

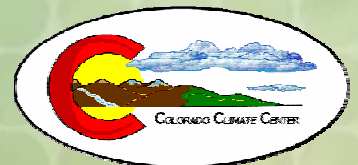
# Climate Update and Highlights of the 2006 Water Year

**Nolan Doesken, State Climatologist  
Atmospheric Science Department  
Colorado State University**

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

Presented to Water Availability Task Force, DOW, Denver,  
CO, November 20, 2006

Prepared by Odie Bliss and Wendy Ryan



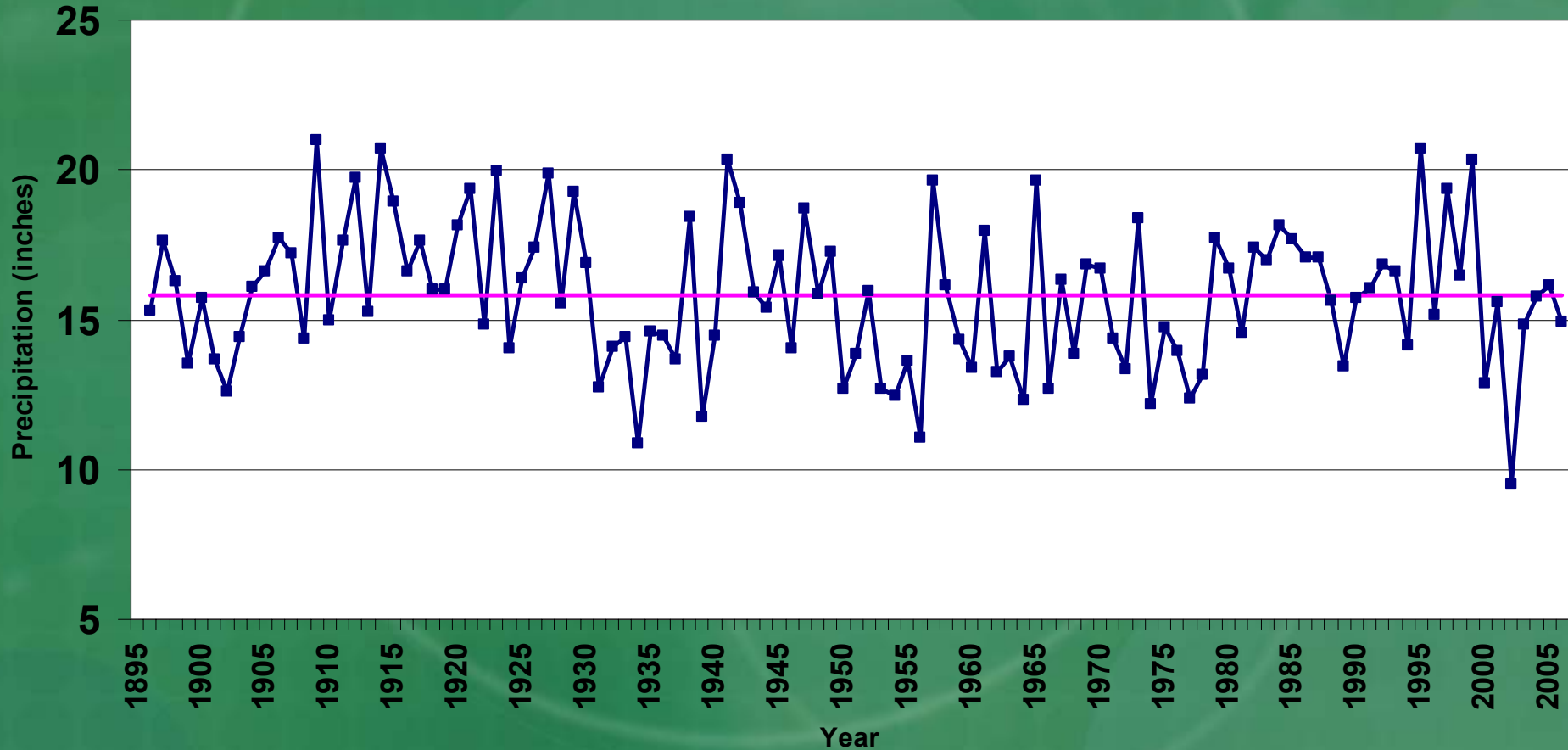
# A quick review of the 2006 Water Year



Photo by Lynn Kral, Loveland, January 2006

# Colorado Precipitation in Historic Perspective

Colorado Statewide Water Year (Oct-Sep) Precipitation  
from 1896 - 2006

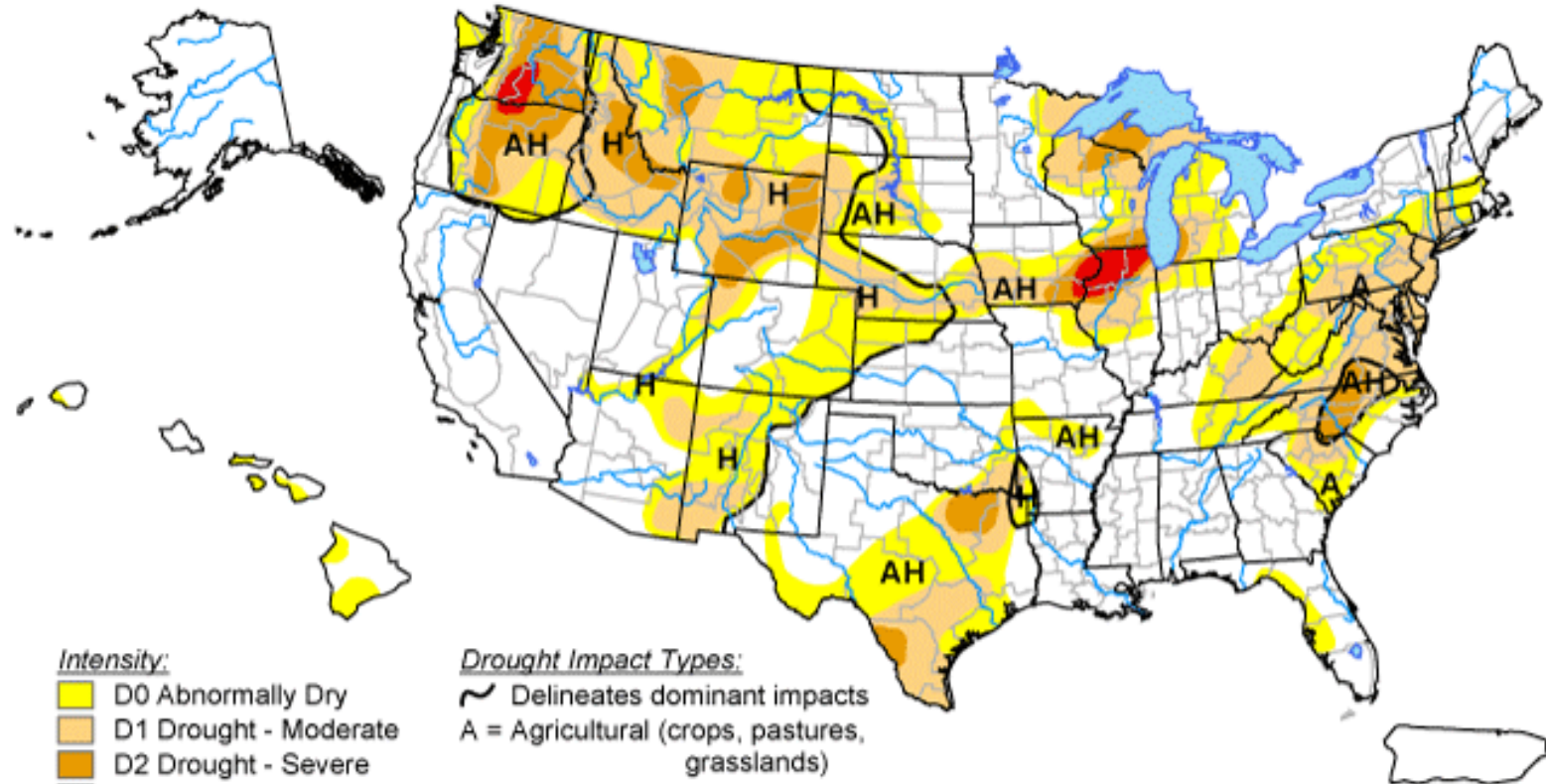









# October 2005 Drought Monitor Map

## U.S. Drought Monitor


October 4, 2005  
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.



Released Thursday, October 6, 2005

Author: RichTinker, CPC/NCEP/NWS/NOAA

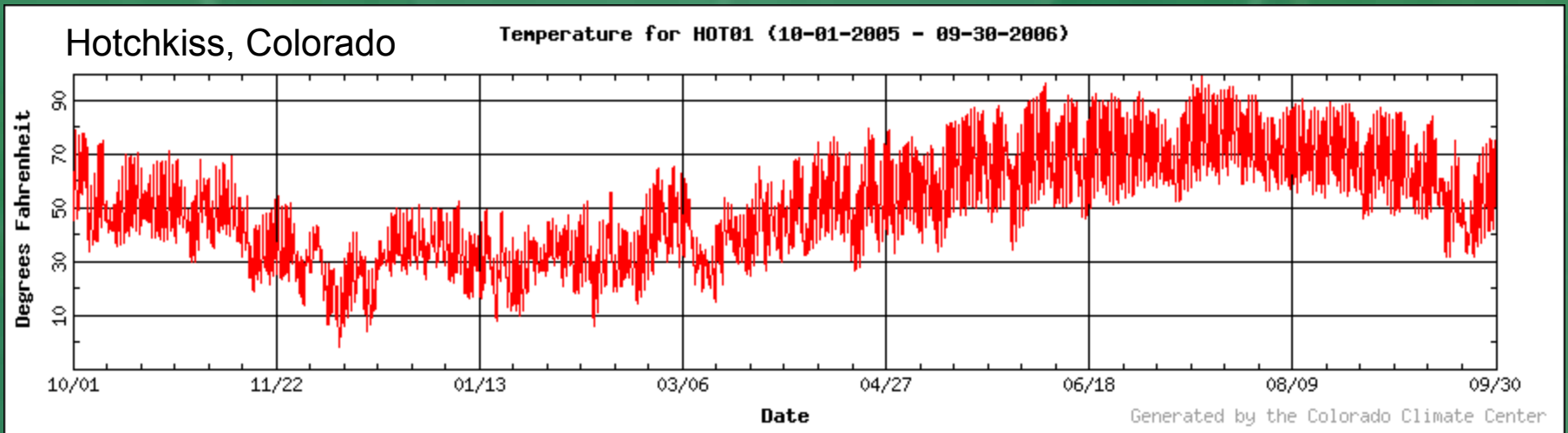
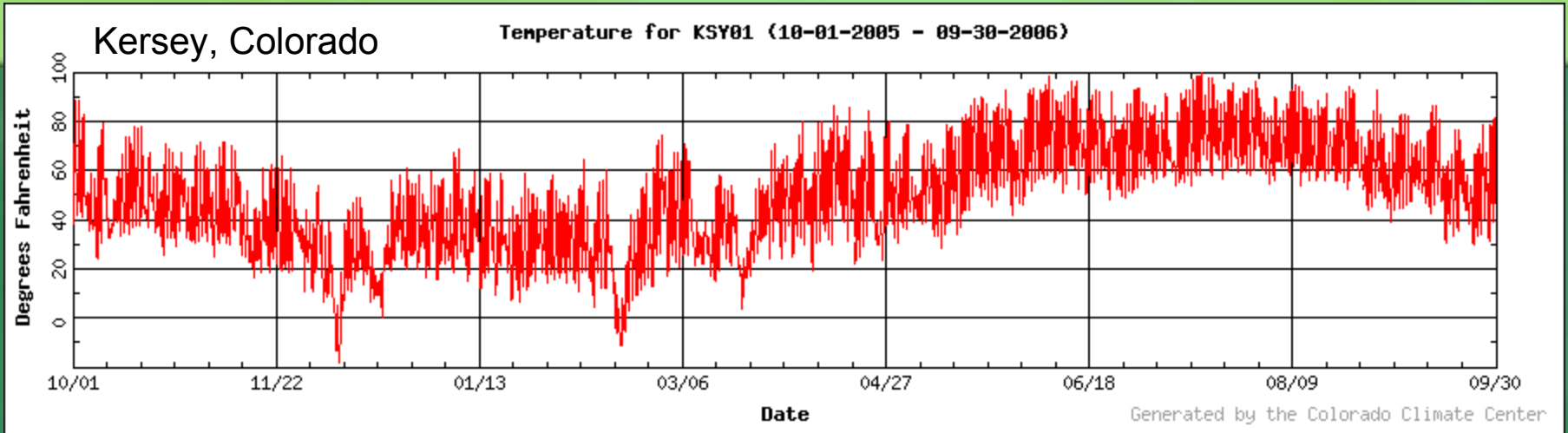
<http://drought.unl.edu/dm>

