

Climate Center Update

Colorado Water
Conditions Monitoring
Committee 11/18/2025

Peter Goble – Assistant
State Climatologist
Colorado Climate Center

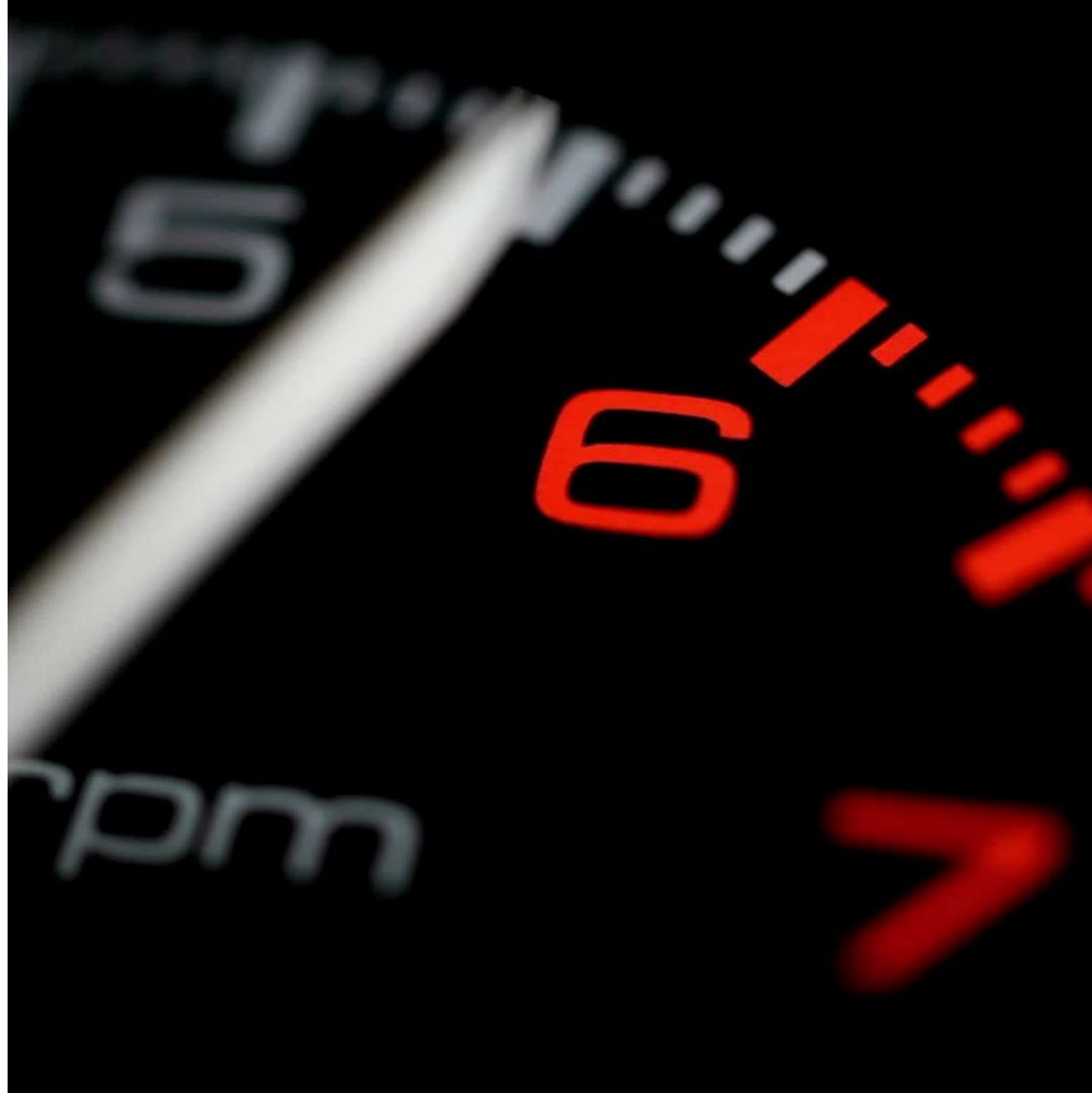


Agenda

- Current seasonal climate conditions update
- Brief Water Year Review
- Drought update – some info on SW CO flooding
- Seasonal Forecast info for winter



Recent Conditions



avg temp (F)

52

50

48

46

44

42

40

normal TAVG: 47.0

normal precip: 1.42"

warm & dry

warm & wet

cool & dry

cool & wet

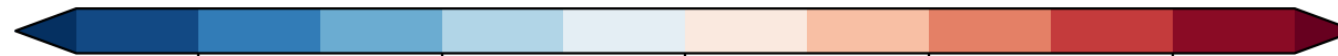
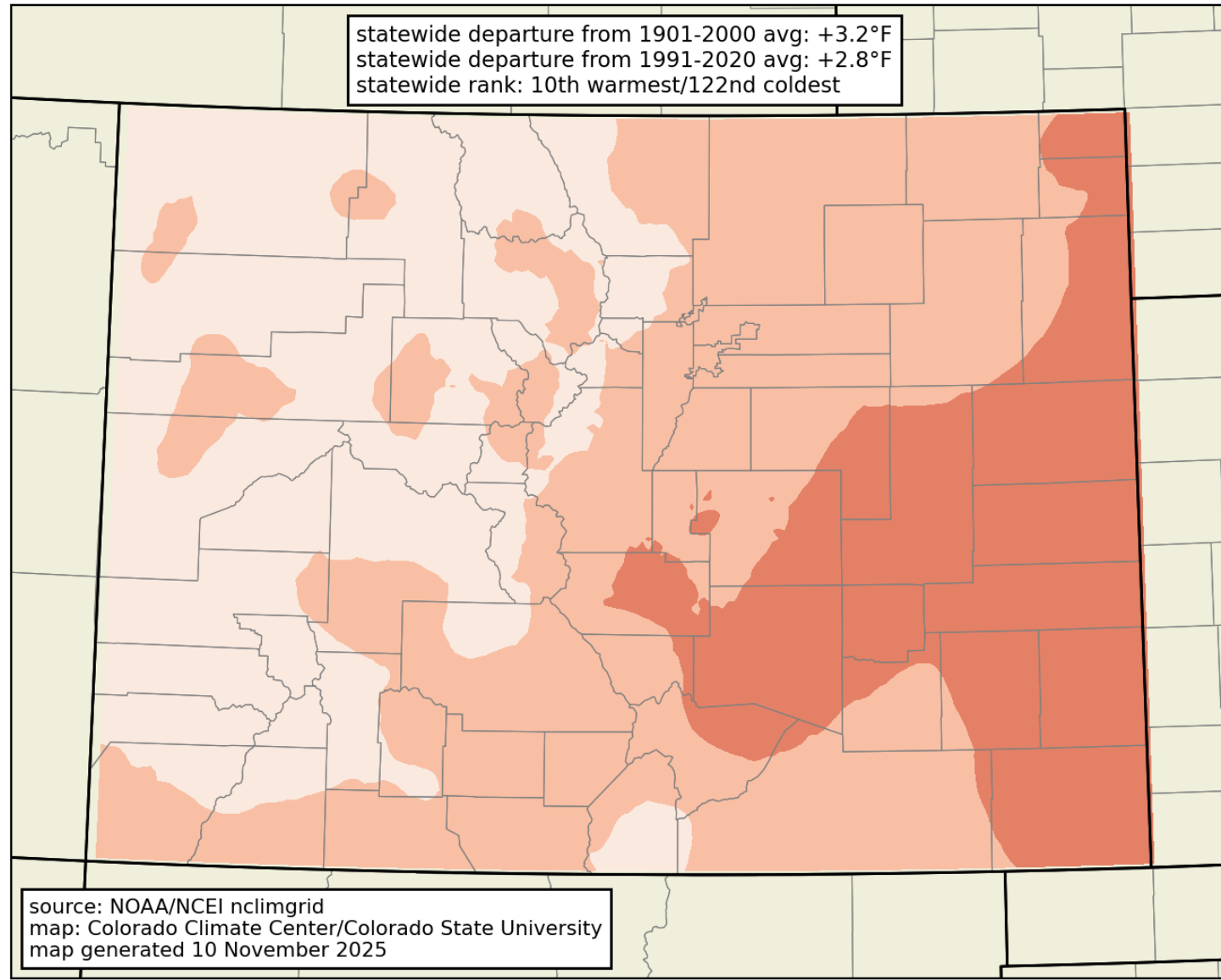
size of points proportional to precip,
color shows temp
normals are 1991-2020

Colorado Climate Center/CSU
Data source: NOAA ndclimgrid

0.09" above
1991-2020
normal

Colorado Climate Center/CSU
Data source: NOAA nclimgrid

temperature departure from 1991-2020 average October 2025



-8

-4

0

4

8

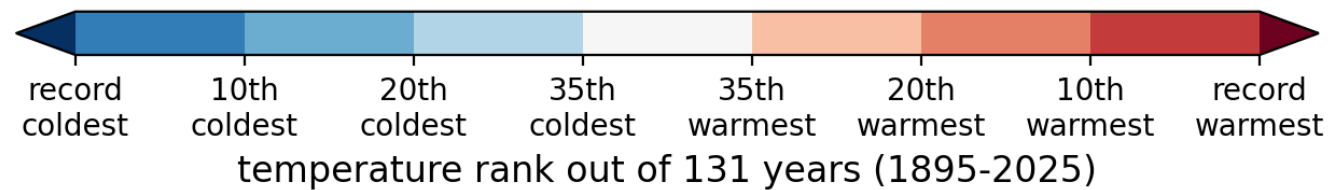
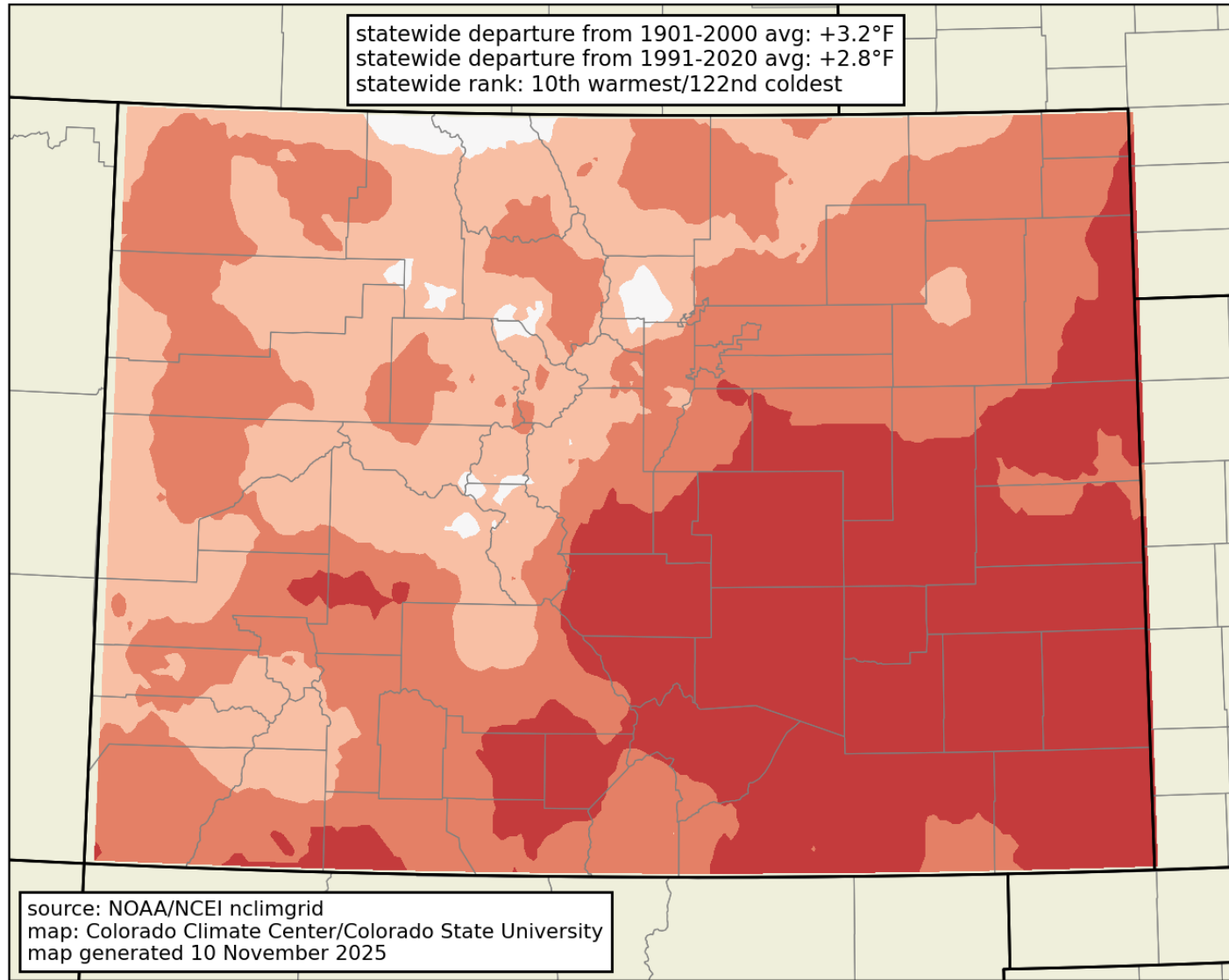
temperature departure from average (°F)

https://climate.colostate.edu/co_cag/rank_maps.html



average temperature rank October 2025

statewide departure from 1901-2000 avg: +3.2°F
statewide departure from 1991-2020 avg: +2.8°F
statewide rank: 10th warmest/122nd coldest

