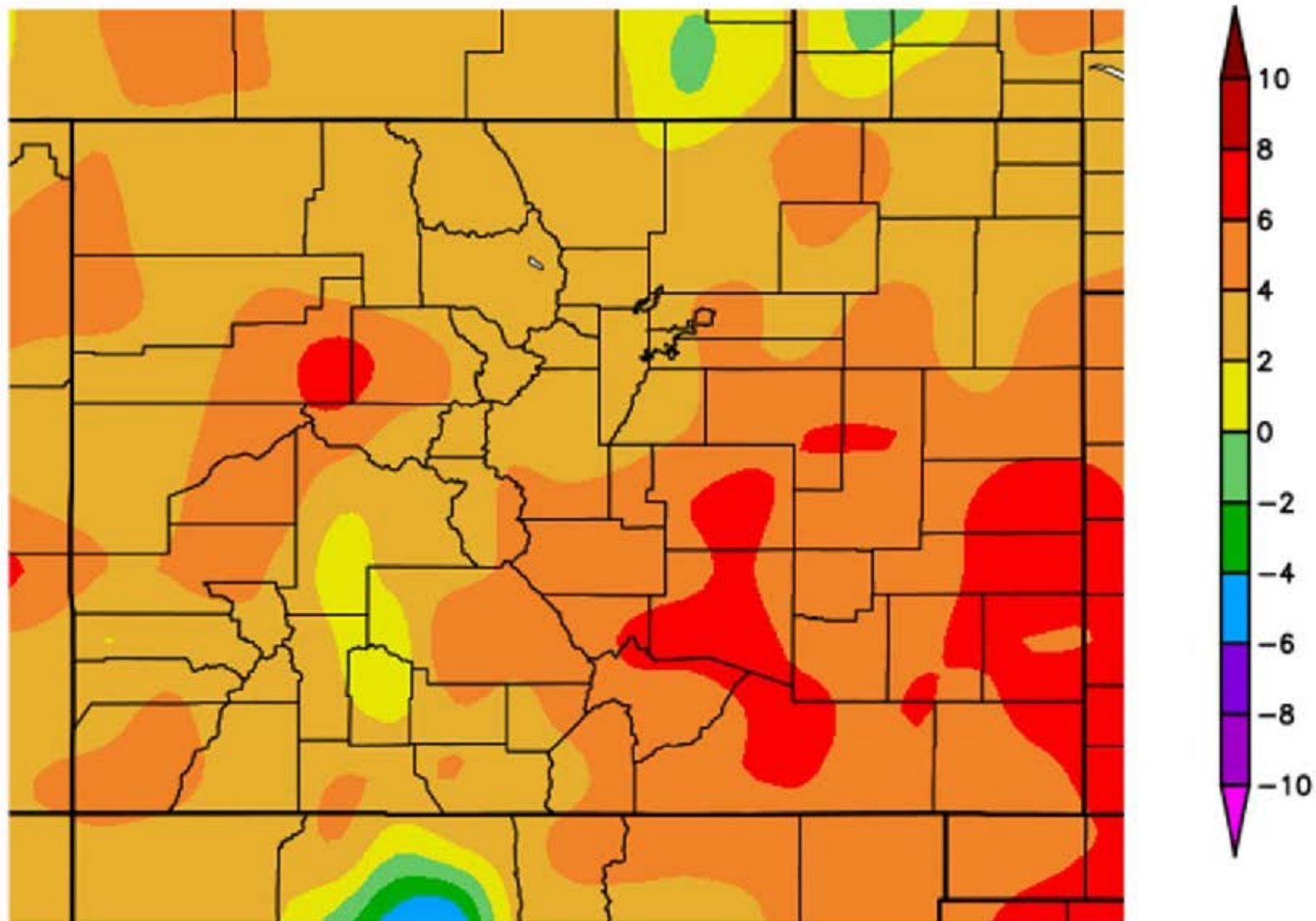


Climate Update

Peter Goble
Colorado Climate Center
Water Availability Task Force
June 14, 2018

Departure from Normal Temperature (F)

5/1/2018 – 5/31/2018



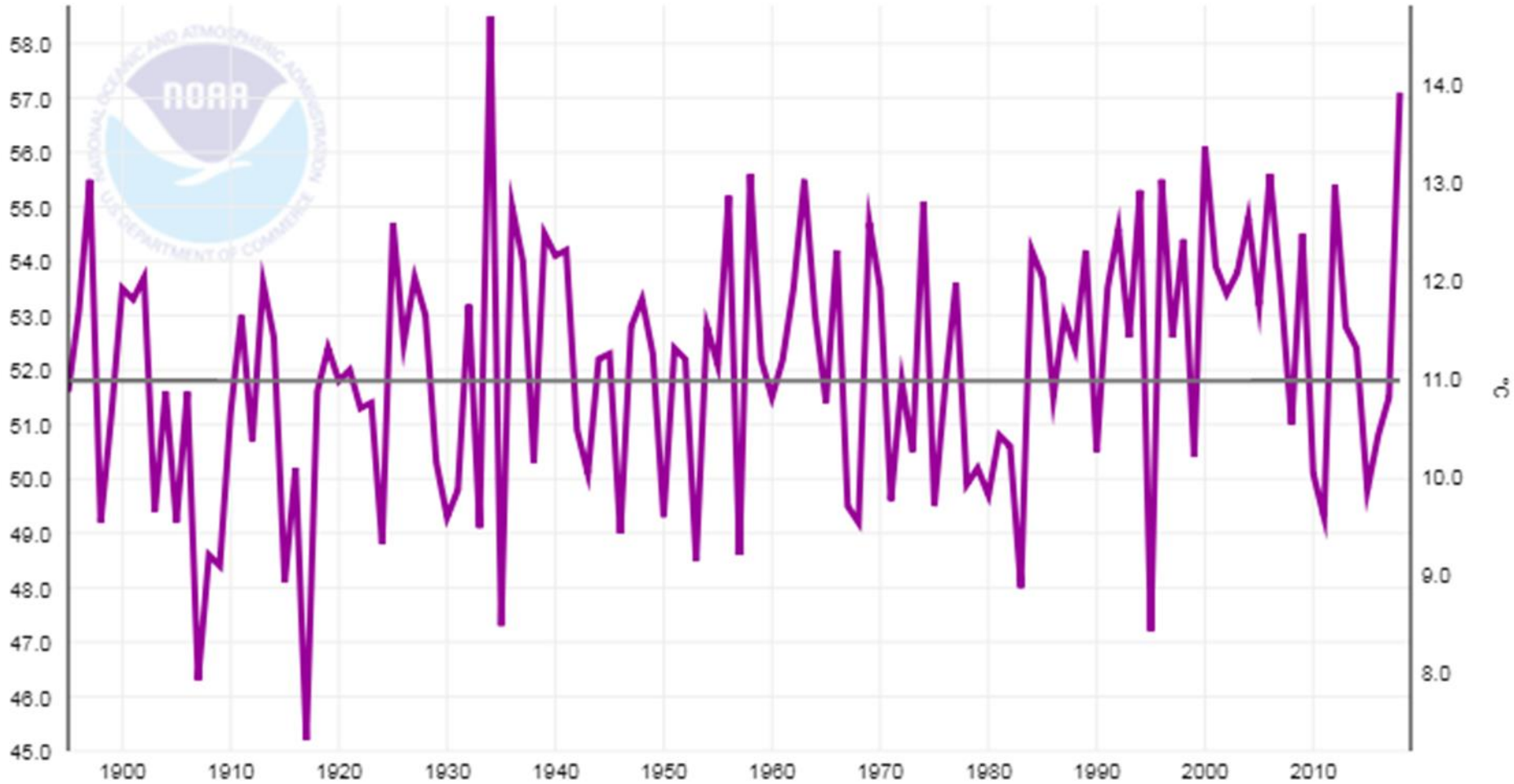
Colorado, Average Temperature, May

57.1 F (+5.3)

Warmest since 1934 at 58.5 F

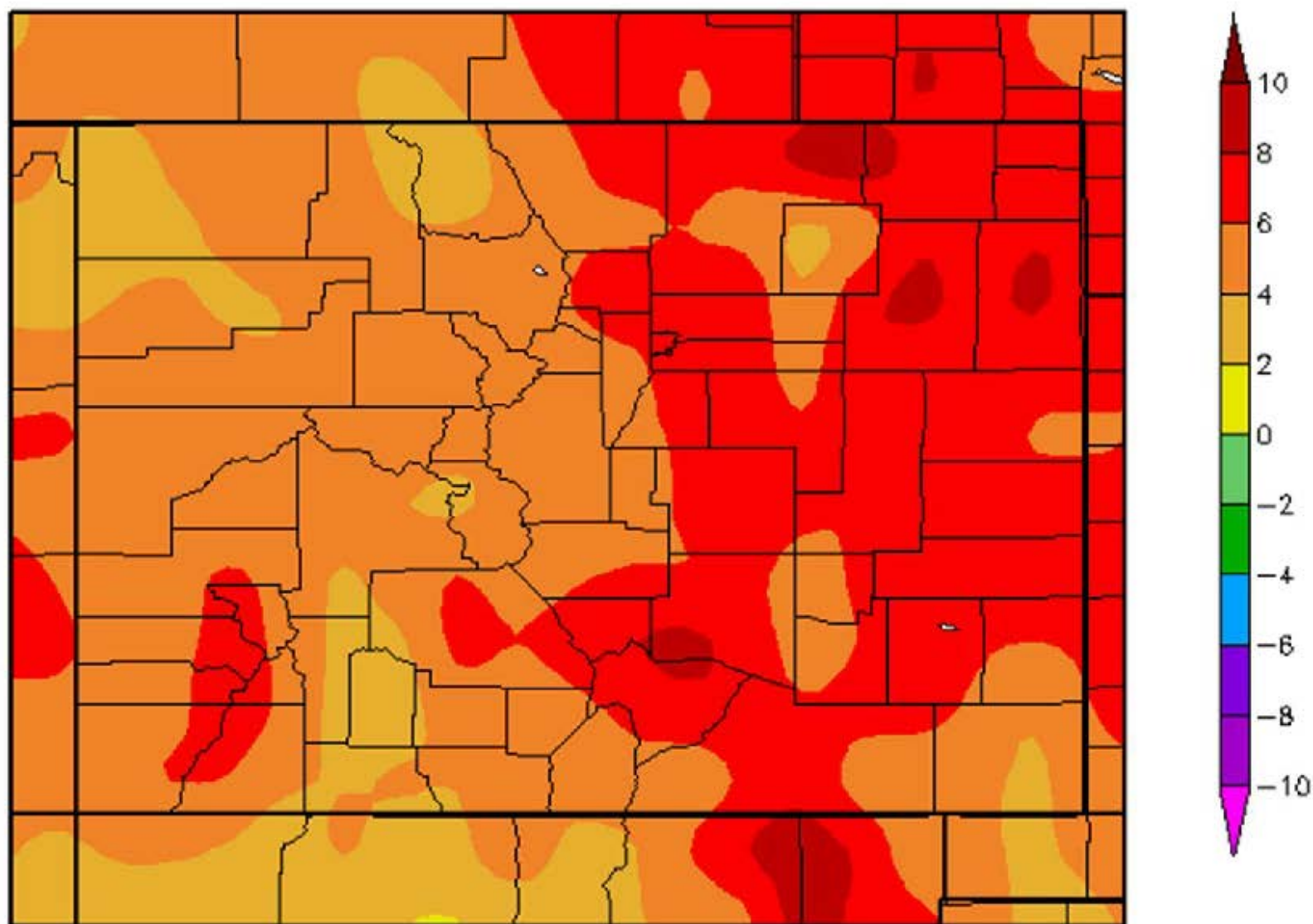
Avg Temperature

1901-2000 Mean: 51.8°F

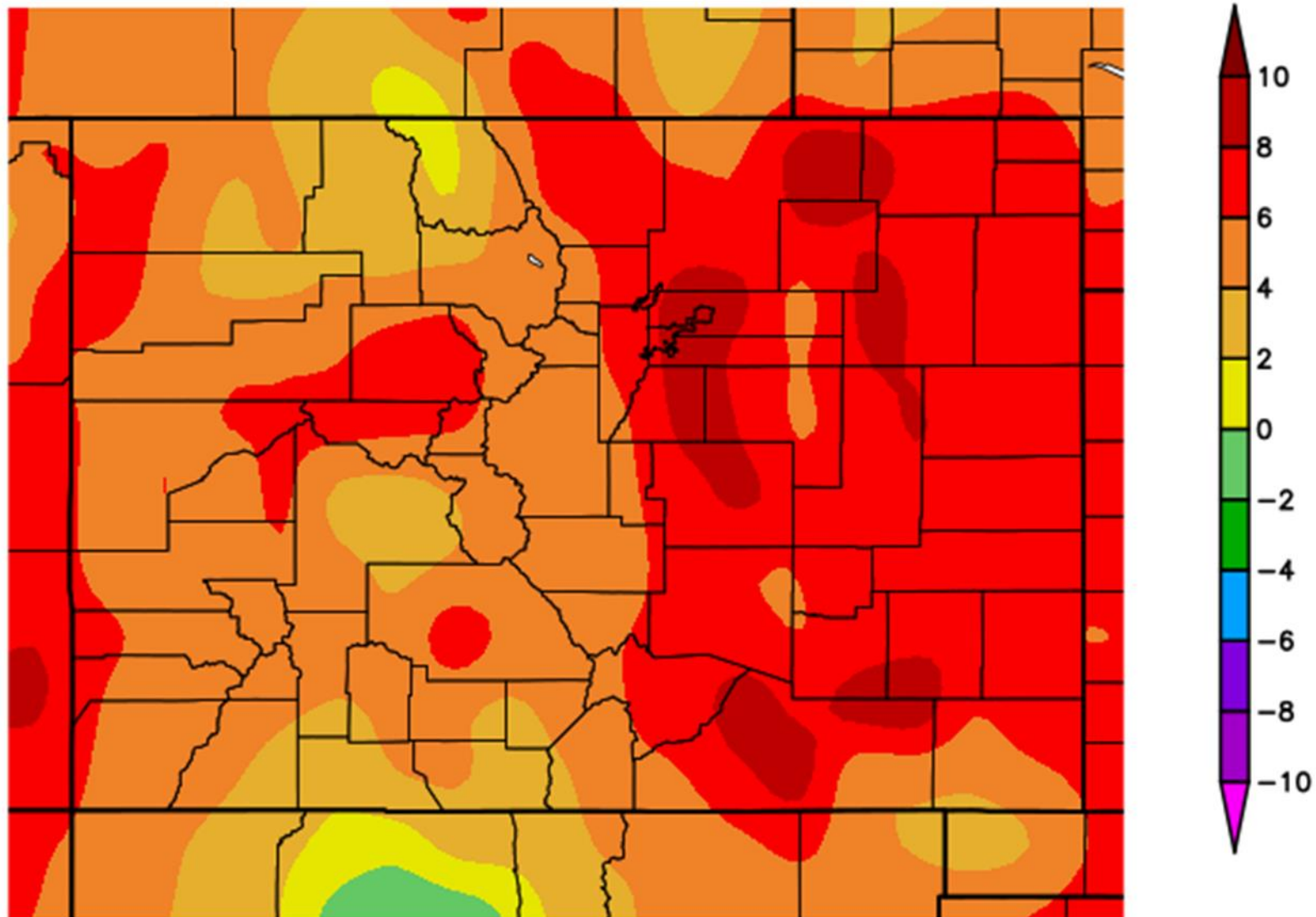


Departure from Normal Temperature (F)

6/1/2012 - 6/30/2012



Departure from Normal Temperature (F) 6/1/2018 - 6/12/2018



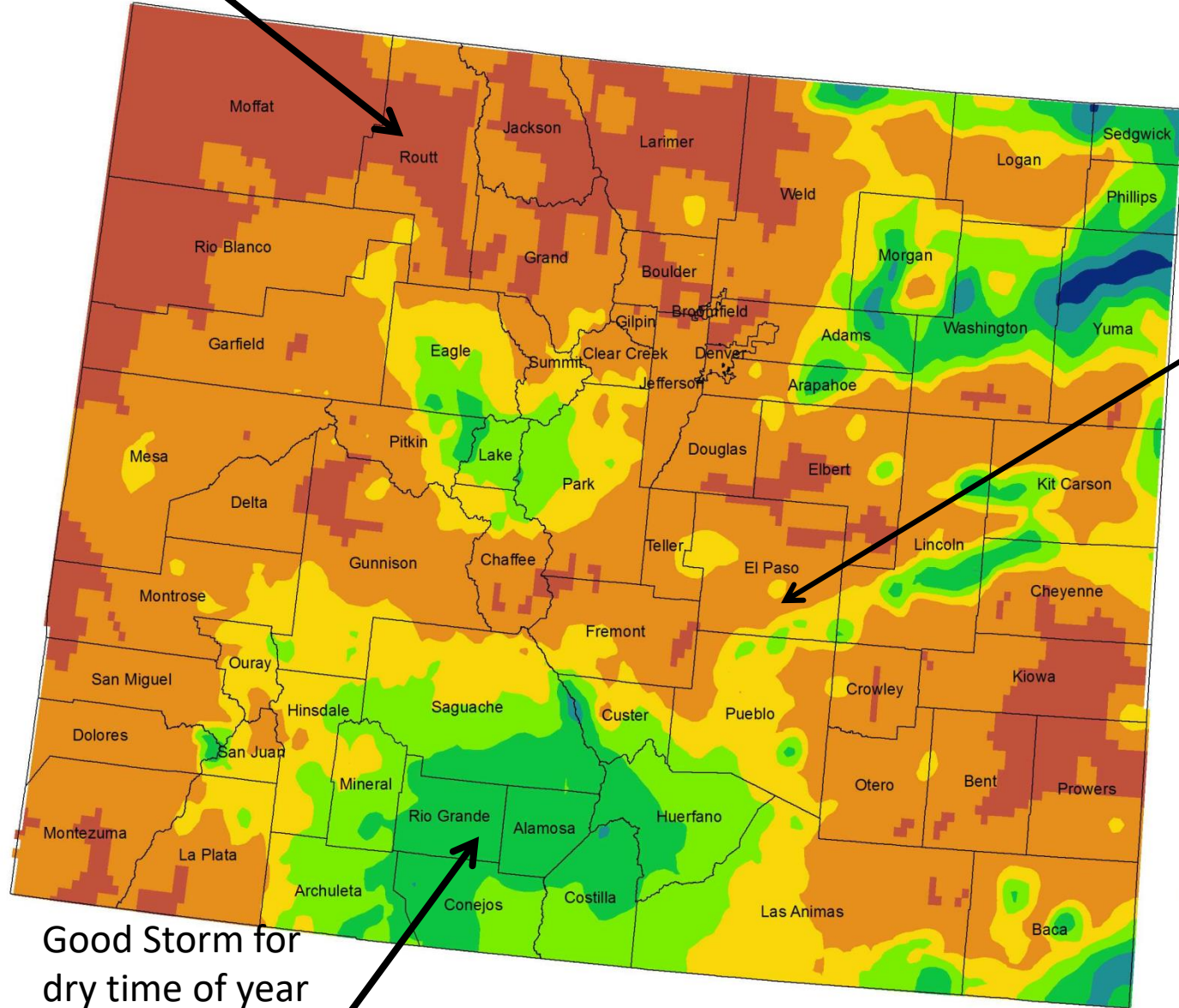
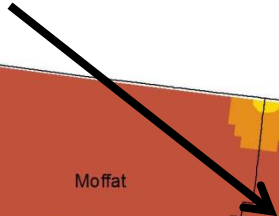
Take that,
2012!