# What happened this past year?

## WY2006 Highlights

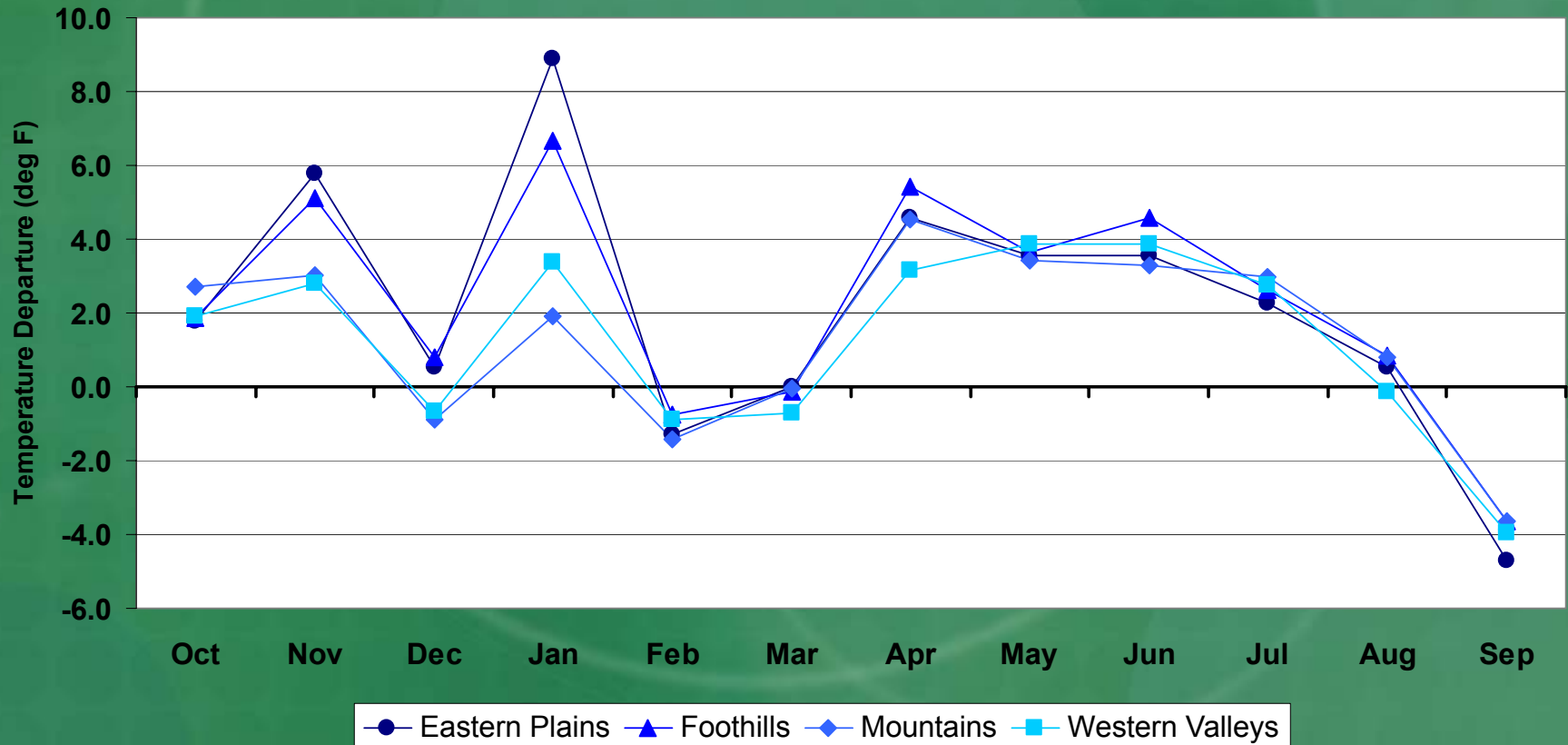
- Soaking October storm – especially over Eastern Colorado
- Windy, dry winter over Foothills and Eastern Plains
- Frequent midwinter snows Northern Mountains
- Very warm and dry spring (tough on Agriculture)
- Early July soaking
- Wet summer over much of southern Colorado
- A chilly ending to another warm year

# CoAgMet Temperatures

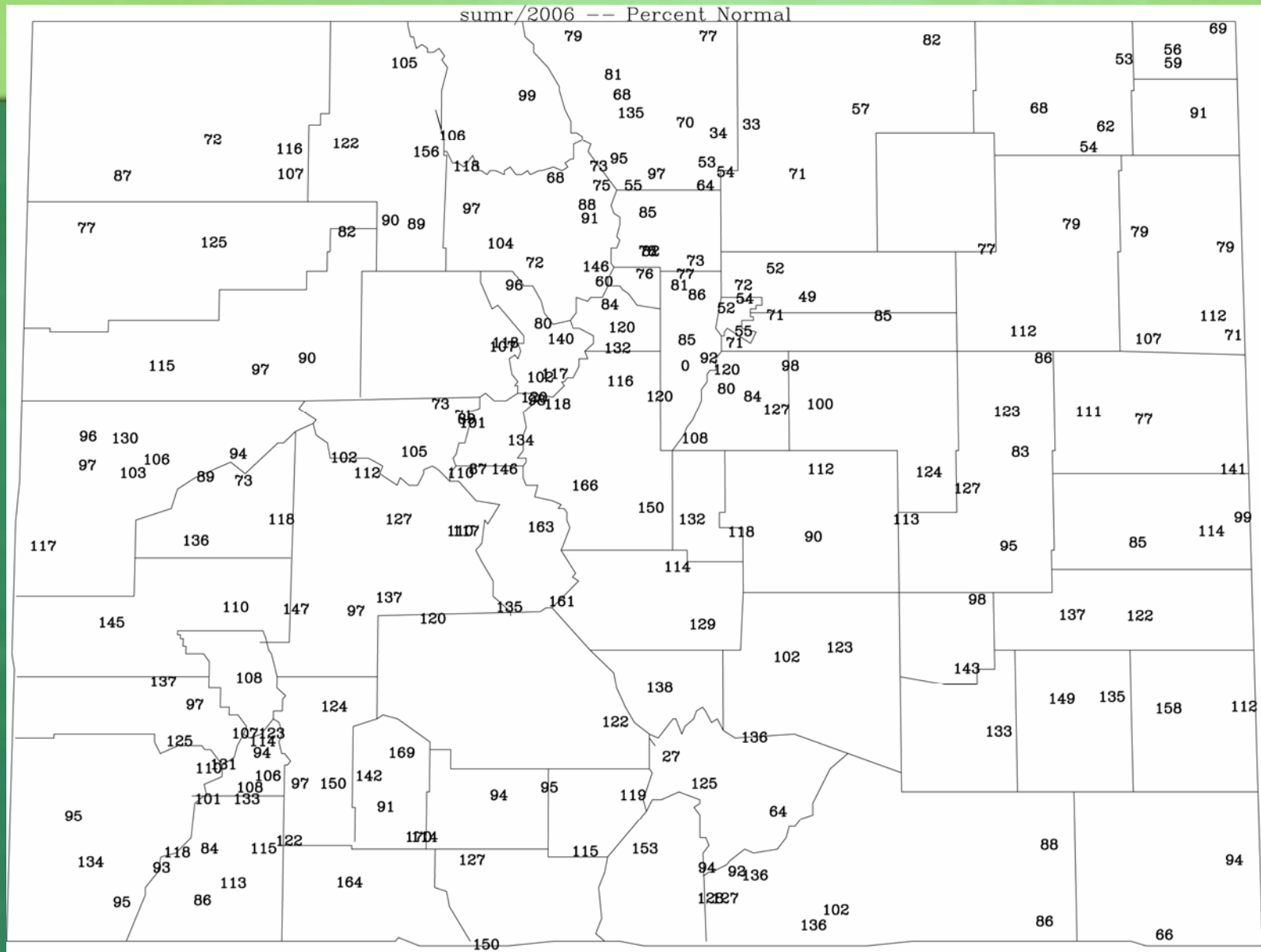


# Water Year 2006 Temperature Departures

Temperature Departures for Water Year 2006



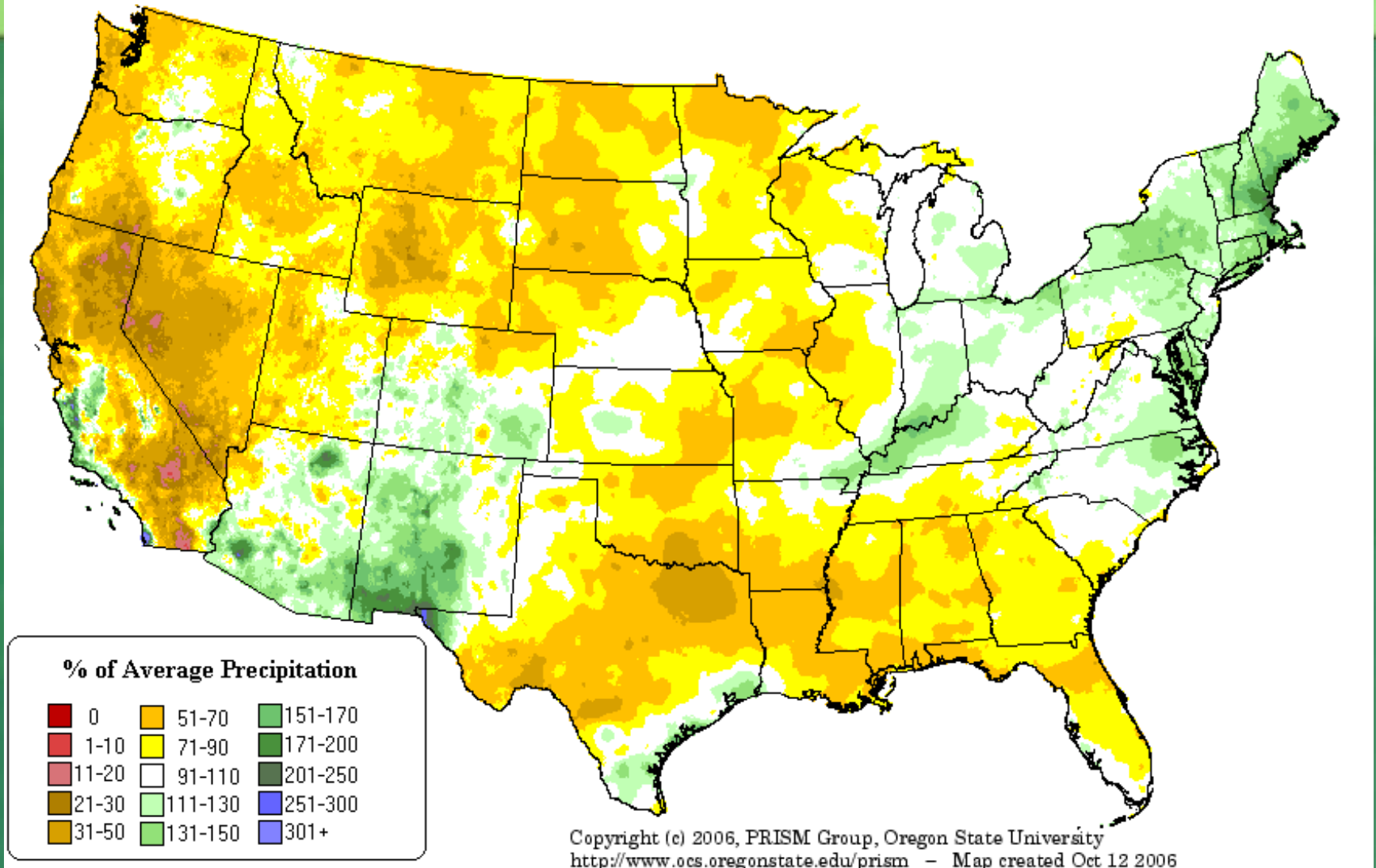
# Summer 2006 (May–Sep) precipitation as a percent of the 1971-2000 average