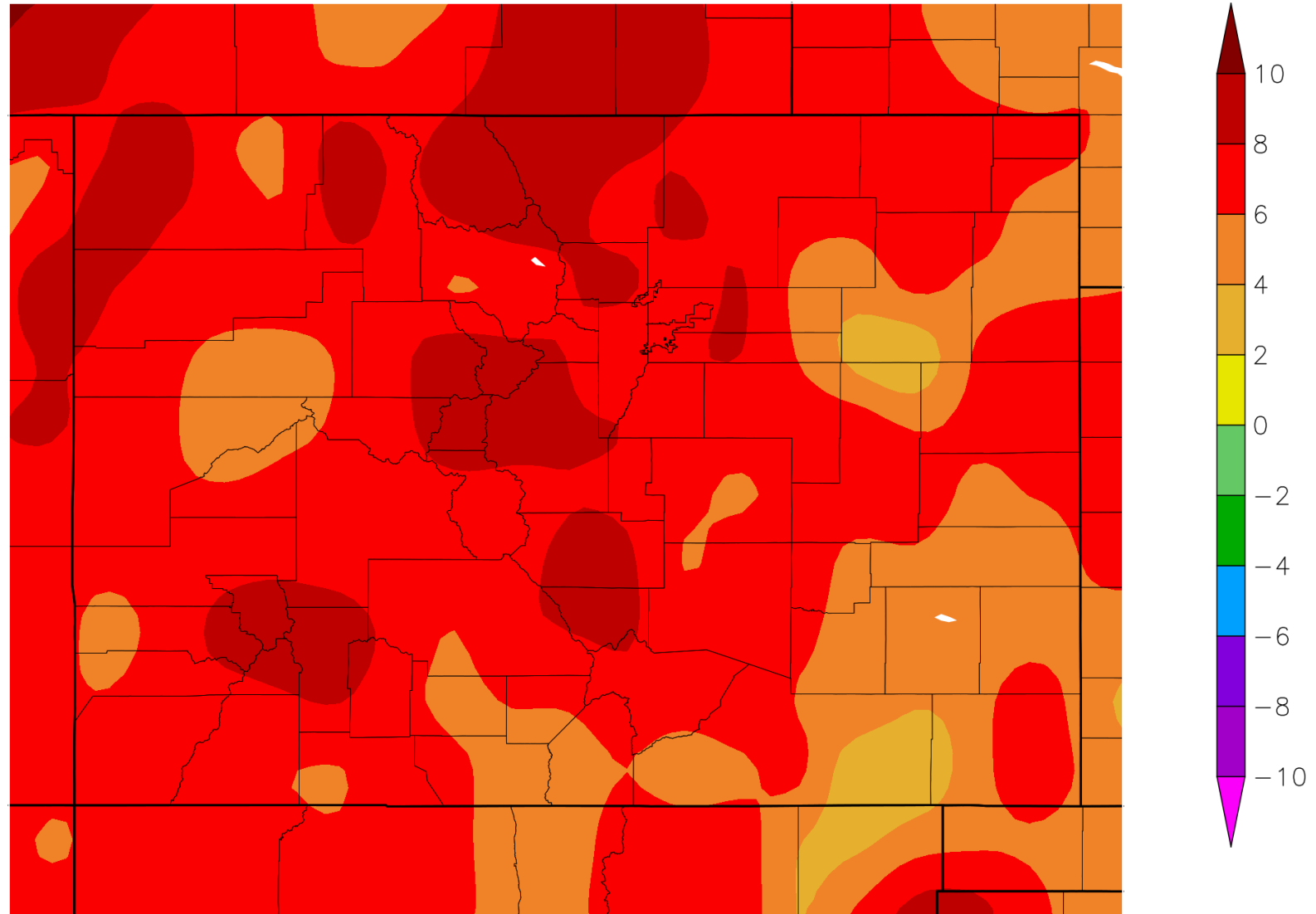


https://climate.colostate.edu/co_cag/rank_maps.html



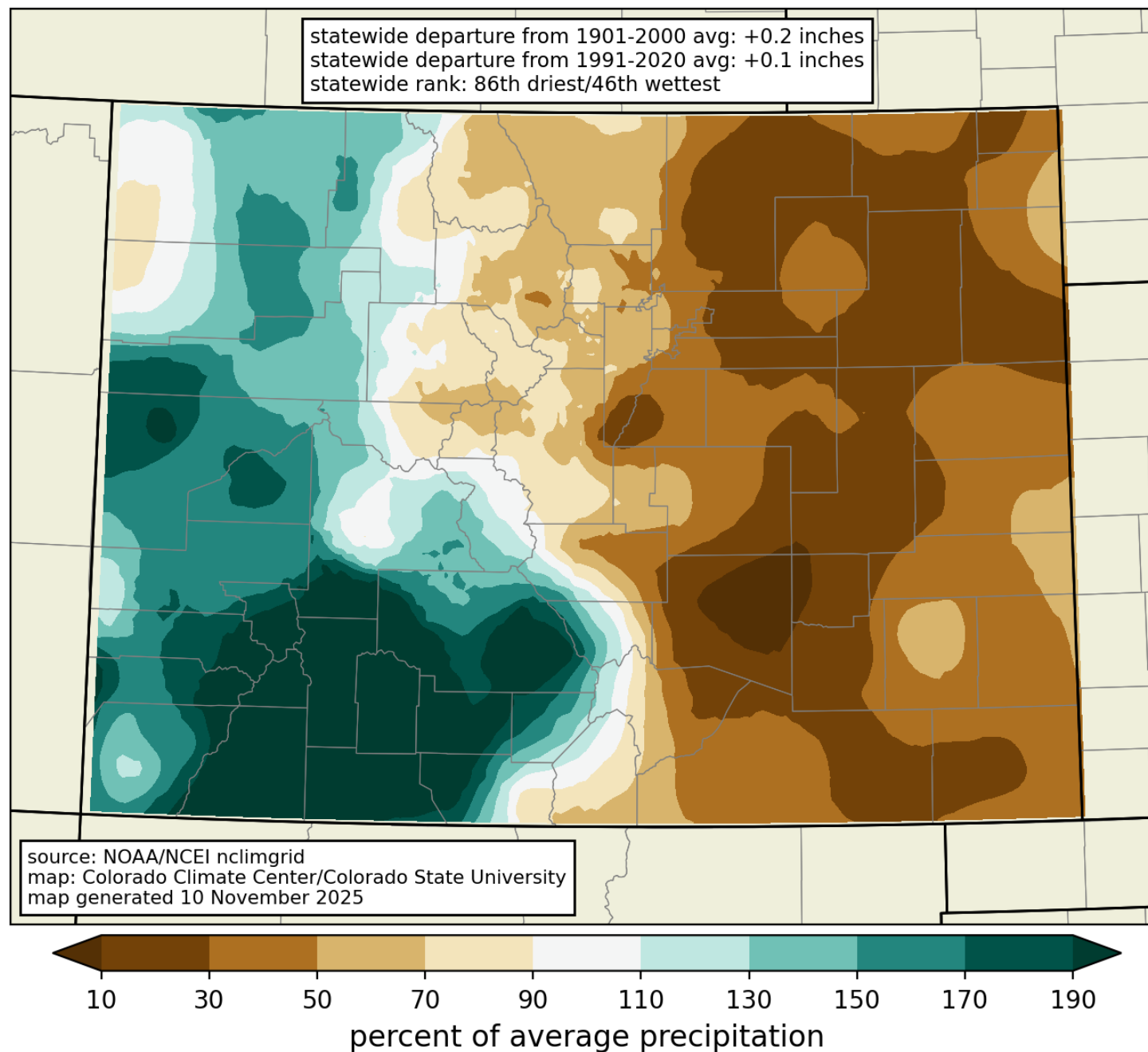
Departure from Normal Temperature (F)

11/1/2025 – 11/16/2025



<https://hprcc.unl.edu/maps.php?map=ACISClimateMaps>

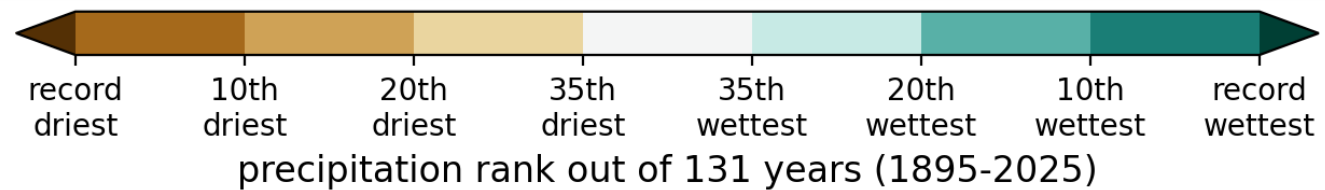
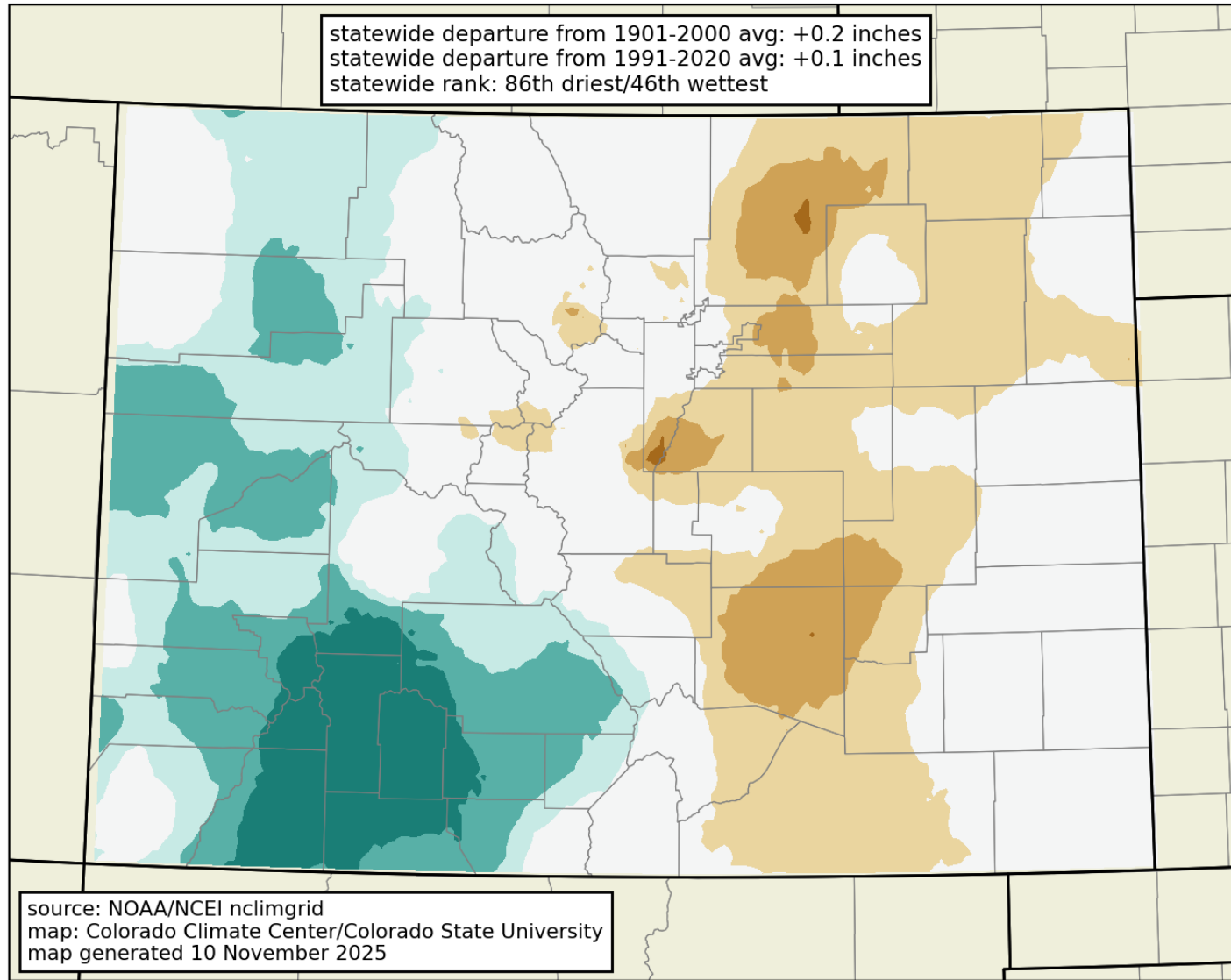
percent of 1991-2020 average precipitation
October 2025



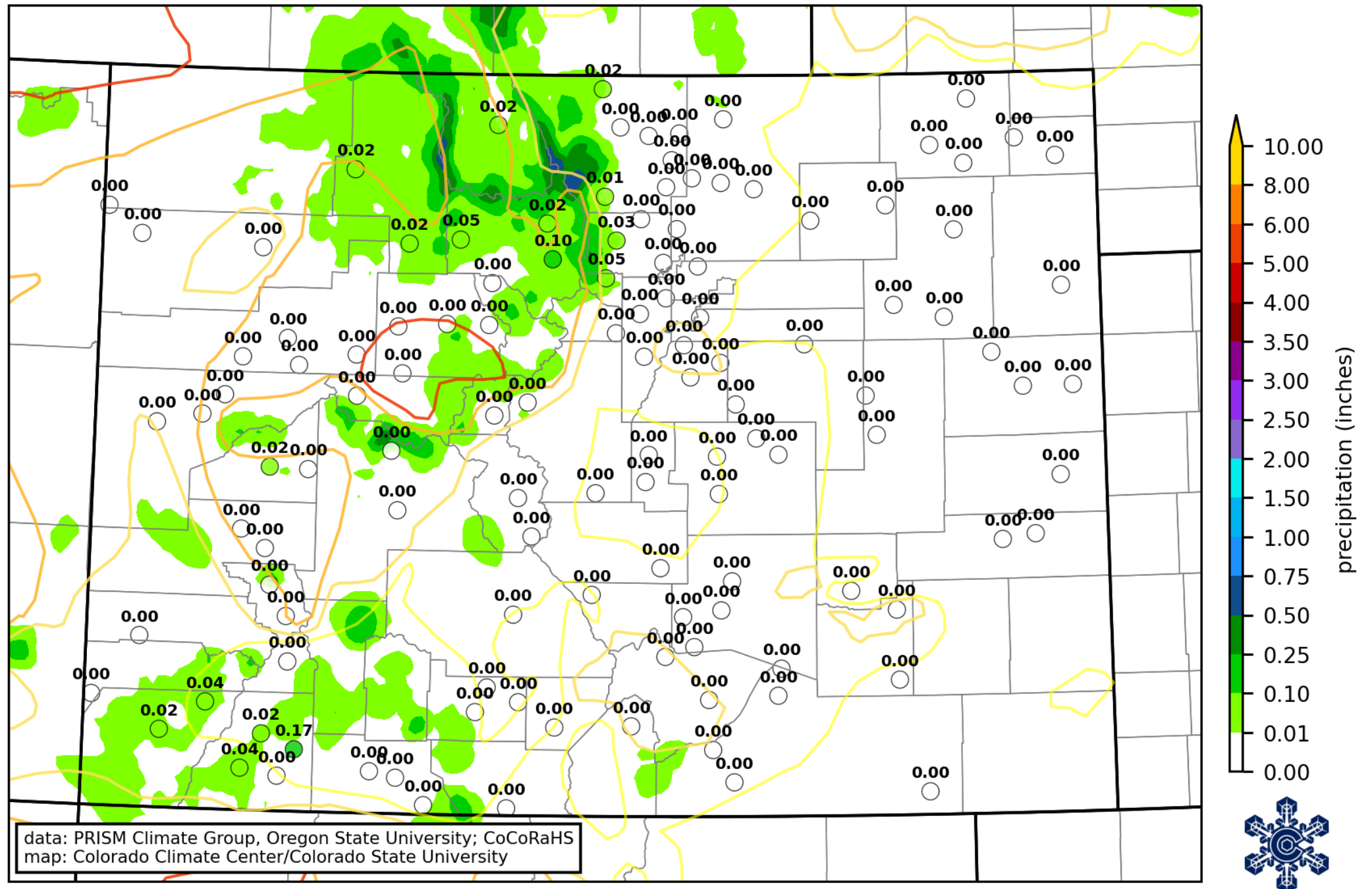
https://climate.colostate.edu/co_cag/rank_maps.html

precipitation rank October 2025

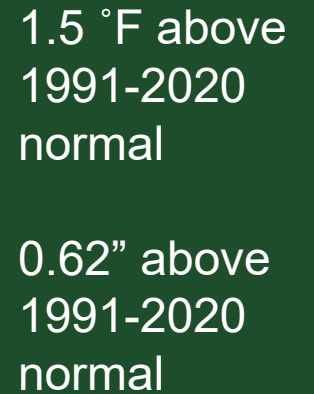
statewide departure from 1901-2000 avg: +0.2 inches
statewide departure from 1991-2020 avg: +0.1 inches
statewide rank: 86th driest/46th wettest



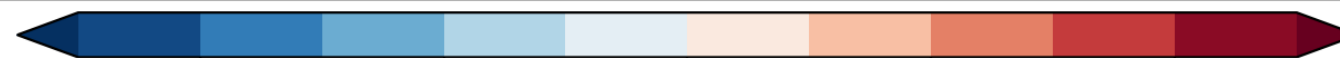
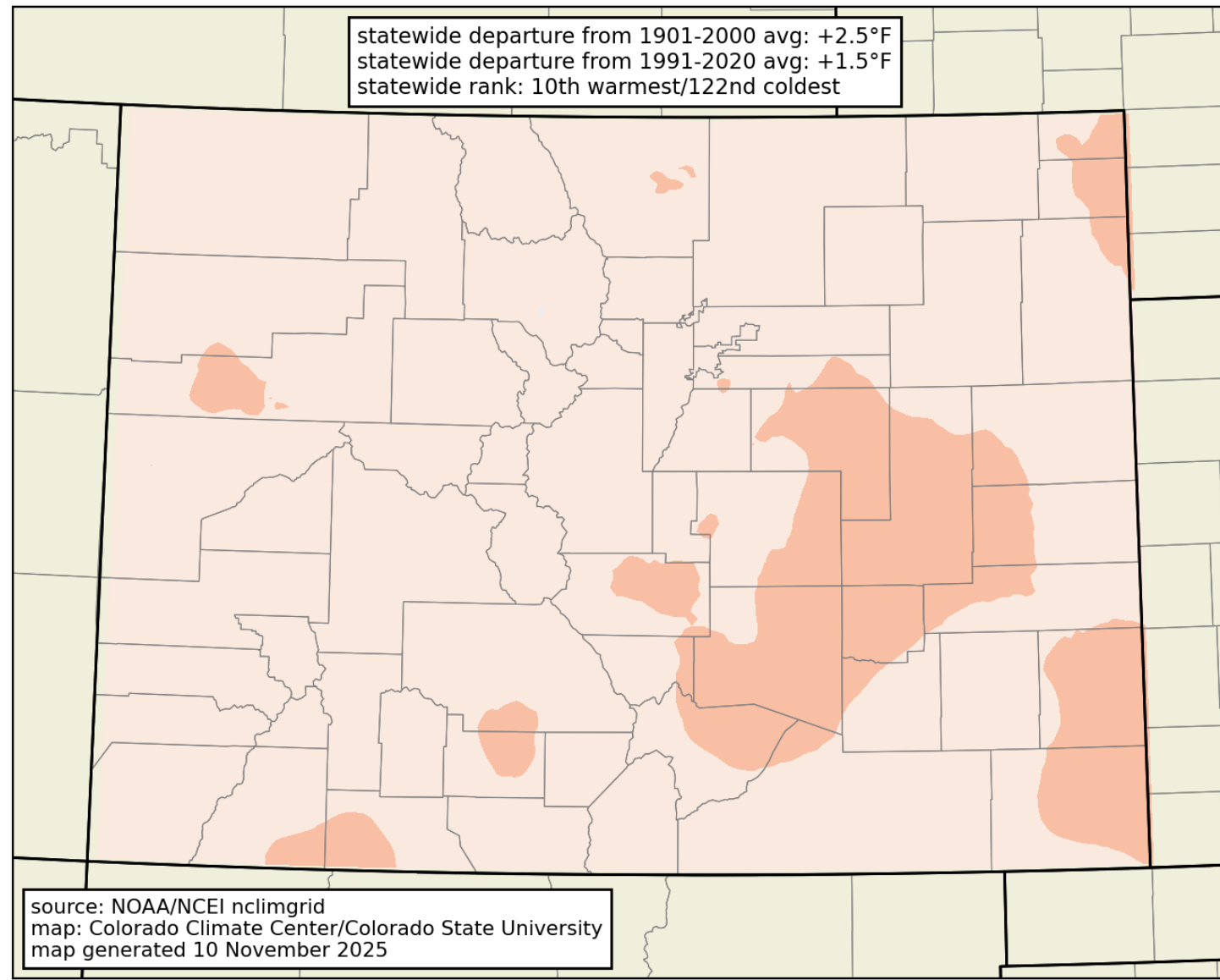
https://climate.colostate.edu/co_cag/rank_maps.html



https://climate.colostate.edu/co_cag/quadrant.html



temperature departure from 1991-2020 average
3 months ending October 2025 (Aug-Oct)



