



United States Department of Agriculture

Colorado Snow Surveys

Water Availability Task Force Meeting

March 28th, 2023

NRCS Snow Survey and Water Supply Forecasting Program

Karl Wetlaufer

Hydrologist

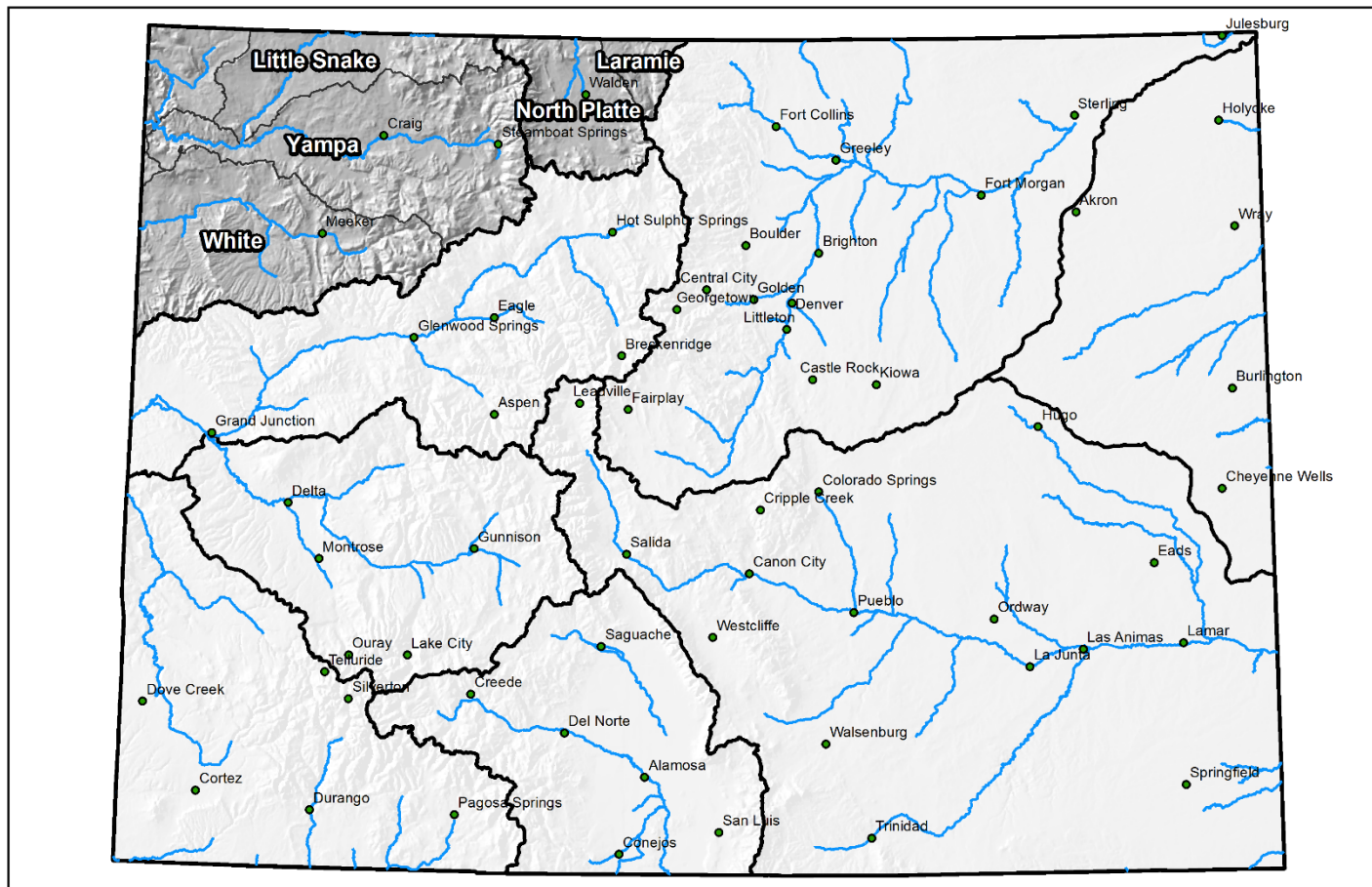
Karl.Wetlaufer@usda.gov

720-544-2853

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

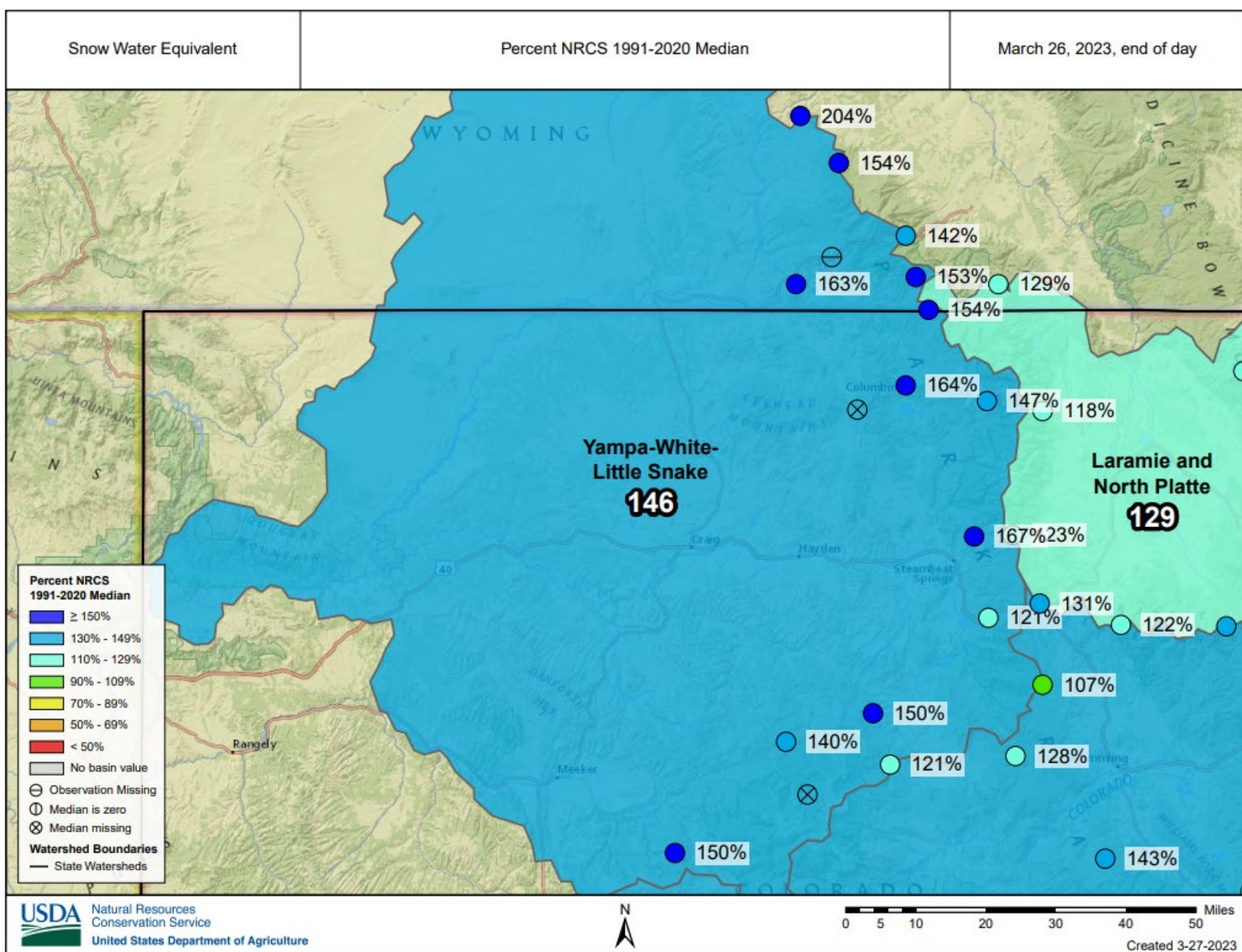
Major Basin Summary

Yampa, White, and North Platte River Basins



0 25 50 100 150 200 Miles

Colorado Snow Surveys



SNOW WATER EQUIVALENT IN YAMPA-WHITE-LITTLE SNAKE

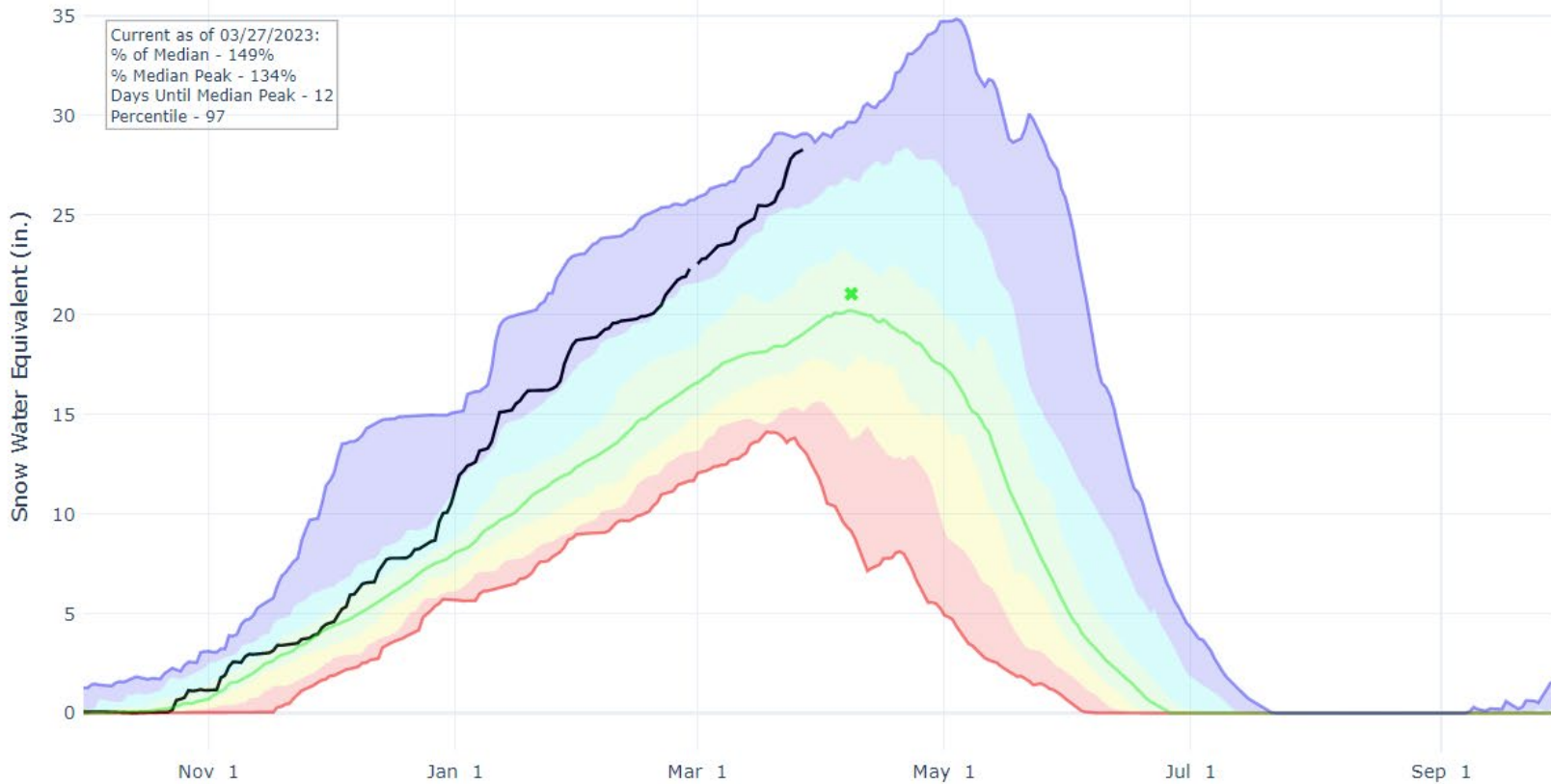
Reset Range

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

Station List

Current as of 03/27/2023:
% of Median - 149%
% Median Peak - 134%
Days Until Median Peak - 12
Percentile - 97

- ✱ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (20 sites)
- 2022 (20 sites)
- 2021 (20 sites)
- 2020 (20 sites)
- 2019 (20 sites)
- 2018 (20 sites)
- 2017 (20 sites)
- 2016 (20 sites)
- 2015 (20 sites)
- 2014 (20 sites)
- 2013 (20 sites)
- 2012 (20 sites)
- 2011 (20 sites)
- 2010 (20 sites)
- 2009 (20 sites)
- 2008 (20 sites)
- 2007 (20 sites)
- 2006 (20 sites)
- 2005 (20 sites)





SNOW WATER EQUIVALENT IN LARAMIE AND NORTH PLATTE

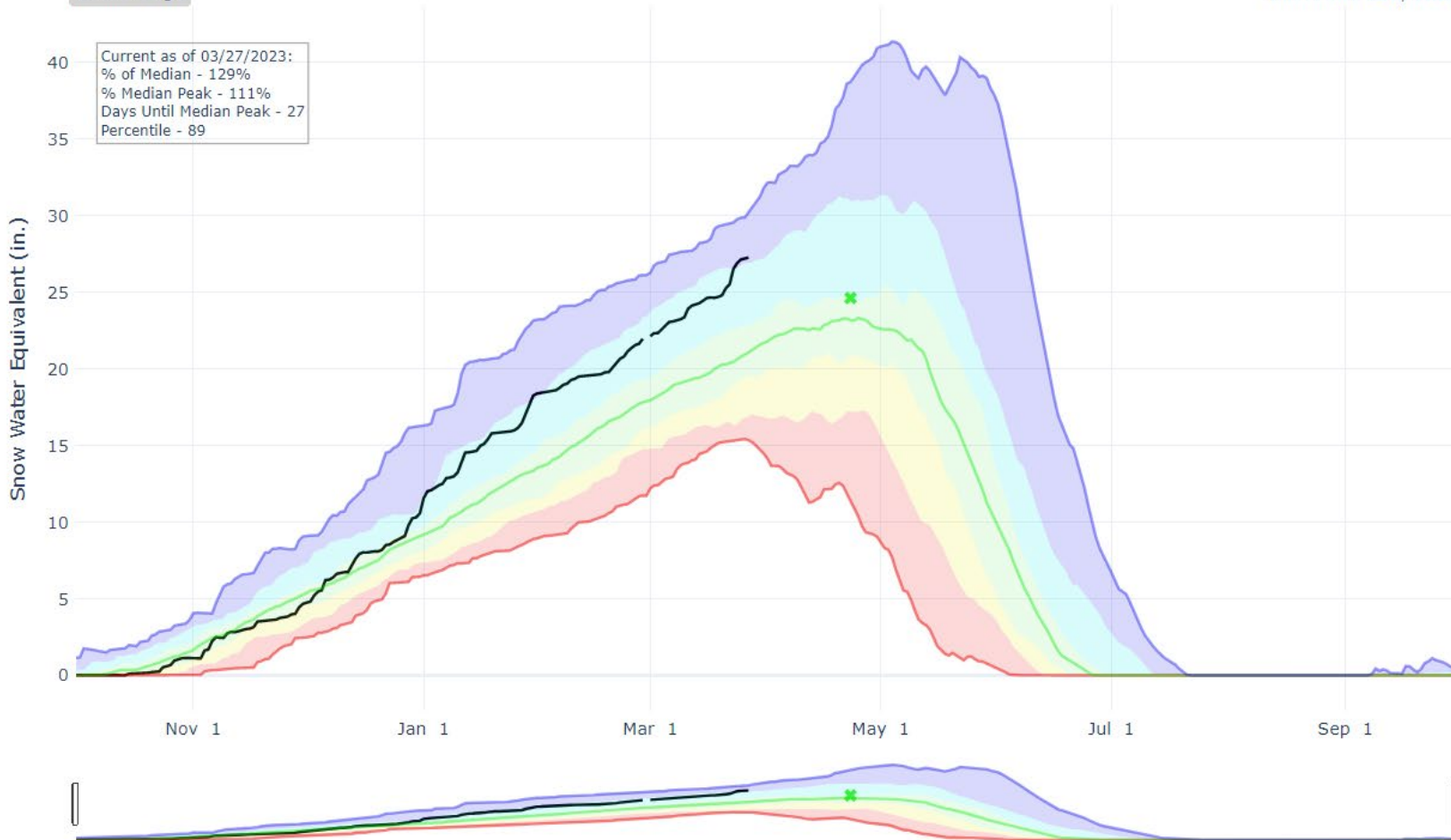
Reset Range

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

[Station List](#)

Current as of 03/27/2023:
% of Median - 129%
% Median Peak - 111%
Days Until Median Peak - 27
Percentile - 89

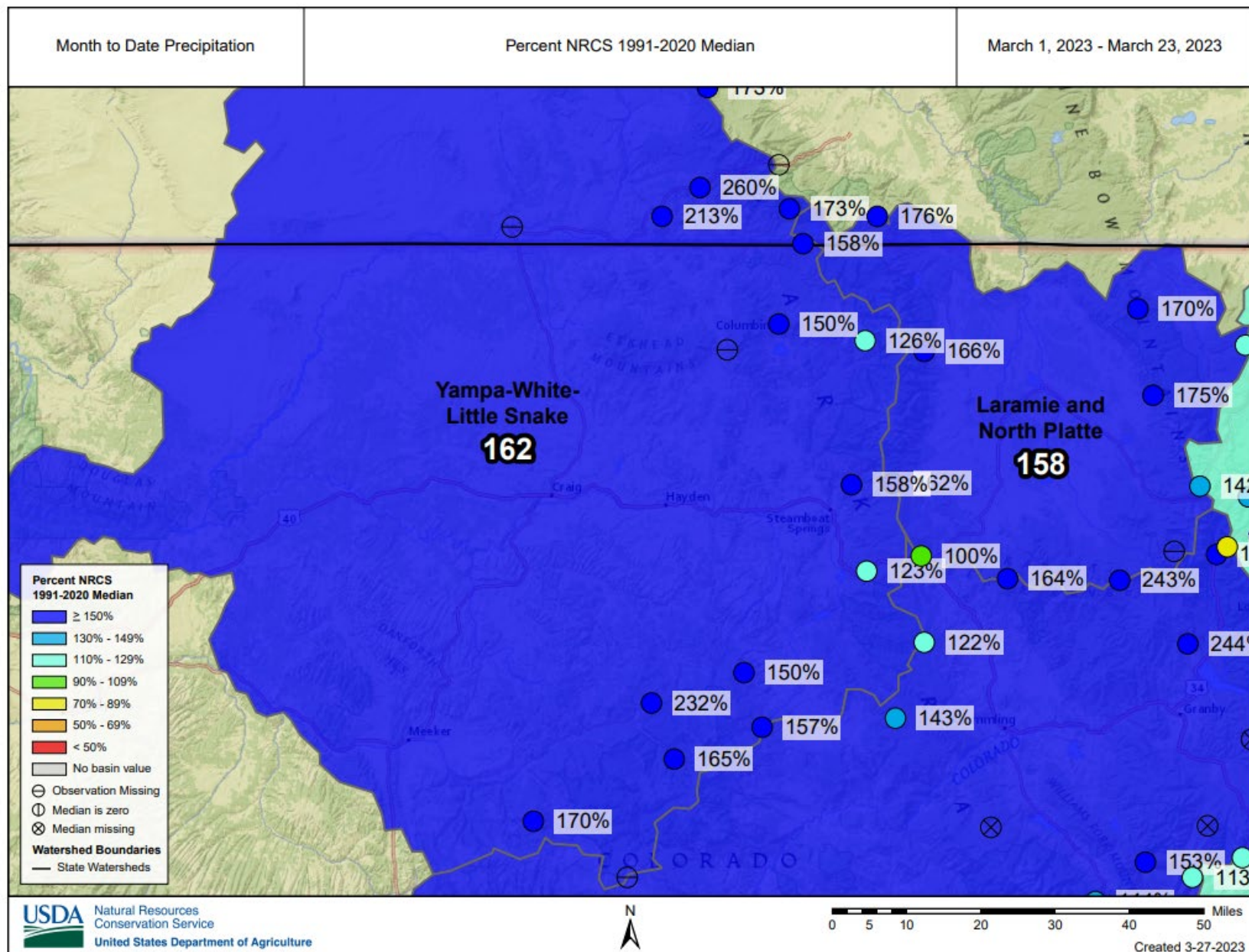
- ✱ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (12 sites)
- 2022 (12 sites)
- 2021 (12 sites)
- 2020 (12 sites)
- 2019 (12 sites)
- 2018 (12 sites)
- 2017 (12 sites)
- 2016 (12 sites)
- 2015 (12 sites)
- 2014 (12 sites)
- 2013 (12 sites)
- 2012 (12 sites)
- 2011 (12 sites)
- 2010 (12 sites)
- 2009 (11 sites)
- 2008 (11 sites)
- 2007 (11 sites)
- 2006 (11 sites)
- 2005 (11 sites)



