Northeast Colorado Climate Update

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Colorado Climate Center
Colorado State University

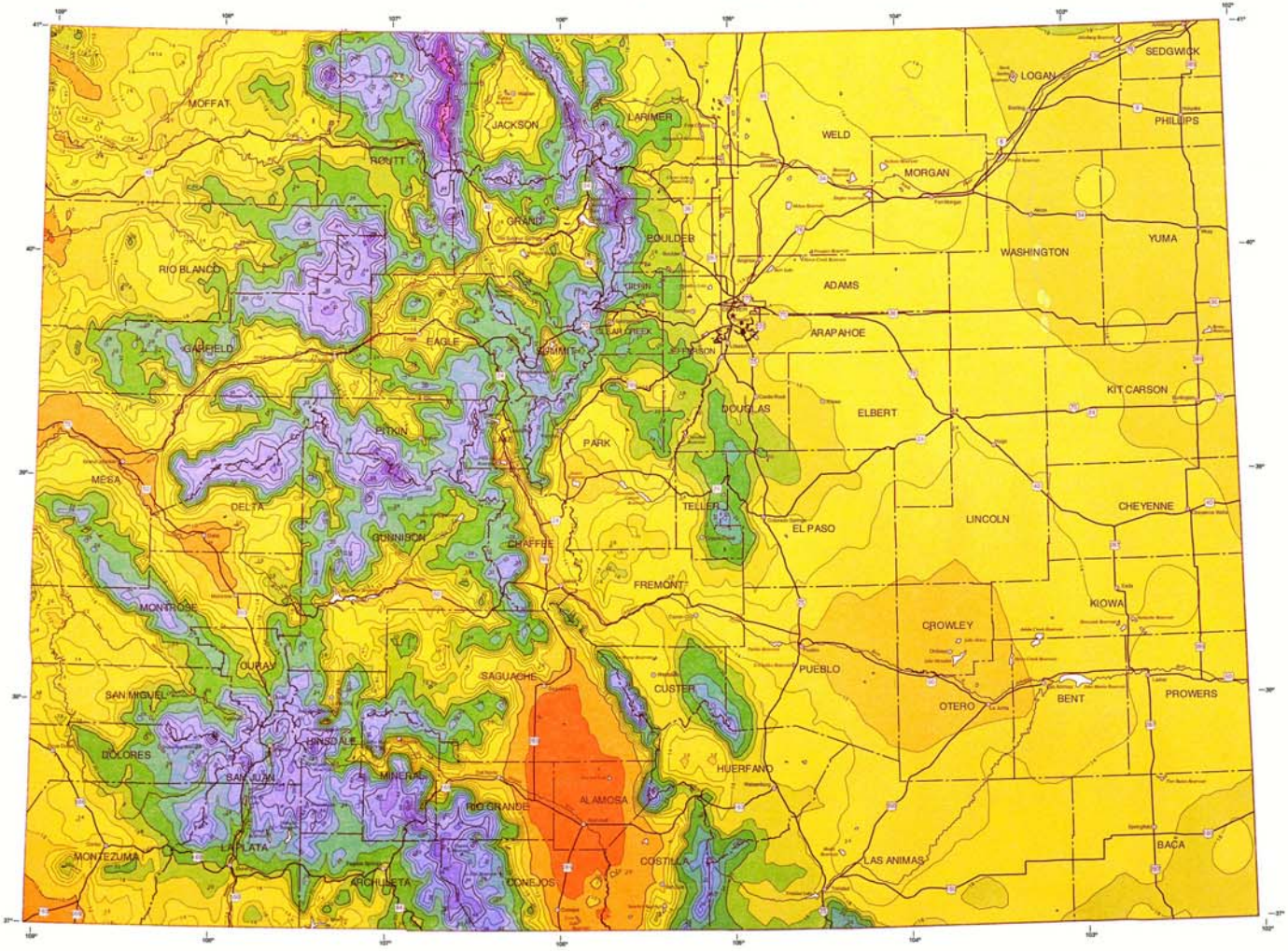
Presented at County Extension Office, Sedgwick, Colorado, April 6, 2004

Prepared by Odie Bliss

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

COLORADO
ANNUAL PRECIPITATION



Average Annual Precipitation 1961 - 1990 inches per year

- <8
- 8-10
- 10-12
- 12-14
- 14-16
- 16-18
- 18-20
- 20-24
- 24-28
- 28-32
- 32-36
- 36-40
- 40-44
- 44-48
- 48-52
- 52-56
- 56-60
- 60-70

Made in cooperation with Oregon State University

Data Sources: NOAA Cooperative Station Normals (1961-1990) climate observations. NRCS SNOTEL. Station normals and supplemental data provided by regional and state climatologists and designated reviewers

Digital Elevation Model: The PRISM DEM is derived from a 15-arc second Defense Mapping Agency (DMA) Digital Terrain Elevation Dataset (DTED) obtained from the EROS Data Center.

USDA-NRCS National Cartography & Geospatial Center, Fort Worth, TX, 1998

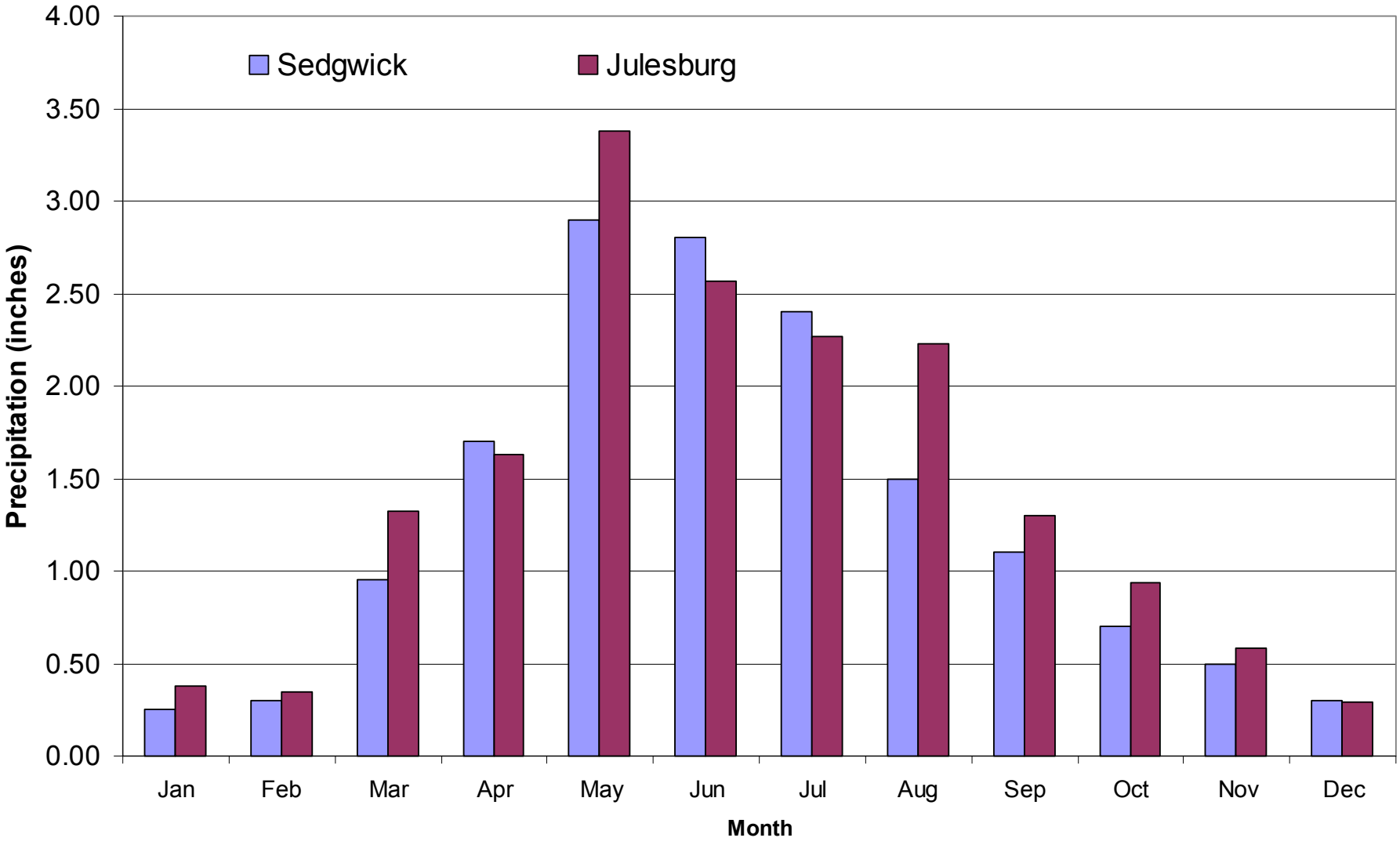
Estimation Technology: Gridded estimates were derived from station point values using the PRISM model developed at Oregon State University. The modeled grid was approximately 4x4 km latitude/longitude and was resampled to 2x2 km using a Gaussian filter.

Climate Dataset: April 1998 Albers Equal Area Projection, 96°W & 23°N, NAD 27

10 0 10 20 30 40 50 60 70 80 90
MILES

SCALE 1:1, 185, 000

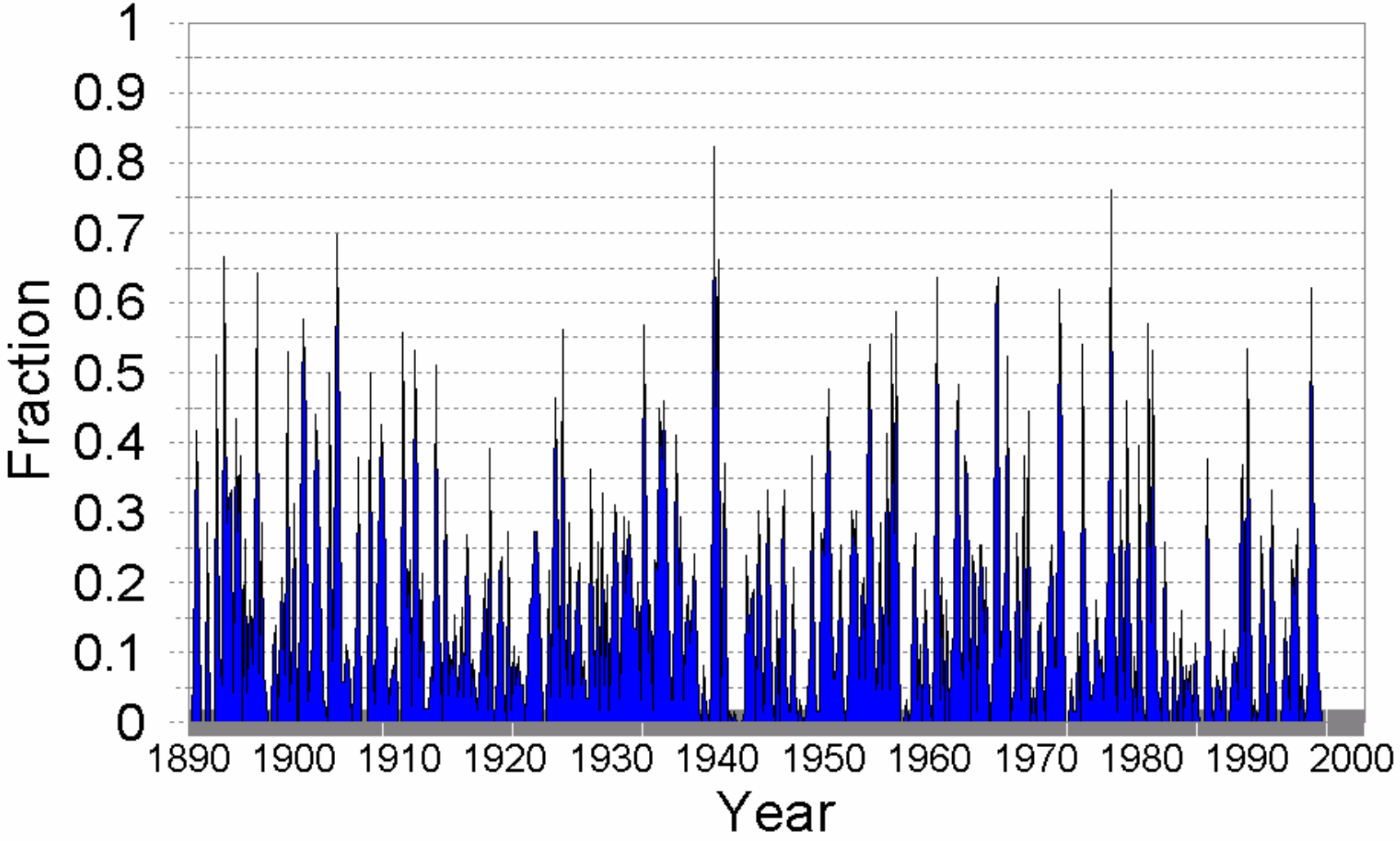
SOURCE NOTE
Users are cautioned that contours may not exactly match station-observed precipitation especially in regions with significant precipitation gradients and/or steep topography.
April 1998 1005486