-8

-4

0

4

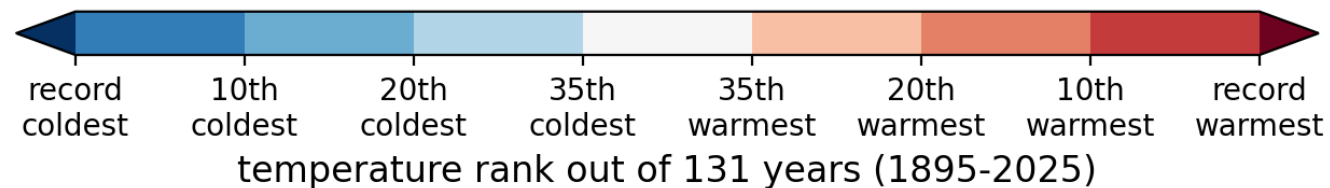
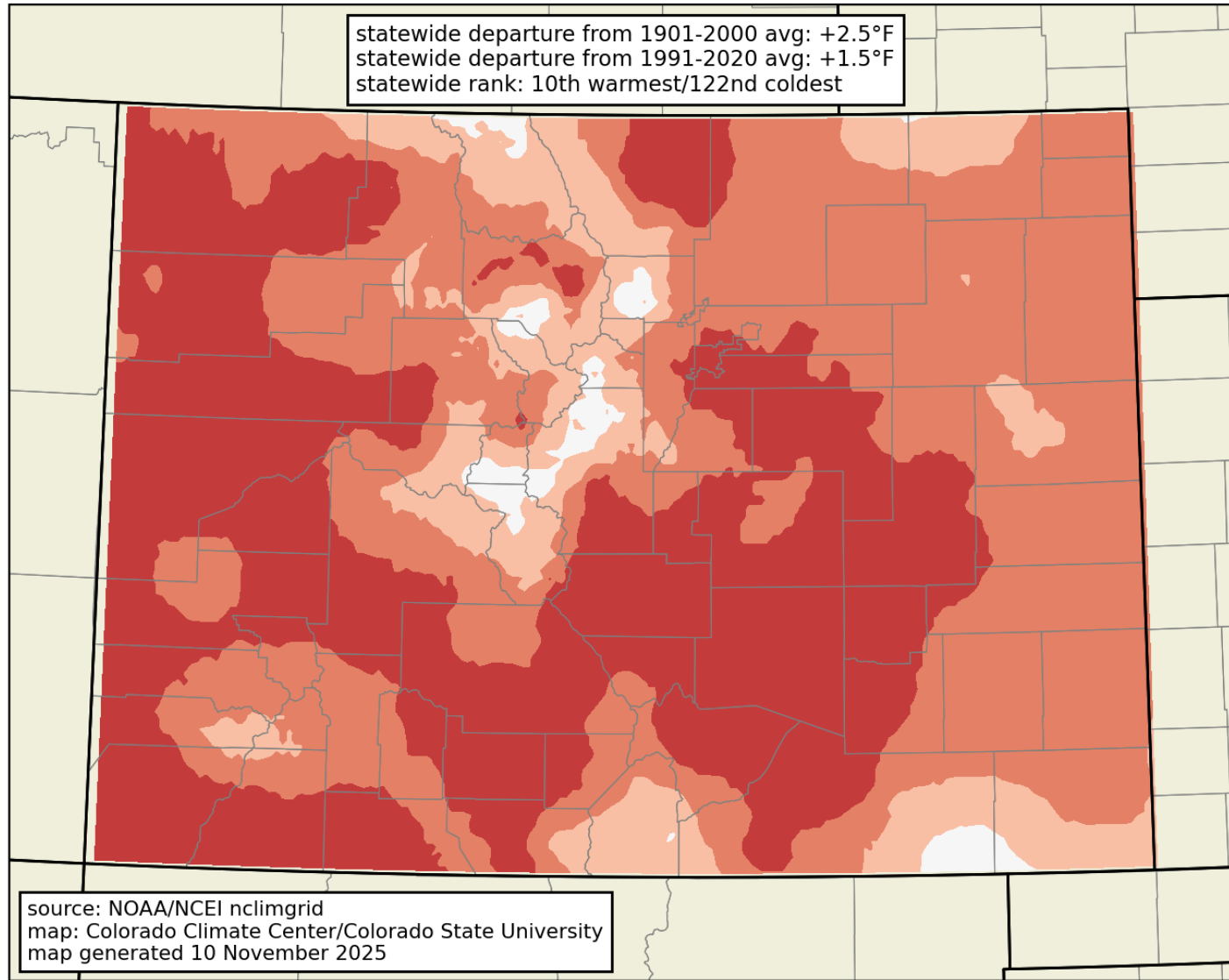
8

temperature departure from average (°F)

https://climate.colostate.edu/co_cag/rank_maps.html

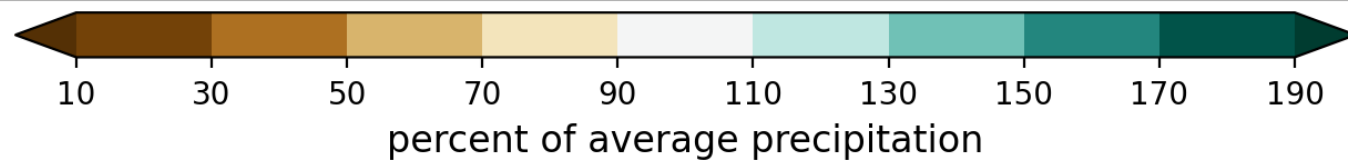
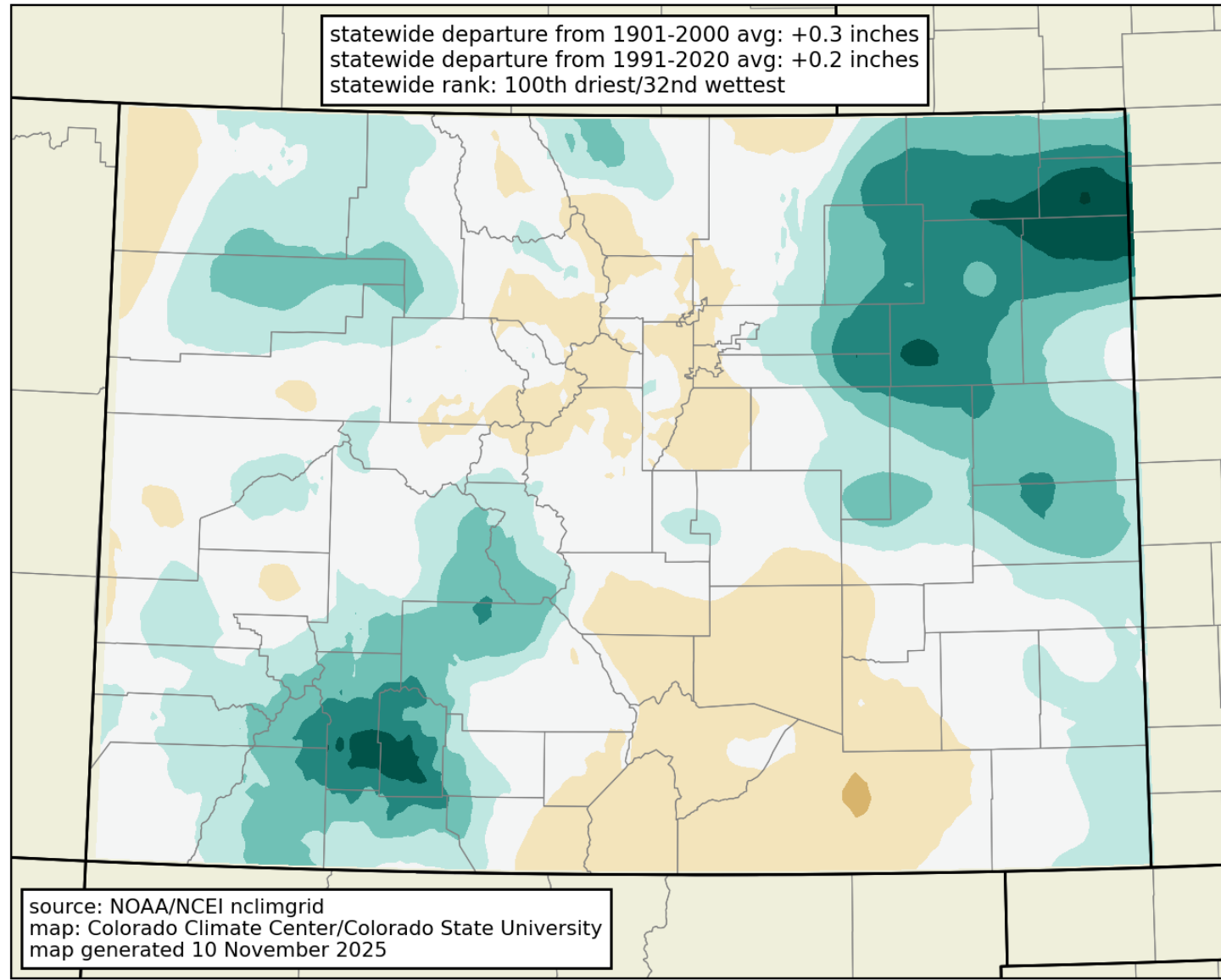
average temperature rank 3 months ending October 2025 (Aug-Oct)

statewide departure from 1901-2000 avg: +2.5°F
statewide departure from 1991-2020 avg: +1.5°F
statewide rank: 10th warmest/122nd coldest



https://climate.colostate.edu/co_cag/rank_maps.html

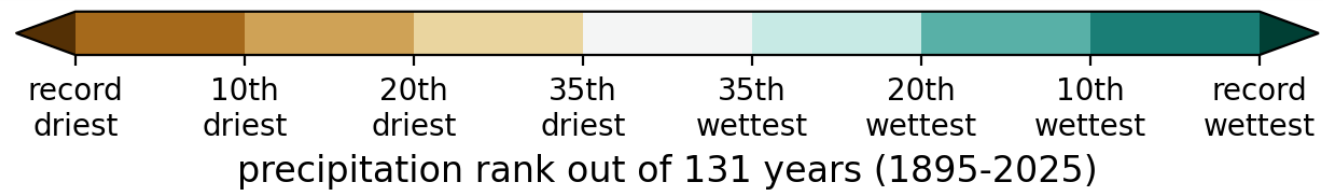
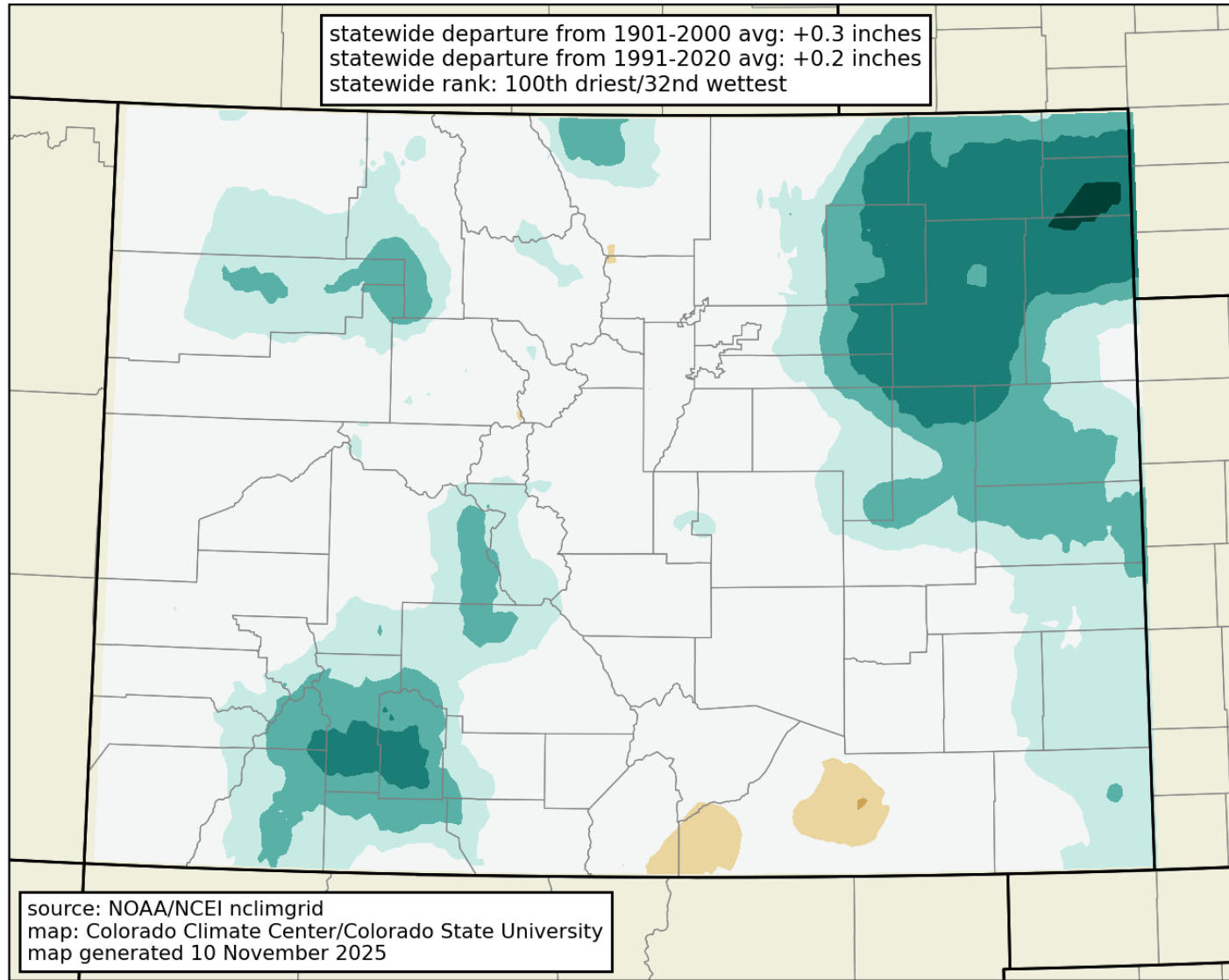
percent of 1991-2020 average precipitation
3 months ending October 2025 (Aug-Oct)



https://climate.colostate.edu/co_cag/rank_maps.htm
|

precipitation rank 3 months ending October 2025 (Aug-Oct)

statewide departure from 1901-2000 avg: +0.3 inches
statewide departure from 1991-2020 avg: +0.2 inches
statewide rank: 100th driest/32nd wettest



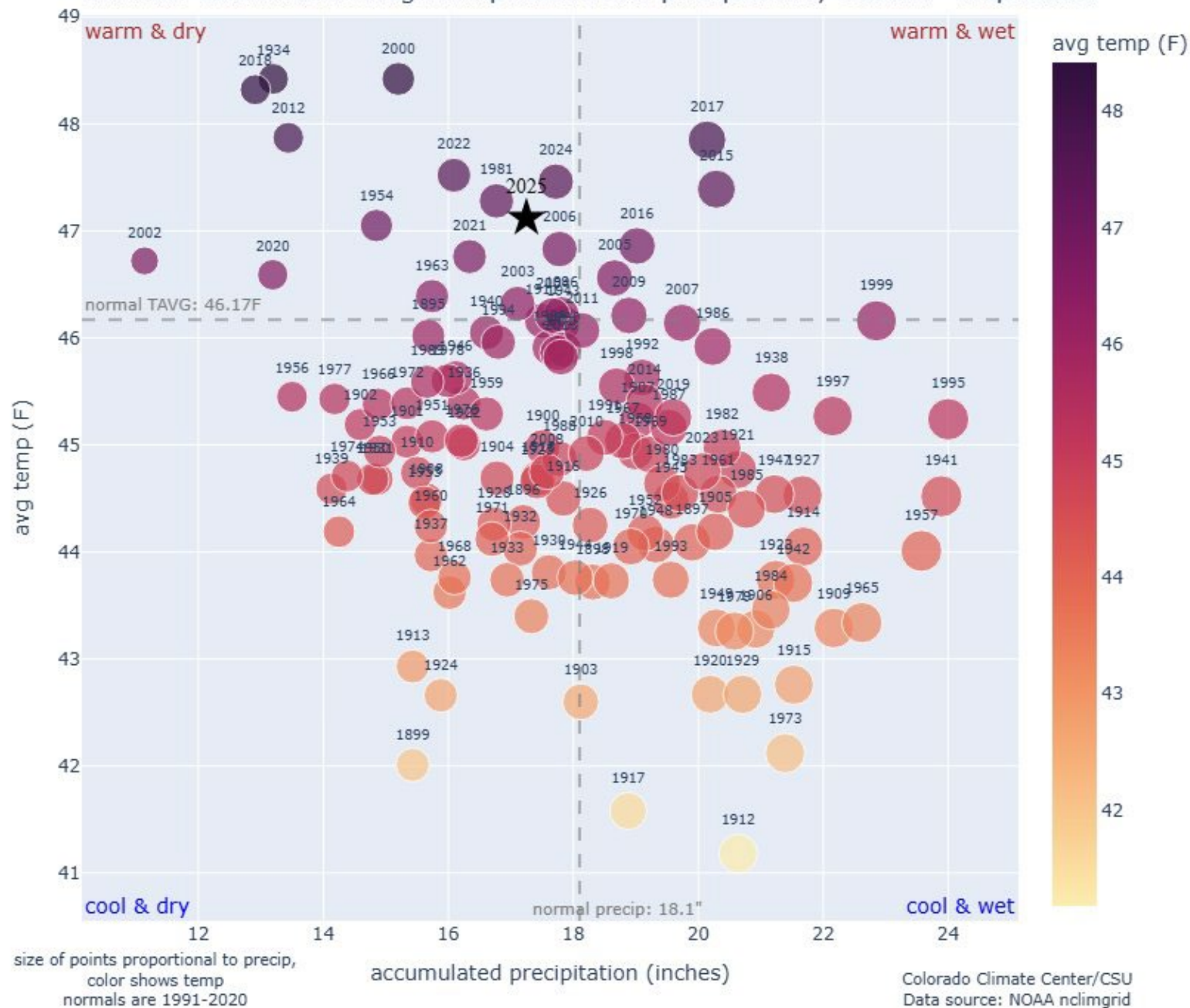
https://climate.colostate.edu/co_cag/rank_maps.htm