Number of 90°-Days Compared to Average

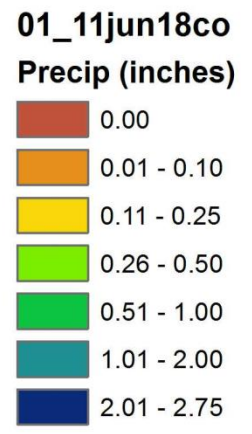
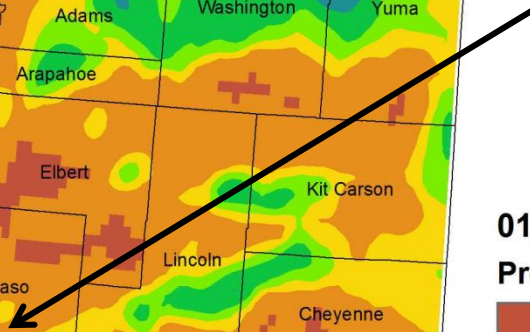


Colorado Month to Date Precipitation 1 - 11 June 2018

Slacking in the northwest

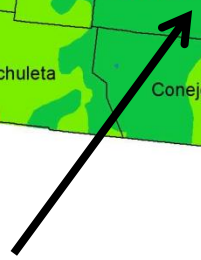


Big hail event not yet included

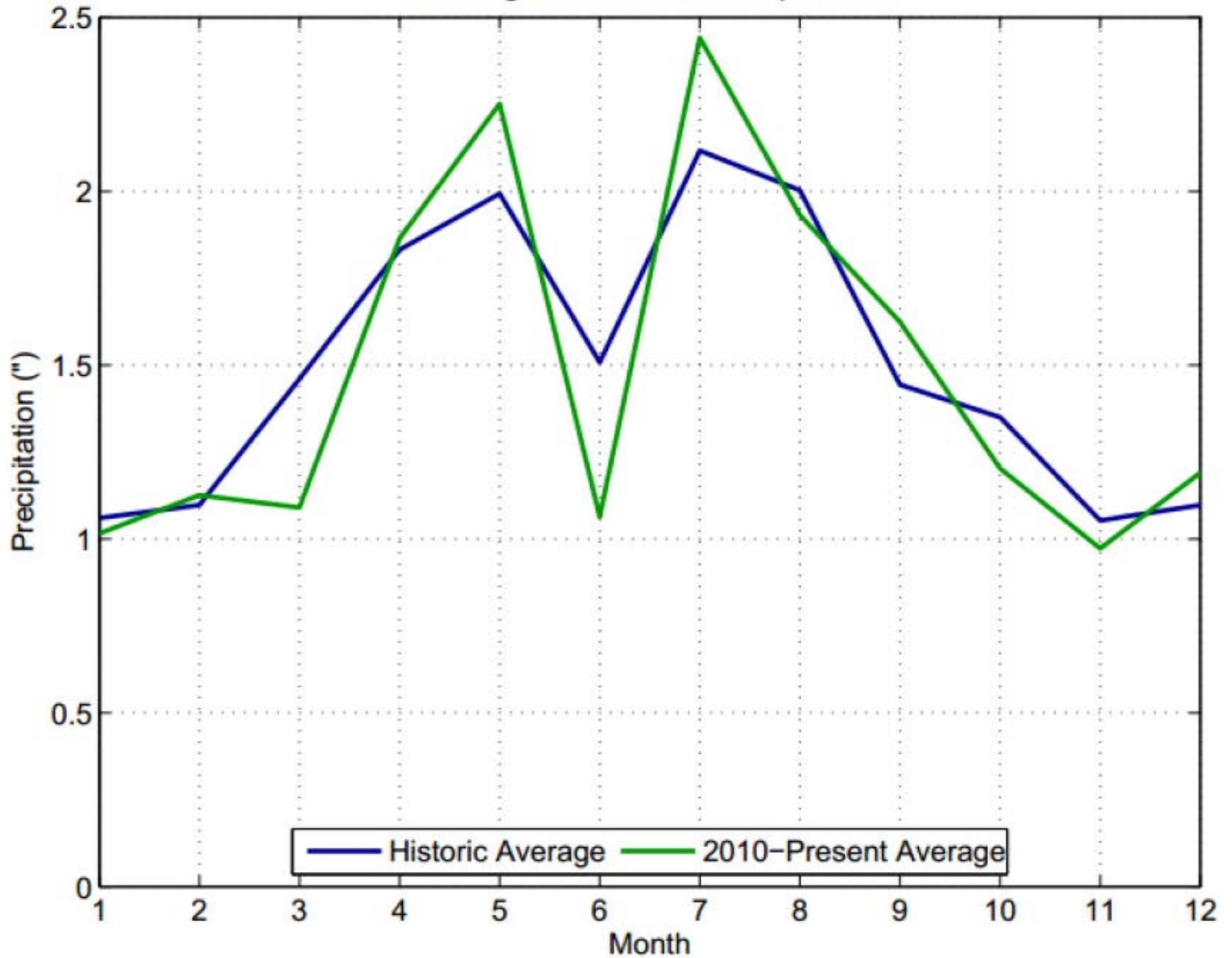


Data from PRISM Climate Group

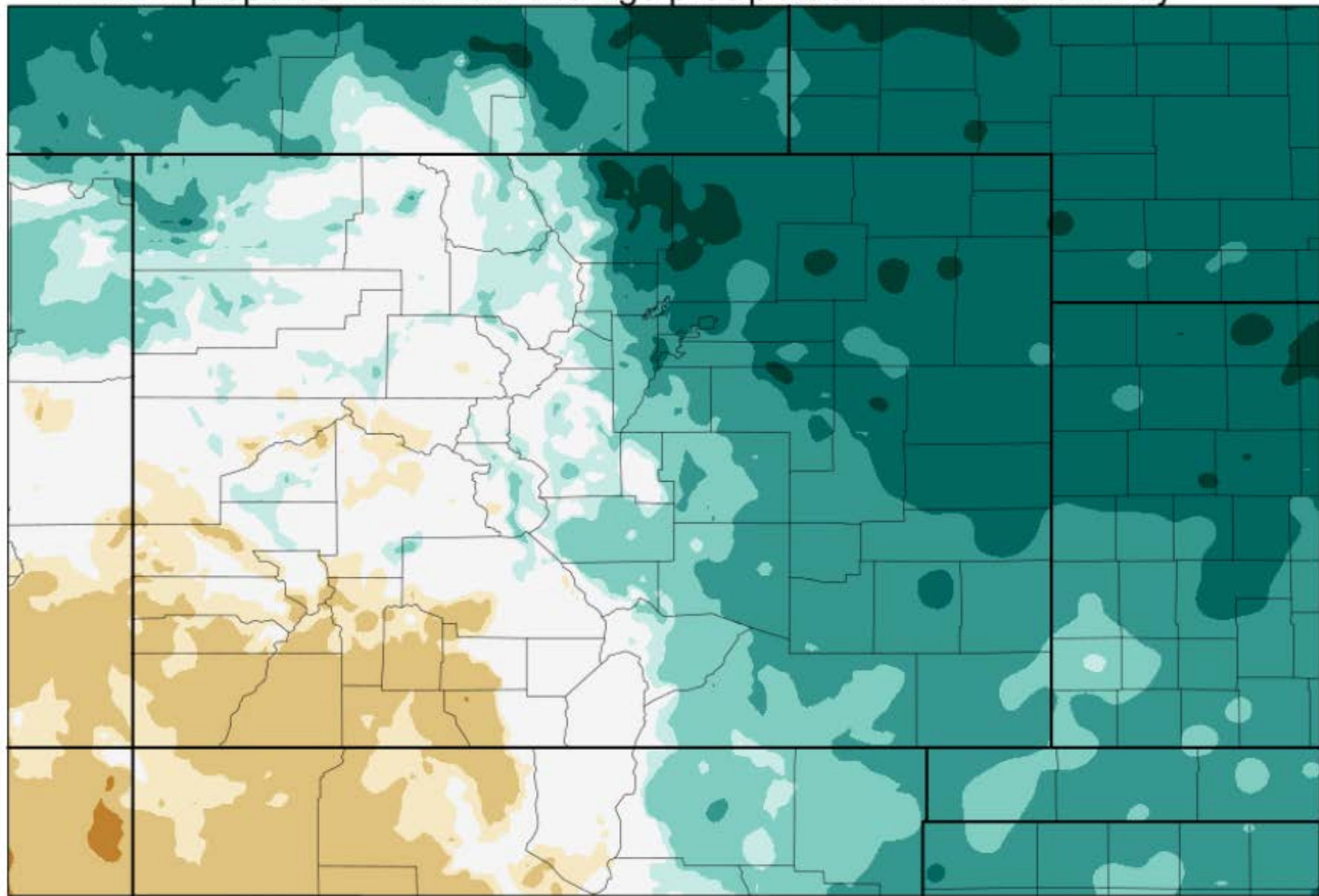
Good Storm for dry time of year



Average Colorado Precipitation



PRISM proportion of annual average precipitation in this month: May

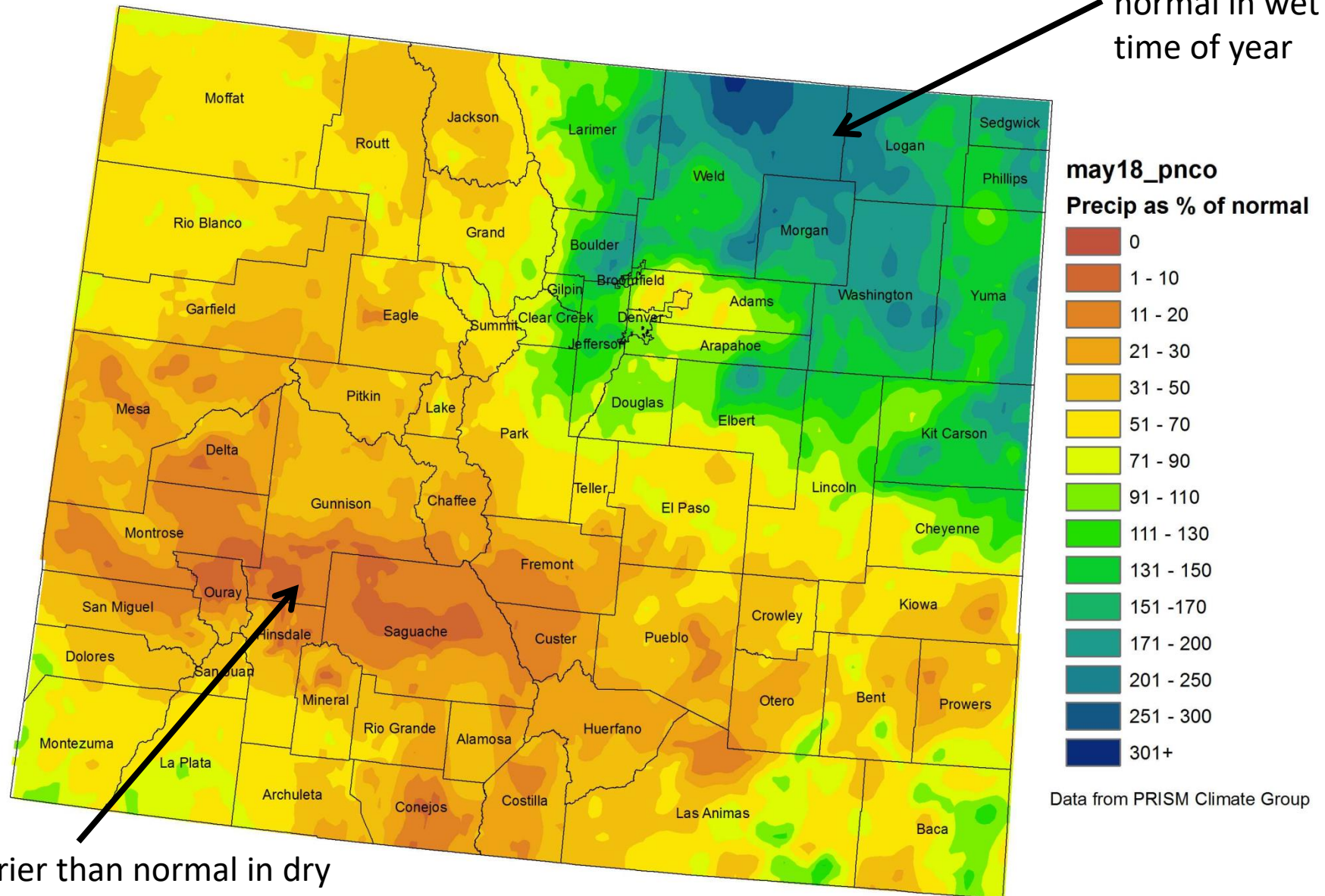


0.1 0.25 0.5 0.75 0.85 1.15 1.25 1.5 1.75 2

Proportion of precip relative to 1/12th

Colorado May 2018 Precipitation as a Percentage of Normal

Wetter than
normal in wet
time of year



Drier than normal in dry
time of year

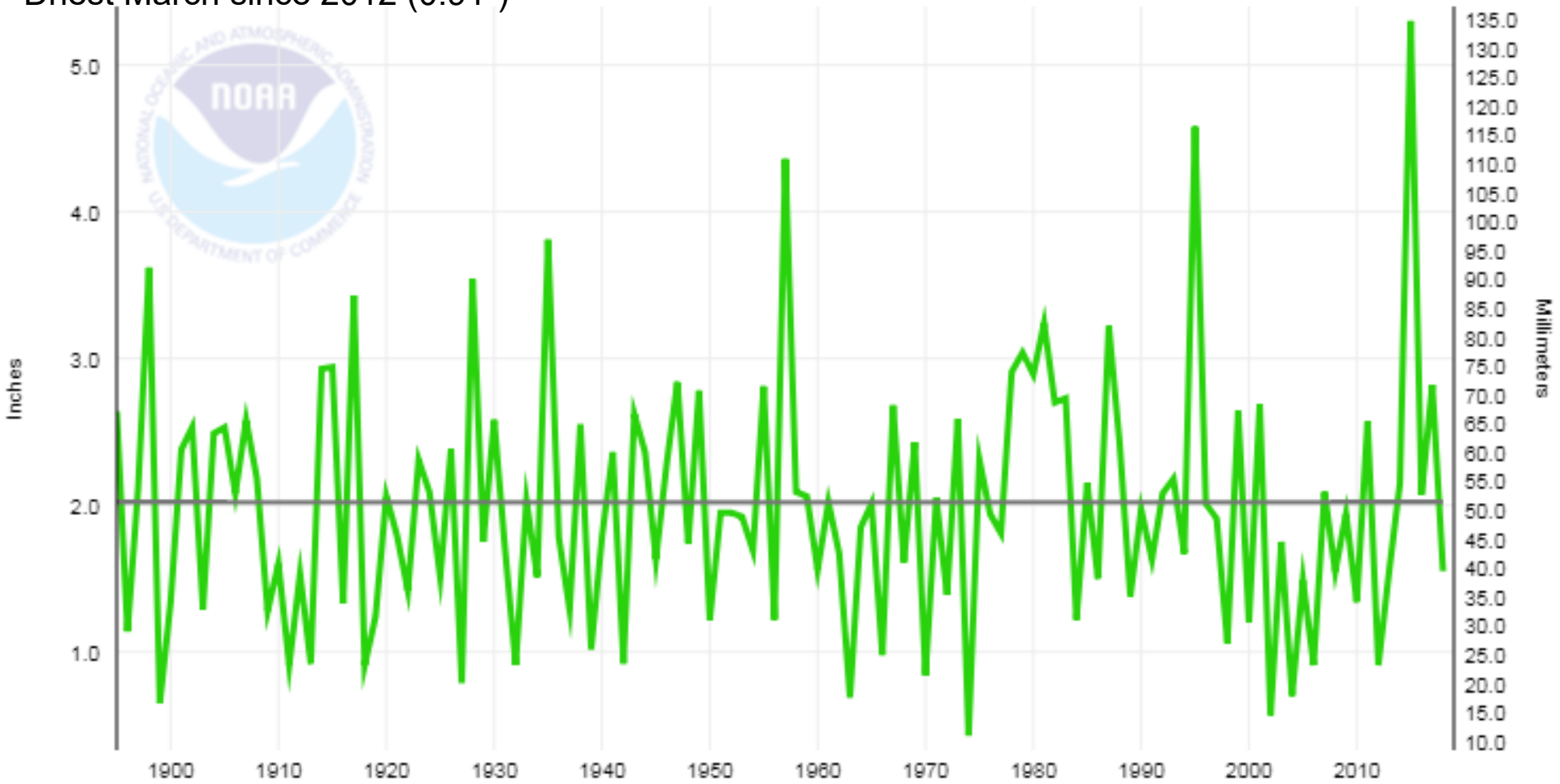
1.55" (-0.47")

