



United States Department of Agriculture

Colorado Snow Surveys

Water Availability Task Force Meeting

September 27th, 2022

NRCS Snow Survey and Water Supply Forecasting Program

Brian Domonkos

Hydrologist

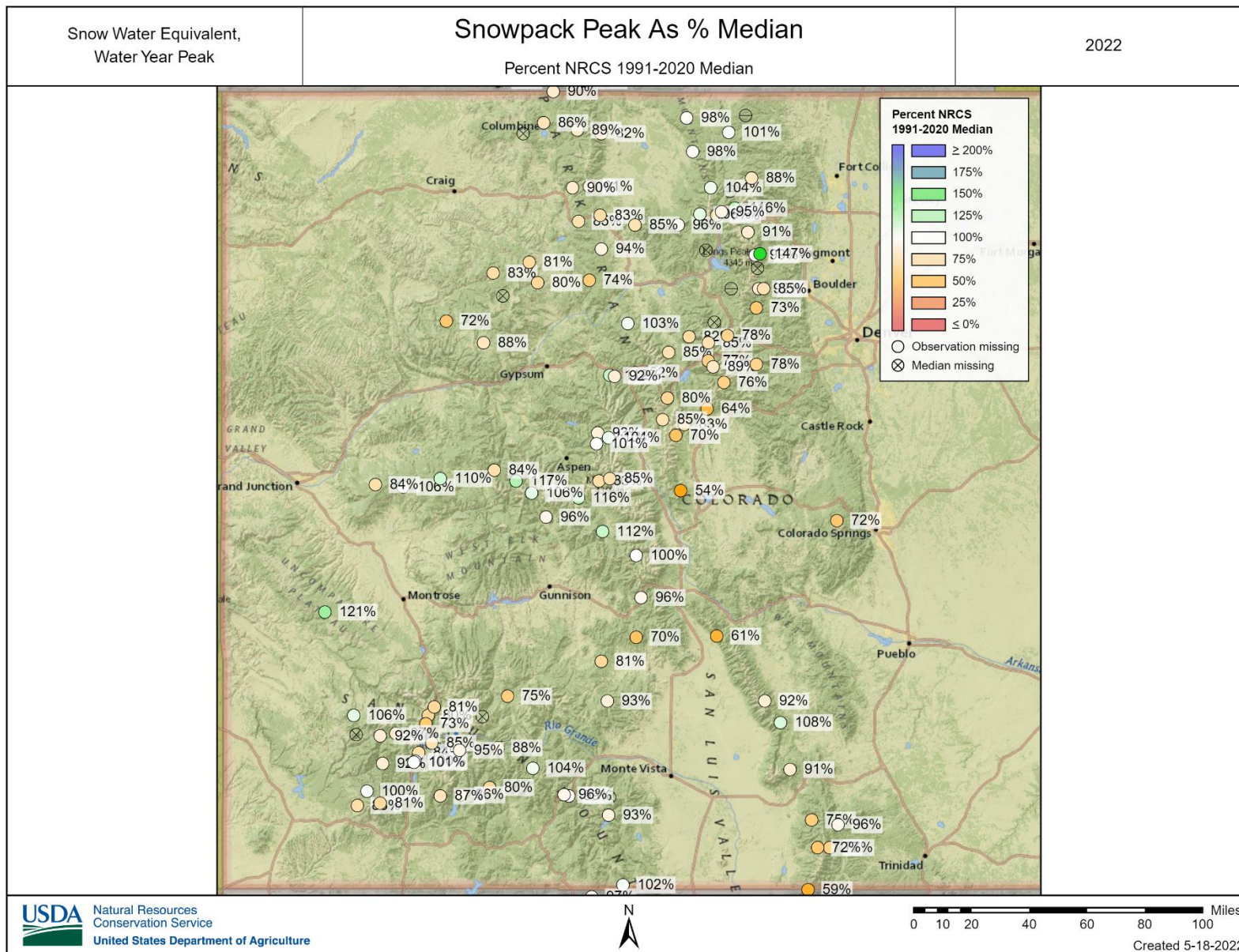
brian.domonkos@usda.gov

720-544-2852

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/co/snow/>

Snowpack



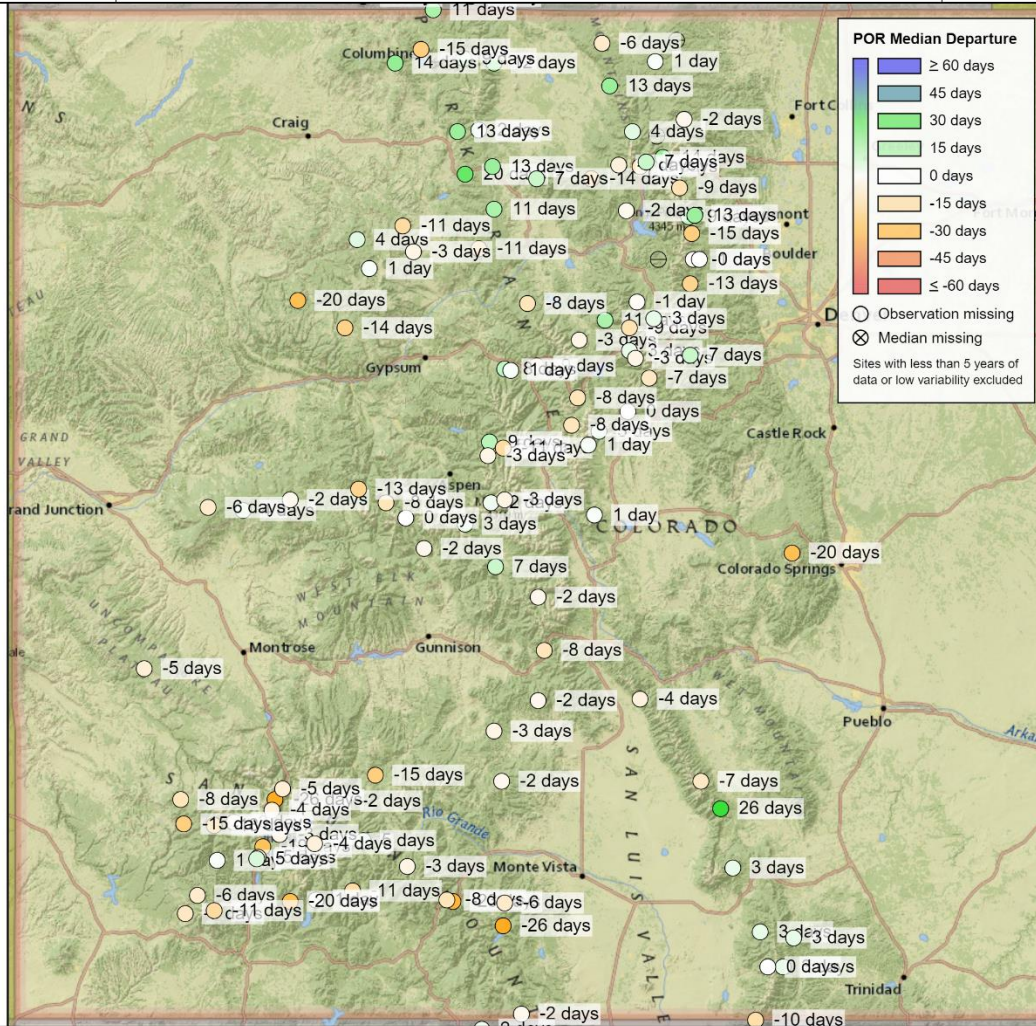


Snow Water Equivalent,
Date of Water Year Peak

Snowpack Peak Date Anomaly

2022

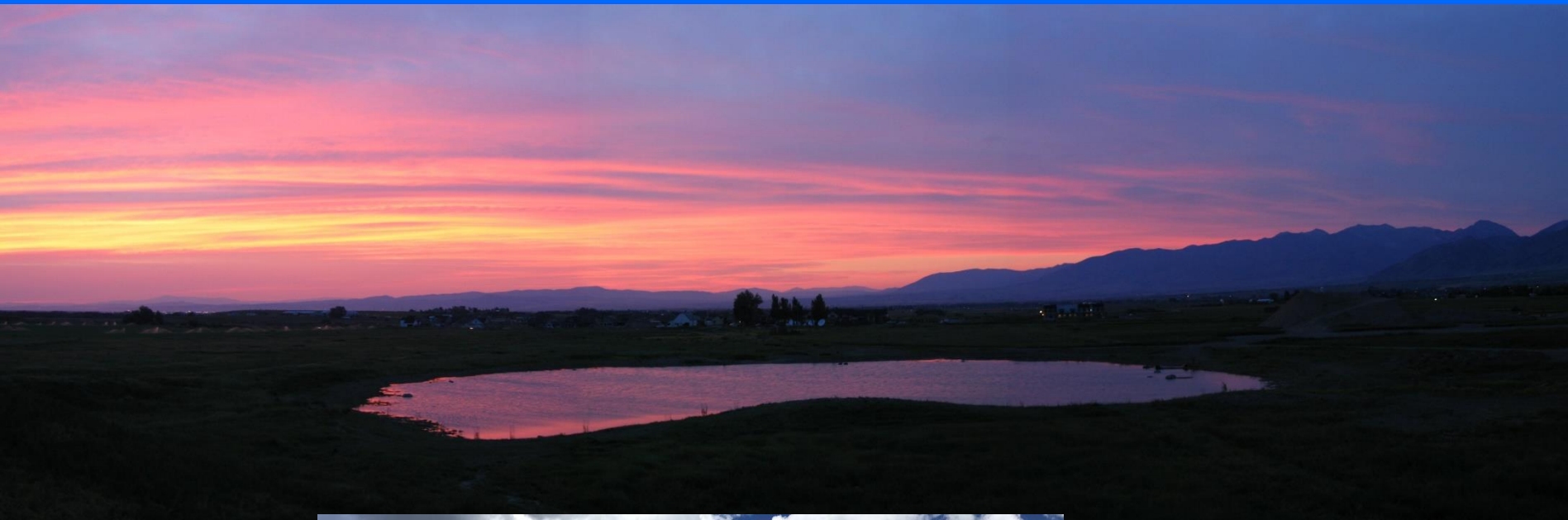
POR Median Departure



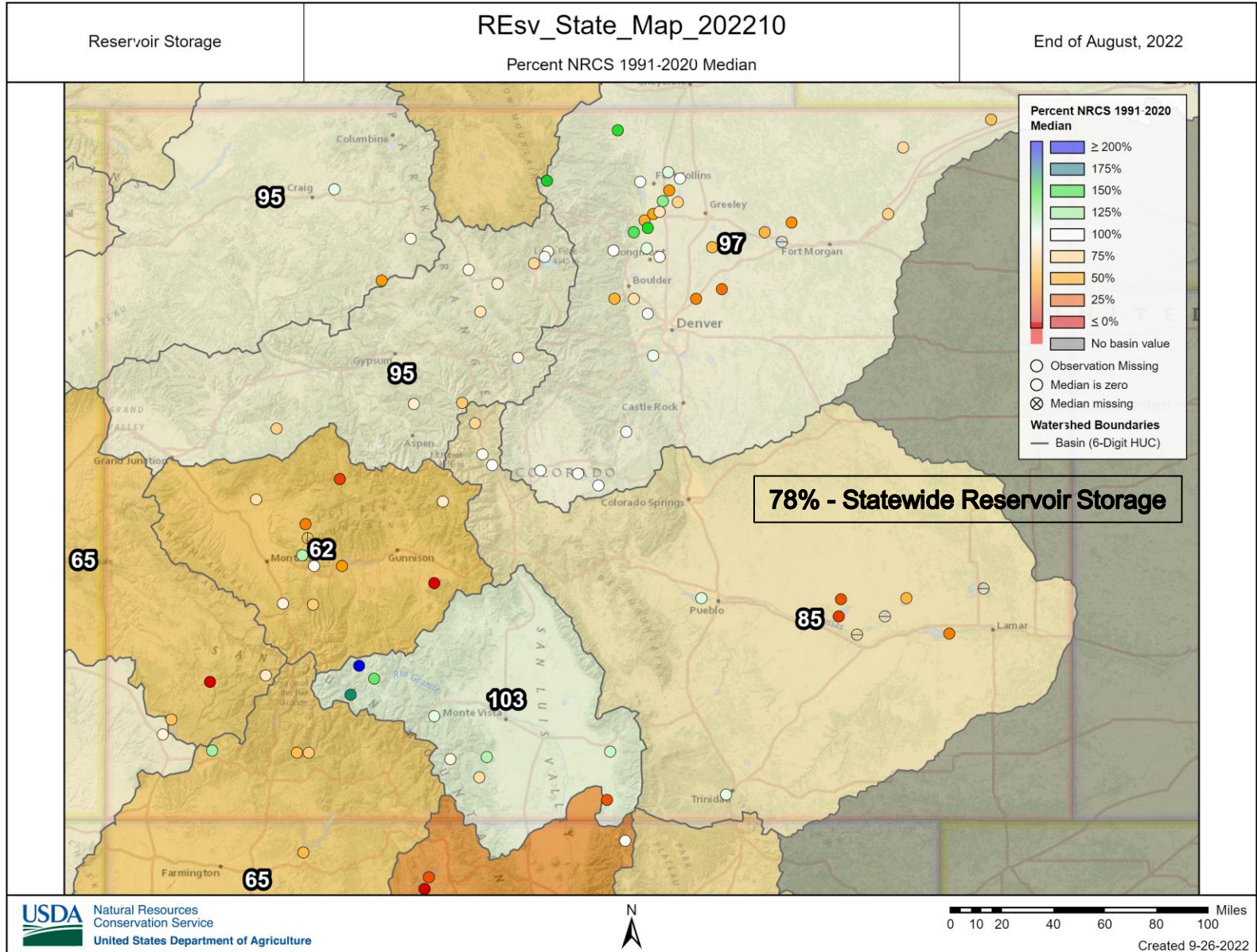


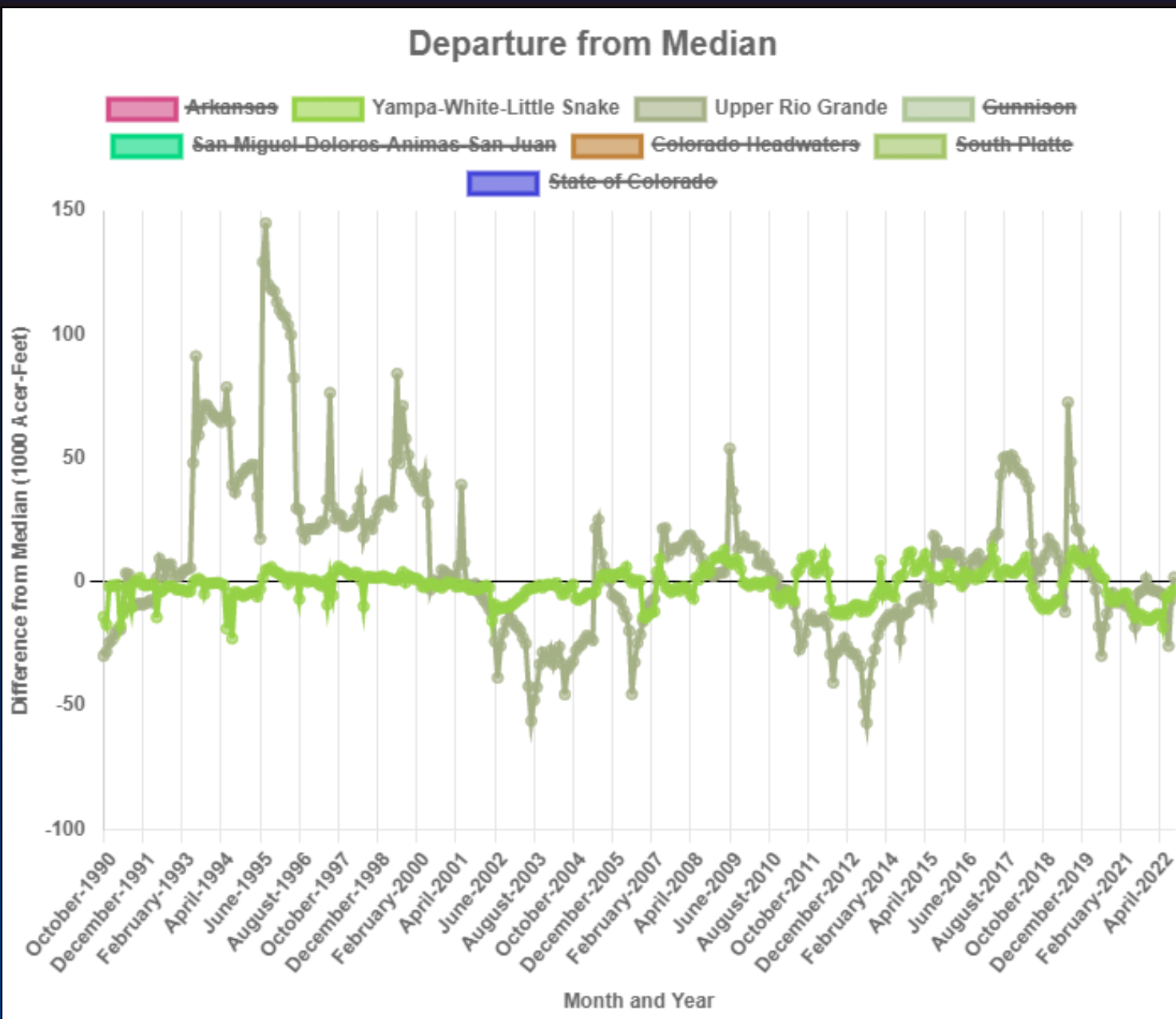
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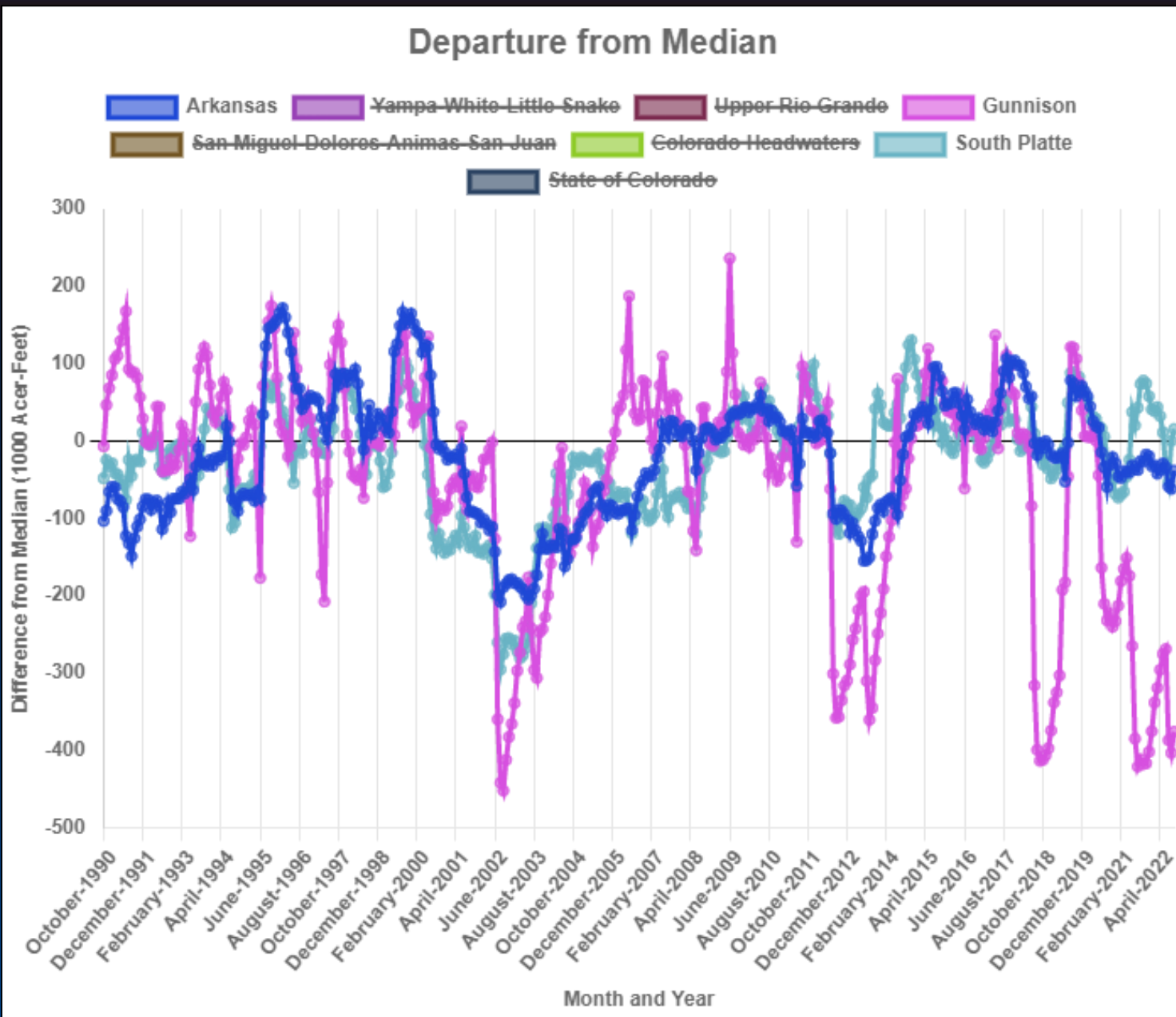
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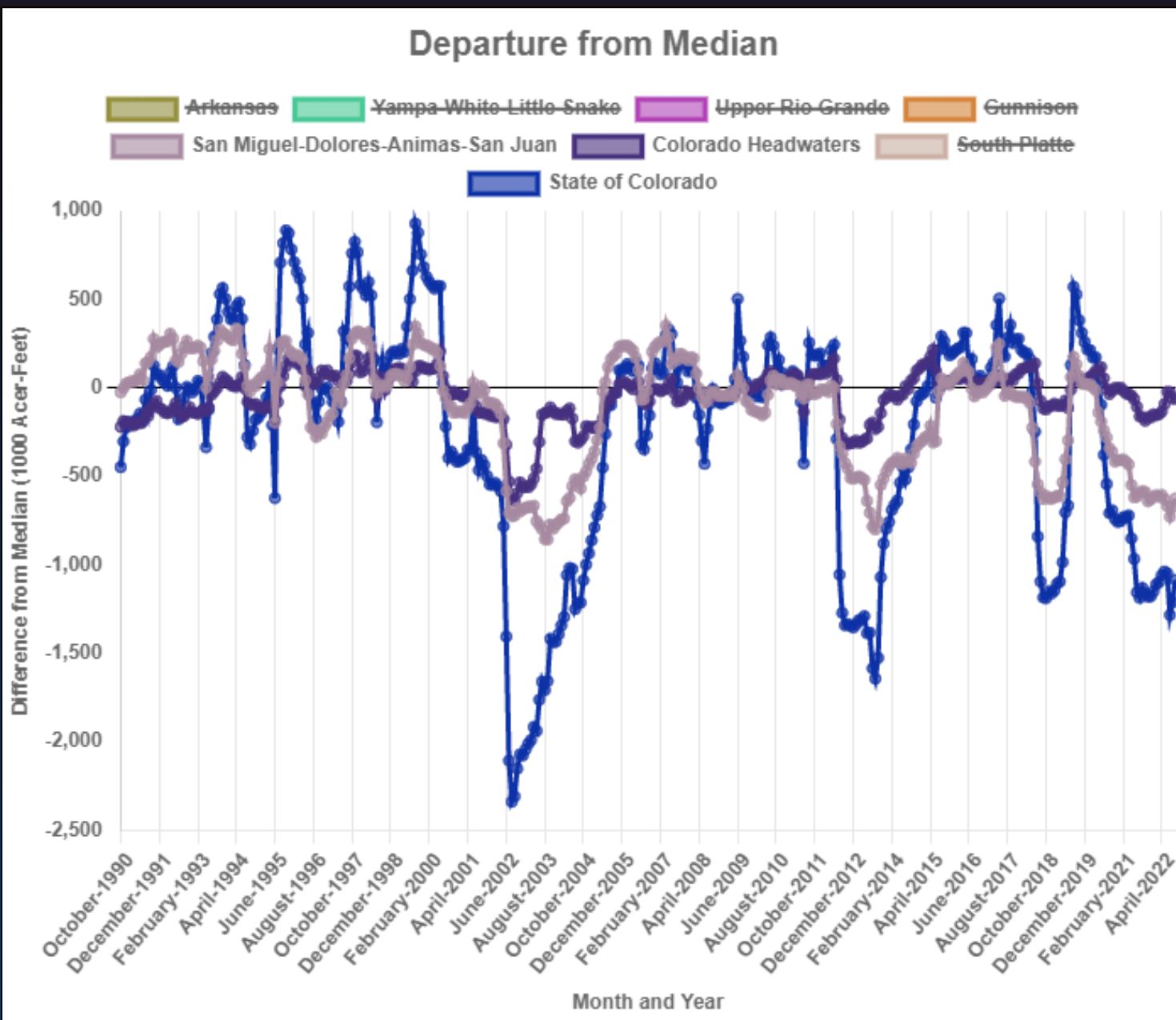