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Water Year 2025

Colorado statewide average temperature and precipitation, October - September



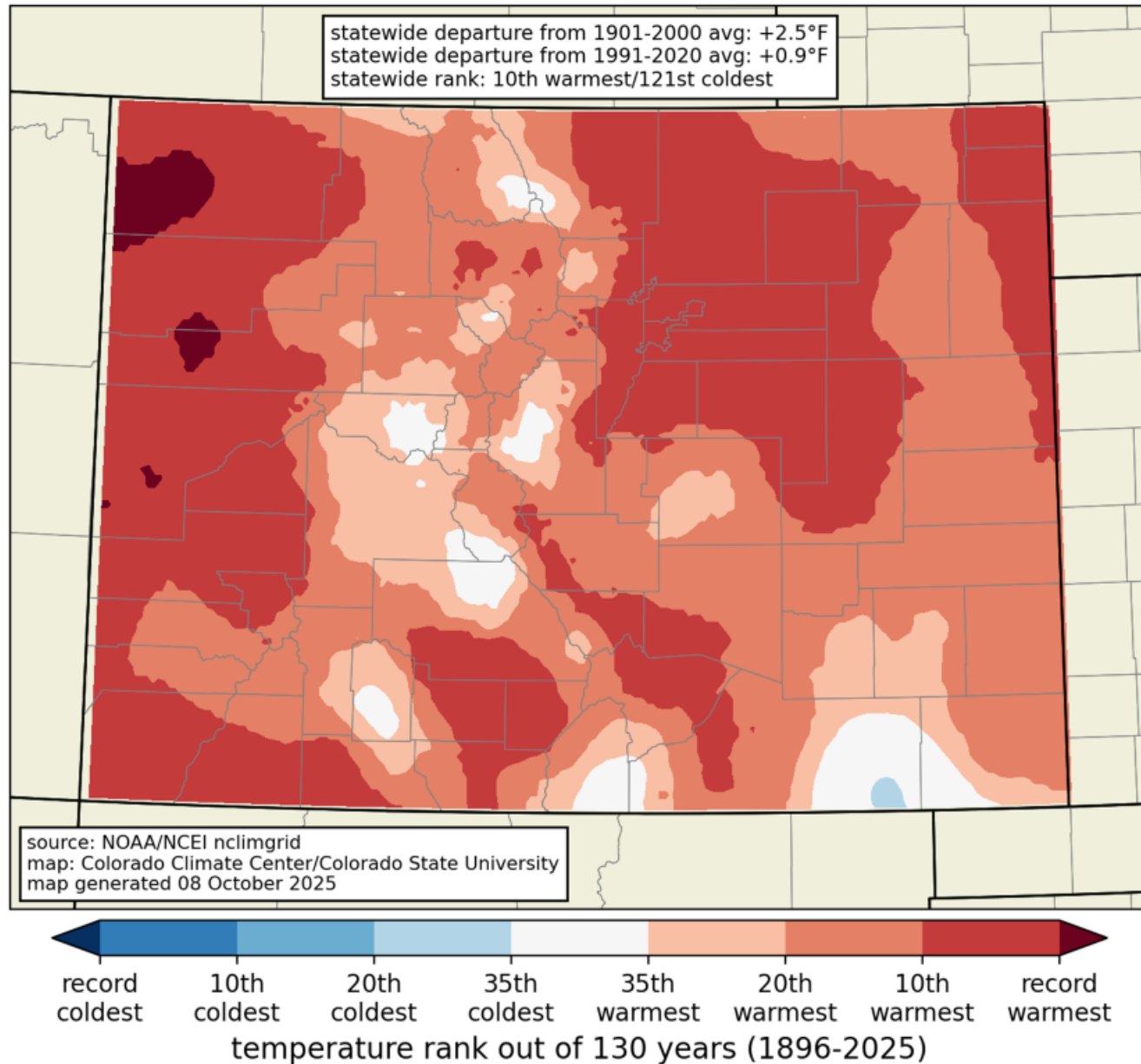
1.0°F above
1991-2020
normal

0.85" below
1991-2020
normal

https://climate.colostate.edu/co_cag/quadrant.html



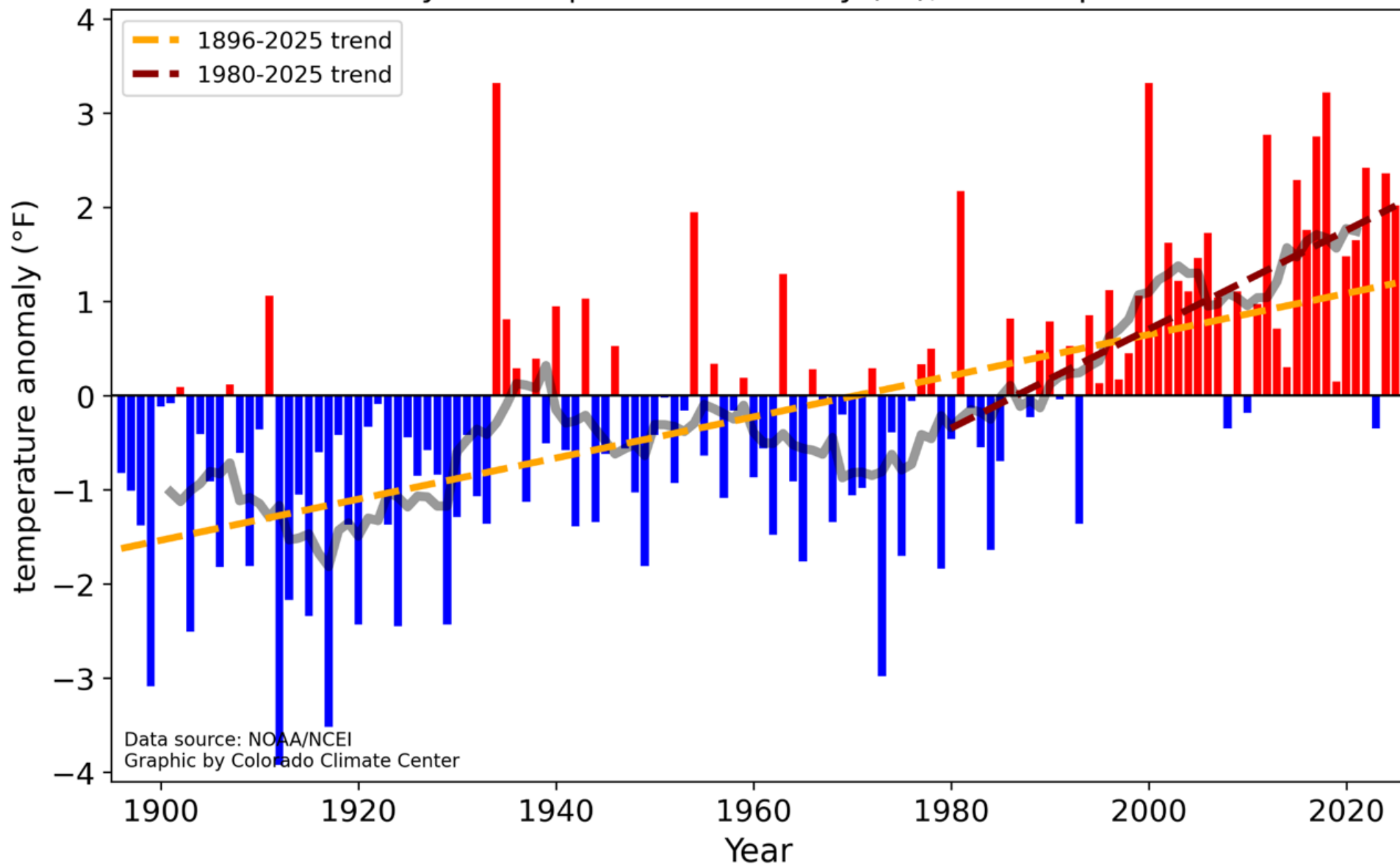
average temperature rank 12 months ending September 2025 (Oct-Sep)



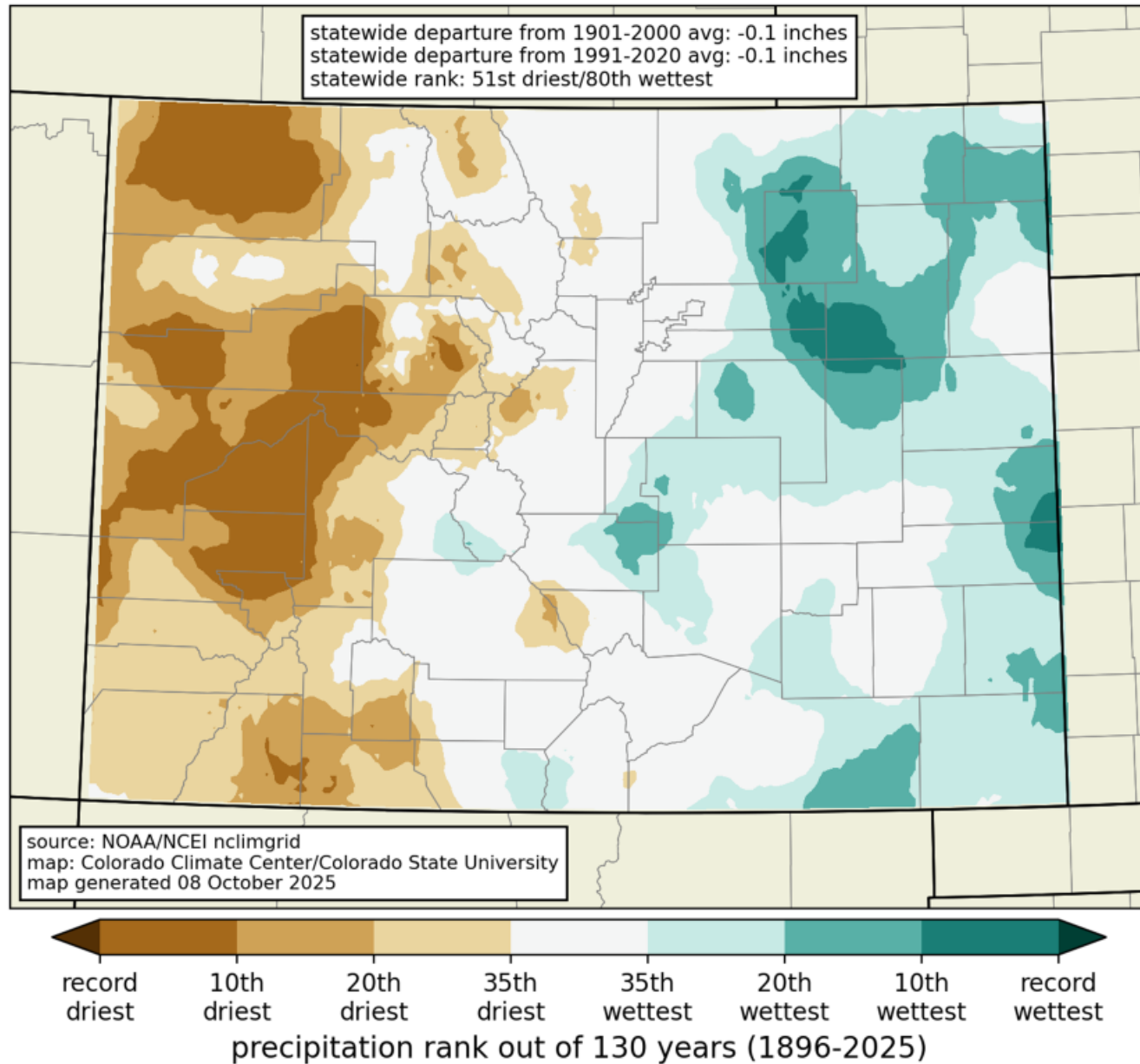
Month	T Rank (of 130 years)	Above, below, or near 20 th century avg?
Oct	1 st warmest	much above
Nov	48 th coldest	below
Dec	3 rd warmest	much above
Jan	24 th coldest	below
Feb	34 th warmest	above
Mar	10 th warmest	much above
Apr	33 rd warmest	above
May	59 th warmest	near avg
Jun	23 rd warmest	above
Jul	24 th warmest	above
Aug	17 th warmest	above
Sep	36 th warmest	above



Colorado statewide water year temperature anomaly ($^{\circ}\text{F}$), with respect to 1971-2000 average



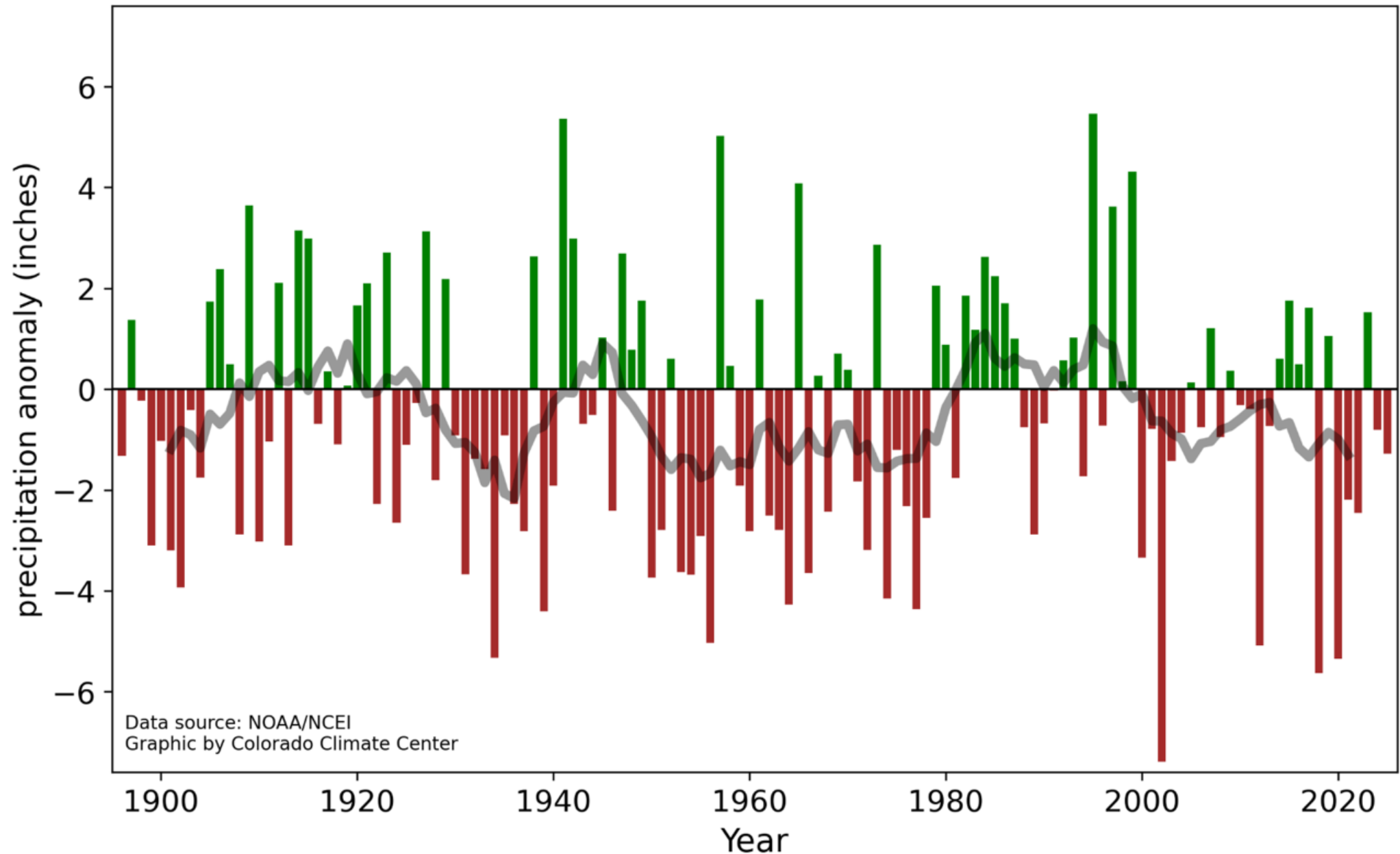
precipitation rank 12 months ending September 2025 (Oct-Sep)



Month	P Rank (of 129 years)	Above, below, or near 20 th century avg?
Oct	47 th wettest	near avg
Nov	5 th wettest	much above
Dec	9 th driest	much below
Jan	35 th driest	below
Feb	49 th driest	near avg
Mar	51 st driest	near avg
Apr	15 th driest	below
May	62 nd wettest	near avg
Jun	56 th wettest	near avg
Jul	29 th driest	below
Aug	52 nd wettest	near avg
Sep	31 st wettest	above



Colorado statewide water year precipitation anomaly (inches), with respect to 1971-2000 average



Records Tied and Broken in WY 2025

	Max(T_{\max})		Min(T_{\max})		Max(T_{\min})		Min(T_{\min})		Precip		Snowfall	
	Tied	Broken	Tied	Broken	Tied	Broken	Tied	Broken	Tied	Broken	Tied	Broken
October	168	324	2	6	100	313	2	2	31	112	1	1
November	13	23	24	219	8	39	7	37	27	202	4	114
December	25	120	3	18	50	129	0	2	14	38	0	10
January	11	17	40	490	3	16	25	423	21	43	12	30
February	55	290	14	153	55	507	10	60	18	59	5	32
March	52	112	12	111	51	104	11	27	26	61	1	5
April	54	149	20	133	37	180	15	56	6	31	2	19
May	15	9	18	120	27	61	15	13	20	91	0	4
June	49	55	11	24	47	188	9	11	44	66	0	0
July	31	40	3	6	42	76	31	71	18	50	0	0
August	106	355	17	64	85	298	22	33	22	94	0	0
September	2	2	10	35	12	30	4	9	28	104	0	0
Total	581	1496	174	1379	517	1941	151	744	275	951	25	215

There were ~1.9 maximum (warm) records broken for every minimum (cool) record broken.