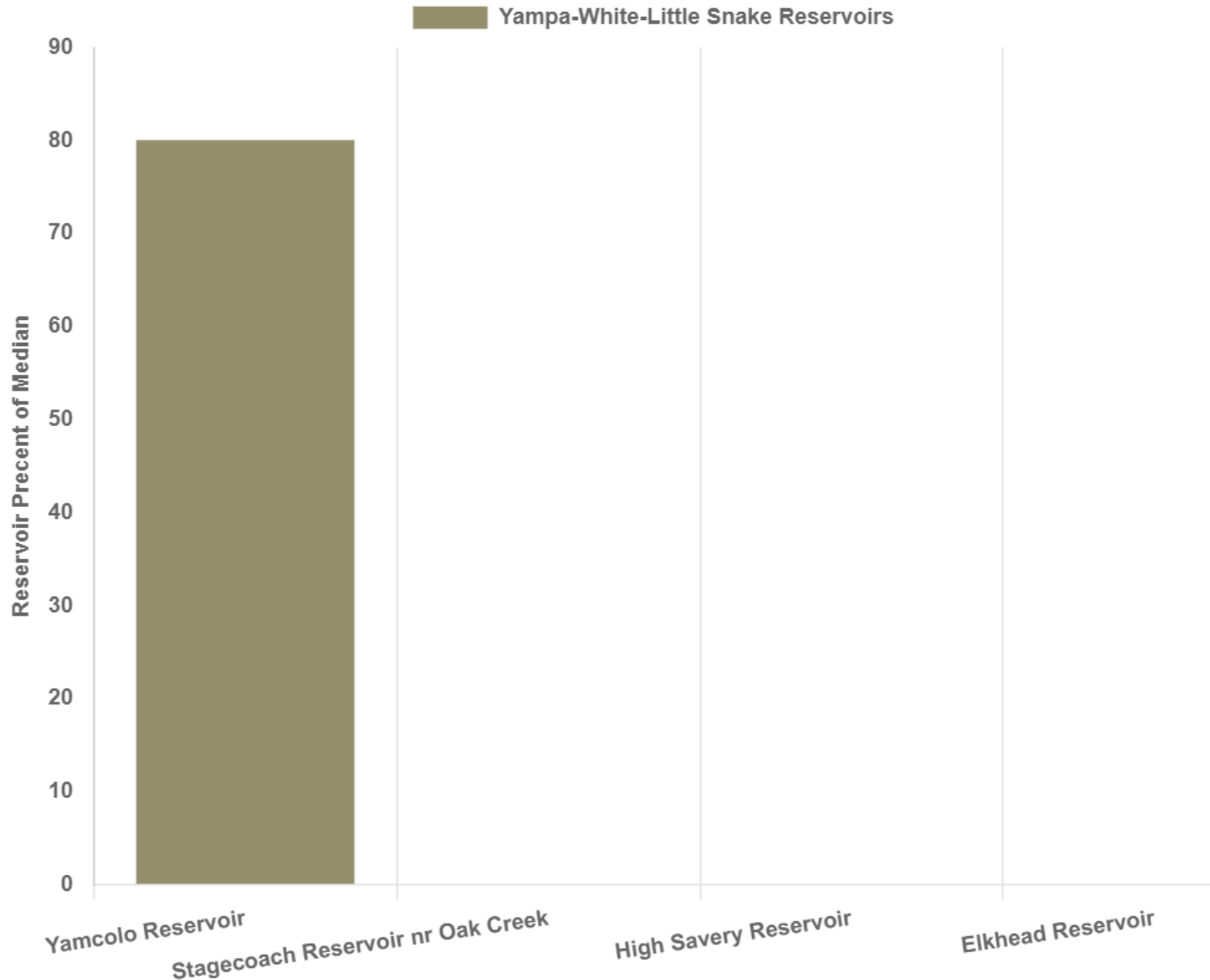


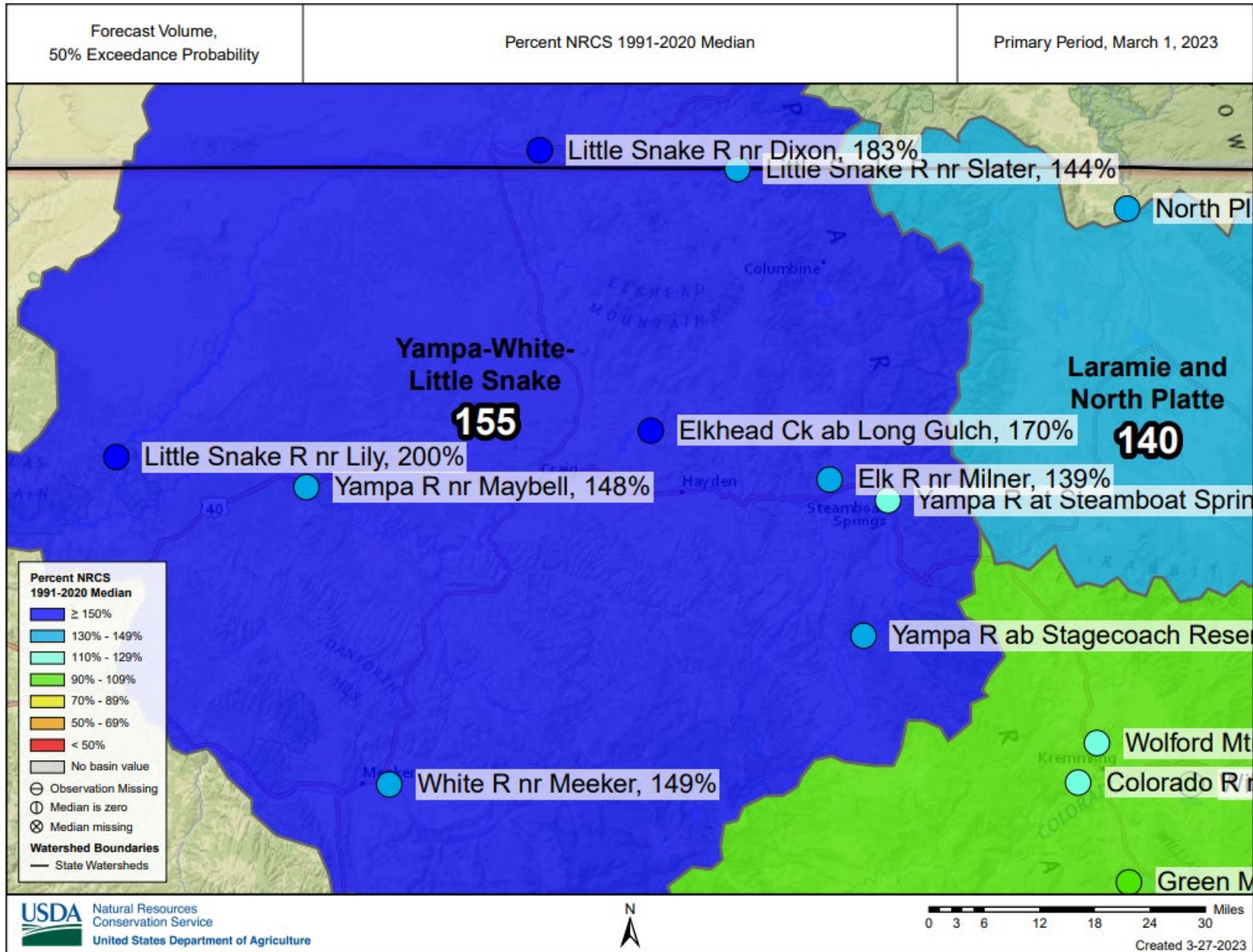
United States Department of Agriculture

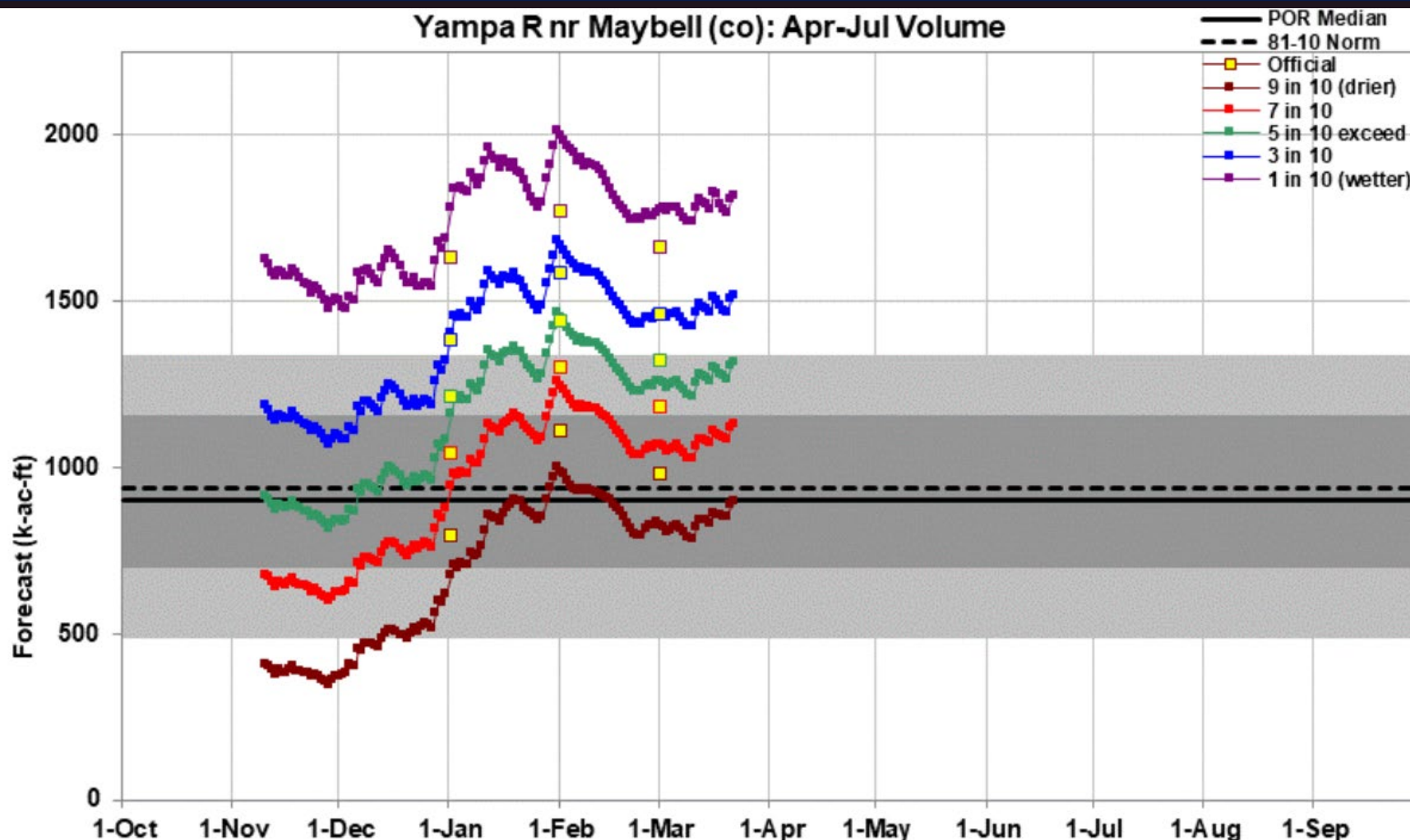
Colorado Snow Surveys



Reservoir Conditions for Yampa-White-Little Snake on March 1st 2023





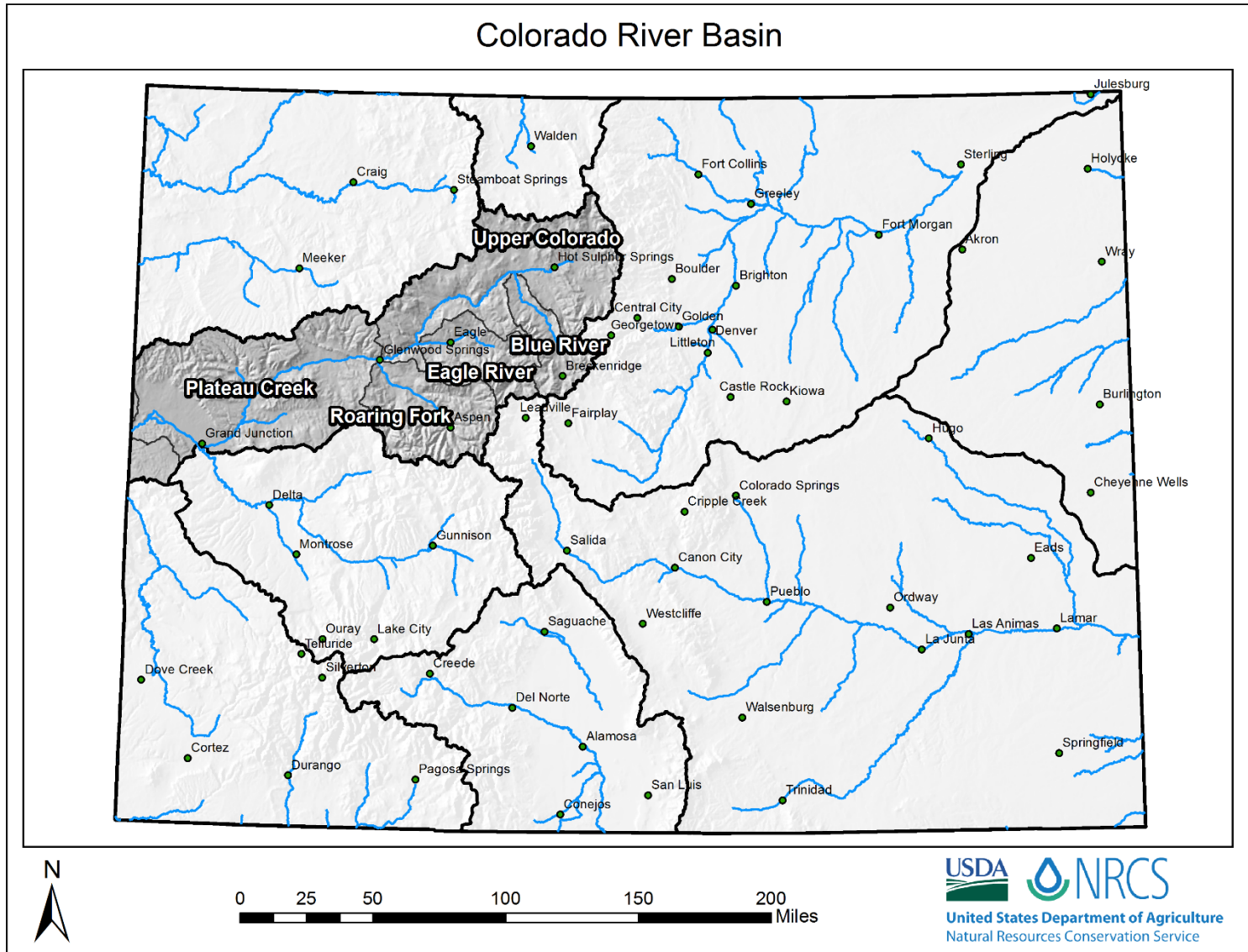


Created 1:03 Mar 23 2023



This is an automated product based solely on SNOTEL data, provisional data are subject to change. This product is a statistically based guidance forecast combining indices of snowpack and precipitation. **Yellow squares** are the official outlooks. **Gray background** is the historical period of record variability. This product does not consider climate information such as El Nino or short range weather forecasts, or a variety of other factors considered in the official forecasts. This product is not meant to replace or supercede the official forecasts produced in coordination with the National Weather Service. Science Contact: Cara.s.McCarthy@por.usda.gov www.wcc.nrcs.usda.gov/ws/daily_forecasts.html

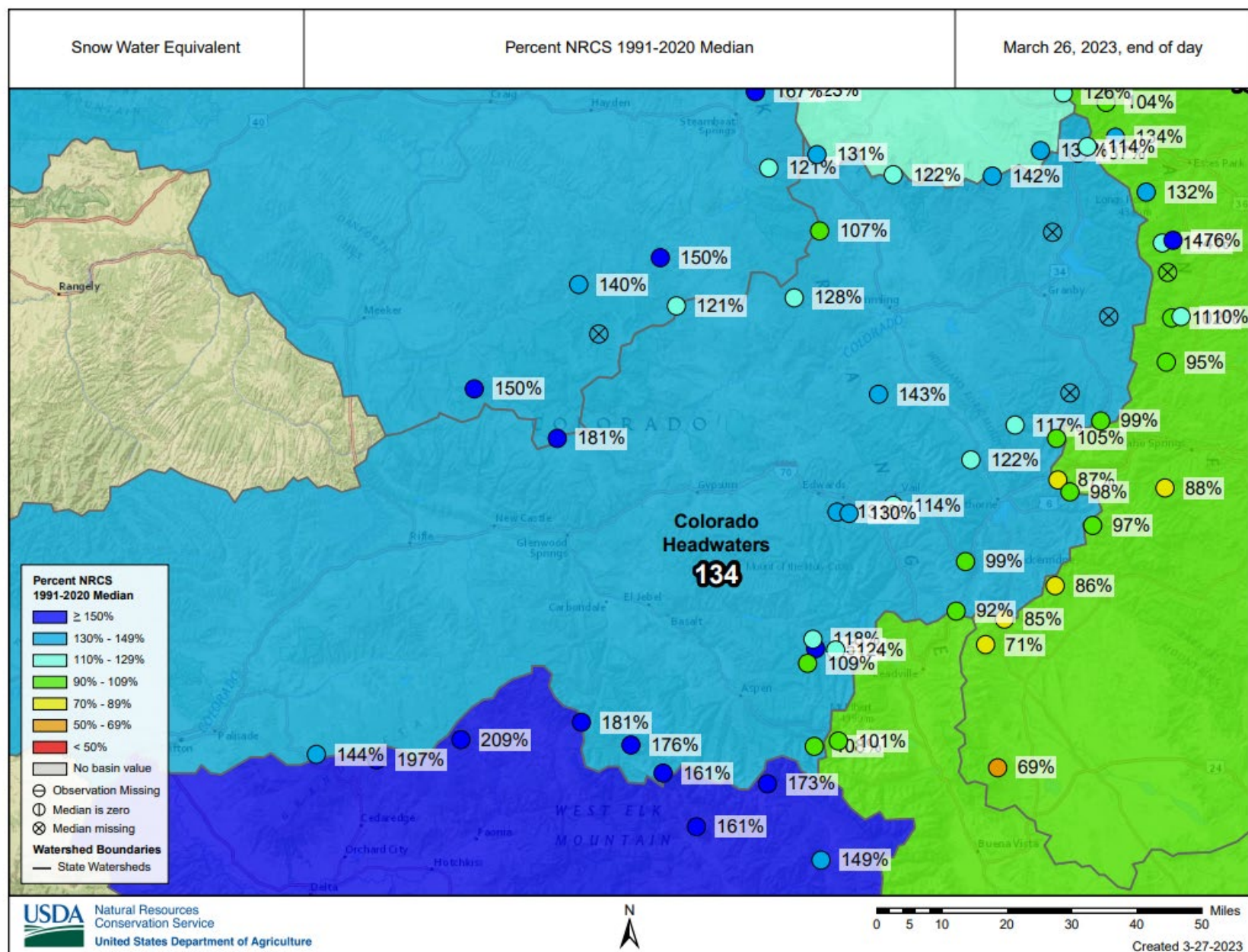
Major Basin Summary





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Colorado Snow Surveys





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SNOW WATER EQUIVALENT IN COLORADO HEADWATERS

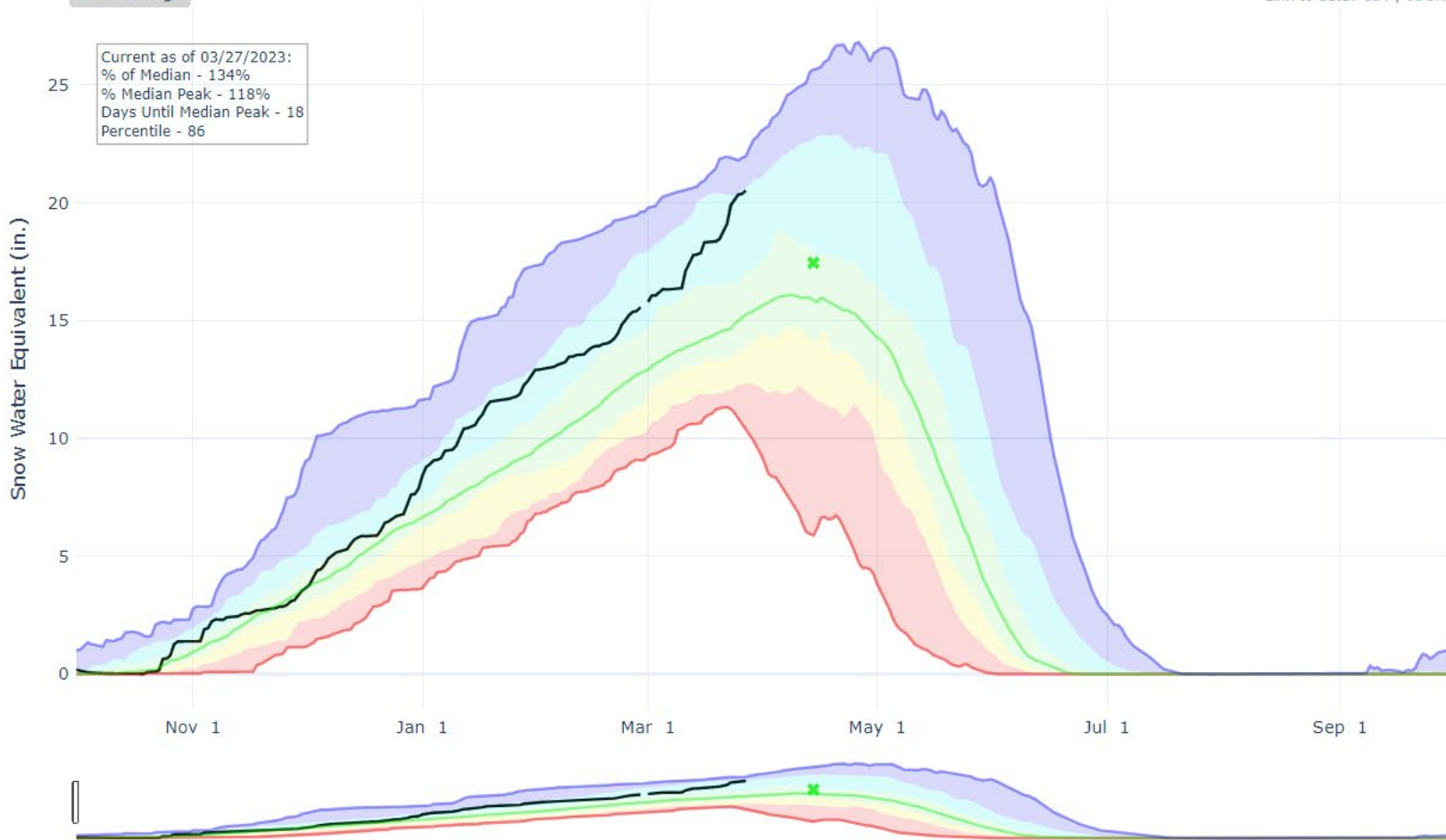
Reset Range

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

[Station List](#)

Current as of 03/27/2023:
% of Median - 134%
% Median Peak - 118%
Days Until Median Peak - 18
Percentile - 86

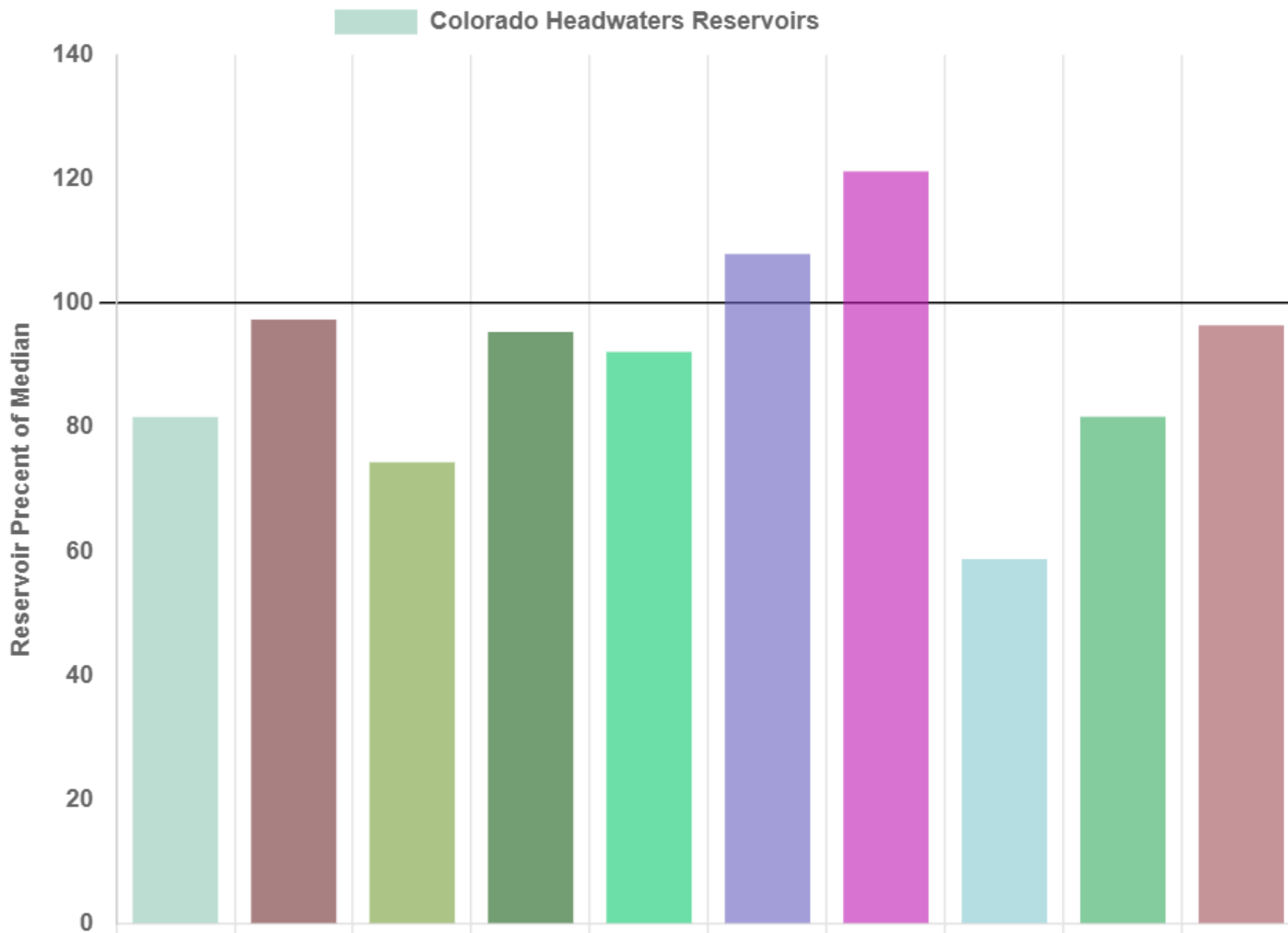
- ✕ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (31 sites)
- 2022 (31 sites)
- 2021 (31 sites)
- 2020 (31 sites)
- 2019 (31 sites)
- 2018 (31 sites)
- 2017 (31 sites)
- 2016 (31 sites)
- 2015 (31 sites)
- 2014 (31 sites)
- 2013 (31 sites)
- 2012 (31 sites)
- 2011 (31 sites)
- 2010 (31 sites)
- 2009 (30 sites)
- 2008 (30 sites)
- 2007 (29 sites)
- 2006 (29 sites)
- 2005 (29 sites)



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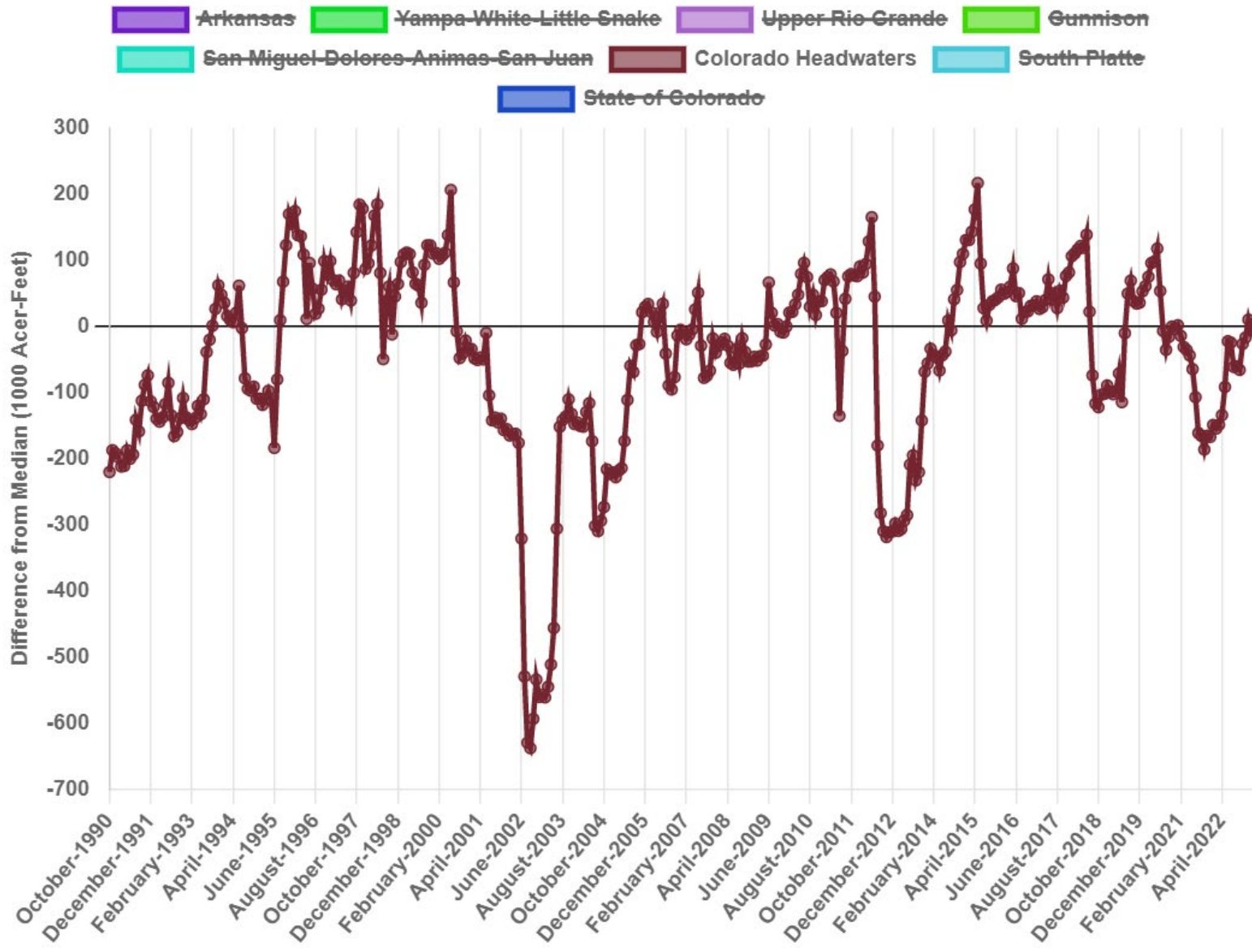


Reservoir Conditions for Colorado Headwaters on March 1st 2023



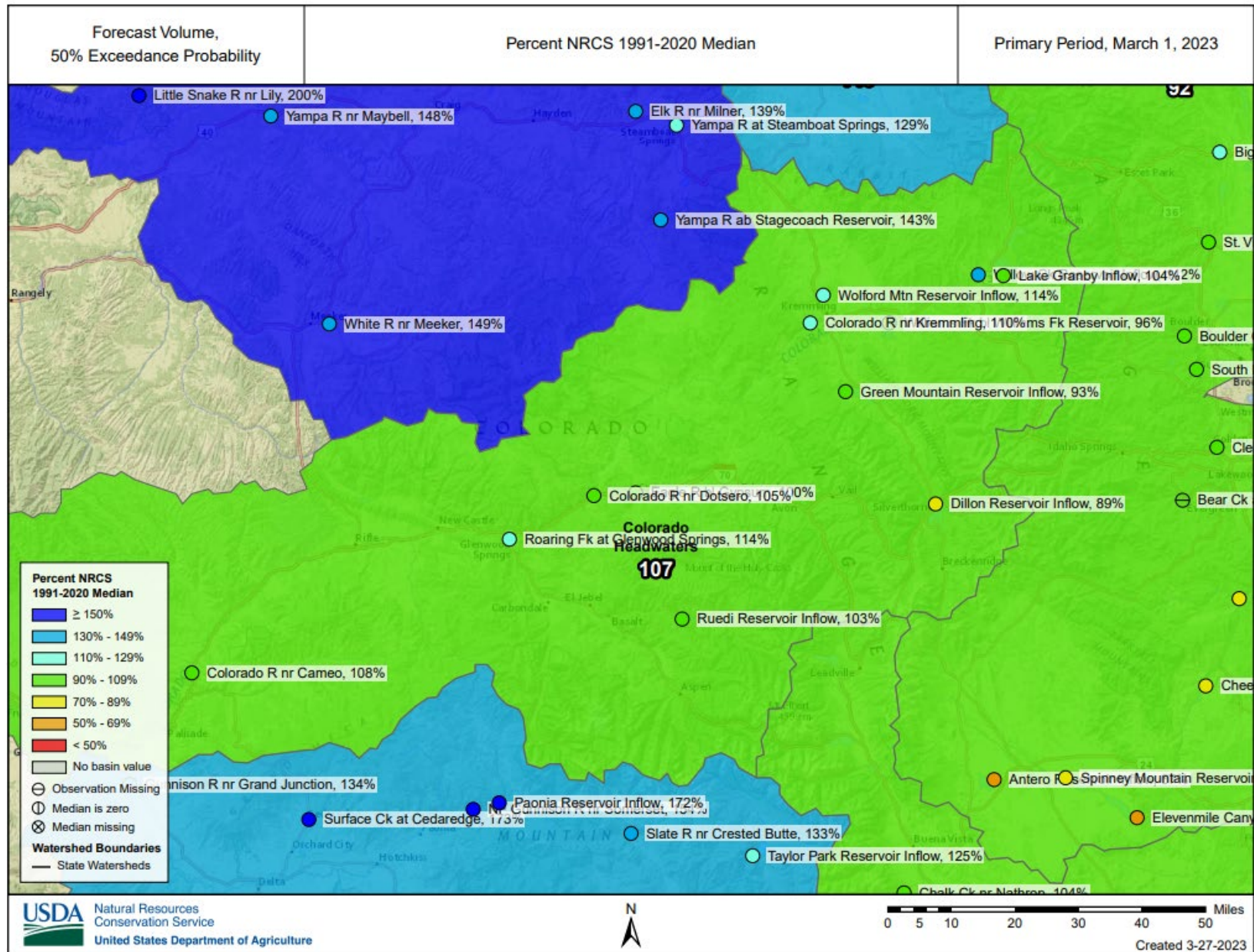
Wolford Mountain Reservoir
 Willow Creek Reservoir
 Vega Reservoir
 Shadow Mountain Reservoir
 Ruedi Reservoir
 Green Mountain Reservoir
 Lake Granby
 Williams Fork Reservoir
 Homestake Reservoir
 Dillon Reservoir