Reservoirs











Precipitation

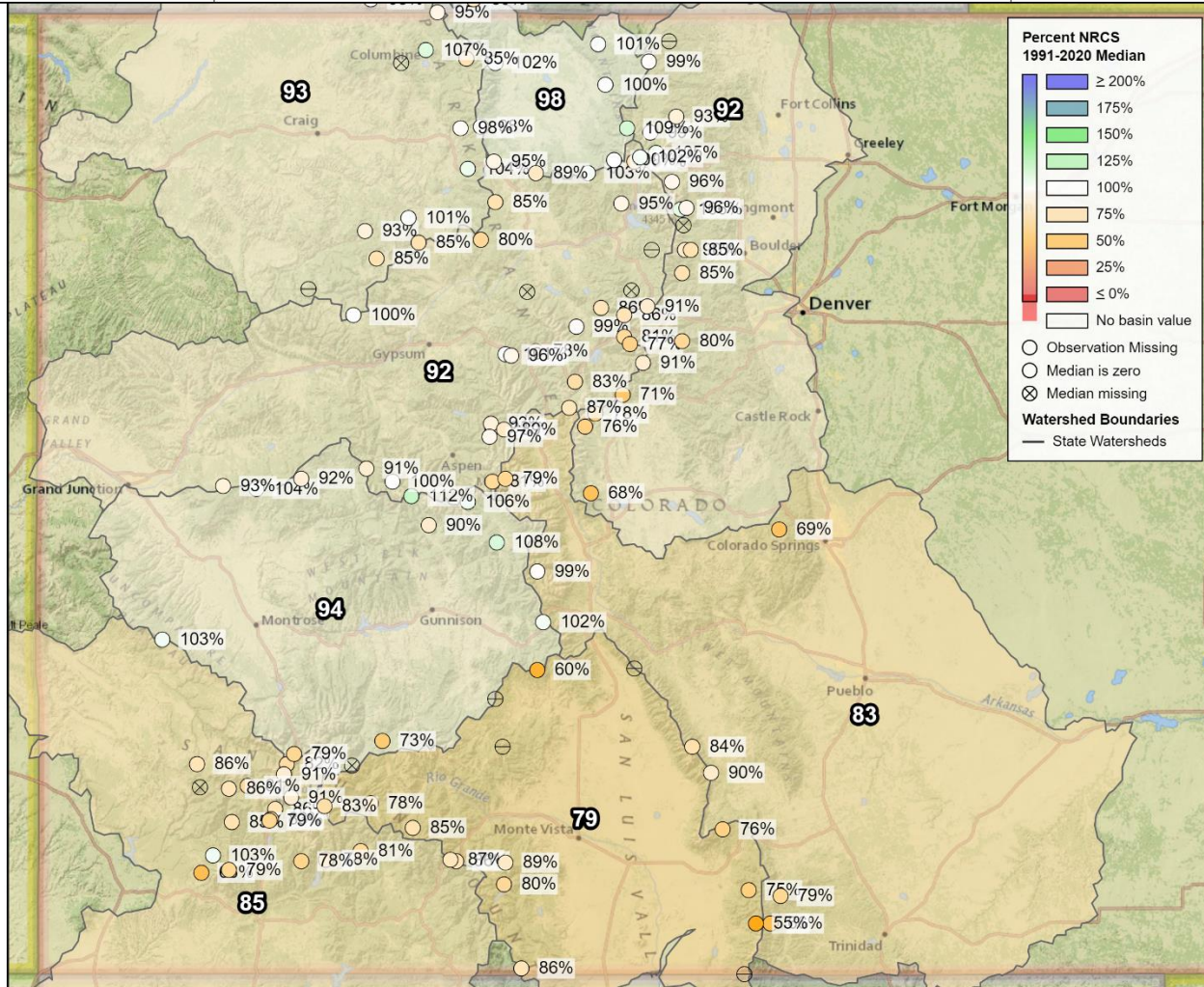


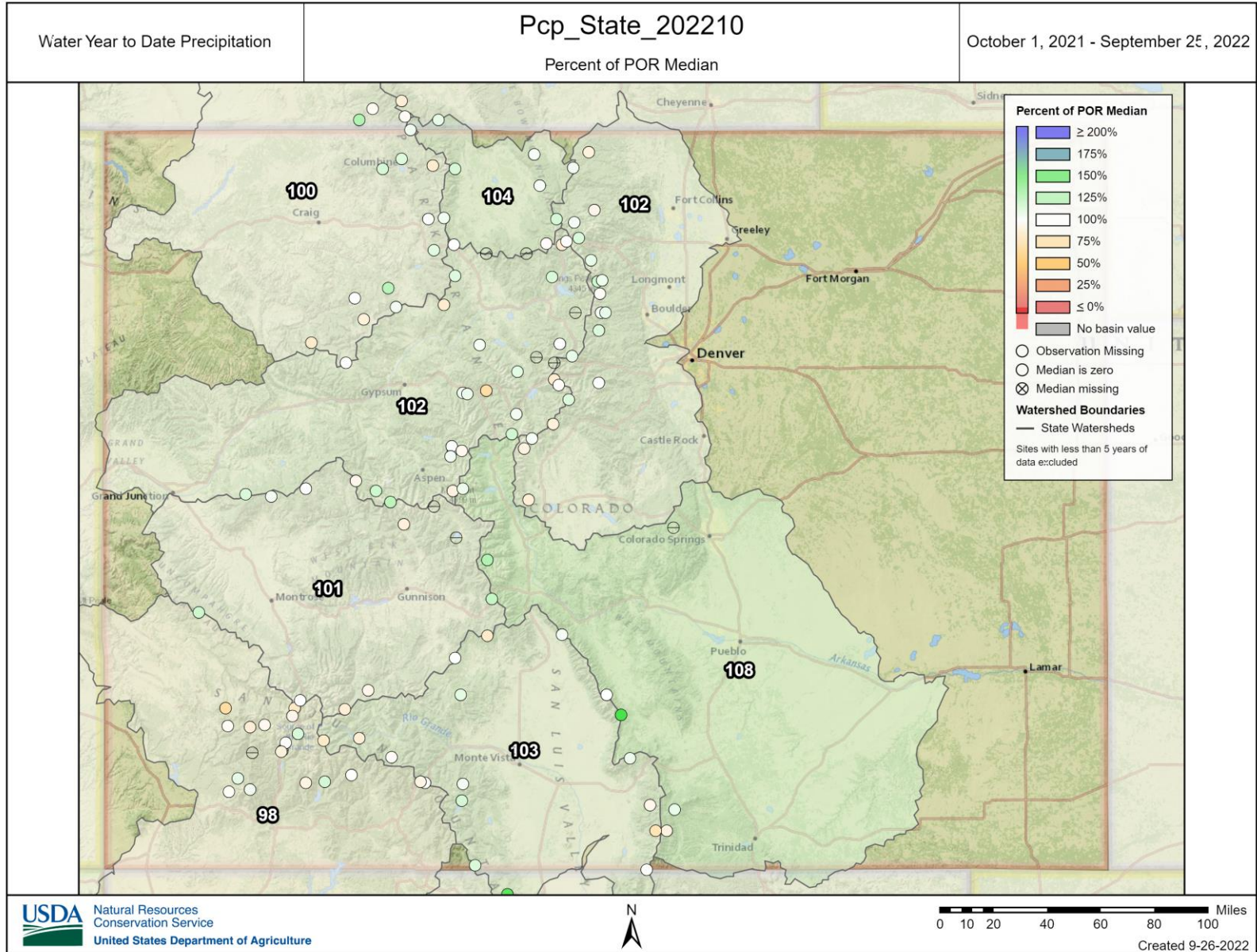
Water Year to Date Precipitation

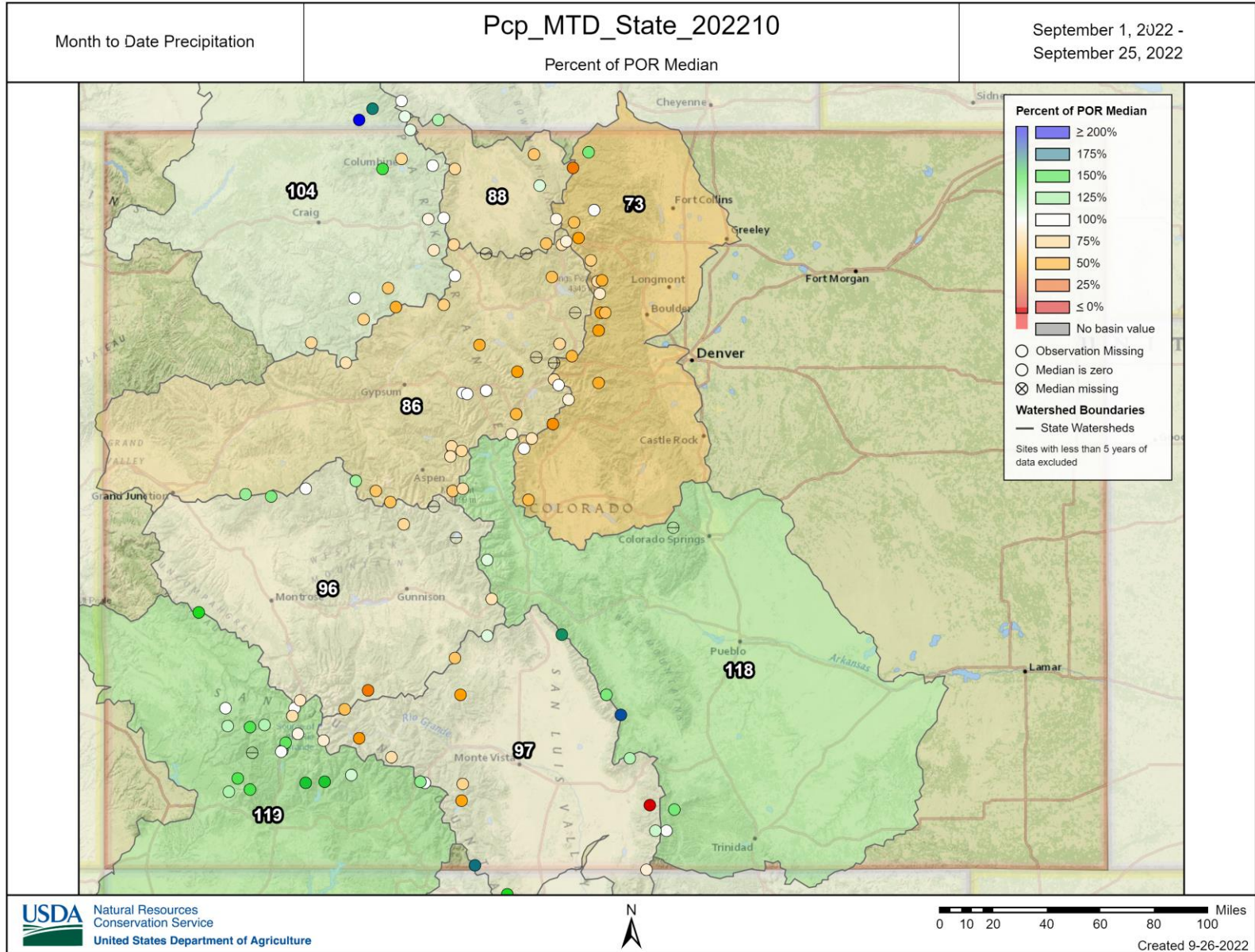
Statewide YTD Precipitation

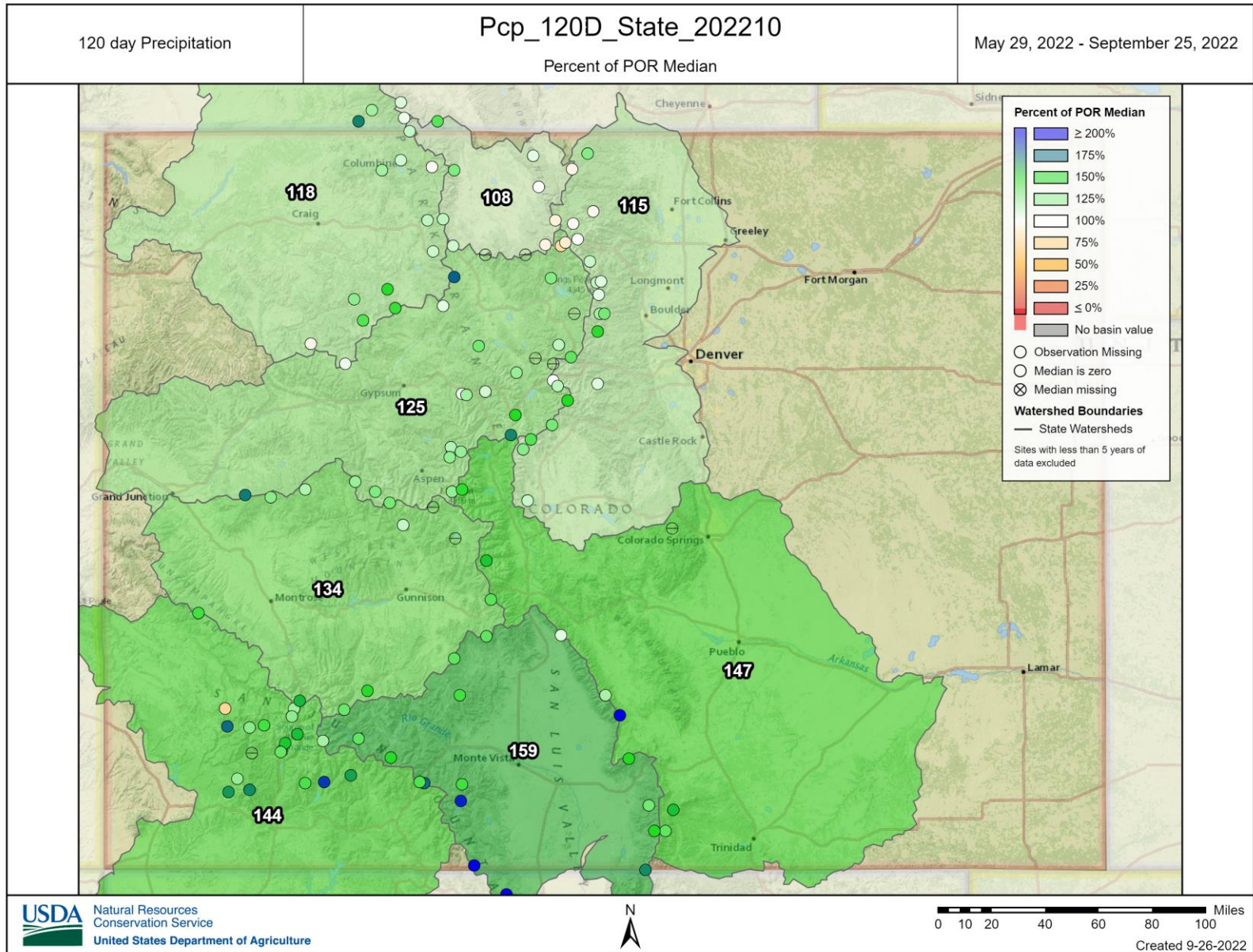
Percent NRCS 1991-2020 Median

October 1, 2021 - May 17, 2022











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PRECIPITATION IN STATE OF COLORADO

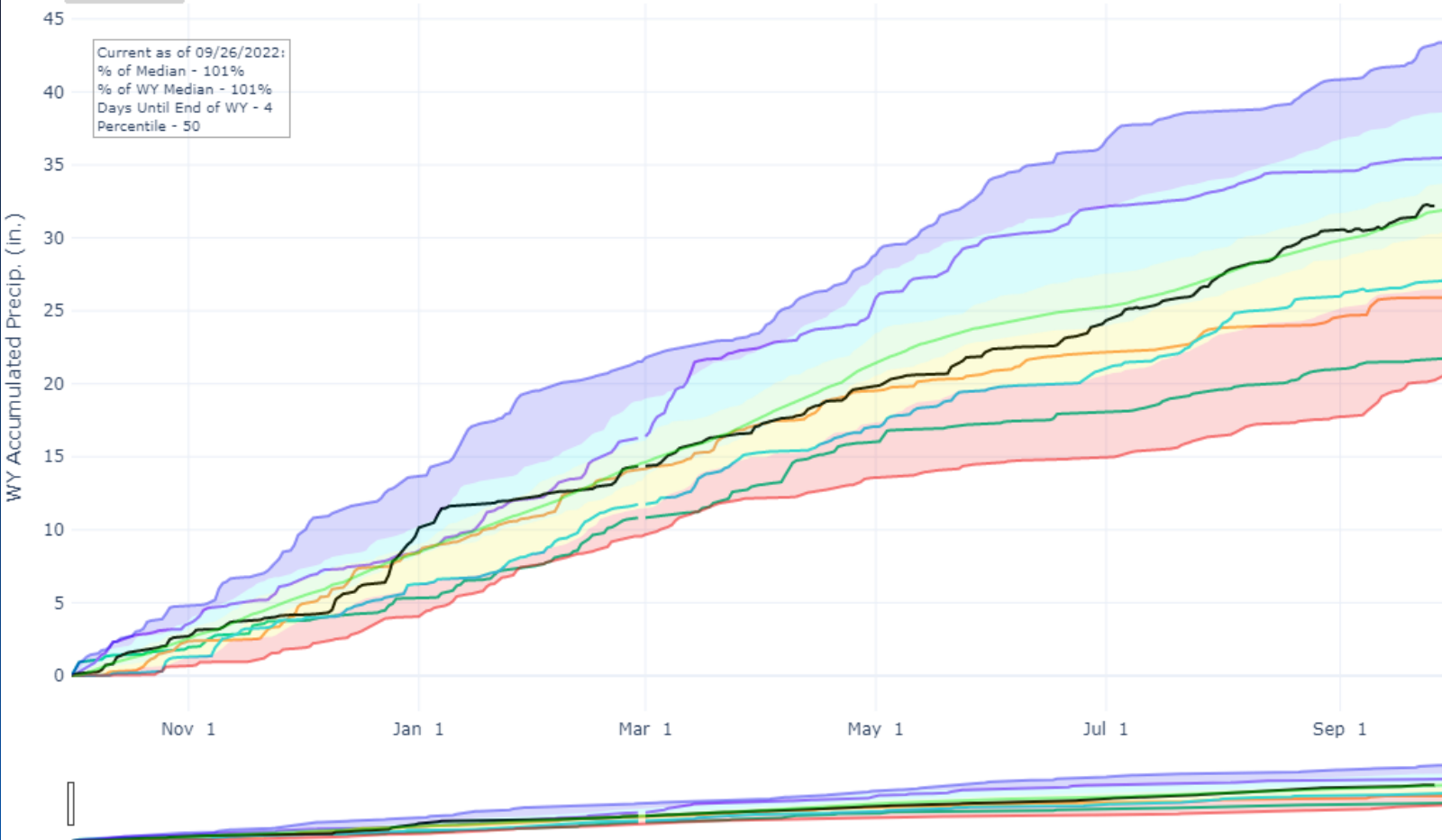
Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022:
% of Median - 101%
% of WY Median - 101%
Days Until End of WY - 4
Percentile - 50

- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2022 (116 sites)
- 2021 (117 sites)
- 2020 (117 sites)
- 2019 (117 sites)
- 2018 (117 sites)
- 2017 (117 sites)
- 2016 (117 sites)
- 2015 (117 sites)
- 2014 (117 sites)
- 2013 (117 sites)
- 2012 (117 sites)
- 2011 (117 sites)
- 2010 (115 sites)
- 2009 (112 sites)
- 2008 (109 sites)
- 2007 (106 sites)
- 2006 (106 sites)
- 2005 (105 sites)
- 2004 (99 sites)
- 2003 (98 sites)
- 2002 (93 sites)





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PRECIPITATION IN YAMPA-WHITE-LITTLE SNAKE