Drought Update

- USDM Current and Change Maps
- SPIs
- Surface Moisture Response
- Drought amelioration over SW CO

U.S. Drought Monitor Colorado

November 11, 2025
(Released Thursday, Nov. 13, 2025)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	38.50	61.50	30.41	13.49	1.29	0.00
Last Week 11-04-2025	44.90	55.10	29.37	13.49	1.29	0.00
3 Months Ago 08-12-2025	37.87	62.13	47.28	40.16	20.30	7.05
Start of Calendar Year 01-07-2025	71.40	28.60	10.78	4.08	0.98	0.00
Start of Water Year 09-30-2025	45.82	54.18	45.19	35.88	14.34	0.00
One Year Ago 11-12-2024	57.86	42.14	10.39	4.26	0.94	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Curtis Riganti
National Drought Mitigation Center



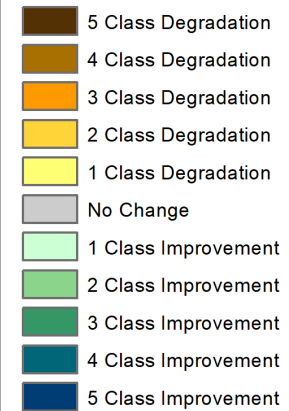
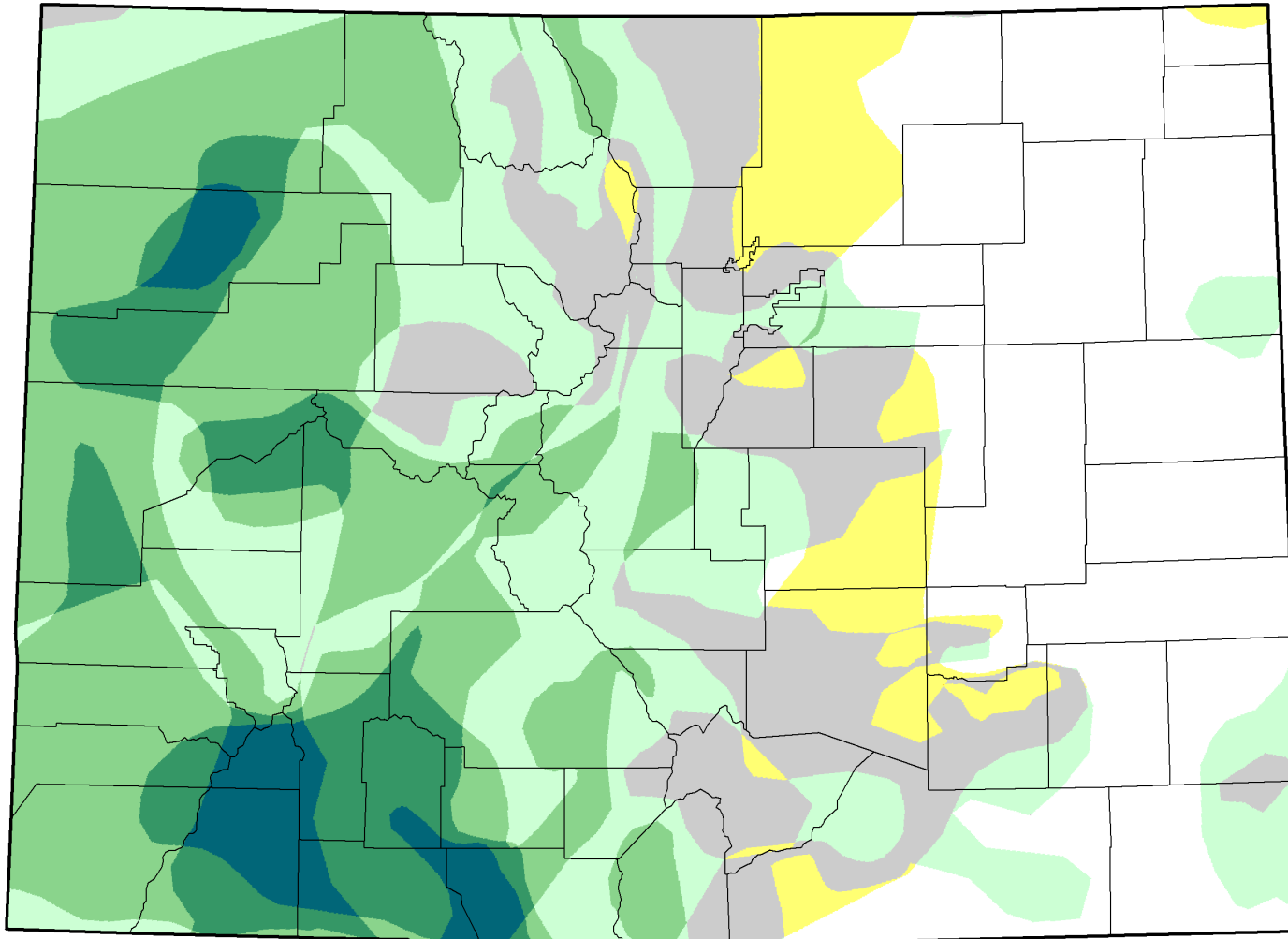
droughtmonitor.unl.edu

30% of the state in moderate drought or worse

13% of state in severe-to-exceptional drought

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

U.S. Drought Monitor Class Change - Colorado 12 Week

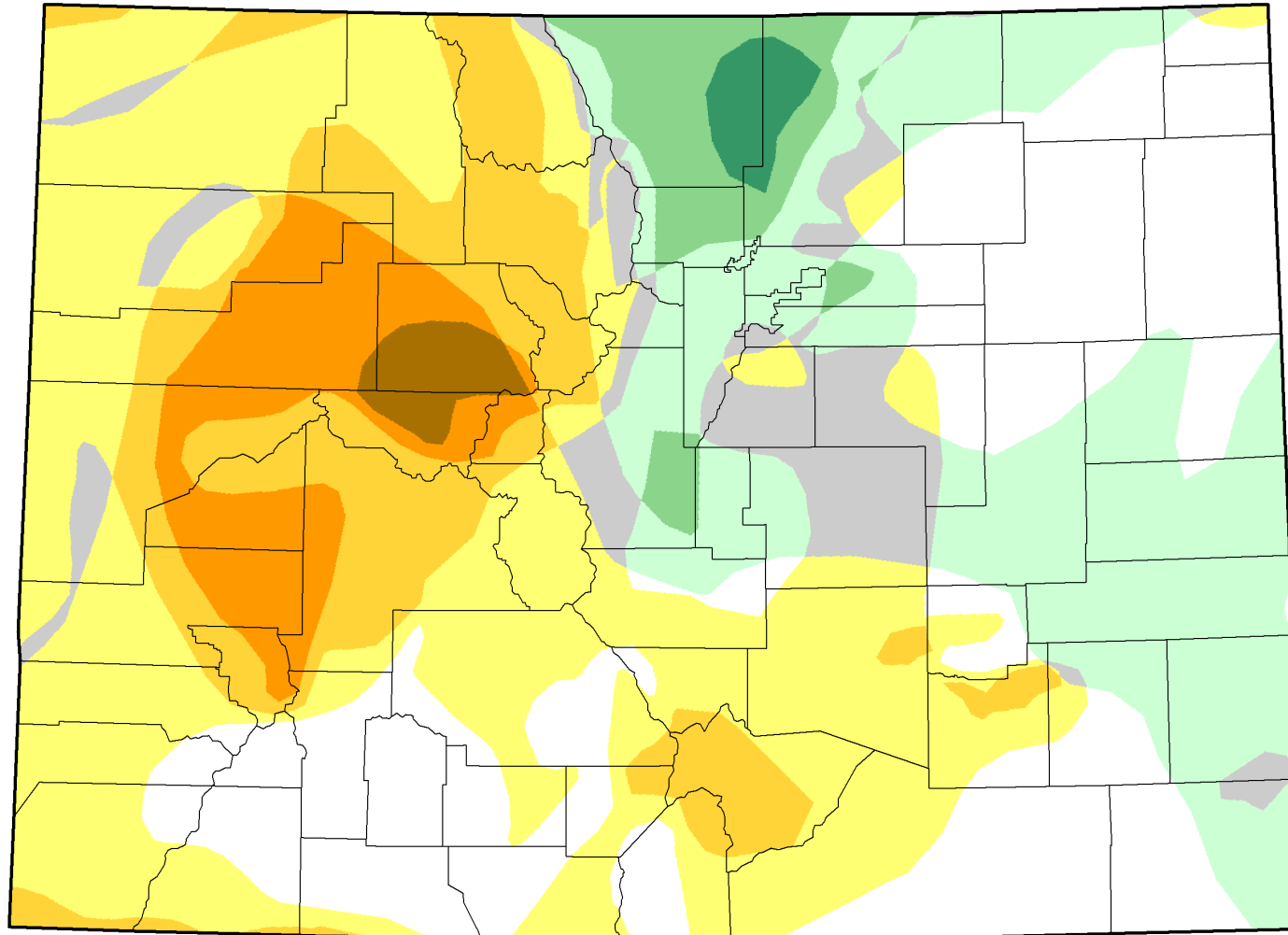


November 11, 2025
compared to
August 19, 2025

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

droughtmonitor.unl.edu

U.S. Drought Monitor Class Change - Colorado 52 Week



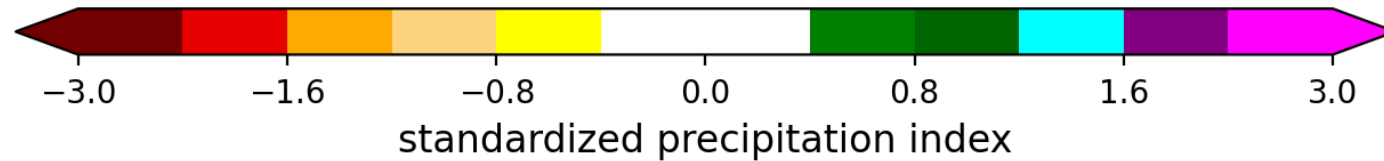
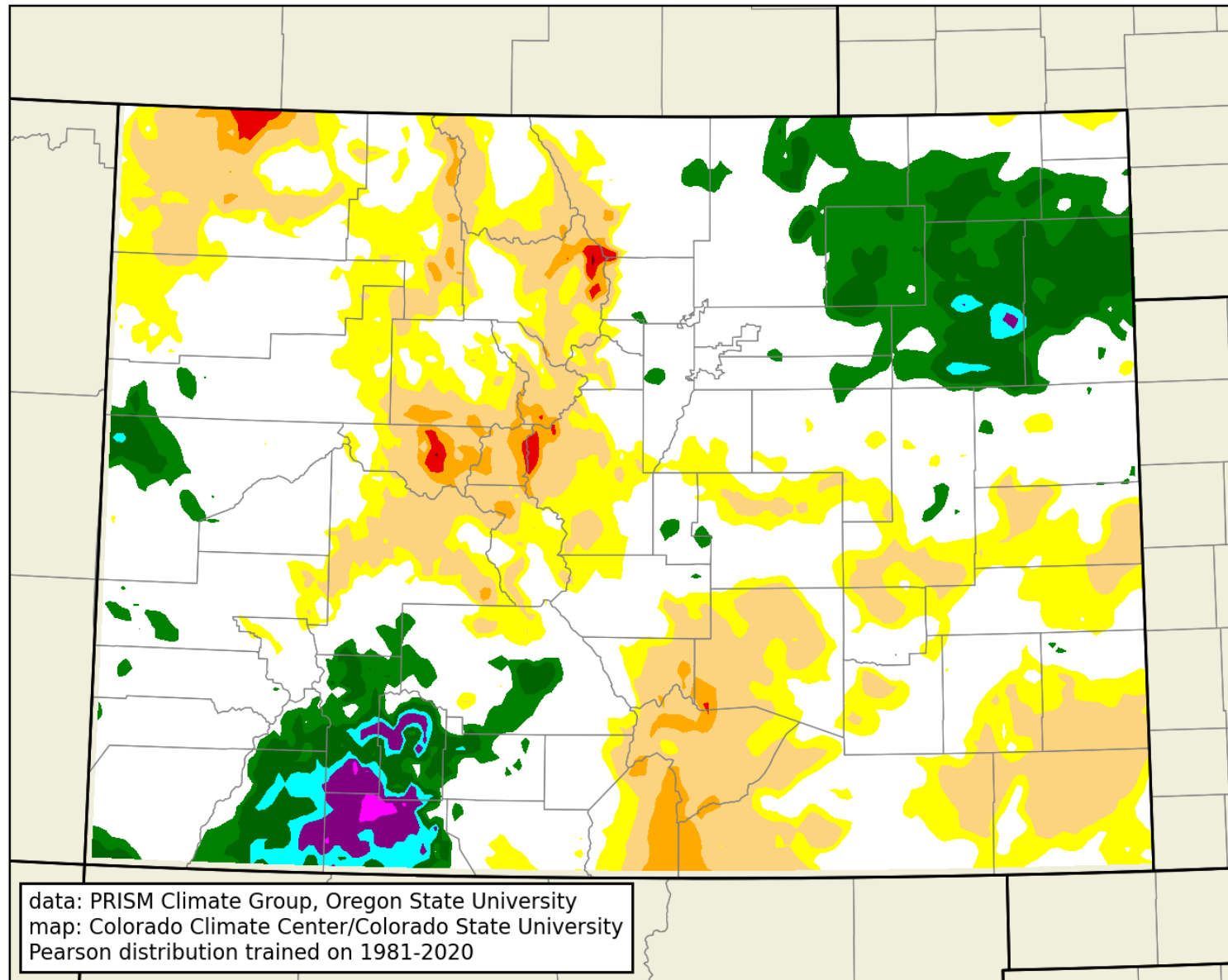
- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

November 11, 2025
compared to
November 12, 2024

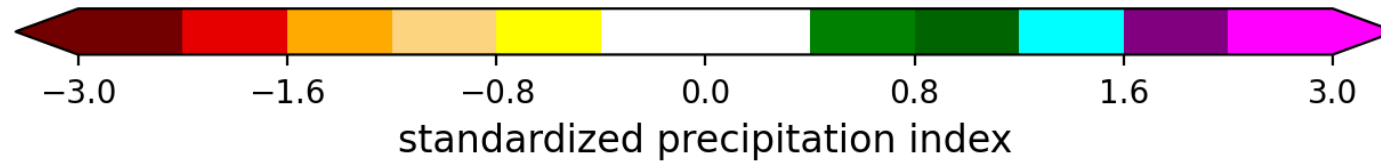
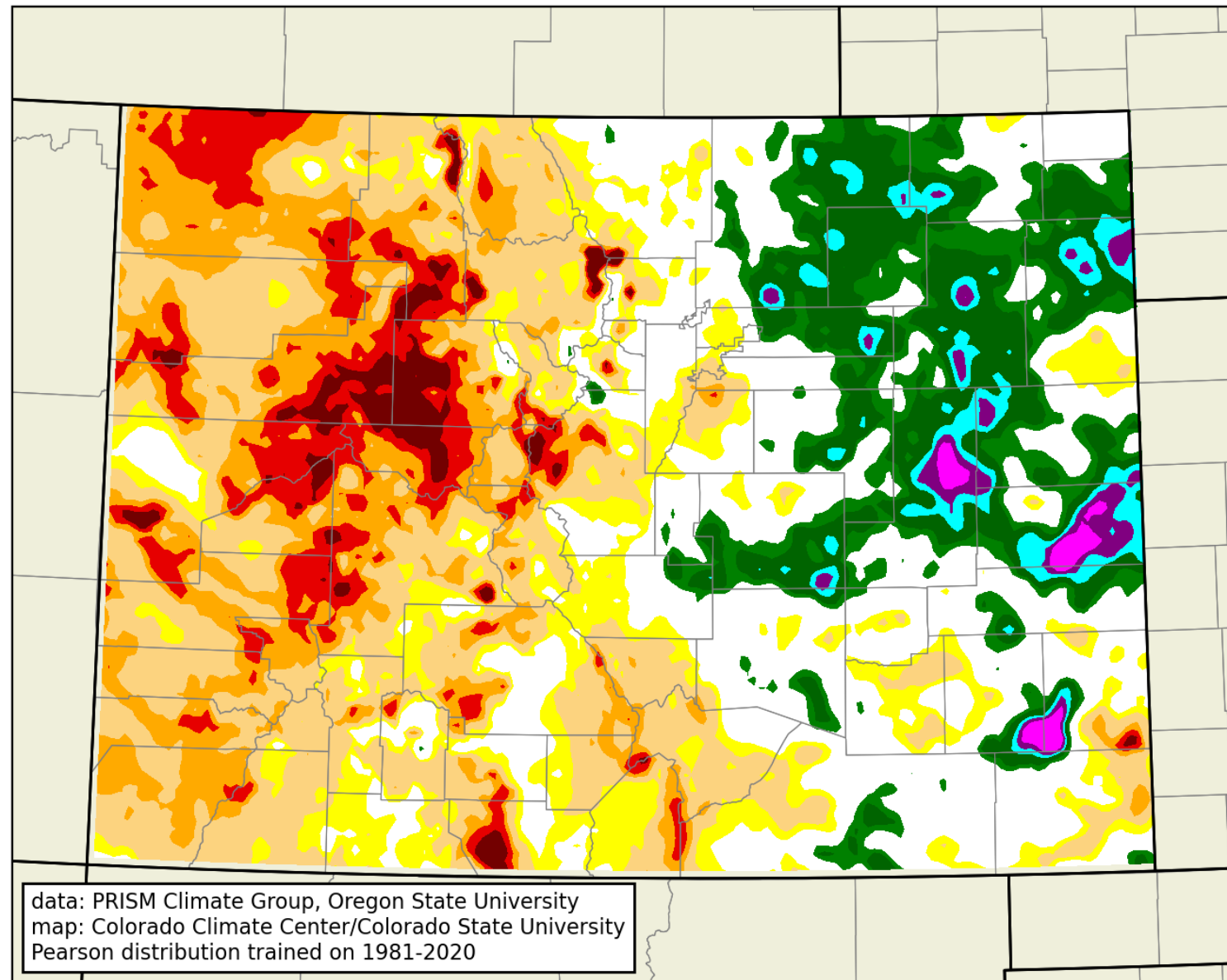
<https://droughtmonitor.unl.edu/>