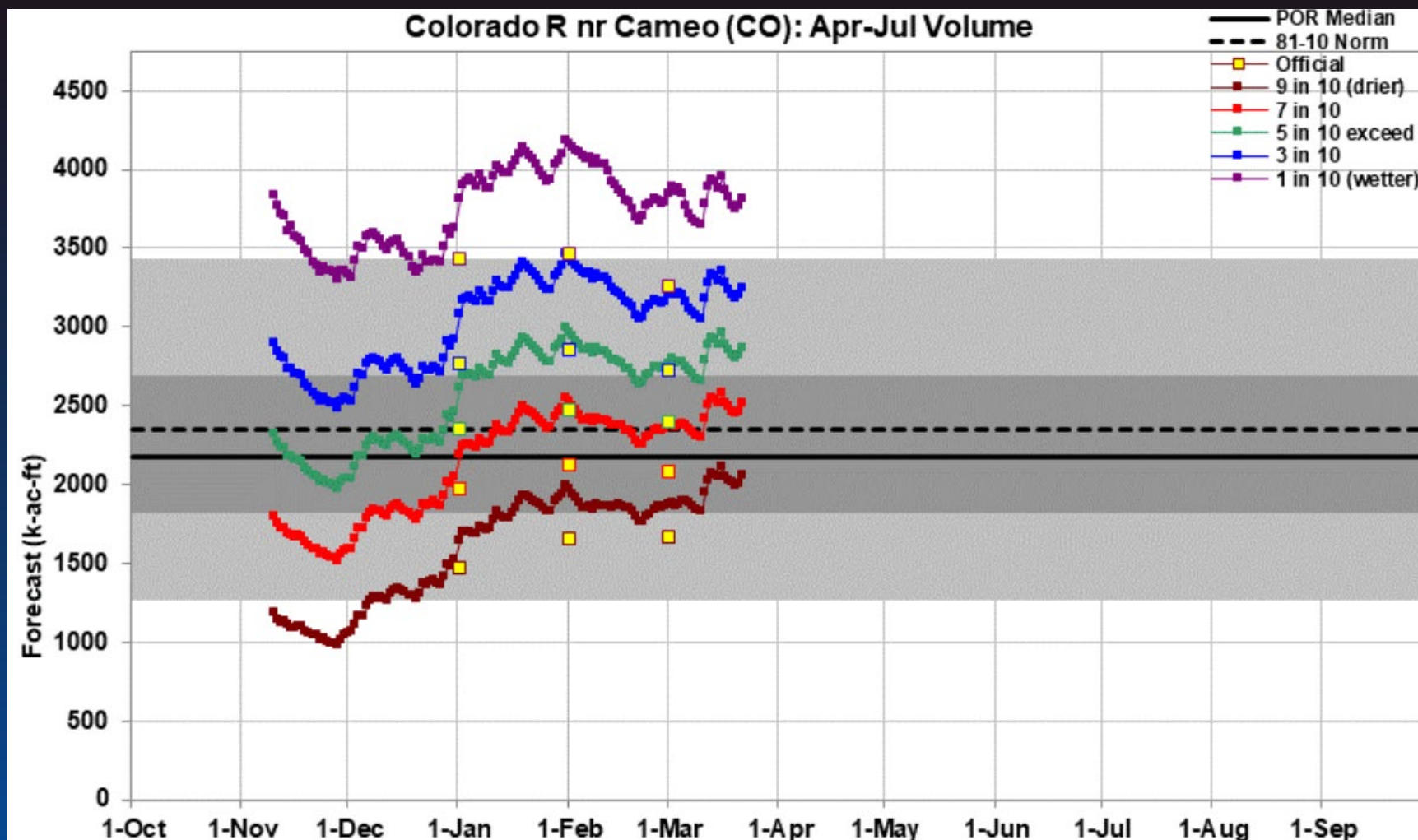
Departure from Median





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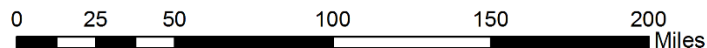
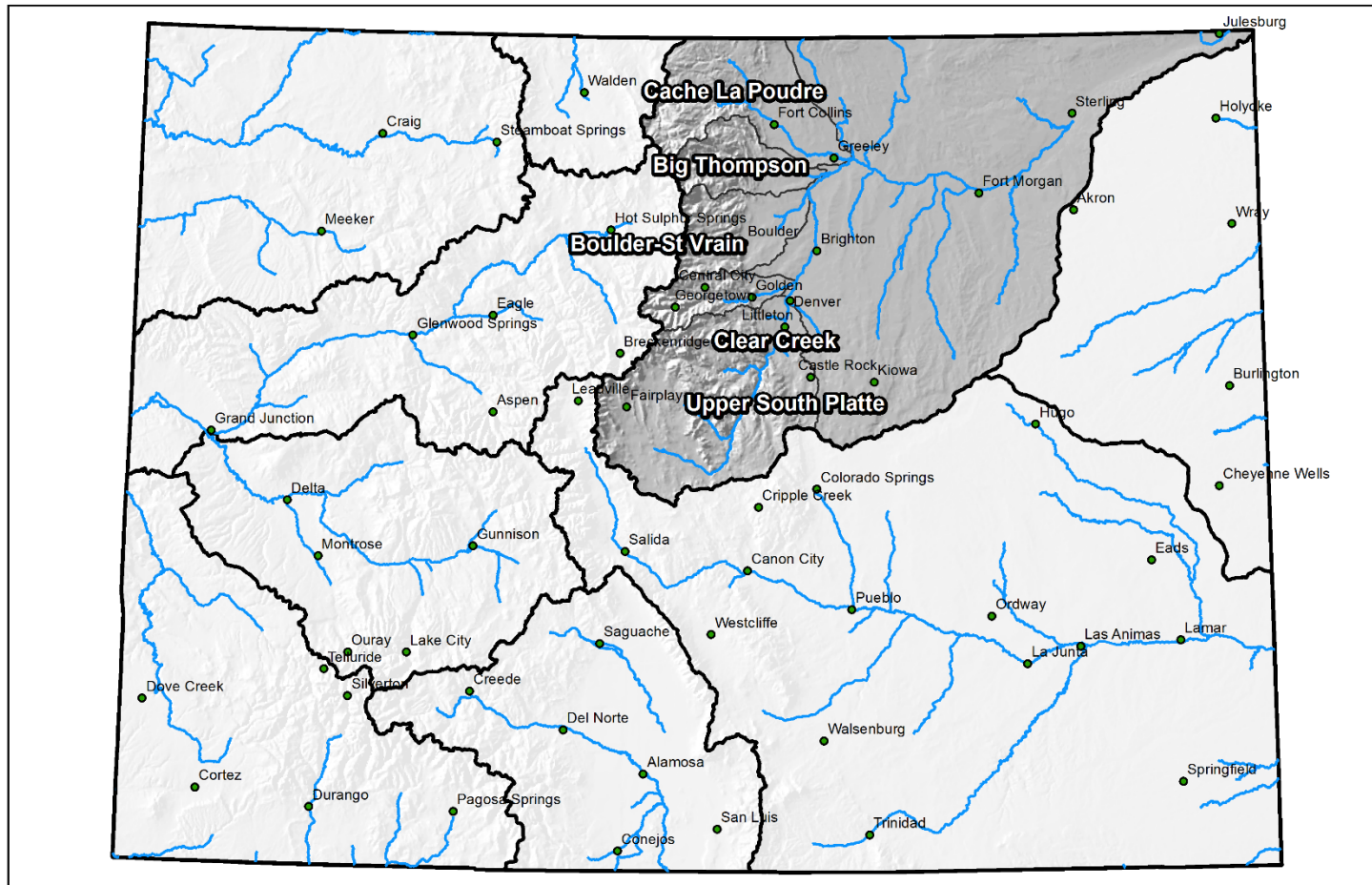
Created 0:55 Mar 23 2023



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Major Basin Summary

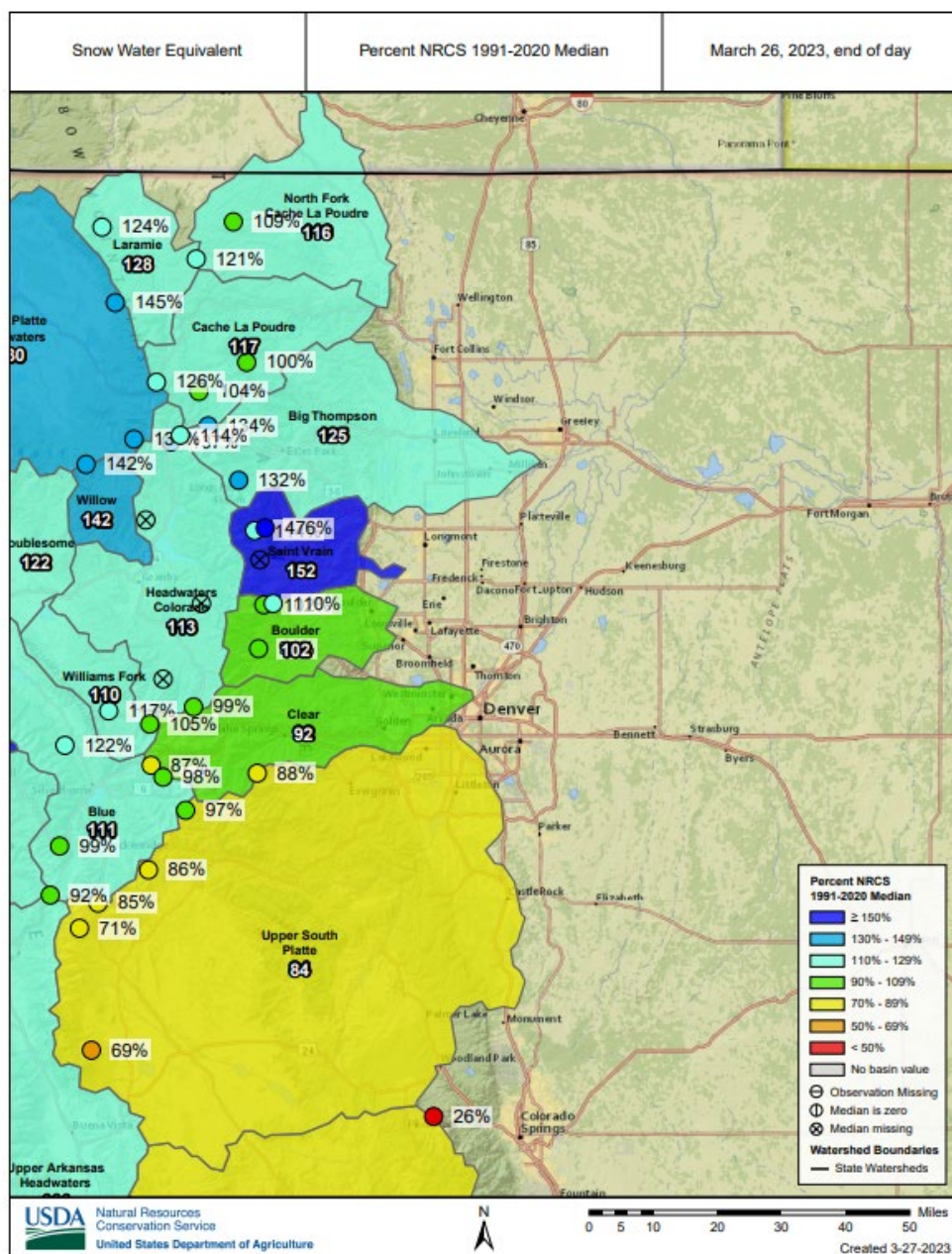
South Platte River Basin





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Colorado Snow Surveys

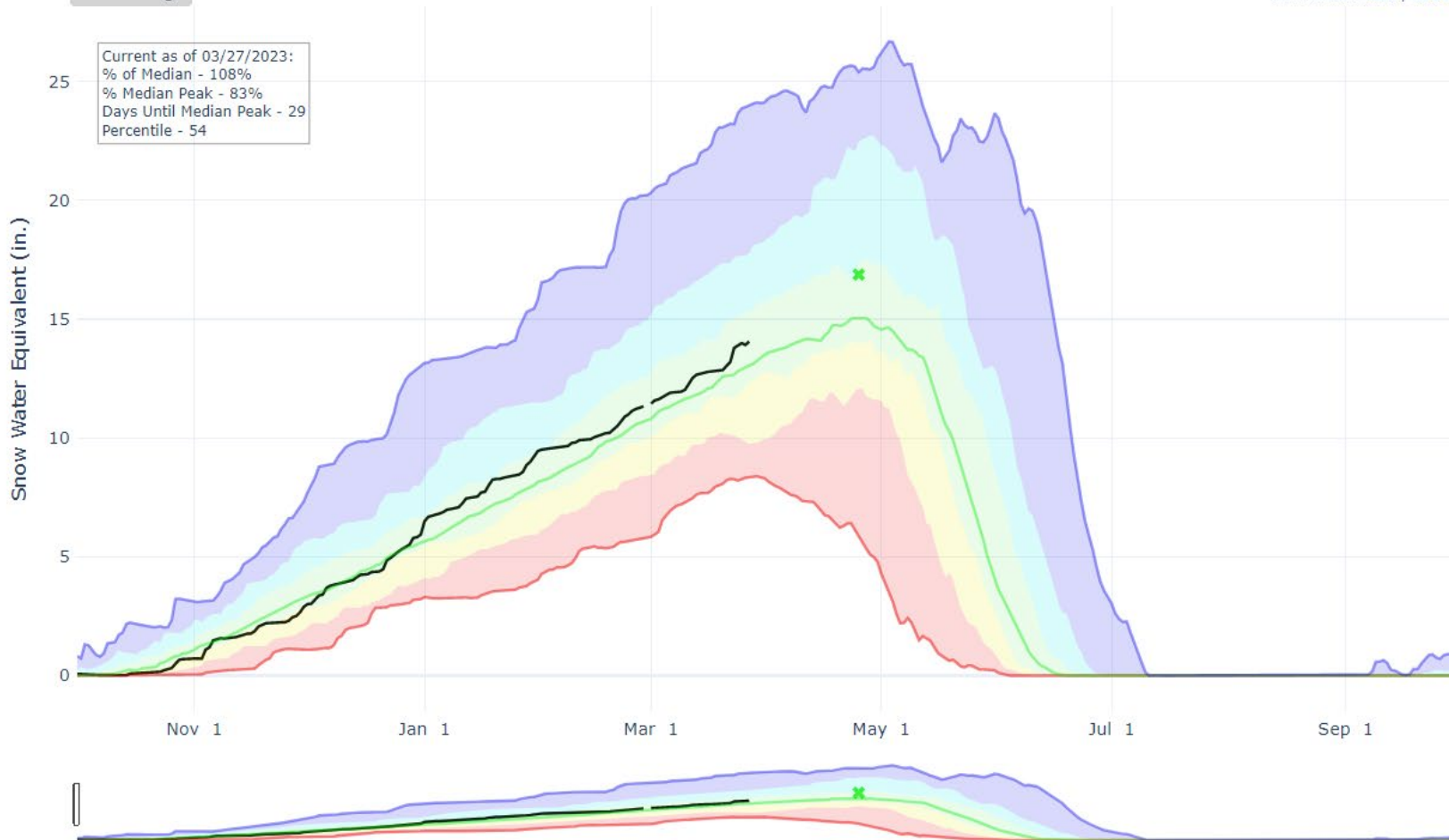
SNOW WATER EQUIVALENT IN SOUTH PLATTE

Reset Range

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

[Station List](#)

Current as of 03/27/2023:
% of Median - 108%
% Median Peak - 83%
Days Until Median Peak - 29
Percentile - 54



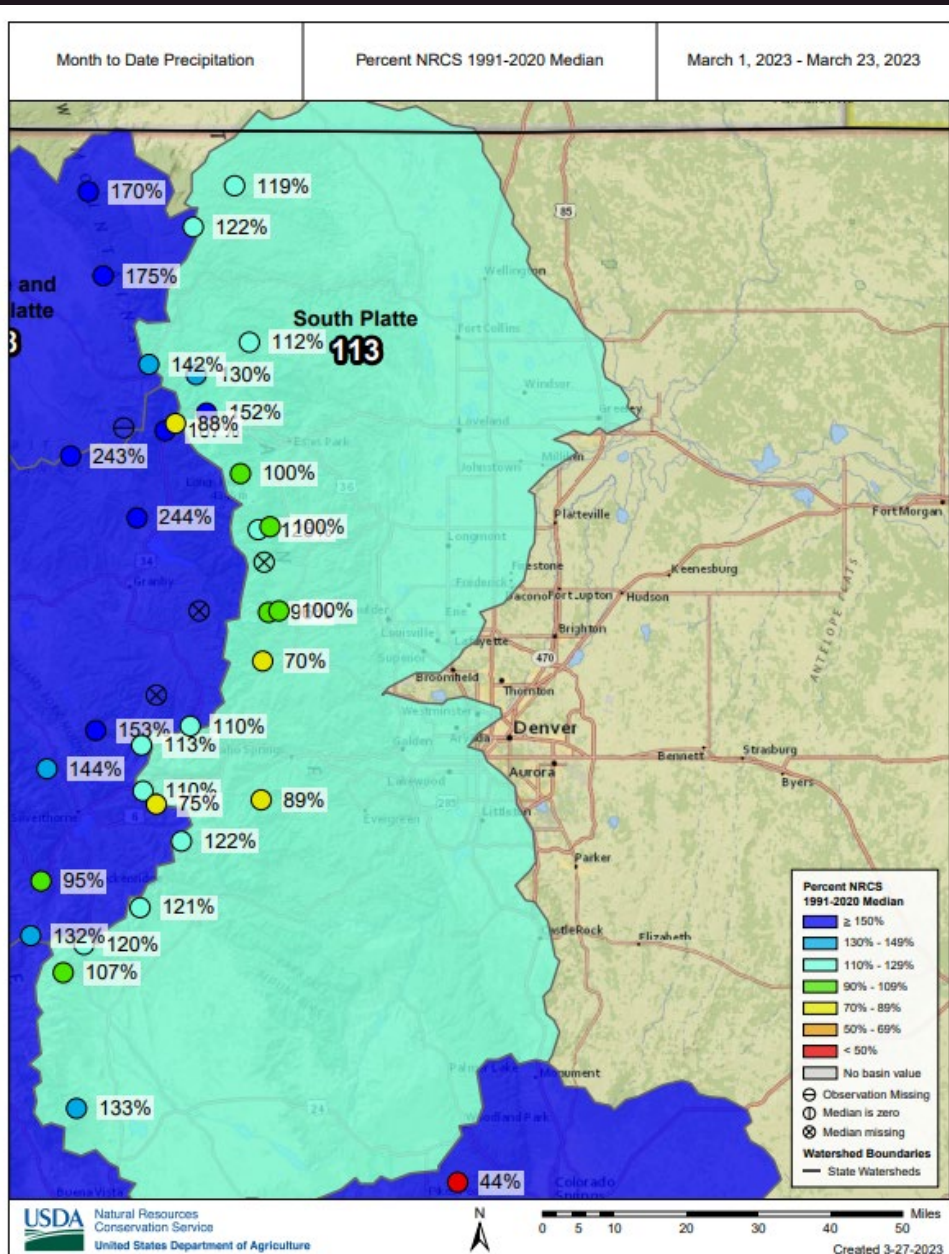
- ✖ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (21 sites)
- 2022 (21 sites)
- 2021 (21 sites)
- 2020 (21 sites)
- 2019 (21 sites)
- 2018 (21 sites)
- 2017 (21 sites)
- 2016 (21 sites)
- 2015 (21 sites)
- 2014 (21 sites)
- 2013 (21 sites)
- 2012 (21 sites)
- 2011 (21 sites)
- 2010 (20 sites)
- 2009 (19 sites)
- 2008 (18 sites)
- 2007 (18 sites)
- 2006 (18 sites)
- 2005 (17 sites)