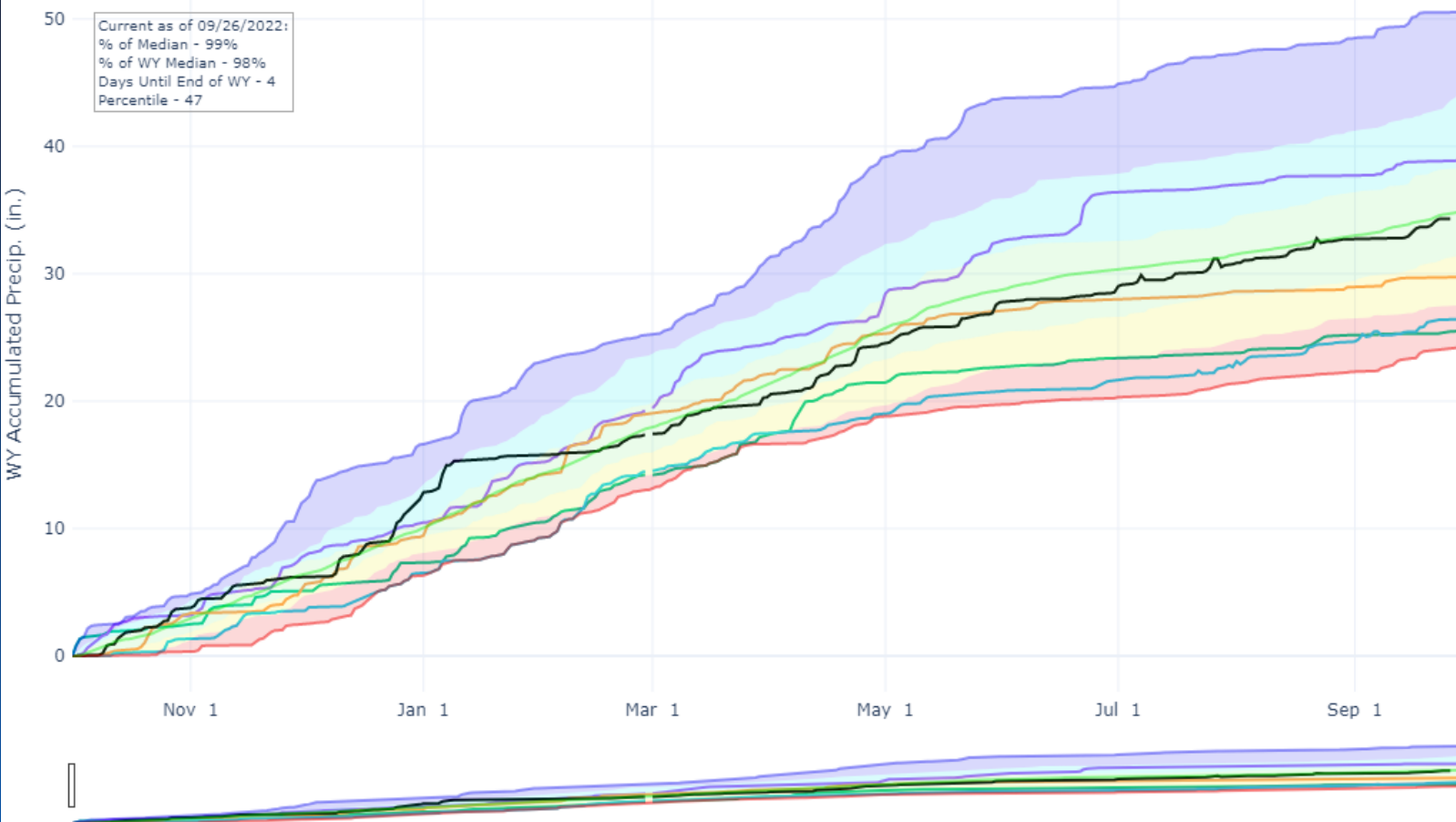
Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022:
% of Median - 99%
% of WY Median - 98%
Days Until End of WY - 4
Percentile - 47

- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2022 (21 sites)
- 2021 (21 sites)
- 2020 (21 sites)
- 2019 (21 sites)
- 2018 (21 sites)
- 2017 (21 sites)
- 2016 (21 sites)
- 2015 (21 sites)
- 2014 (21 sites)
- 2013 (21 sites)
- 2012 (21 sites)
- 2011 (21 sites)
- 2010 (21 sites)
- 2009 (21 sites)
- 2008 (21 sites)
- 2007 (21 sites)
- 2006 (21 sites)
- 2005 (21 sites)
- 2004 (19 sites)
- 2003 (19 sites)
- 2002 (19 sites)





Colorado Snow Surveys

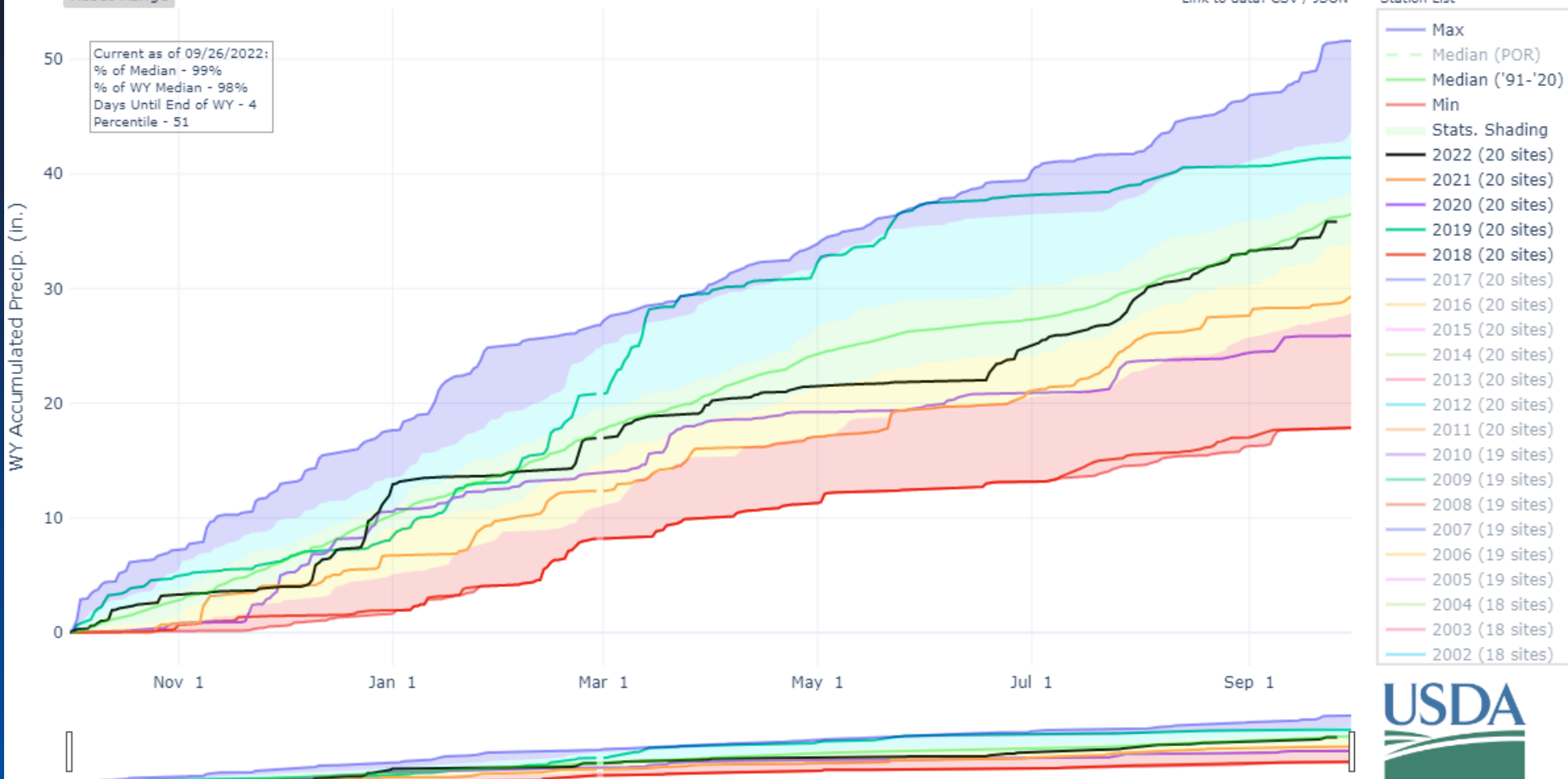
PRECIPITATION IN SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN

Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022:
% of Median - 99%
% of WY Median - 98%
Days Until End of WY - 4
Percentile - 51





Colorado Snow Surveys

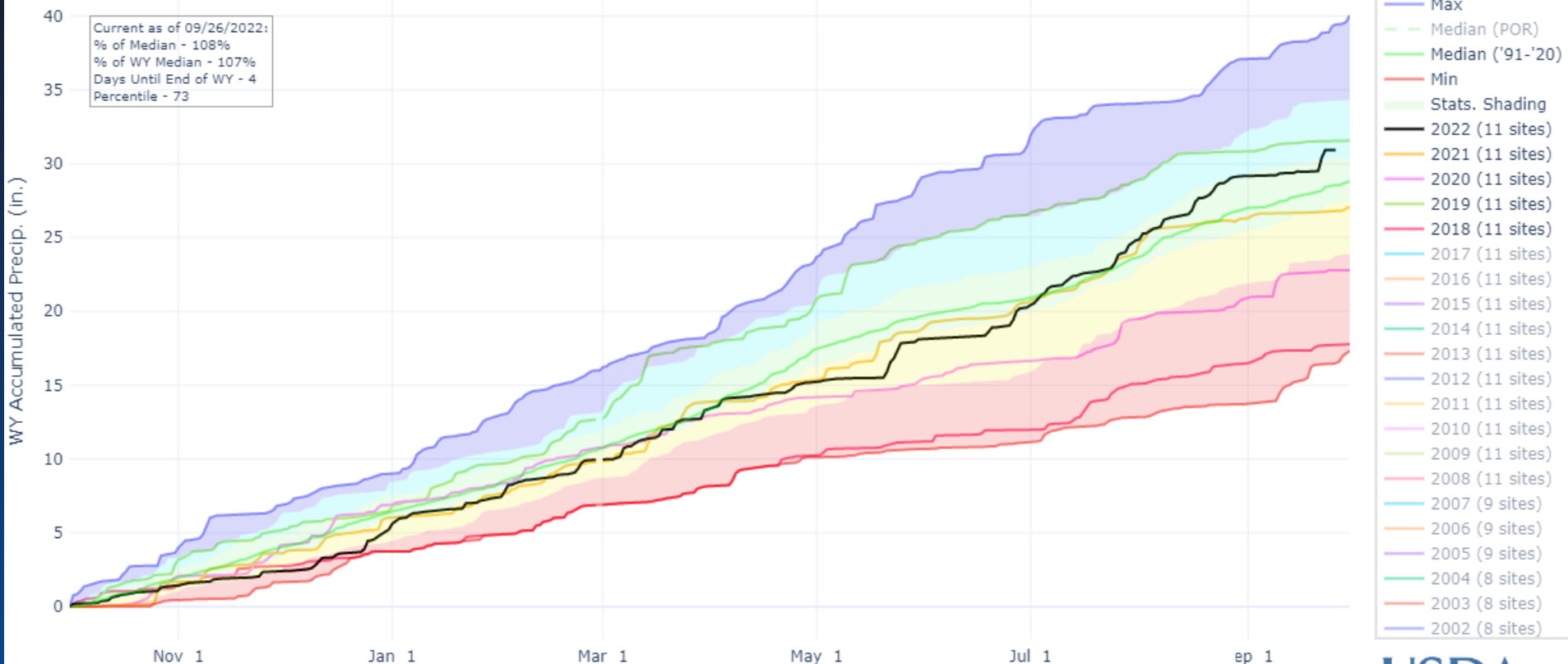
PRECIPITATION IN UPPER ARKANSAS

Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022:
% of Median - 108%
% of WY Median - 107%
Days Until End of WY - 4
Percentile - 73