droughtmonitor.unl.edu

60-day SPI based on PRISM data, Sun 16 Nov 2025



360-day SPI based on PRISM data, Sun 16 Nov 2025

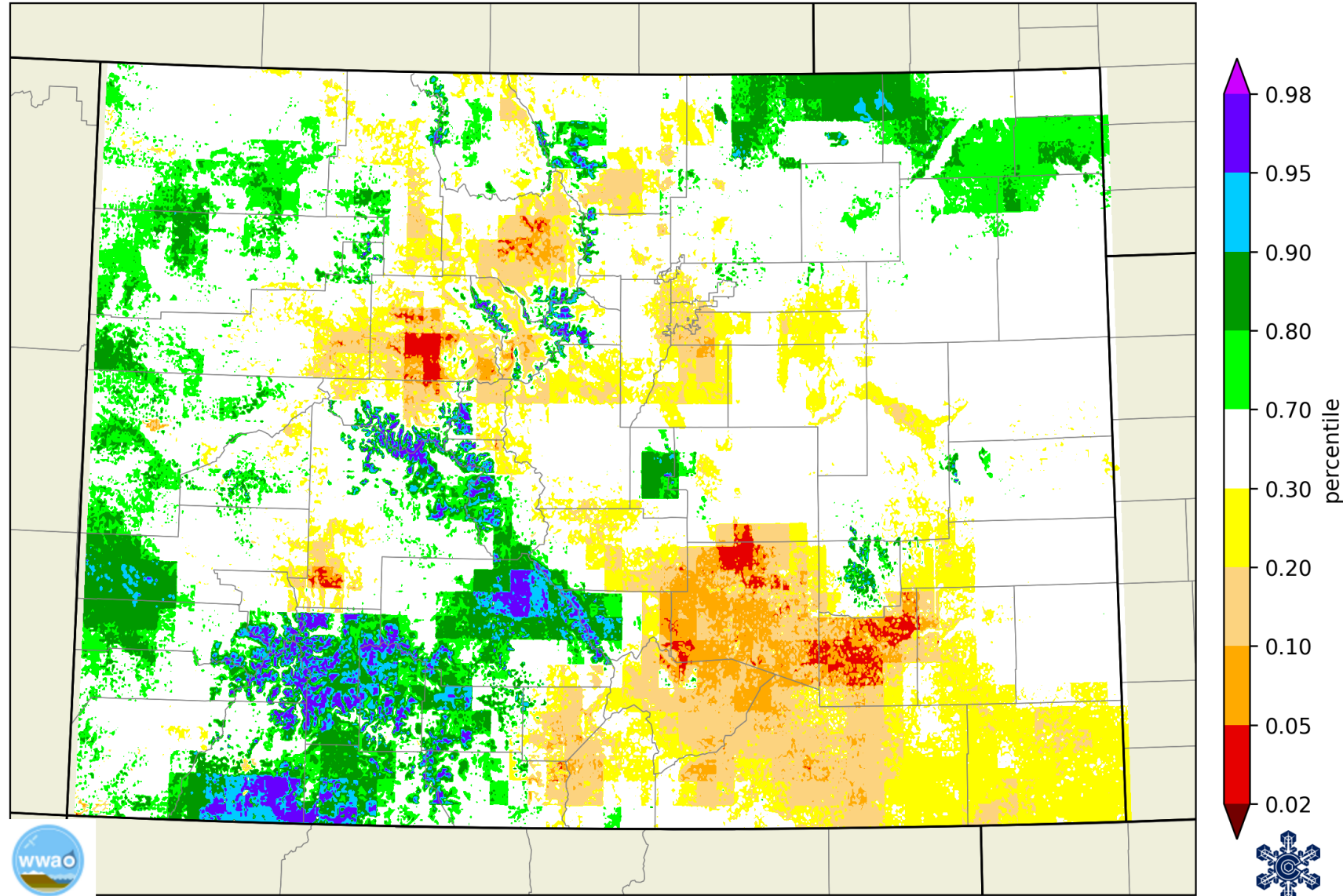


WLDAS 1-meter Soil moisture percentile, 13 Nov 2025

Above normal antecedent soil moisture conditions to begin snow season?

Soils drying in SE CO despite a wet summer

Mixed conditions in NE CO



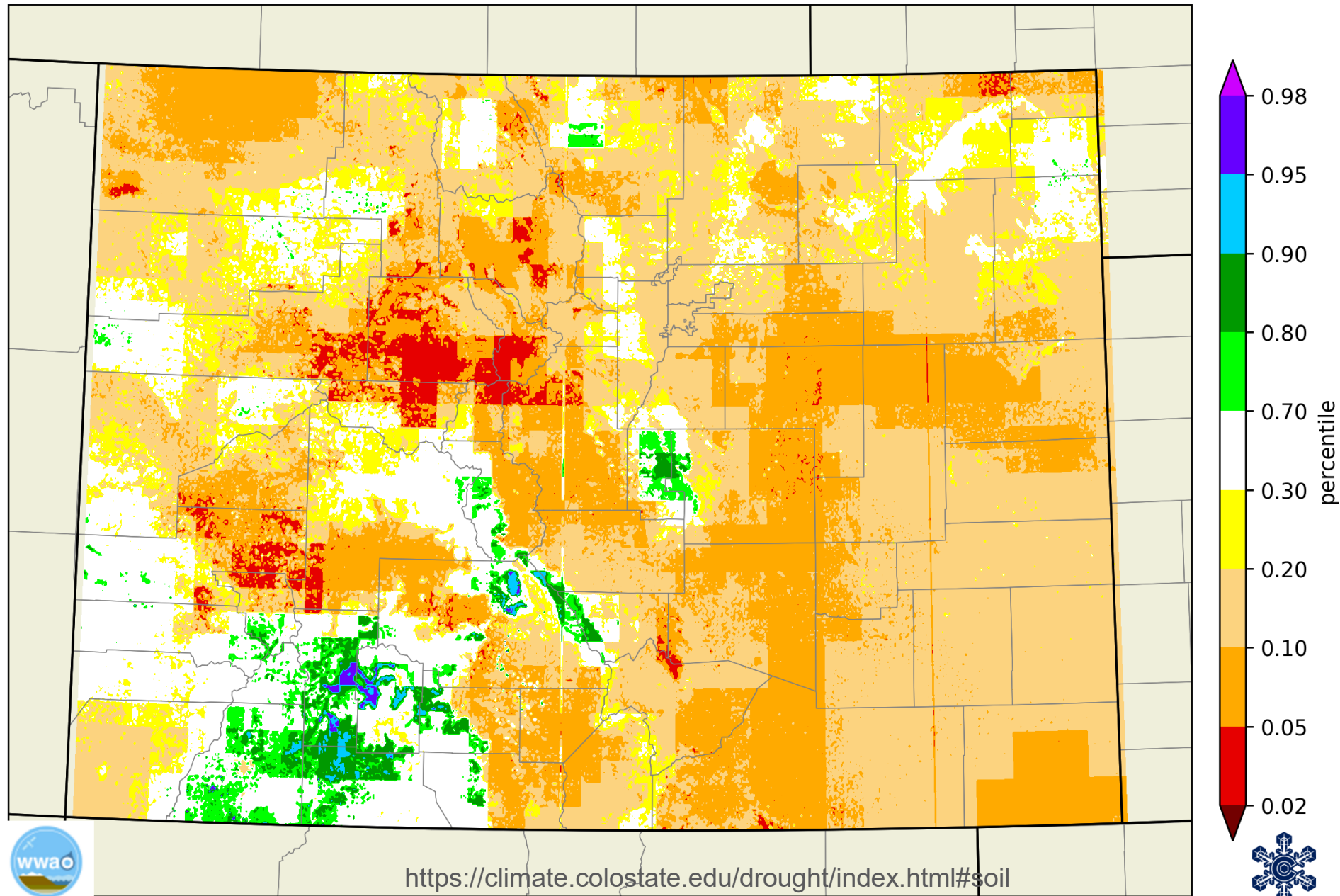
<https://climate.colostate.edu/drought/index.html#soil>



Source: GRACE
satellite data

Relatively low TWS
for most of the state,
but better than we
have seen in recent
months

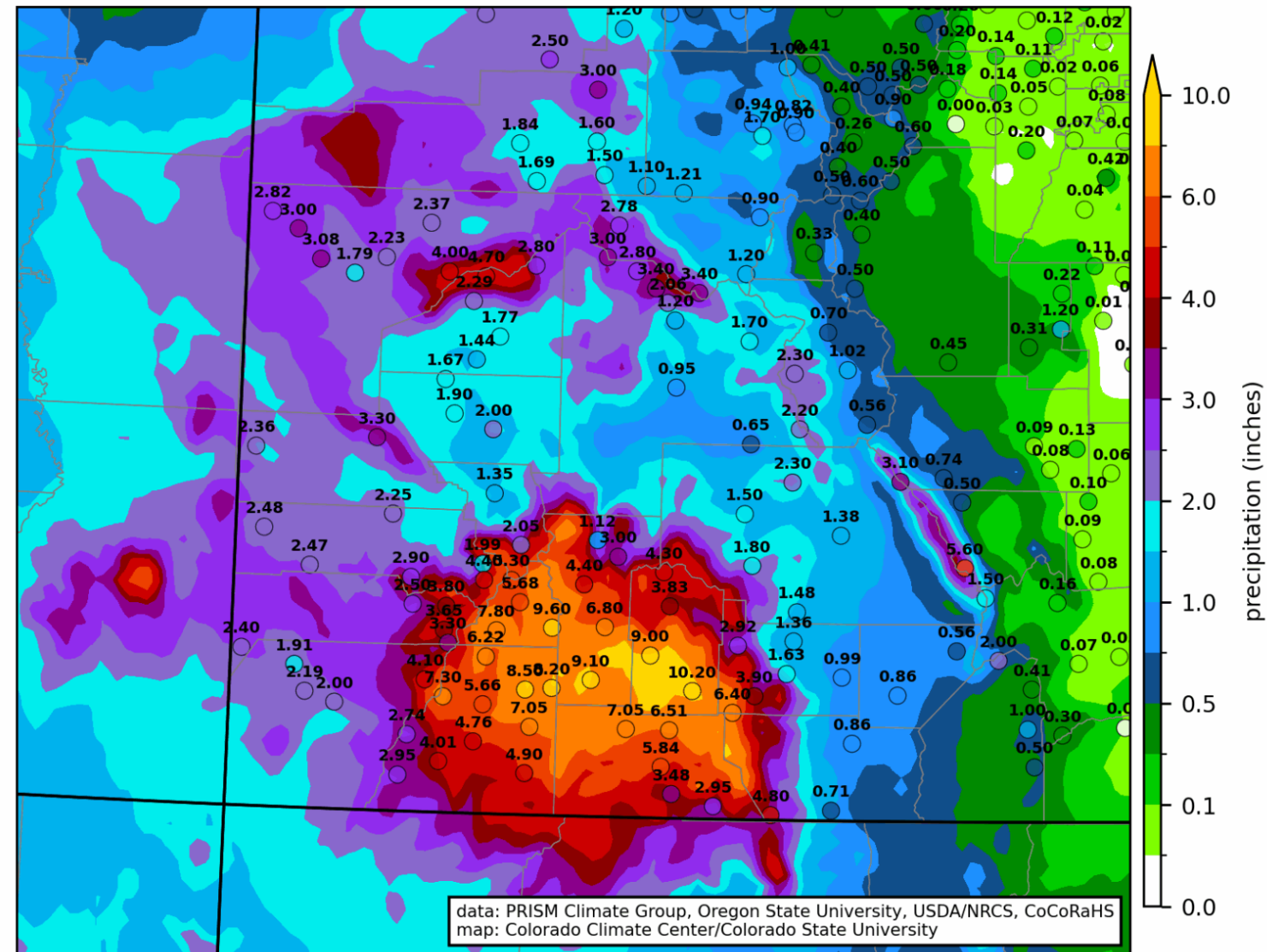
Major changes to
TWS in SW CO
where we saw record
floods



Major Flooding Event in SW CO

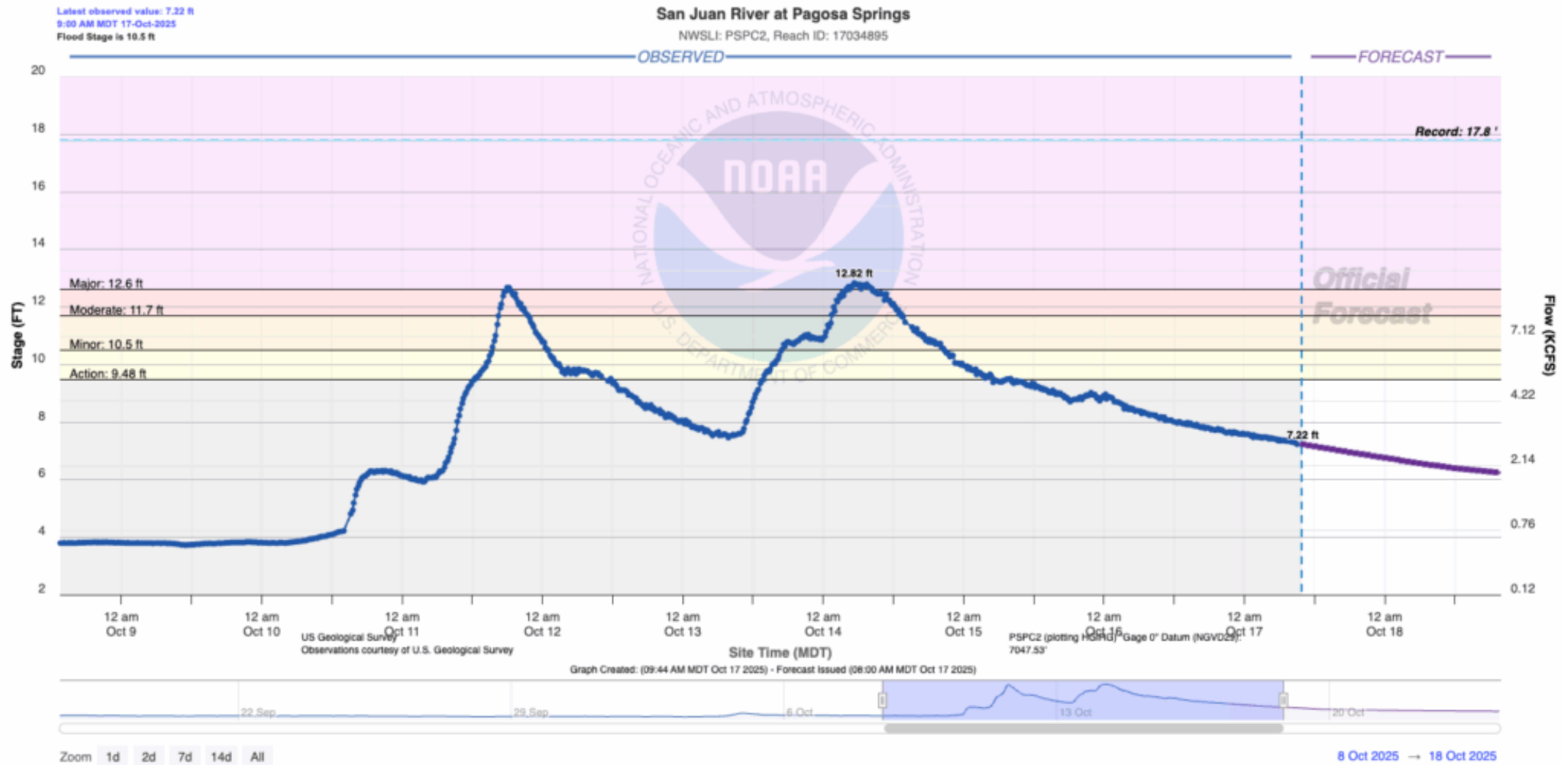
- Two major rainfall events in the same week in the same location
- 7-day precipitation totals in excess of 10" for parts of Mineral and Hinsdale Counties
- A large area with precipitation in excess of 5"
- Moisture came from two remnant tropical systems: Priscilla and Raymond