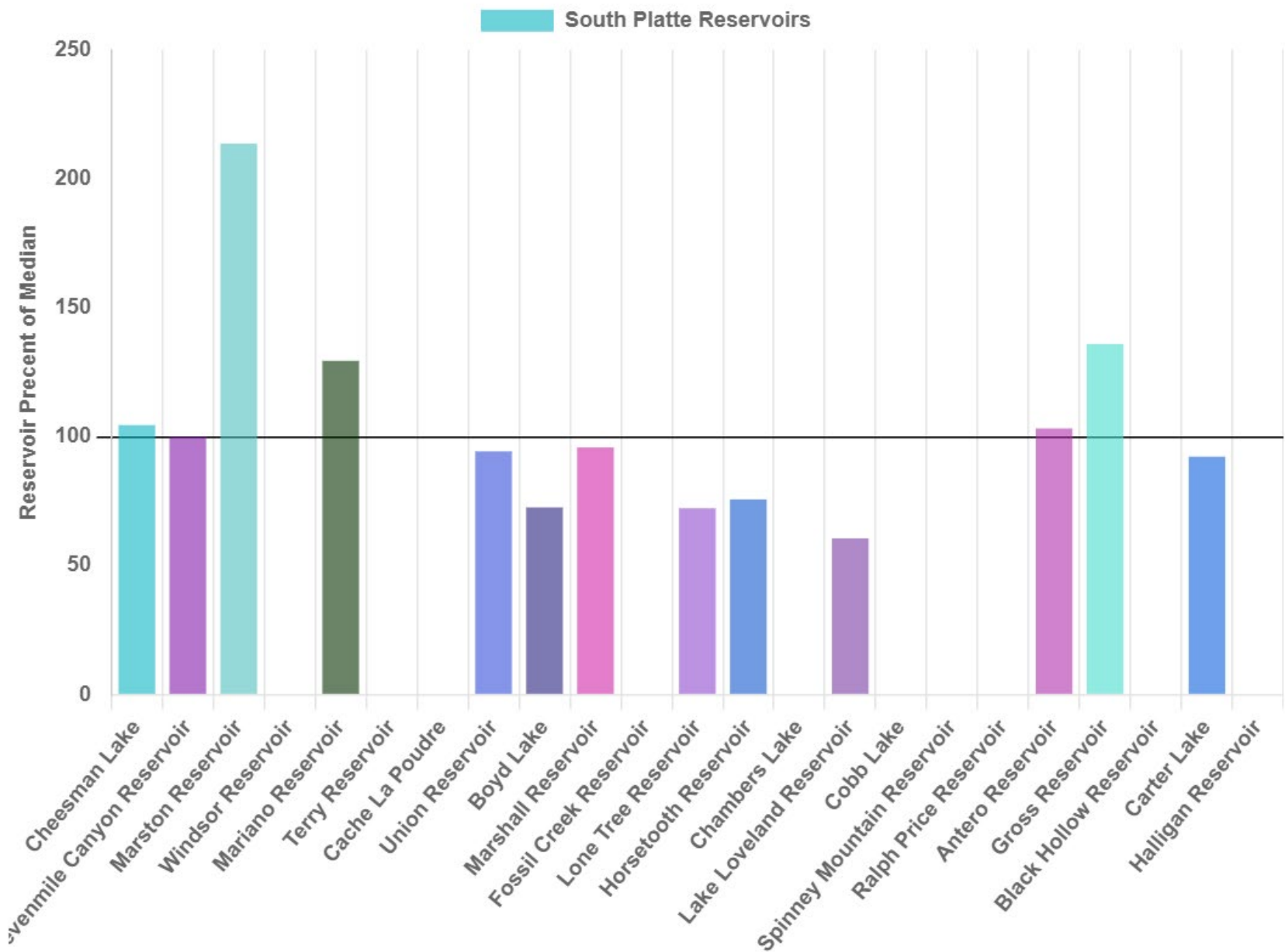


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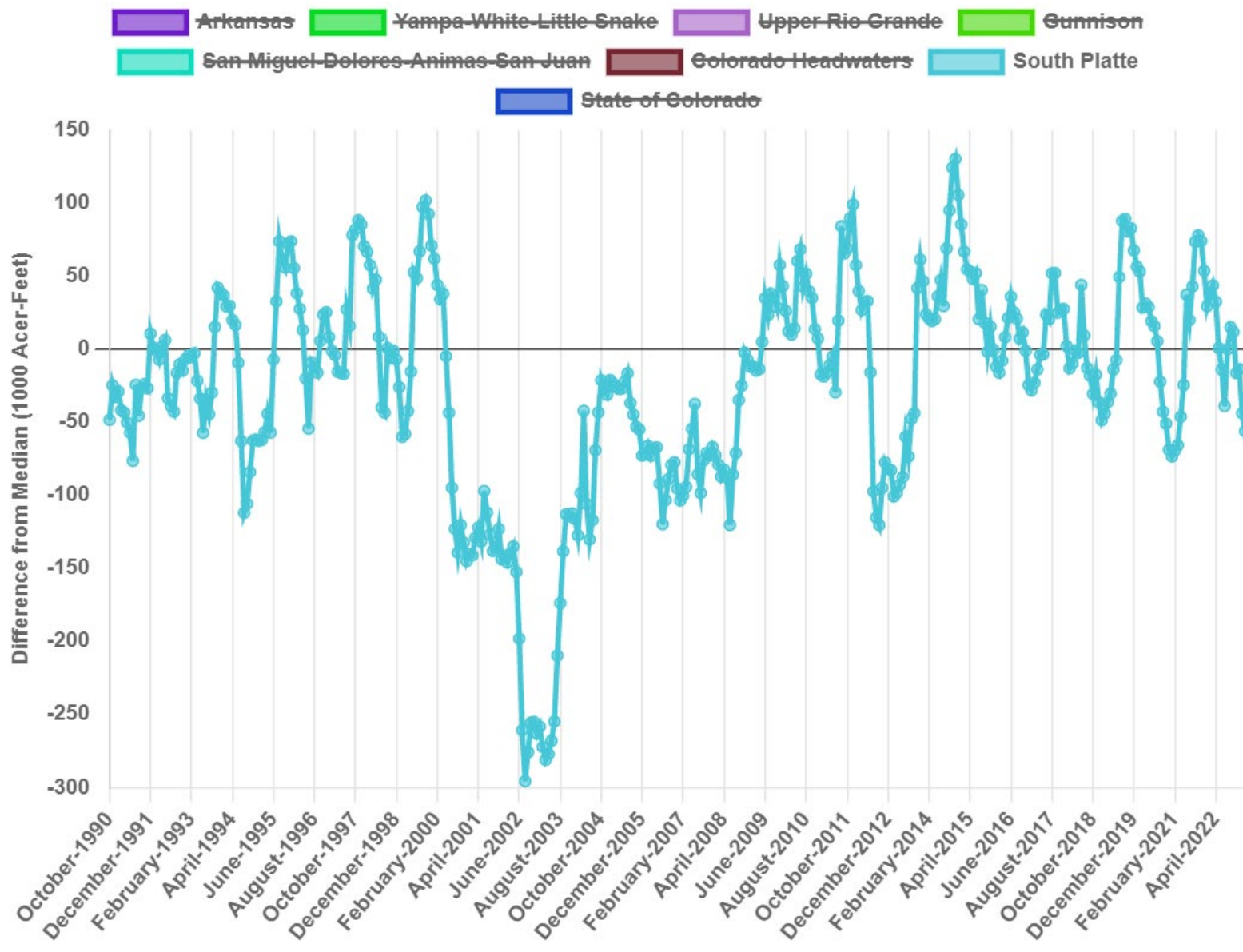
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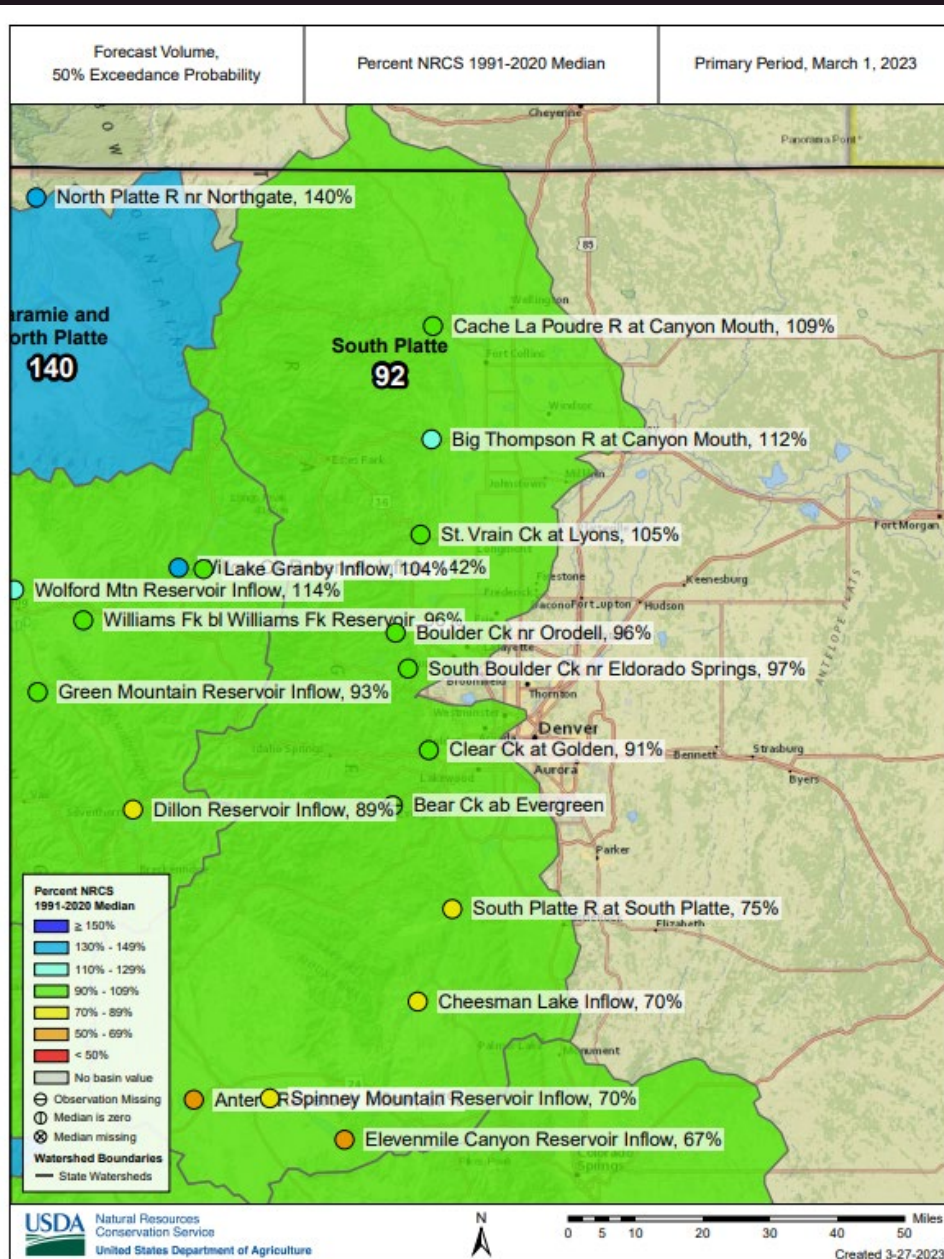


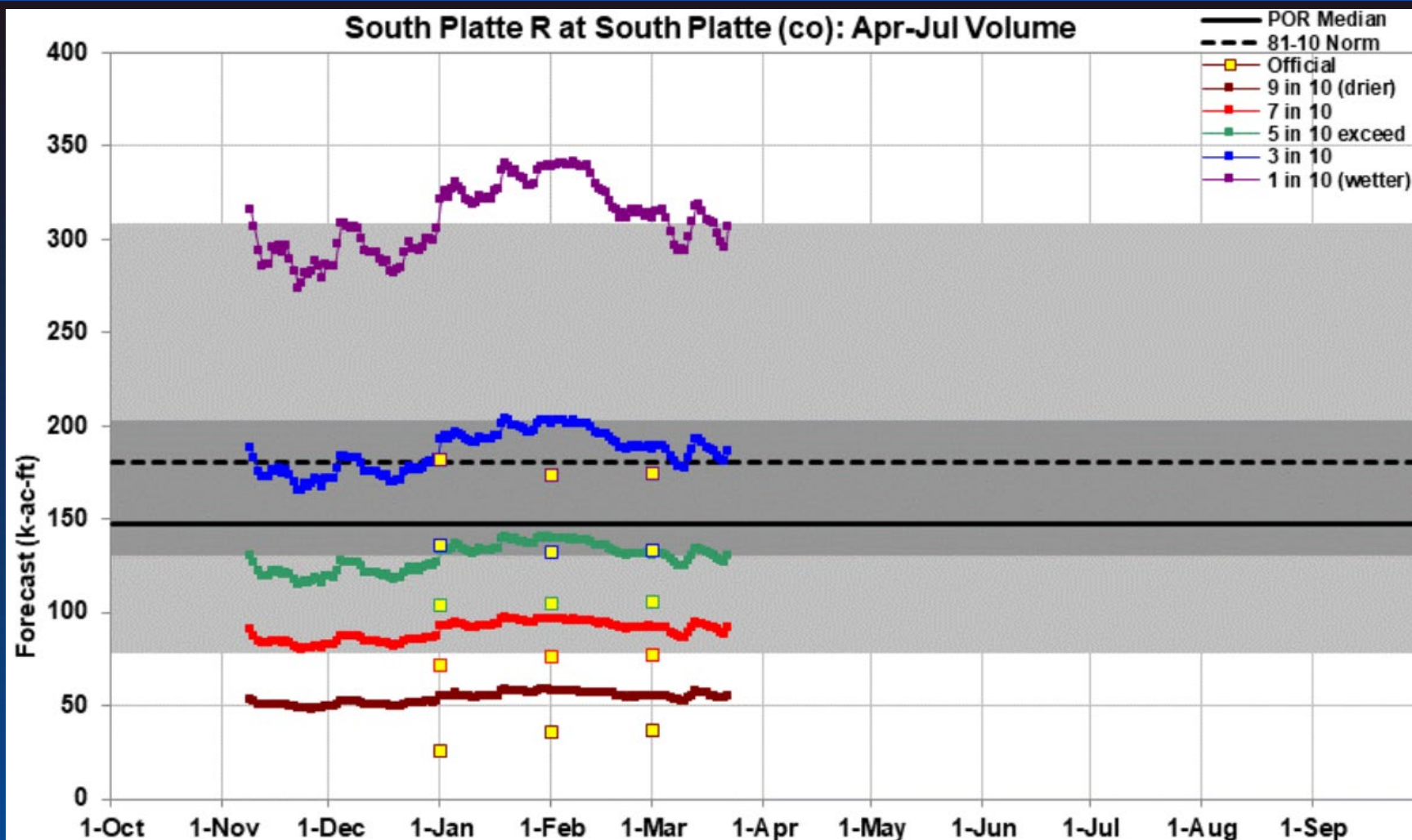
Colorado Snow Surveys



Departure from Median







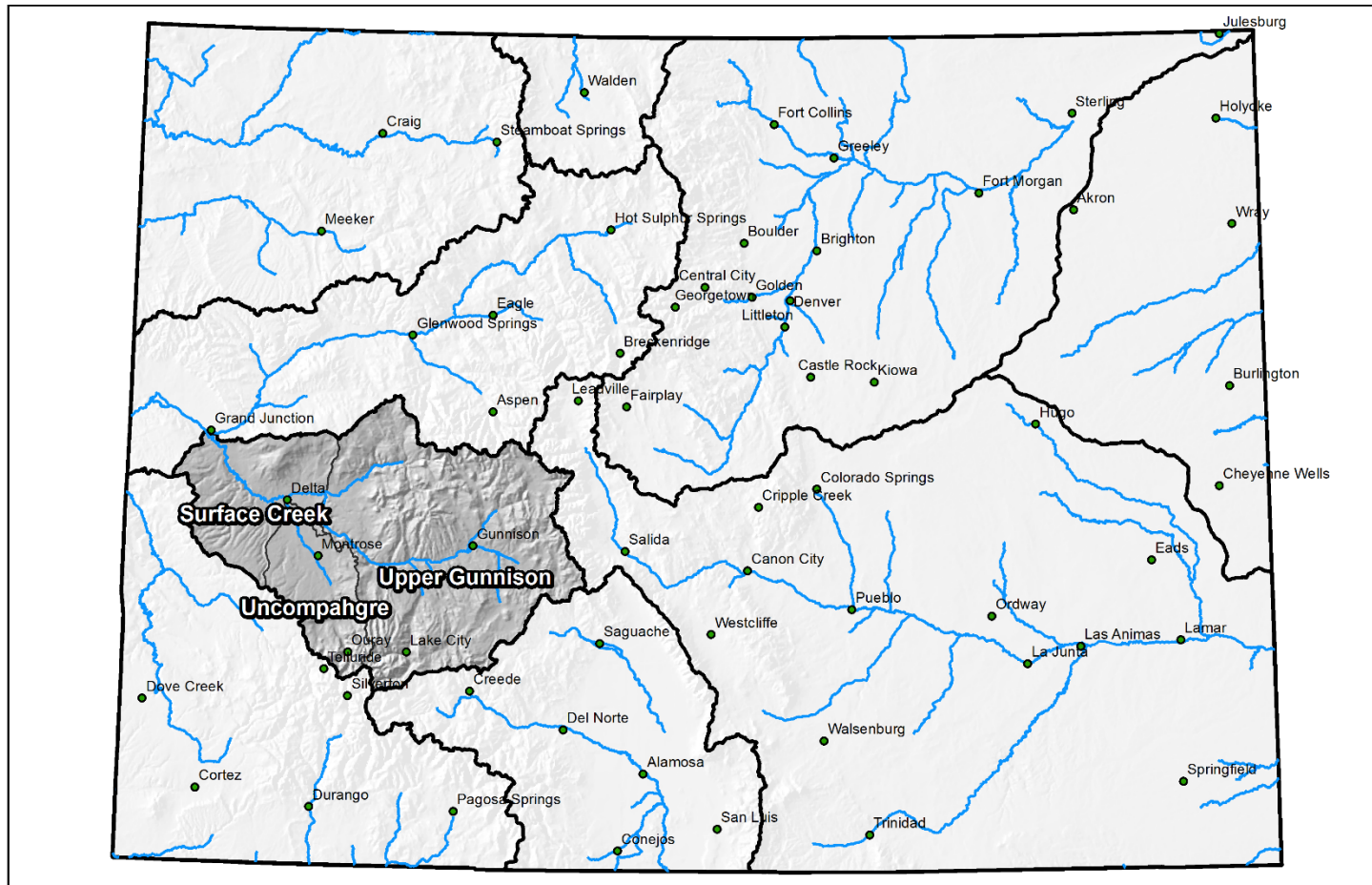
Created 0:42 Mar 23 2023



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Major Basin Summary

Gunnison River Basin

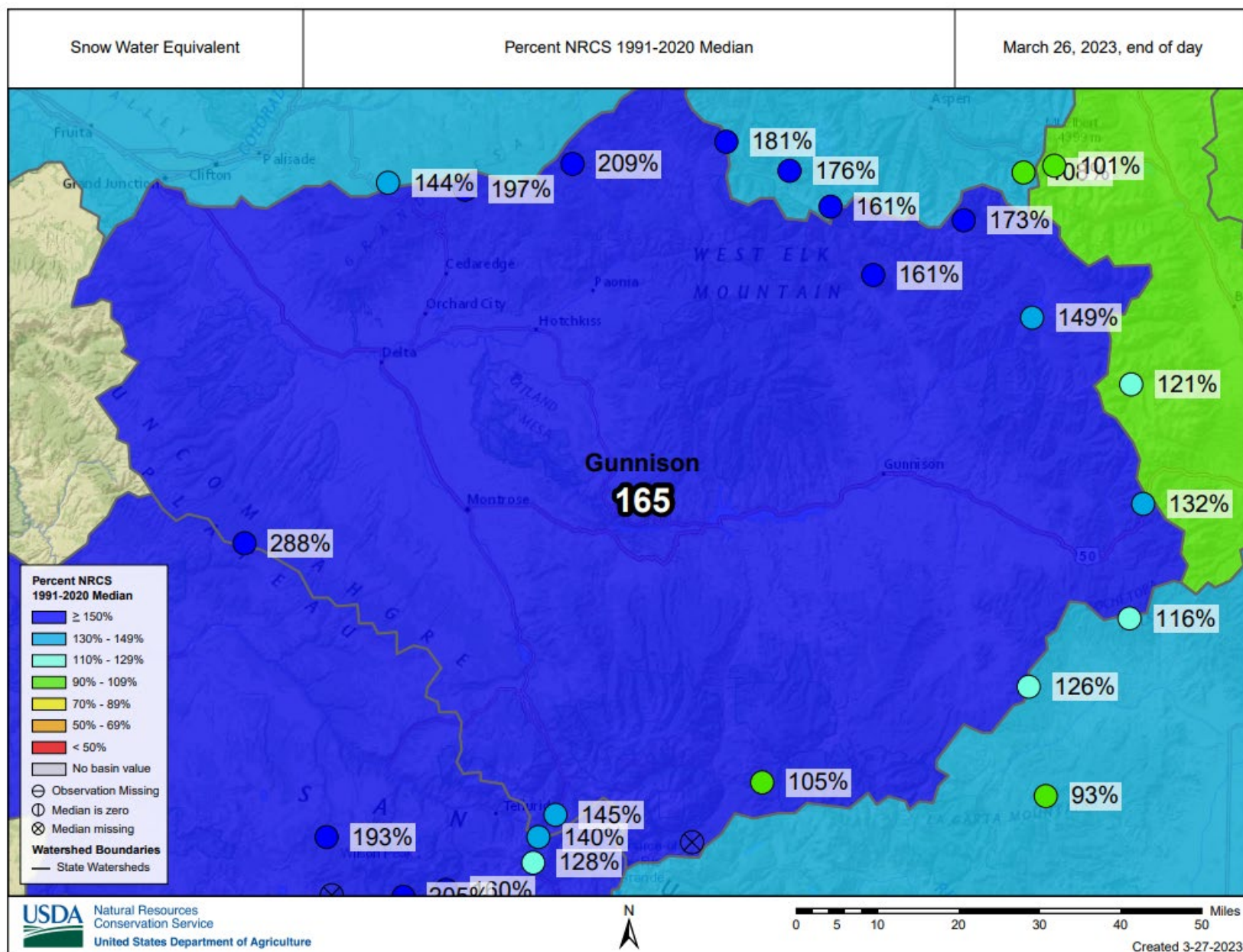


0 25 50 100 150 200 Miles



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SNOW WATER EQUIVALENT IN GUNNISON

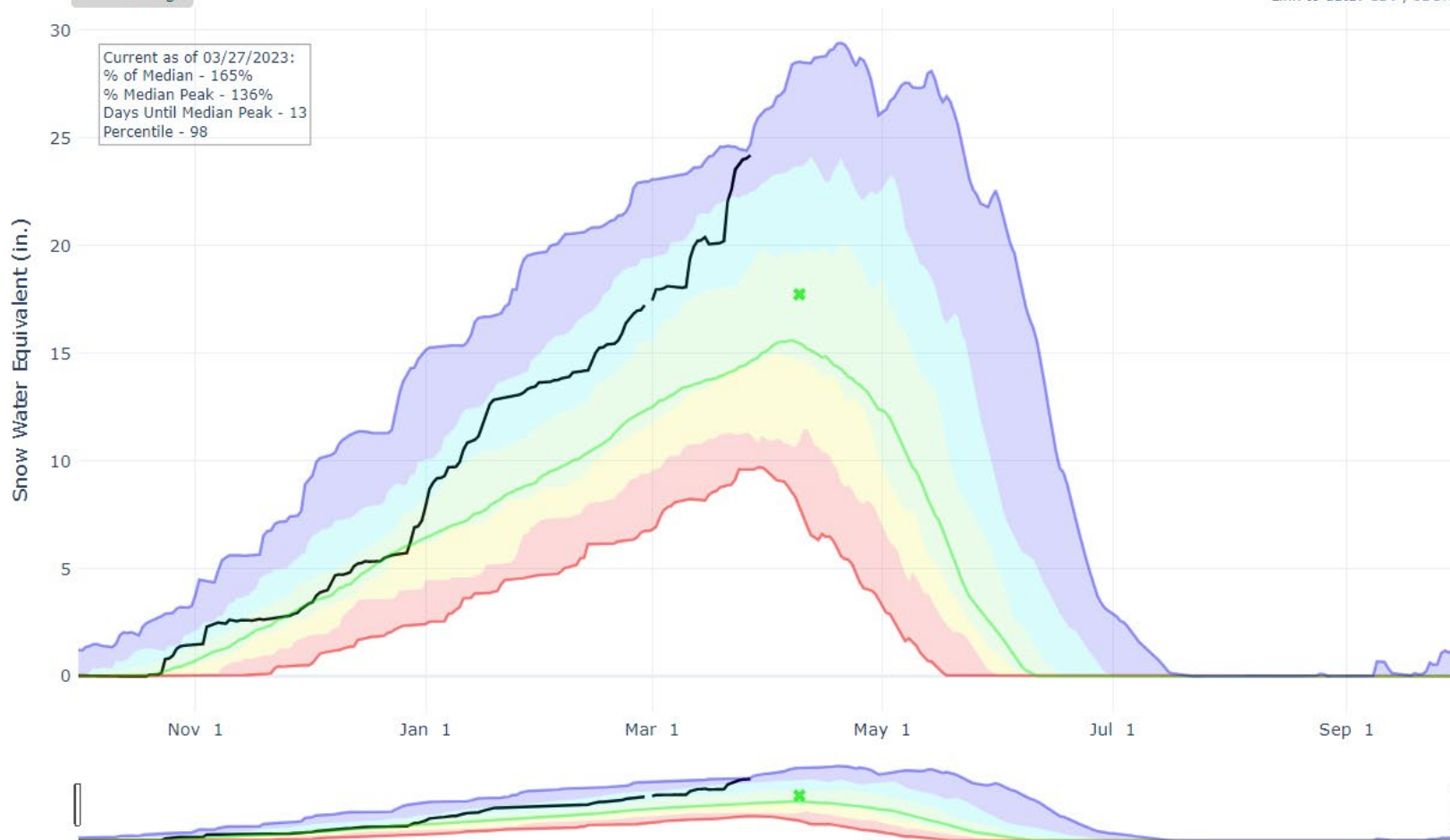
Reset Range

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

Station List

Current as of 03/27/2023:
% of Median - 165%
% Median Peak - 136%
Days Until Median Peak - 13
Percentile - 98

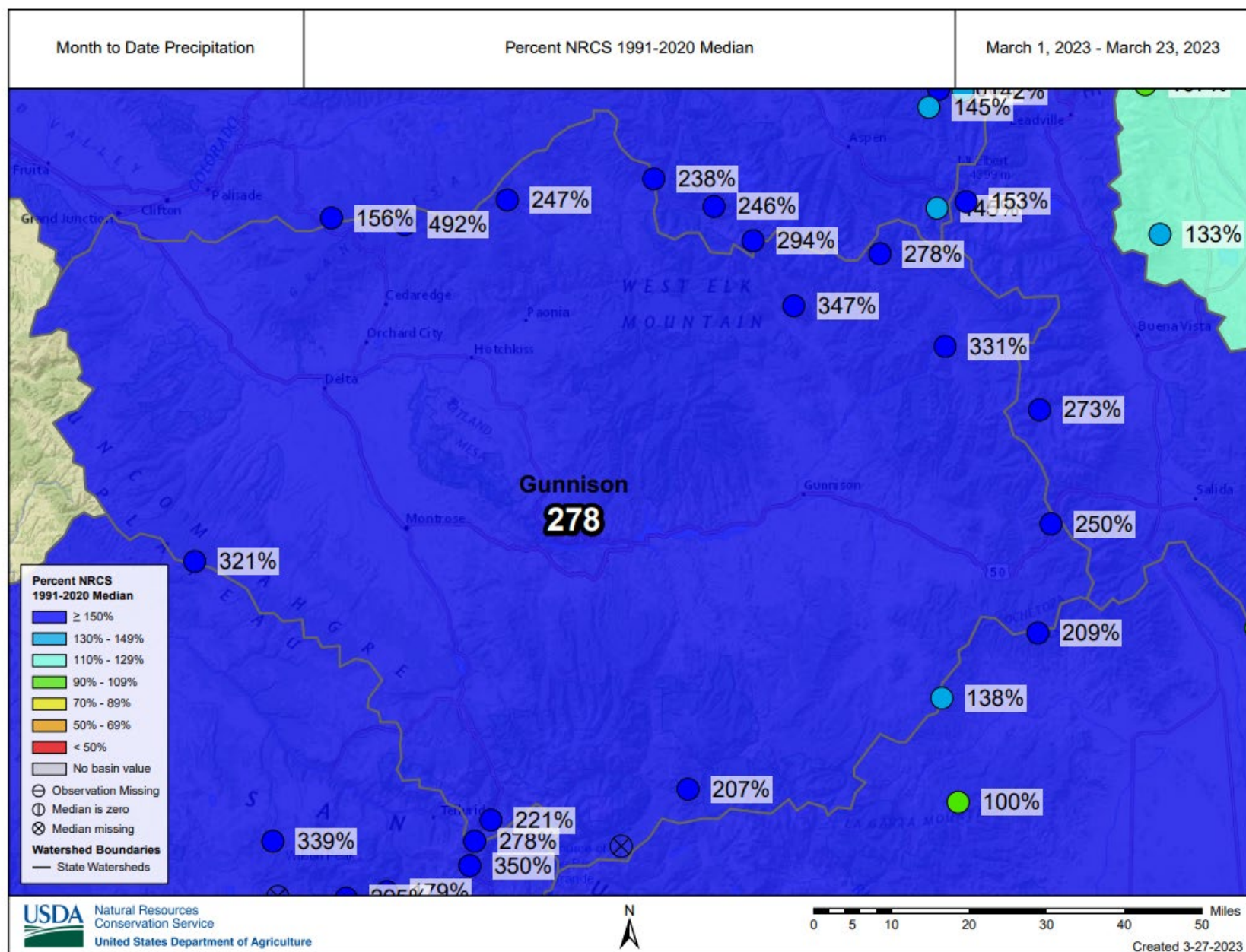
- ✖ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (15 sites)
- 2022 (15 sites)
- 2021 (15 sites)
- 2020 (15 sites)
- 2019 (15 sites)
- 2018 (15 sites)
- 2017 (15 sites)
- 2016 (15 sites)
- 2015 (15 sites)
- 2014 (15 sites)
- 2013 (15 sites)
- 2012 (15 sites)
- 2011 (15 sites)
- 2010 (15 sites)
- 2009 (14 sites)
- 2008 (13 sites)
- 2007 (13 sites)
- 2006 (13 sites)
- 2005 (13 sites)



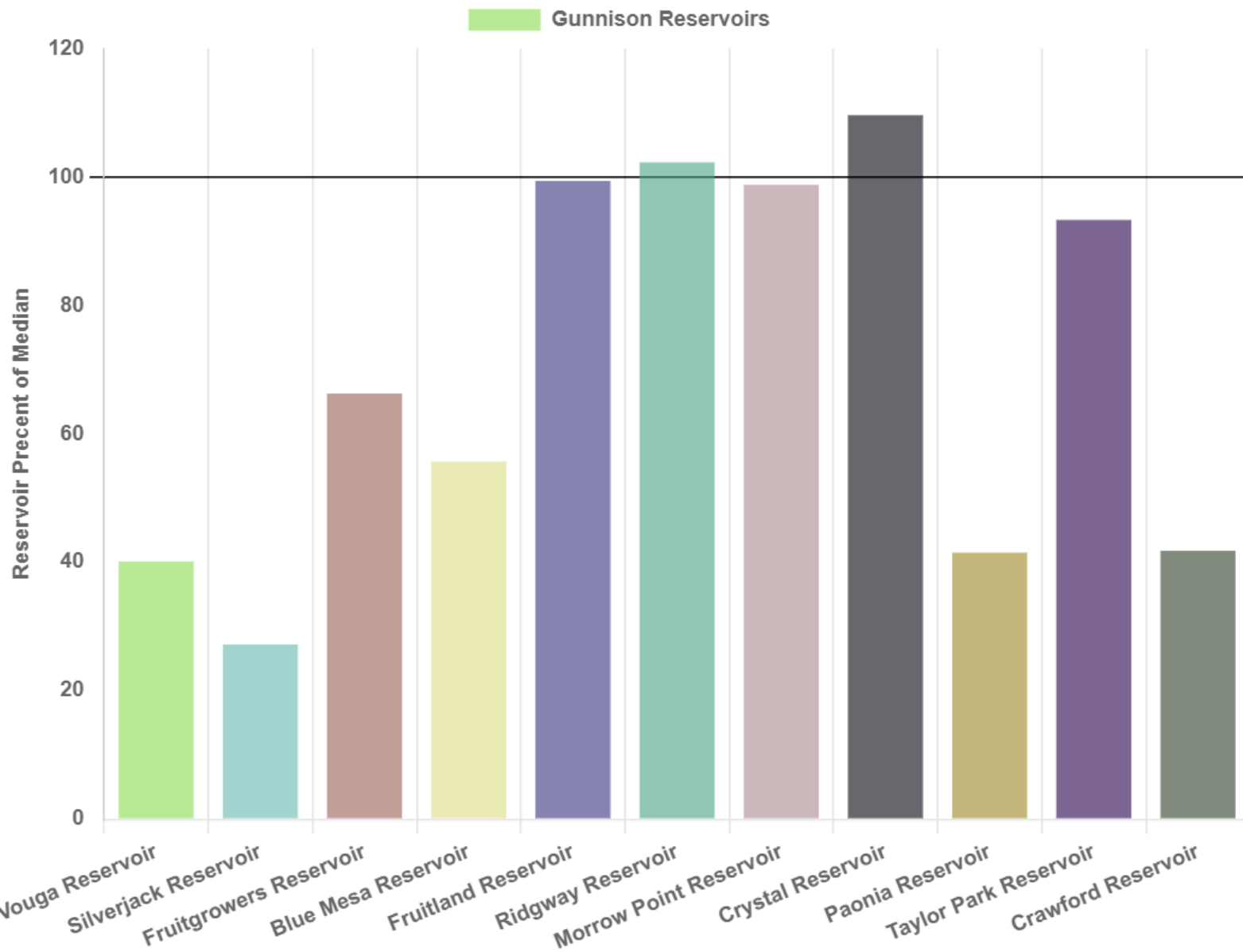


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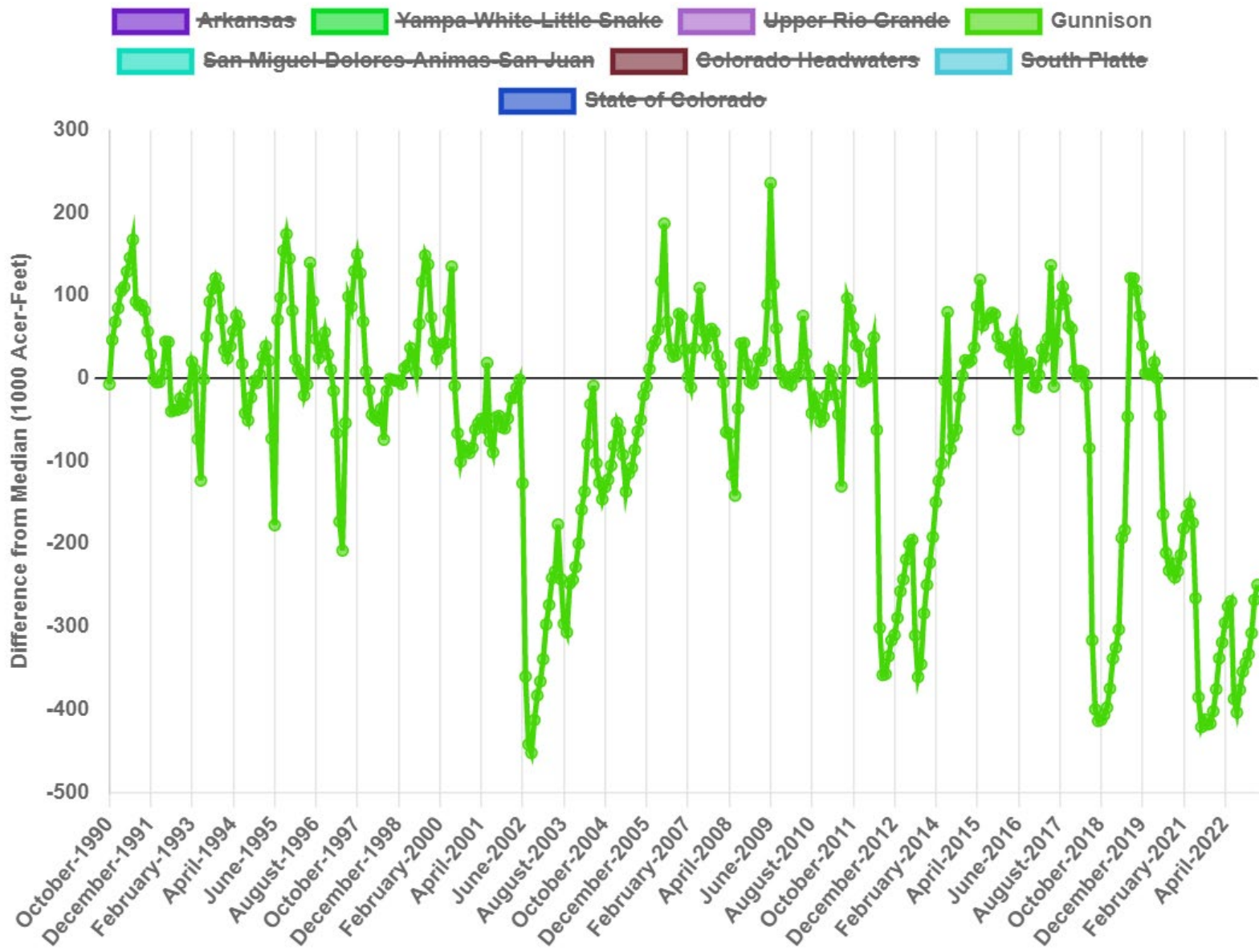
Colorado Snow Surveys