Average Monthly Precipitation
(for the period 1971-2000)
Sedgwick
Julesburg
Precipitation (inches)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

Fraction of Colorado in Drought

Based on 3-month SPI

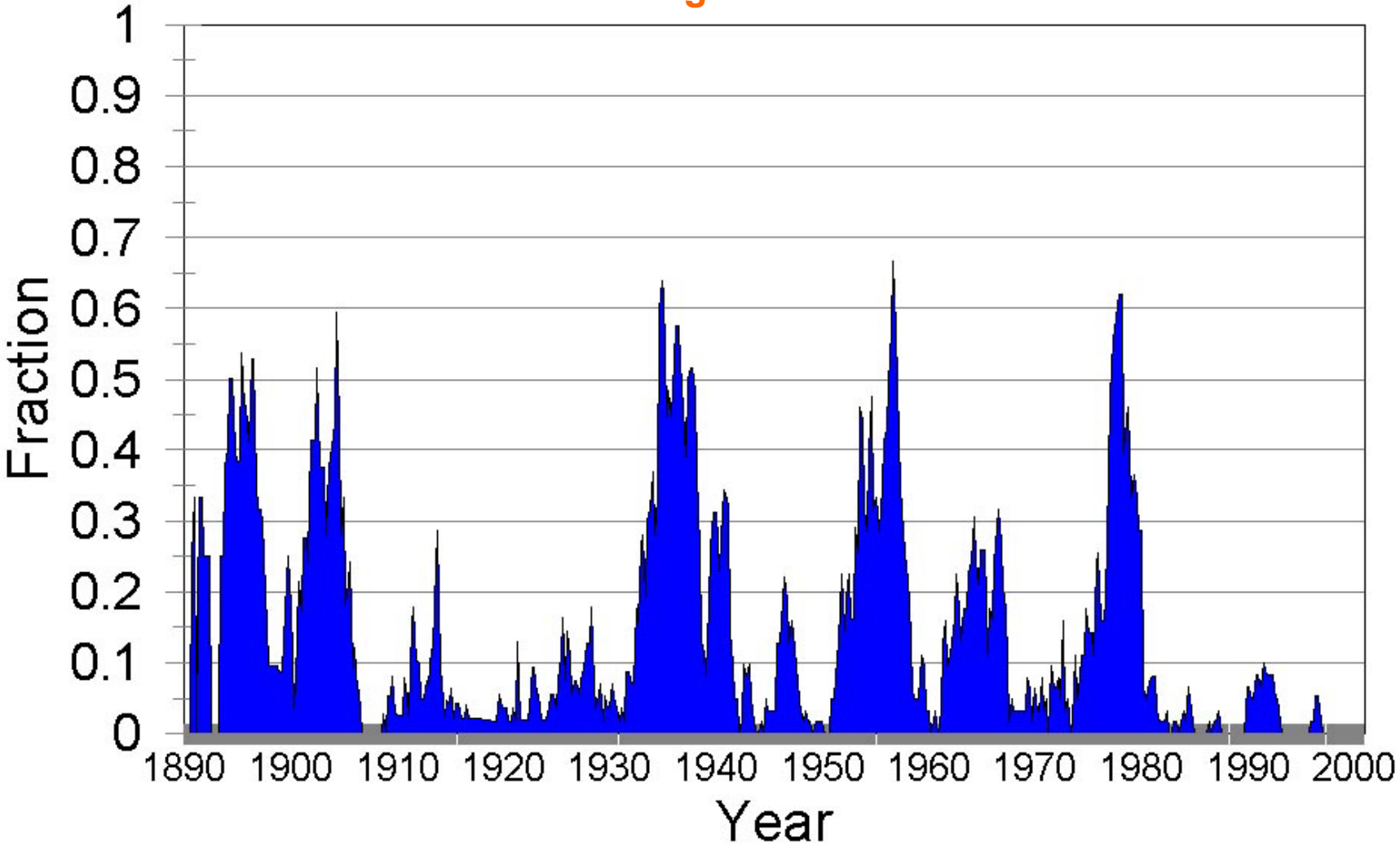
Through 1999



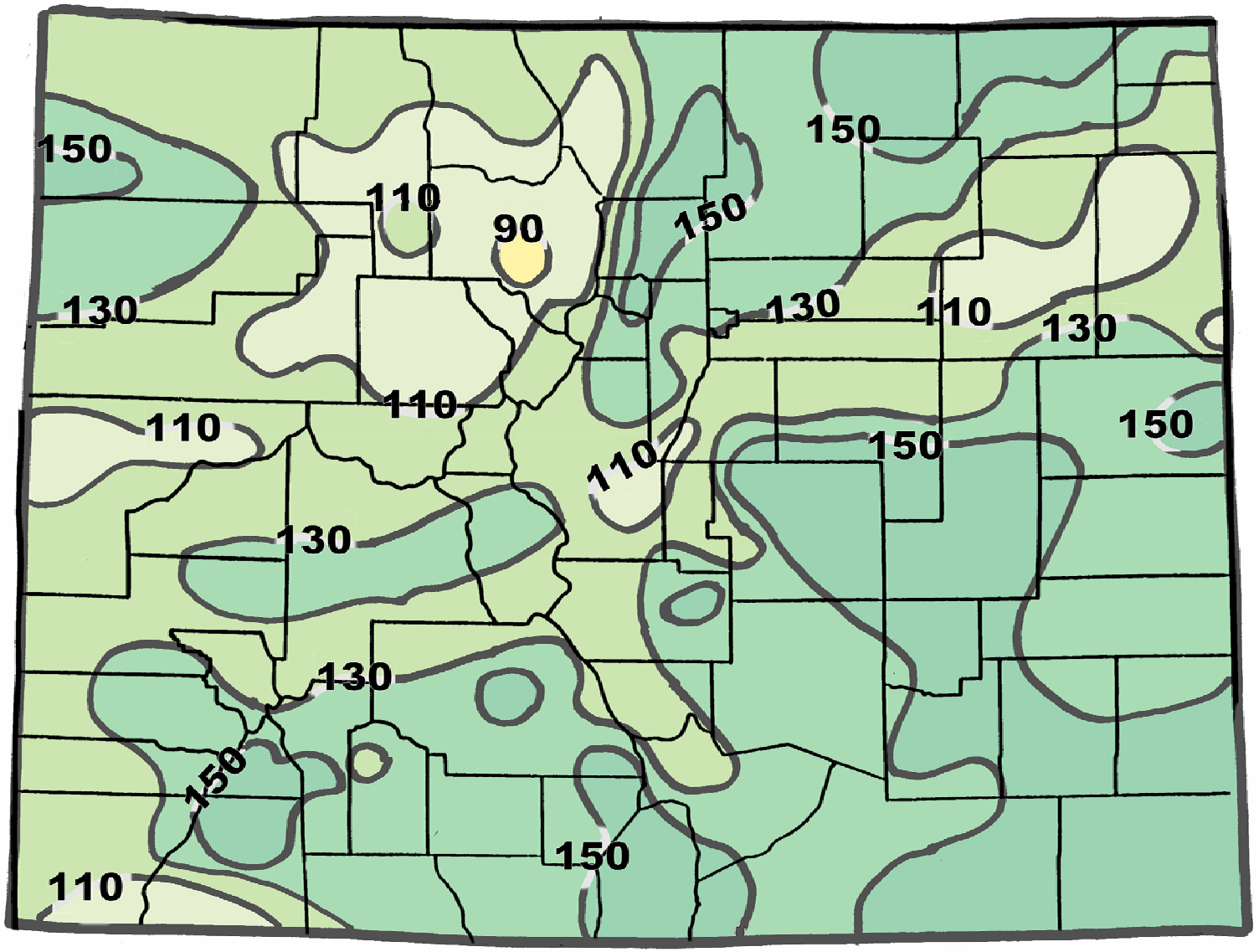
Fraction of Colorado in Drought

Based on 48-month SPI

Through 1999



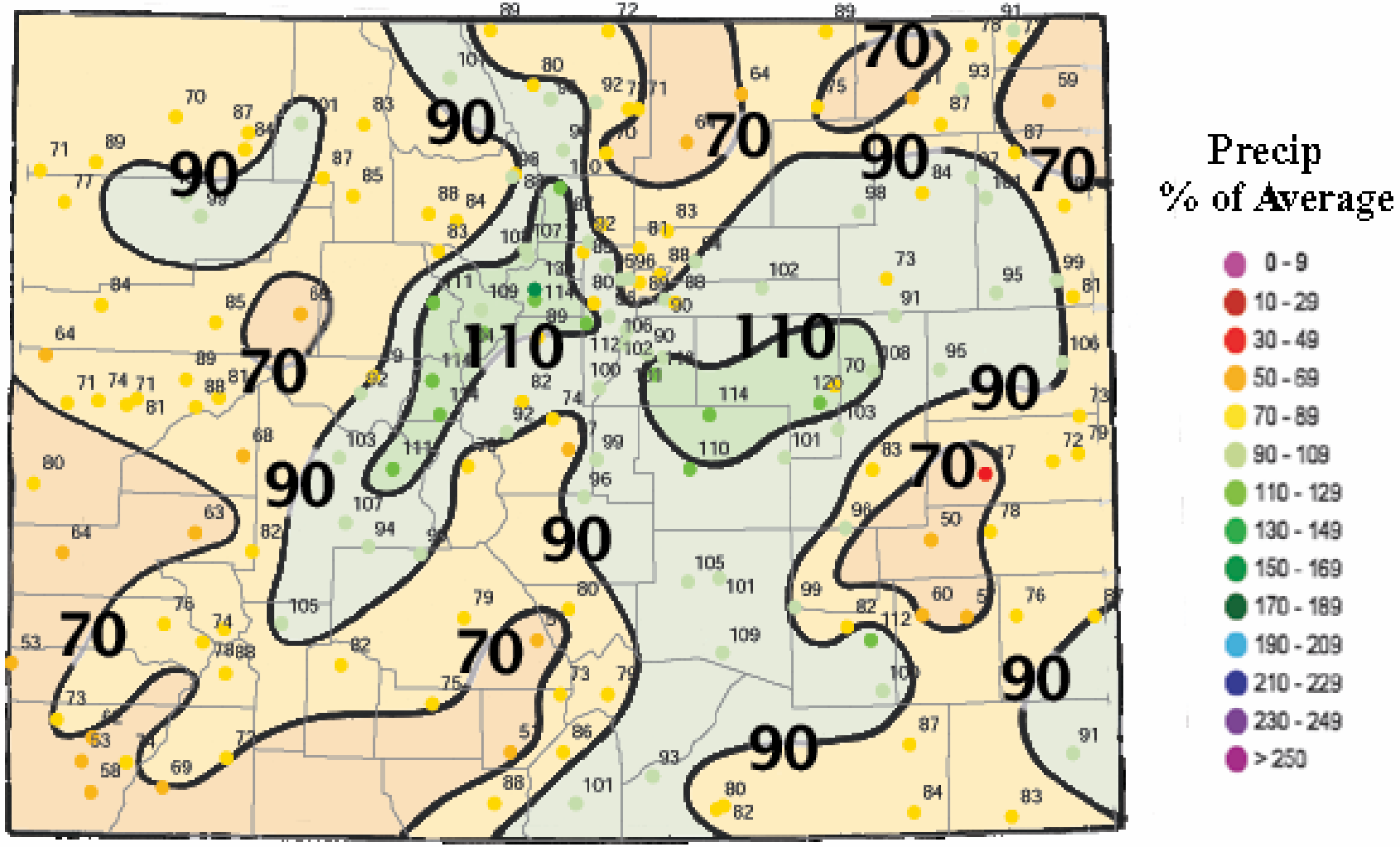
Water Year 1999
(October 1998 - September 1999)
Precipitation as a percent of average



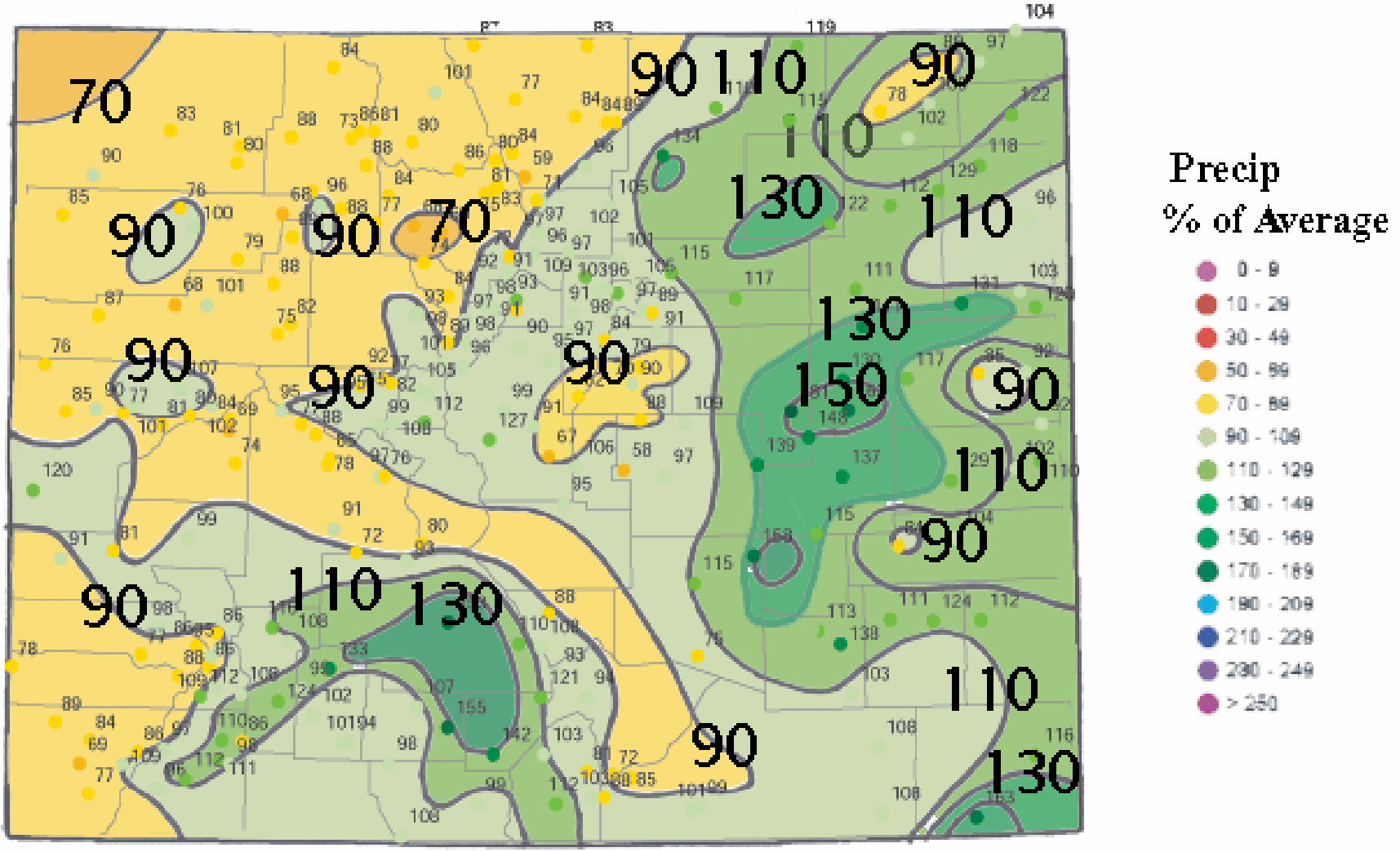
Precip
% of Average

- 0 - 9