PRISM, SNOTEL, and CoCoRaHS total precipitation, 9-15 Oct 2025



Major Flooding Event in SW CO

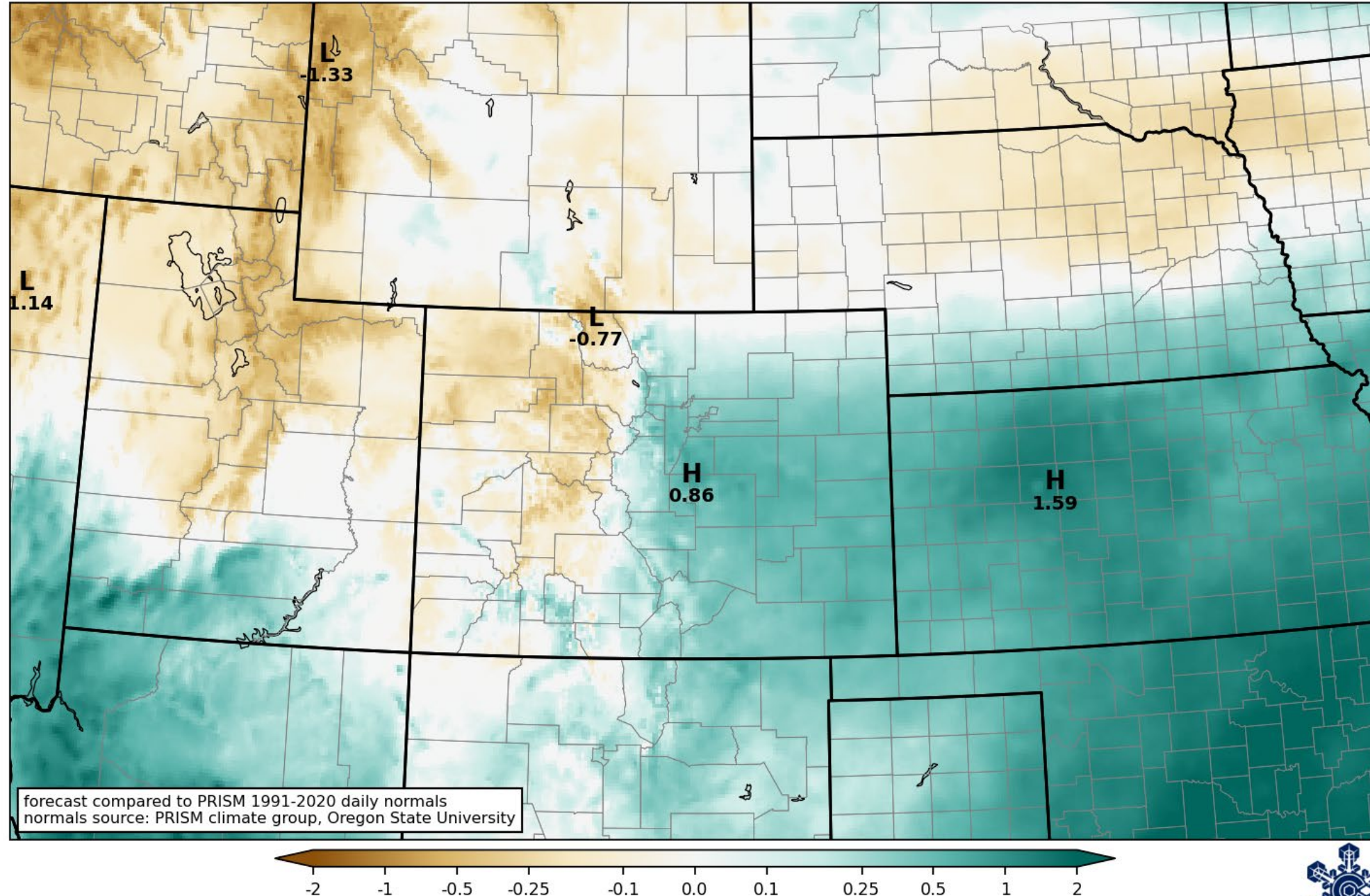
San Juan River achieved major flooding state twice in a two week span



Winter Outlook

- Next couple weeks
- La Niña
- CPC graphics





A wetter than
normal week
possible for eastern
Colorado

Some of this
moisture will be
snow

Slow start
continues for
northwestern
Colorado

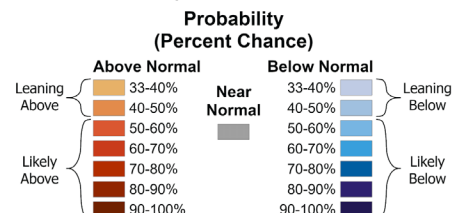
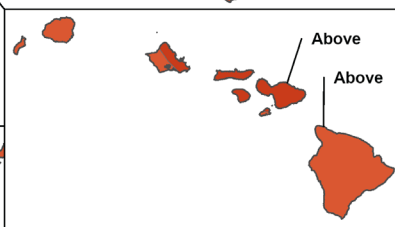
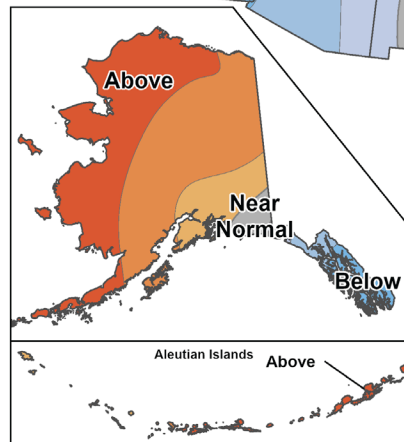
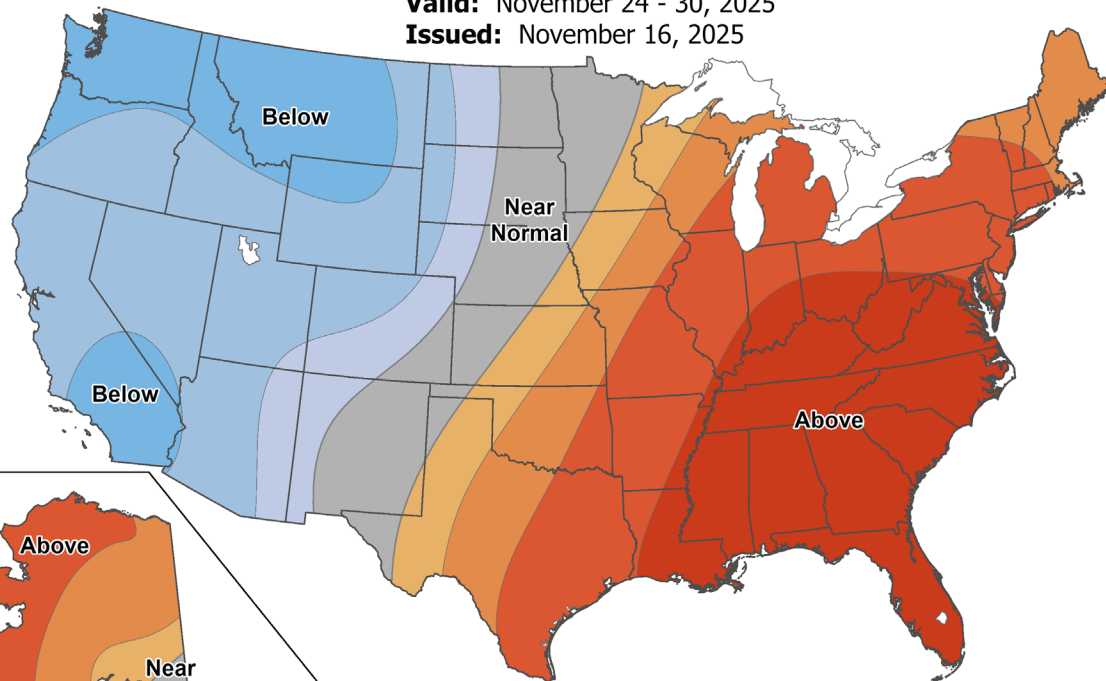




8-14 Day Temperature Outlook

Valid: November 24 - 30, 2025

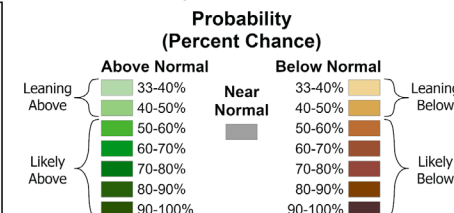
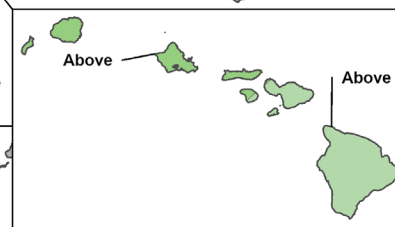
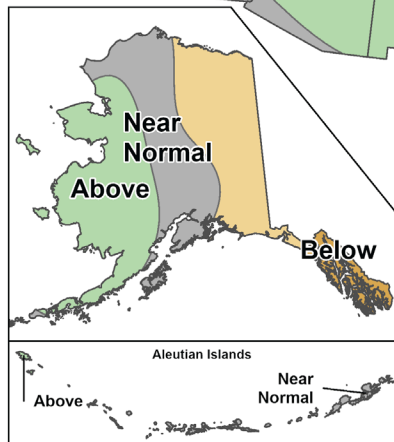
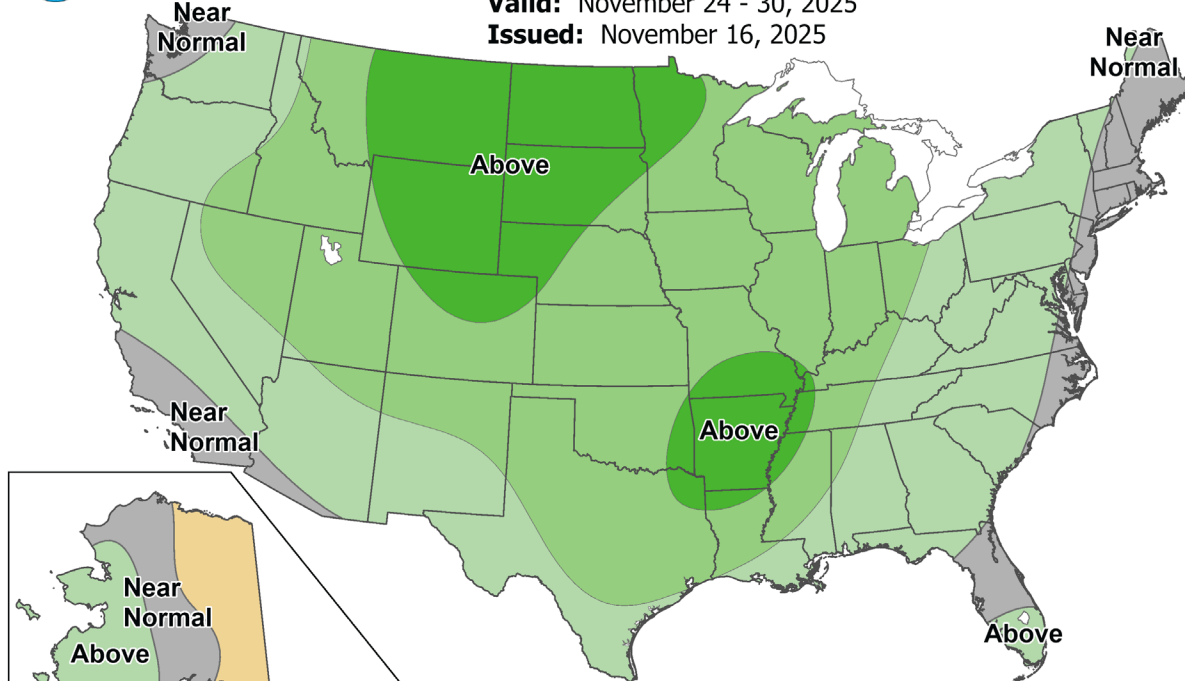
Issued: November 16, 2025



8-14 Day Precipitation Outlook

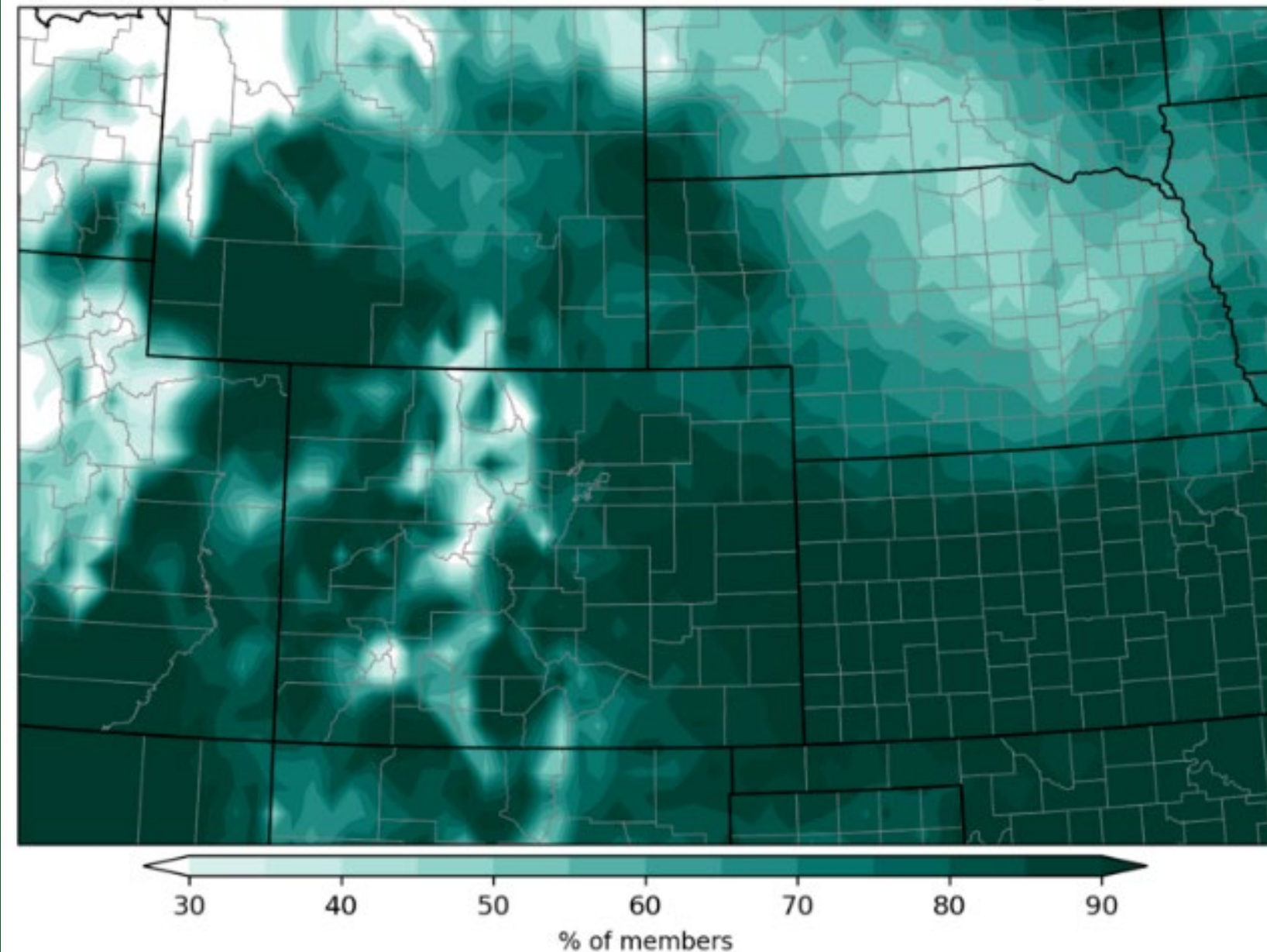
Valid: November 24 - 30, 2025

Issued: November 16, 2025



initialized 0000 UTC Mon 17 Nov 2025
360-h forecast valid 0000 UTC Tue 02 Dec 2025

percent of EPS members at least 0.1" above average



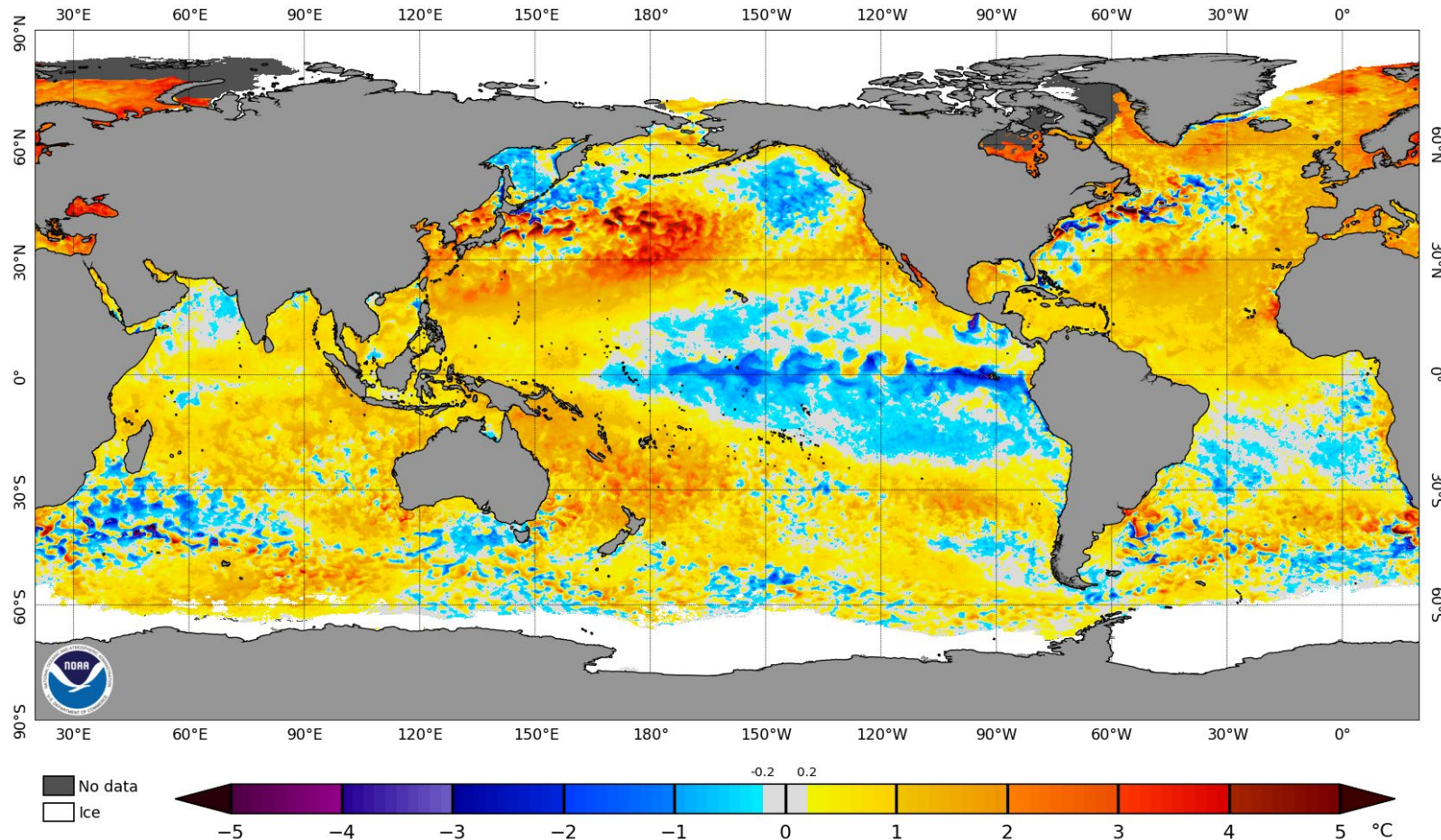
Wetter than normal conditions are probable for most of the state over the next two weeks