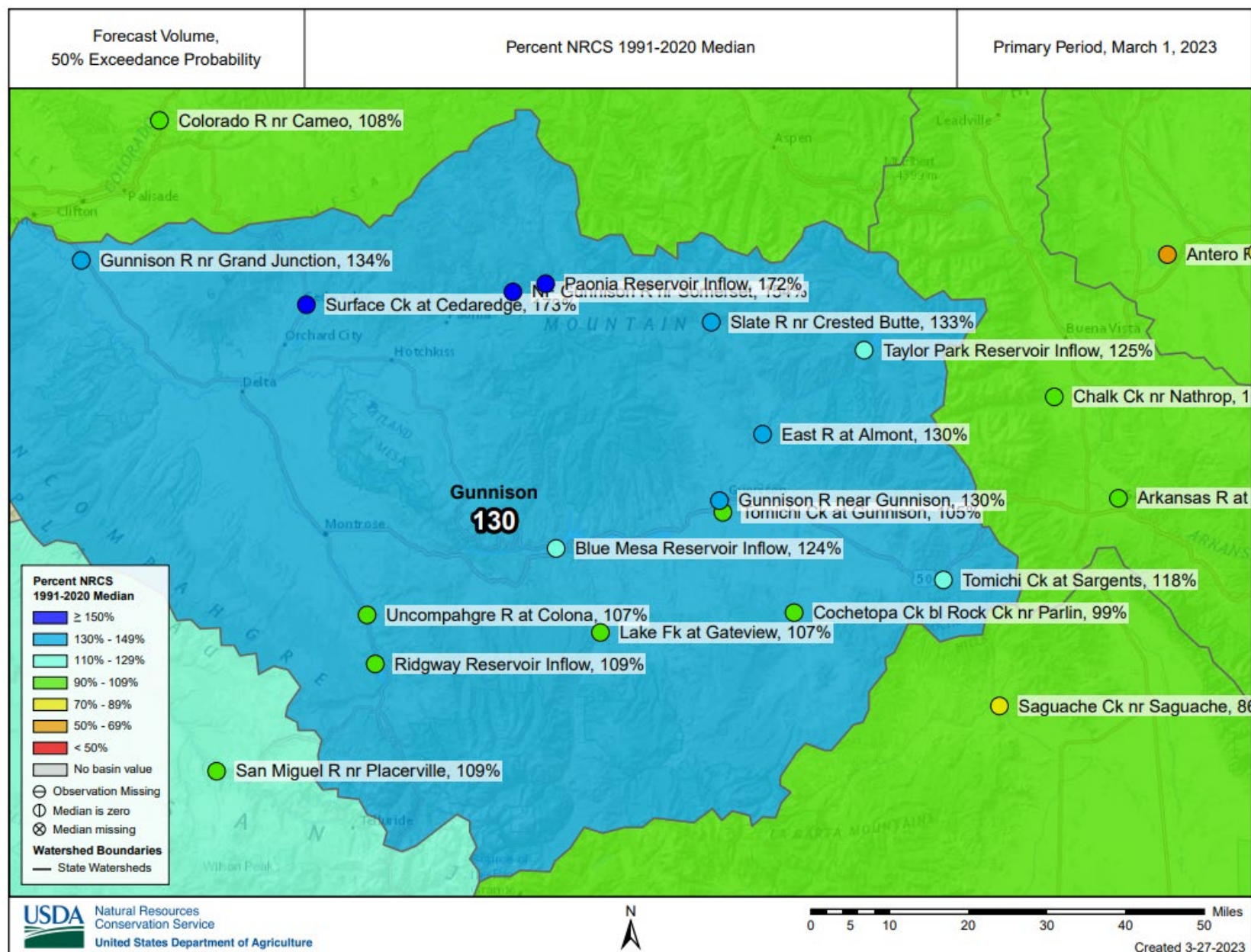
Reservoir Conditions for Gunnison on March 1st 2023

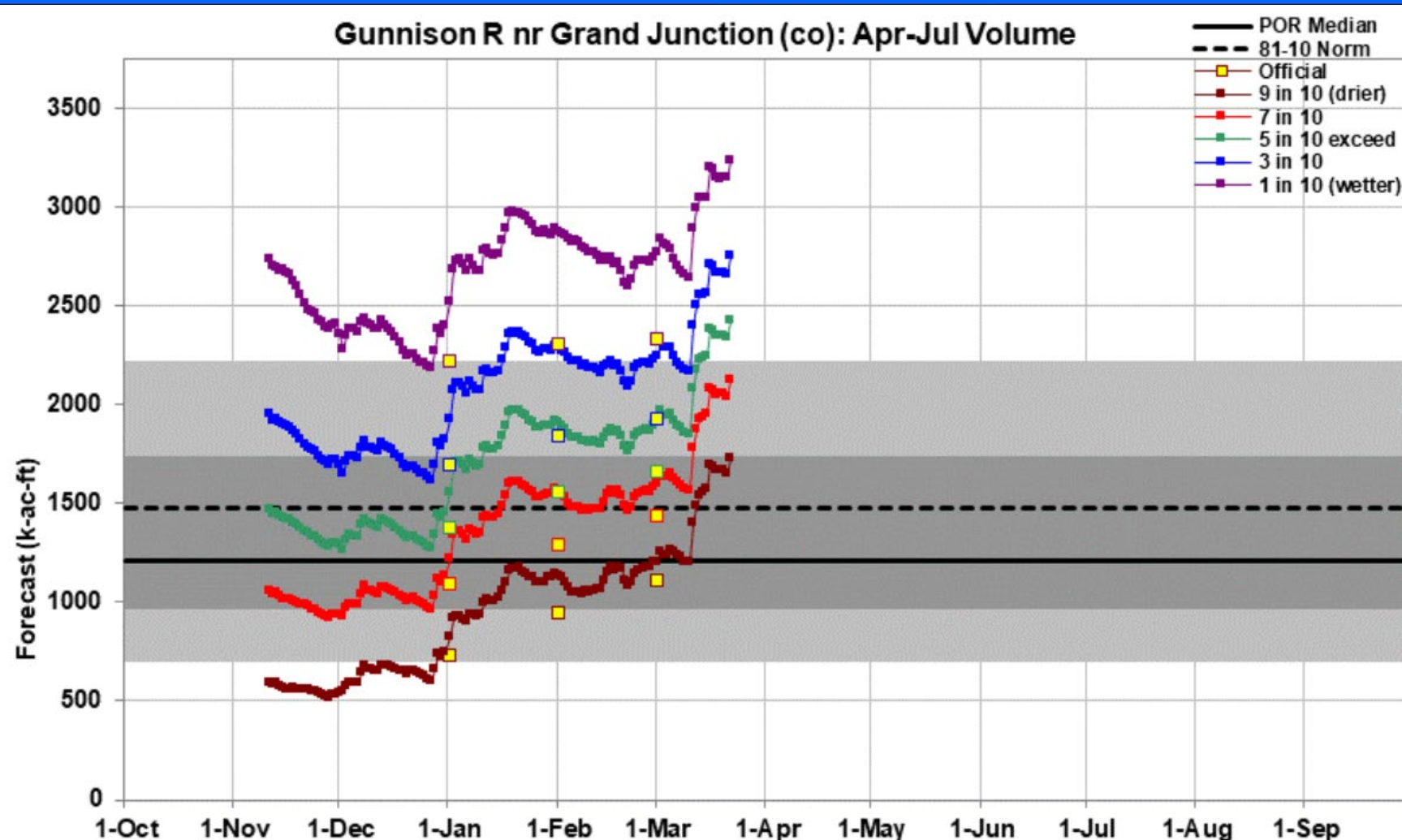


Departure from Median



Colorado Snow Surveys





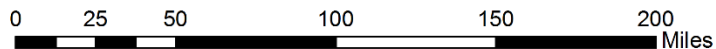
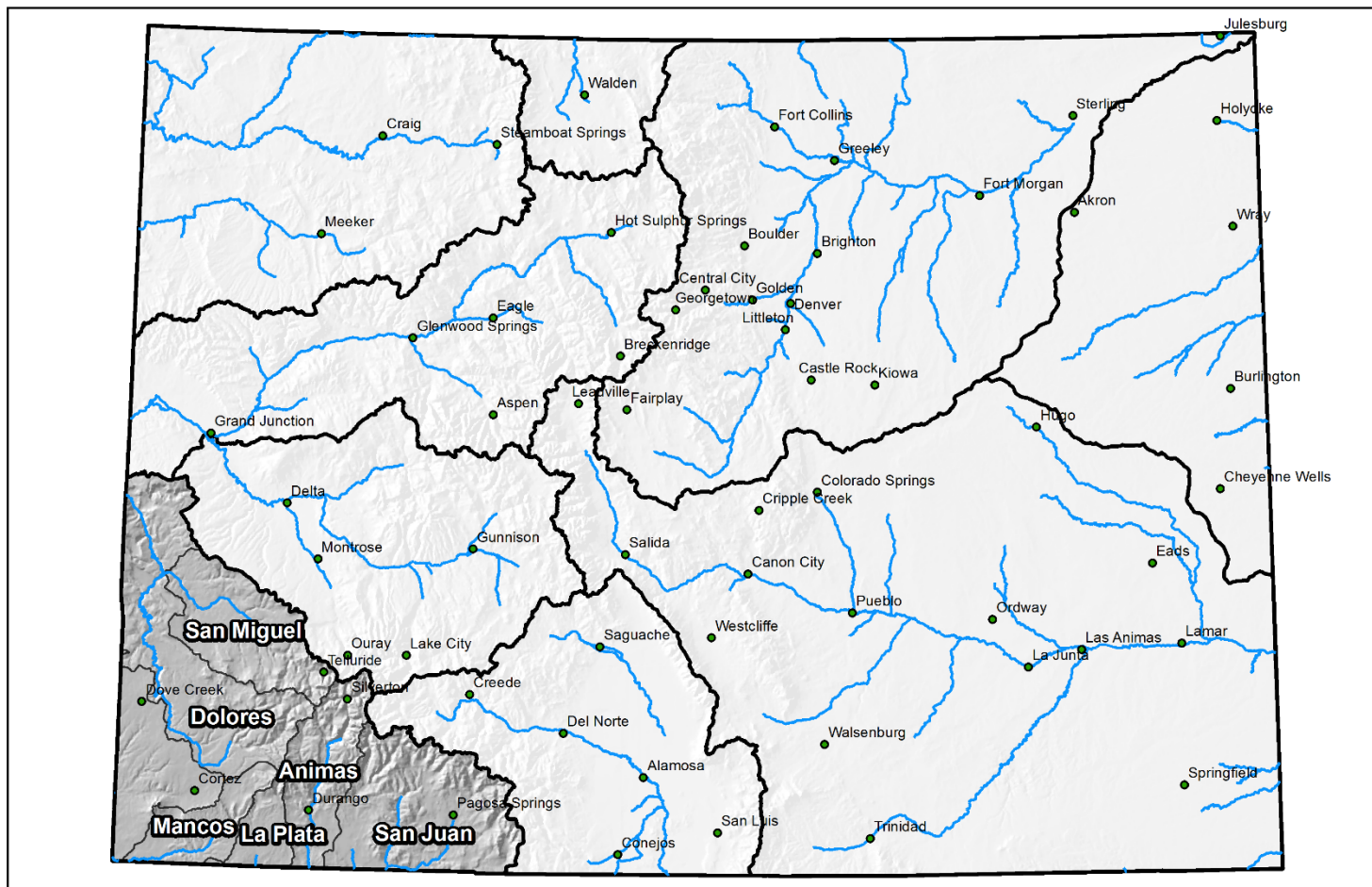
Created 0:59 Mar 23 2023



This is an automated product based solely on SNOTEL data, provisional data are subject to change. This product is a statistically based guidance forecast combining indices of snowpack and precipitation. **Yellow squares** are the official outlooks. **Gray background** is the historical period of record variability. This product does not consider climate information such as El Nino or short range weather forecasts, or a variety of other factors considered in the official forecasts. This product is not meant to replace or supercede the official forecasts produced in coordination with the National Weather Service. Science Contact: Cara.s.McCarthy@por.usda.gov www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html

Major Basin Summary

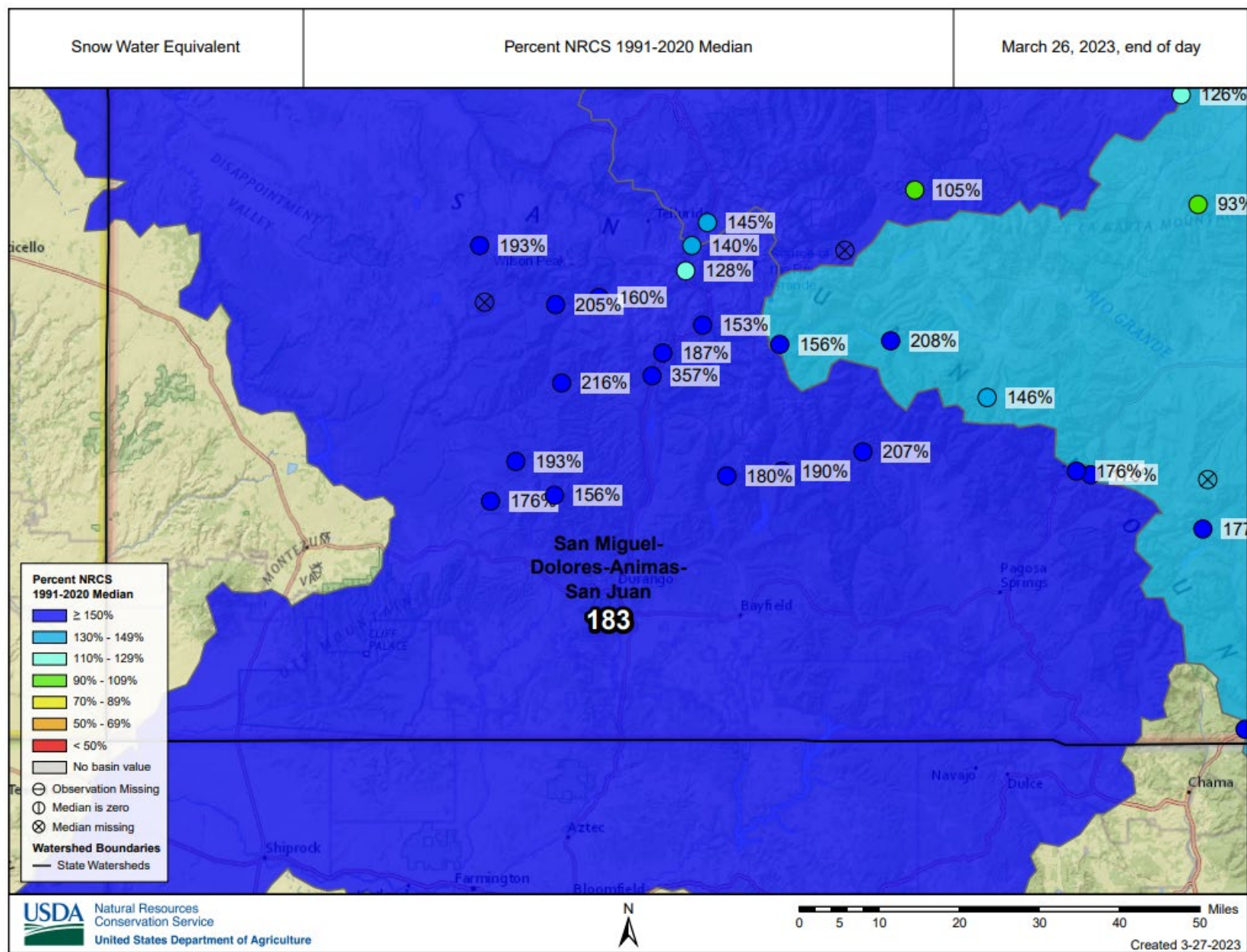
San Miguel, Dolores, Animas, and San Juan River Basins





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Colorado Snow Surveys





SNOW WATER EQUIVALENT IN SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN

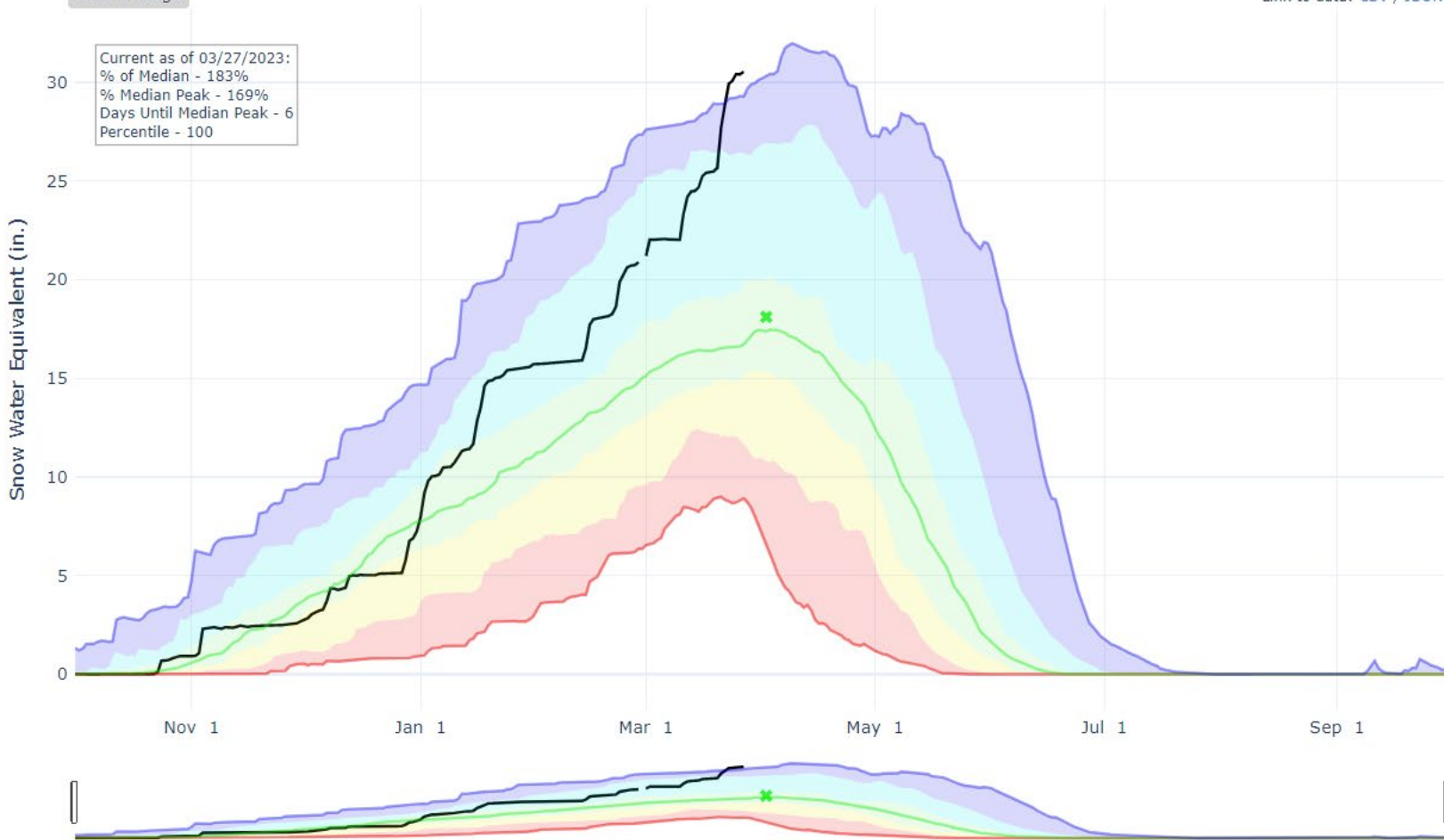
Reset Range

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

[Station List](#)

Current as of 03/27/2023:
% of Median - 183%
% Median Peak - 169%
Days Until Median Peak - 6
Percentile - 100

- ✱ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (19 sites)
- 2022 (19 sites)
- 2021 (19 sites)
- 2020 (19 sites)
- 2019 (19 sites)
- 2018 (19 sites)
- 2017 (19 sites)
- 2016 (19 sites)
- 2015 (19 sites)
- 2014 (19 sites)
- 2013 (19 sites)
- 2012 (19 sites)
- 2011 (19 sites)
- 2010 (18 sites)
- 2009 (18 sites)
- 2008 (18 sites)
- 2007 (18 sites)
- 2006 (18 sites)
- 2005 (18 sites)