26th driest on Record 1895-2018

Driest March since 2012 (0.91")

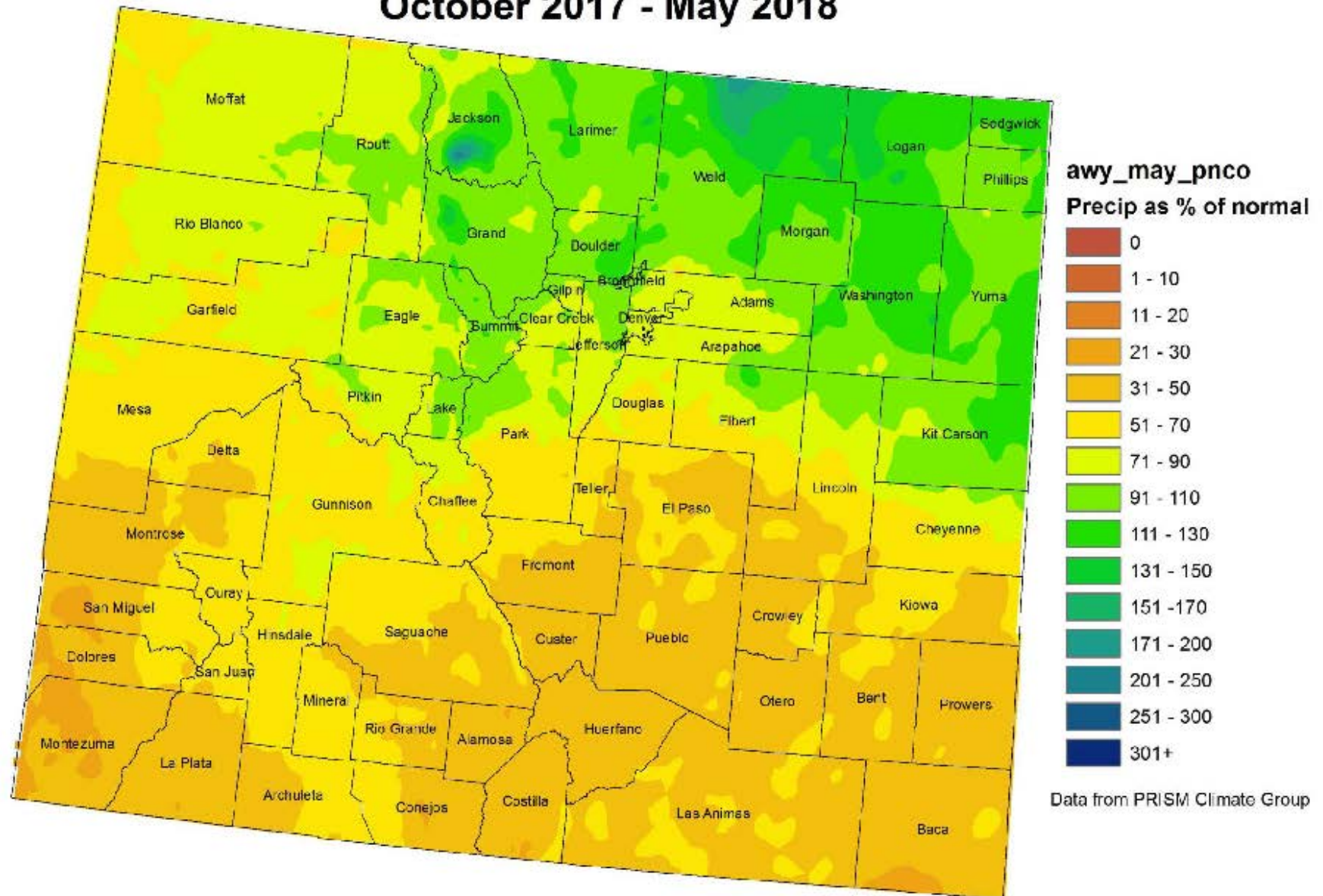
Colorado, Precipitation, May

Precip 1901-2000 Mean: 2.02"



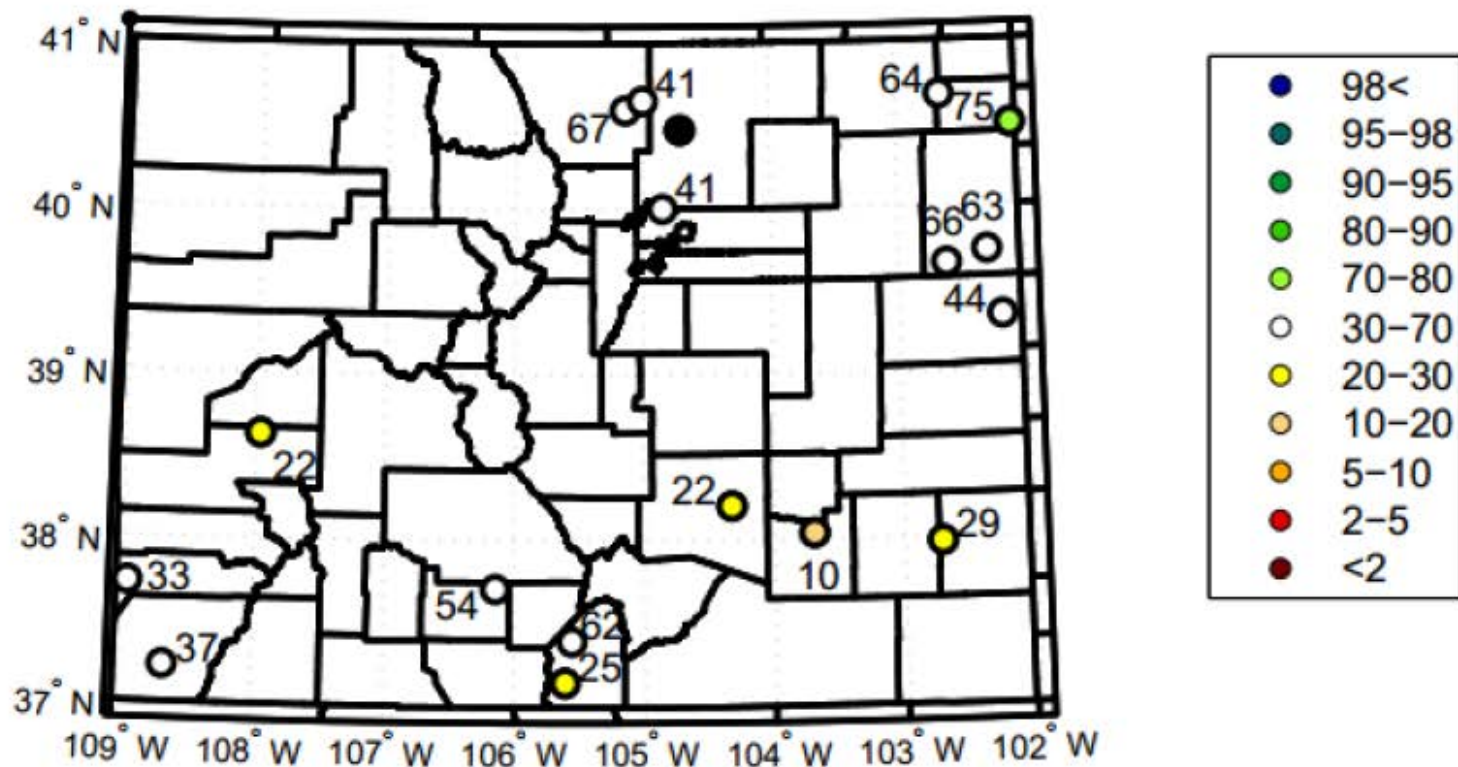
Don't blame Akron!

Colorado Water Year 2018 Precipitation as a Percentage of Normal October 2017 - May 2018

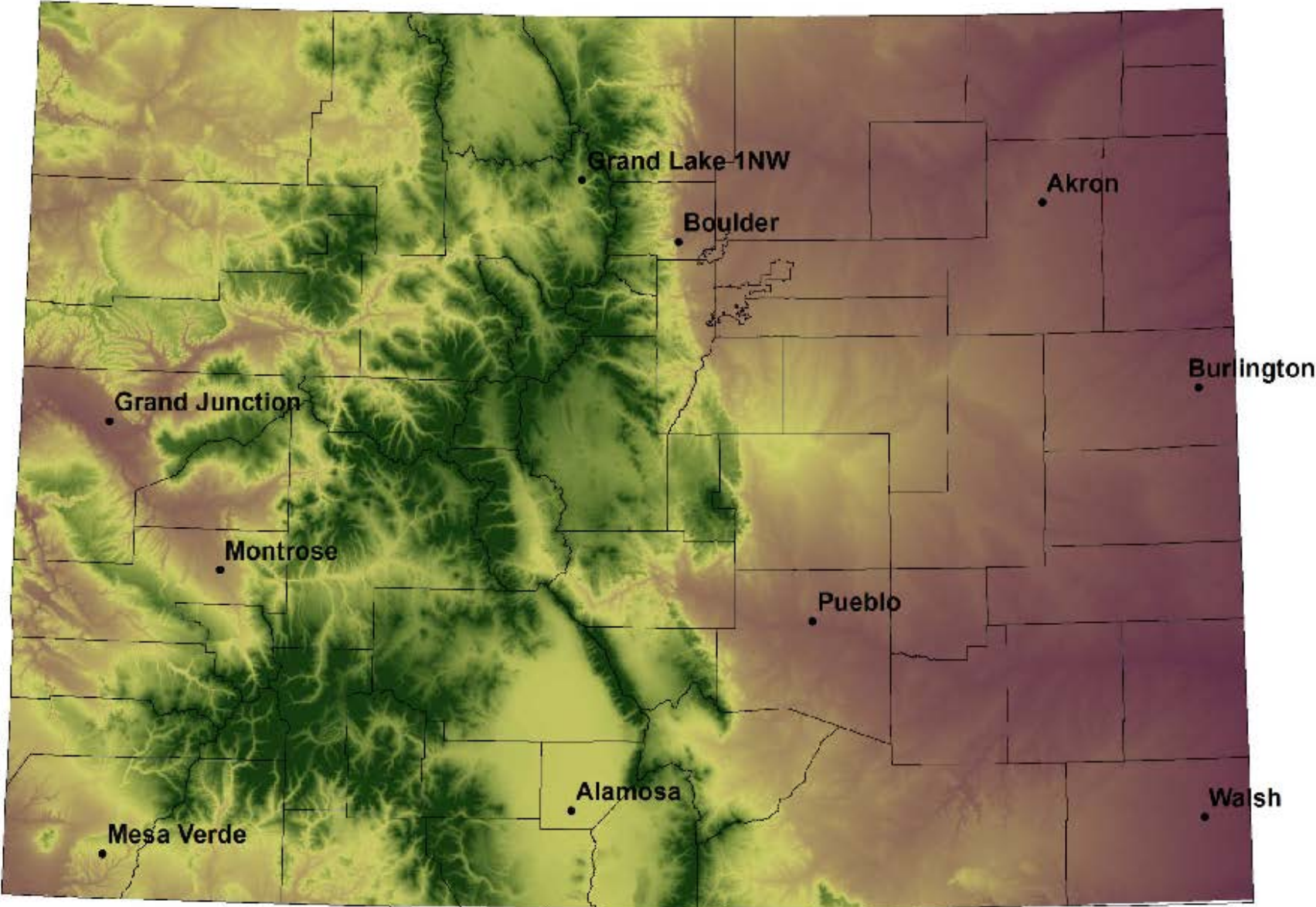


Growing Season Water Balance (P/PET) Percentiles

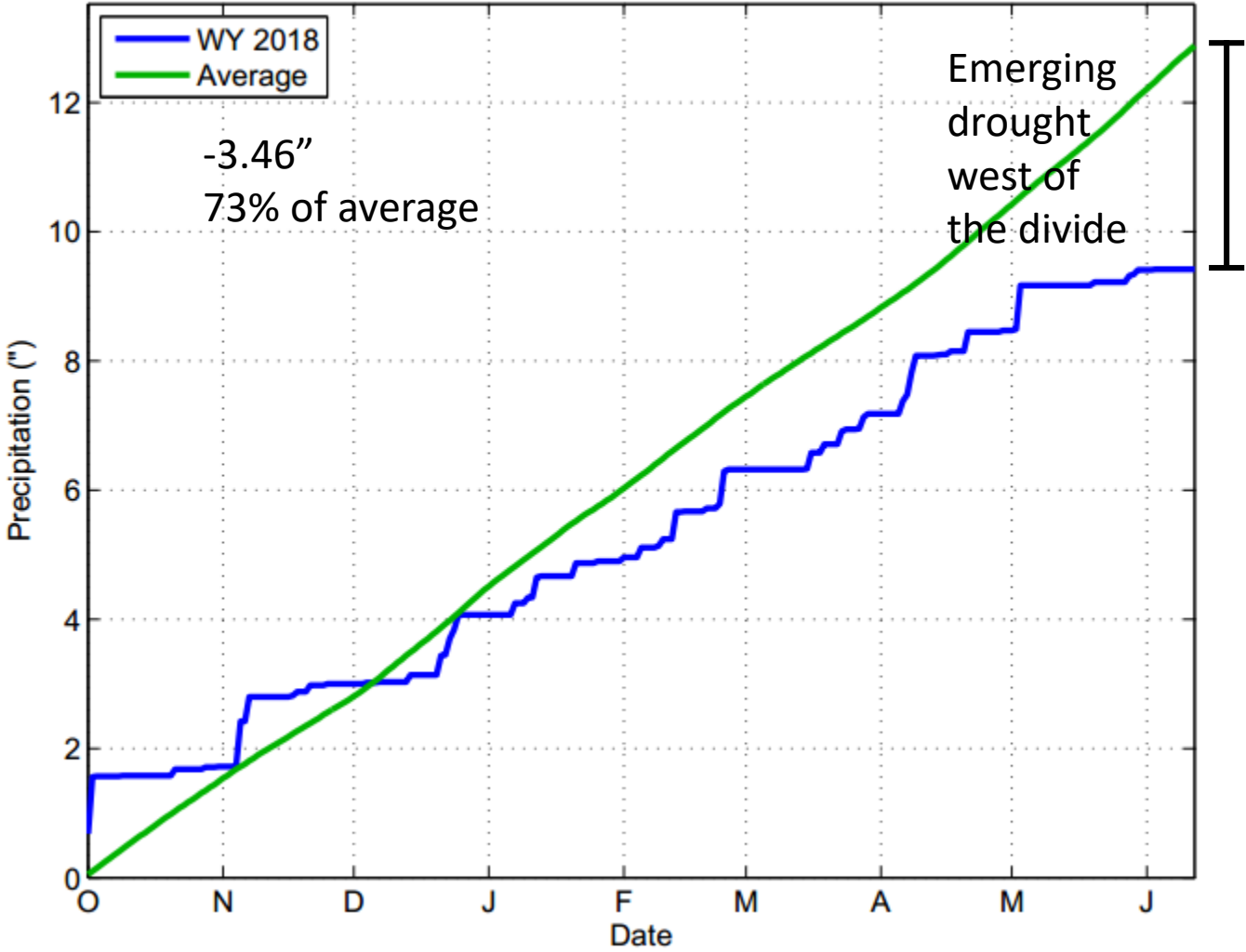
June 11, 2018



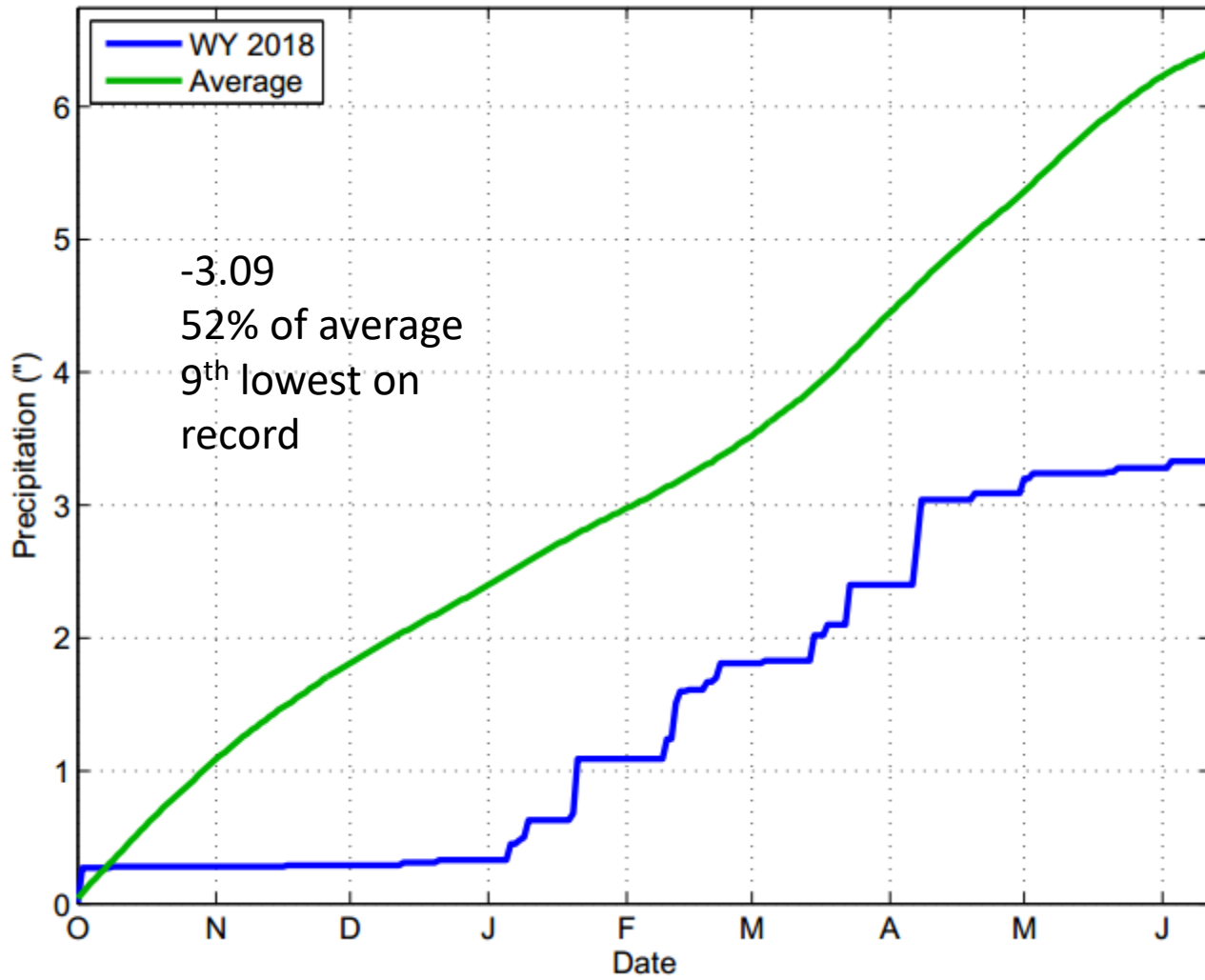
NWS Cooperative Stations for WATF



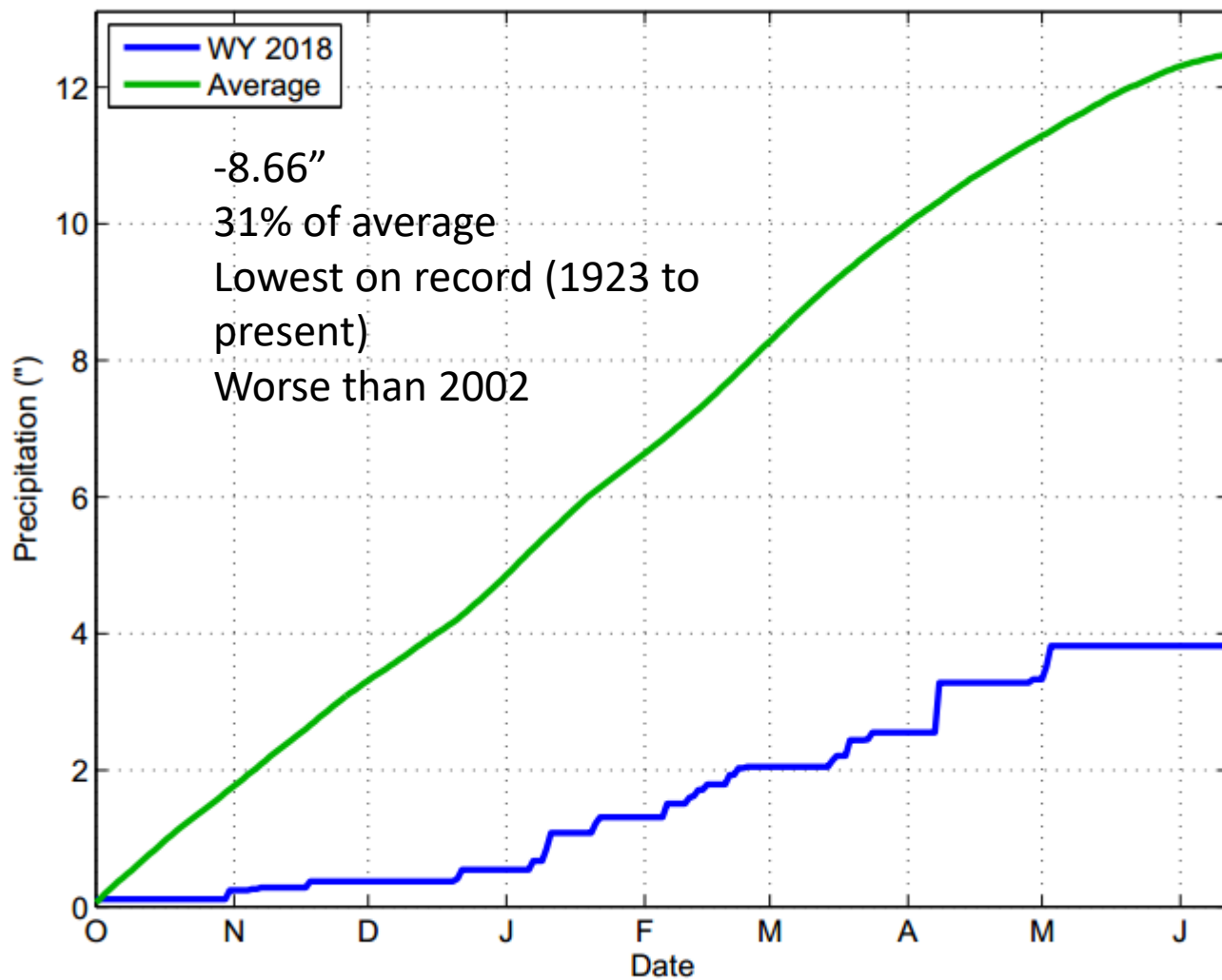
Grand Lake Precipitation Water Year 2018



Grand Junction Precipitation Water Year 2018

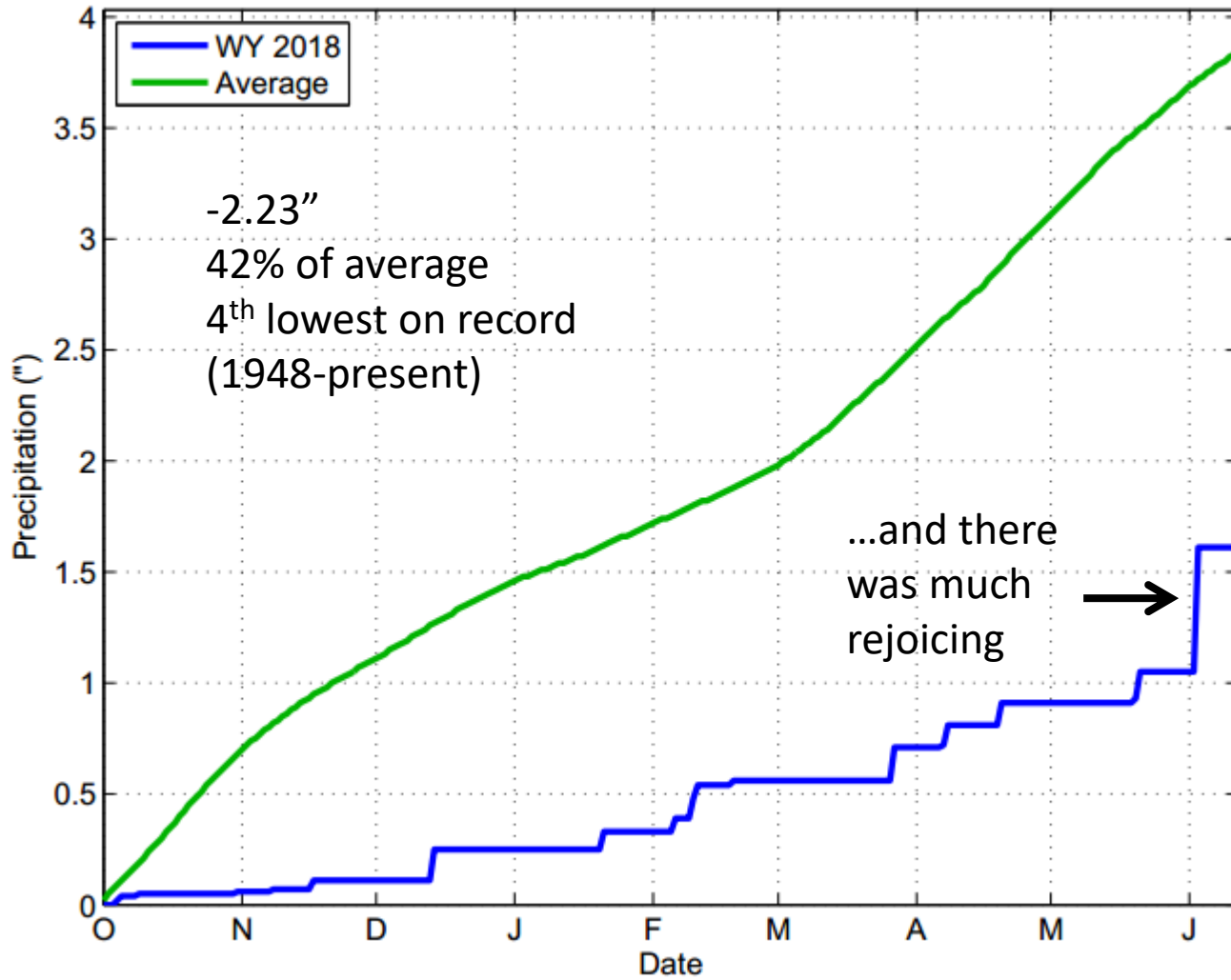


Mesa Verde Precipitation Water Year 2018



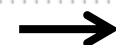
-8.66"
31% of average
Lowest on record (1923 to present)
Worse than 2002

Alamosa Precipitation Water Year 2018

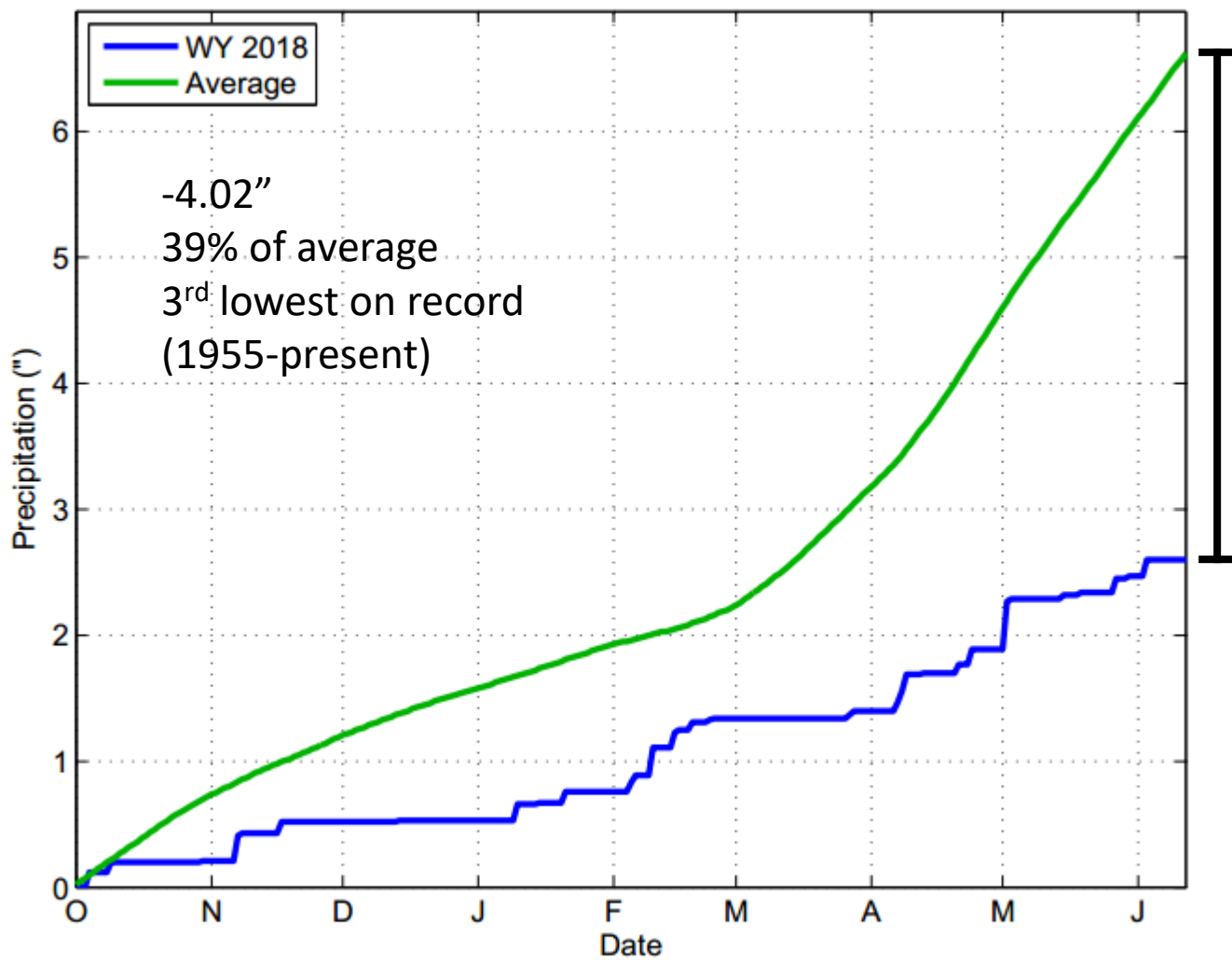


-2.23"
42% of average
4th lowest on record
(1948-present)

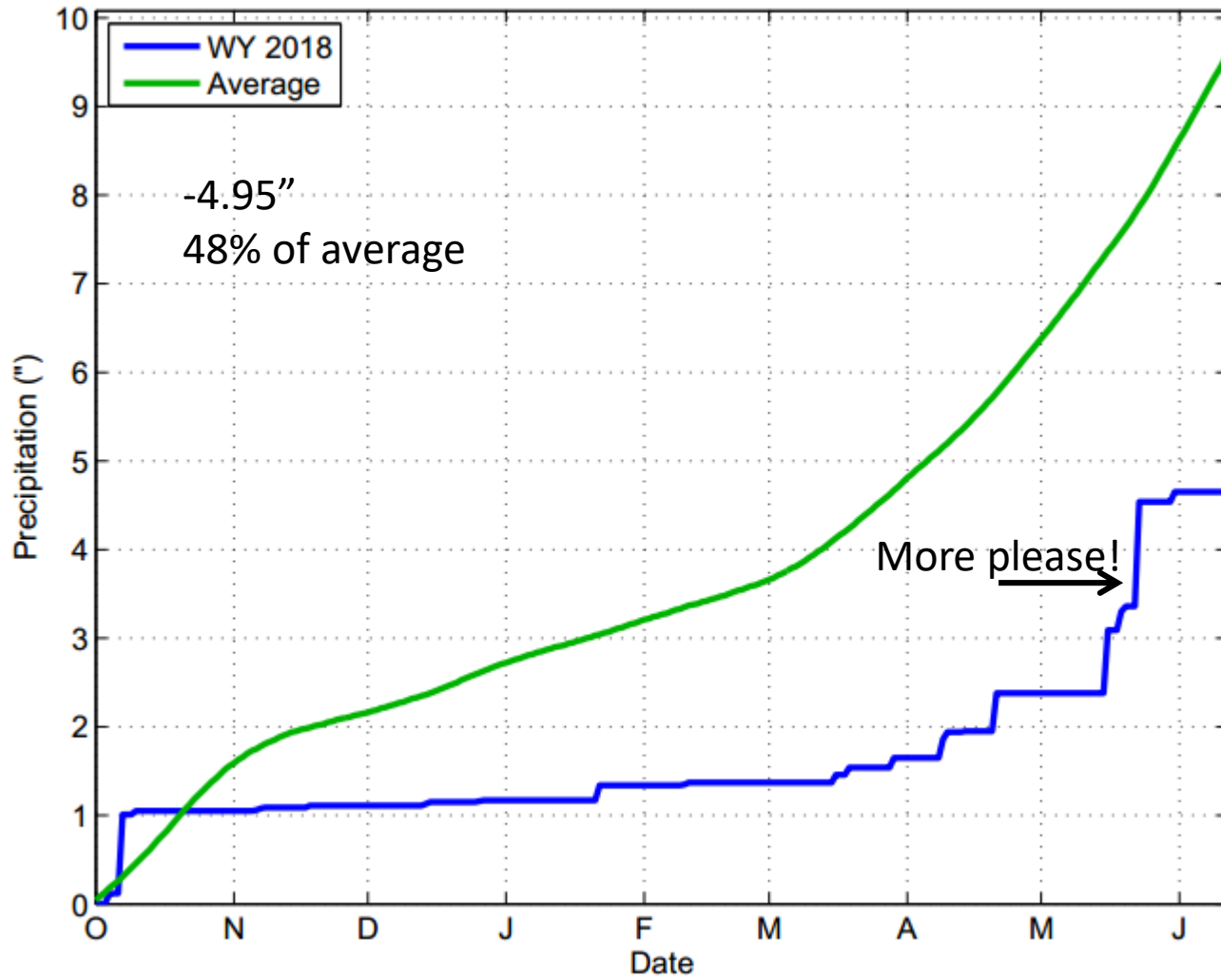
...and there
was much
rejoicing



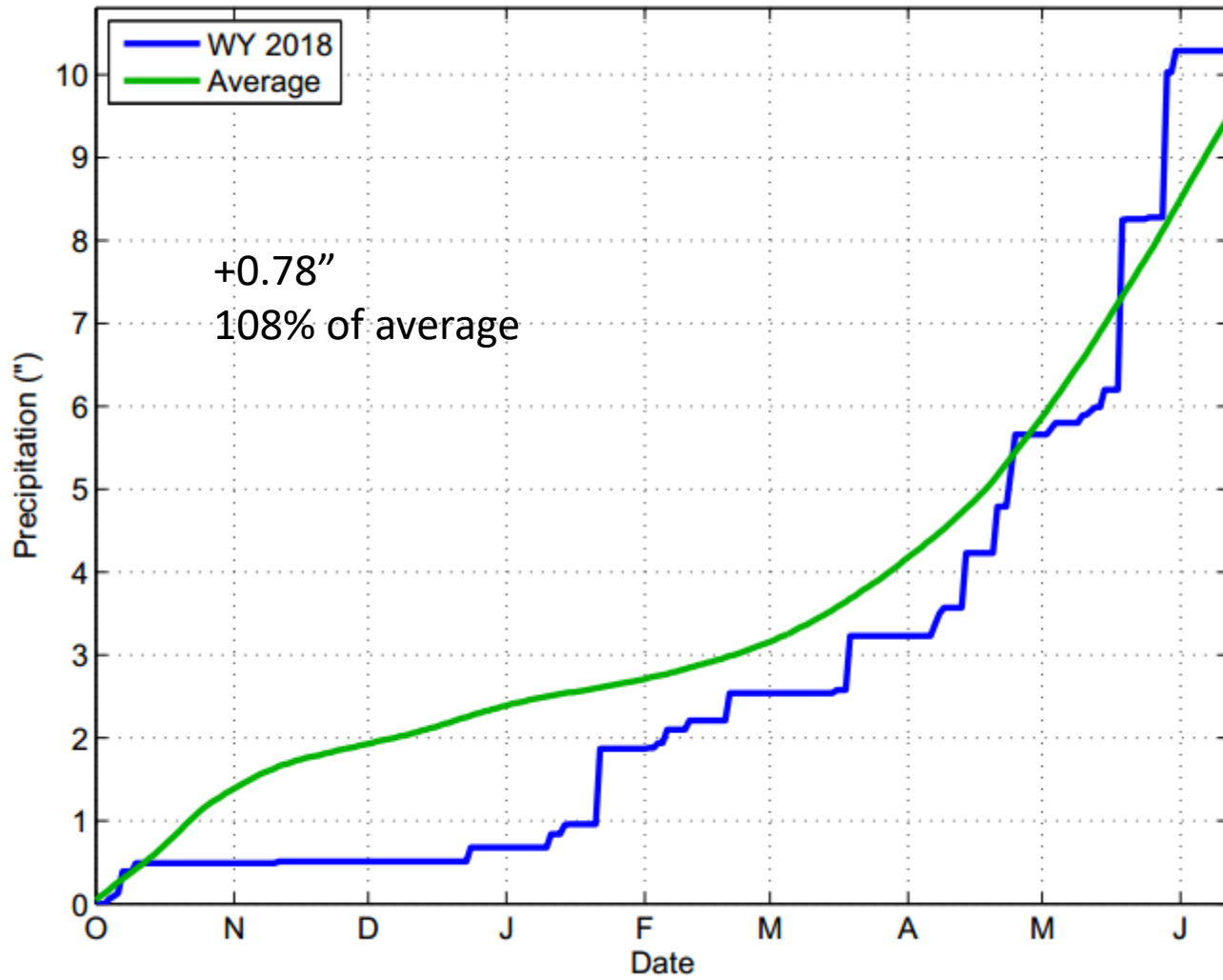
Pueblo Precipitation Water Year 2018



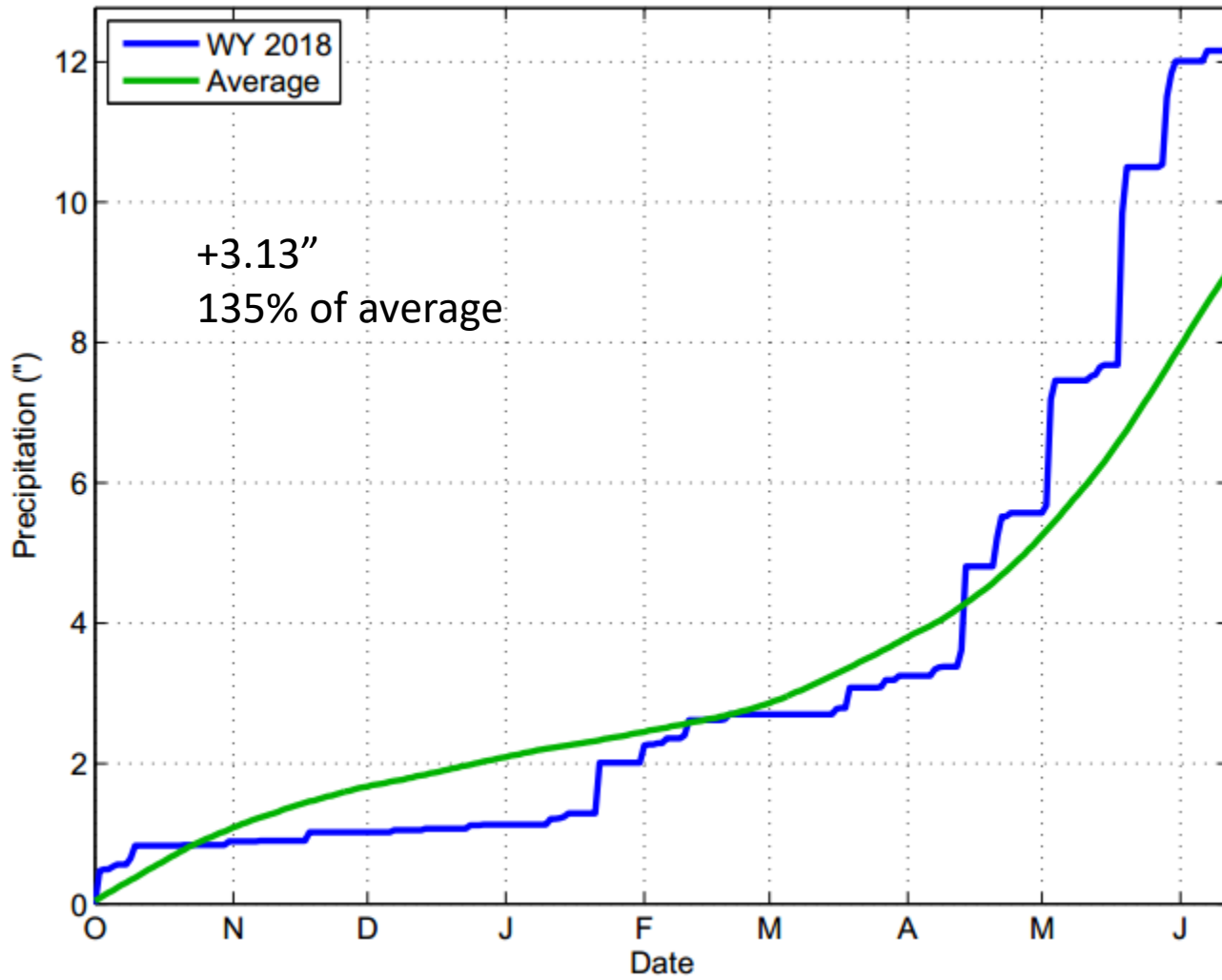
Walsh Precipitation Water Year 2018



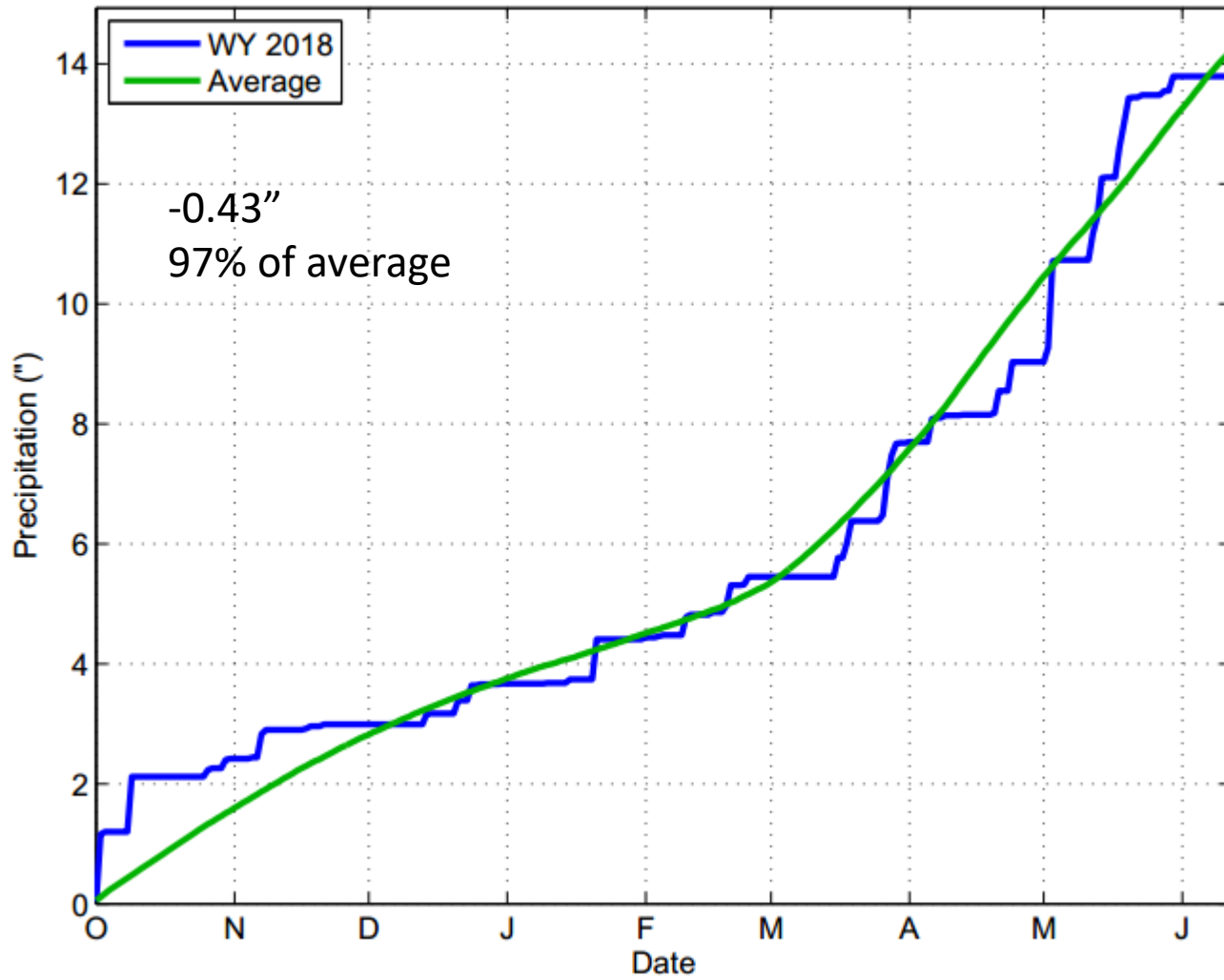
Burlington Precipitation Water Year 2018



Akron Precipitation Water Year 2018

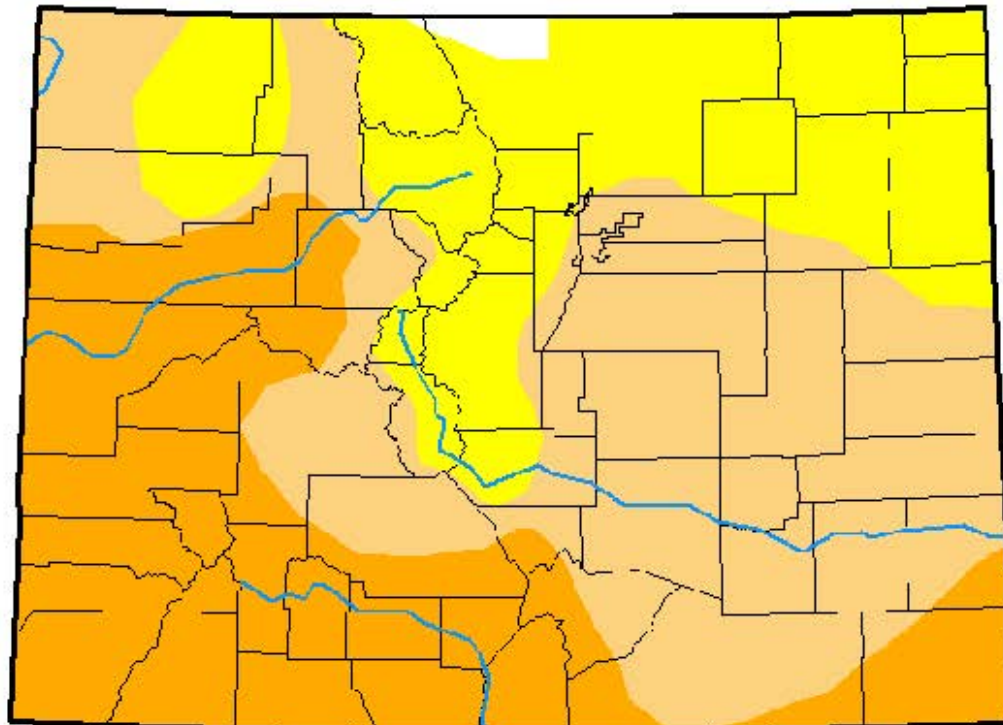


Boulder Precipitation Water Year 2018



U.S. Drought Monitor Colorado

February 6, 2018
(Released Thursday, Feb. 8, 2018)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.59	99.41	71.90	31.82	0.00	0.00
Last Week <i>01-30-2018</i>	0.59	99.41	75.90	29.21	0.00	0.00
3 Months Ago <i>11-07-2017</i>	71.26	28.74	1.22	0.00	0.00	0.00
Start of Calendar Year <i>01-02-2018</i>	6.57	93.43	33.53	7.27	0.00	0.00
Start of Water Year <i>09-26-2017</i>	67.63	32.37	3.72	0.00	0.00	0.00
One Year Ago <i>02-07-2017</i>	47.49	52.51	35.34	0.75	0.00	0.00

Intensity:

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

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

Author:

Eric Luebelhusen
U.S. Department of Agriculture



U.S. Drought Monitor

Colorado

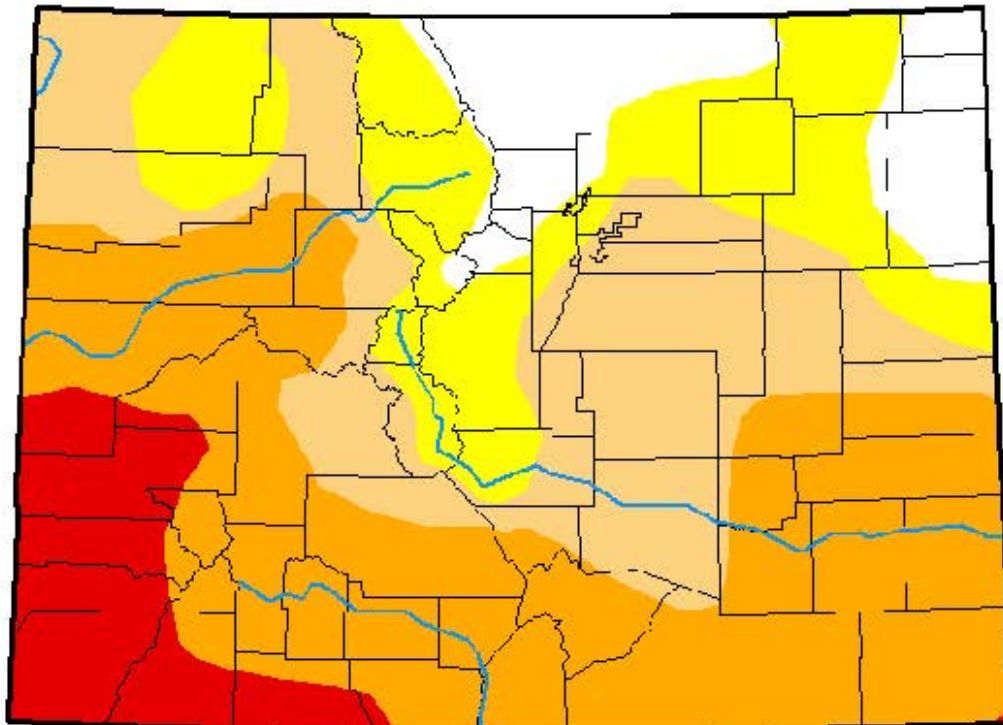
March 6, 2018

(Released Thursday, Mar. 8, 2018)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	10.16	89.84	70.39	45.80	9.28	0.00
Last Week <i>02-27-2018</i>	10.16	89.84	70.39	33.51	7.62	0.00
3 Months Ago <i>12-05-2017</i>	66.96	33.04	15.99	0.00	0.00	0.00
Start of Calendar Year <i>01-02-2018</i>	6.57	93.43	33.53	7.27	0.00	0.00
Start of Water Year <i>09-26-2017</i>	67.63	32.37	3.72	0.00	0.00	0.00
One Year Ago <i>03-07-2017</i>	48.04	51.96	37.11	1.98	0.20	0.00



Intensity:

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

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

Author:

Richard Tinker
CPC/NOM/NWS/NCEP



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Colorado

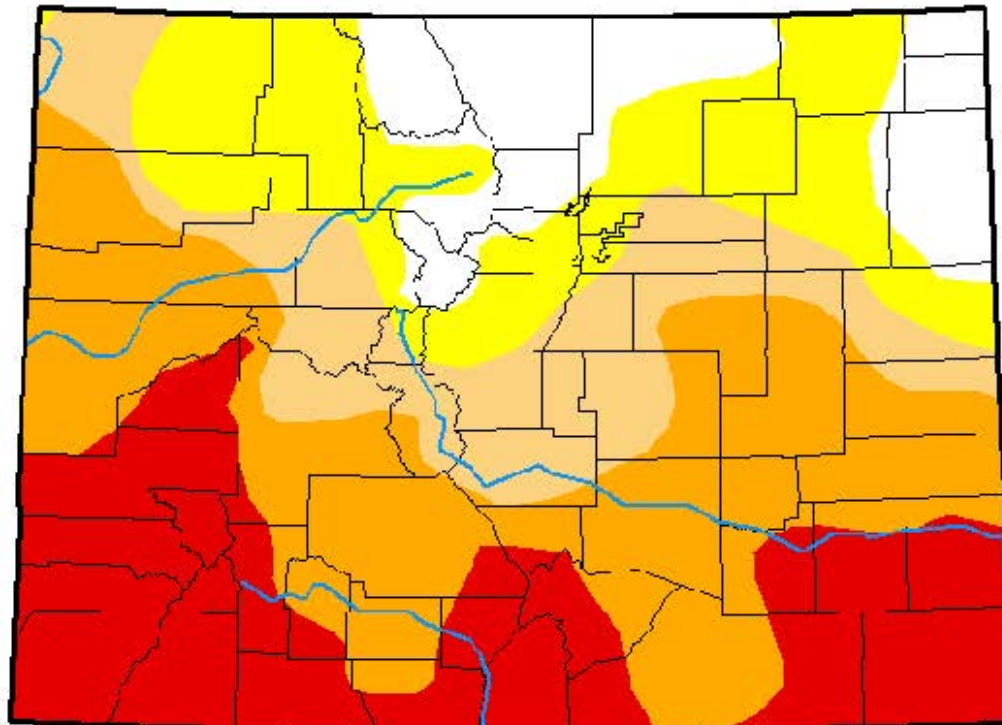
April 10, 2018

(Released Thursday, Apr. 12, 2018)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	12.33	87.62	69.43	53.65	24.31	0.00
Last Week 04-23-2018	9.65	90.35	73.67	51.56	23.63	0.00
3 Months Ago 01-29-2018	0.59	99.41	75.90	22.02	0.00	0.00
Start of Calendar Year 01-22-2018	6.57	93.43	33.53	7.27	0.00	0.00
Start of Water Year 09-26-2017	67.63	32.37	3.72	0.00	0.00	0.00
One Year Ago 04-11-2017	51.89	48.11	19.46	0.00	0.00	0.00



Intensity:

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

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

Author:

David Miskus
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Colorado

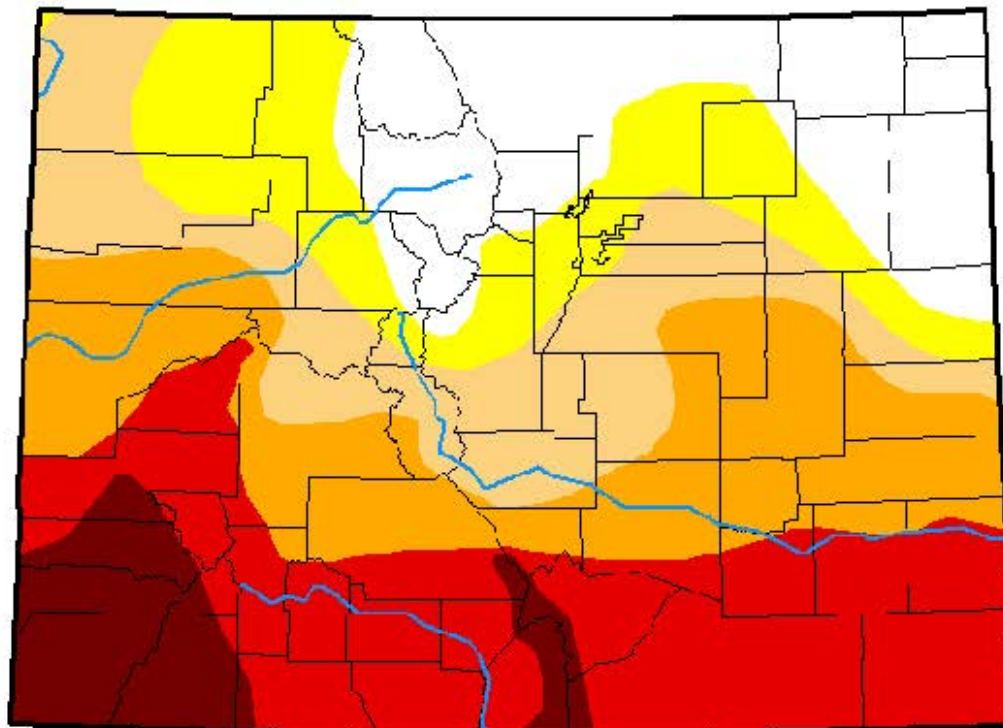
May 8, 2018

(Released Thursday, May. 10, 2018)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.02	61.98	67.36	61.67	30.89	7.13
Last Week 05-01-2018	18.47	61.53	67.36	53.65	30.89	6.02
3 Months Ago 02-08-2018	0.59	99.41	71.30	31.82	0.00	0.00
Start of Calendar Year 01-02-2018	6.57	63.43	33.50	7.27	0.00	0.00
Start of Water Year 09-26-2017	67.63	32.37	3.72	0.00	0.00	0.00
One Year Ago 05-10-2017	87.62	12.38	2.19	0.00	0.00	0.00



Intensity:

- D0 Normally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

Author:

David Sinneral
Western Regional Climate Center



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Colorado

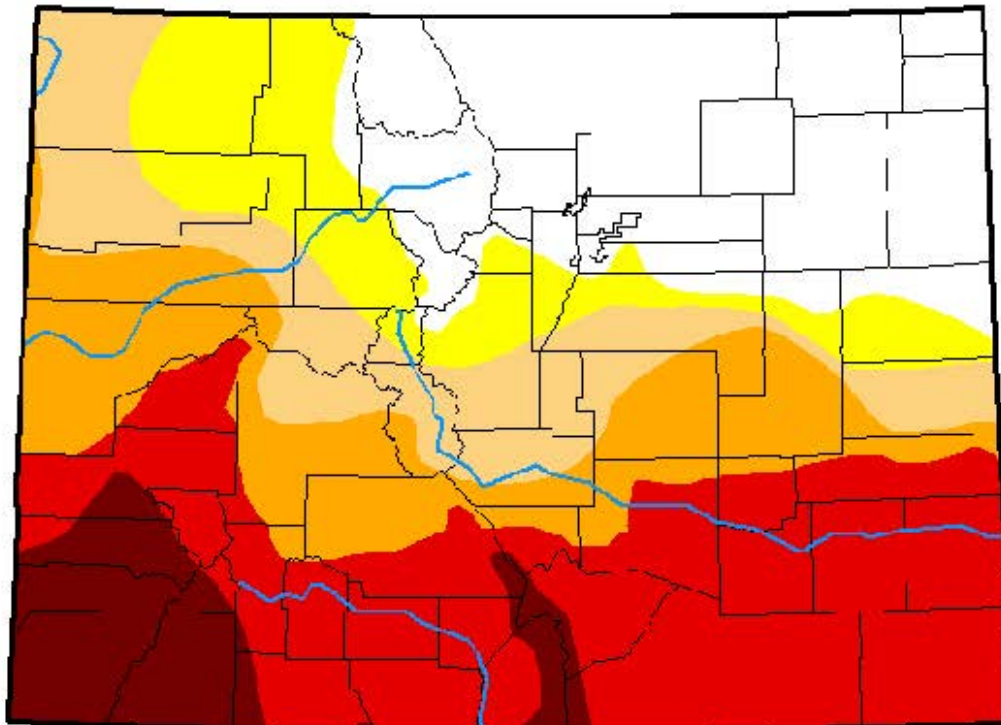
June 5, 2018

(Released Thursday, Jun. 7, 2018)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	21.69	75.31	63.91	50.80	35.13	7.79
Last Week <i>05-29-2018</i>	24.68	75.32	63.92	50.55	33.67	7.79
3 Months Ago <i>03-06-2018</i>	10.16	89.84	70.39	45.80	9.28	0.00
Start of Calendar Year <i>01-02-2018</i>	6.57	93.43	33.53	7.27	0.00	0.00
Start of Water Year <i>09-26-2017</i>	67.63	32.37	3.72	0.00	0.00	0.00
One Year Ago <i>06-06-2017</i>	93.84	6.16	0.00	0.00	0.00	0.00



Intensity:

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

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

Author:

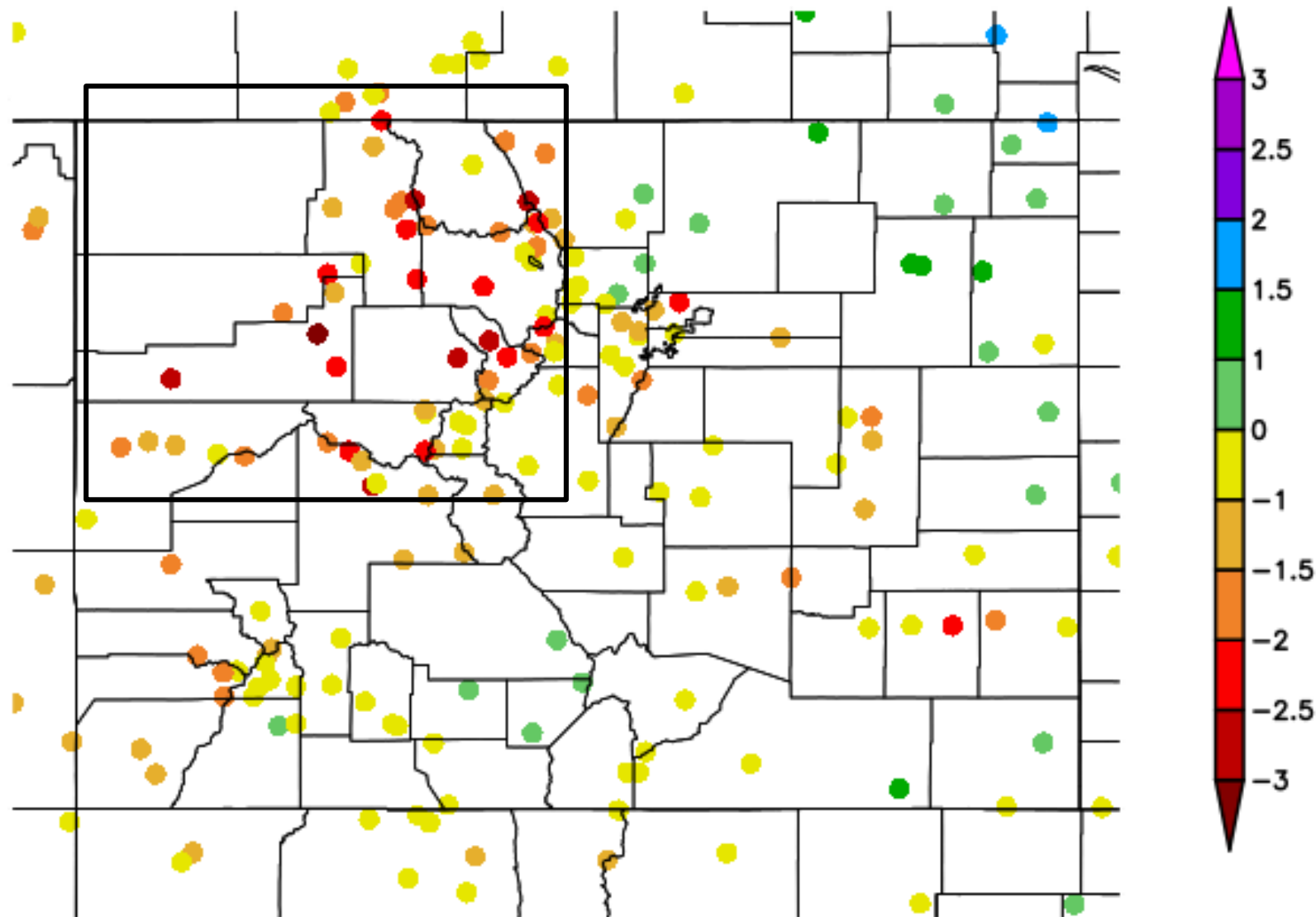
Anthony Arusa
NOA/MWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

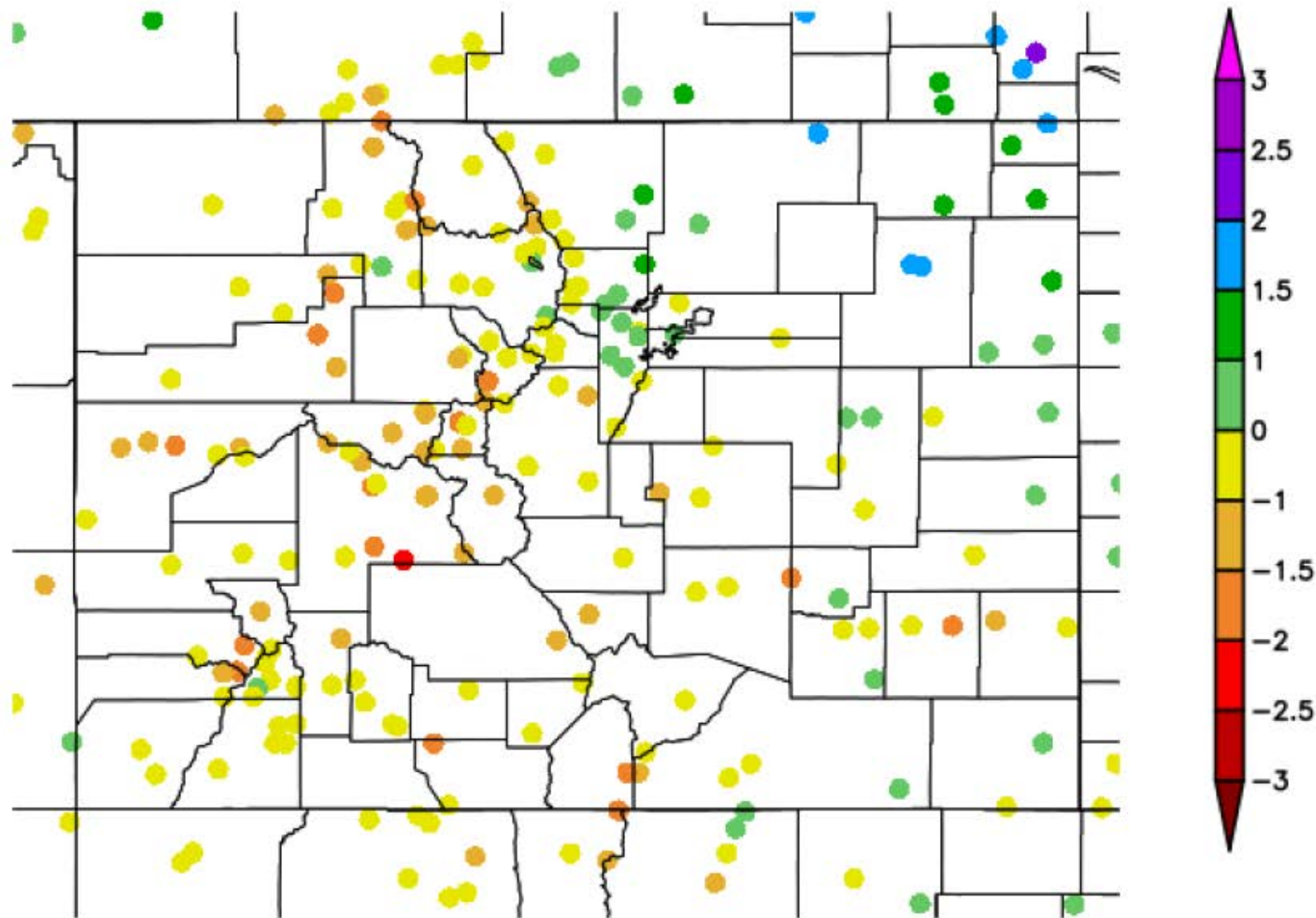
30 Day SPI

5/13/2018 - 6/11/2018



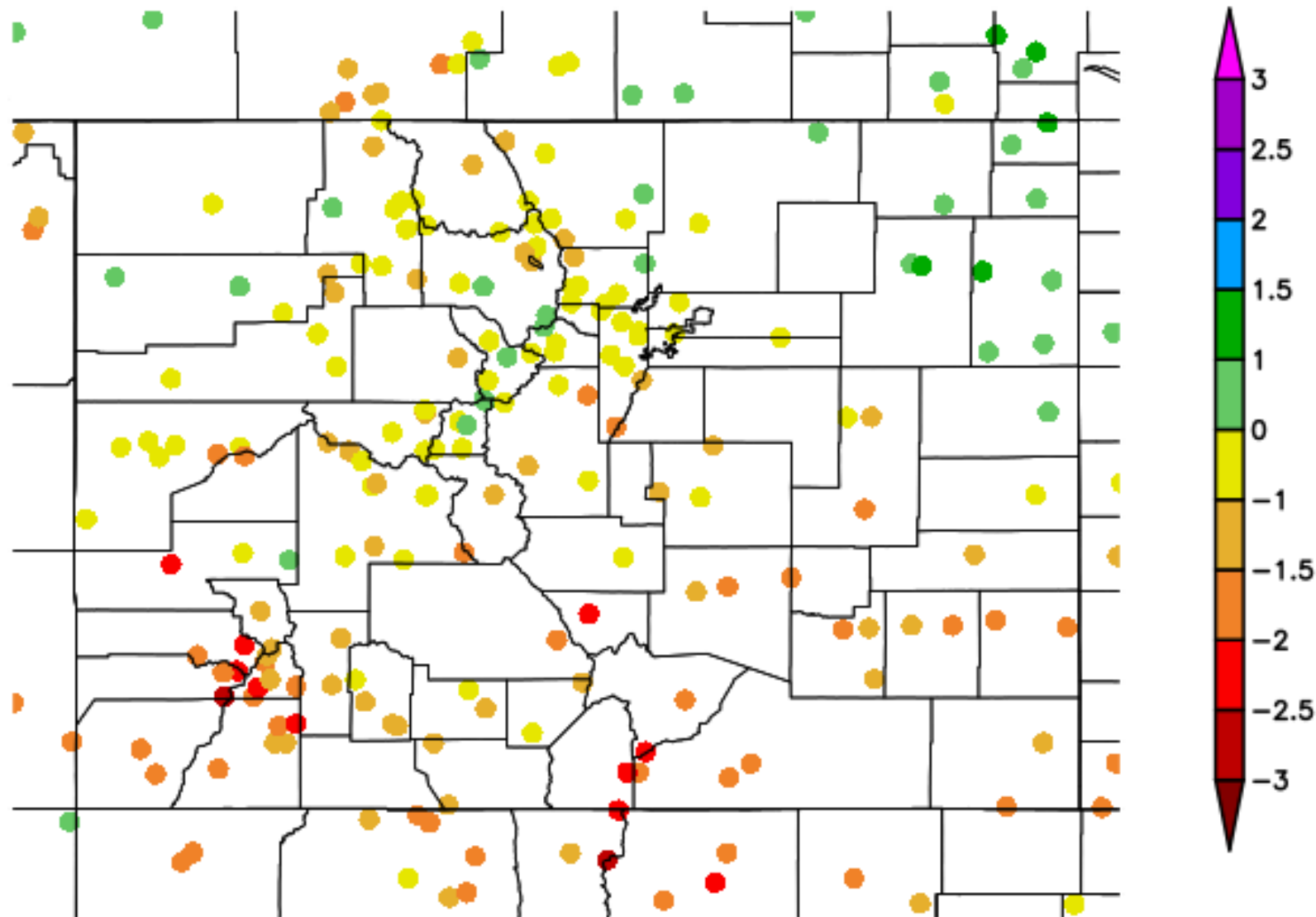
Monthly SPI

5/1/2018 - 5/31/2018

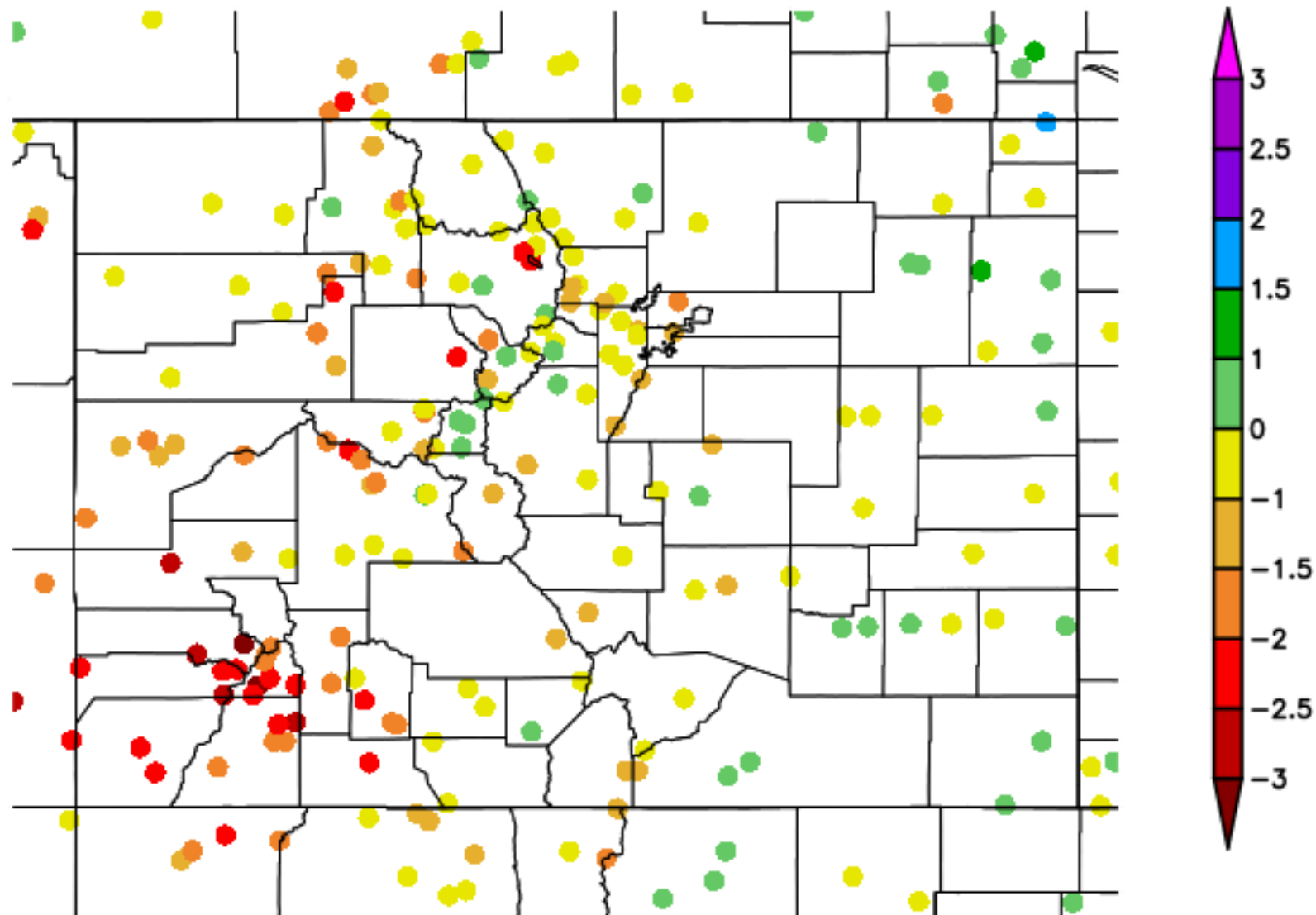


6 Month SPI

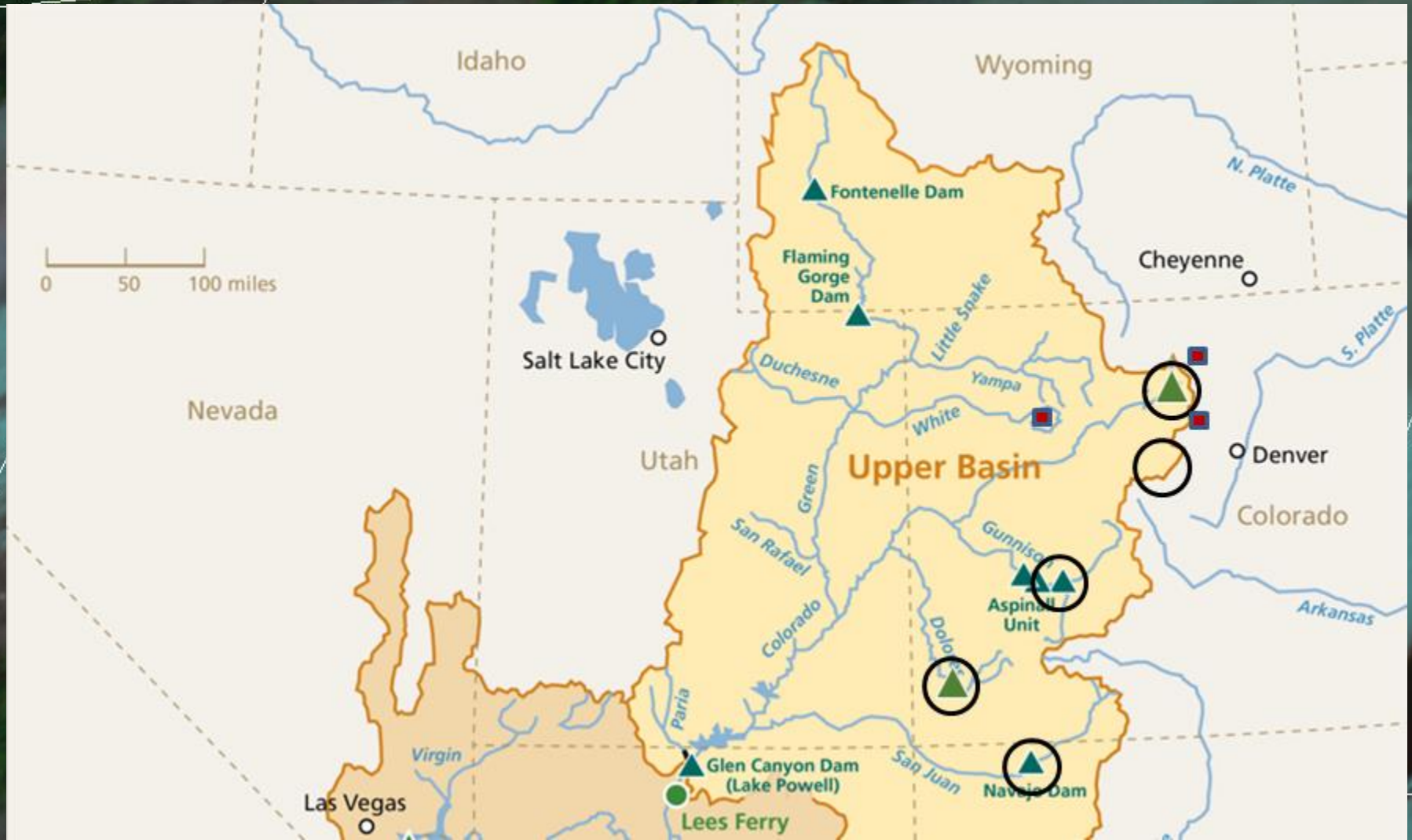
12/12/2017 - 6/11/2018



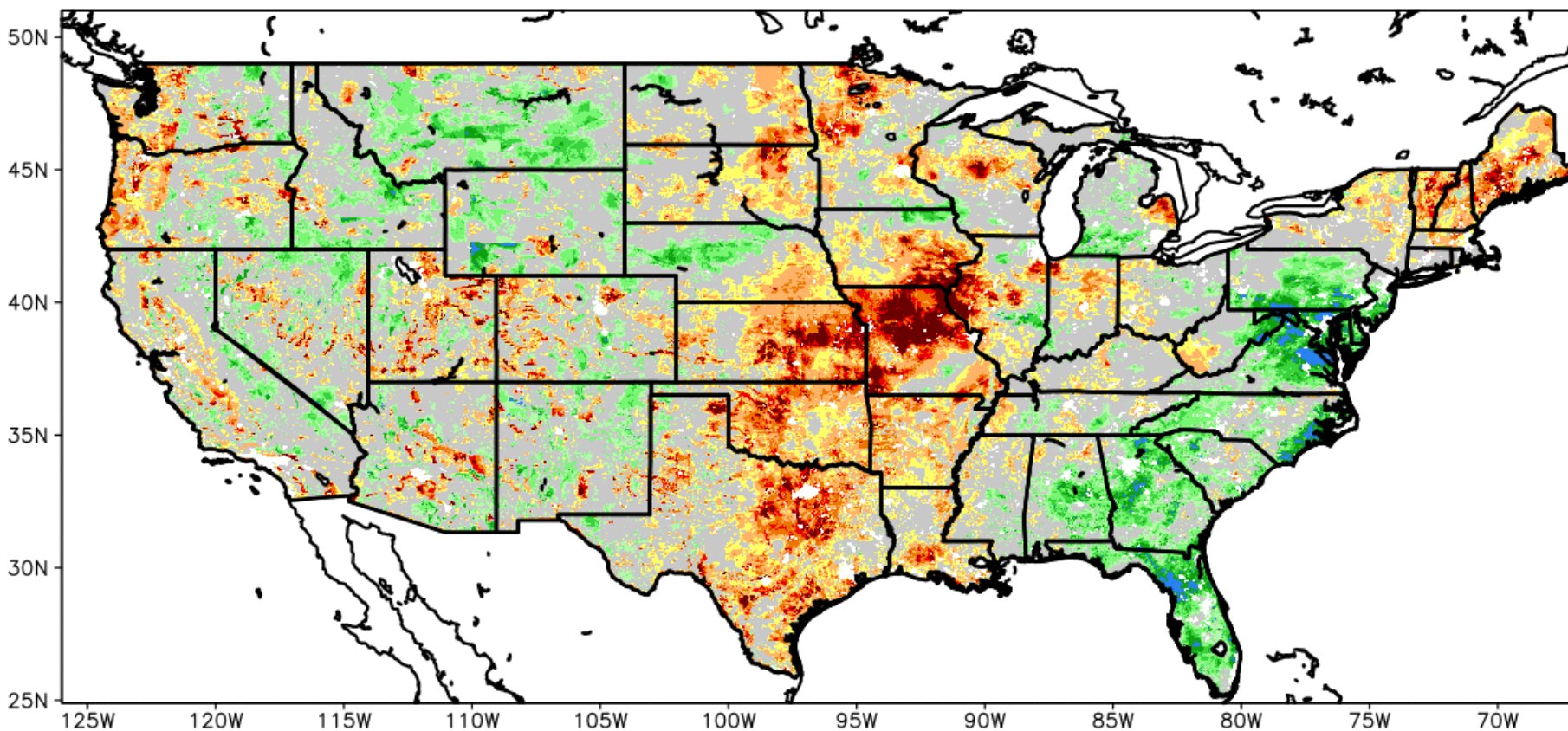
12 Month SPI 6/12/2017 - 6/11/2018



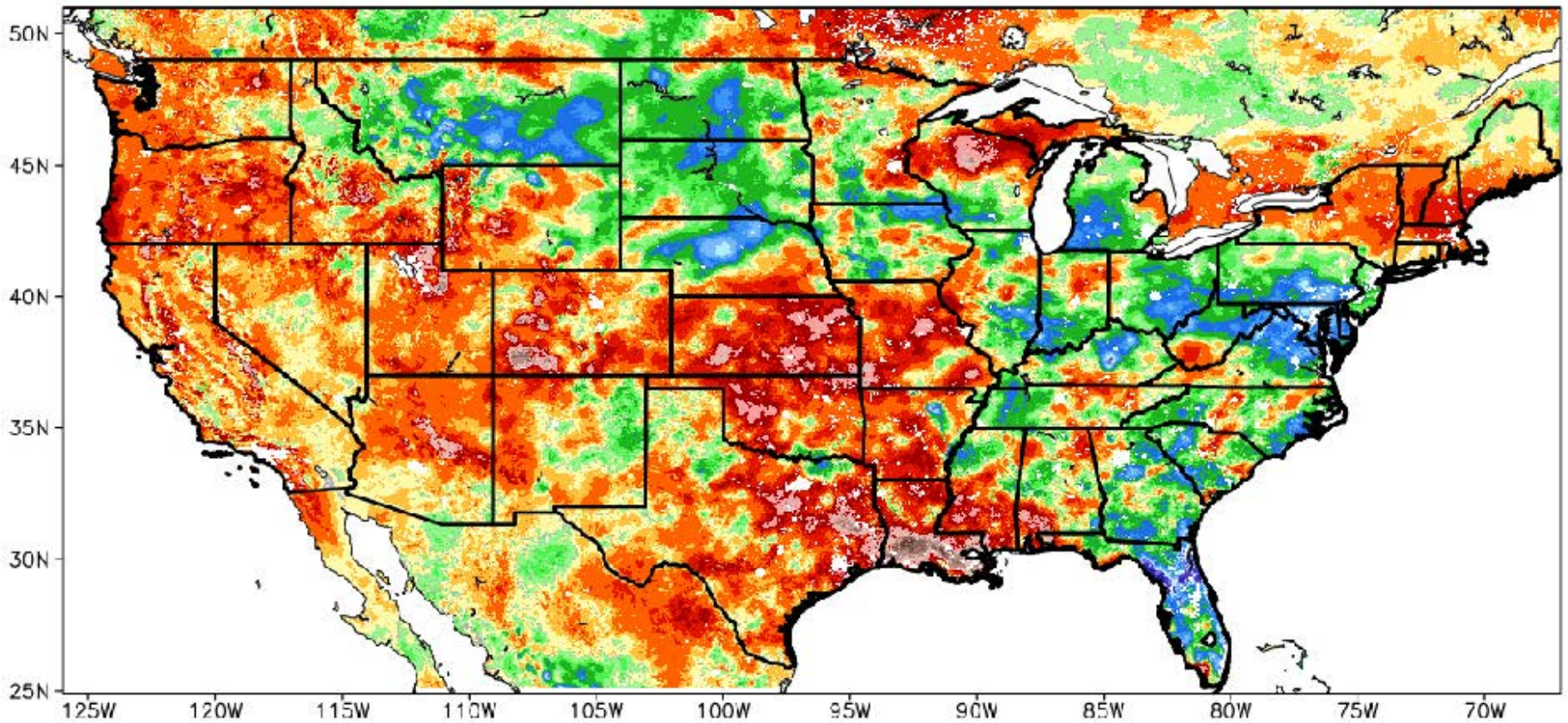
Reservoir and Soils Update



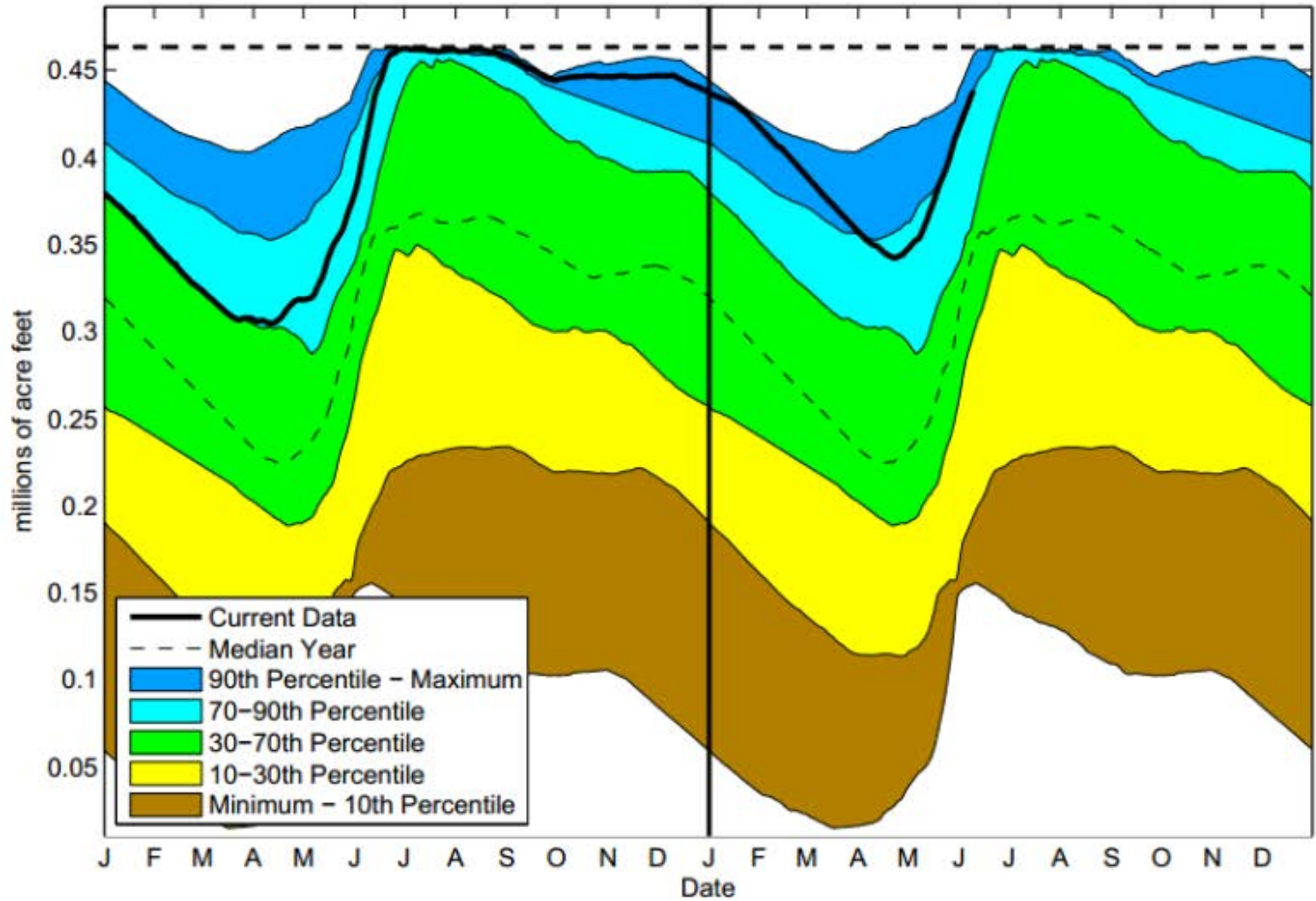
SPoRT-LIS 0-2 m RSM percentile valid 12 Jun 2018



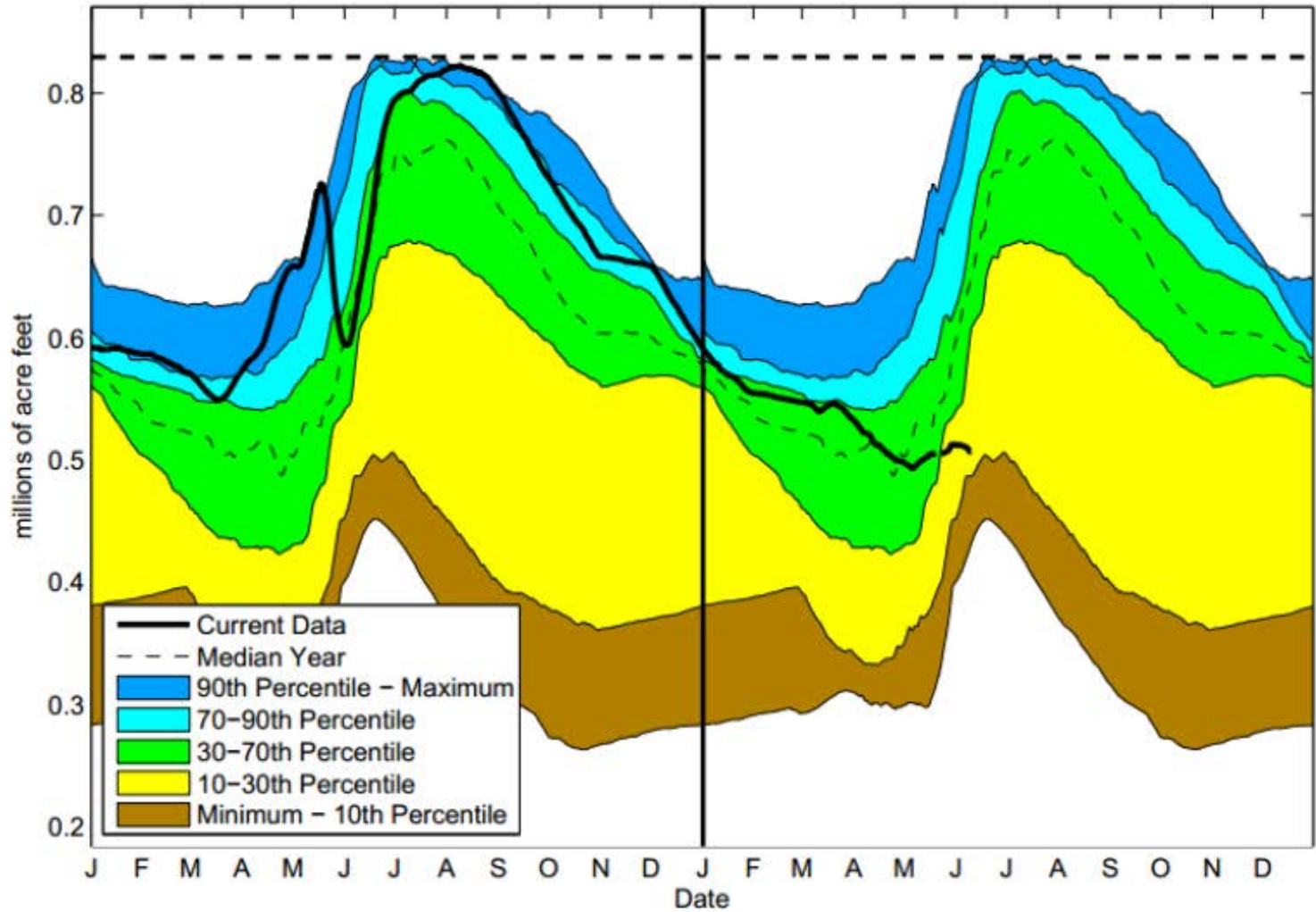
1-Year Difference in Column Relative Soil Moisture (%) valid 12z 12 Jun 2018



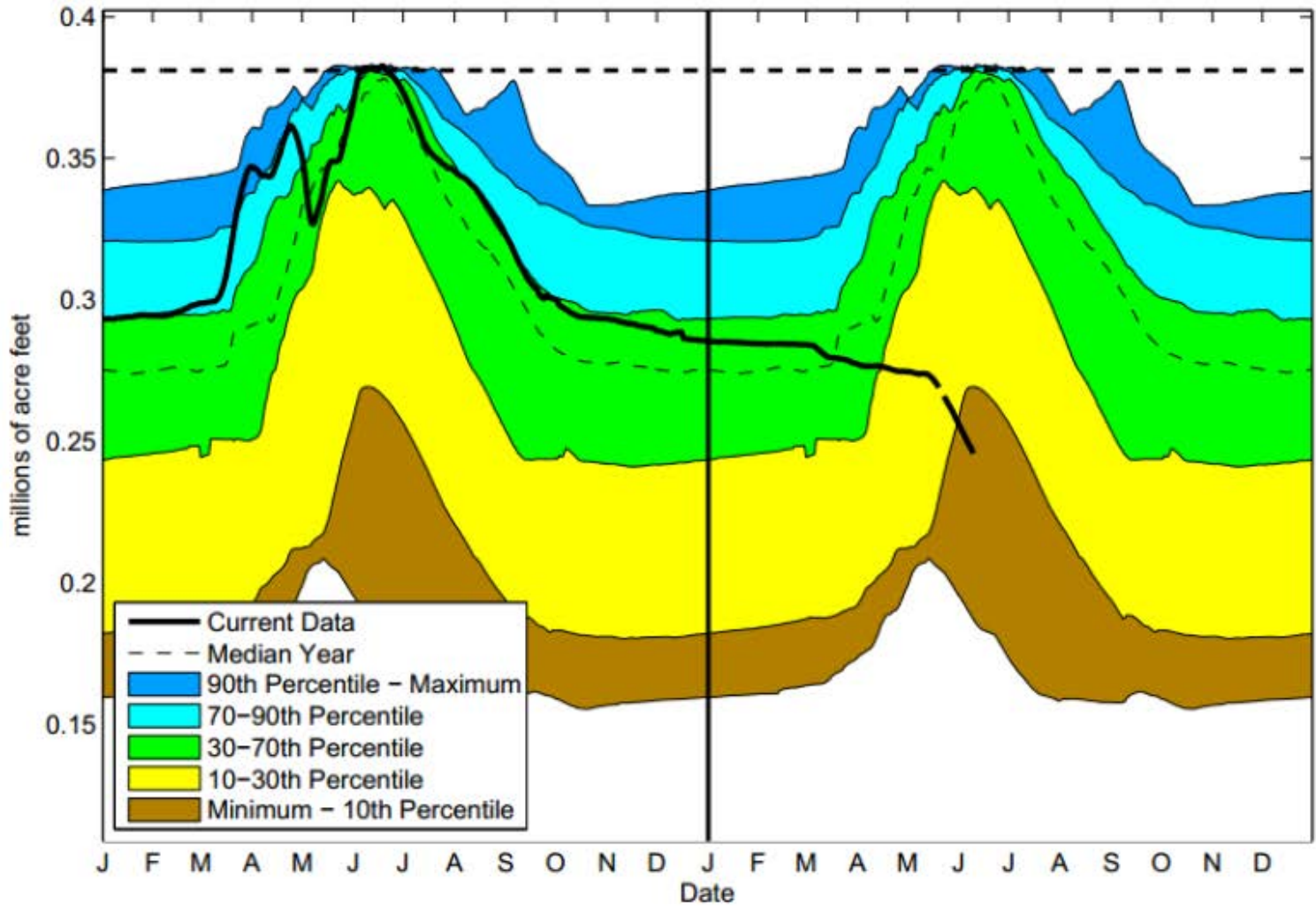
Lake Granby Reservoir Level 06/10/2018
134 Percent of 2000-2016 Average



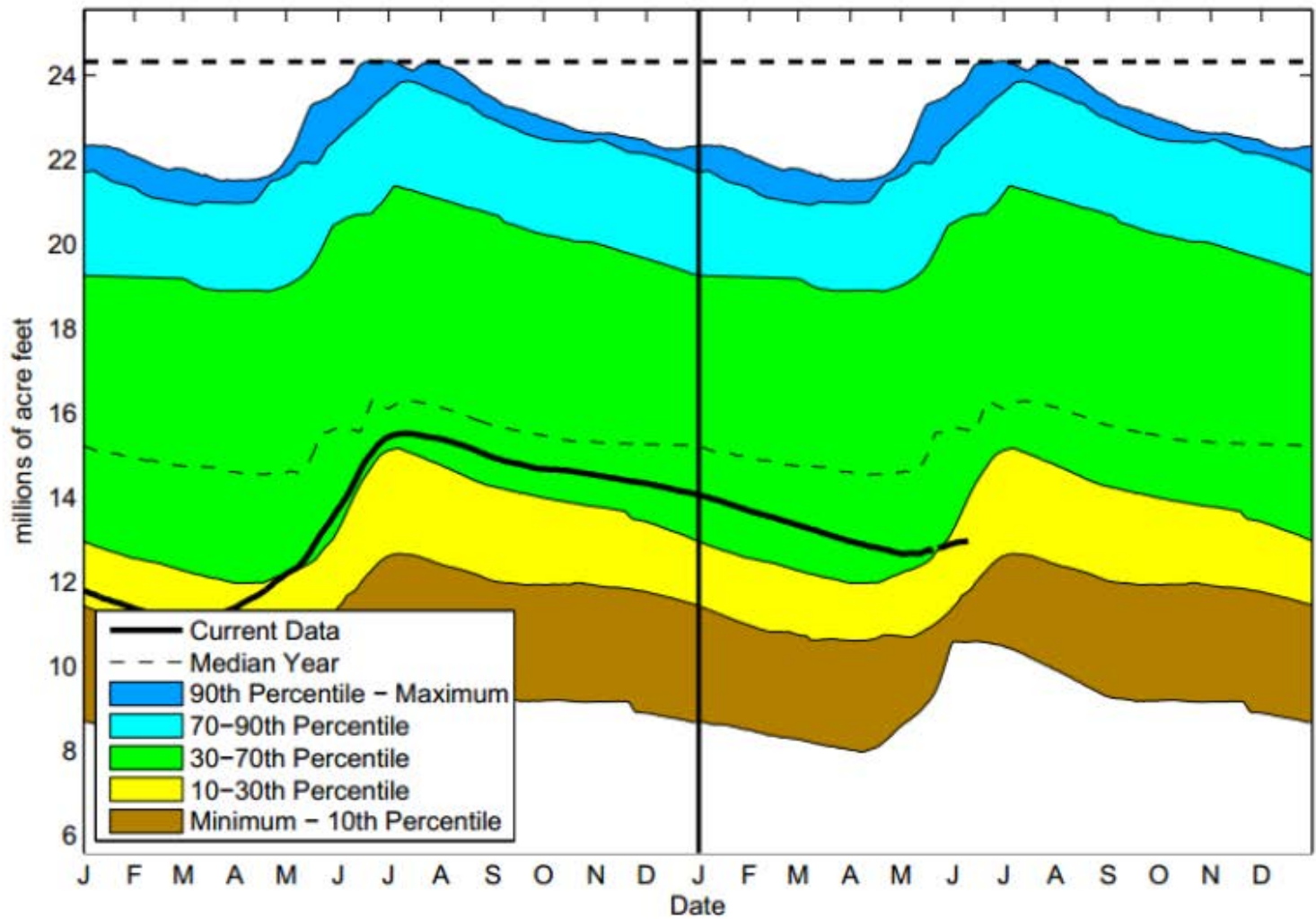
Blue Mesa Reservoir Level 06/10/2018
79 Percent of 1985-2016 Average



McPhee Reservoir Level 06/10/2018
71 Percent of 1987-2016 Average



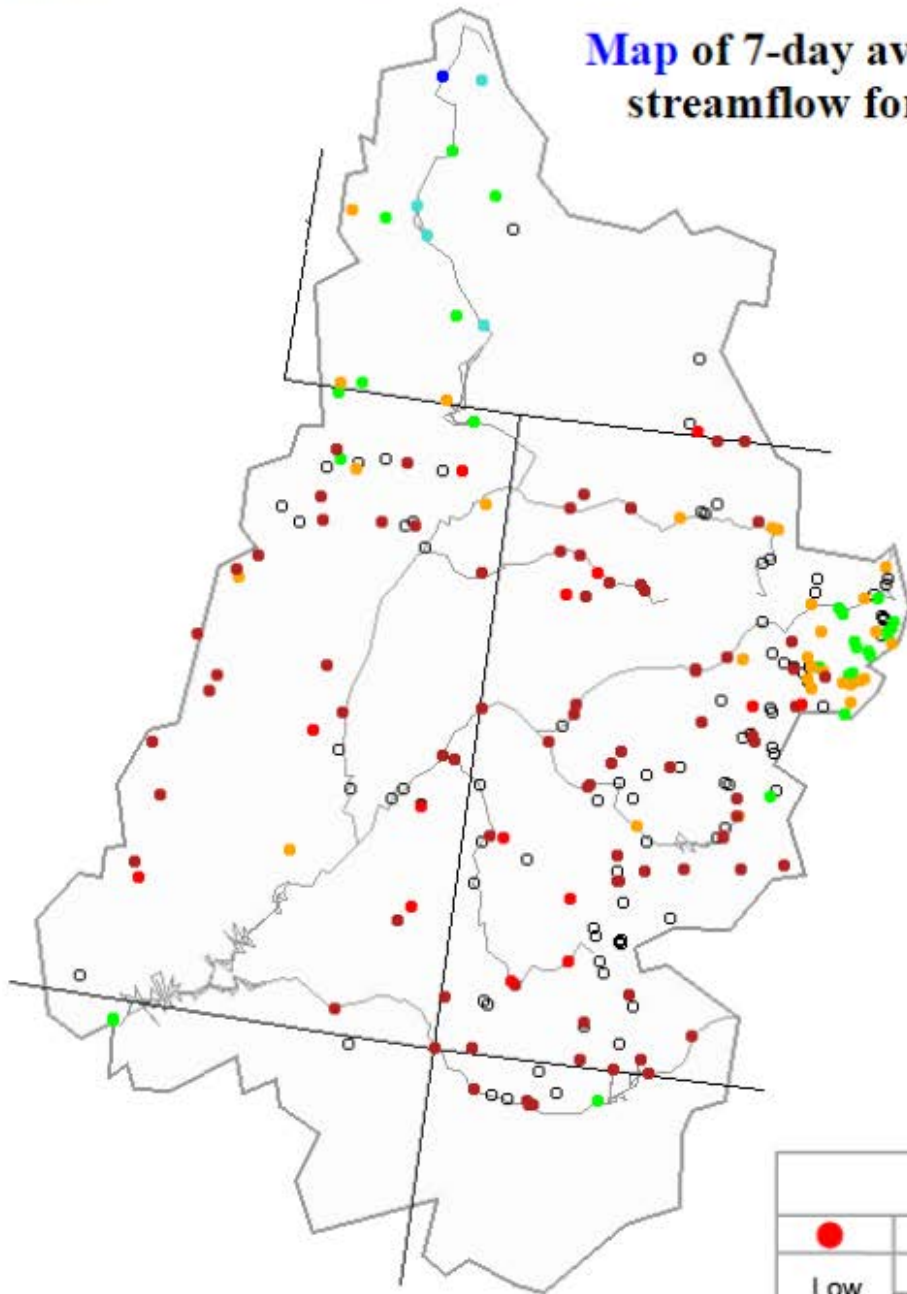
Lake Powell Reservoir Level 06/10/2018
76 Percent of 1985-2016 Average



Reservoir Operations:

	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (ac-ft)	Change (ac-ft)	Full Elev. (feet)	Capacity (ac-ft)
South Platte System:							
Antero	8	31	8,941.88	19,859	-46	8,942	19,881
Eleven Mile	35	53	8,597.38	99,075	-34	8,597	97,779
Cheesman	132	77	6,837.85	75,565	110	6,842	79,064
Strontia Springs	506	133	5,991.80	6,856	-98	6,002	7,863
Chatfield	74	14	5,431.95	26,993	14	5,432	27,076
Marston	65	124	5,532.03	15,324	-151	5,538	19,256
Soda Lakes	---	---	---	1,604	-1		1,680
Platte Canyon	0	---	5,530.50	768	0	5,533	910
South Complex	0	0	---	3,366	-4		3,561
Harriman	---	---	5,621.92	705	-8	5,623	762
Moffat System:							
Gross	450	483	7,282.06	41,836	-66	7,282	41,811
Ralston	2	2	6,034.95	8,997	242	6,046	10,776
Upper Long Lake	0	0	6,079.01	1,016	0	6,088	1,519
Lower Long Lake	0	0	5,895.08	10	0	5,908	268
Western Slope:							
Dillon	699	516	9,017.37	258,513	-229	9,017	257,304
Williams Fork	387	163	7,810.06	95,303	448	7,811	96,822
Meadow Creek	30	30	9,995.28	5,419	0	9,995	5,370
Total System:				661,208	176		671,702
Non-system							
Wofford Mountain	81	91	7,489.28	66,290	-20	7,489	65,985
Green Mountain	1008	72	7,933.88	121,817	1873	7,950	153,639
Spinney Mountain	209	83	---	49,100	N/A		53,651

Map of 7-day average streamflow compared to historical streamflow for the day of the year (Upper Colorado)



Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

Colorado Climate Center

Thanks, and let's keep in touch!

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Russ Schumacher – State Climatologist - russ.schumacher@colostate.edu

Becky Bolinger – Assistant State Climatologist - becky.bolinger@colostate.edu

Zach Schwalbe – CoAgMET Manager - zach.schwalbe@colostate.edu

Data and Power Point Presentations available for downloading

<http://climate.colostate.edu/pubs.html>