Colorado Snow Surveys

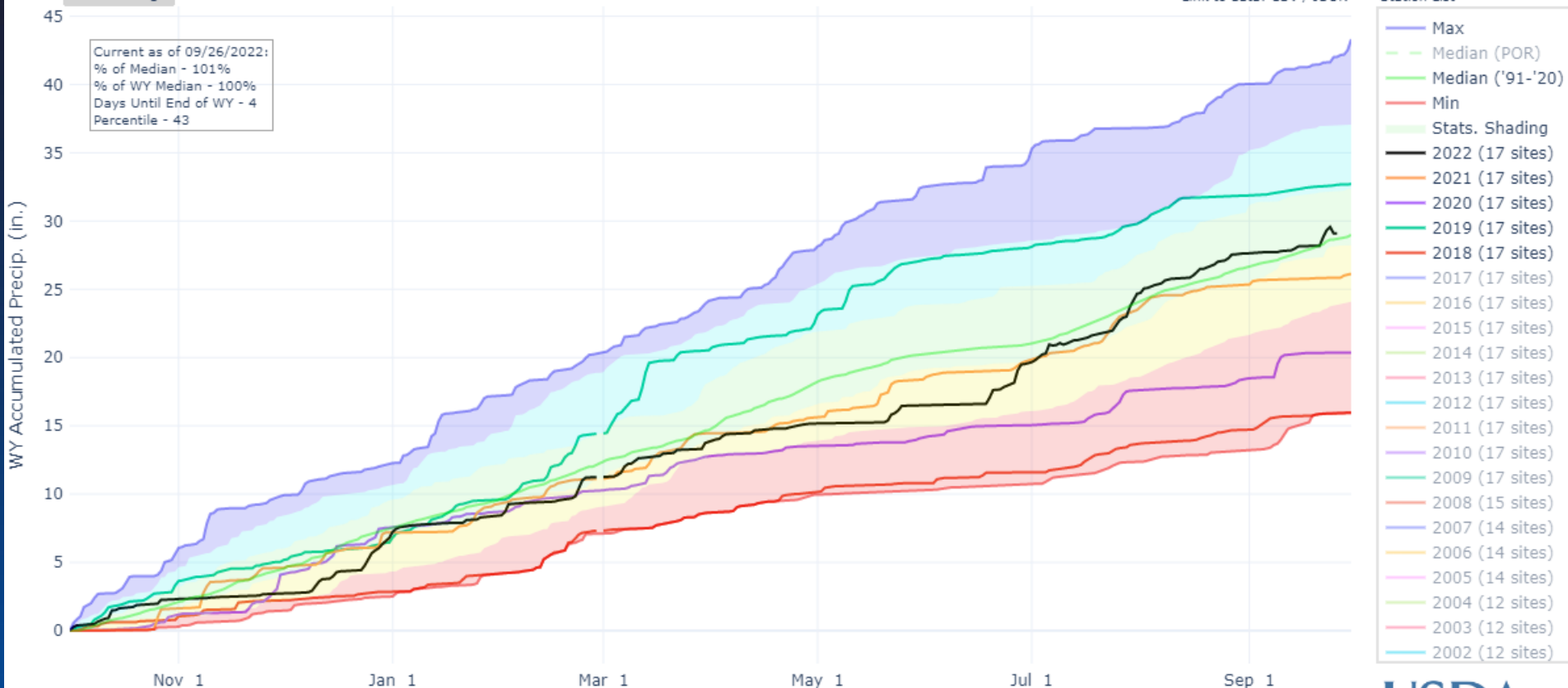
PRECIPITATION IN RIO GRANDE HEADWATERS

Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022:
% of Median - 101%
% of WY Median - 100%
Days Until End of WY - 4
Percentile - 43



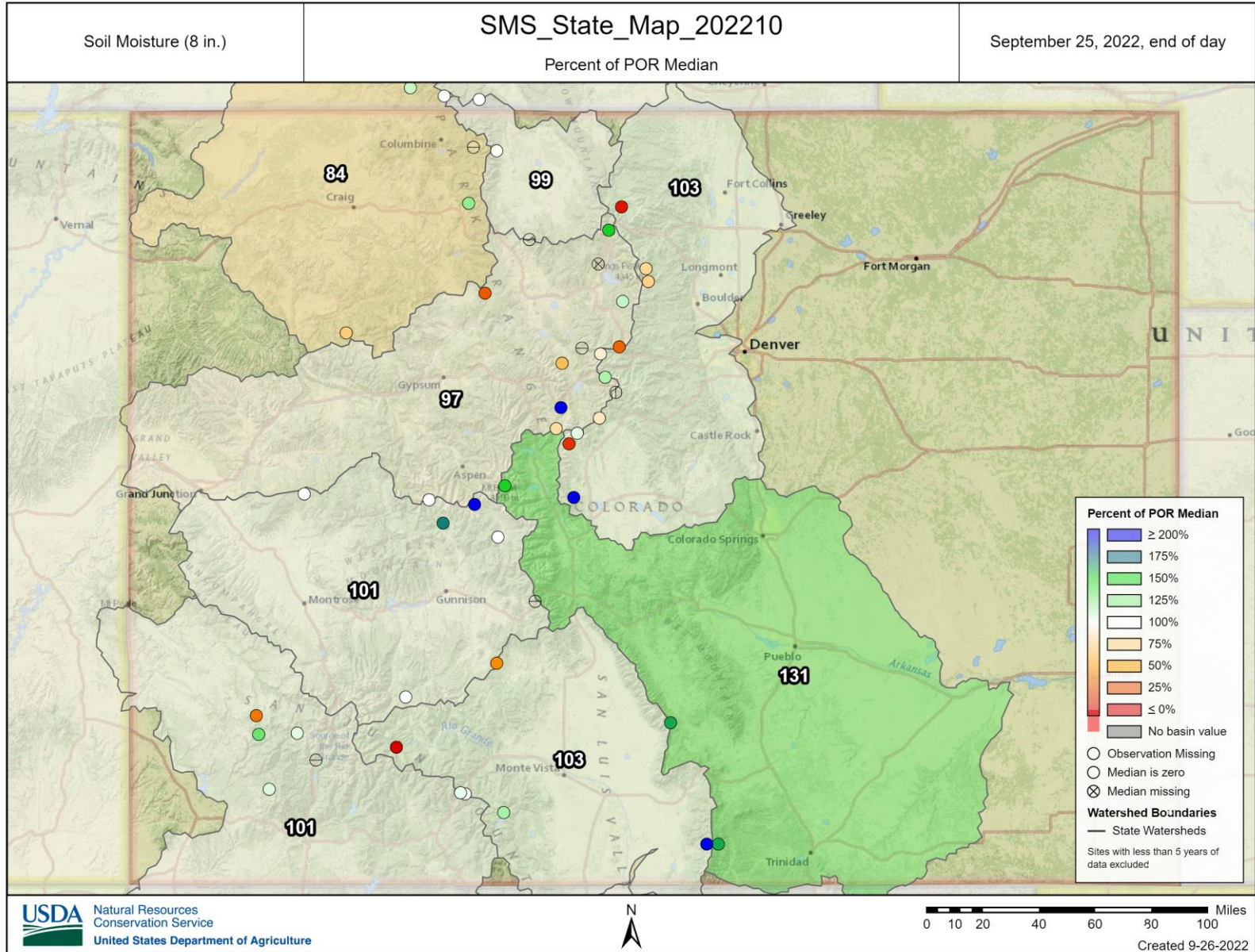


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Soil Moisture



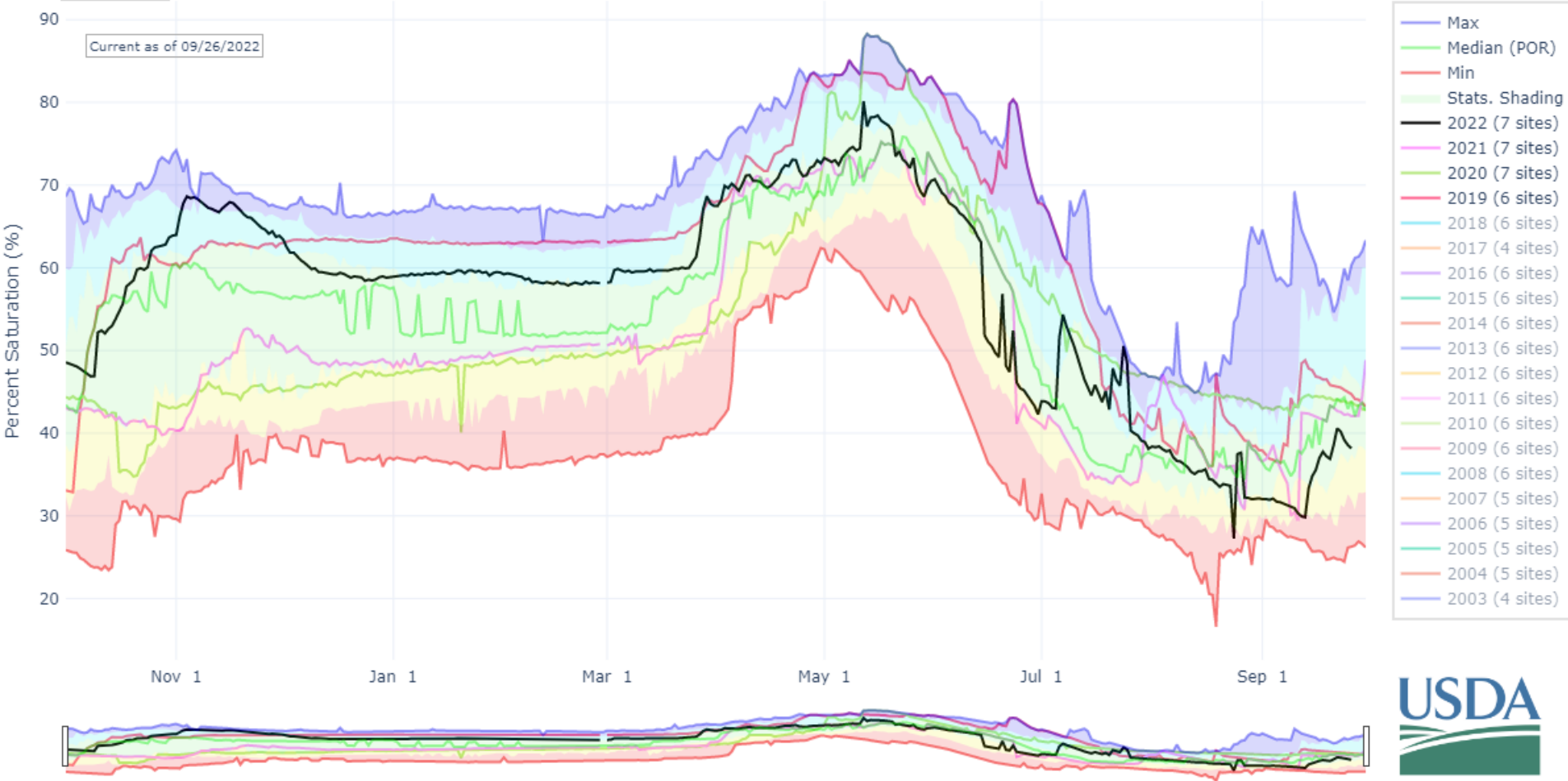


DEPTH AVERAGED SOIL SATURATION IN YAMPA-WHITE-LITTLE SNAKE

Reset Range

[Link to data: CSV / JSON](#)

Station List



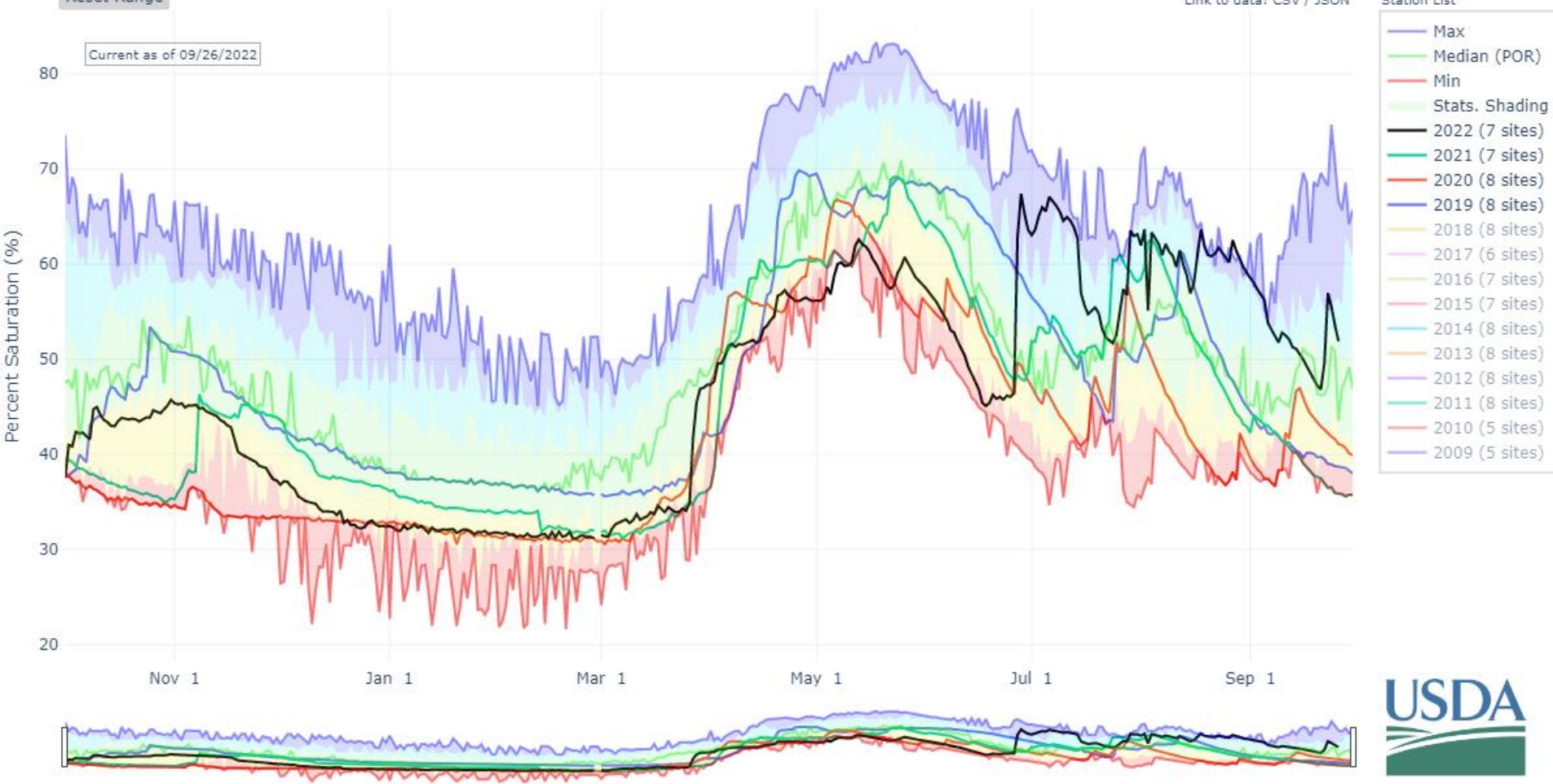
DEPTH AVERAGED SOIL SATURATION IN UPPER RIO GRANDE

Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022



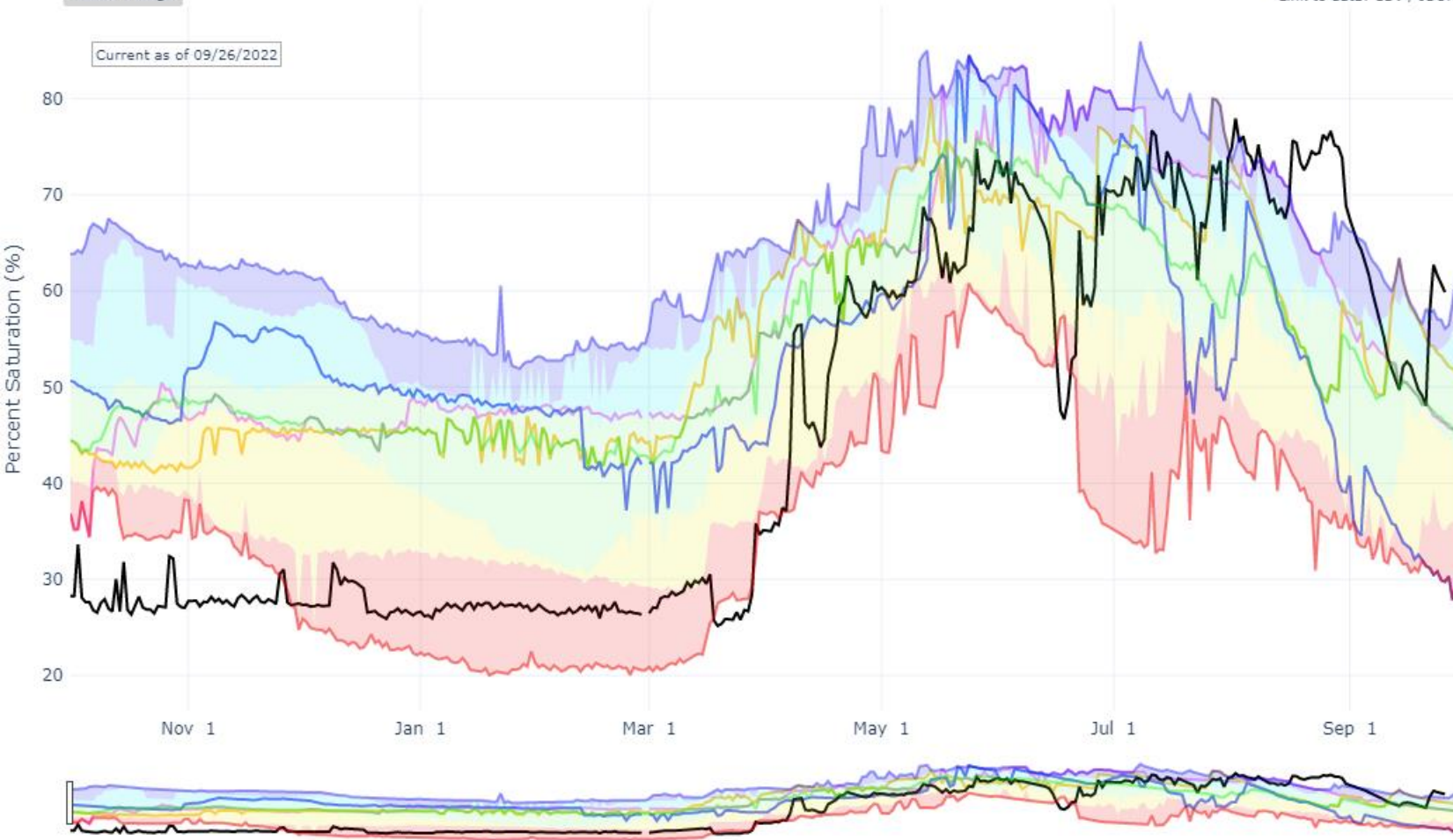
DEPTH AVERAGED SOIL SATURATION IN ARKANSAS

Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022



- Max
- Median (POR)
- Min
- Stats. Shading
- 2022 (5 sites)
- 2021 (5 sites)
- 2020 (5 sites)
- 2019 (4 sites)
- 2018 (5 sites)
- 2017 (5 sites)
- 2016 (5 sites)
- 2015 (5 sites)
- 2014 (5 sites)
- 2013 (5 sites)
- 2012 (5 sites)
- 2011 (5 sites)

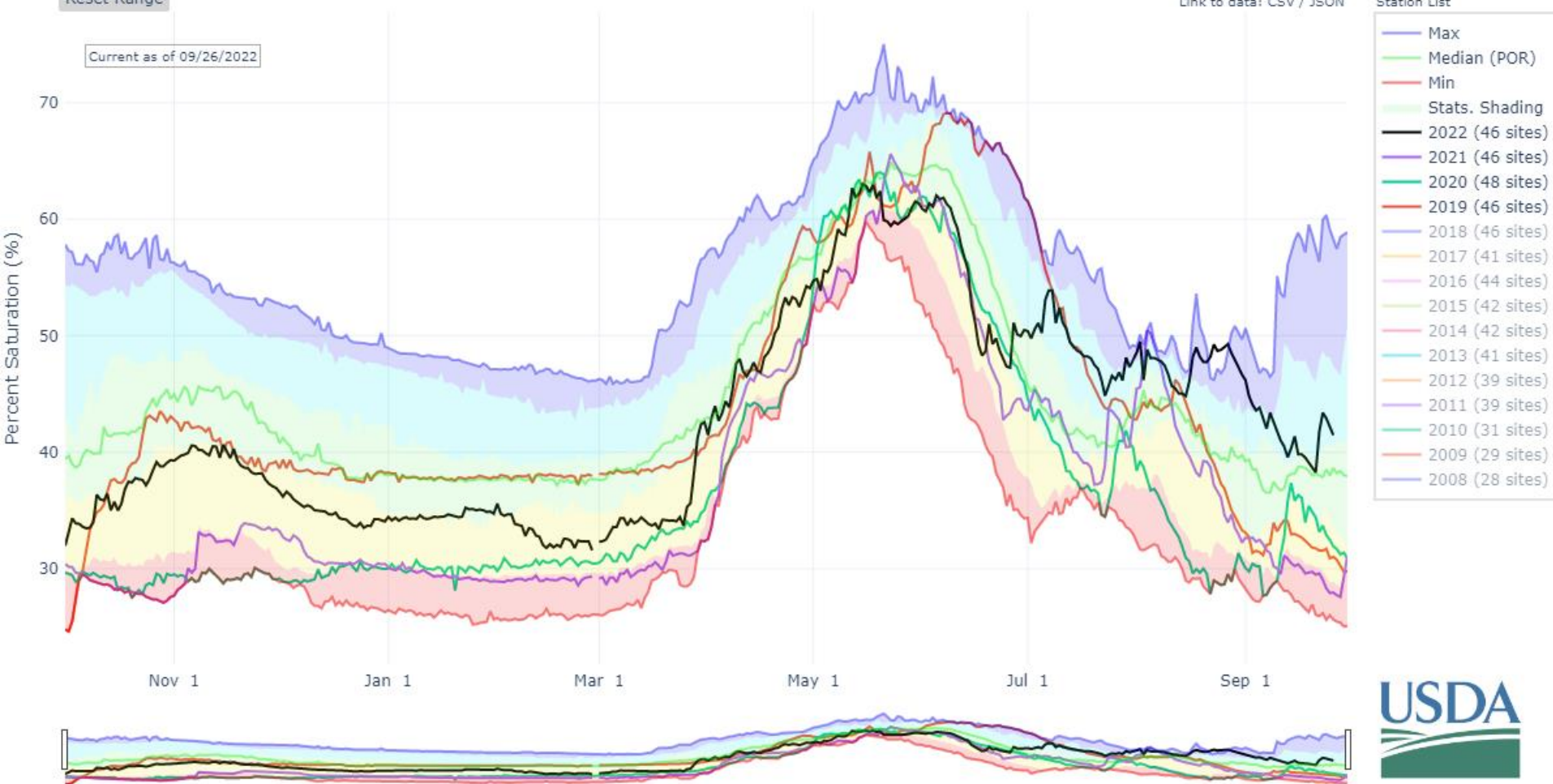
DEPTH AVERAGED SOIL SATURATION IN STATE OF COLORADO

Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 09/26/2022



Soil Moisture Data

- Soil Moisture data still new
 - Need time to quality control. So data may change.
- Soil Moisture has bounced back to the best levels since 2014 (statewide)
- Improvement seems to be due to monsoon
- As long as conditions hold this will be great start to winter.



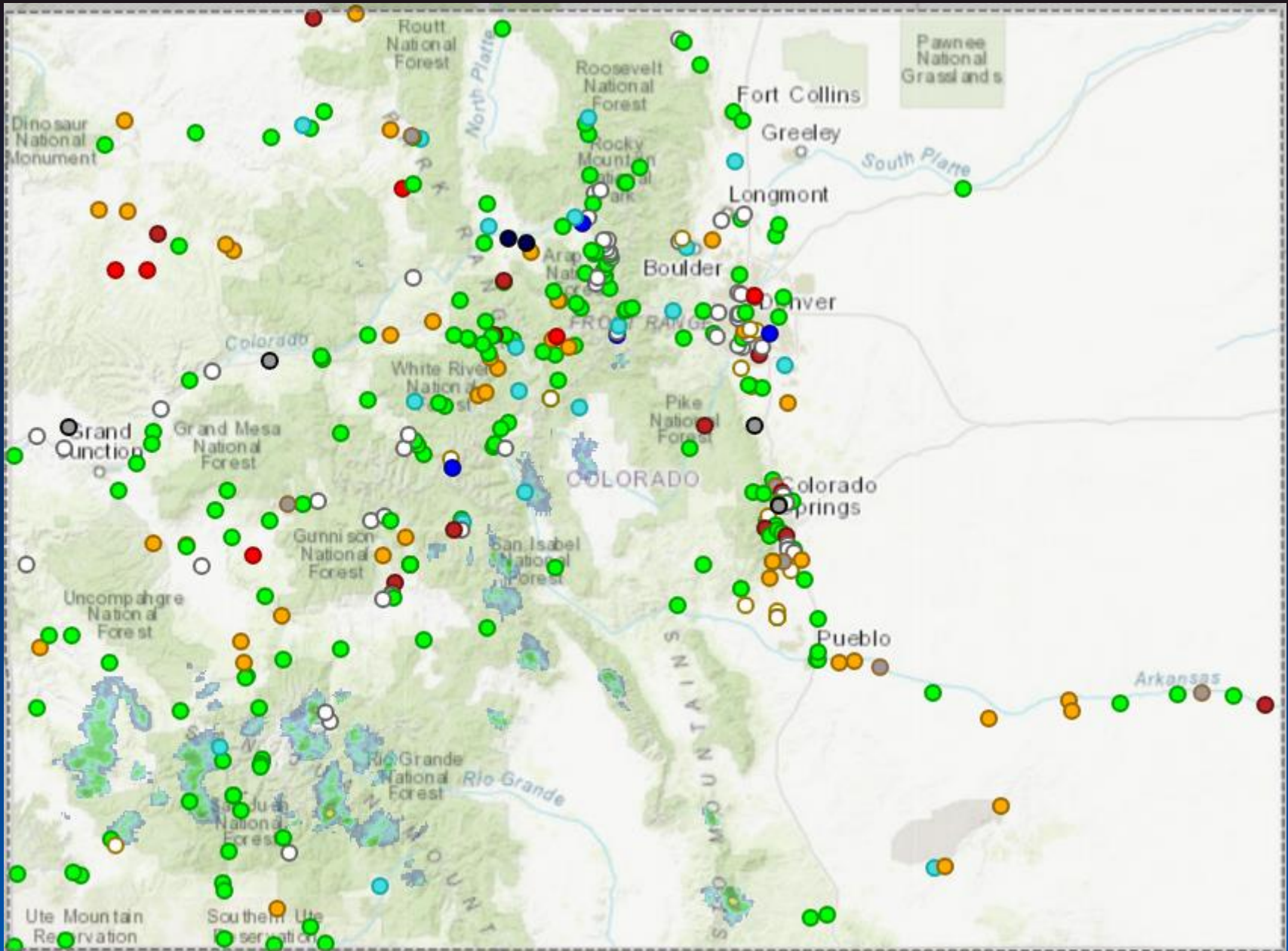
United States Department of Agriculture

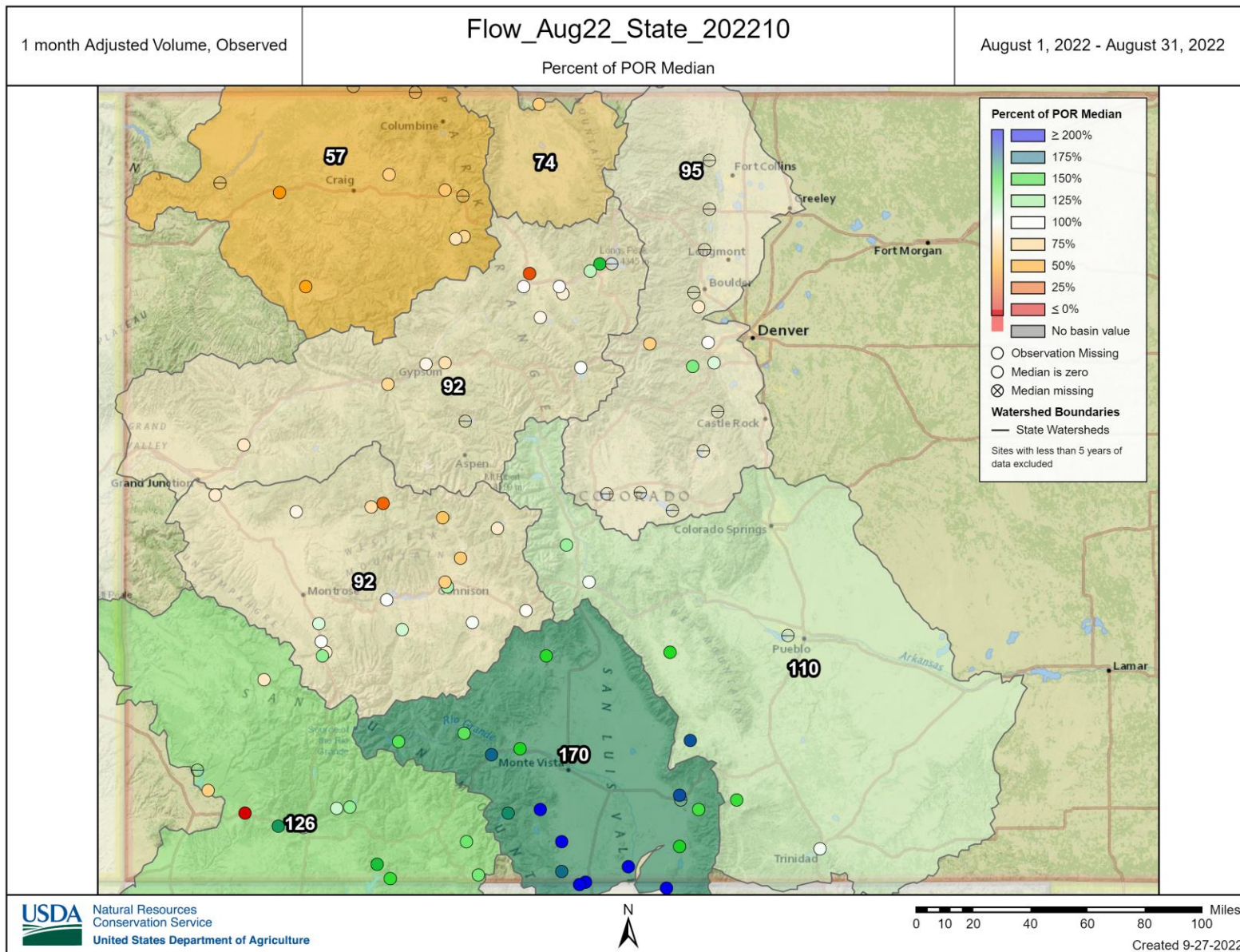
Colorado Snow Surveys

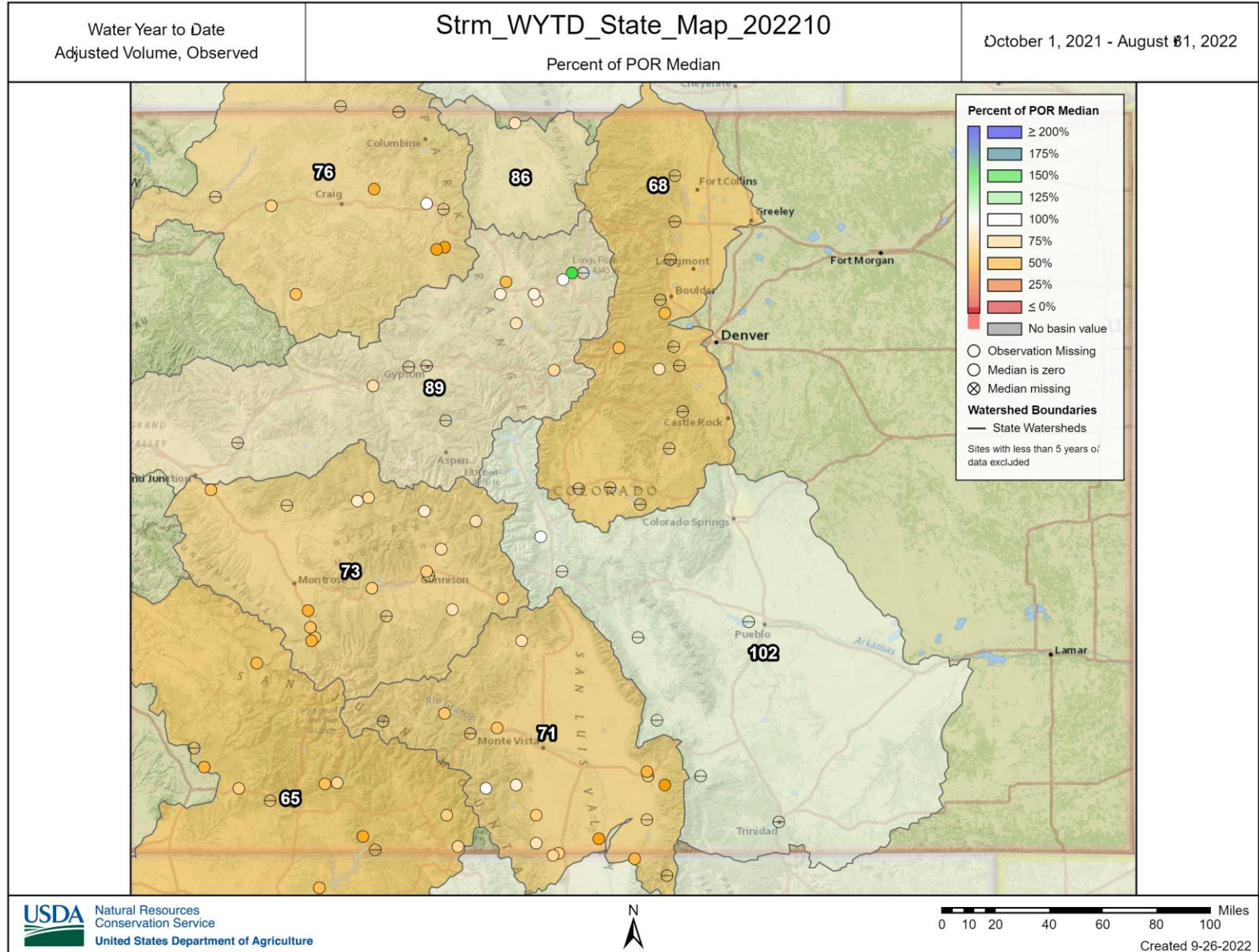
Streamflow

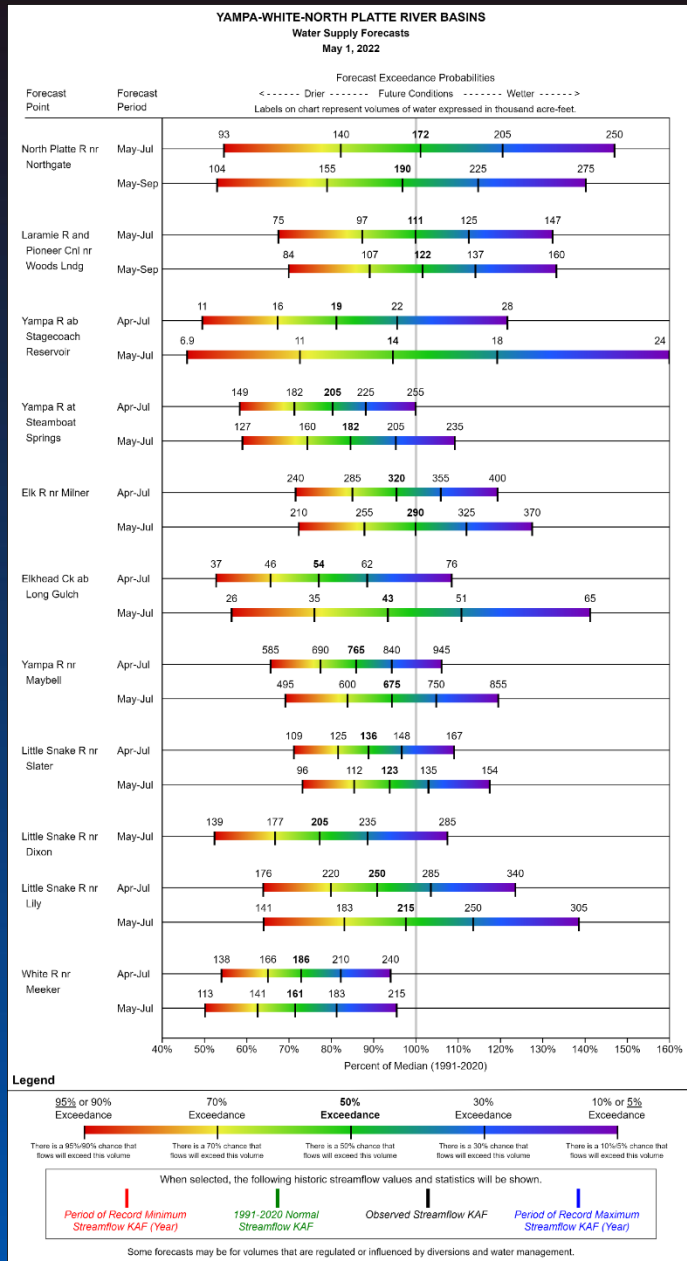


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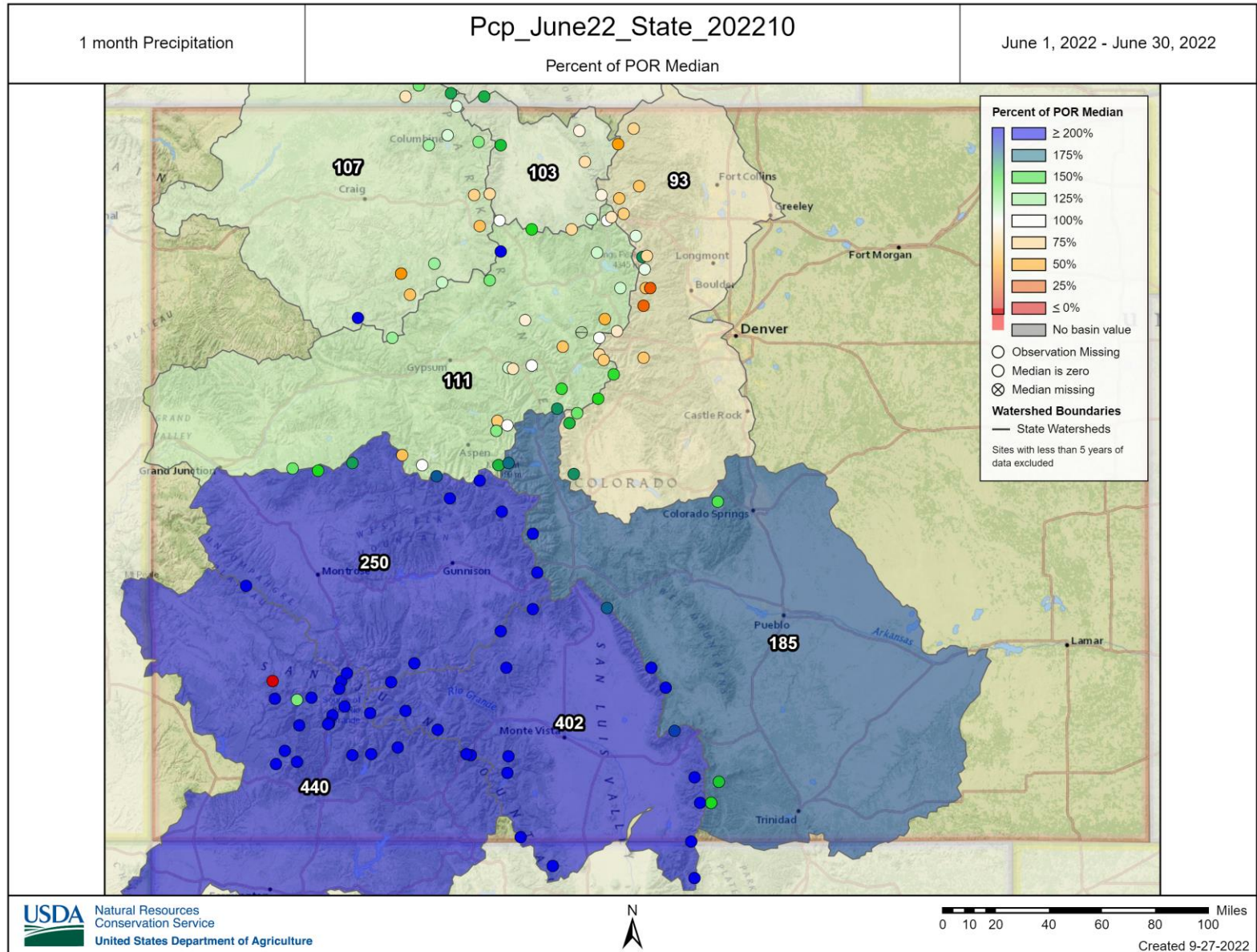


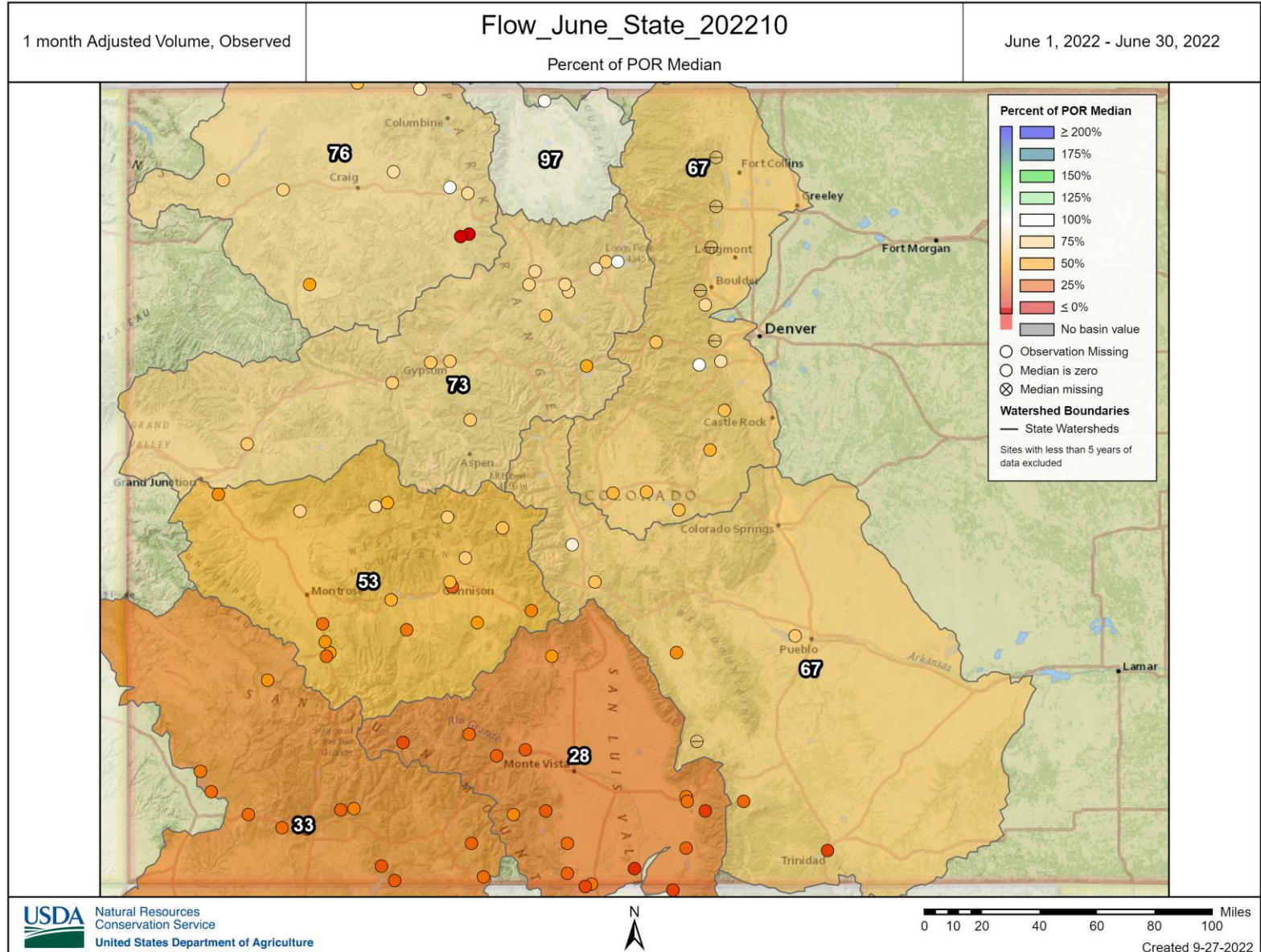


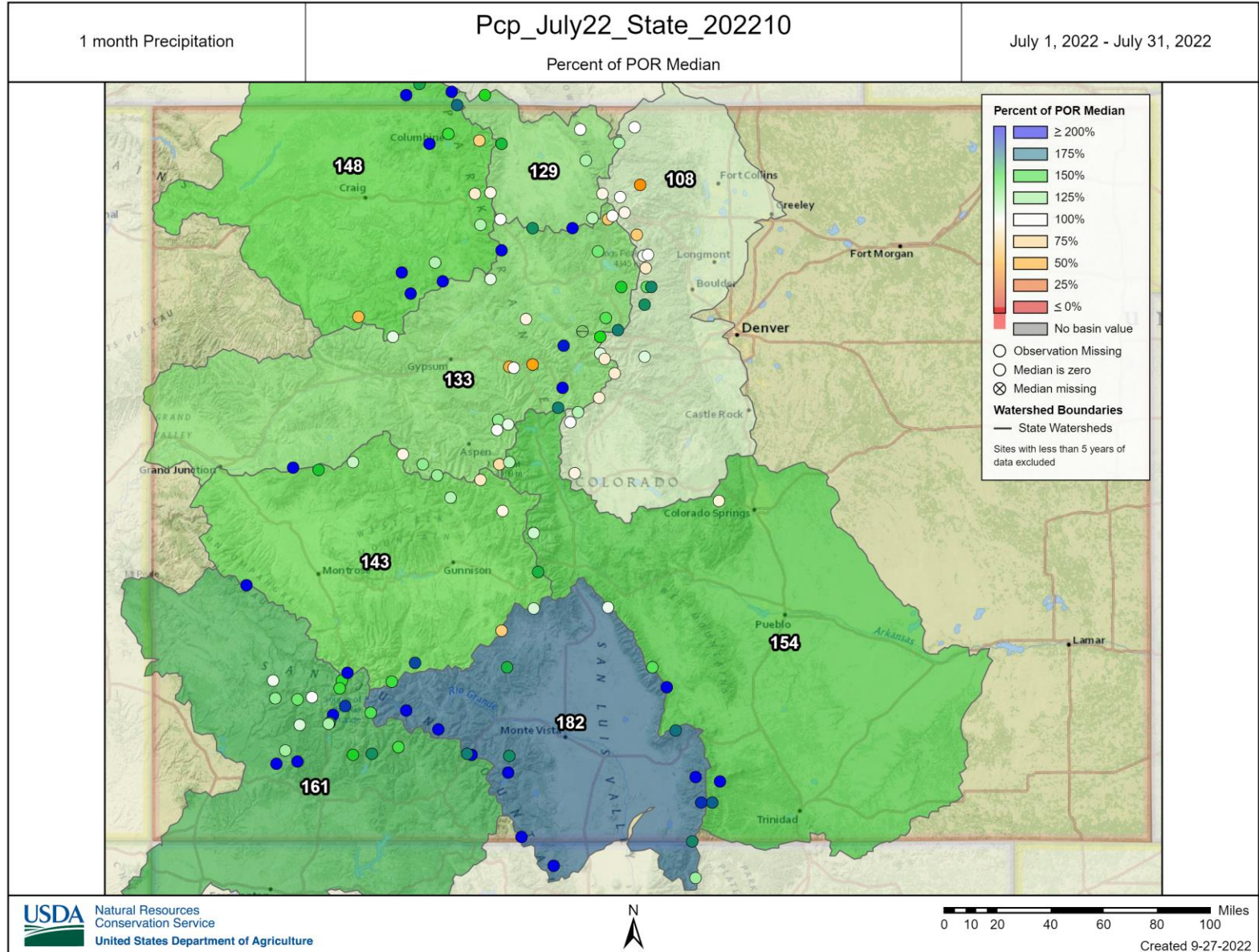
Streamflow Forecasts

Outdated

- Did want to show the impacts of the monsoonal moisture





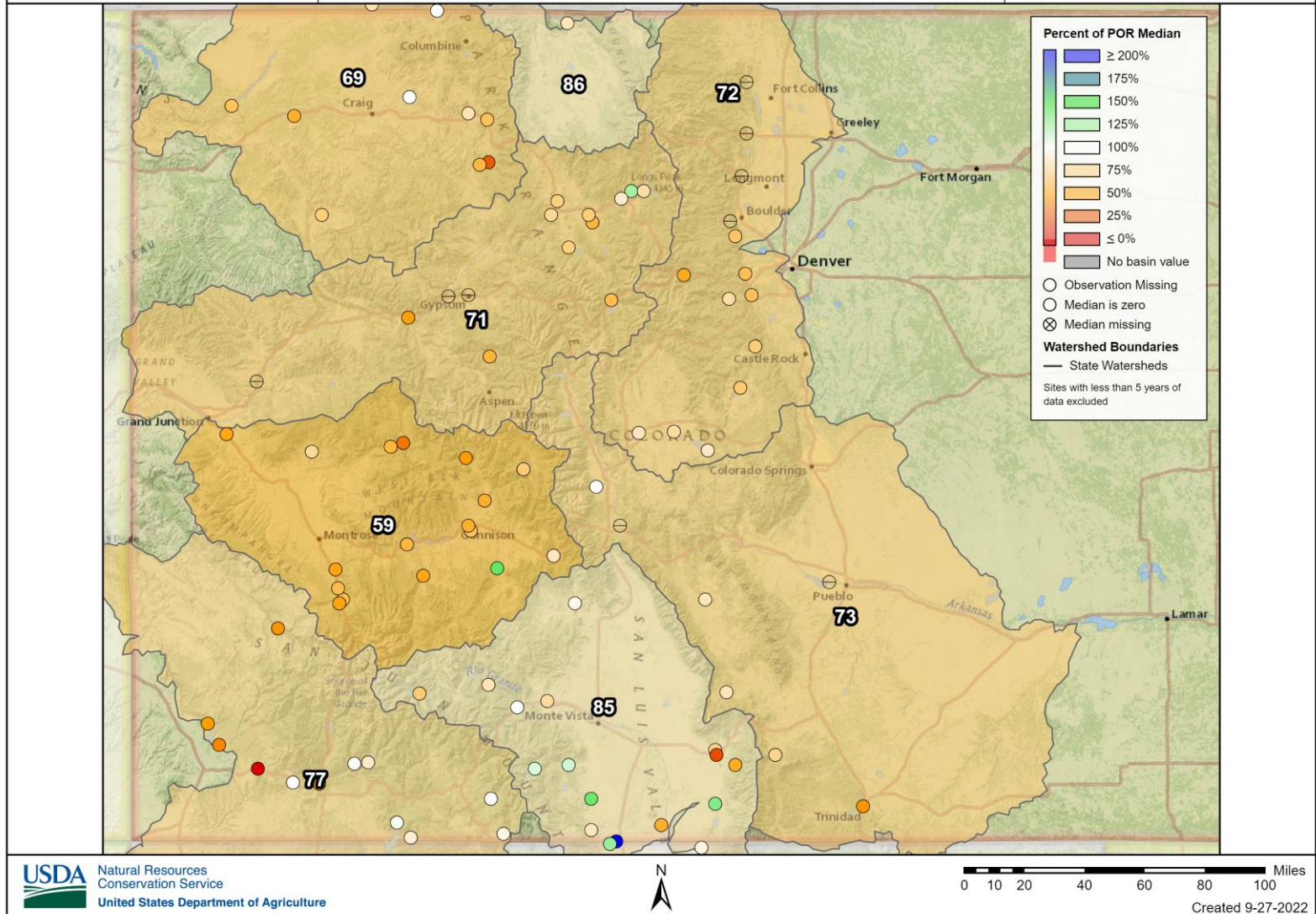


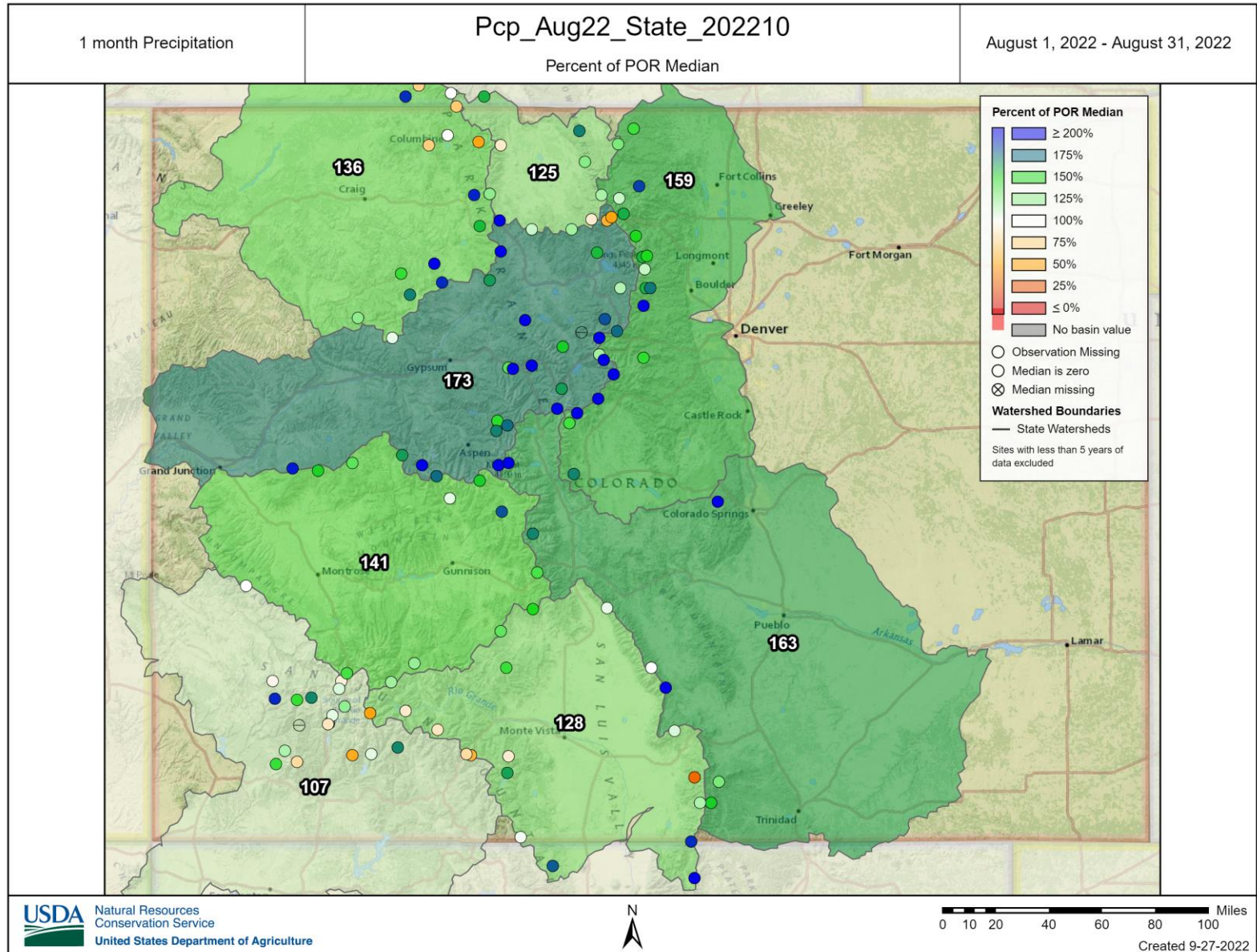
1 month Adjusted Volume, Observed

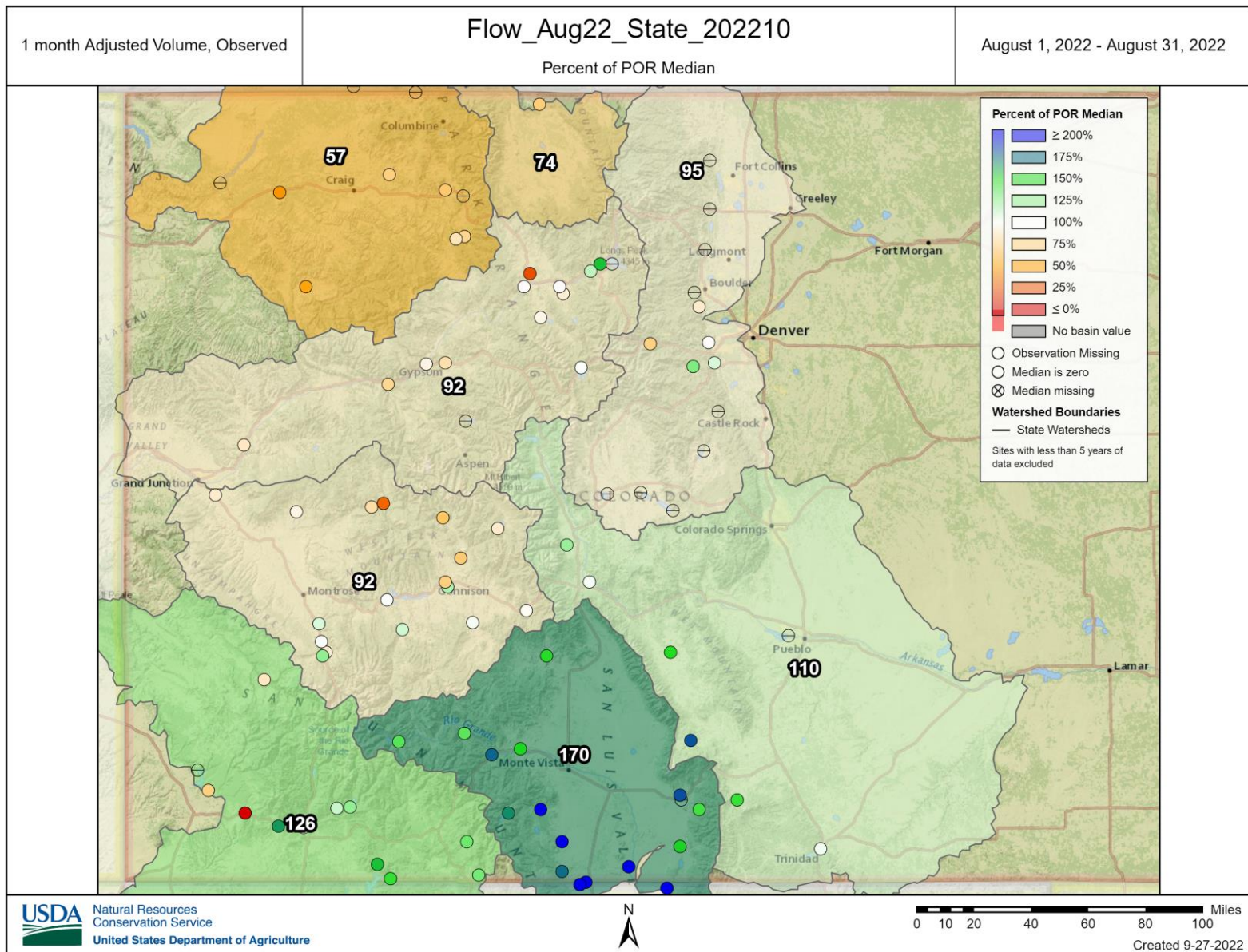
Flow_July22_State_202210

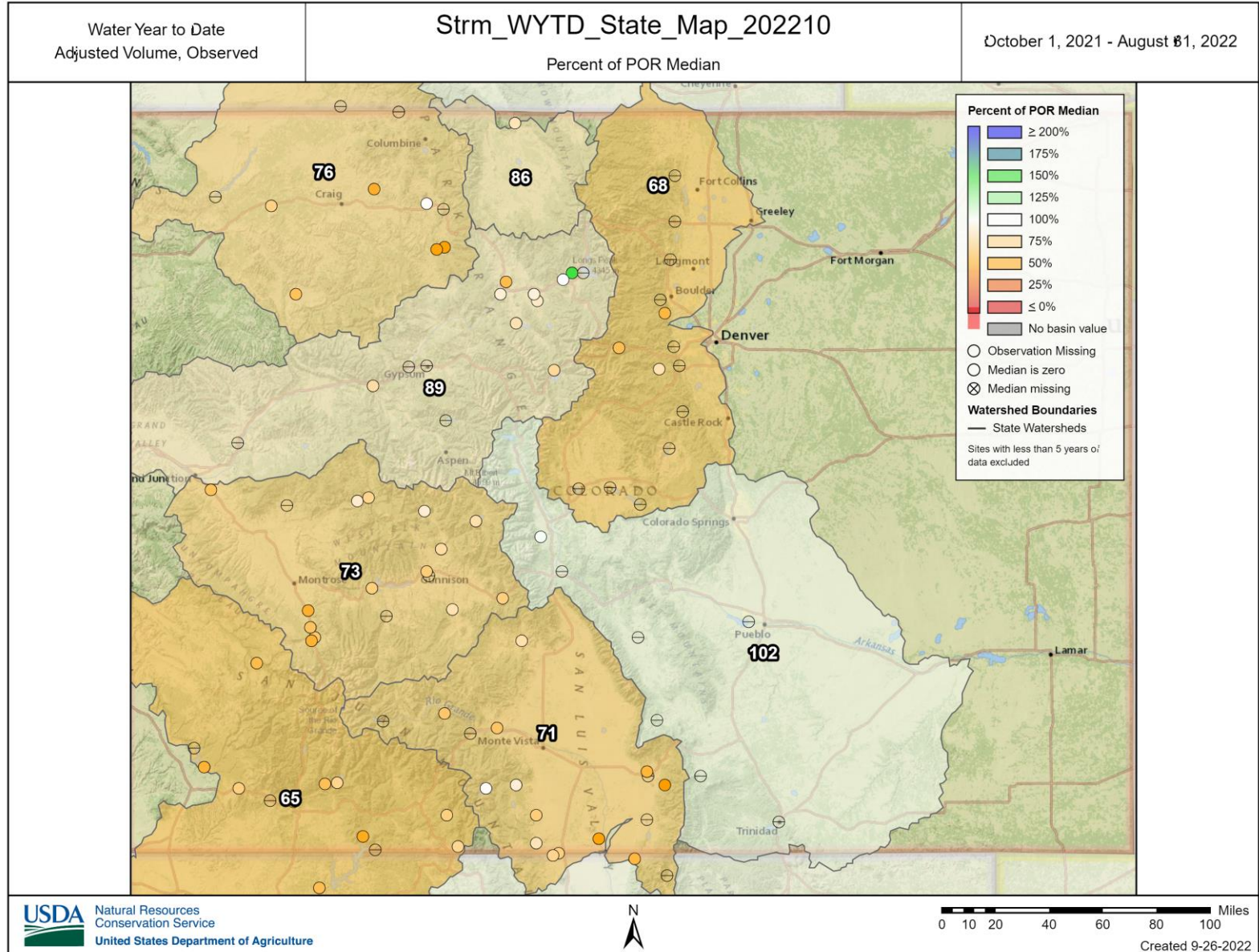
July 1, 2022 - July 31, 2022

Percent of POR Median









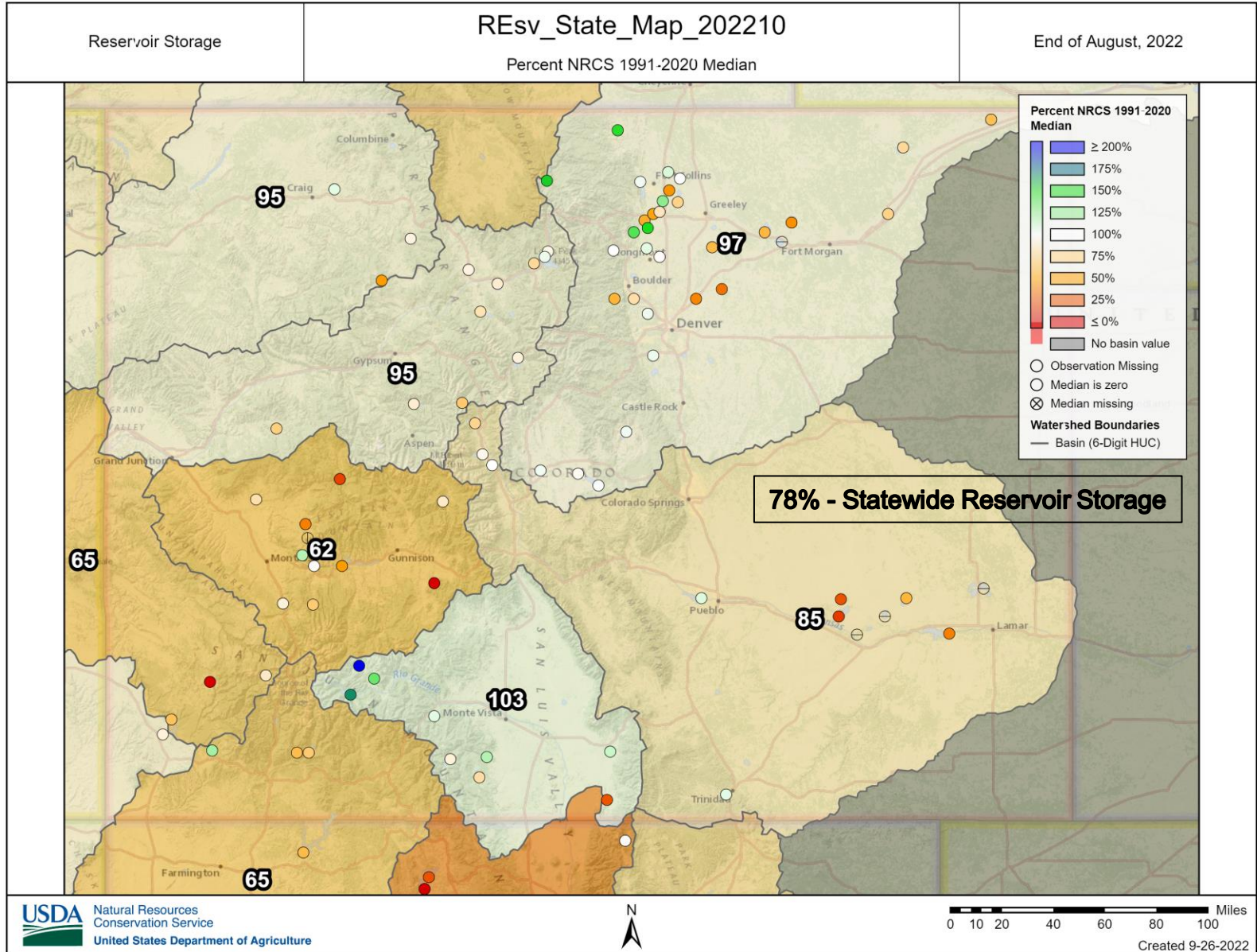


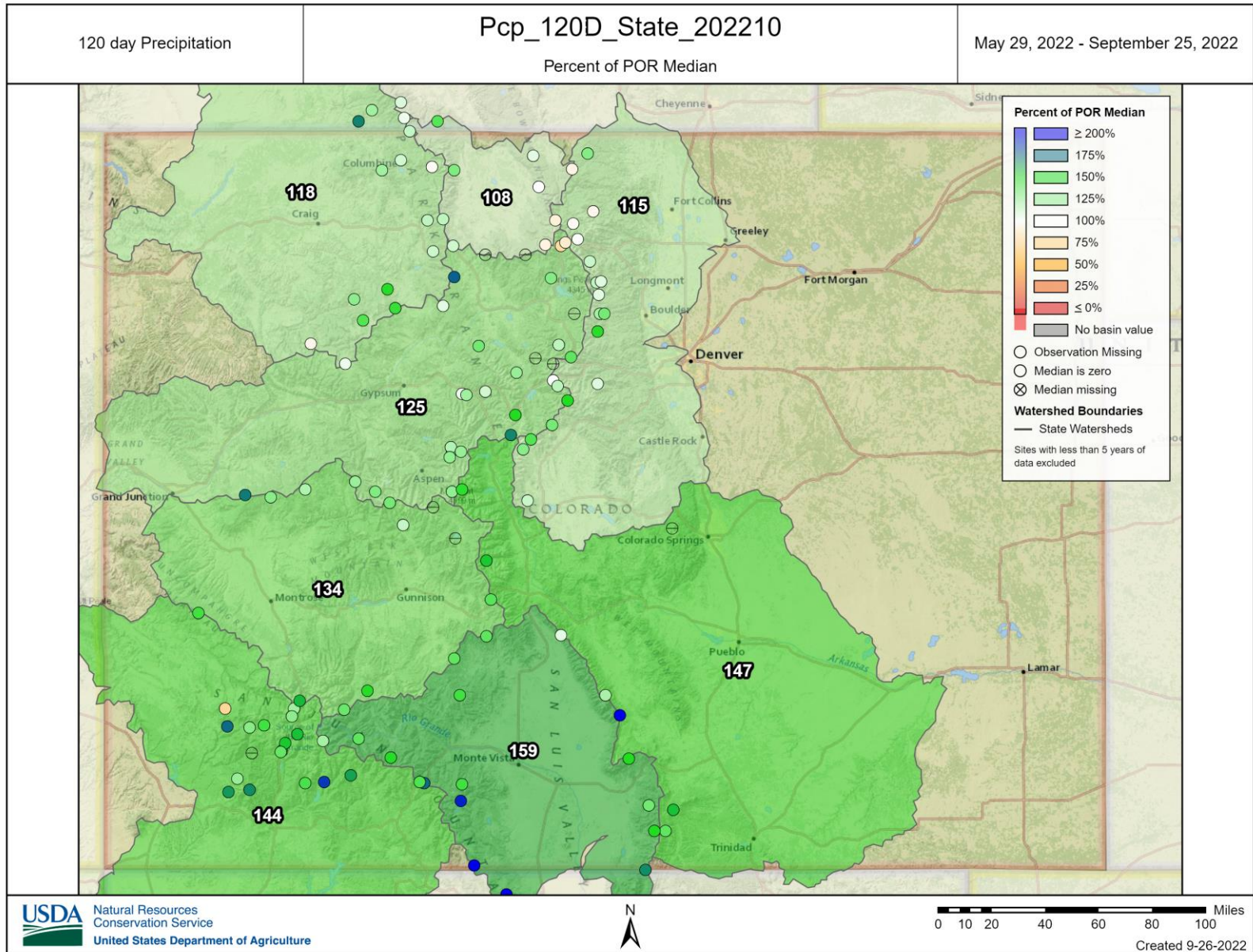
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Summary