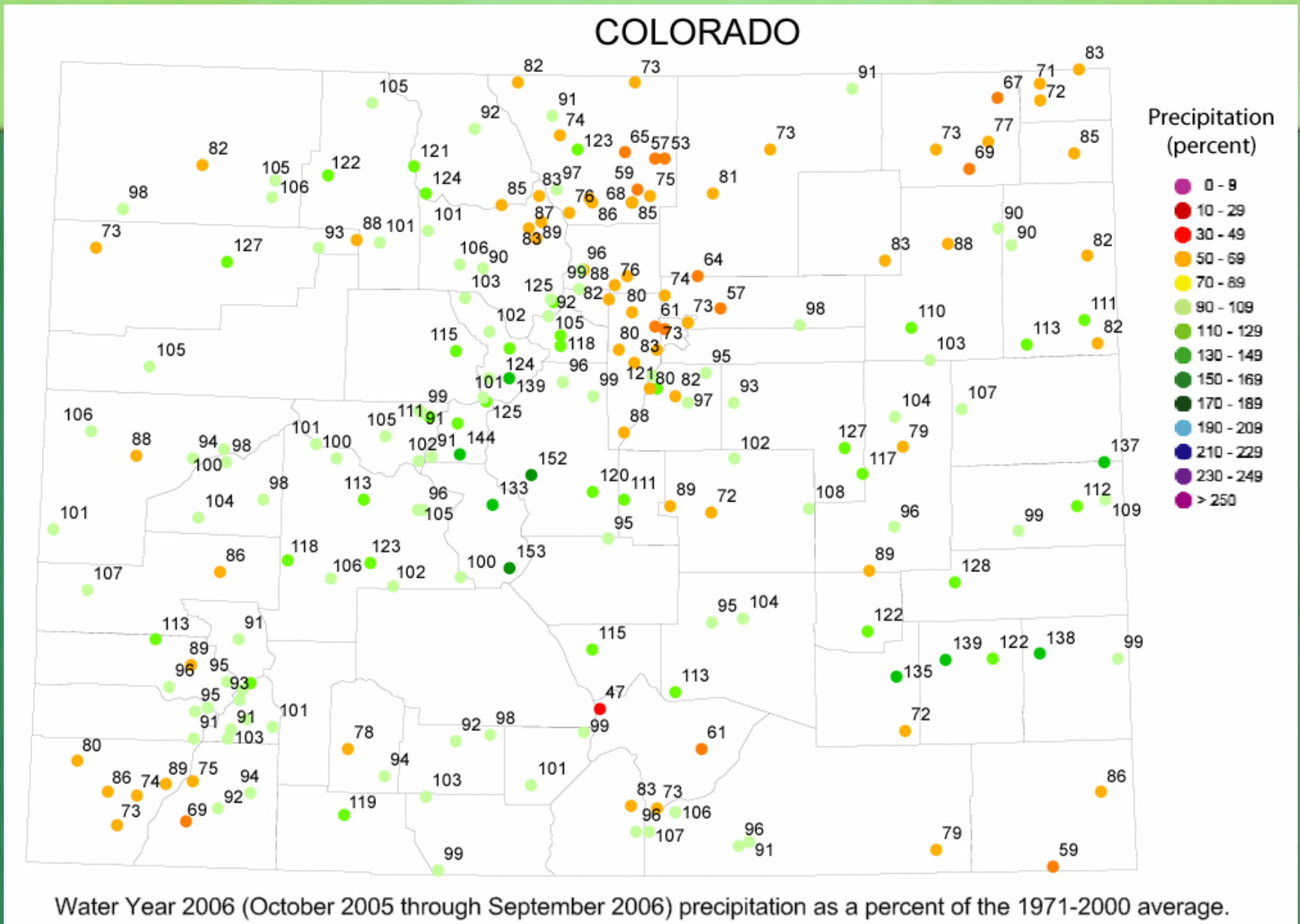


# Summer 2006 (May–Sep) precipitation as a percent of average (Prism)

## 5-month Percent of Average Precipitation: Sep 2006 Provisional Data

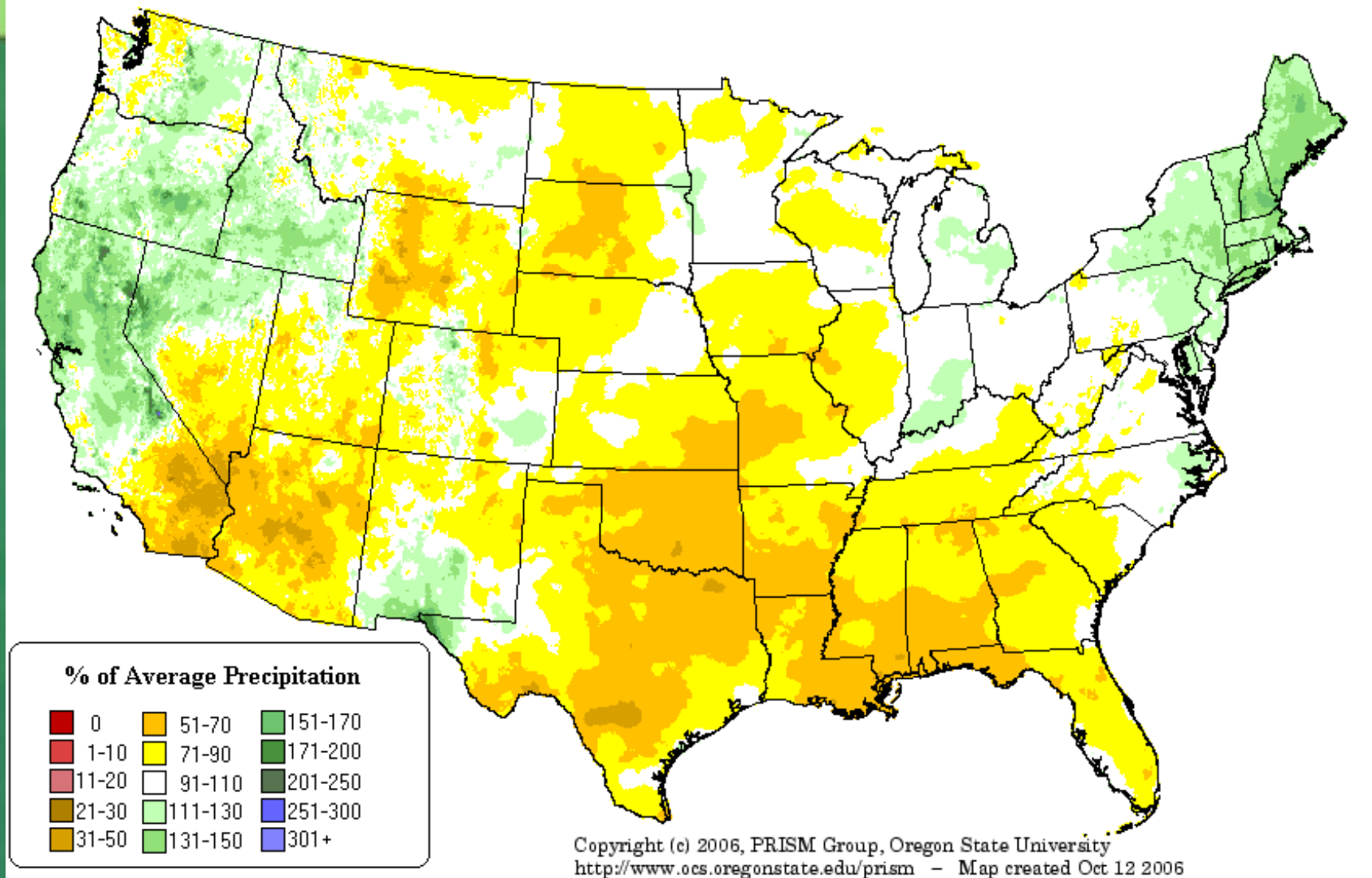


# Water Year 2006 precipitation as a percent of the 1971-2000 average



# Water Year 2006 precipitation as a percent of average (Prism)

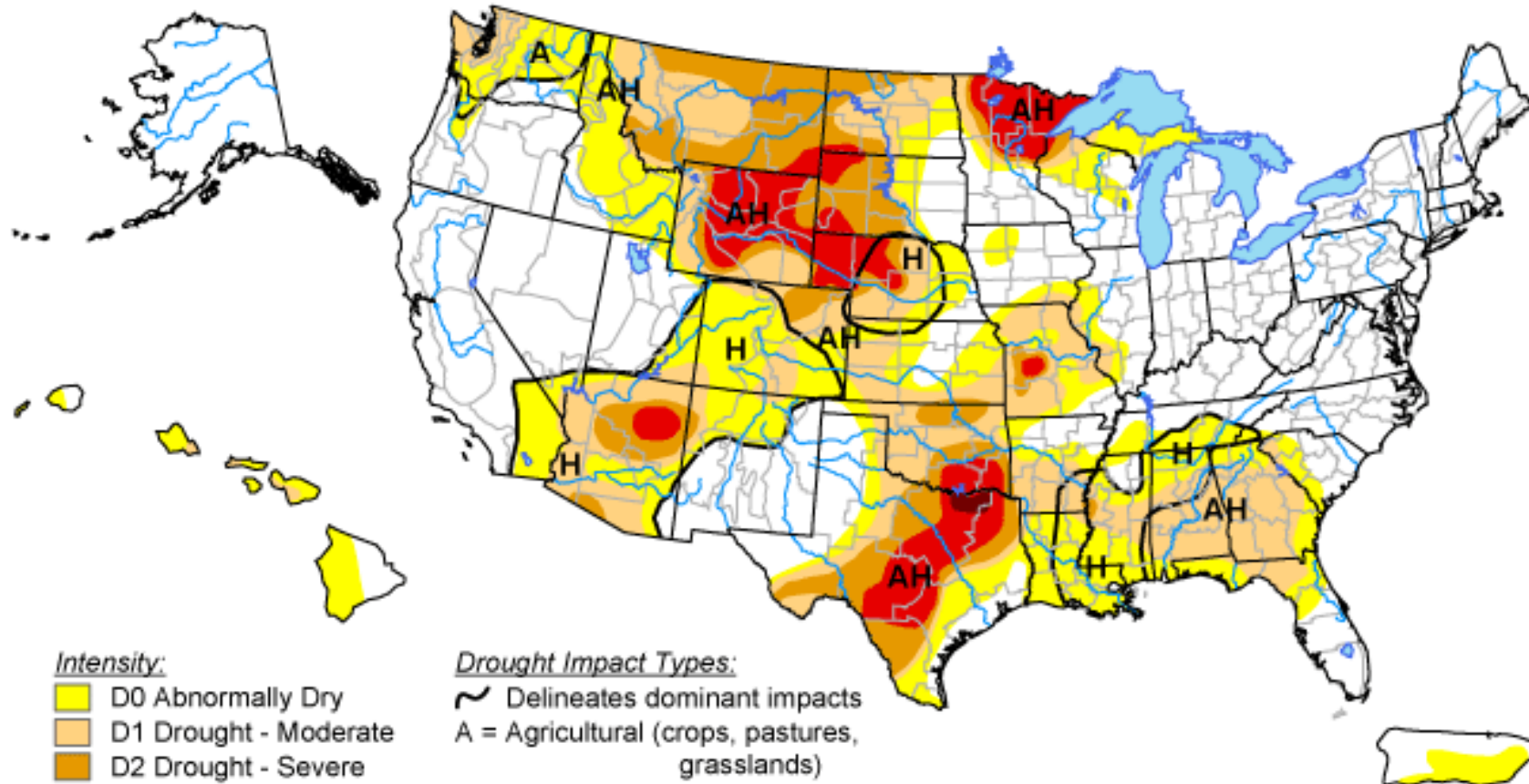
12-month Percent of Average Precipitation: Sep 2006  
Provisional Data








# U.S. Drought Monitor

October 3, 2006


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, October 5, 2006**

**Author: Rich Tinker, Climate Prediction Center, NOAA**

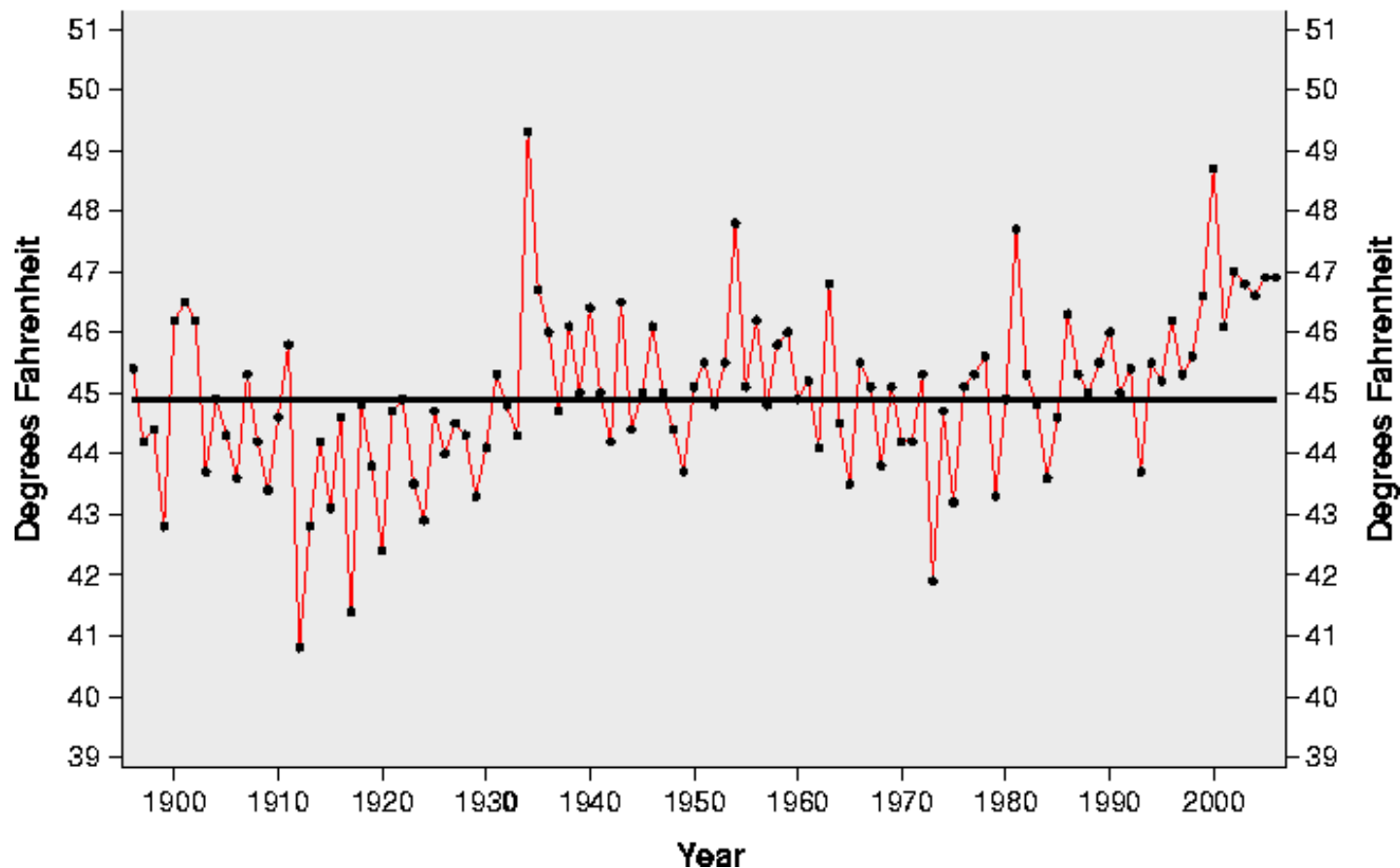
# Summary

- Soaking October storm – especially over Eastern Colorado
- Windy, dry winter over Foothills and Eastern Plains
- Frequent midwinter snows Northern Mountains
- Very warm and dry spring (tough on Agriculture)
- Early July soaking
- Wet summer over much of southern Colorado
- A chilly ending to another warm year



# Overall, 2006 Water Year warmer than average – again!

— **Actual Temperature**      Colorado (Oct-Sep) Average Temperatures  
— **Average Temperature**      From 1896-2006



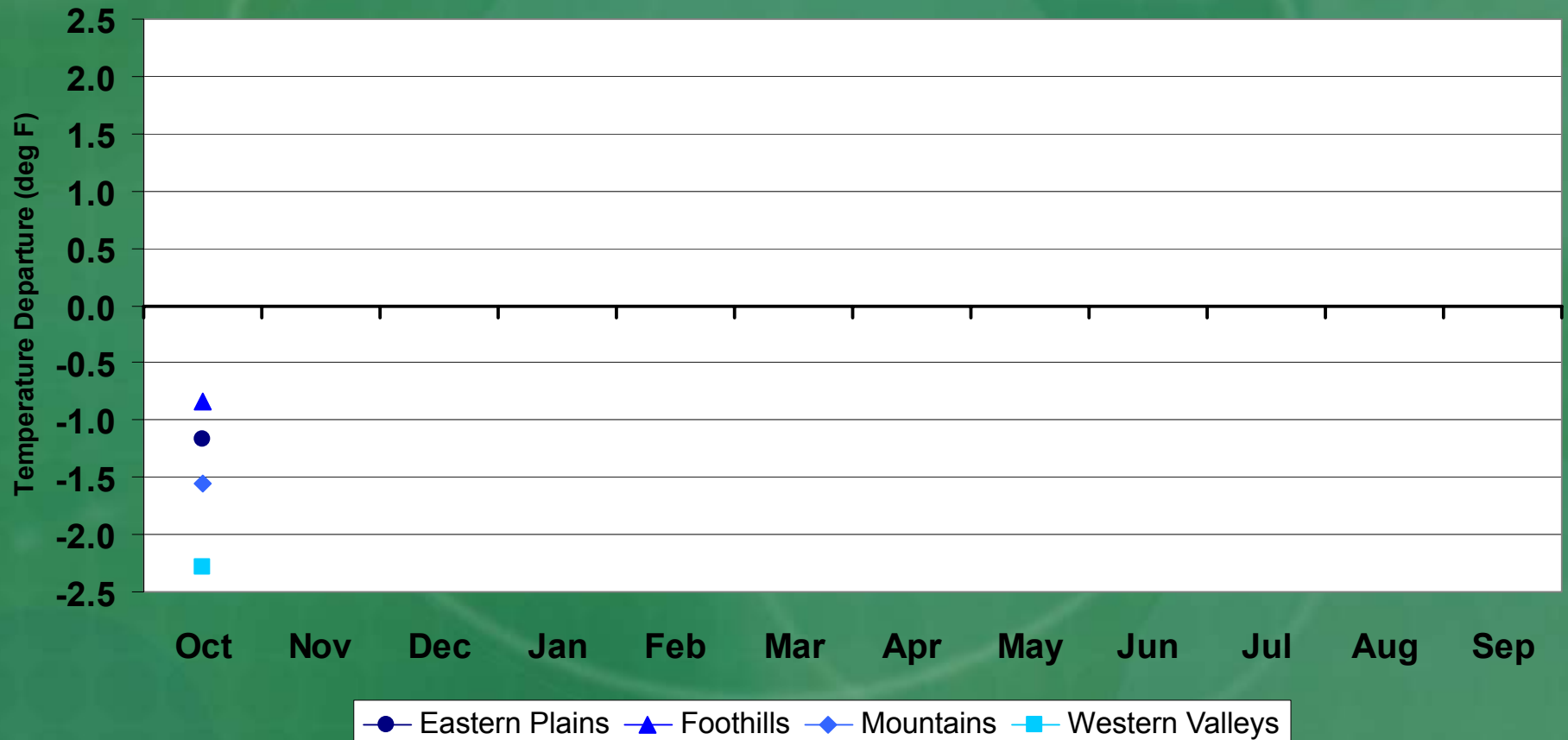
# 2007 Water Year Progress Report



**Photo by Art Judson**

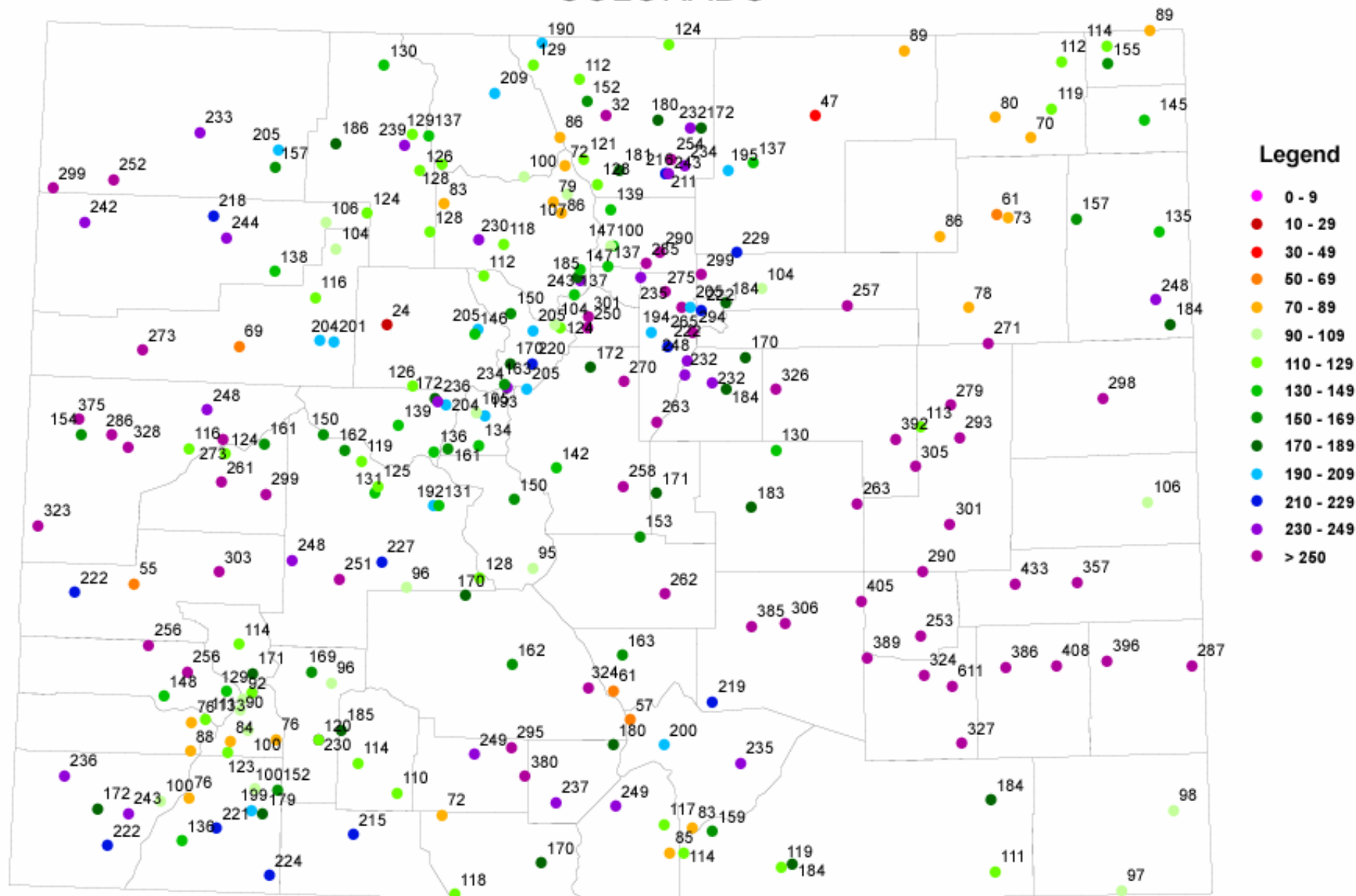
# October 2006 Temperature Departures

Temperature Departures for Water Year 2007



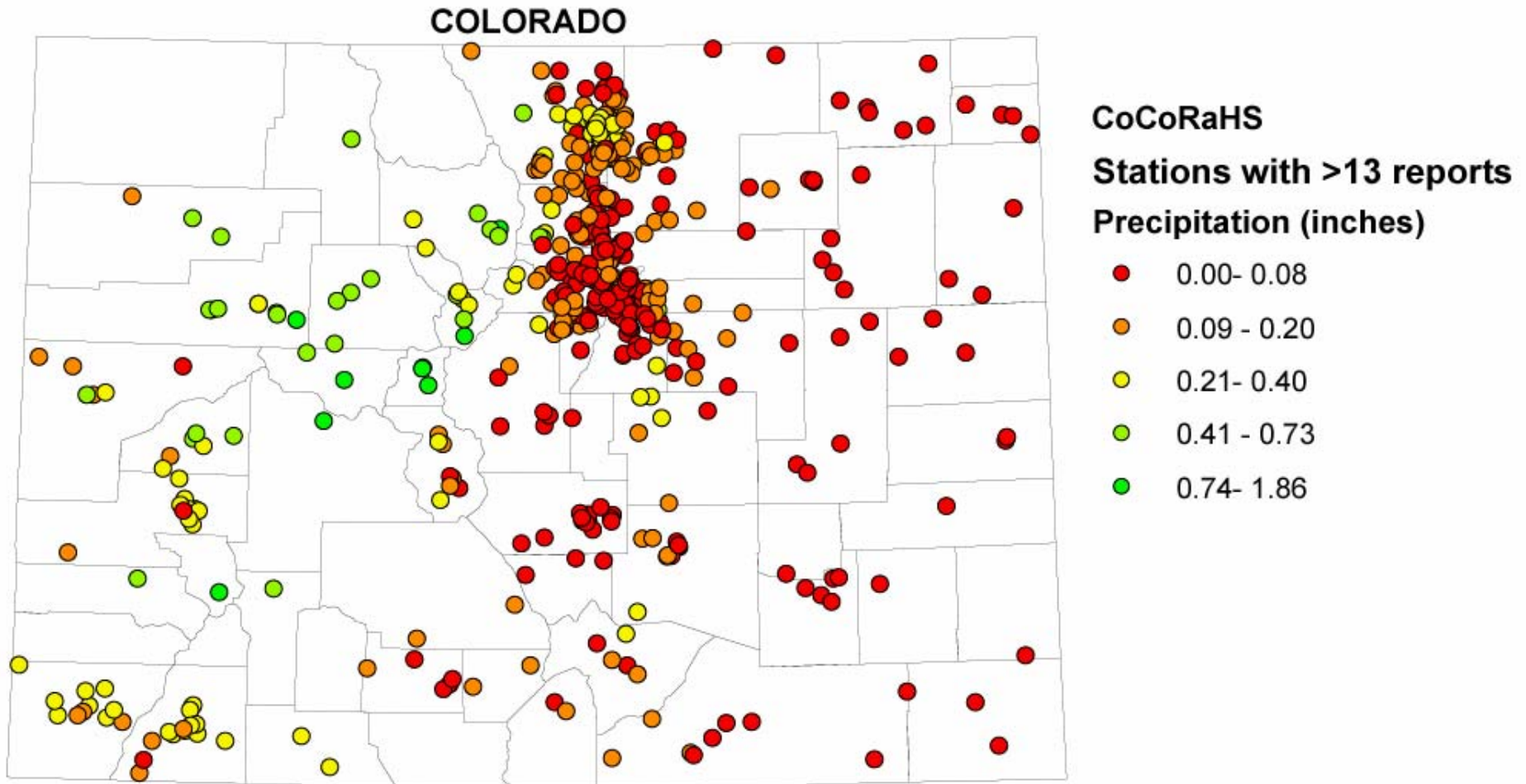


# COLORADO



October 2006 Precipitation as a percent of the 1971-2000 average.

# CoCoRaHS Stations for November 1-17, 2006 precipitation totals



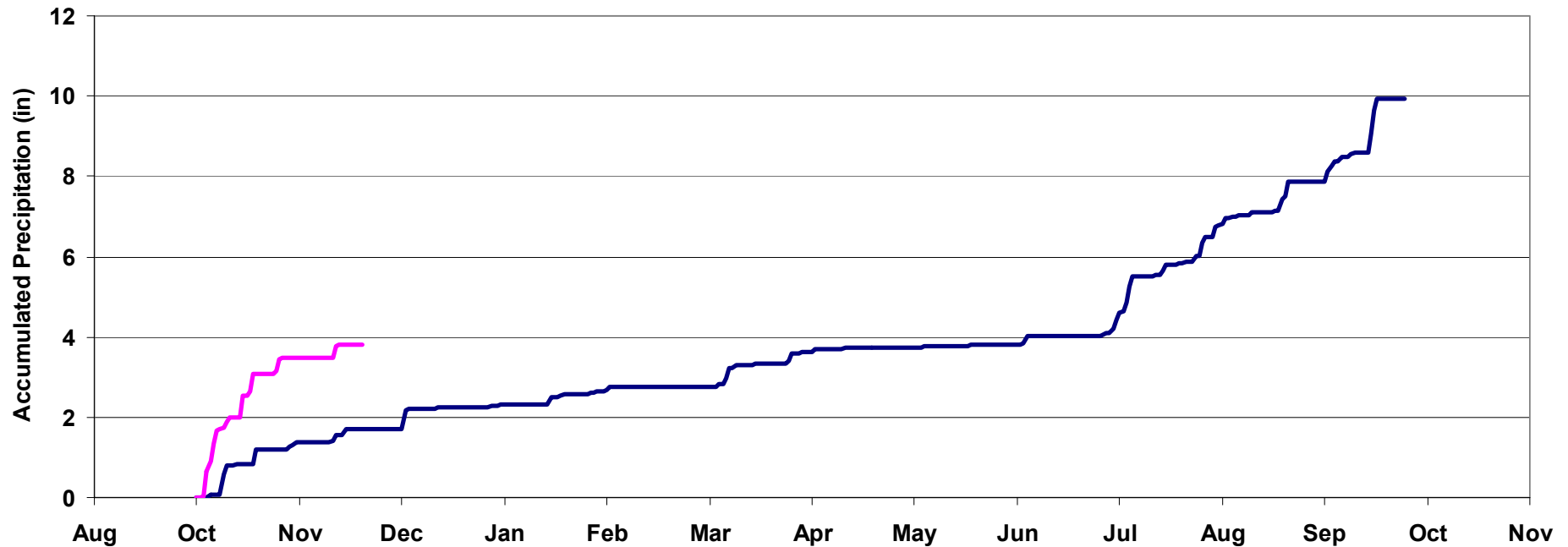


# CoCoRaHS Accumulated Precipitation

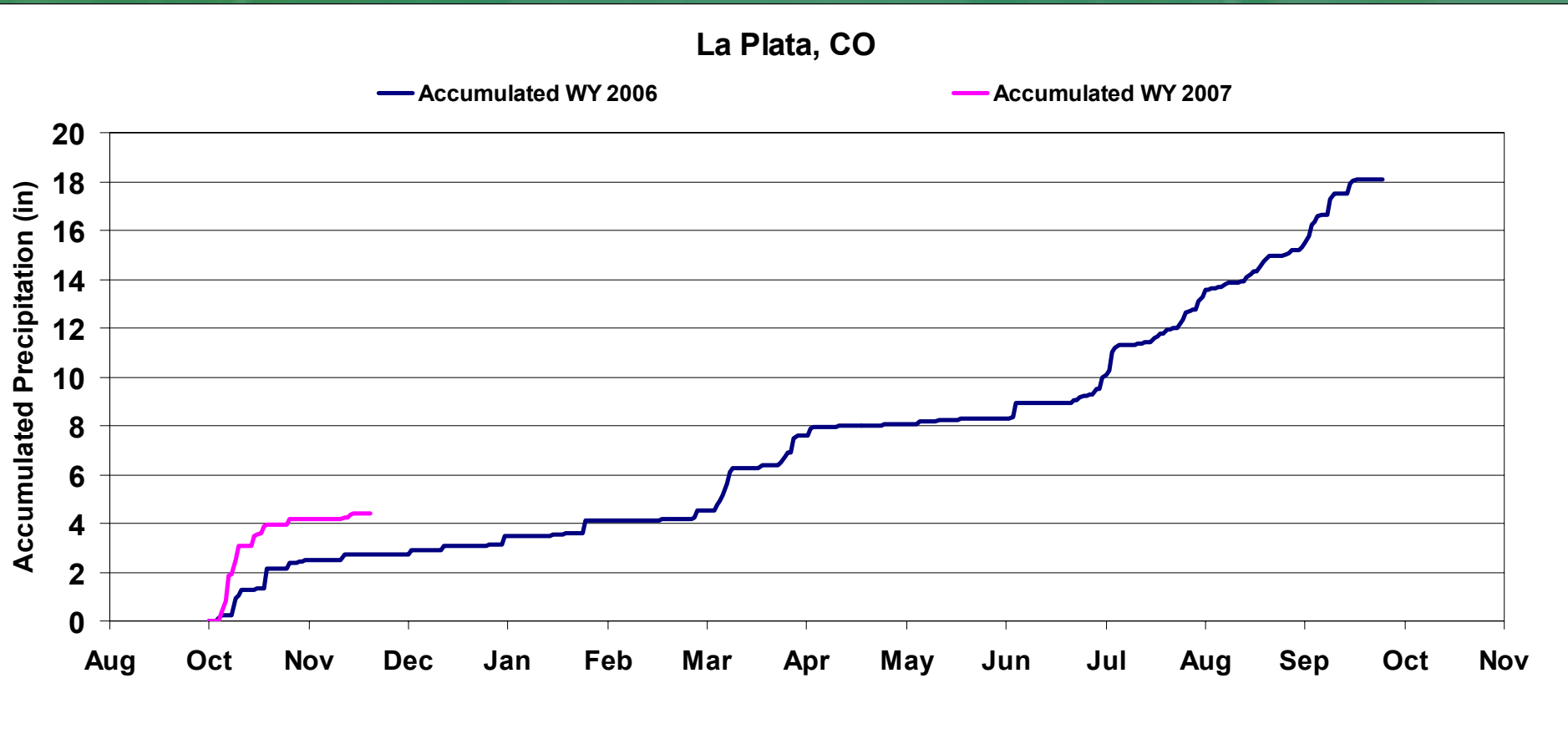
Montrose County, CO

Accumulated WY 2006

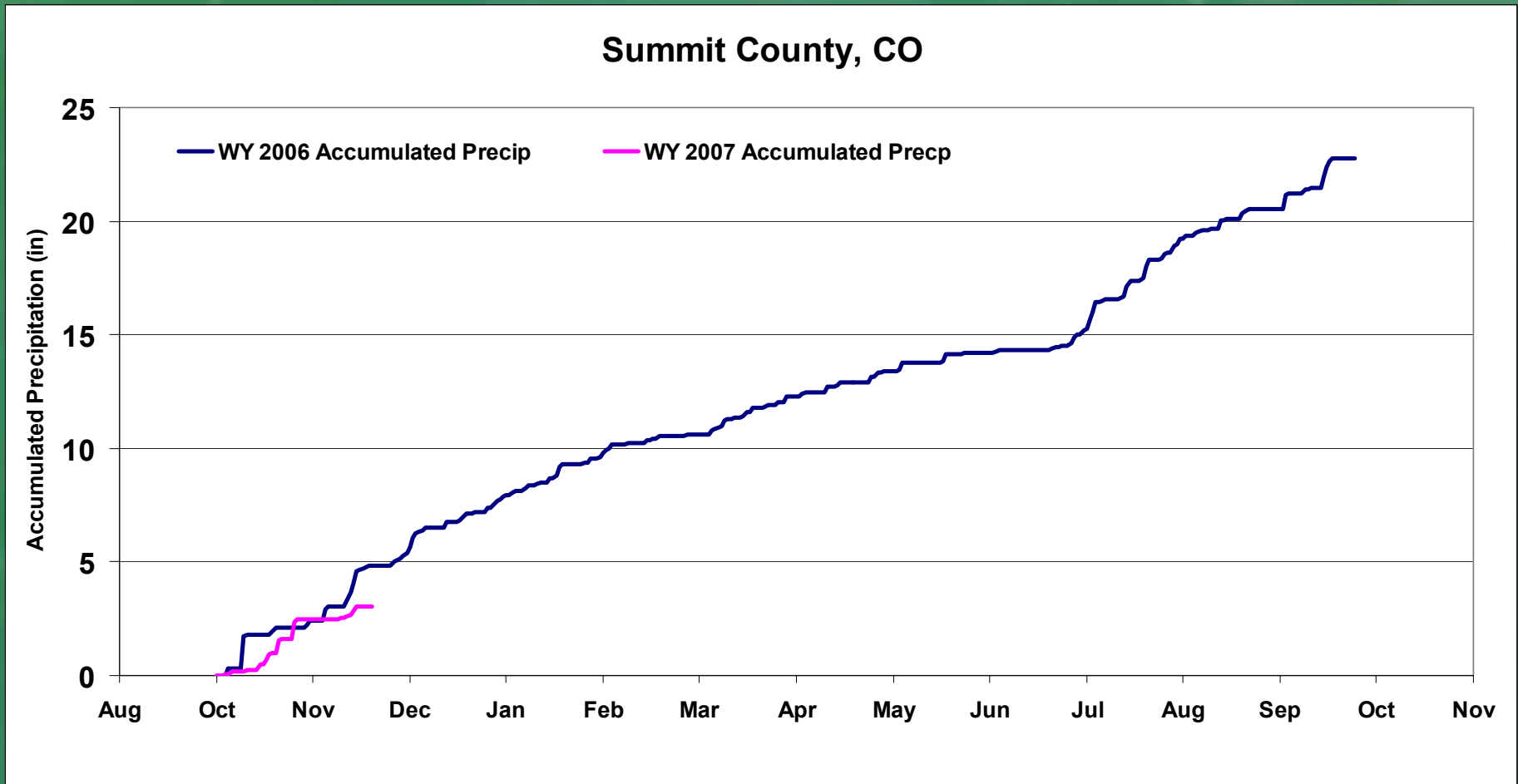
Accumulated WY 2007



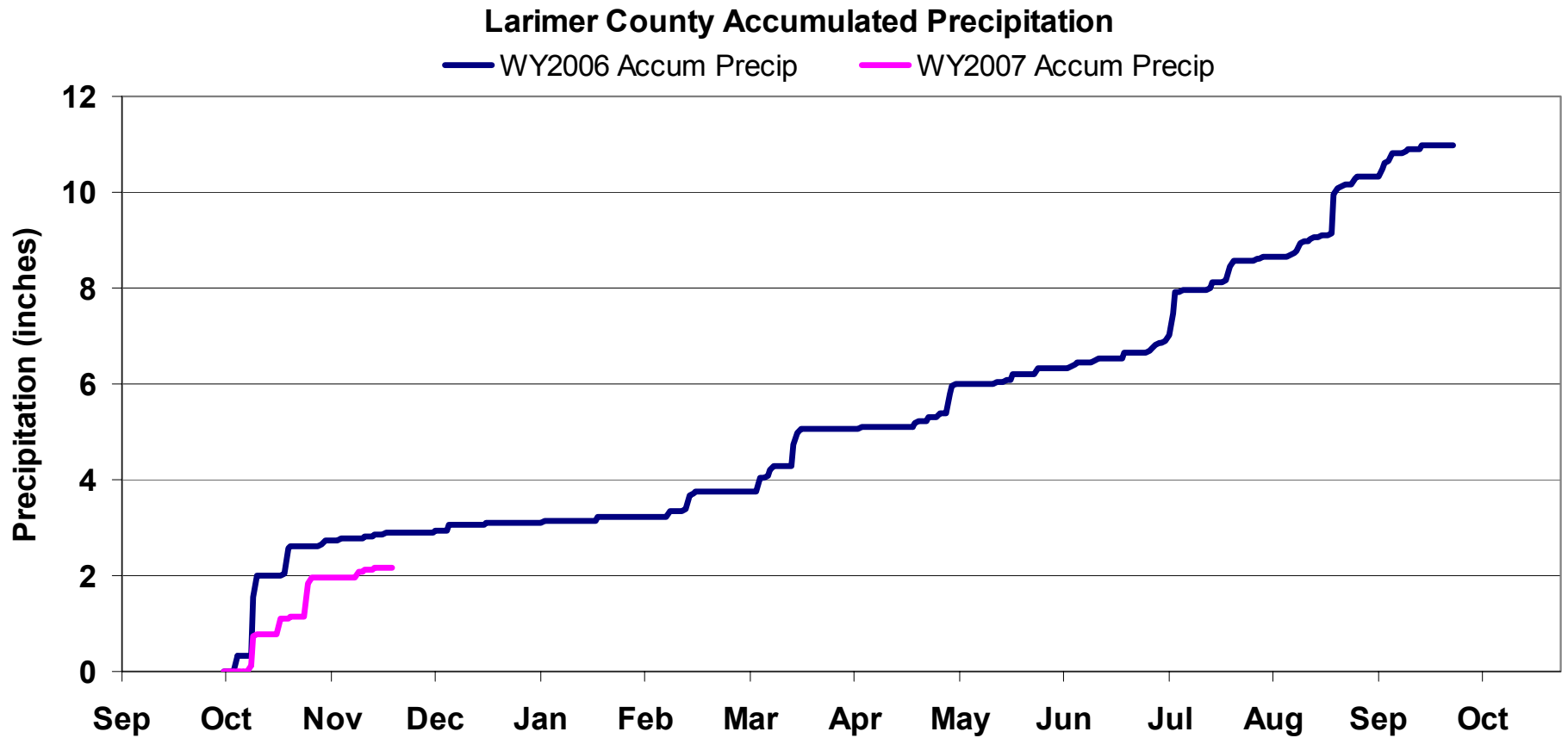
# CoCoRaHS Accumulated Precipitation



# CoCoRaHS Accumulated Precipitation

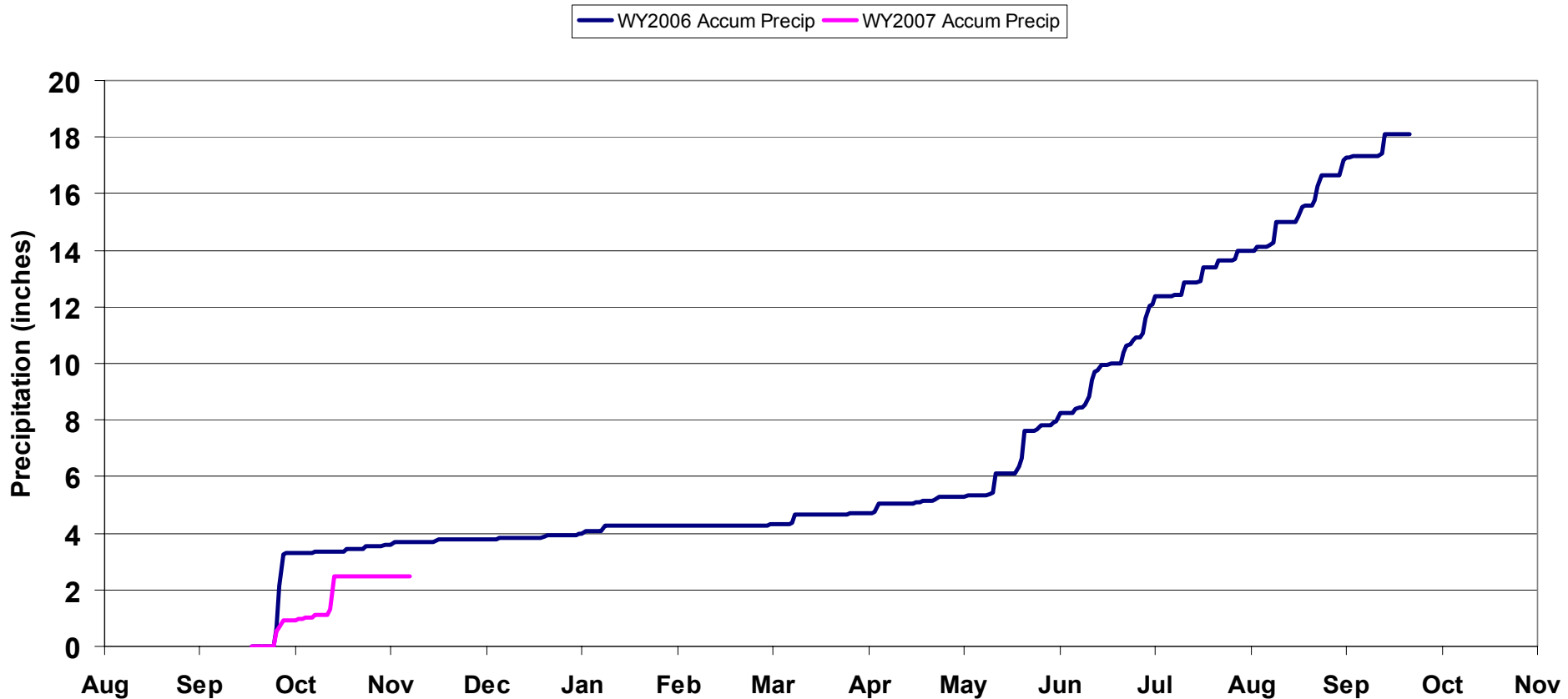


# CoCoRaHS Accumulated Precipitation



# CoCoRaHS Accumulated Precipitation

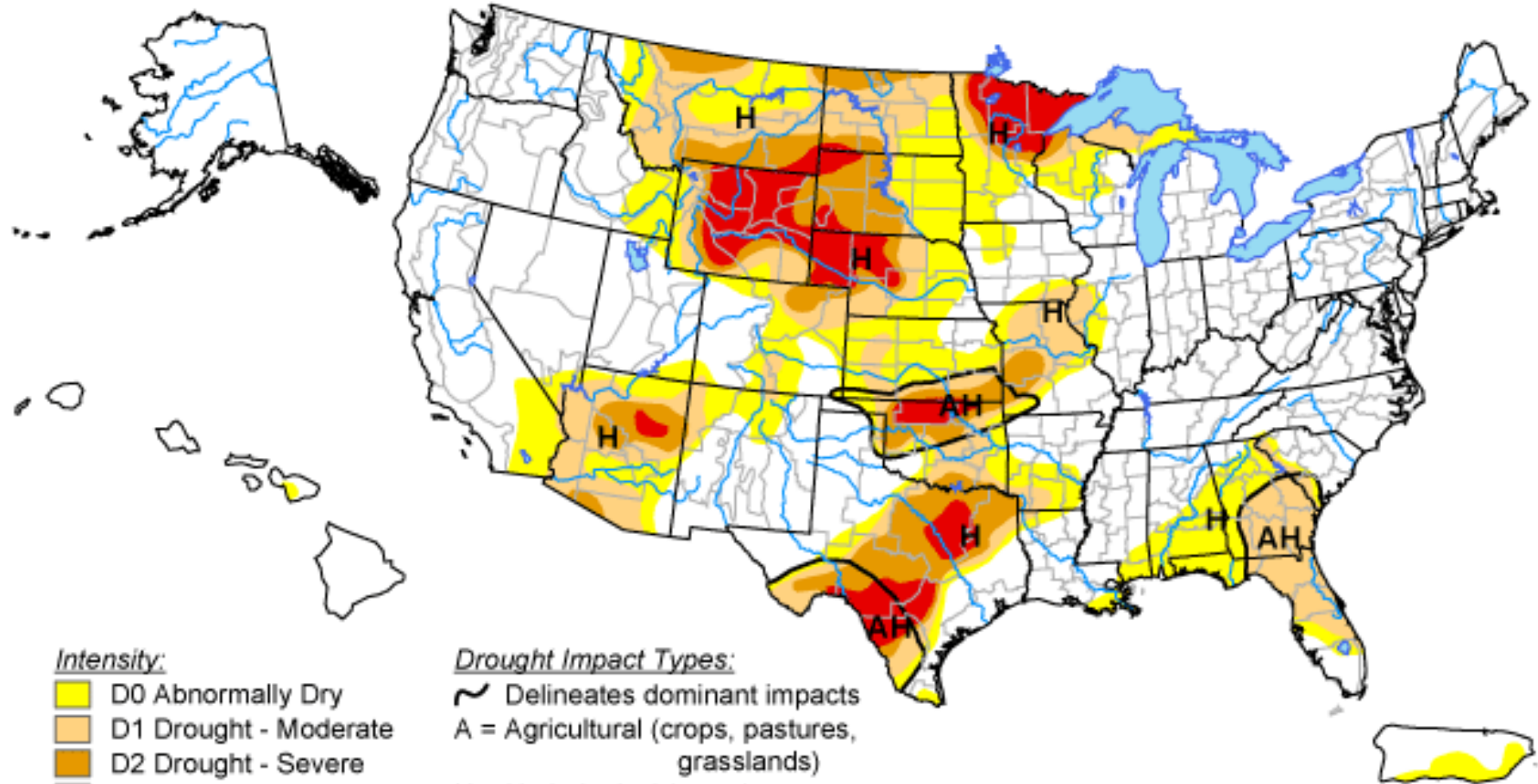
Kit Carson County Accumulated Precipitation










# U.S. Drought Monitor


November 14, 2006  
Valid 7 a.m. EST



## 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)
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*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, November 16, 2006  
Author: Ned Guttman/Liz Love-Brotak, NOAA/NESDIS/NCDC

# U.S. Drought Monitor

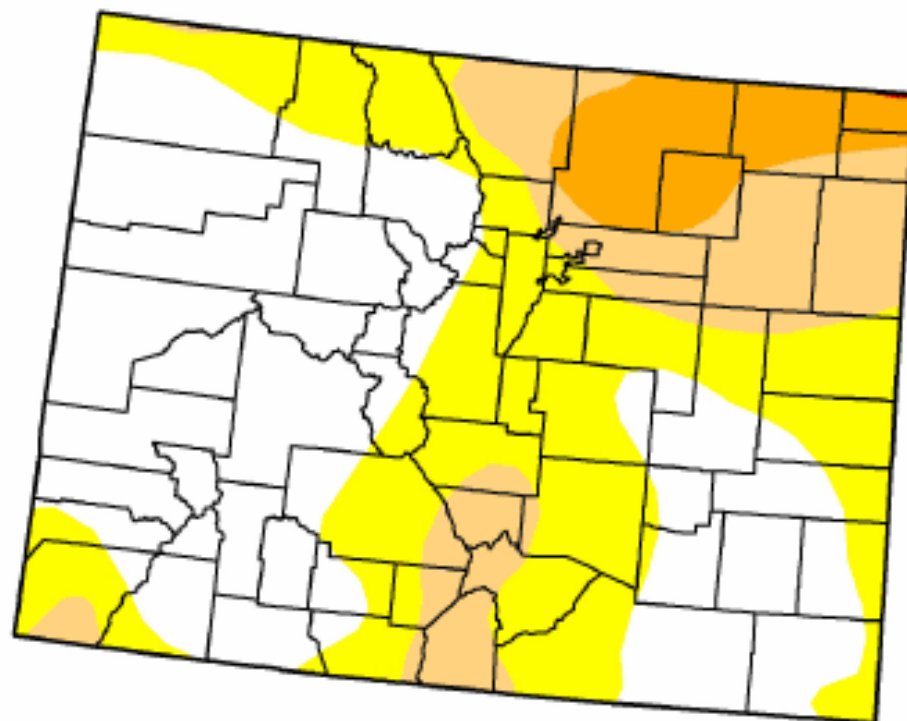
## Colorado

November 14, 2006

Valid 8 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	46.4	53.6	21.6	6.9	0.0	0.0
Last Week (11/7/2006 map)	46.4	53.6	21.6	6.9	0.0	0.0
3 Months Ago (8/22/2006 map)	0.0	100.0	82.1	29.9	4.1	0.0
Start of Calendar Year (1/3/2006 map)	59.1	40.9	3.4	0.0	0.0	0.0
Start of Water Year (10/3/2006 map)	0.0	100.0	36.5	8.6	0.0	0.0
One Year Ago (11/15/2005 map)	69.9	30.1	5.8	0.0	0.0	0.0



### Intensity:

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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, November 16, 2006

Author: Ned Guttman/Liz Love-Brotak, NOAA/NESDIS/NCDC

# 3 Month SPI

Apparent data problem at Eagle

Colorado

10/2006 3 mon. SPI



95 % < 2.0  
44 % < 1.0  
4 % < 0.0

0 % < -1.0  
0 % < -2.0  
0 % < -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO

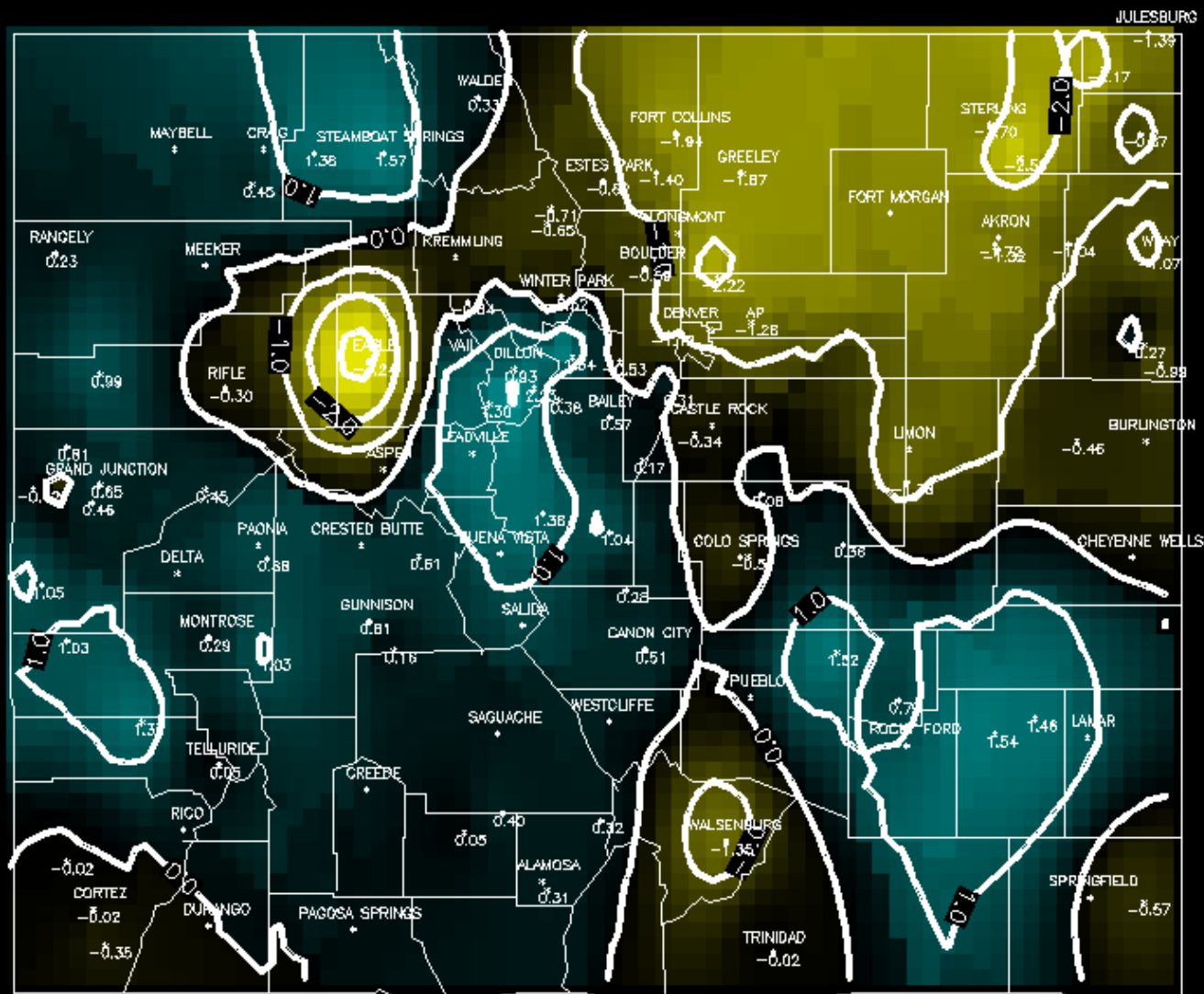


# 12 Month SPI

Apparent data problem at Eagle

Colorado

10/2006 12 mon. SPI



100% < 2.0  
88% < 1.0  
43% < 0.0

18% < -1.0  
2% < -2.0  
0% < -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO





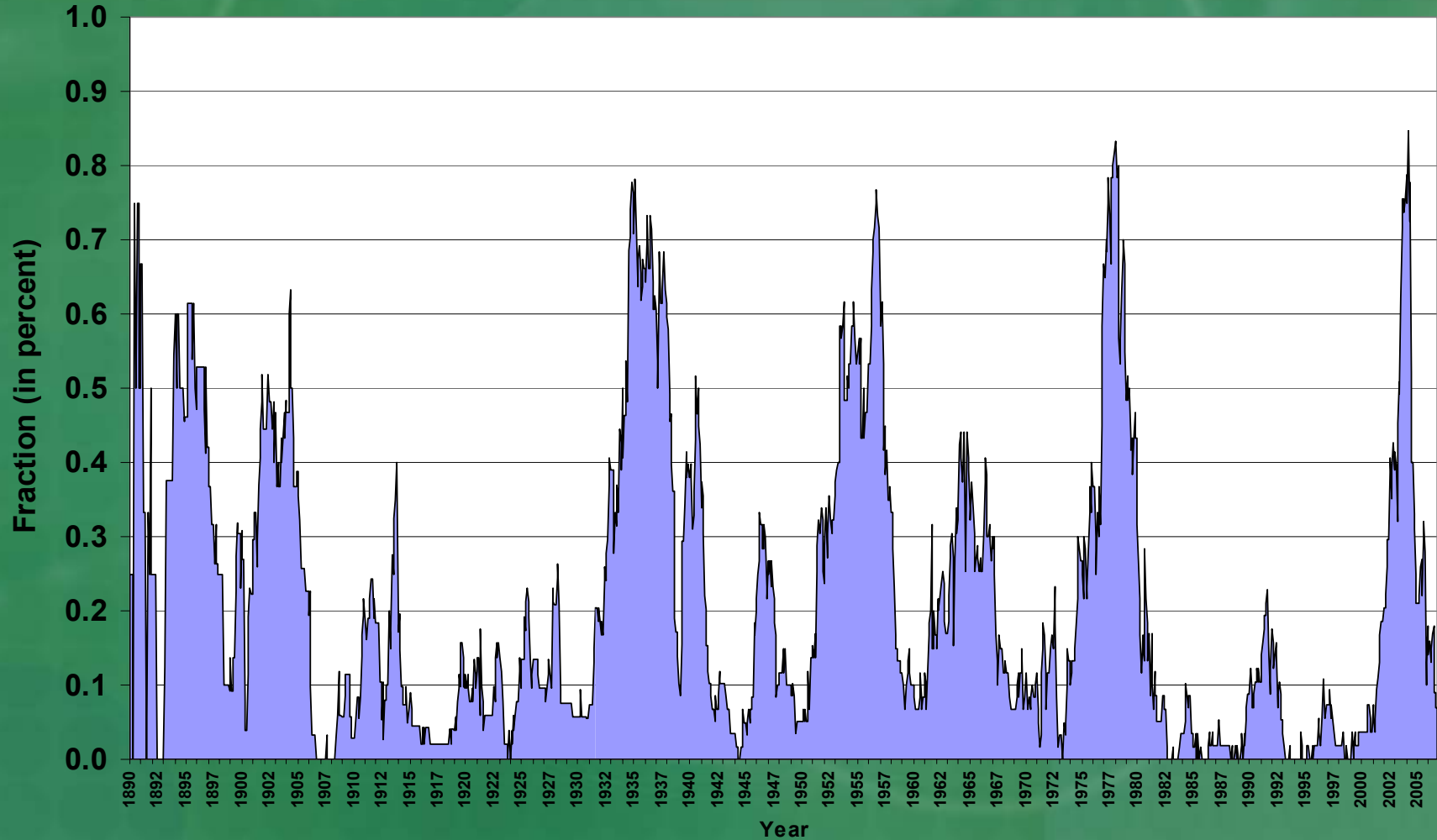


# Standardized Precipitation Index

## Fraction of Colorado in Drought

Based on 48 month SPI

(1890 - Oct 2006)



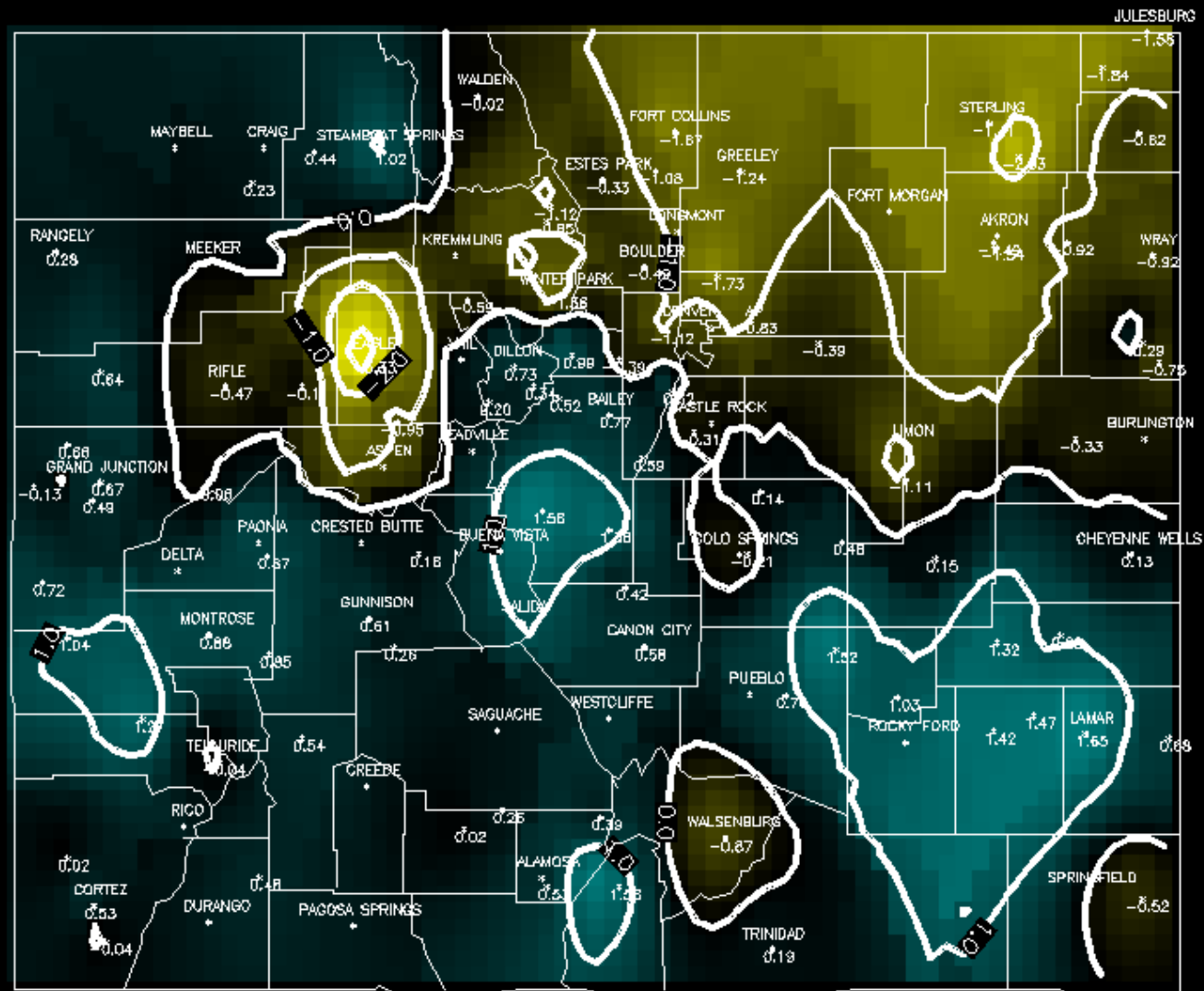
# Projected Conditions at 0.2 Probability Level

## 12 Month SPI at 6 months

Apparent data problem at Eagle

Colorado

10/2006 12 mon. SPI – Projected 6 mon. at P=0.20



100%	<< 2.0	14%	< -1.0
90%	<< 1.0	1%	< -2.0
36%	< 0.0	0%	< -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO





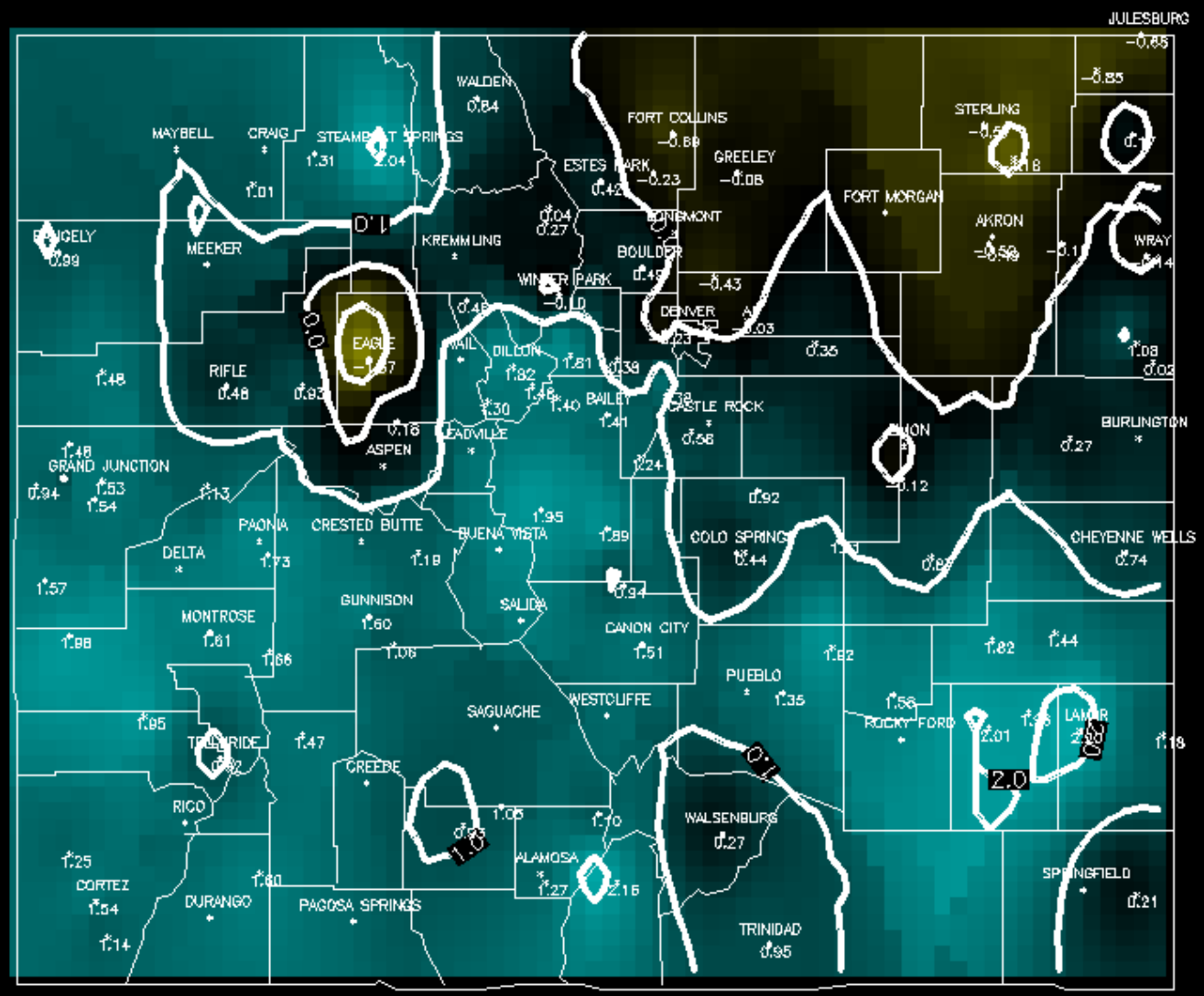
# Projected Conditions at 0.8 Probability Level

## 12 Month SPI at 6 months

Apparent data problem at Eagle

Colorado

10/2006 12 mon. SPI – Projected 6 mon. at P=0.80



99 % < 2.0	0 % < -1.0
42 % < 1.0	0 % < -2.0
16 % < 0.0	0 % < -3.0

Produced by:  
Colorado Climate Center  
Fort Collins, CO

# Colorado Climate Center

Data and Power Point Presentations available for downloading

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

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