- 10 - 29
- 30 - 49
- 50 - 69
- 70 - 89
- 90 - 109
- 110 - 129
- 130 - 149
- 150 - 169
- 170 - 189
- 190 - 209
- 210 - 229
- 230 - 249
- > 250

Water Year 2000
(Oct. 1999 - Sept. 2000)
Precipitation Percent of Average for 1961-1990 Averages



Water Year 2001
(Oct. 2000 - Sept. 2001)
Precipitation Percent of Average for 1961-1990 Averages



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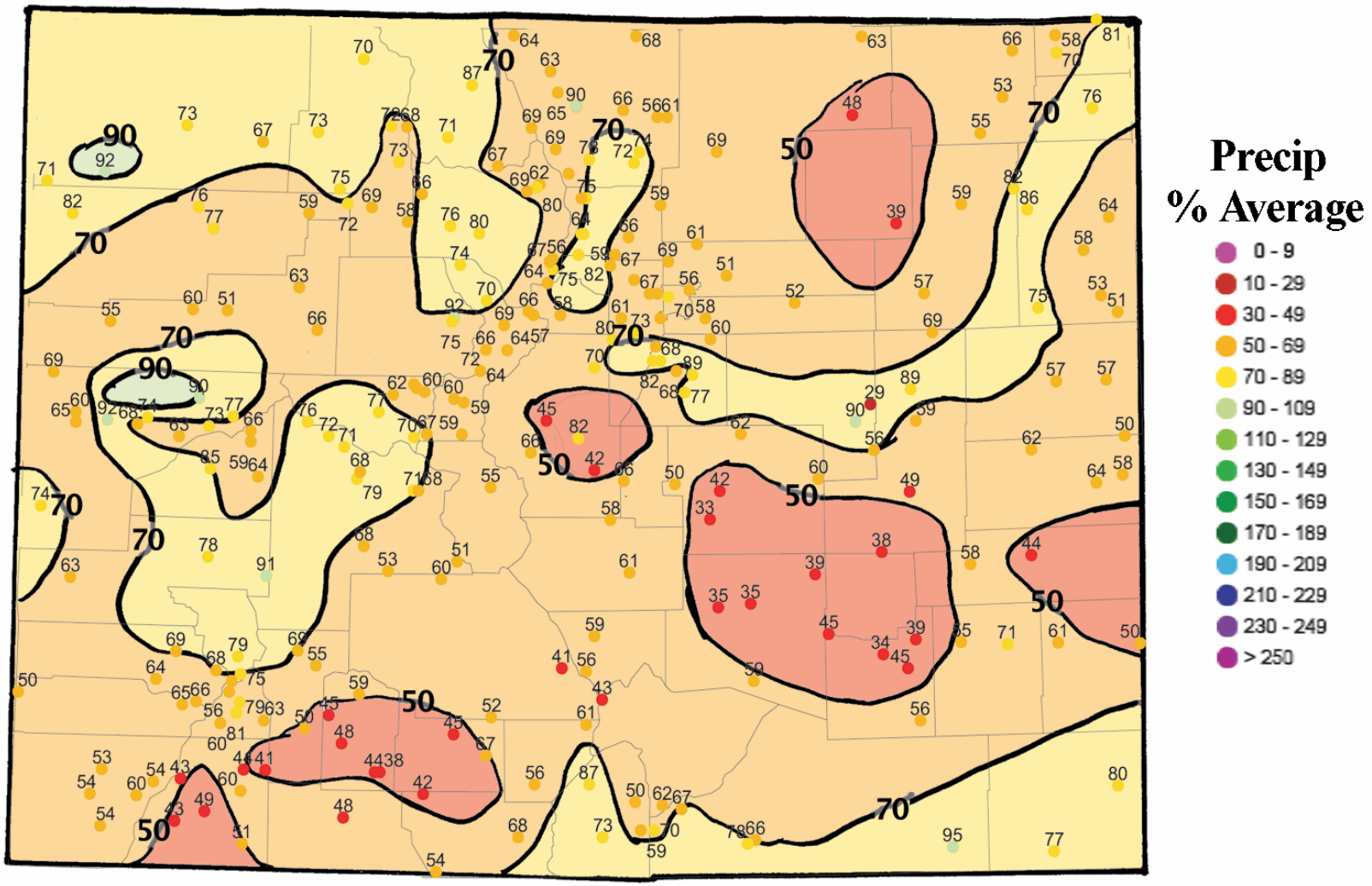
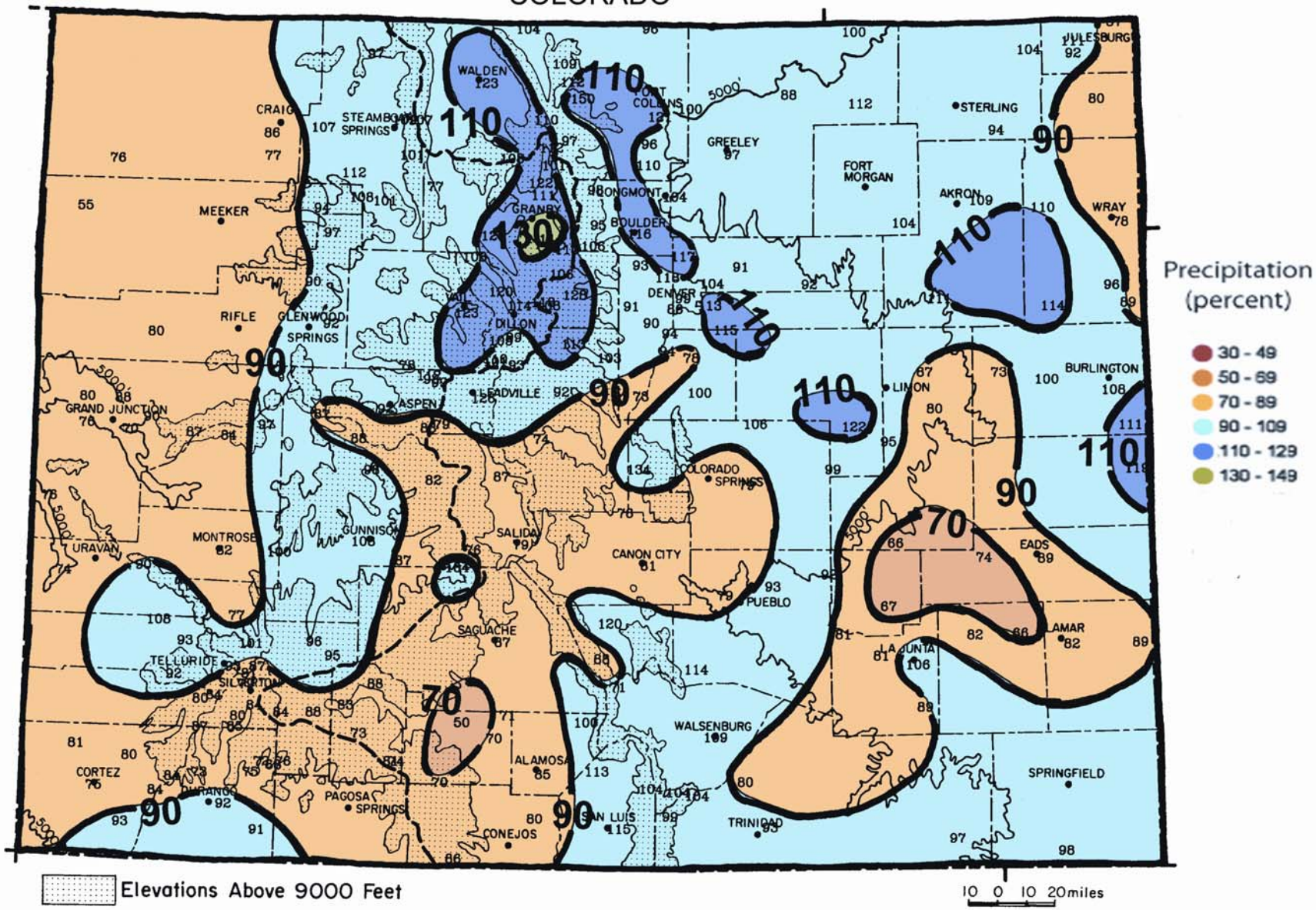
- 110 - 129
- 130 - 149
- 150 - 169
- 170 - 189
- 190 - 209
- 210 - 229
- 230 - 249
- > 250