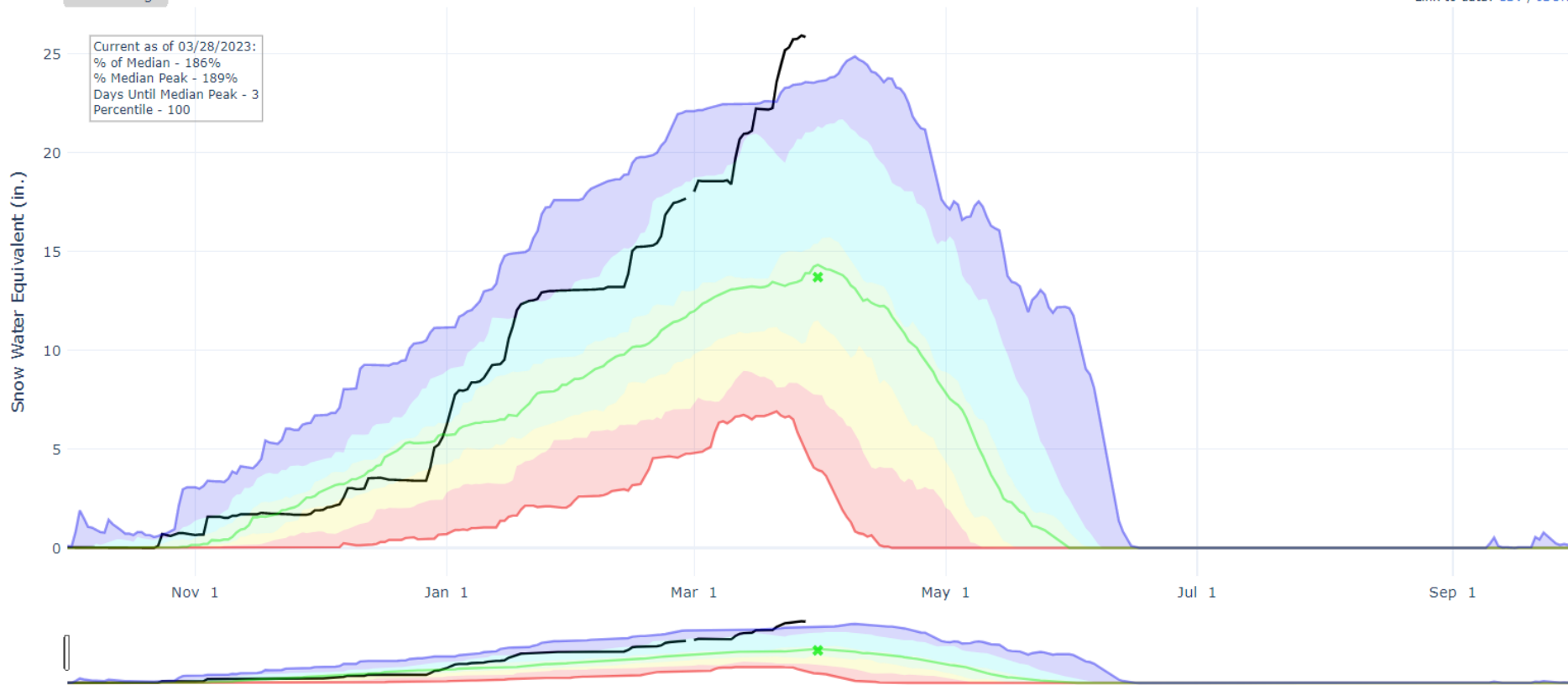


SNOW WATER EQUIVALENT IN DOLORES

Reset Range

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

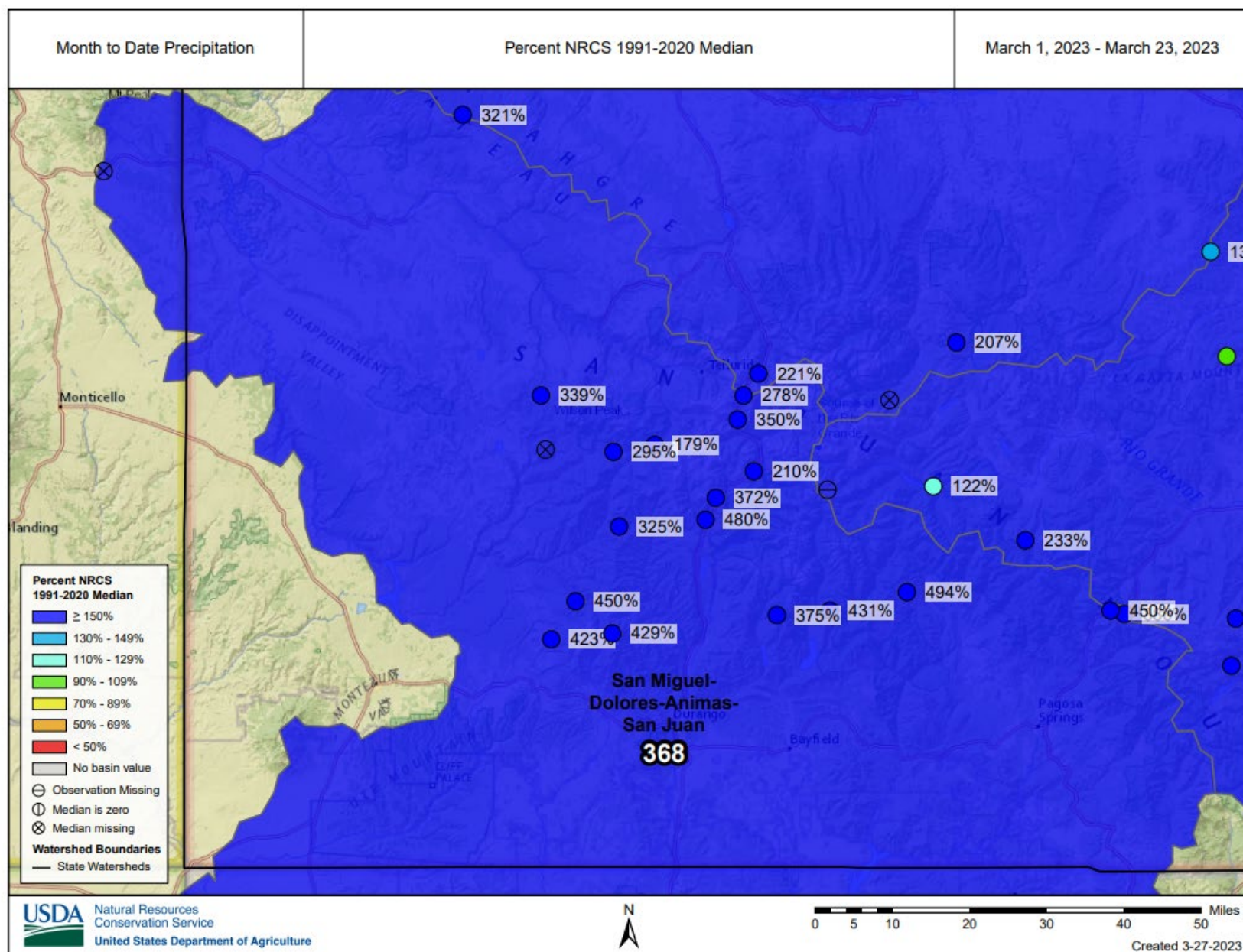
Current as of 03/28/2023:
% of Median - 186%
% Median Peak - 189%
Days Until Median Peak - 3
Percentile - 100



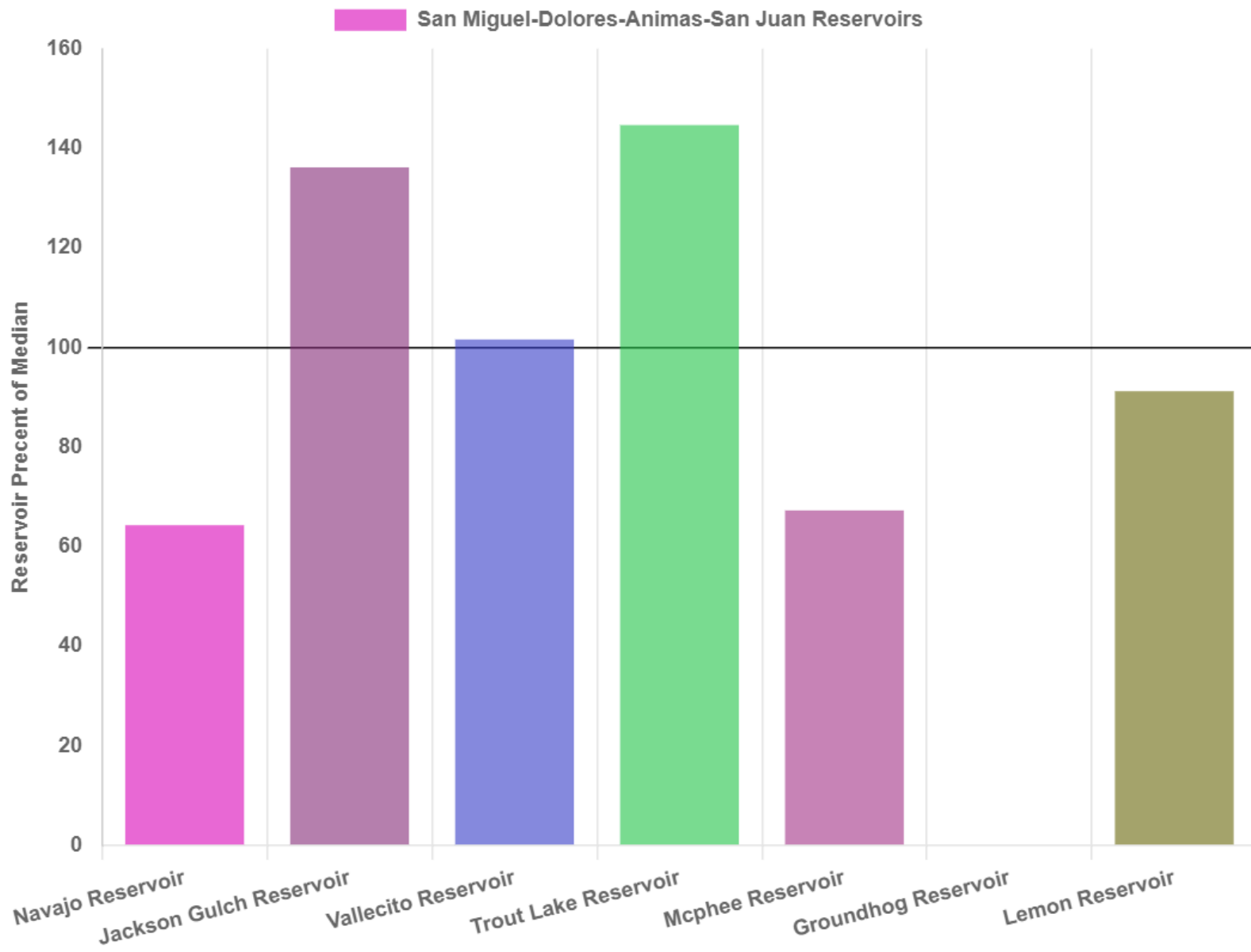


United States Department of Agriculture

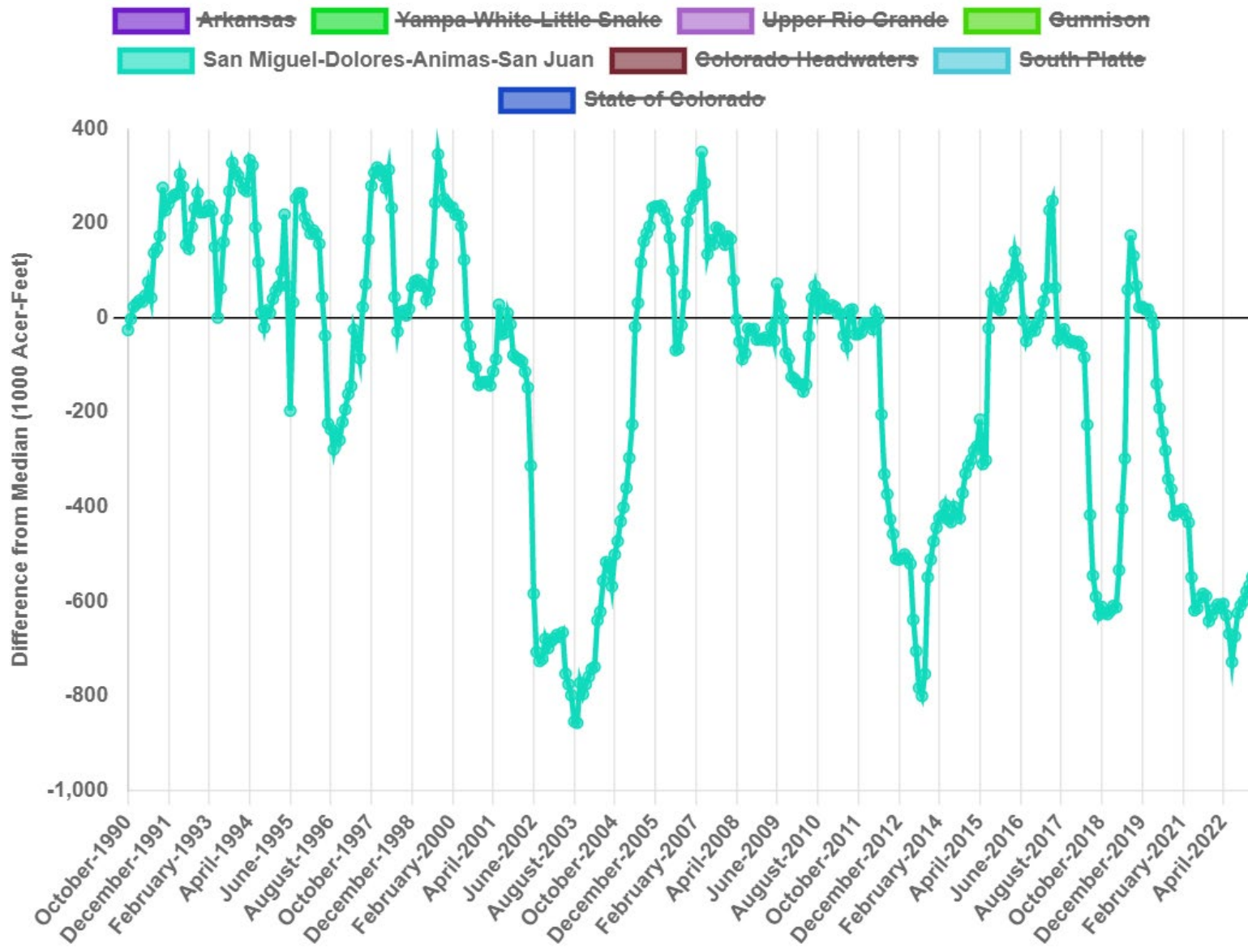
Colorado Snow Surveys



Reservoir Conditions for San Miguel-Dolores-Animas-San Juan on March 1st 2023

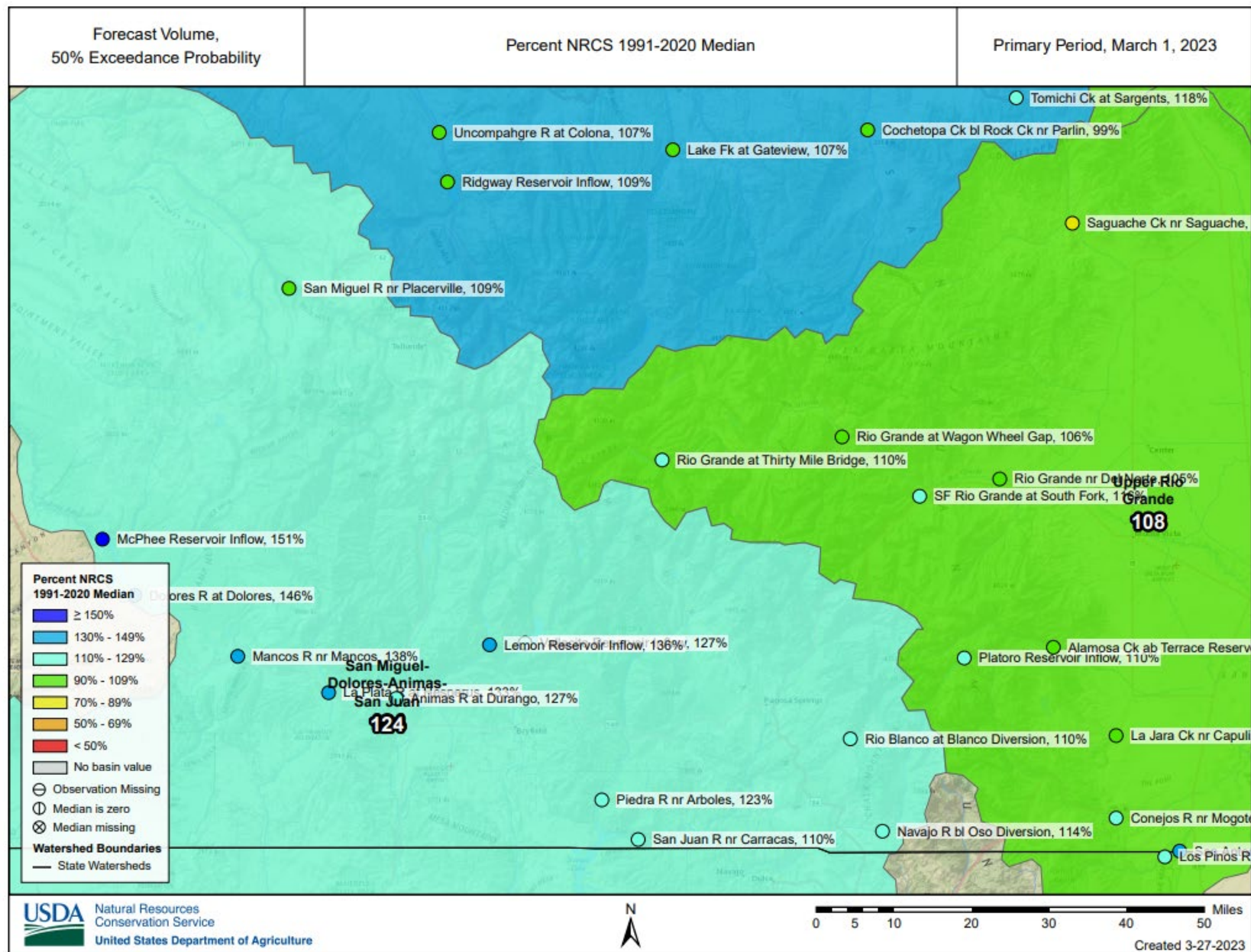


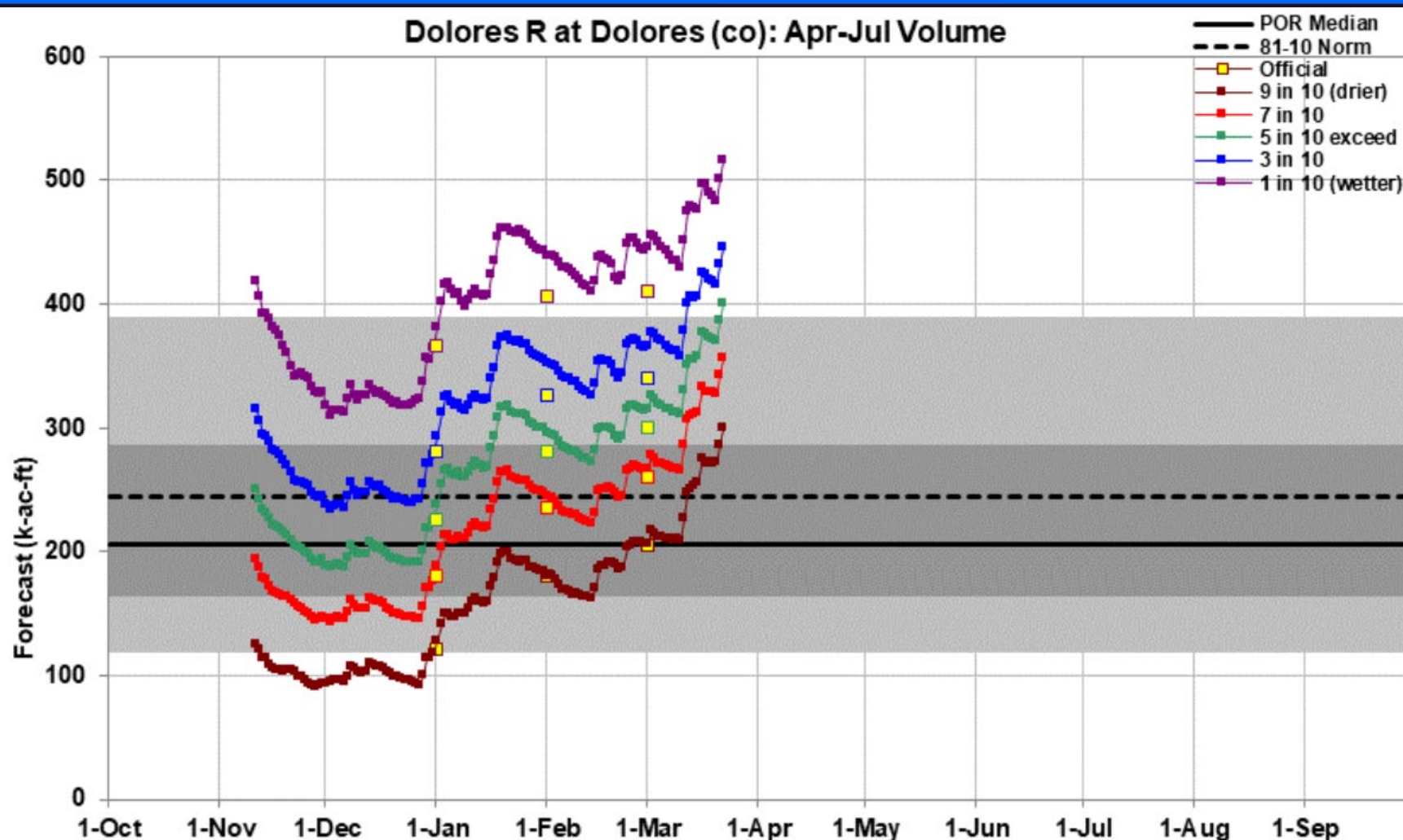
Departure from Median





Colorado Snow Surveys





Created 0:59 Mar 23 2023

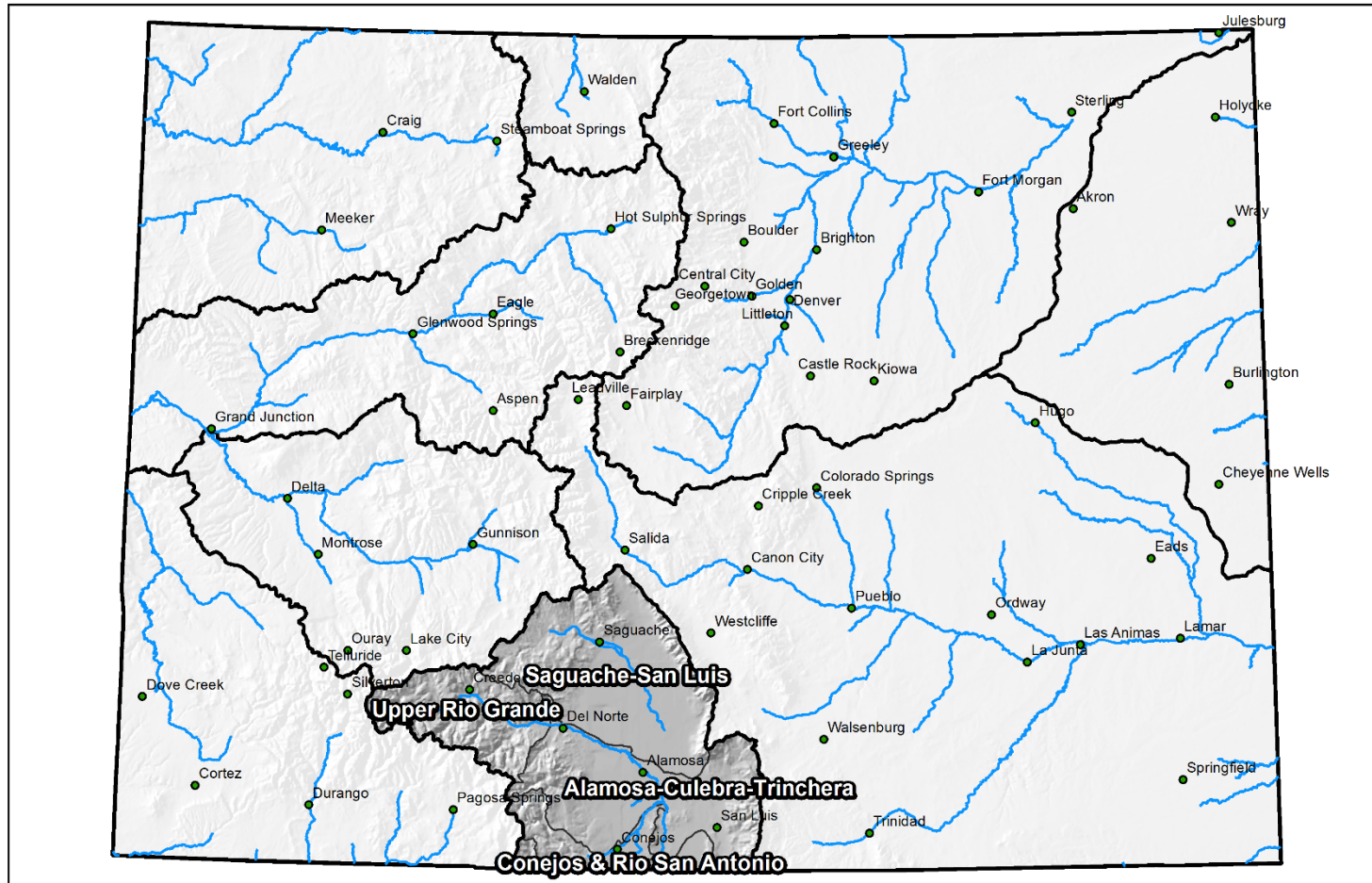


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Science Contact: Cara.s.McCarthy@por.usda.gov www.wcc.nrcs.usda.gov/ws/daily_forecasts.html

Major Basin Summary

Upper Rio Grande River Basin

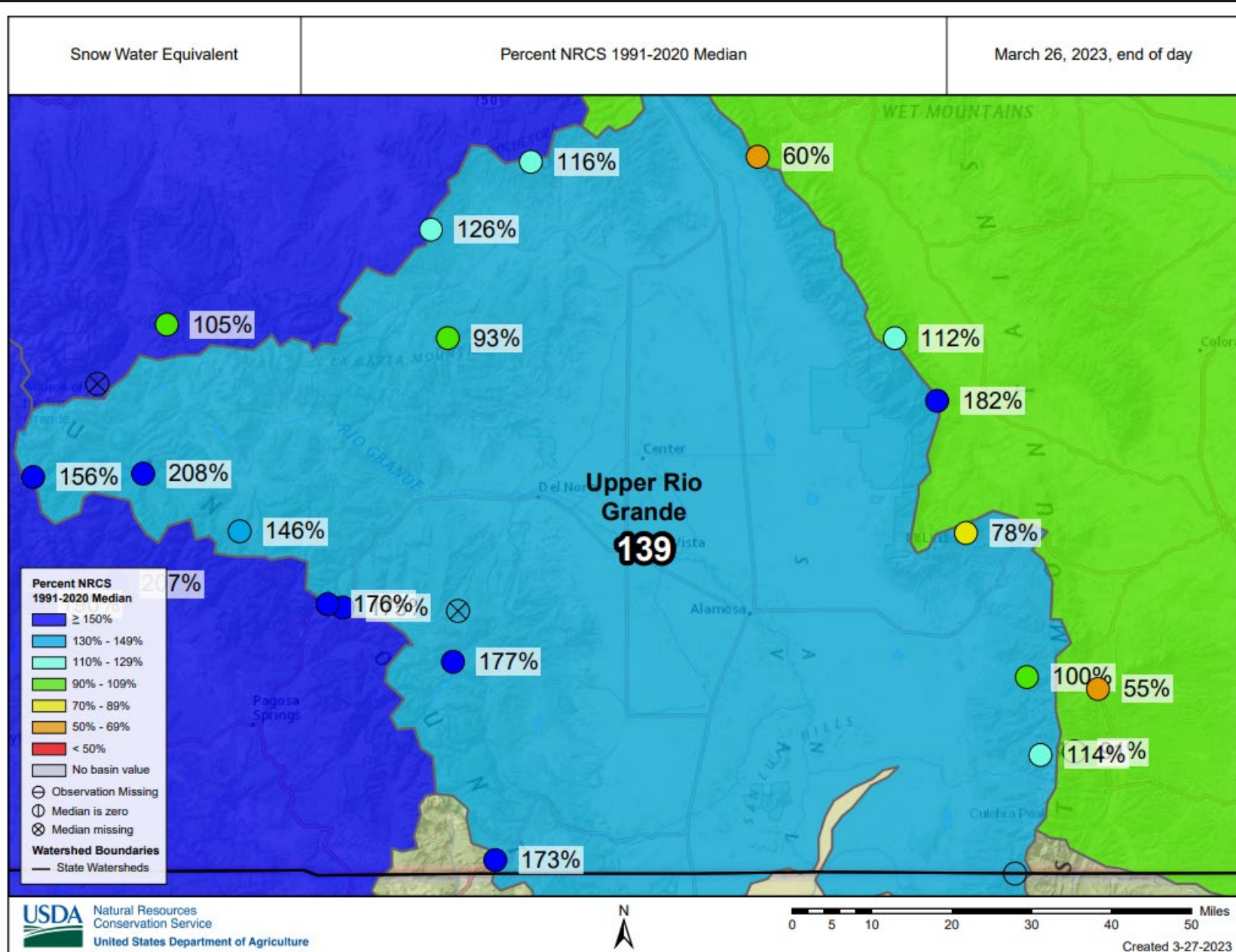


0 25 50 100 150 200 Miles



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Colorado Snow Surveys





Colorado Snow Surveys

SNOW WATER EQUIVALENT IN UPPER RIO GRANDE

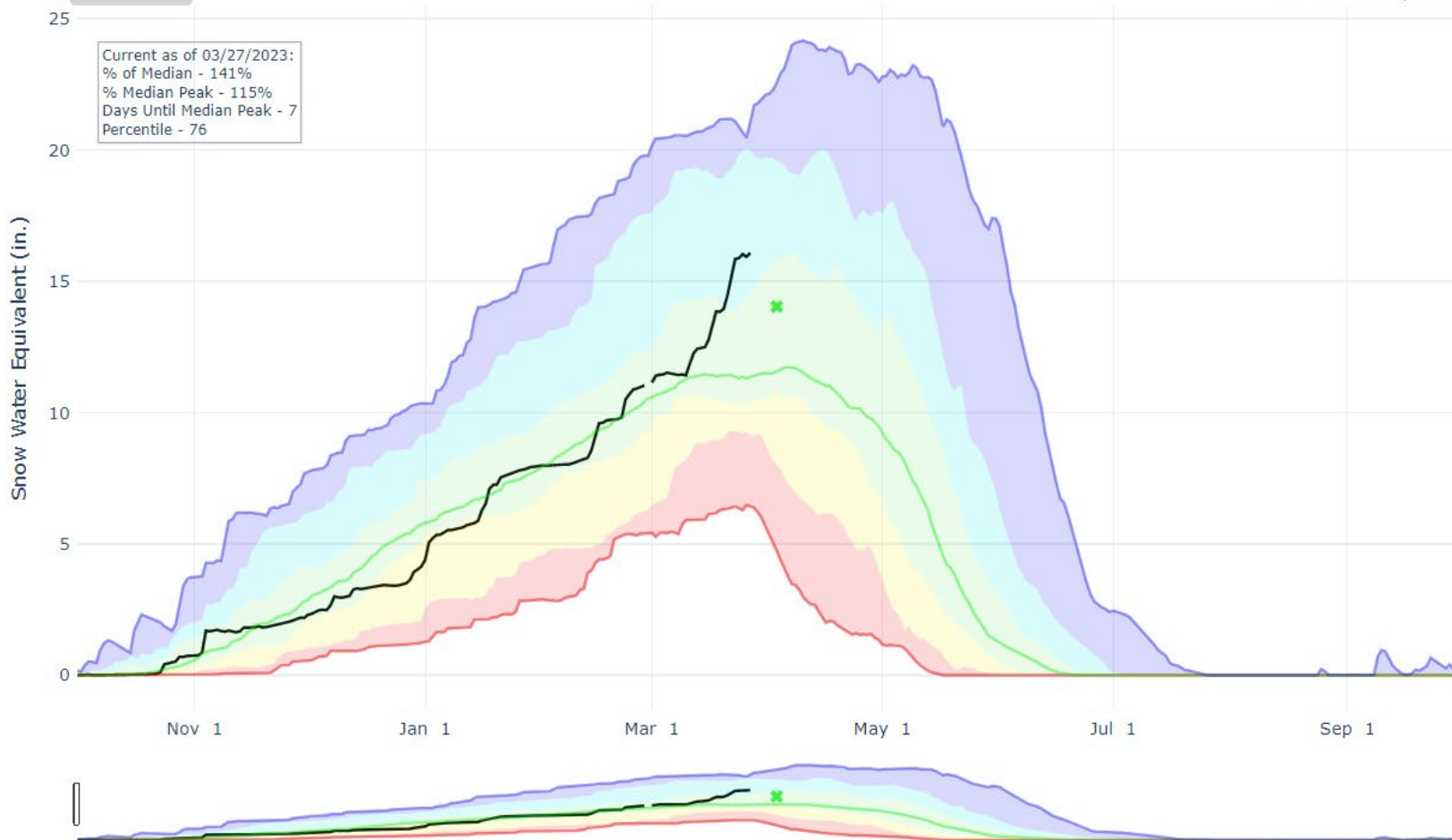
Reset Range

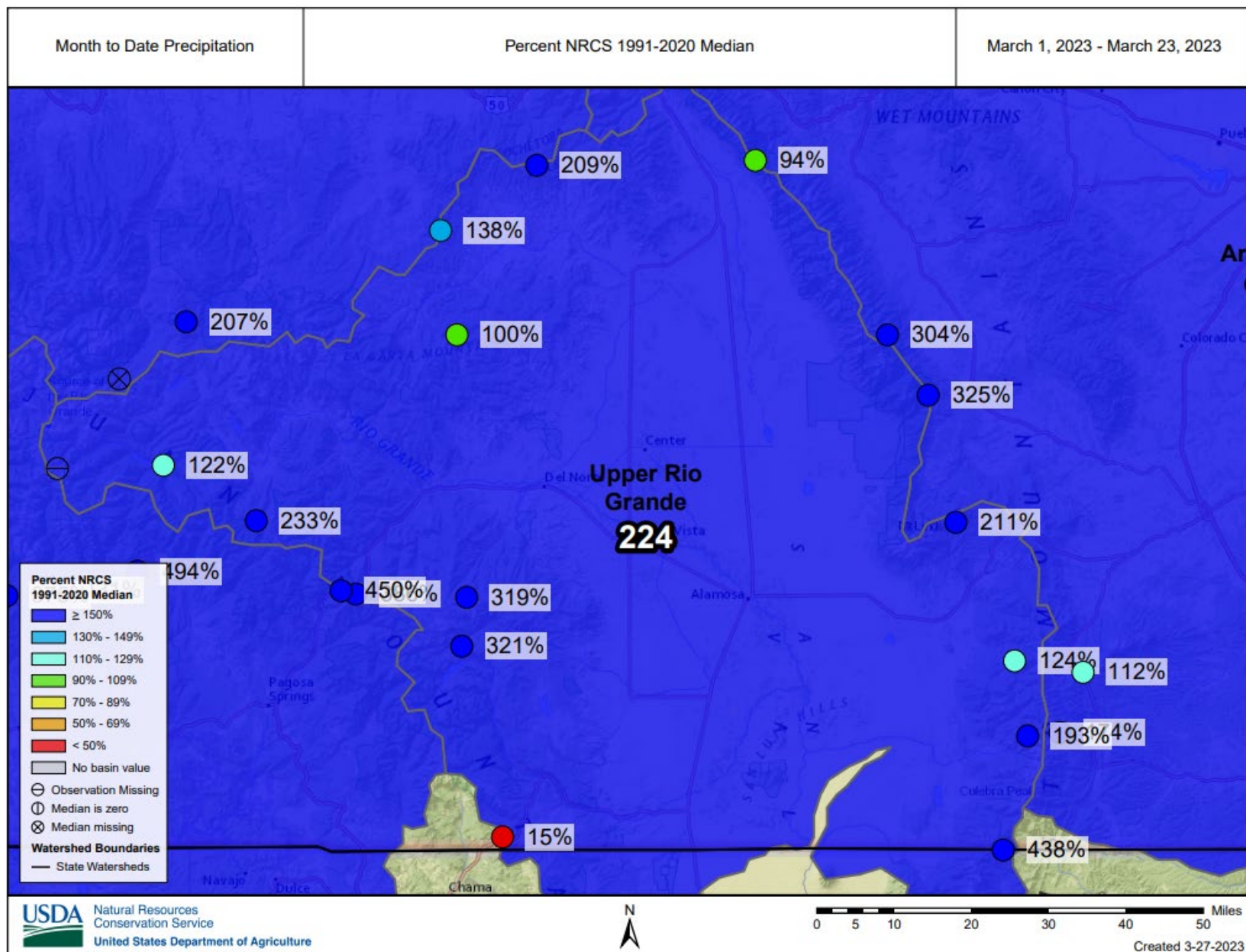
[Link to data: CSV / JSON](#)

Station List

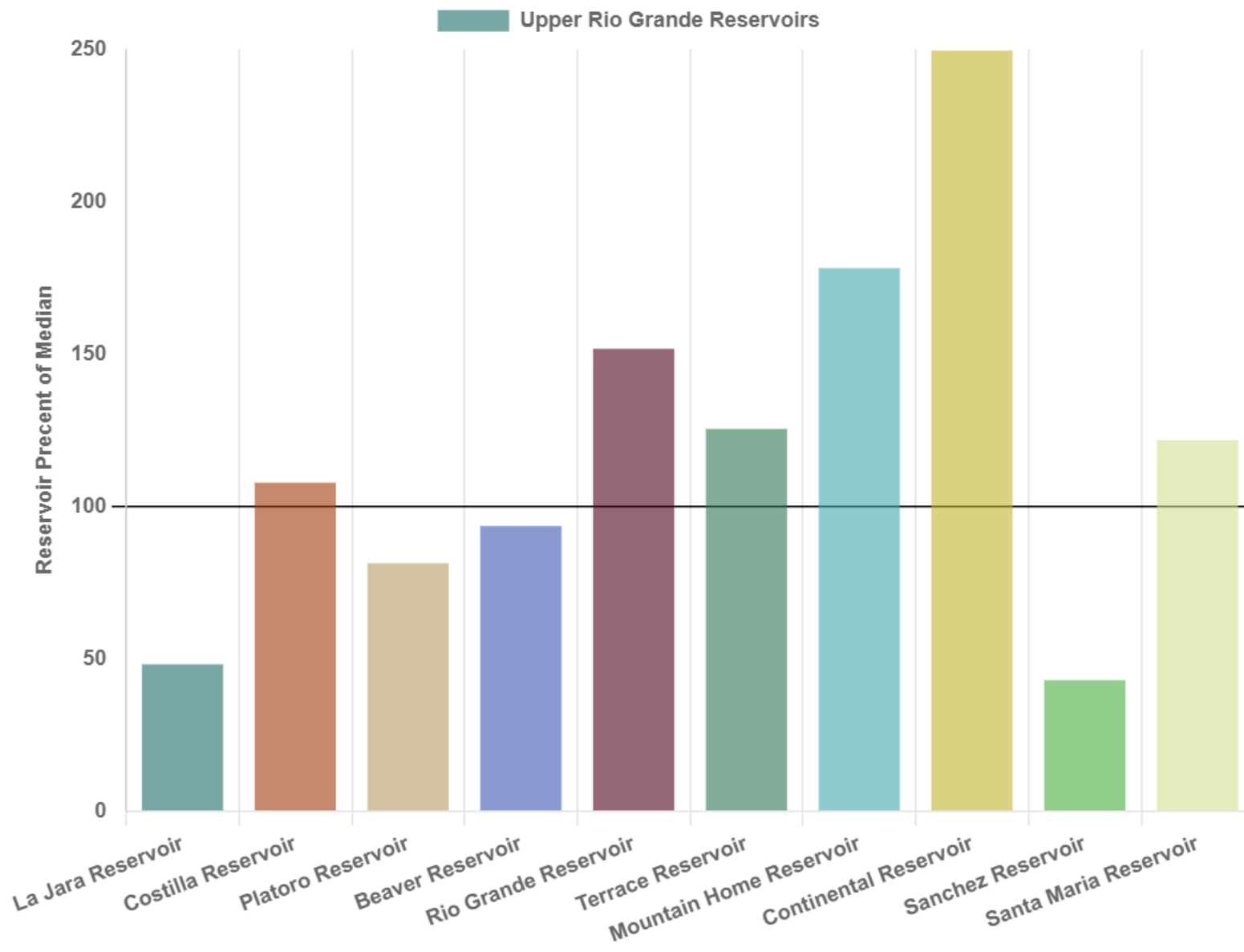
Current as of 03/27/2023:
% of Median - 141%
% Median Peak - 115%
Days Until Median Peak - 7
Percentile - 76

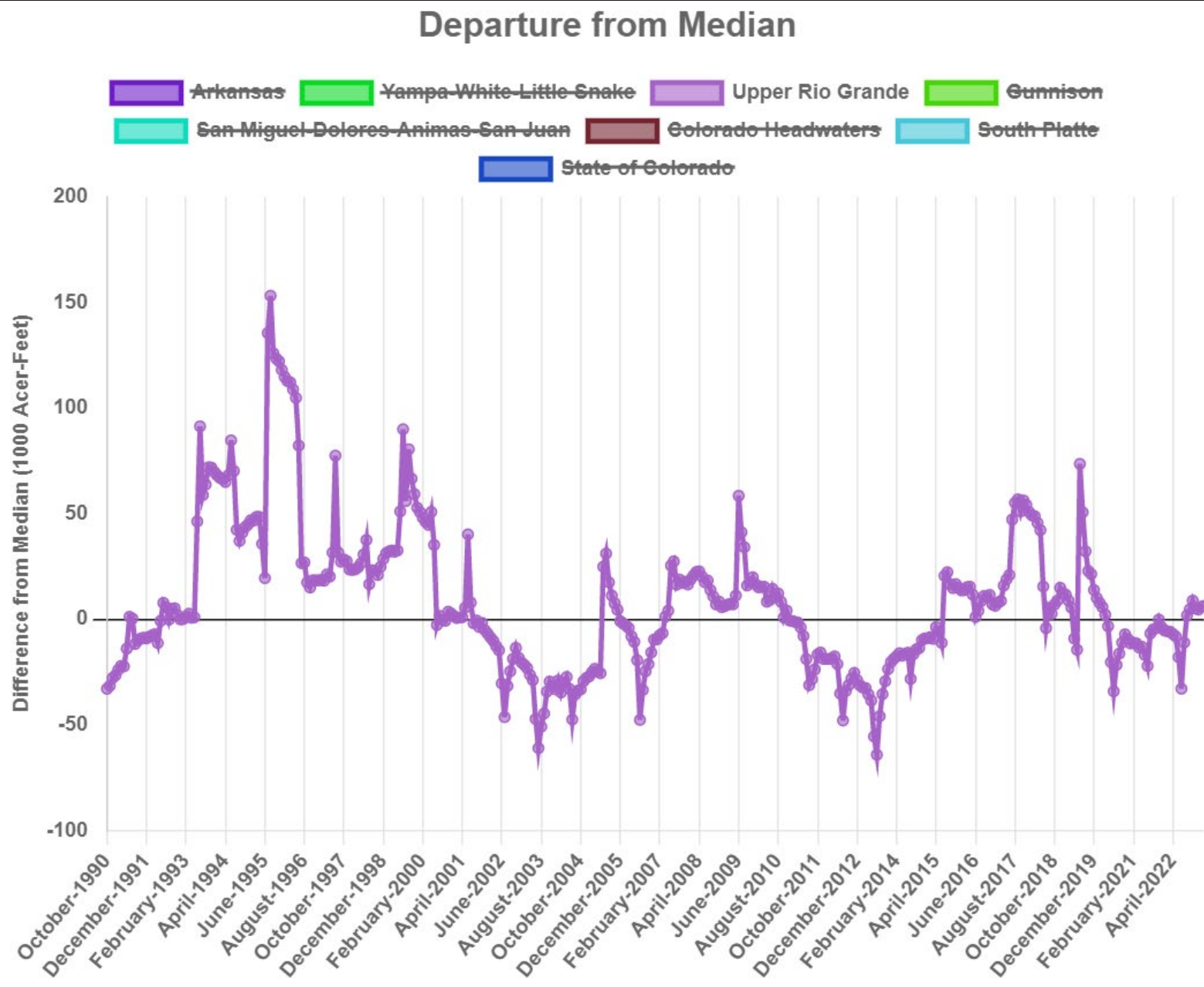
- ✱ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (18 sites)
- 2022 (18 sites)
- 2021 (18 sites)
- 2020 (18 sites)
- 2019 (18 sites)
- 2018 (18 sites)
- 2017 (18 sites)
- 2016 (18 sites)
- 2015 (18 sites)
- 2014 (18 sites)
- 2013 (18 sites)
- 2012 (18 sites)
- 2011 (17 sites)
- 2010 (16 sites)
- 2009 (16 sites)
- 2008 (14 sites)
- 2007 (13 sites)
- 2006 (13 sites)
- 2005 (13 sites)





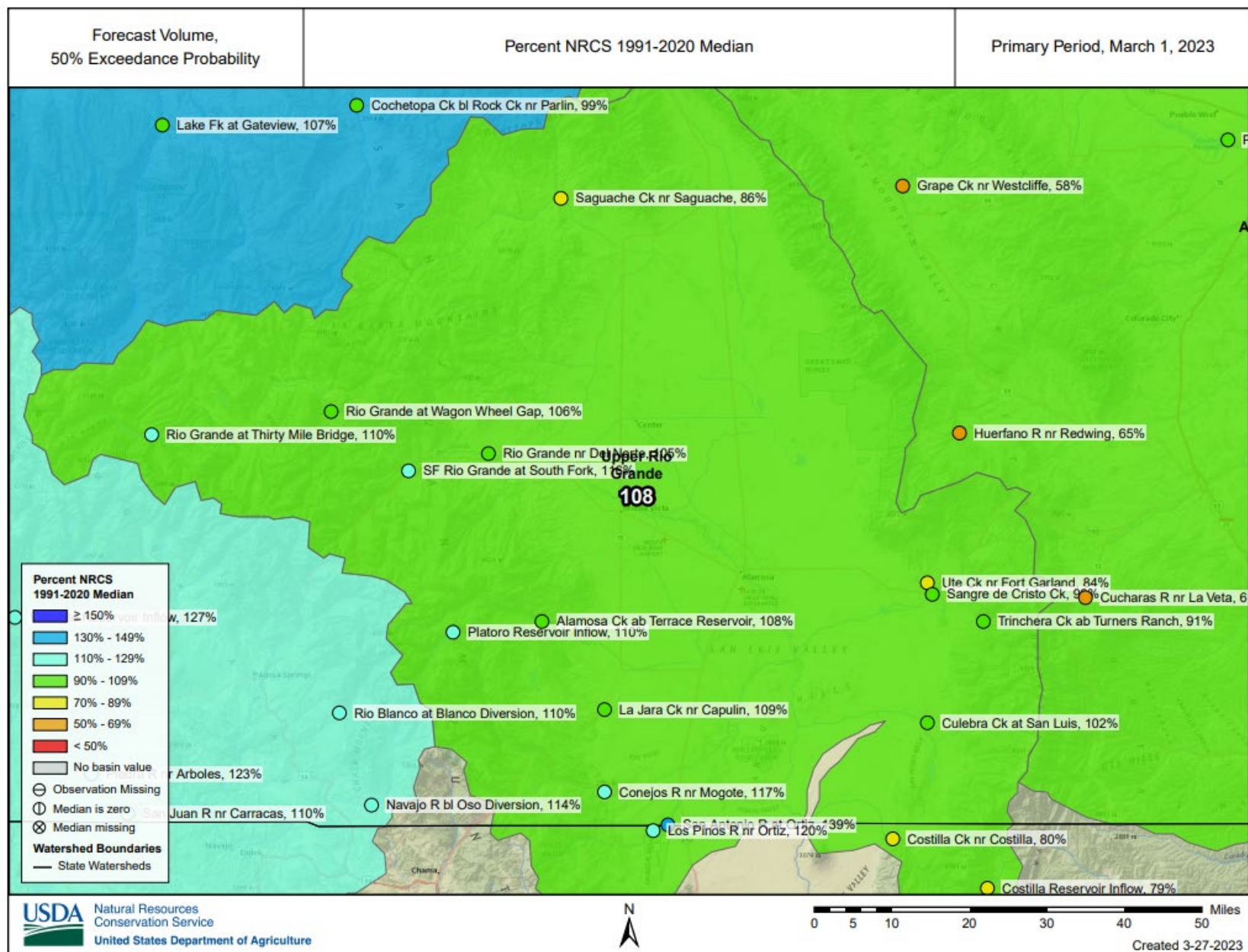
Reservoir Conditions for Upper Rio Grande on March 1st 2023

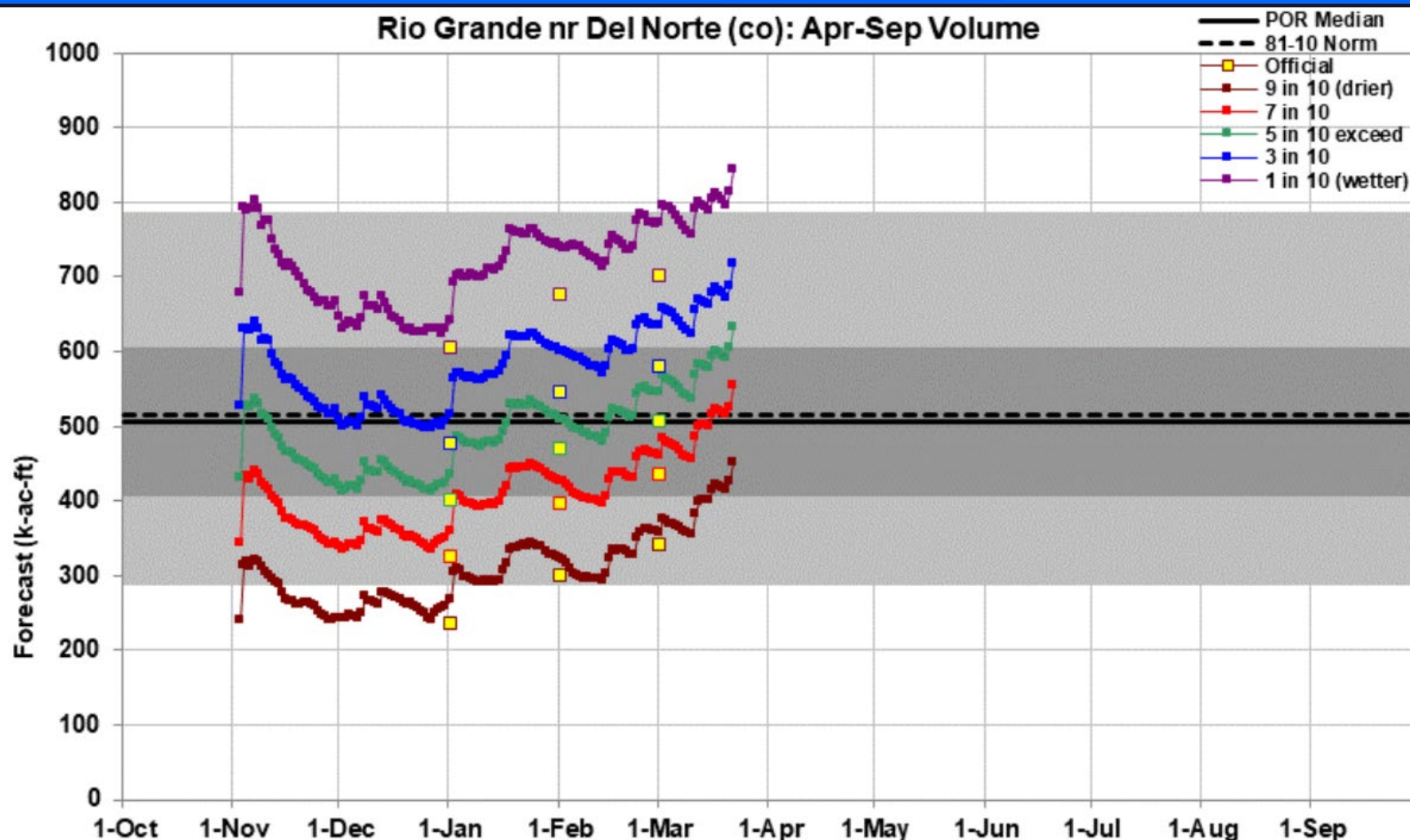






Colorado Snow Surveys





Created 0:46 Mar 23 2023



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A detailed map of Colorado showing its major cities, rivers, and mountain ranges. The map is oriented with North at the top. Major cities are marked with green dots and labeled. Rivers are shown as blue lines. Mountain ranges are shaded in gray. The map is bordered by a thick black line. The following table lists the major cities shown on the map:

City	Approximate Location
Julesburg	Northwest corner
Walden	Northwest
Craig	Northwest
Steamboat Springs	Northwest
Fort Collins	North
Greeley	North
Sterling	North
Holyoke	North
Meeker	West
Hot Sulphur Springs	West
Boulder	West
Brighton	West
Fort Morgan	West
Akron	West
Wray	West
Central City	West
Georgetown	West
Golden	West
Denver	West
Littleton	West
Breckenridge	West
Castle Rock	West
Kiowa	West
Burlington	West
Glenwood Springs	West
Eagle	West
Aspen	West
Leadville	West
Fairplay	West
Hugo	West
Grand Junction	West
Delta	West
Montrose	West
Gunnison	West
Salida	West
Canon City	West
Colorado Springs	West
Cripple Creek	West
Cheyenne Wells	West
Eads	West
Ordway	West
Las Animas	West
Lamar	West
La Junta	West
Westcliffe	West
Saguache	West
Del Norte	West
Alamosa	West
San Luis	West
Trinidad	West
Pueblo	West
Ouray	West
Telluride	West
Silverton	West
Creede	West
Dove Creek	West
Cortez	West
Durango	West
Pagosa Springs	West
Conejos	West
Walsenburg	West
Springfield	West

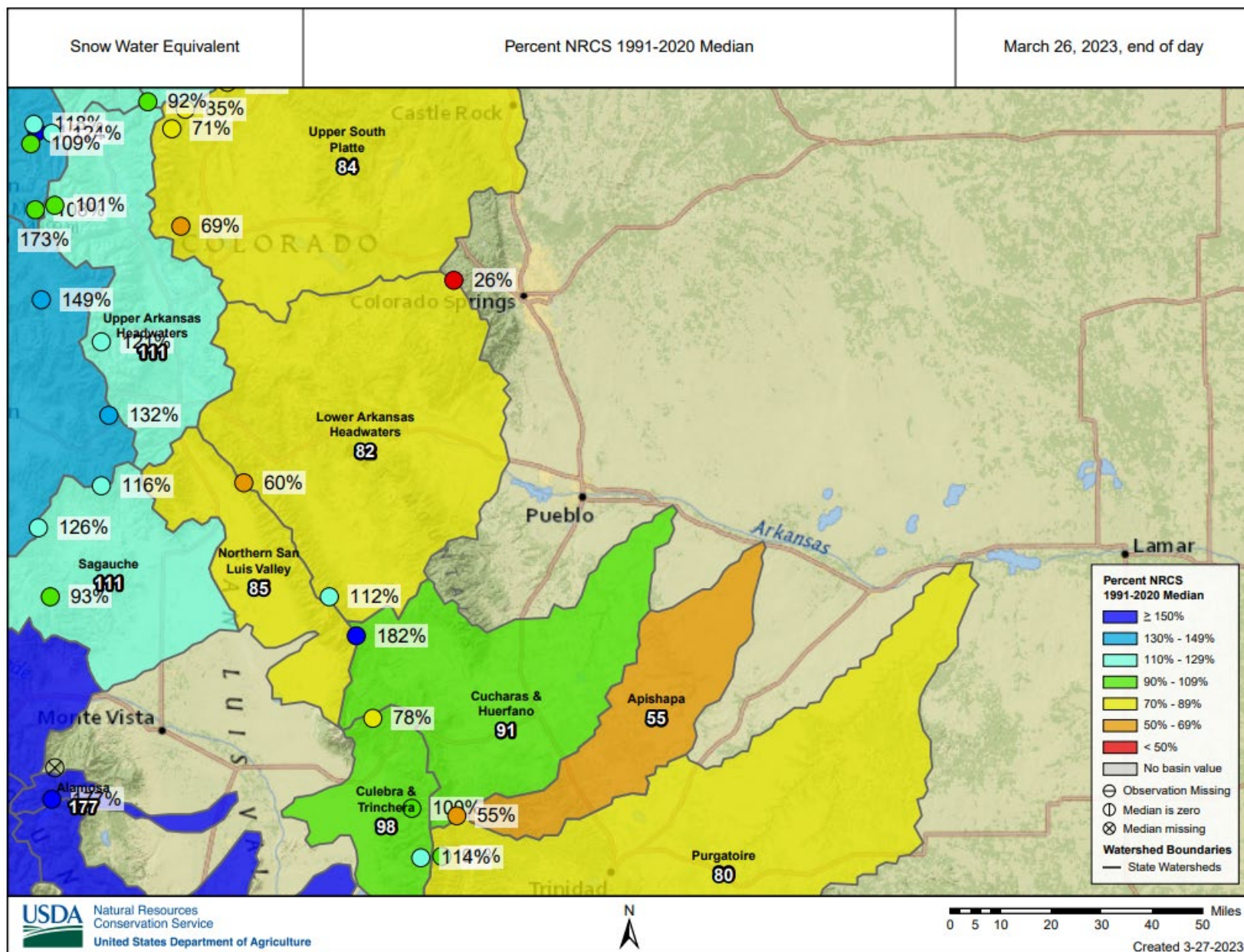
The map also shows several mountain ranges and river systems. The major river systems are the Colorado River, the Arkansas River, the Rio Grande, and the Snake River. The major mountain ranges are the Rocky Mountains, the Front Range, the Teton Range, and the Wind River Range. The map is labeled with the names of the major mountain ranges: Upper Arkansas, Cucharas & Huerfano, Apishapa, and Purgatoire.





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SNOW WATER EQUIVALENT IN ARKANSAS

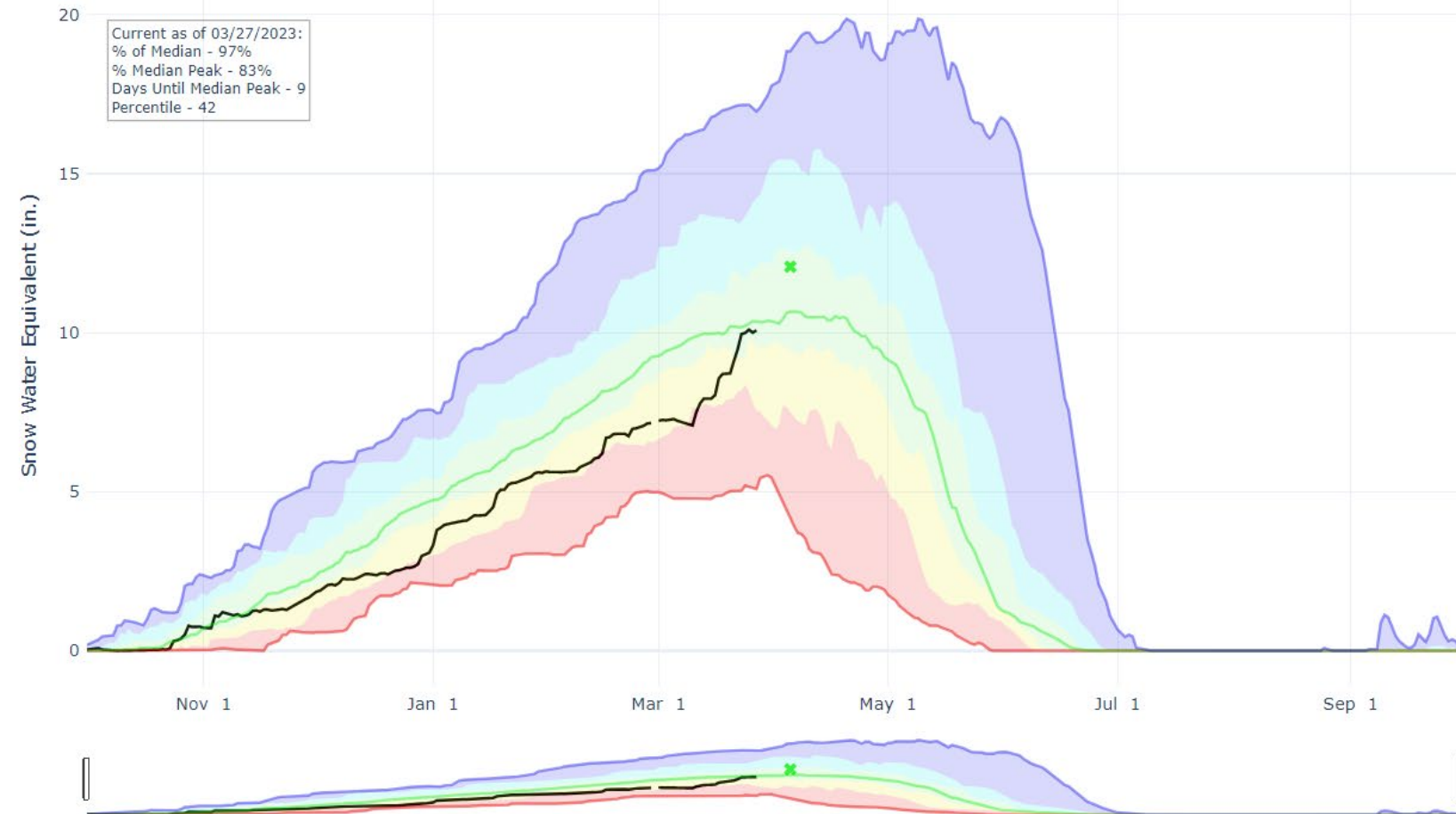
Reset Range

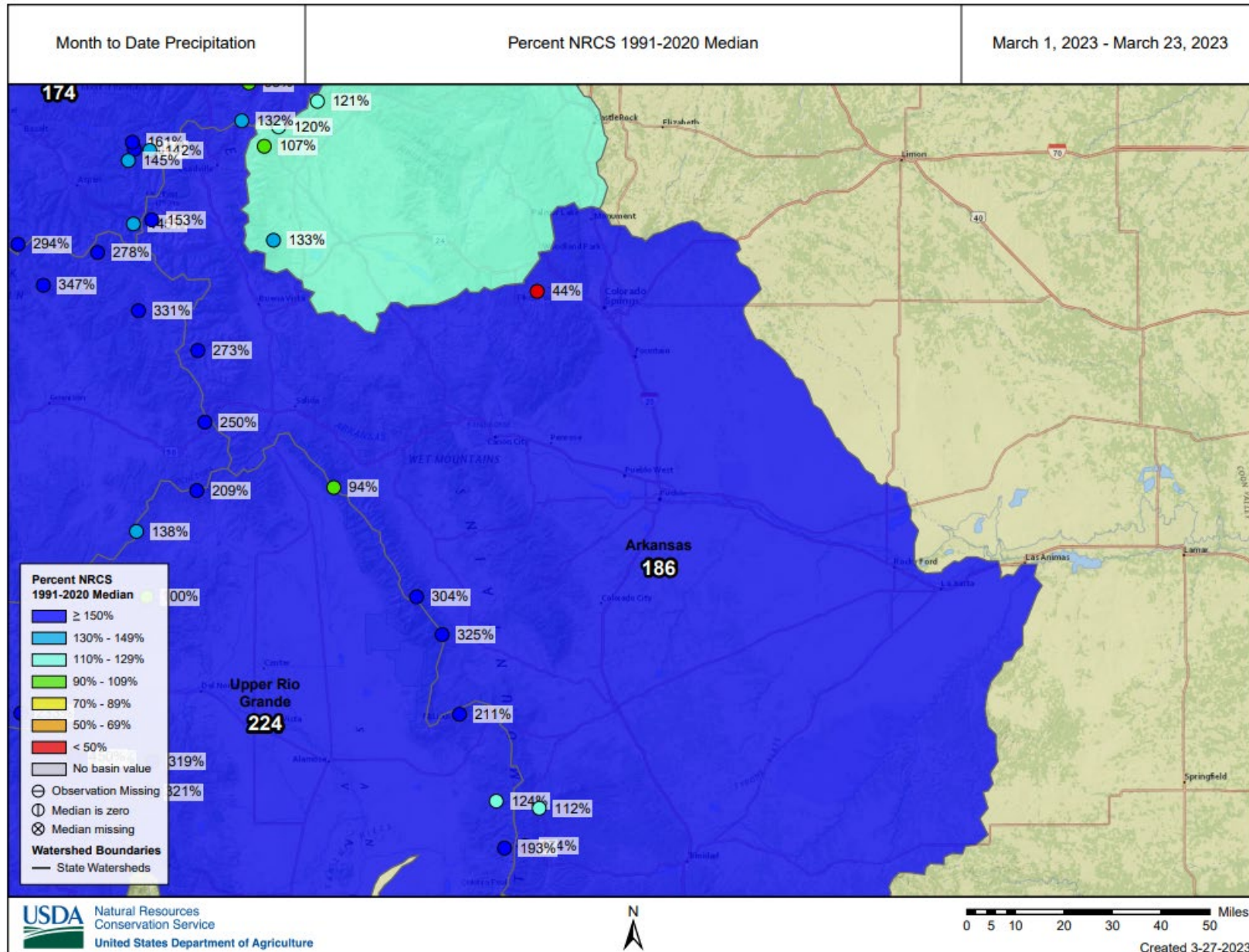
[Link to data: CSV / JSON](#)

[Station List](#)

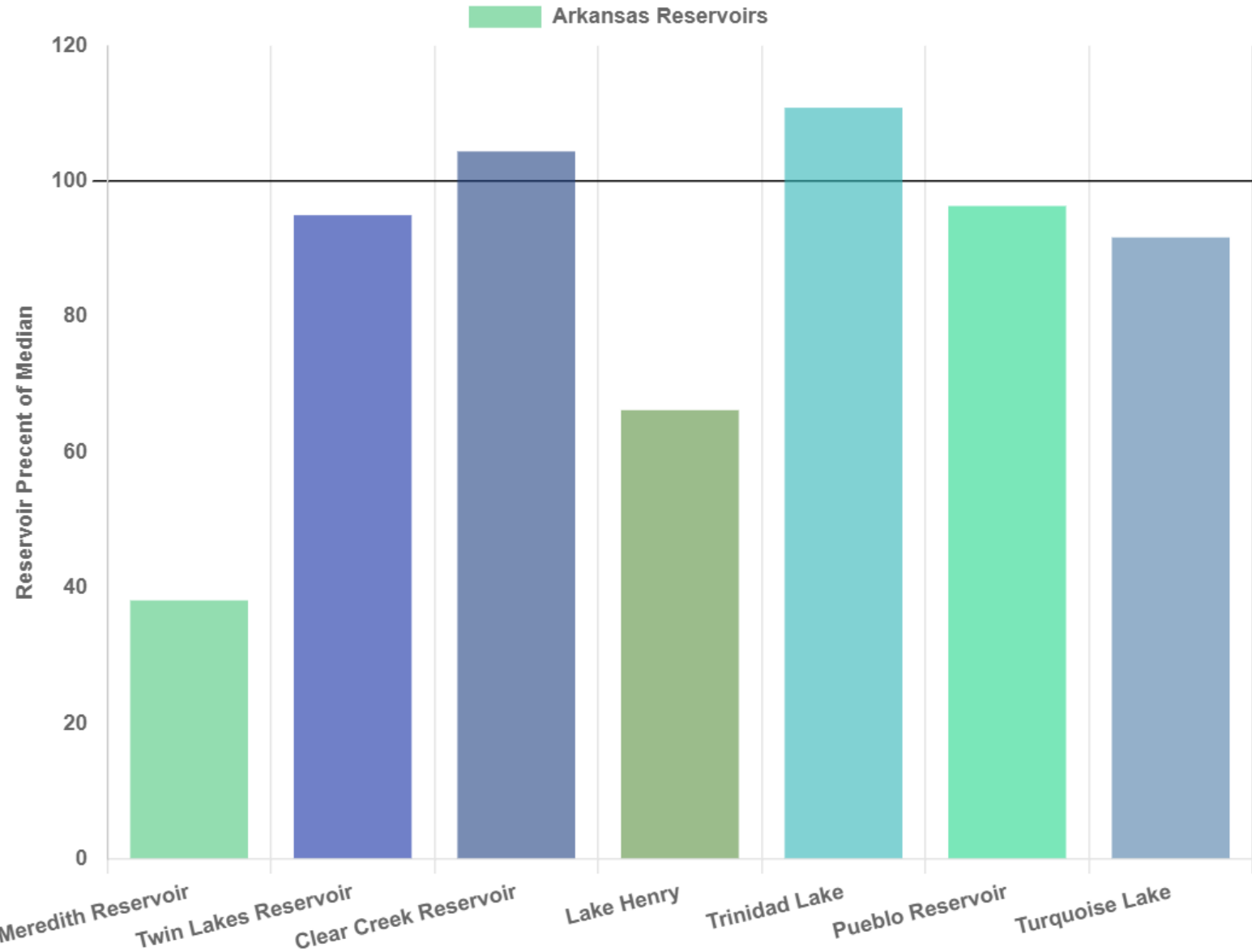
Current as of 03/27/2023:
% of Median - 97%
% Median Peak - 83%
Days Until Median Peak - 9
Percentile - 42

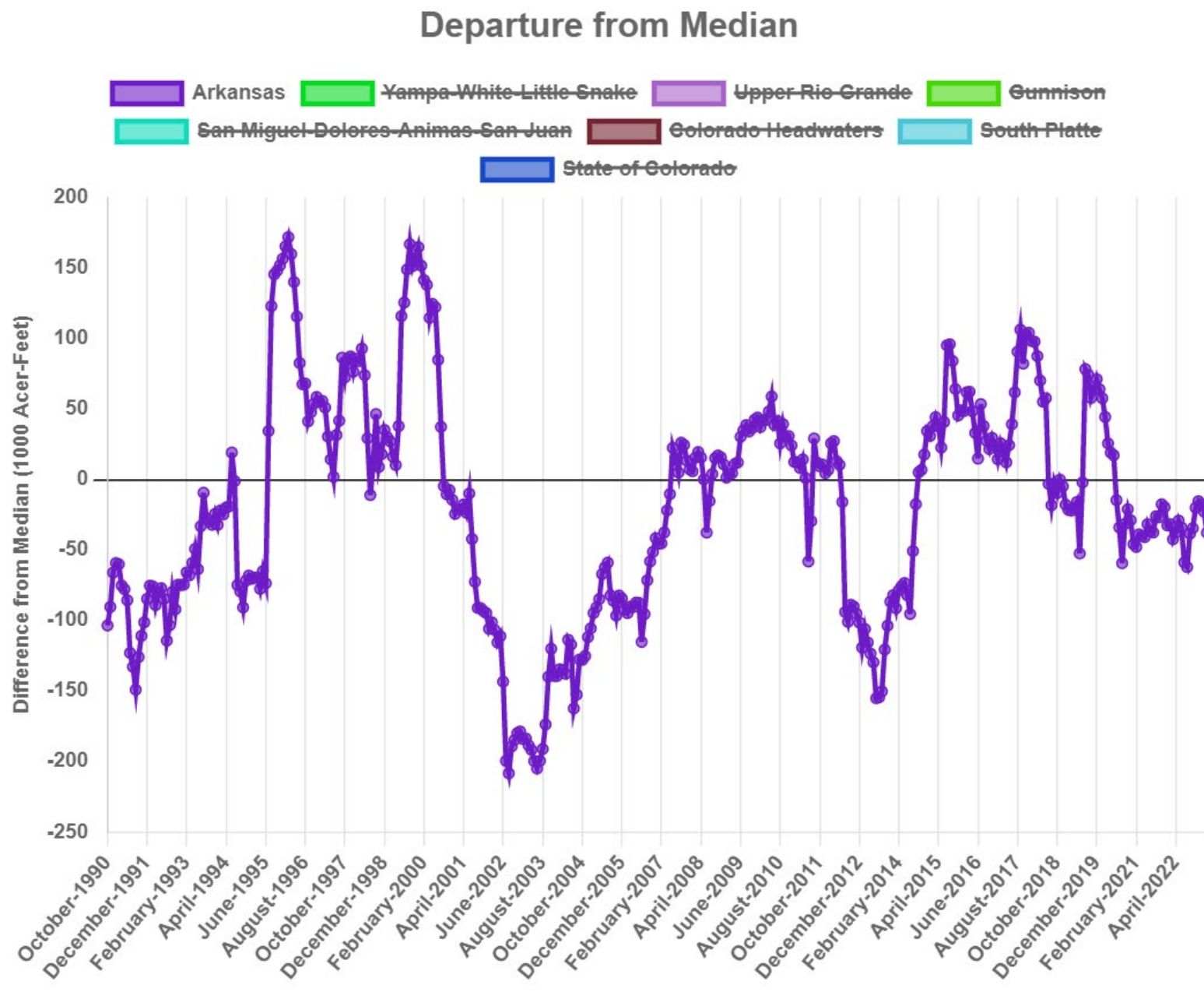
- ✱ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (11 sites)
- 2022 (11 sites)
- 2021 (11 sites)
- 2020 (11 sites)
- 2019 (11 sites)
- 2018 (11 sites)
- 2017 (11 sites)
- 2016 (11 sites)
- 2015 (11 sites)
- 2014 (11 sites)
- 2013 (11 sites)
- 2012 (11 sites)
- 2011 (11 sites)
- 2010 (11 sites)
- 2009 (11 sites)
- 2008 (11 sites)
- 2007 (9 sites)
- 2006 (9 sites)
- 2005 (9 sites)

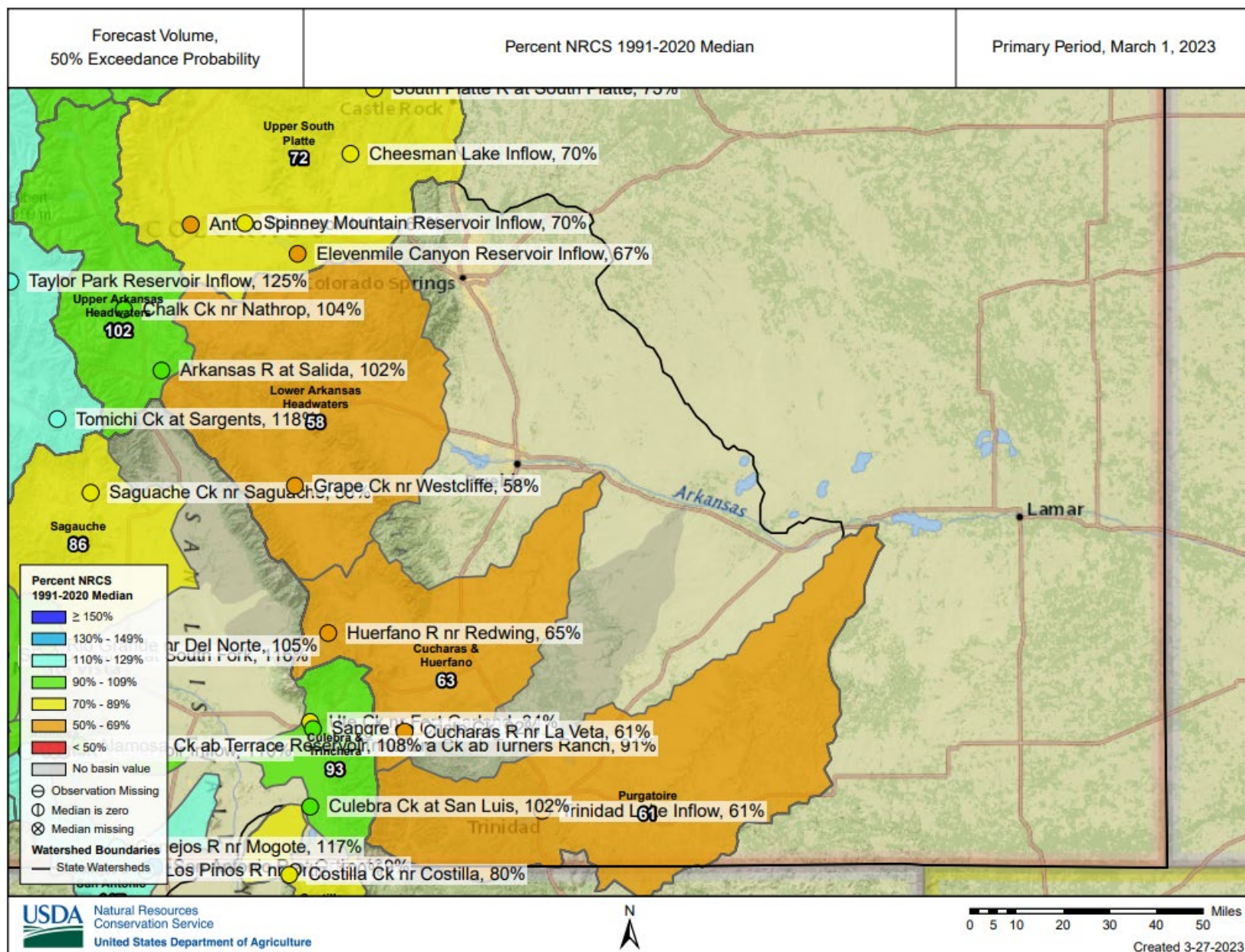


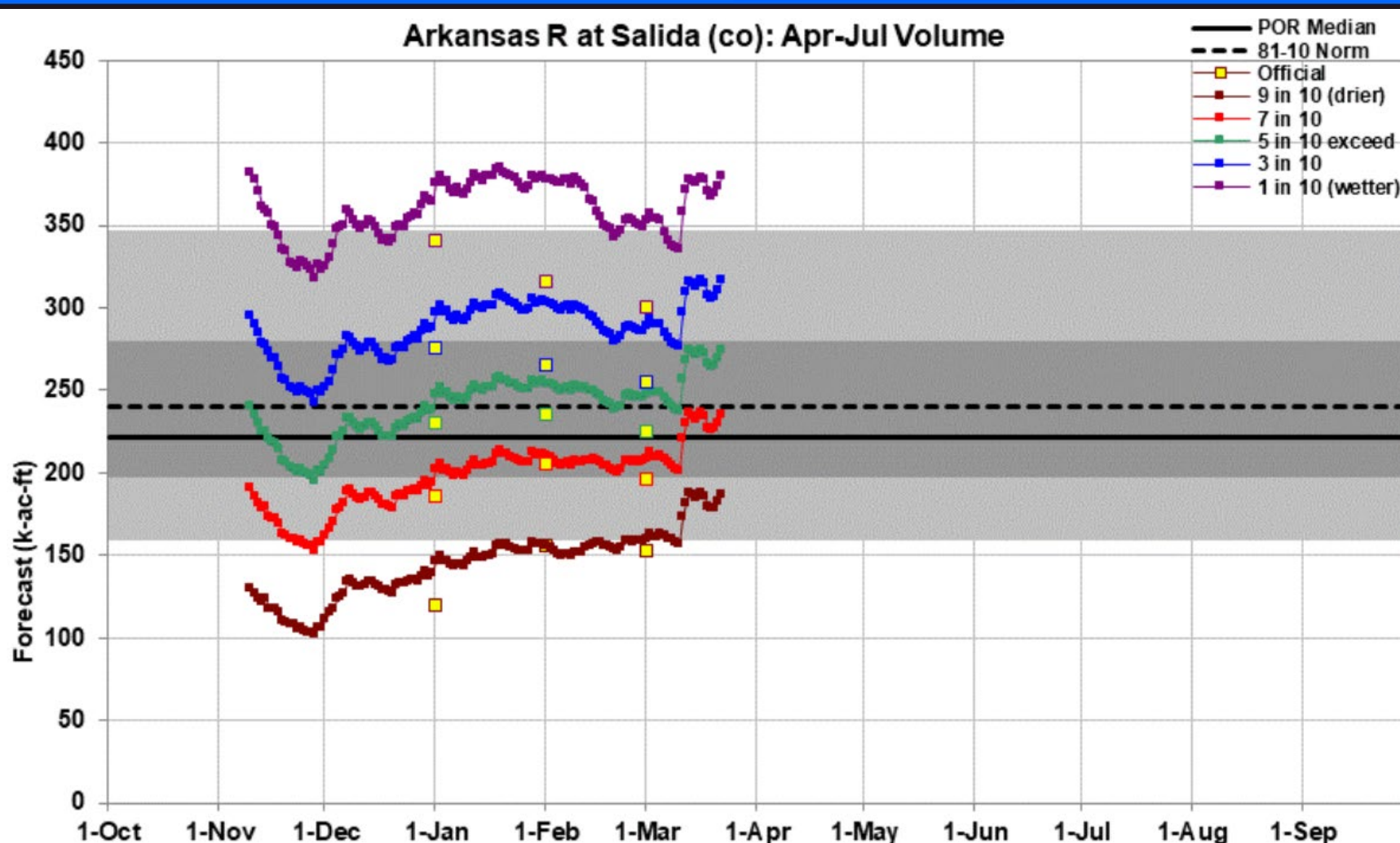


Reservoir Conditions for Arkansas on March 1st 2023









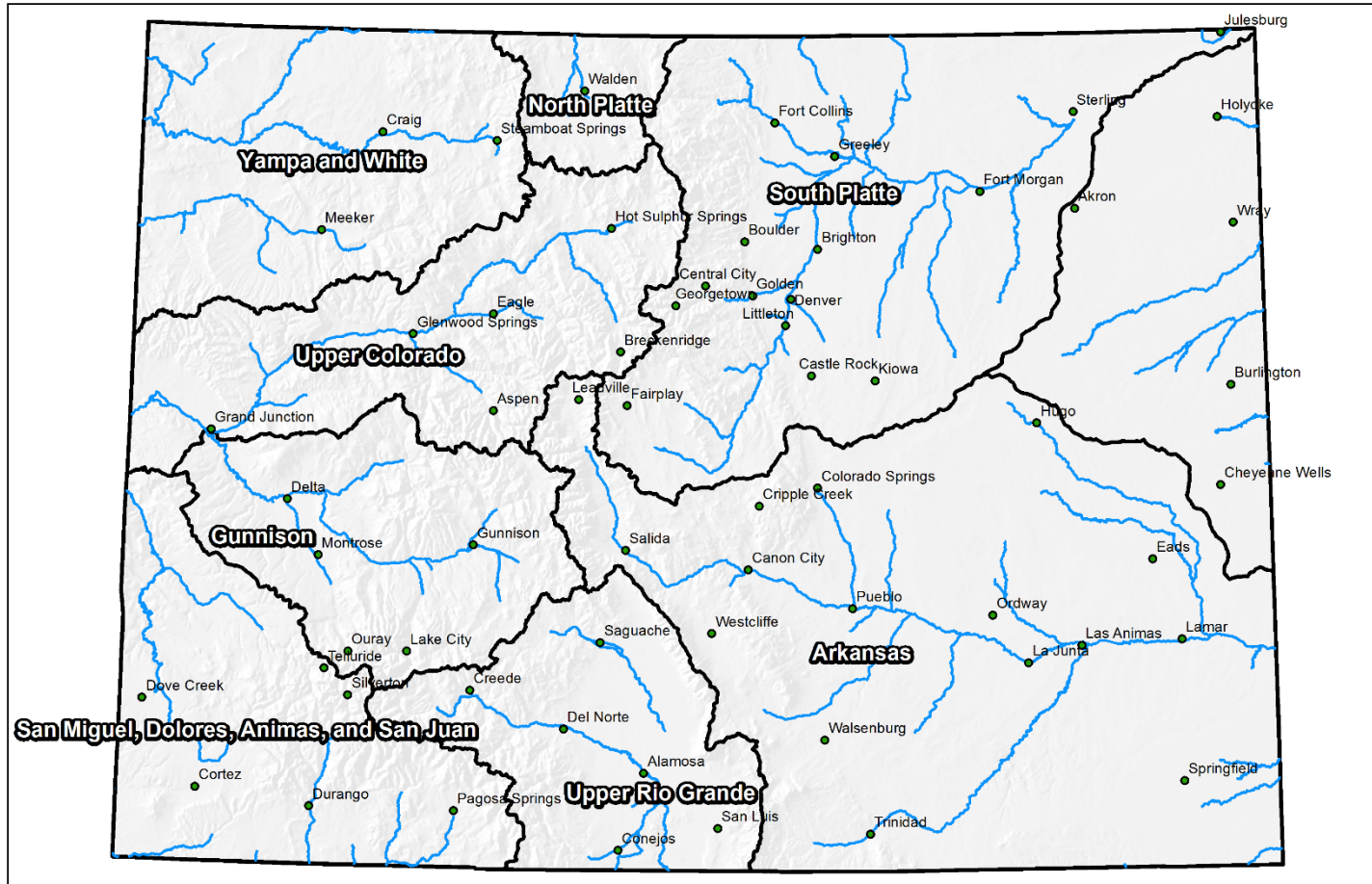
Created 0:44 Mar 23 2023



This is an automated product based solely on SNOTEL data, provisional data are subject to change. This product is a statistically based guidance forecast combining indices of snowpack and precipitation. **Yellow squares** are the official outlooks. **Gray background** is the historical period of record variability. This product does not consider climate information such as El Nino or short range weather forecasts, or a variety of other factors considered in the official forecasts. This product is not meant to replace or supercede the official forecasts produced in coordination with the National Weather Service. