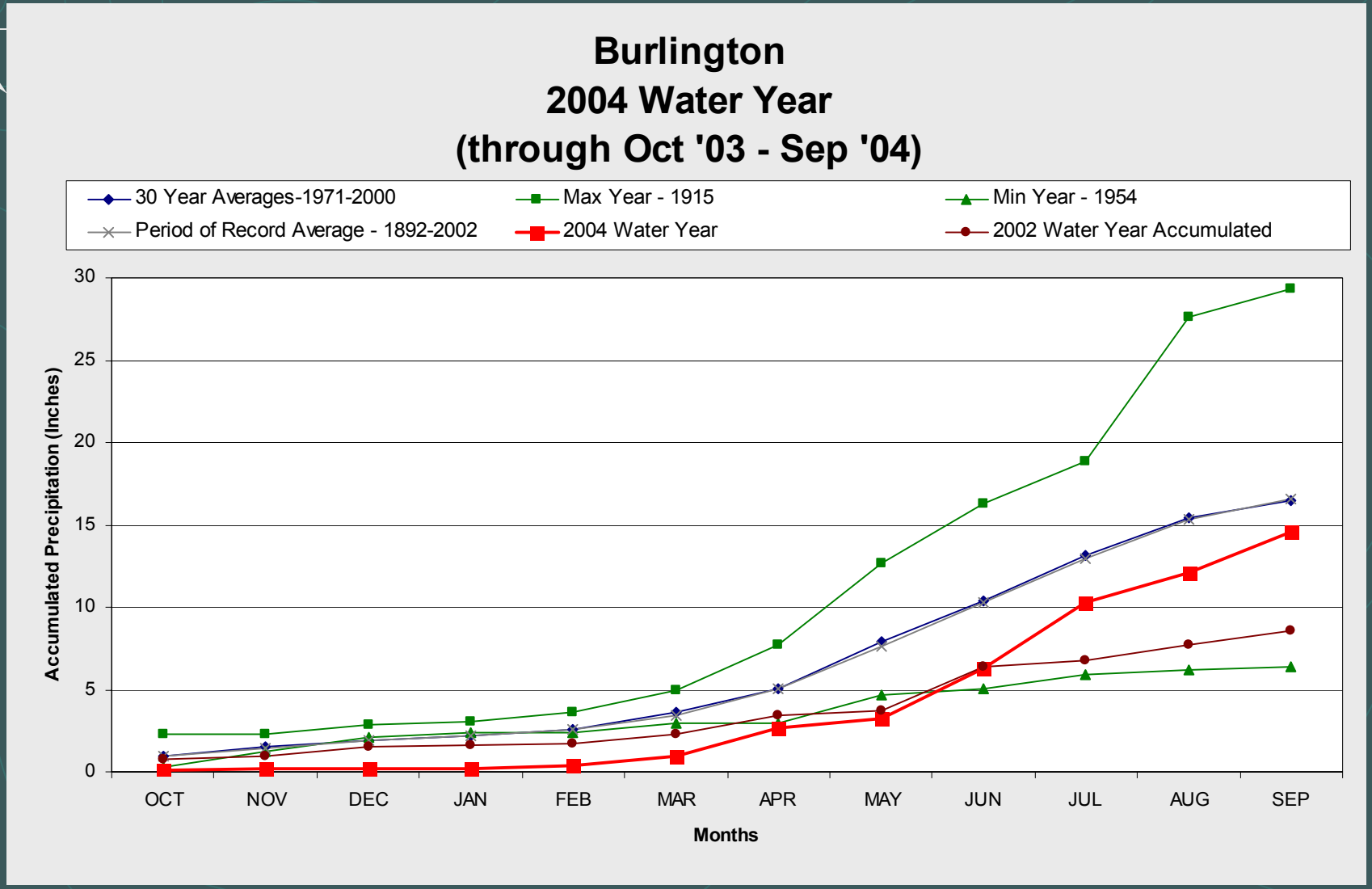
Fort Collins 2004 Water Year Precipitation



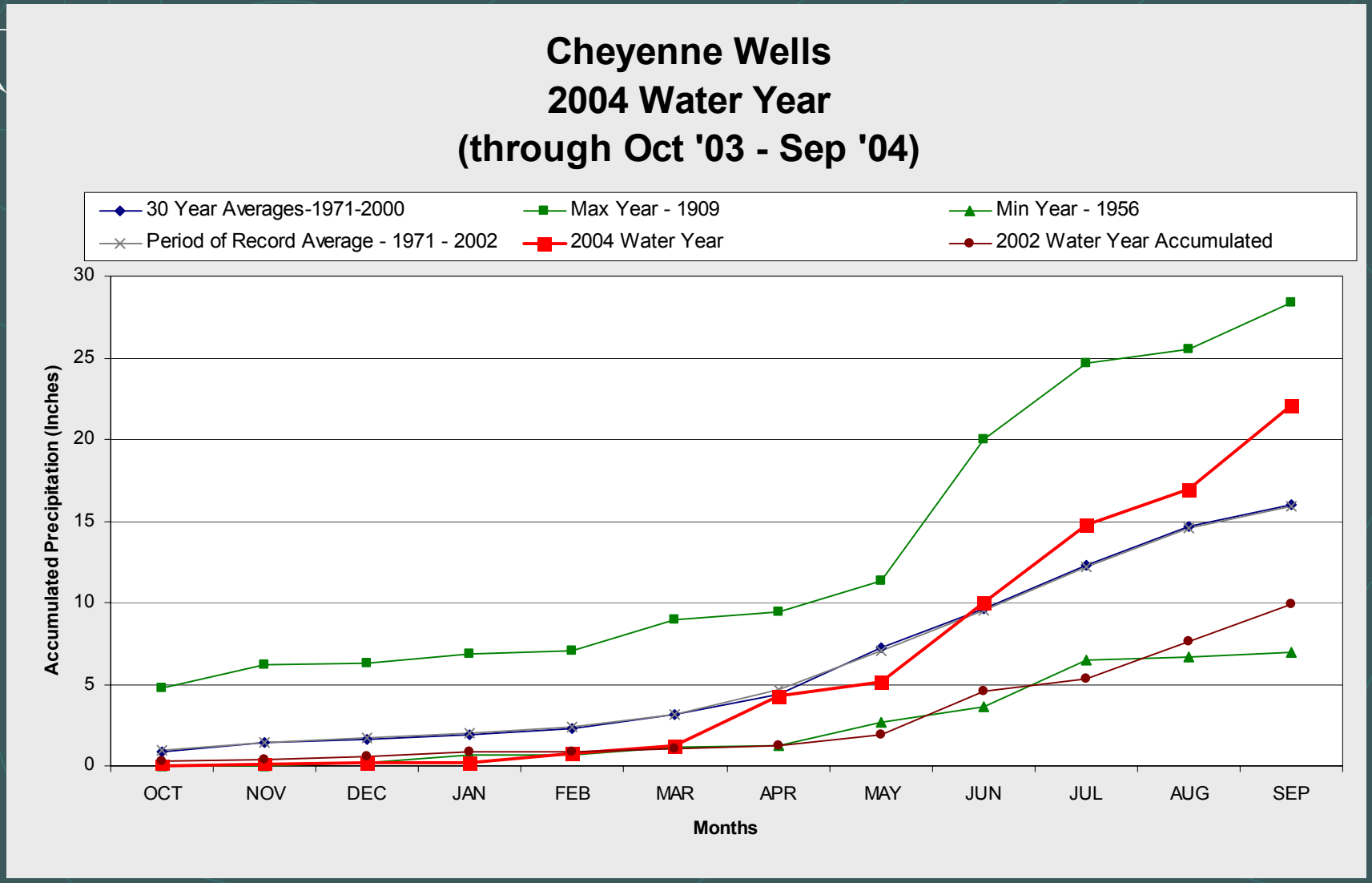
Akron 2004 Water Year Precipitation



Burlington 2004 Water Year Precipitation



Cheyenne Wells 2004 WY Precipitation

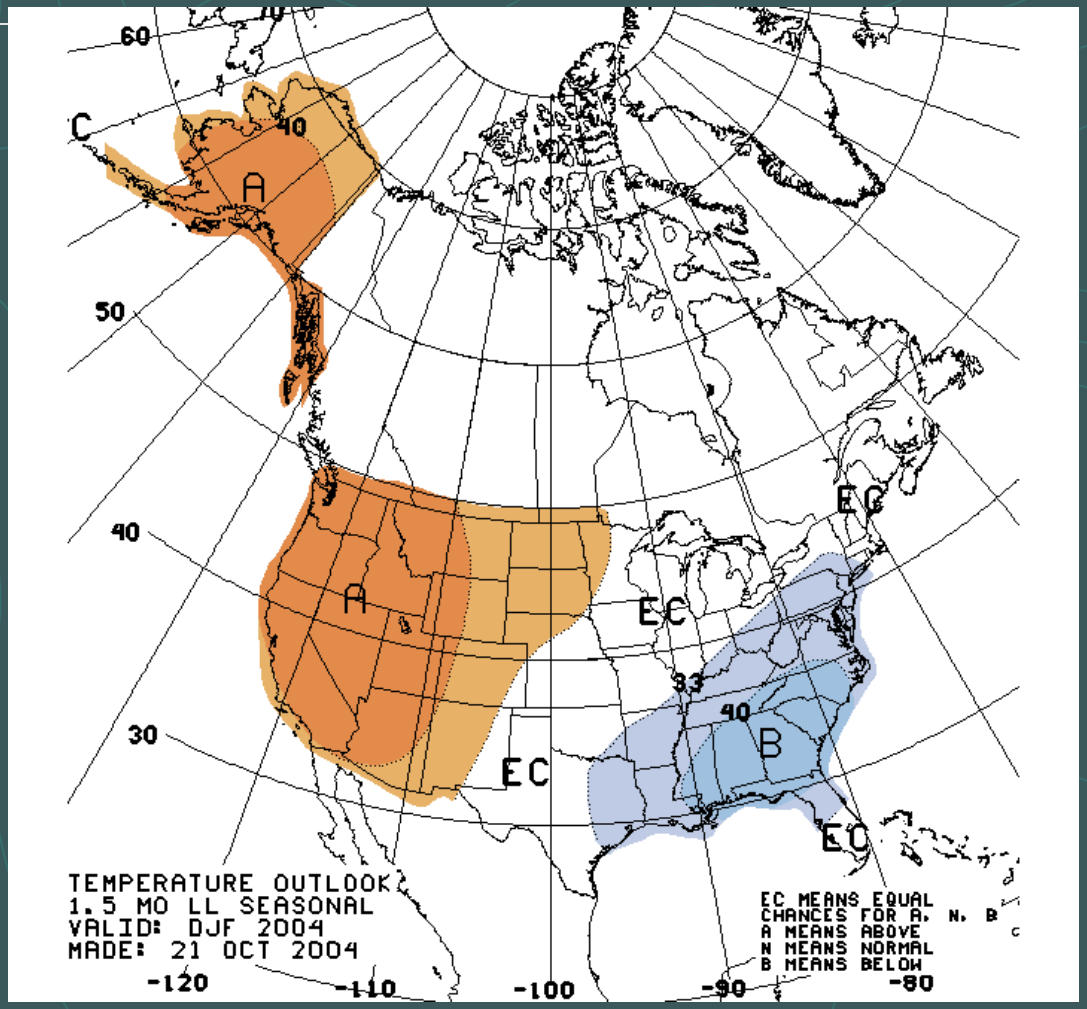


October 2004 Precipitation Totals

- Fort Collins – 1.05” (107% average)
- Akron – 0.80” (94% average)
- Burlington – 0.73” (78% average)
- Cheyenne Wells – 0.41” (51% average)

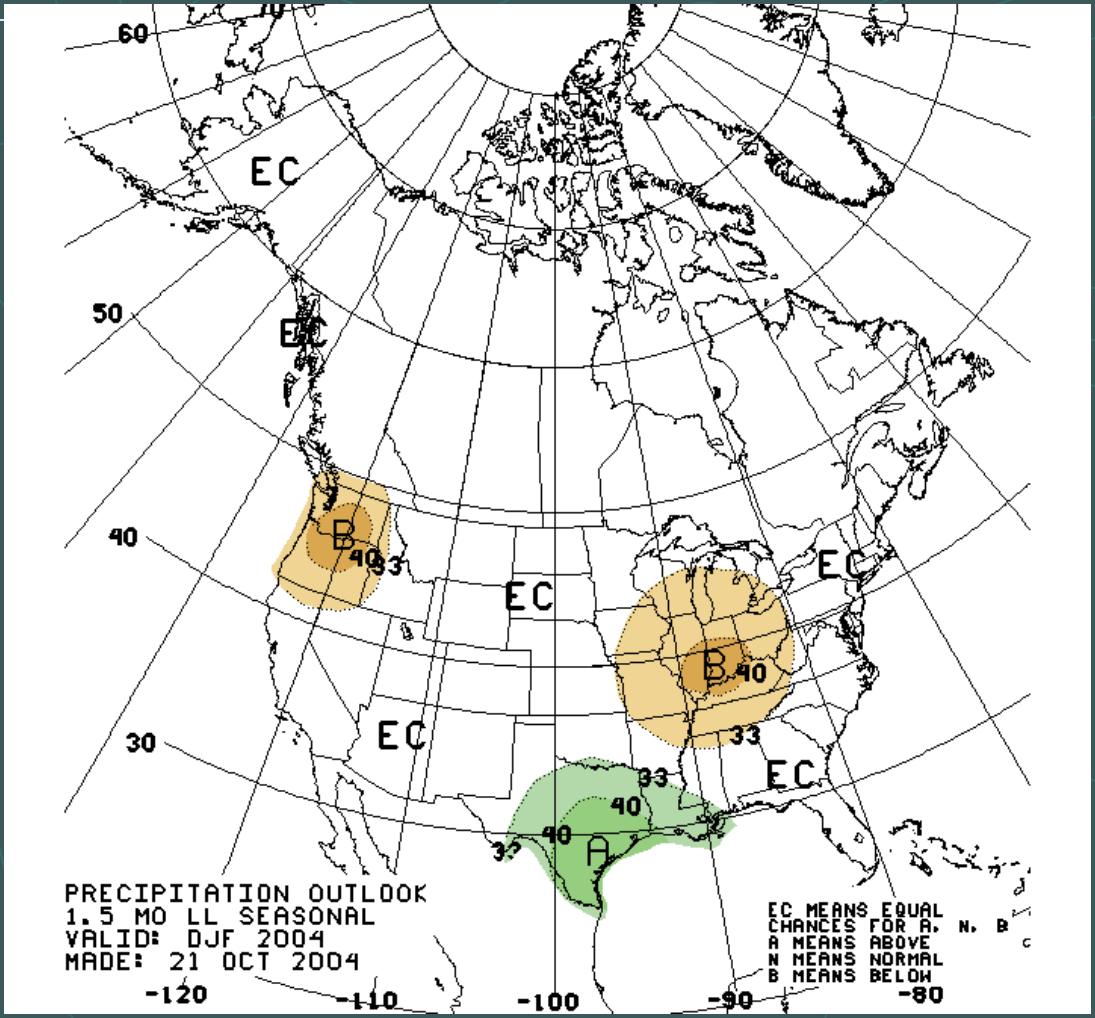
What Comes Next?

Temperature Dec-Feb 2004



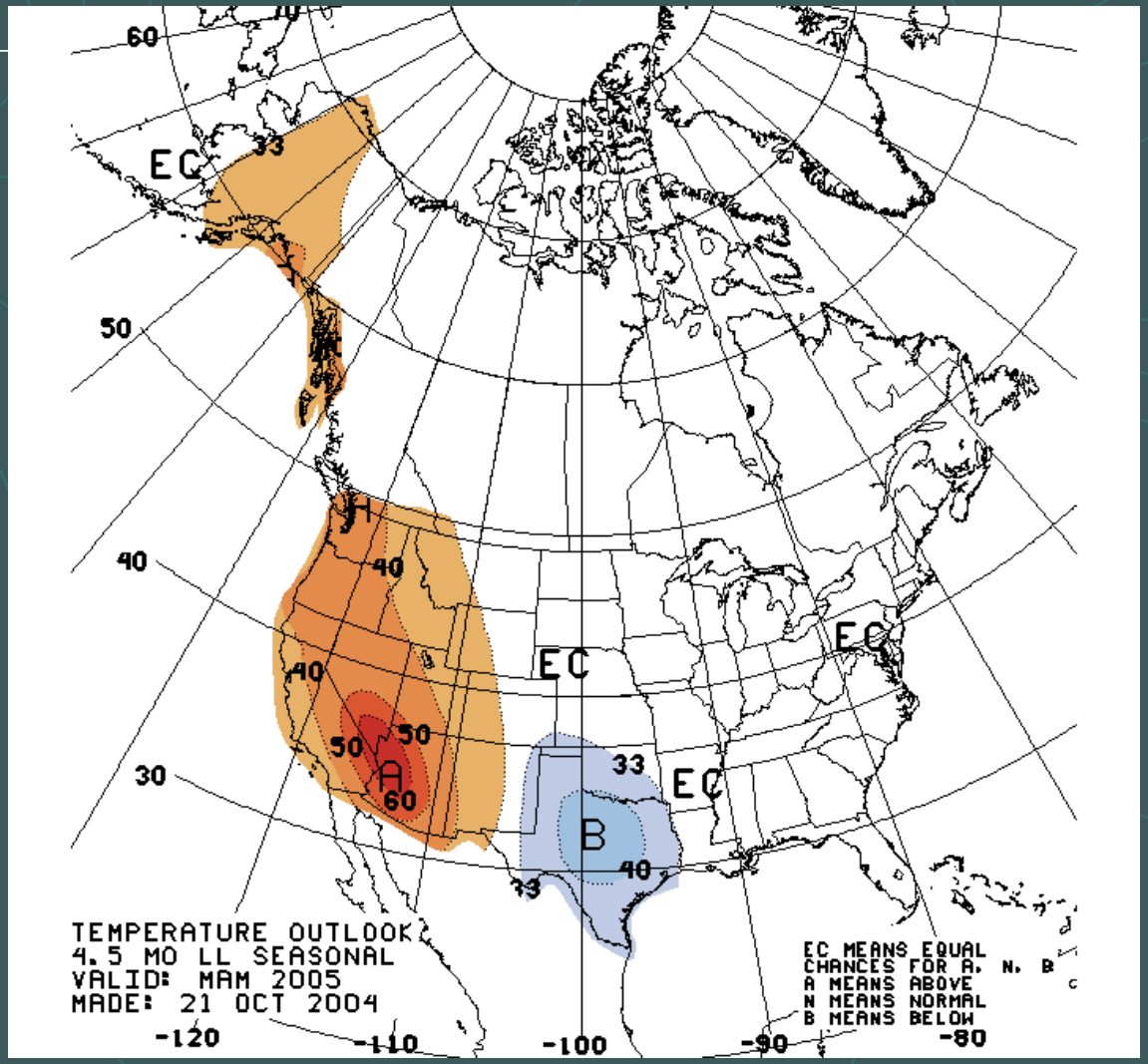
From the Colorado Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Precipitation
Dec-Feb 2004



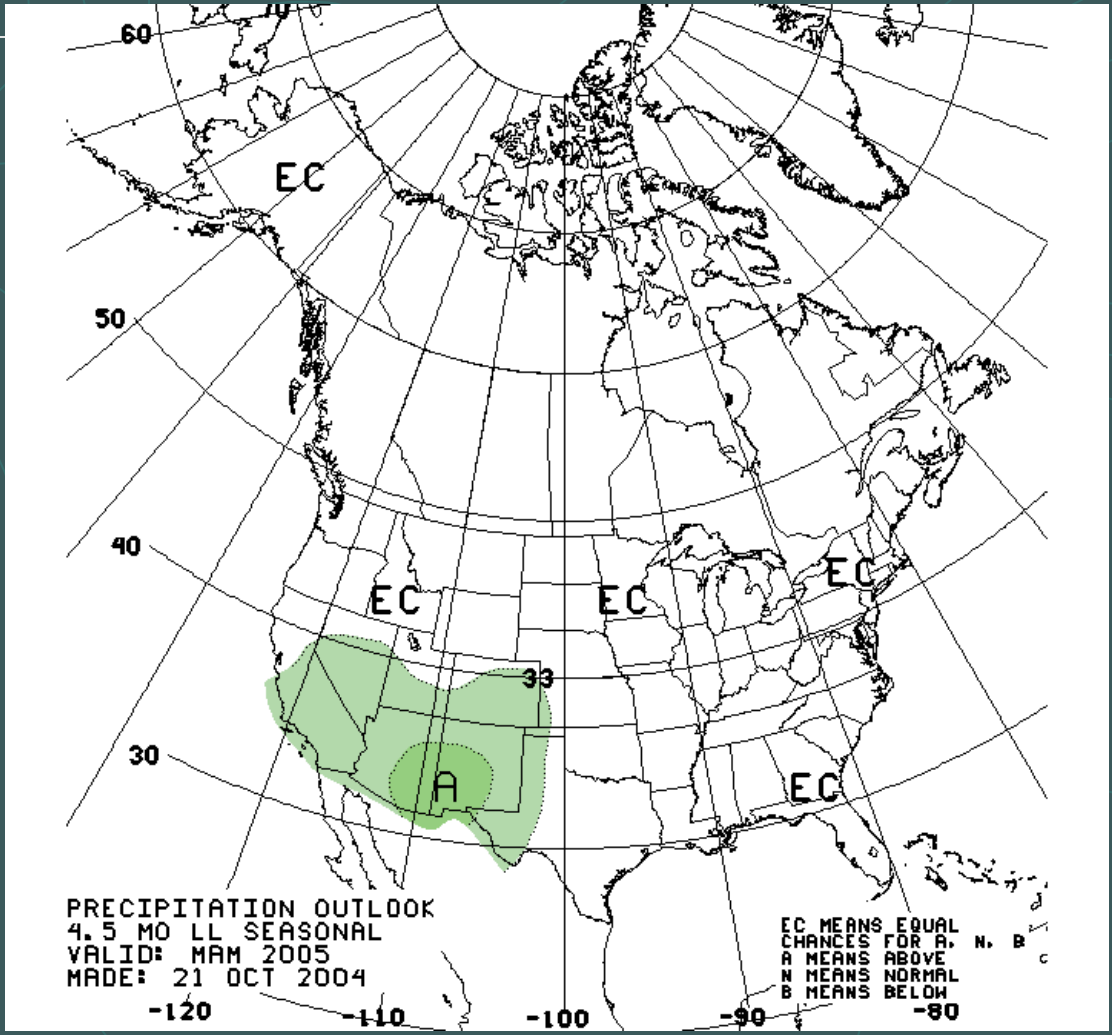
From the Colorado Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Temperature
Mar-May 2005



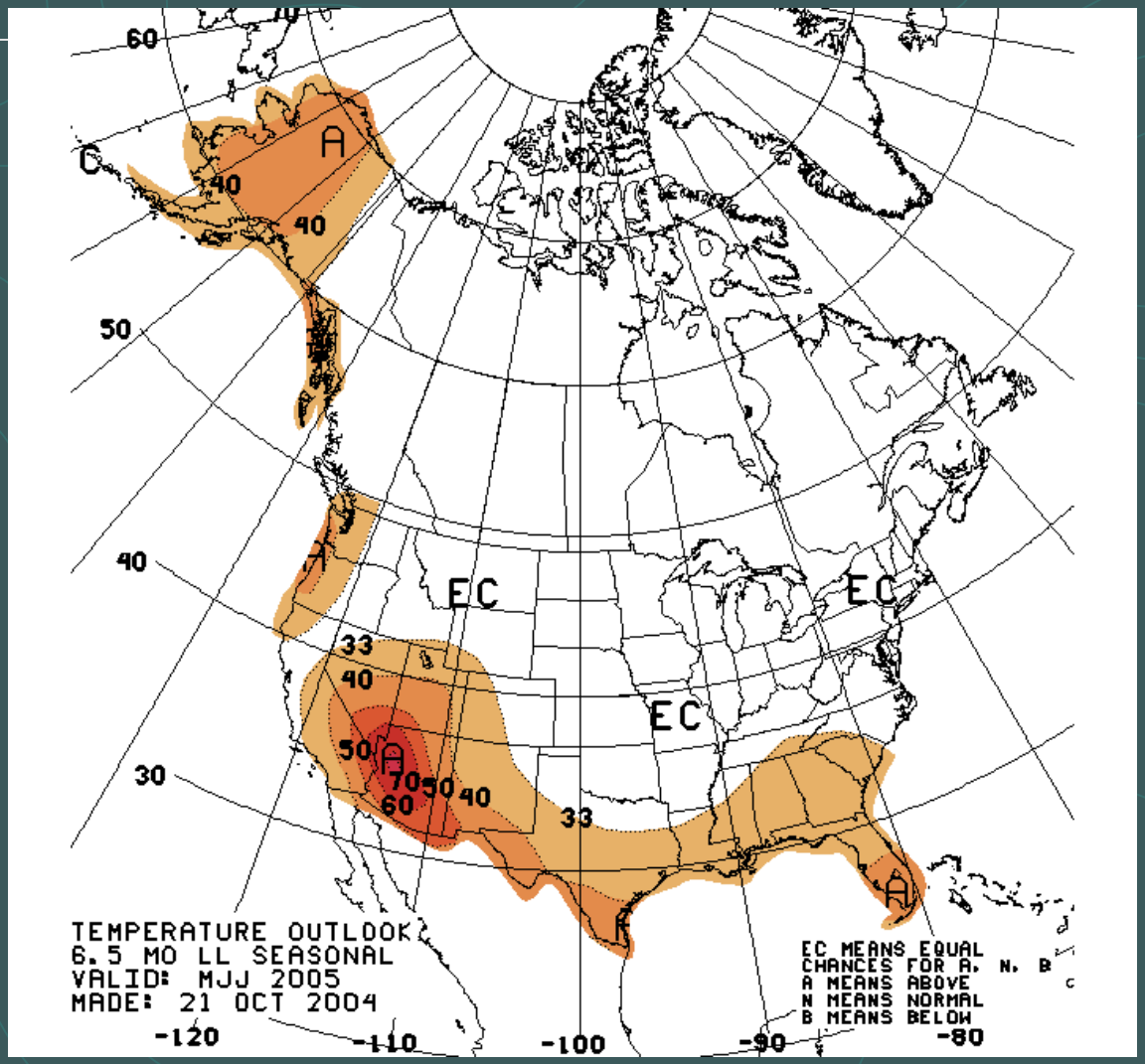
From the Colorado Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Precipitation
Mar-May 2005



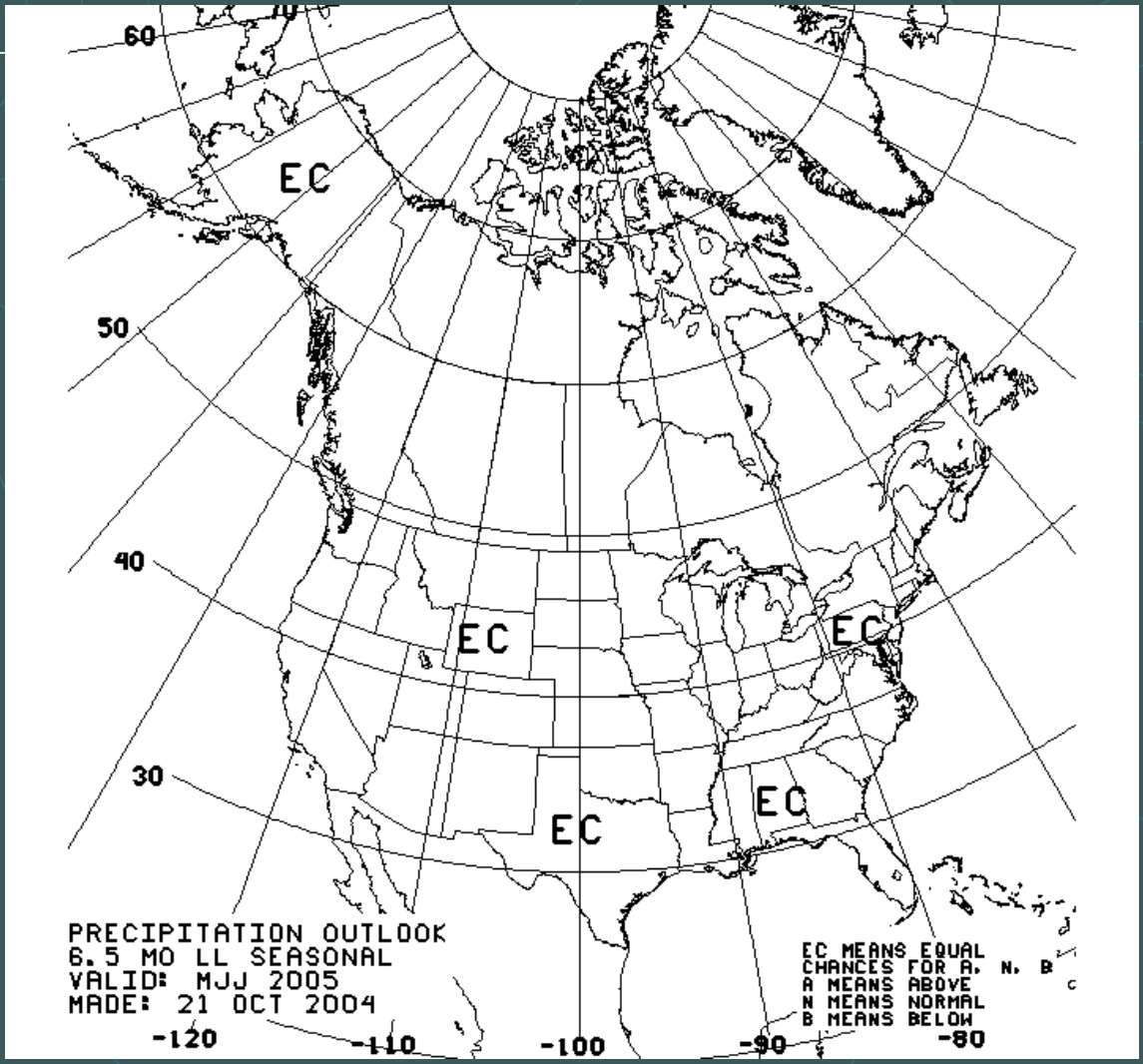
From the Colorado Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Temperature May-Jul 2005



From the Colorado Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

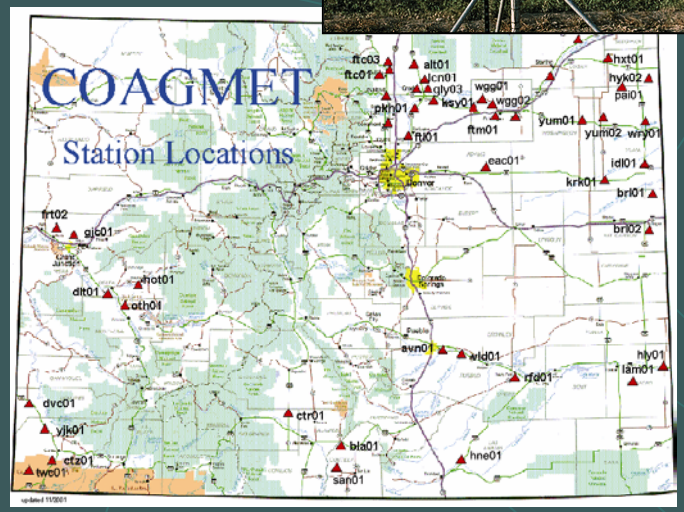
Precipitation
May-Jul 2005



From the Colorado Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

CoAgMet
Weather Data for Agriculture

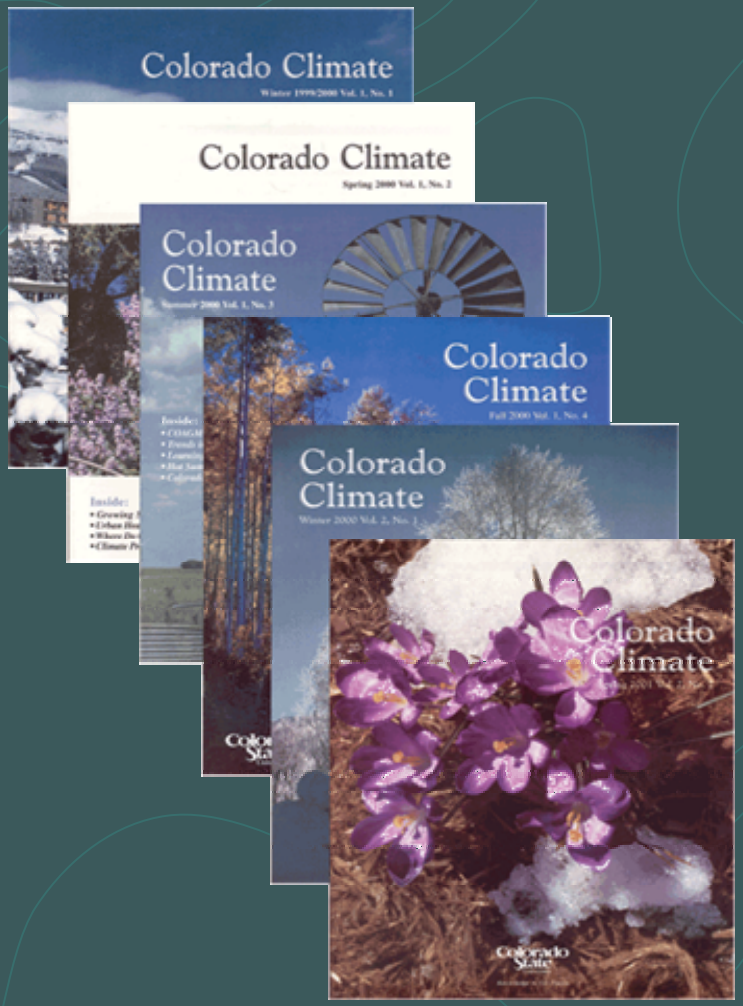
- Automated weather stations with daily and hourly readings of:
  - *Temperature*
  - *Humidity*
  - *Wind*
  - *Precipitation*
  - *Solar energy*
  - *Evapotranspiration*



http://www.coagmet.com

Colorado Climate Magazine

- *Good bedtime reading about the climate of Colorado -- recent and historic*
- *$15/year subscription pays printing and mailing costs*



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

Colorado Climate Center
Colorado State University

- *Data and Power Point Presentations available for downloading*

- http://ccc.atmos.colostate.edu

  click on "Drought"

  then click on "Presentations"