Water Year 2002
(Oct. 2001 - Sept. 2002)
Precipitation Percent of Average for 1961-1990 Averages

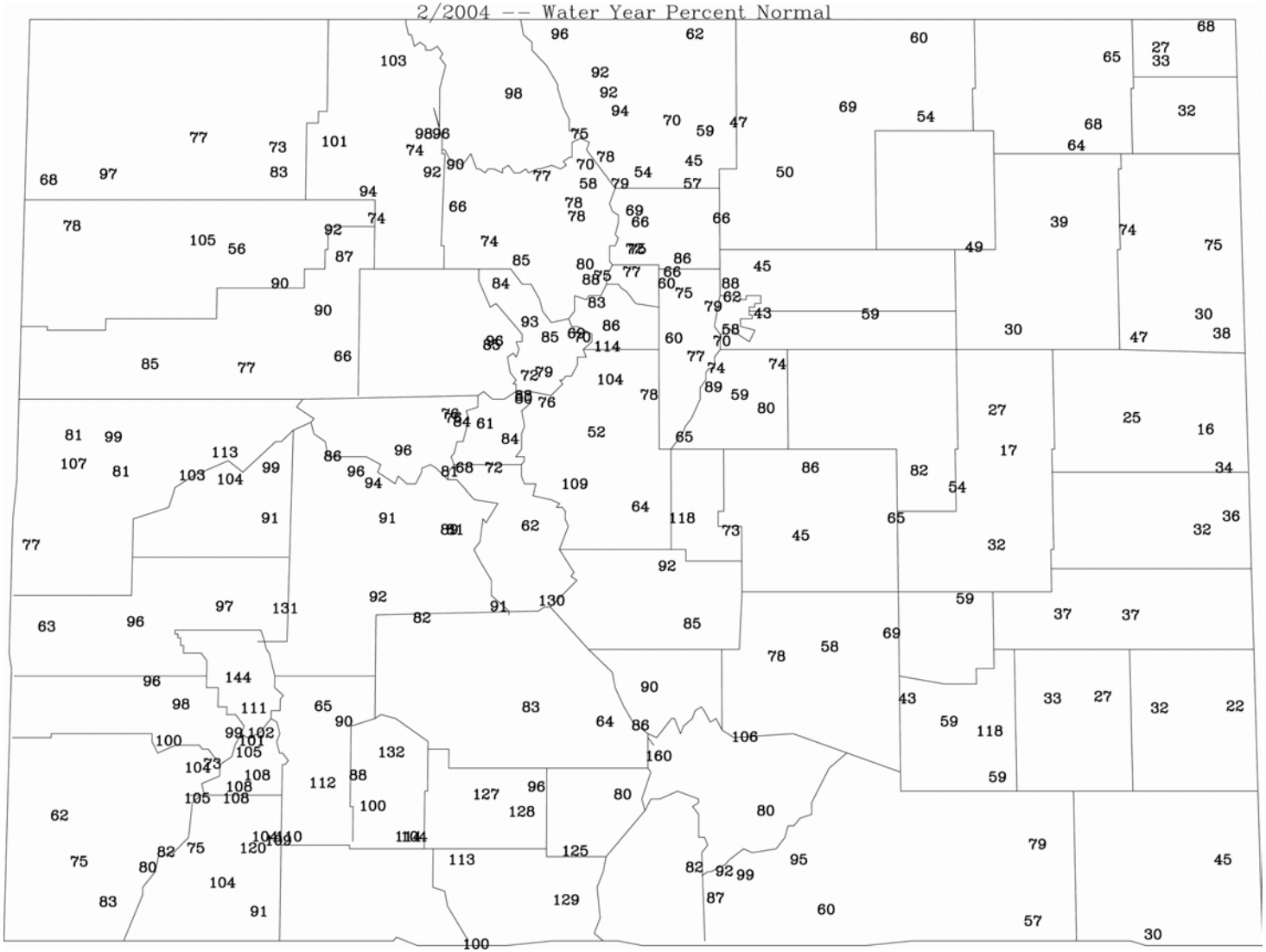


Water Year 2003

October 2002 - September 2003 precipitation
as a percent of the 1971-2000 average.



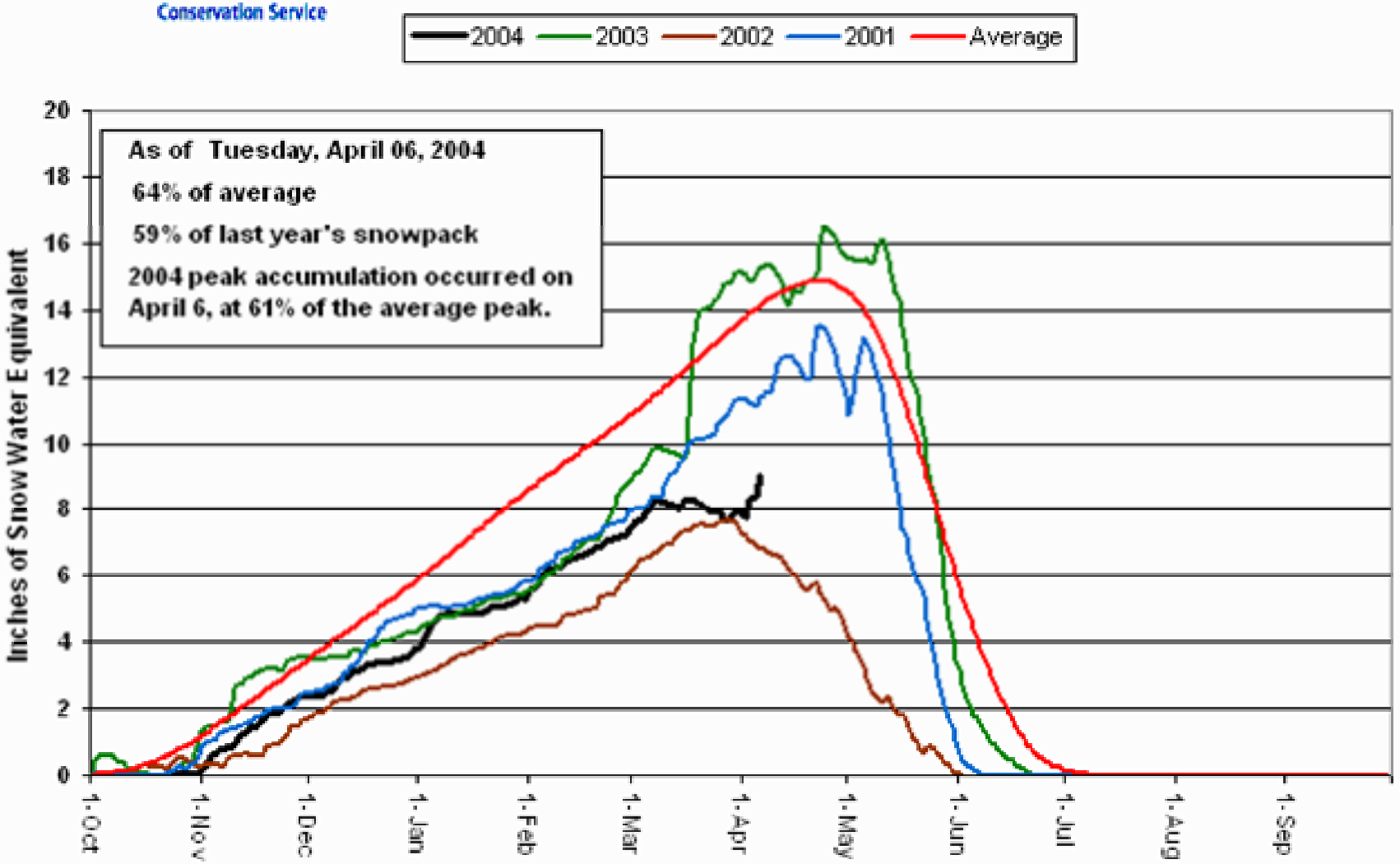
Water Year 2004 (Oct 2003 - Feb 2004)



NRCS
Natural Resources Conservation Service

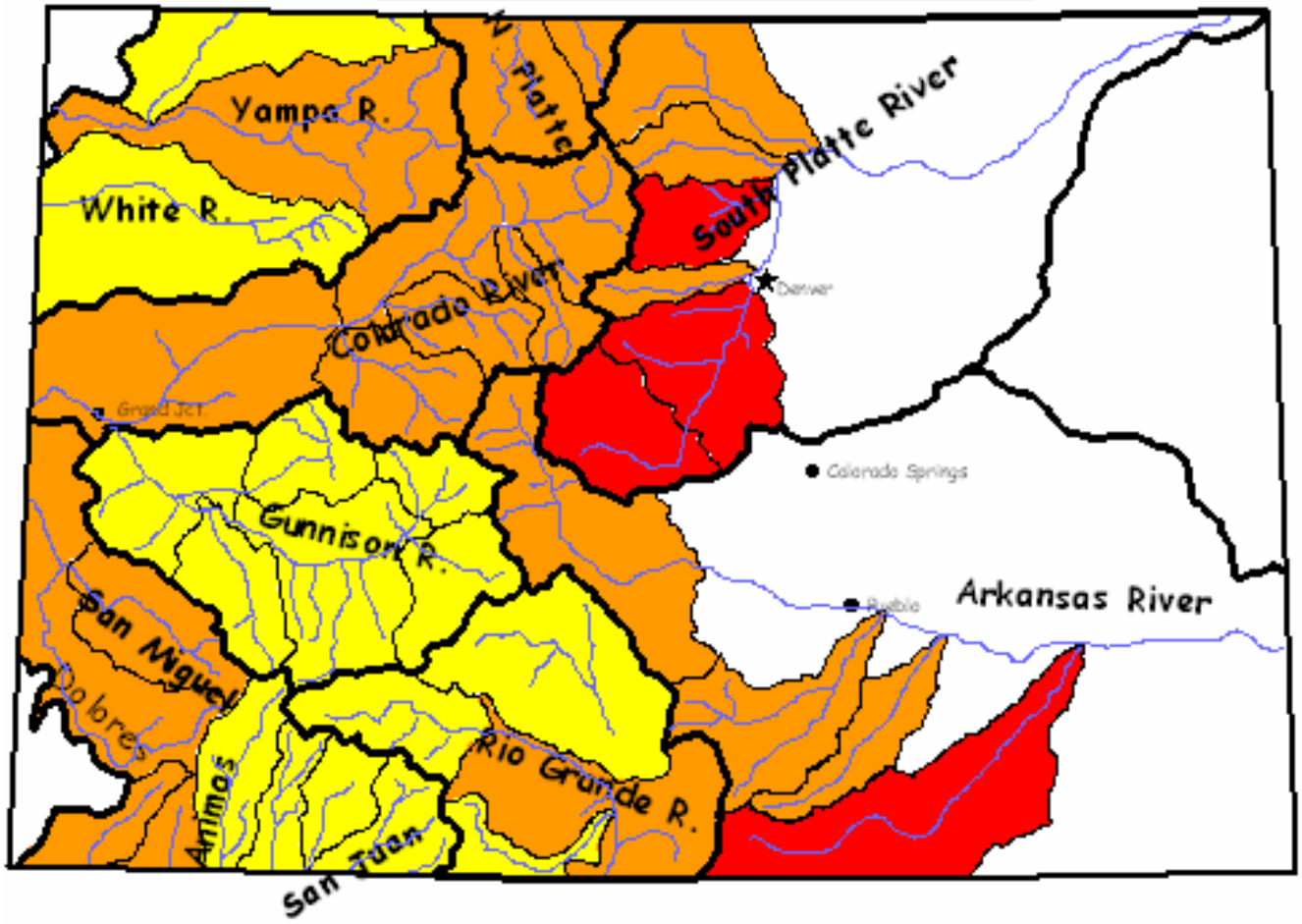
South Platte Basin Snowpack

Based on provisional SNOTEL data.



Snowpack
April 1, 2004

NRCS
Natural Resources Conservation Service

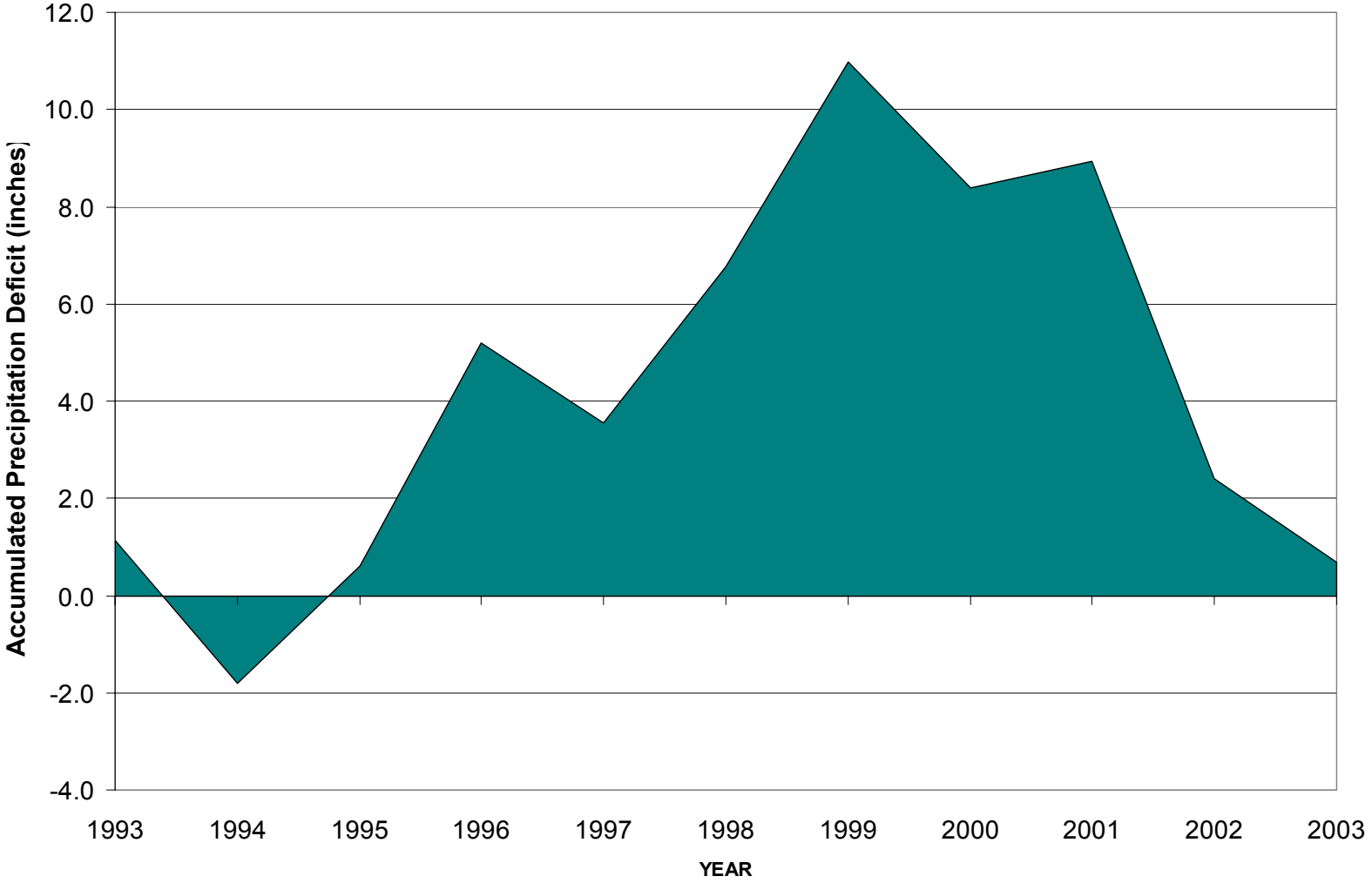


Legend

- > 150% of Average
- 130 - 150% of Average
- 110 - 129% of Average
- 90 - 109% of Average
- 70 - 89% of Average
- 50 - 69% of Average
- < 50% of Average
- Not Surveyed
- Major Basin Boundary
- Watershed Boundary

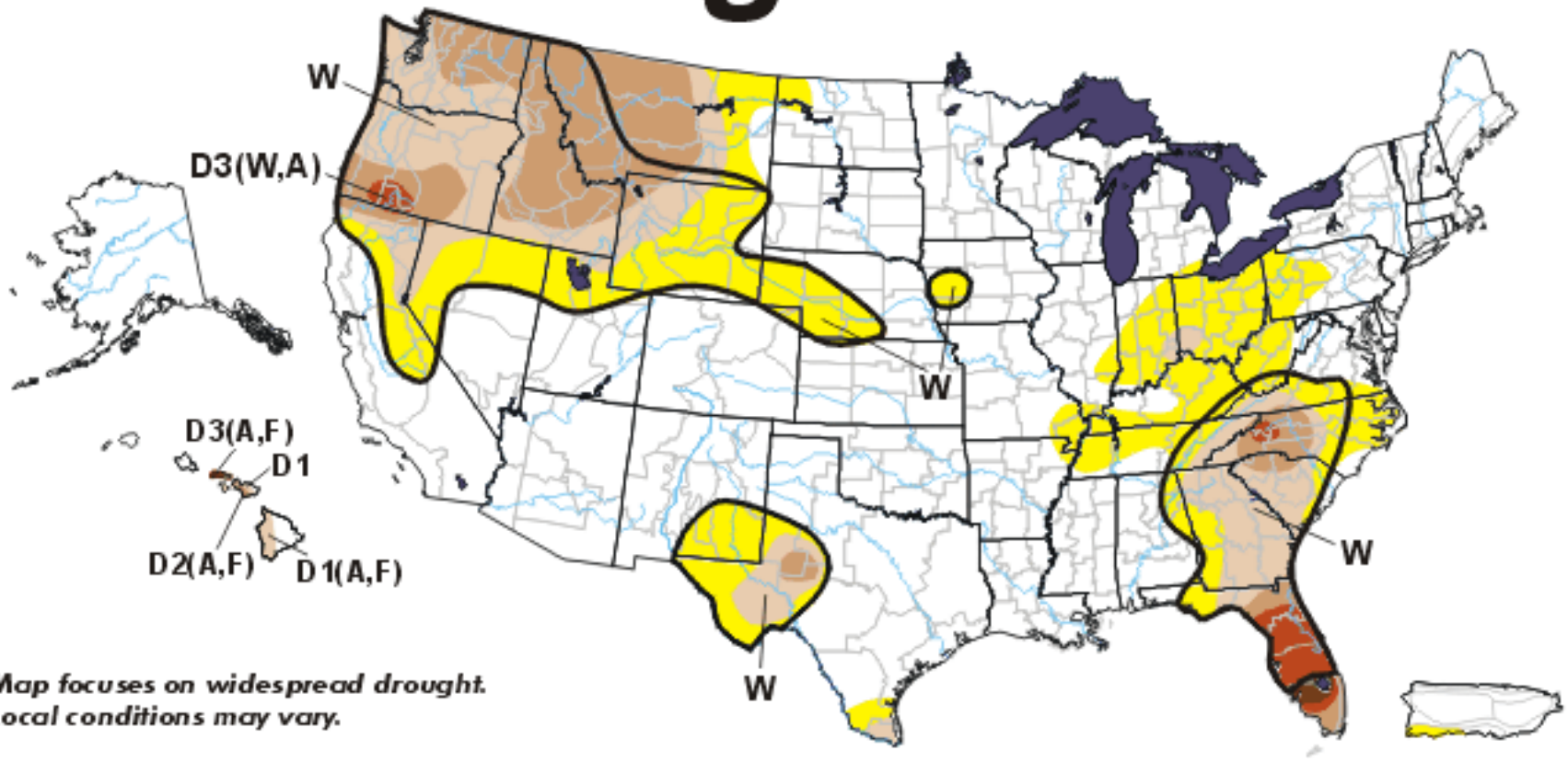
Statewide: 65% of Average
69% of Last Year

Sedgwick 5S Accumulated Precipitation Deficit



April 3, 2001 Valid 8 a.m. EDT

U.S. Drought Monitor



Map focuses on widespread drought.
Local conditions may vary.

- D0 Abnormally Dry
- D1 Drought–Moderate
- D2 Drought–Severe
- D3 Drought–Extreme
- D4 Drought–Exceptional
- Delineates Overlapping Areas

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

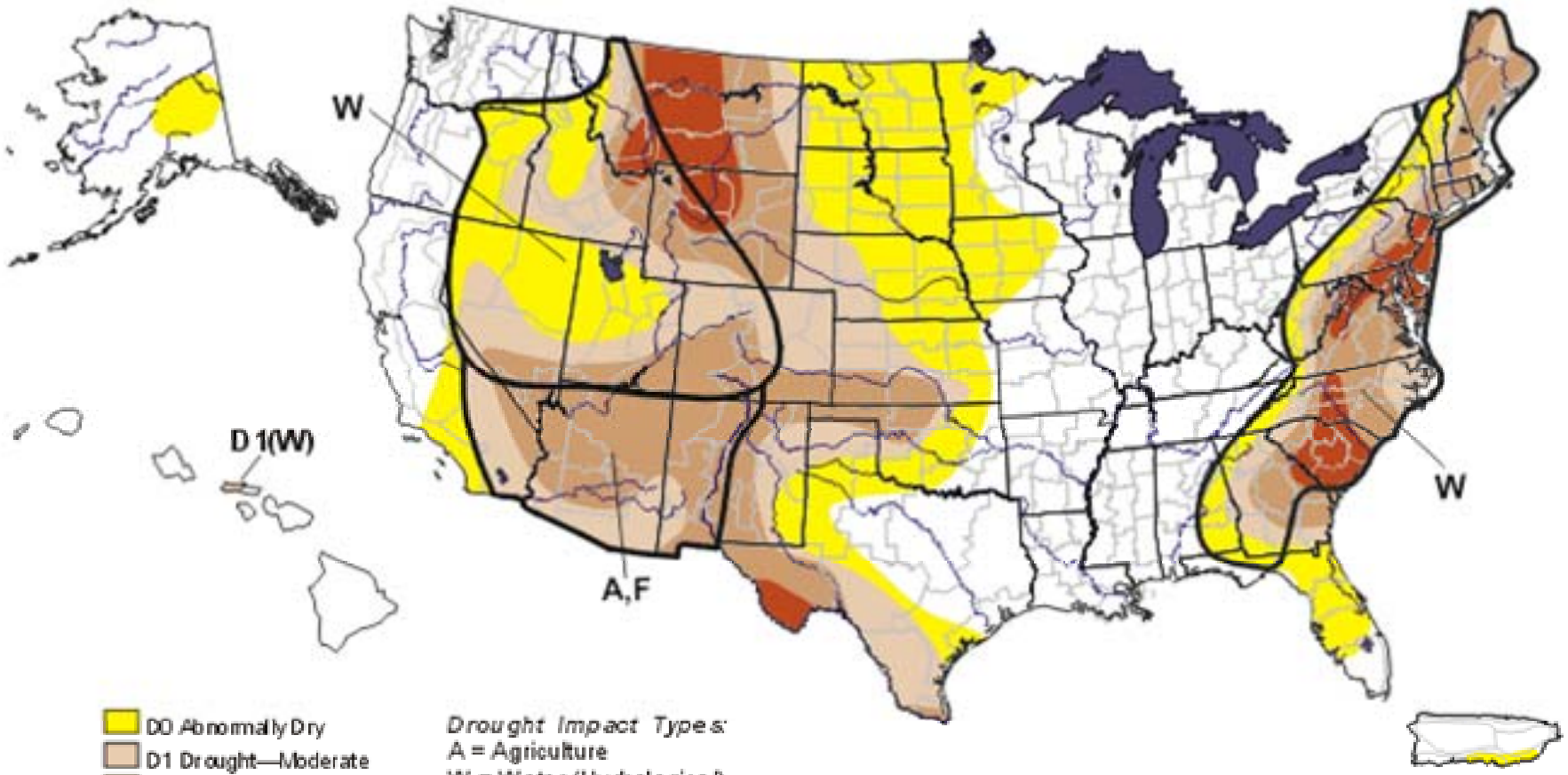
See accompanying text summary for forecast statements
http://enso.unl.edu/monitor/monitor.html

● ***Released Thursday, April 5, 2001*** ●

Author: *David Miskus*

U.S. Drought Monitor

April 2, 2002
Valid 8 a.m. EST



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.

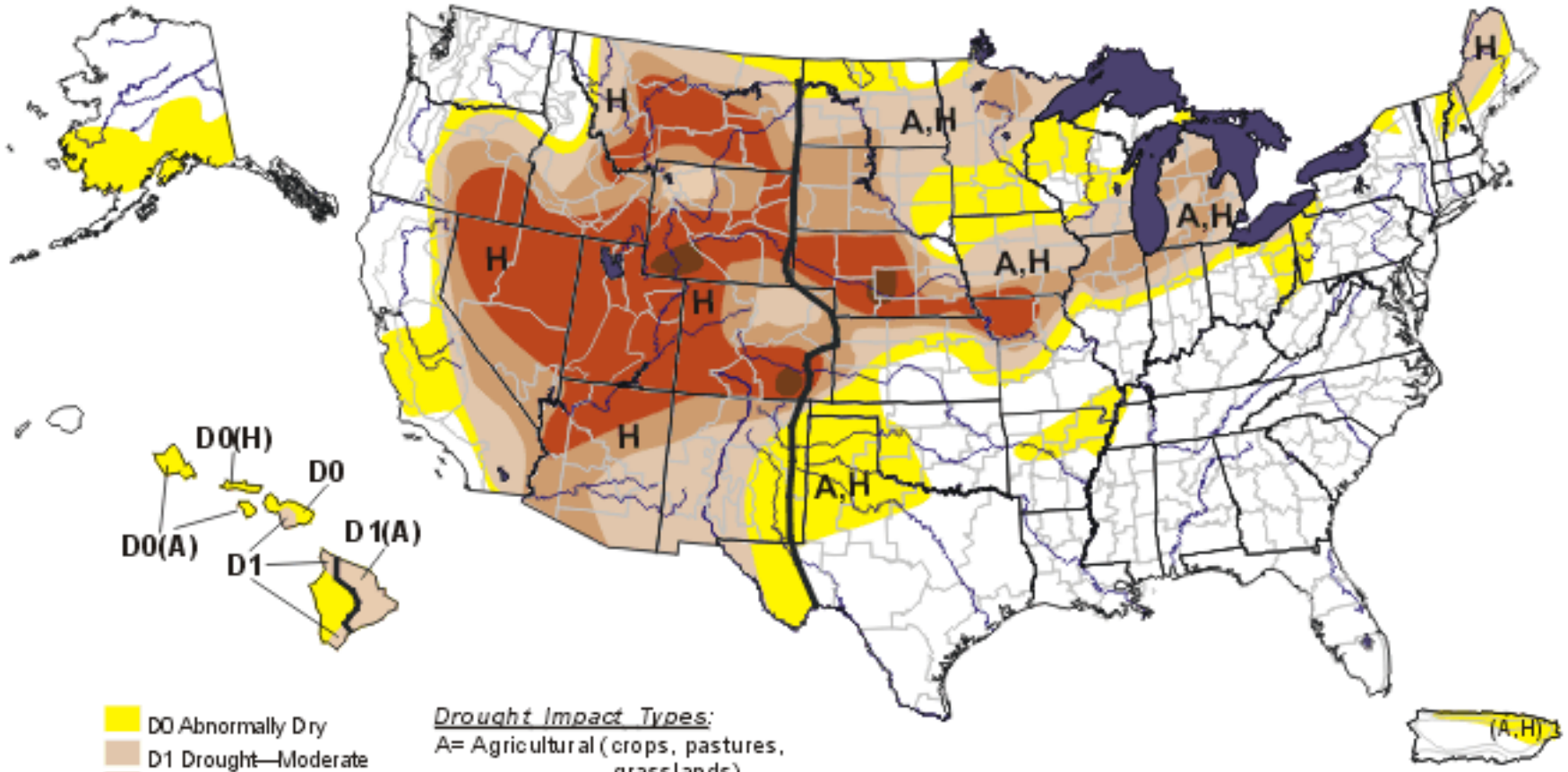
http://drought.unl.edu/monitor/monitor.html

Released Thursday, April 4, 2002

Author: *David Miskus, JAWF/CPC/NOAA*

U.S. Drought Monitor

April 1, 2003
Valid 7 a.m. EST



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)
Delineates dominant impacts
(No type = both impacts)