Colorado Snow Surveys

PRECIPITATION IN STATE OF COLORADO

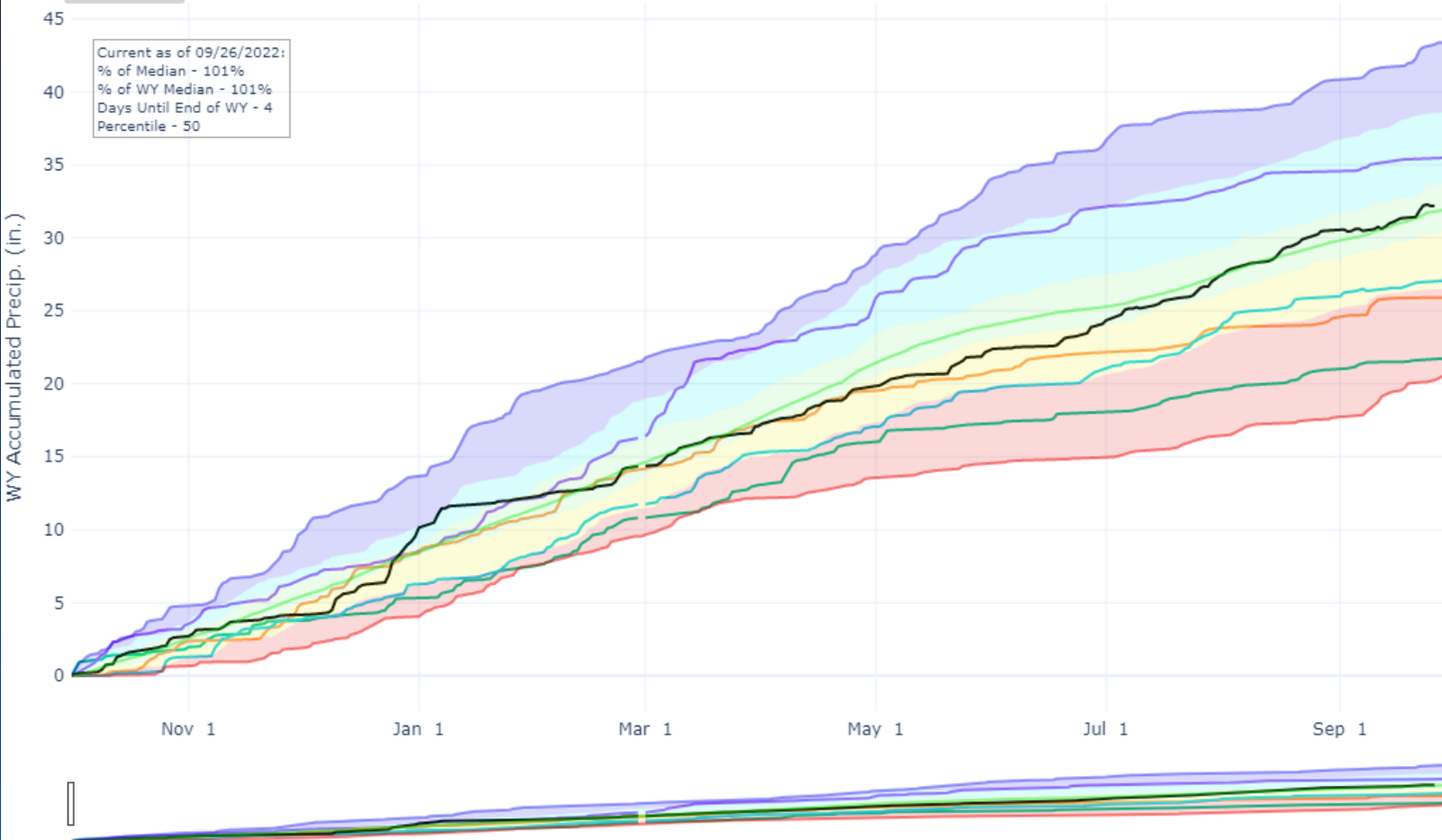
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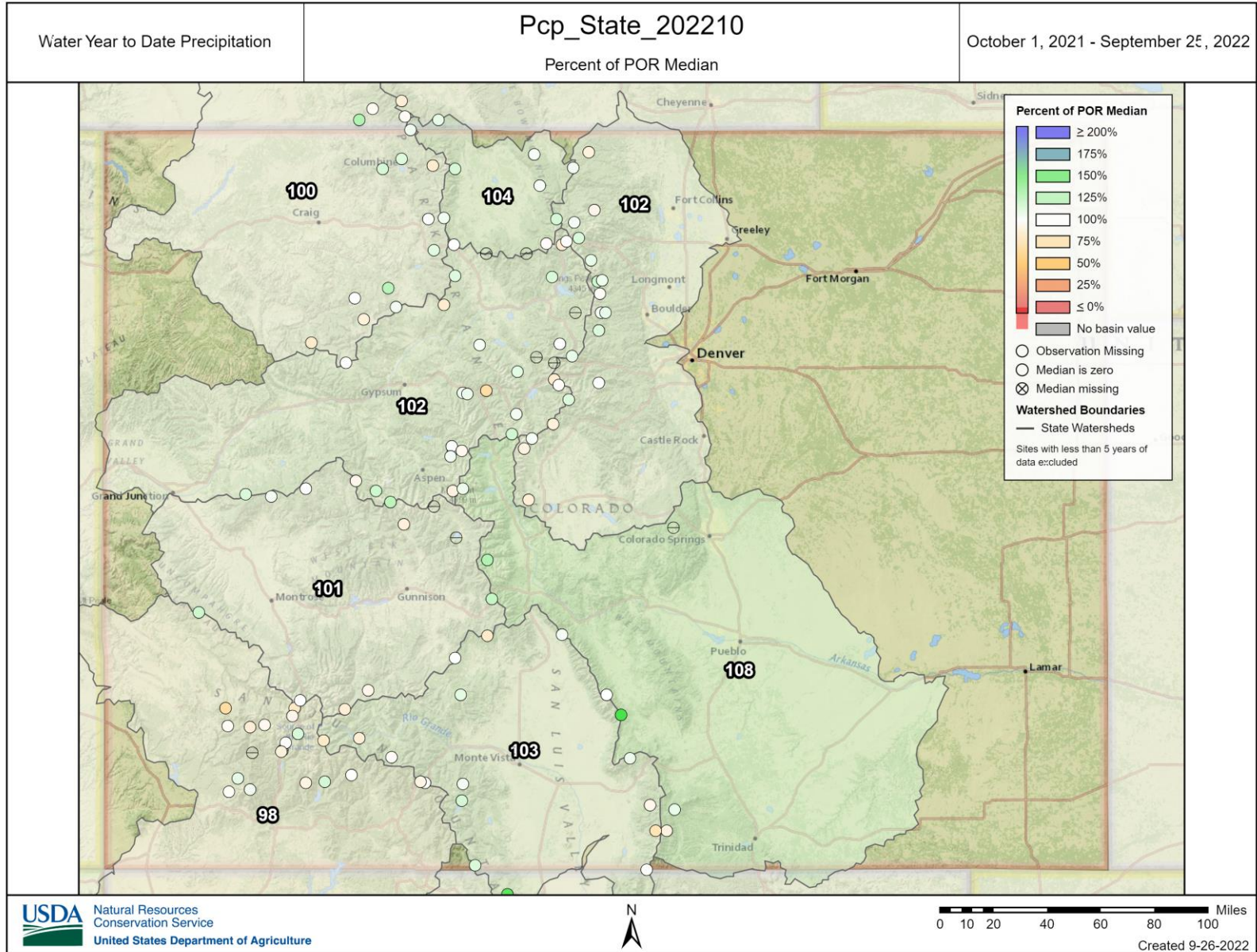
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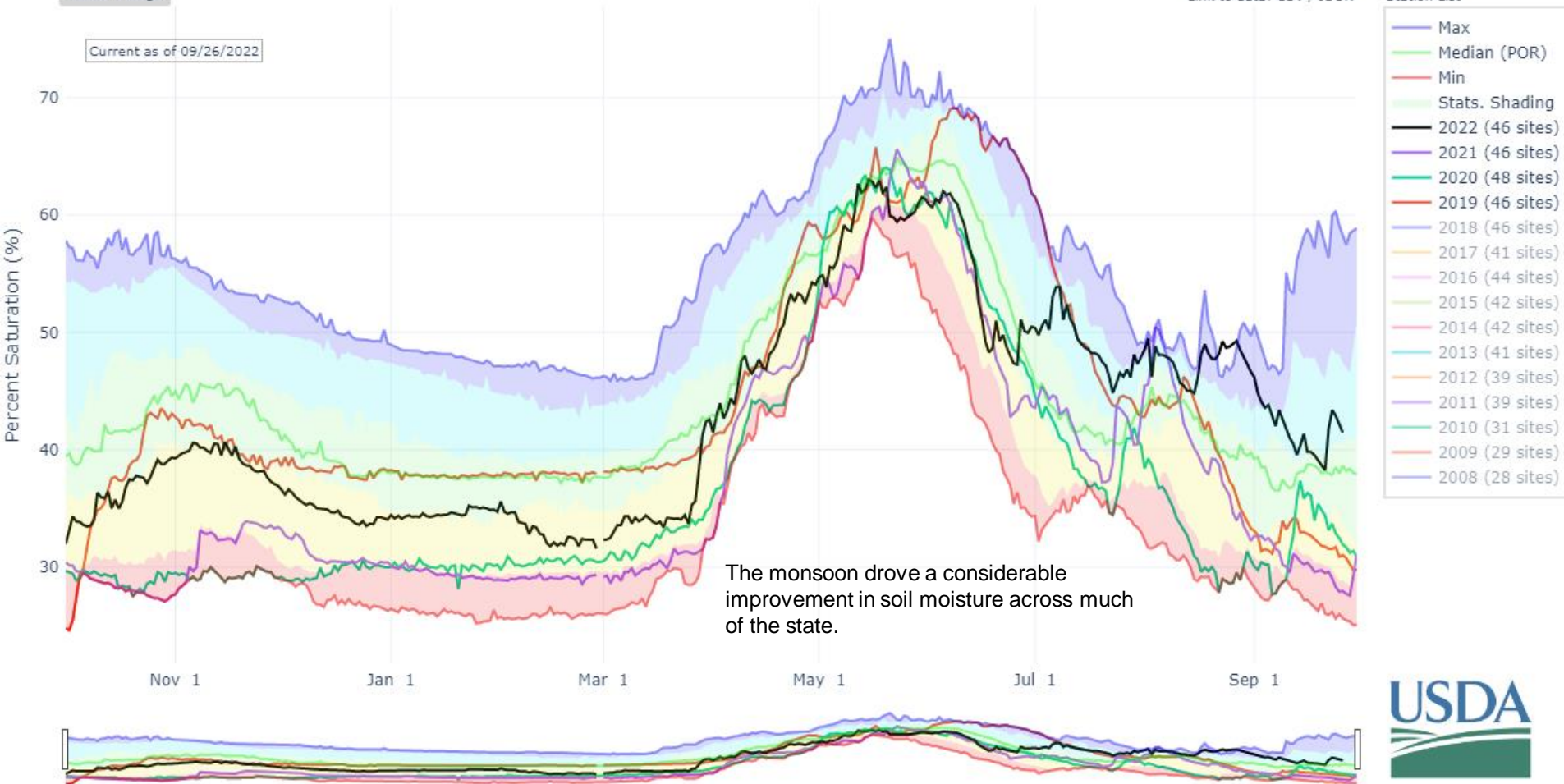


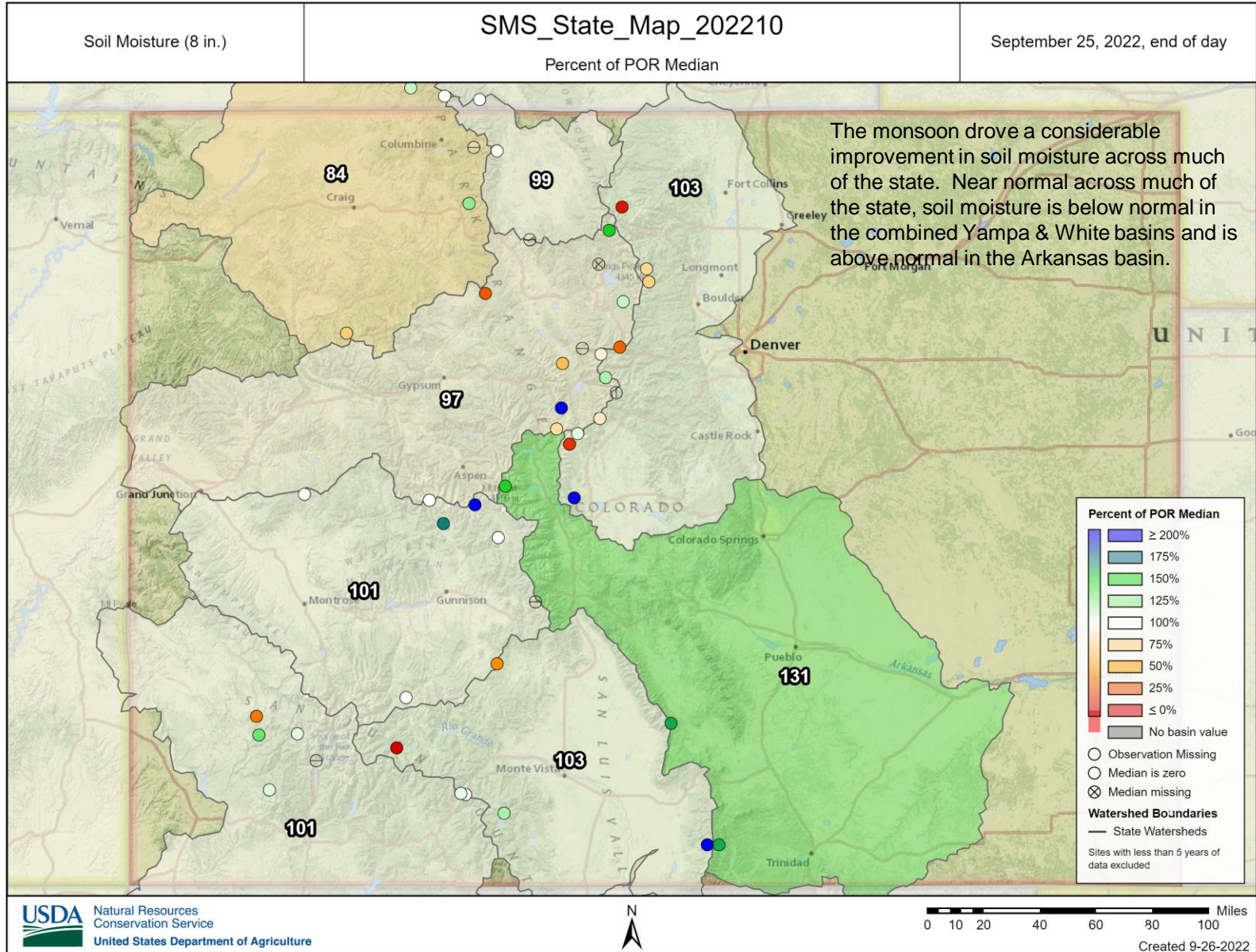
DEPTH AVERAGED SOIL SATURATION IN STATE OF COLORADO

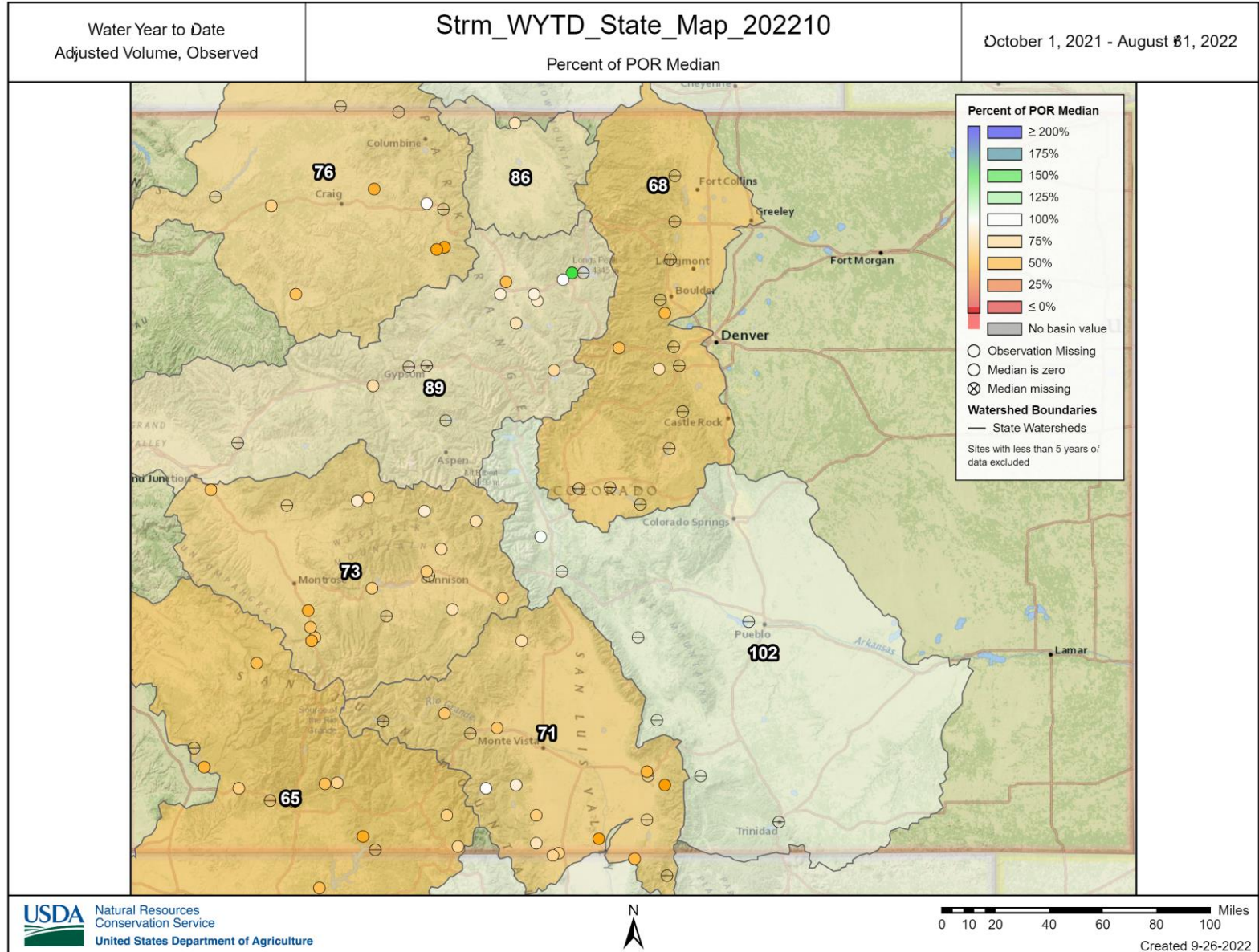
Reset Range

[Link to data: CSV / JSON](#)

Station List







Summary

- Snowpack - Was near normal compared to current standard but below normal compared to previous normal. Near normal snowpack combined with poor reservoirs, precipitation, streamflows and soils moisture bode poorly for runoff.
- Reservoirs - Near to well below normal
- Precipitation – last 120 days - Monsoonal moisture has improved statewide conditions considerably. Since May precip is between around 110 and 160% of normal. Further south = greater improvements.
- Precipitation – Water year to Date – 101% of median across the entire state
- Mountain soil moisture (as indicated by the 8 inch sensor depth) has increased considerably as a result of monsoonal moisture. The data is still preliminary, but indicates soil moisture levels are better than they have been in three, plus, years. Deeper soil depths may still be drier (sensors at that depth are not as prevalent across the state).
- Streamflow – August - streamflow below normal in Northwestern CO, near normal in the South Platte, Colorado Headwaters and Gunnison and largely above normal in the major Southern basins.
- Streamflow – Water Year to Date – Remains largely below to well below normal across much of the state.
- 2022 Water budget overview– While precipitation is much improved, the bulk of streamflow annual volume comes from seasonal mountain snowmelt, which was poor this year. Improvements from the monsoon this year was still only a smaller few drops in the bucket when considered as a total of the entire water year budget.
- Monsoon Impact – If soil moisture can remain propped up until seasonal snowpack begins to build for the winter, it would provide a better situation than we have seen in years for the overall snowpack.



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September 27th, 2022

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