Much of this will be snow with much colder temperatures in the offing. It is going to feel like a rude awakening to all of us who have become used to the balmy autumn temperatures

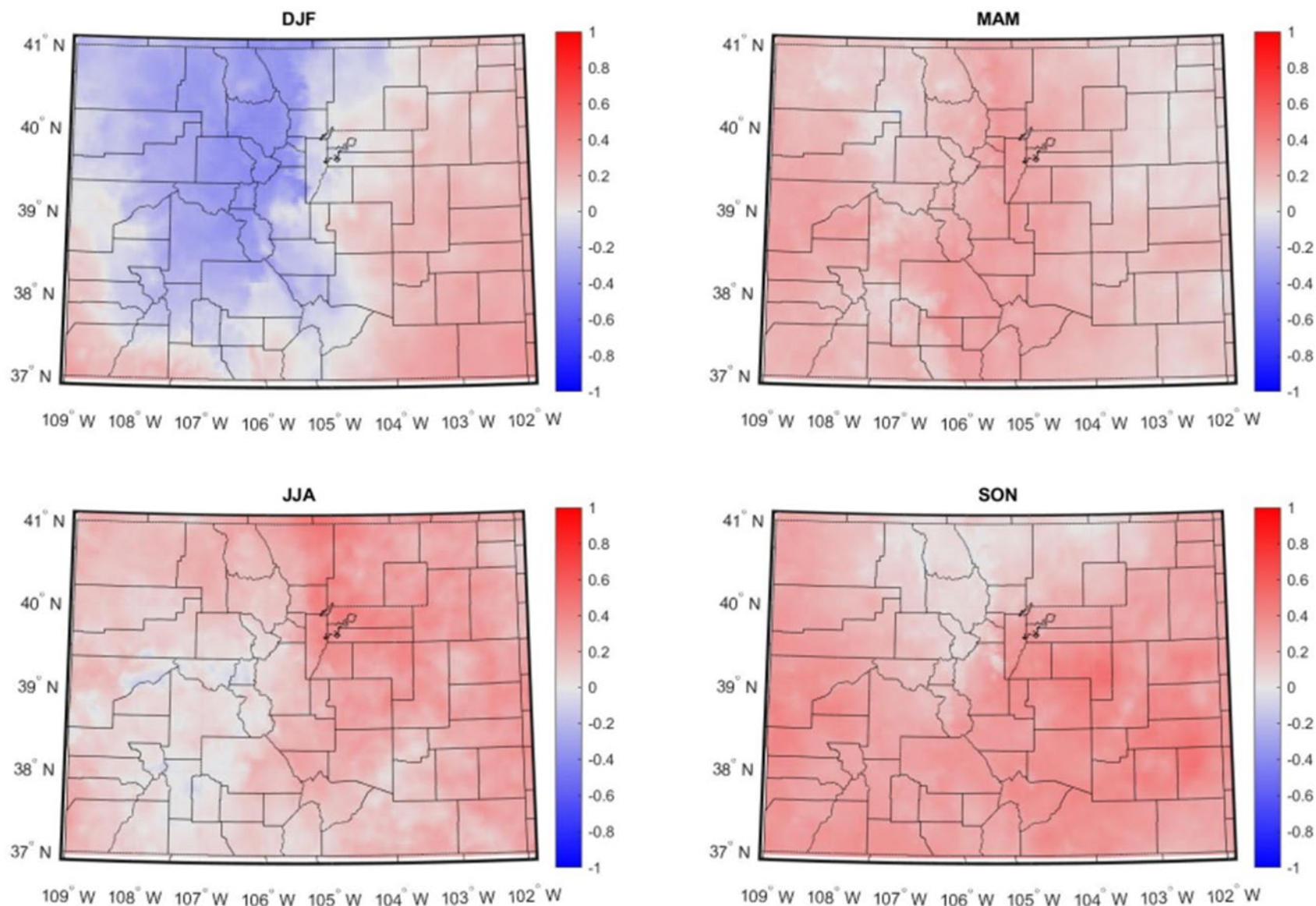
0-7 days does not look too bad temperature-wise, but more wintry temperatures may be in the cards at 8-14 days

Beyond the Forecast (El Niño/La Niña)

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 16 Nov 2025



Correlation Between ENSO ONI and Seasonal Precipitation in Colorado (1951-2020)

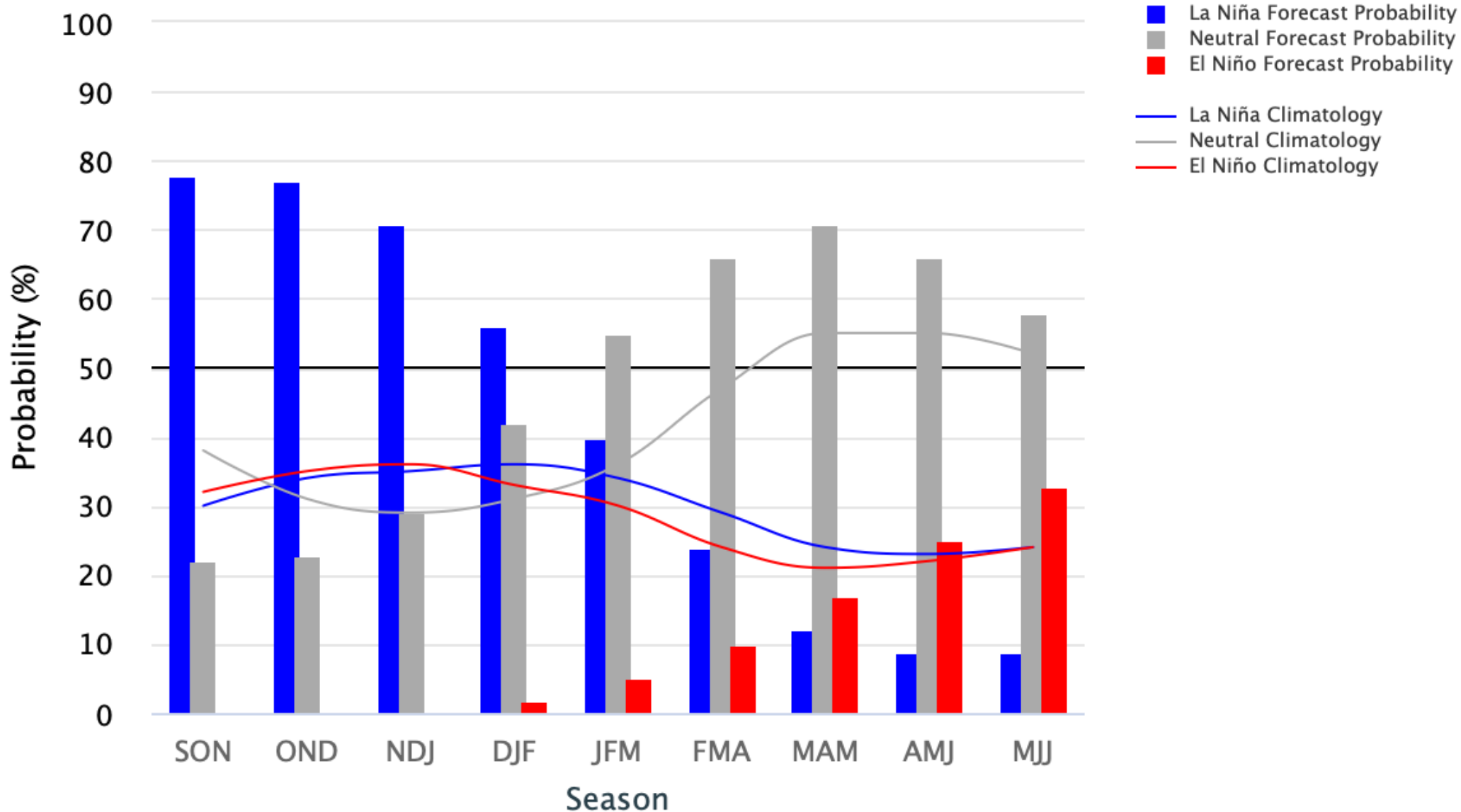


Blue = La Niña wetter Red = El Niño wetter

Early-October 2025 CPC Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly

Neutral ENSO: -0.5°C to 0.5°C



A La Niña pattern through winter that breaks down in spring would be the "best of both worlds"

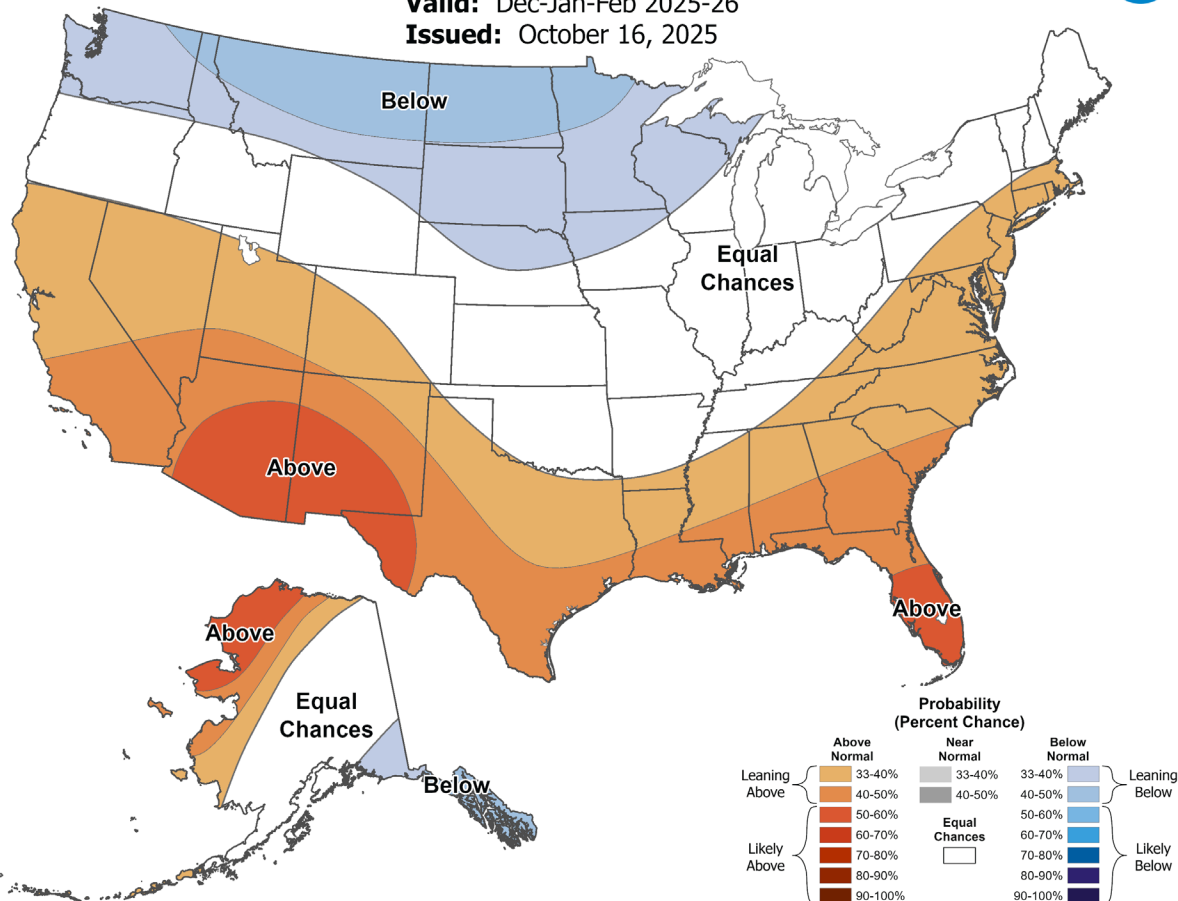
Too much uncertainty to get too excited



Seasonal Temperature Outlook

Valid: Dec-Jan-Feb 2025-26

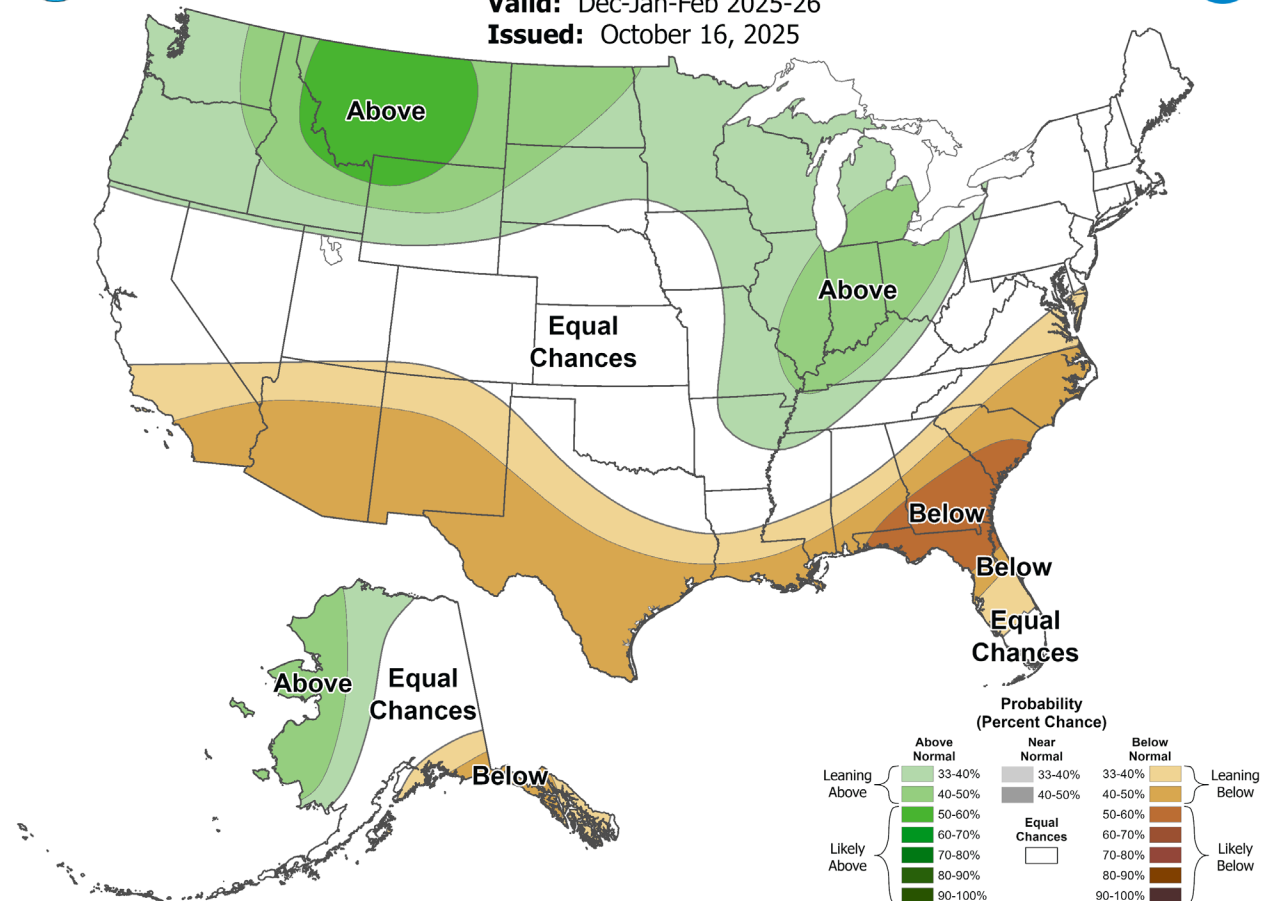
Issued: October 16, 2025



Seasonal Precipitation Outlook

Valid: Dec-Jan-Feb 2025-26

Issued: October 16, 2025



Takeaways

- It has been a very balmy autumn thus far, even by recent standards. Last month was 2.9 °F warmer than the 1991-2020 normal. Our November-to-date anomaly is even greater
- Water Year 2025 had its ups and downs. Overall, it was warmer and drier than our 1991-2020 normals, but not outside of the range we have observed recently
- We received a major flooding event in Southwestern Colorado in early October. Since then, most of the state has been exceptionally dry. Abnormally dry soil moisture is starting to creep back into the picture for the eastern plains
- The rest of the month is shaping up to be much more active. Wetter than normal conditions are likely for most of the state, and cooler than normal conditions will probably feel like a shock as we have not experienced a true dose of winter yet this year
- La Niña is back, albeit a weak La Niña. Models suggest it is likely to stick around through winter and fizzle in the spring. La Niña tilts our odds at least mildly in favor of a snowy winter for the northern Rockies and a cooler than normal winter for northern Colorado (however, this signal is generally outweighed by our long-term warming trend). The forecast for JFM looks essentially the same as DJF. It is still too early to say much of anything about spring



Colorado Climate Center (Contact Us)

Thanks, and let's keep in touch!

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Peter Goble (Assistant State Climatologist) – peter.goble@colostate.edu

Allie Mazurek (Engagement Climatologist) – allie.mazurek@colostate.edu

Viewing this, and previous WCMC Briefings:

http://climate.colostate.edu/ccc_archive.html

Thank you



ATMOSPHERIC SCIENCE
COLORADO STATE UNIVERSITY