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

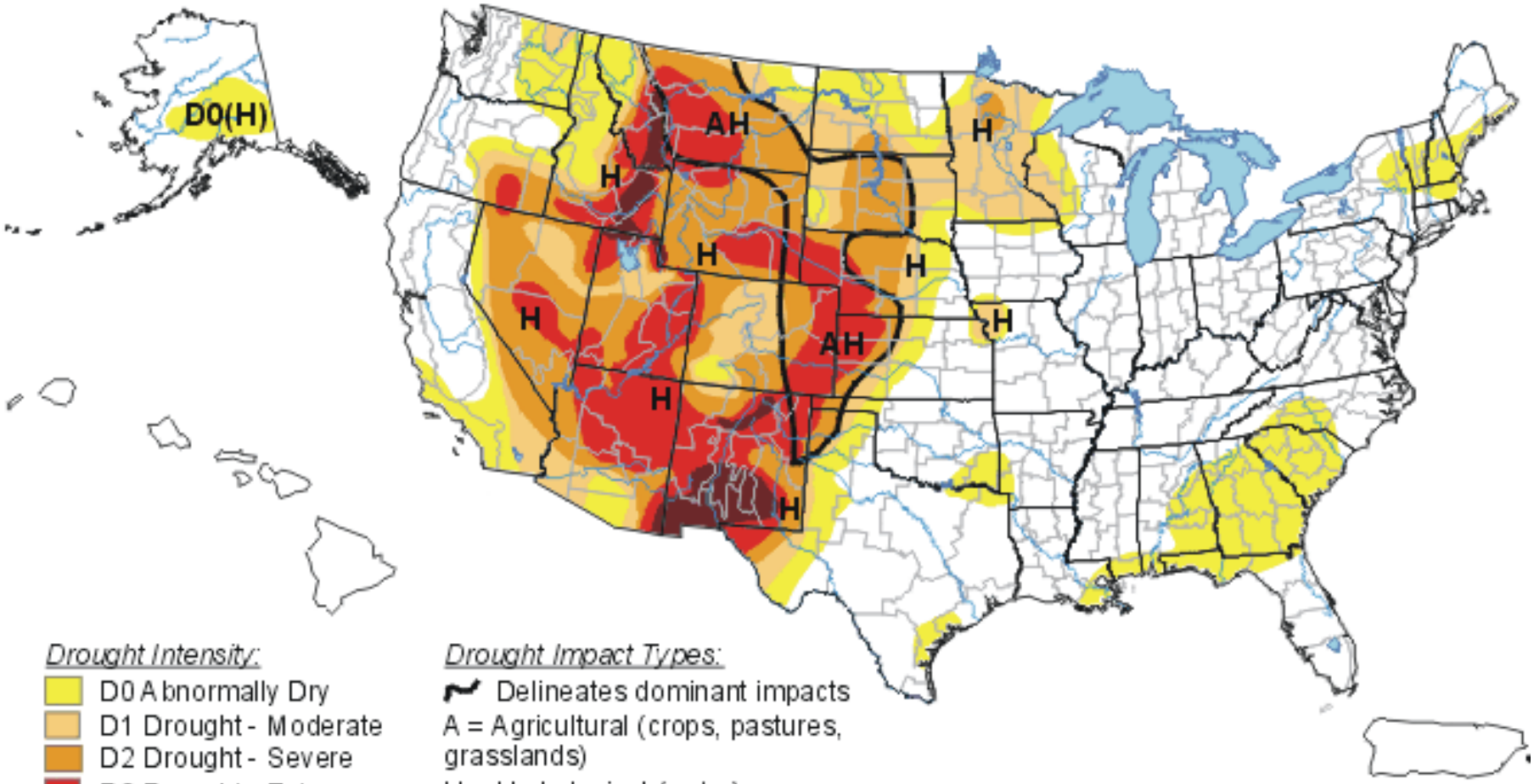
http://drought.unl.edu/dm

Released Thursday, April 3, 2003

Author: *Douglas LeComte, NOAA/NWS/CPC*

U.S. Drought Monitor

March 30, 2004
Valid 7 a.m. EST



Drought 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

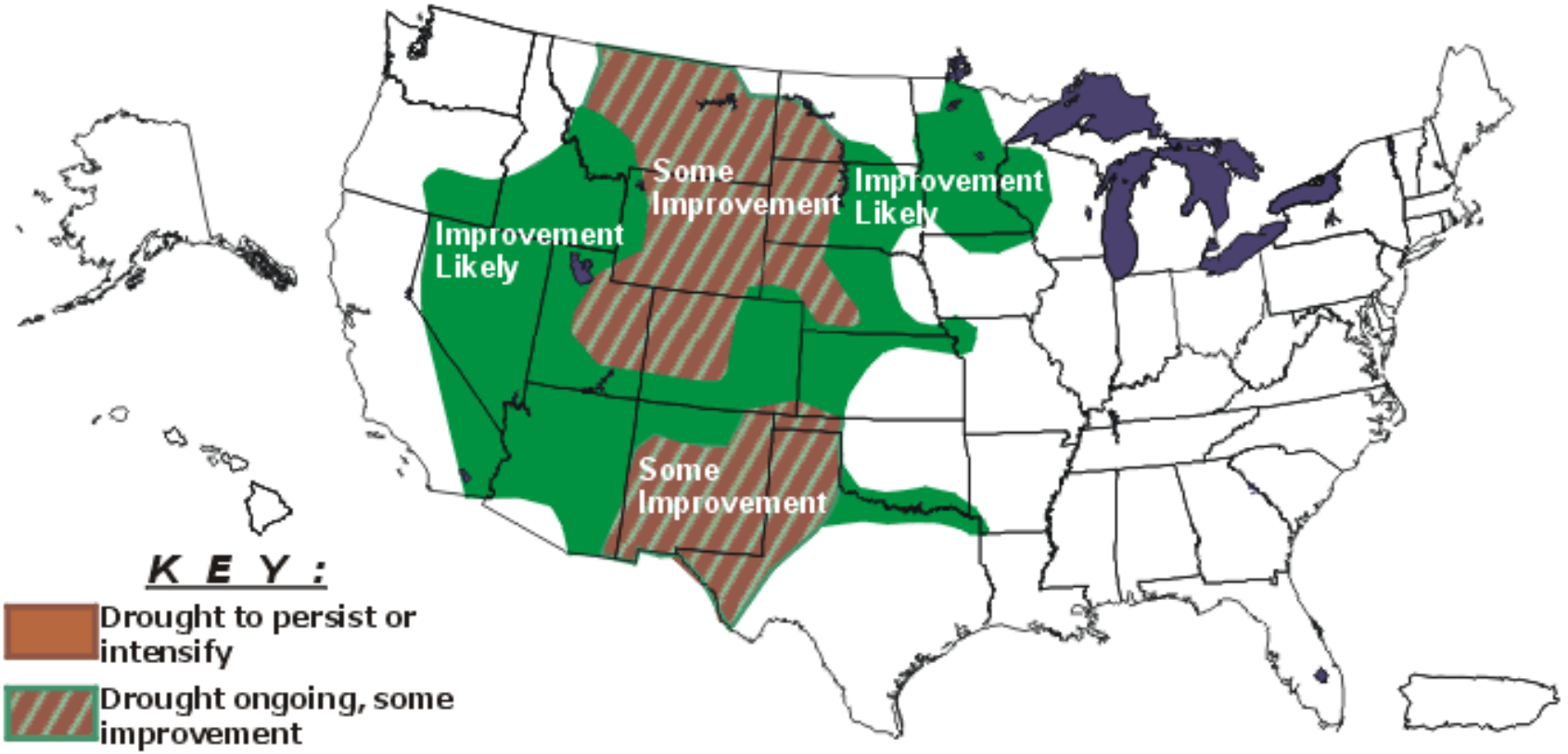
Released Thursday, April 1, 2004

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

U. S. Seasonal Drought Outlook

Through May 2004

Released February 19, 2004



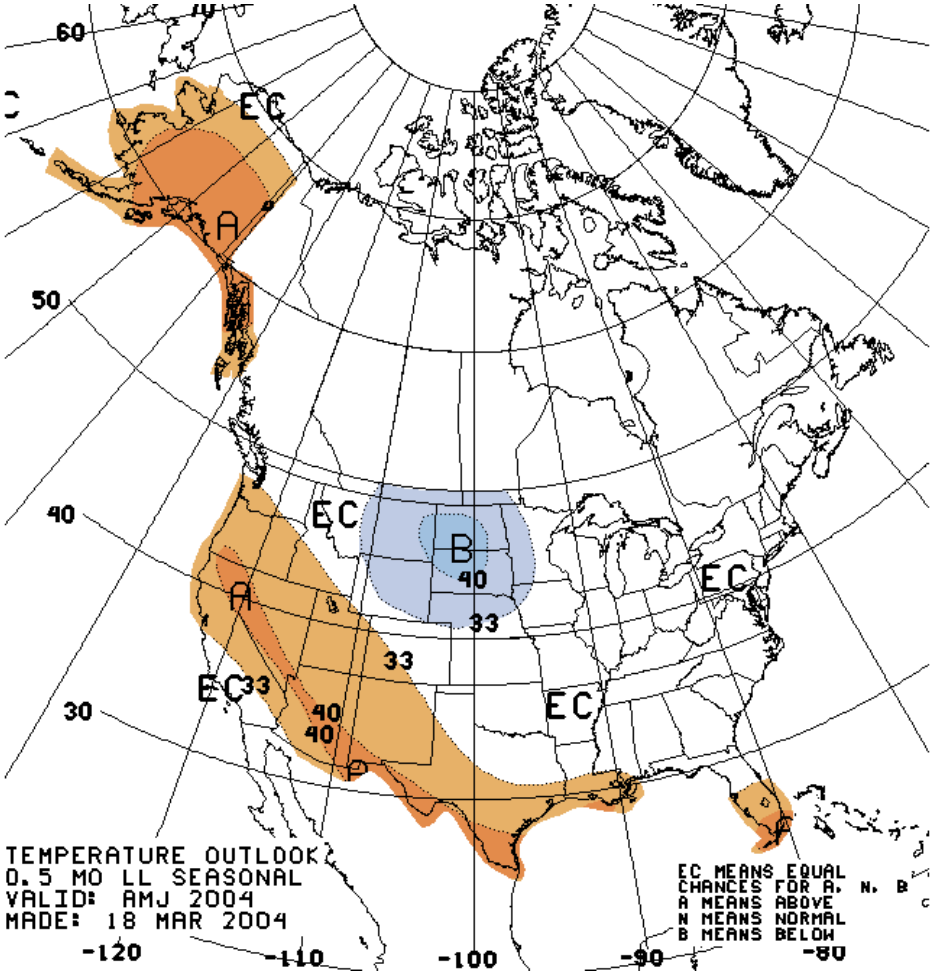
K E Y :

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text.

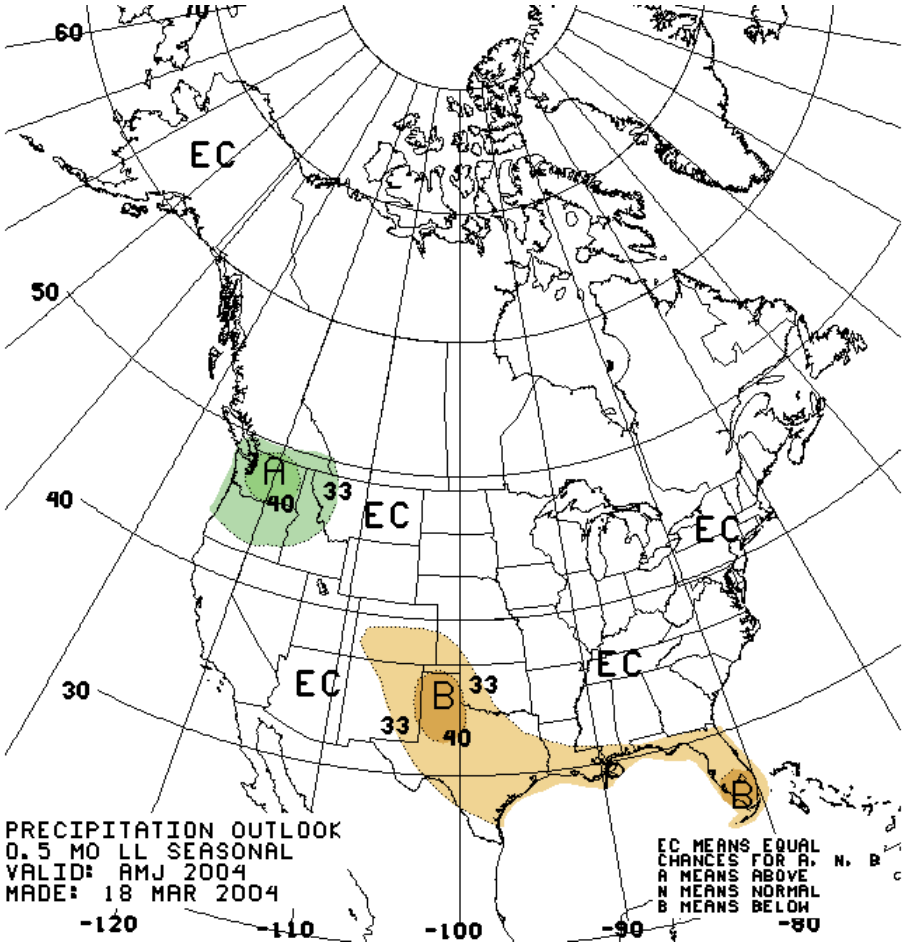
What Comes Next?

Temperature
April - June 2004



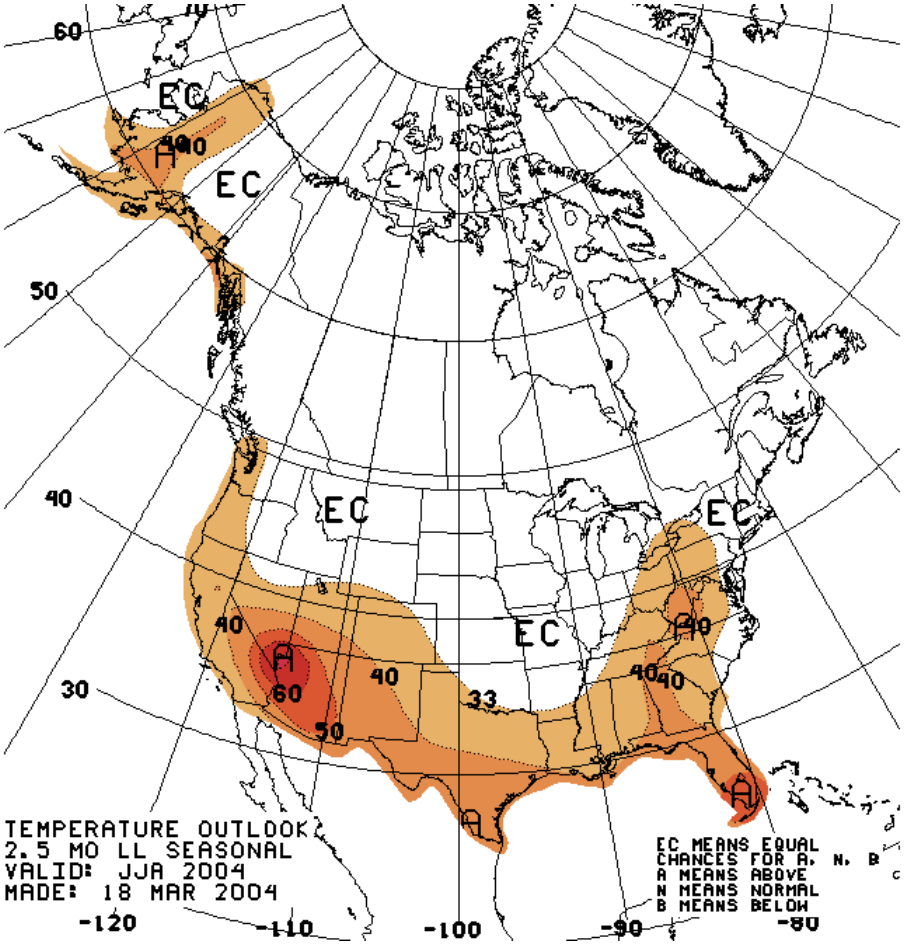
From the Colorado Prediction Center
http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Precipitation
April - June 2004



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

Temperature
June - Aug 2004



From the Colorado Prediction Center
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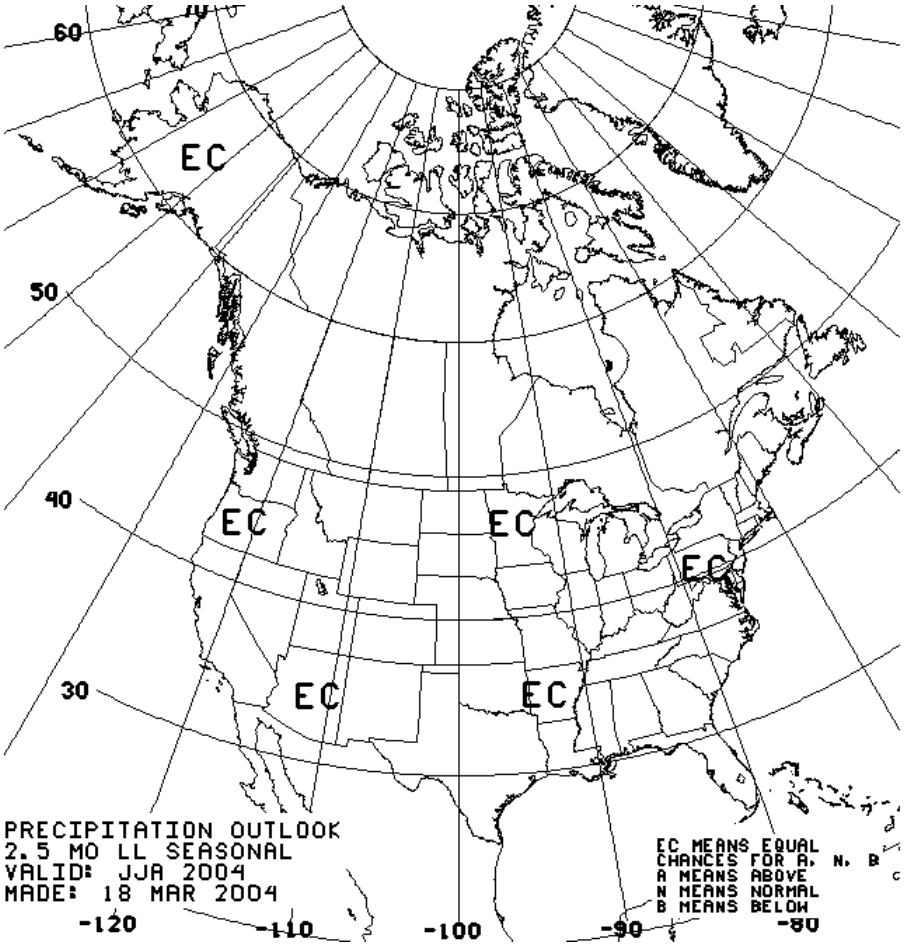
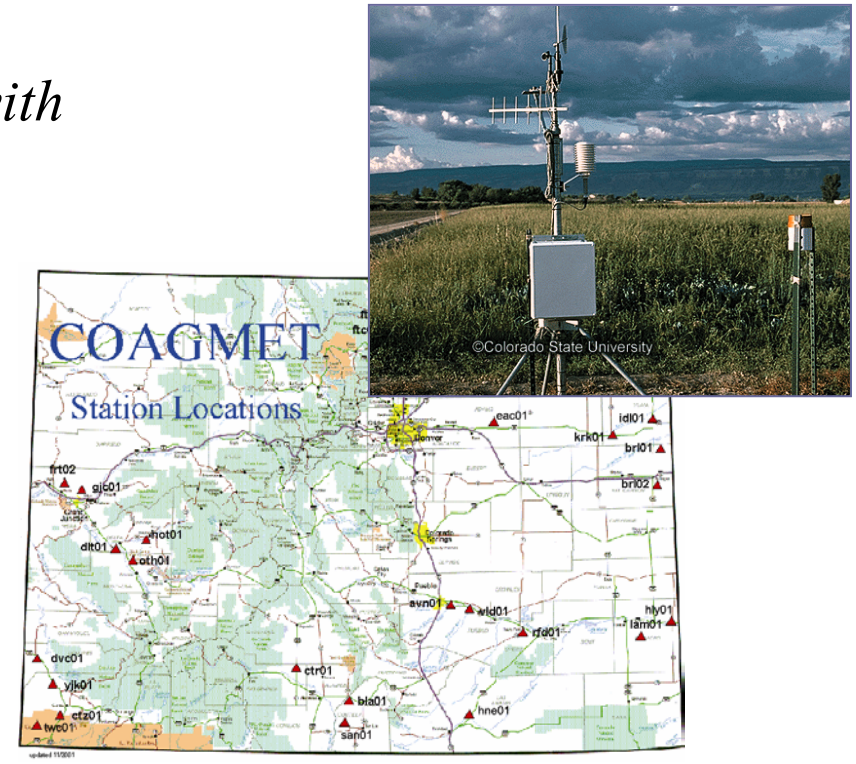
Precipitation
June – Aug 2004



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*

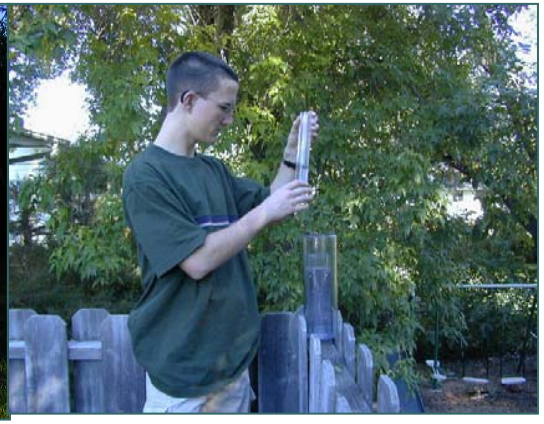


http://www.coagmet.com

CoCo RaHS

Community Collaborative
Rain and Hail Study

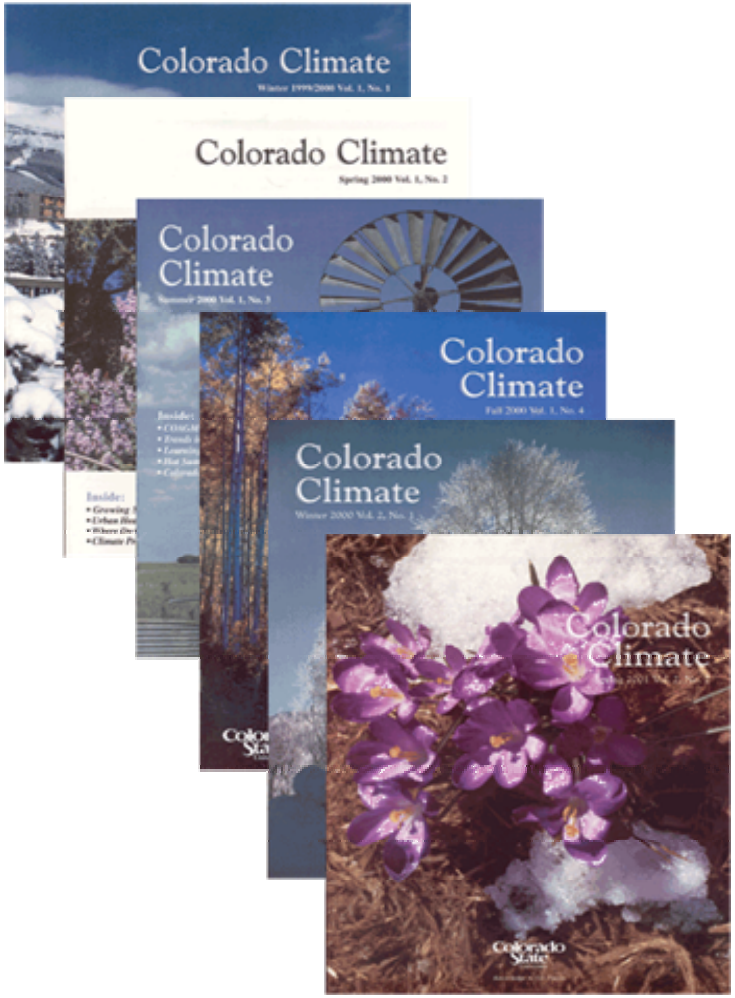
YOU CAN HELP!



http://www.cocorahs.org

Colorado Climate Magazine

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



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"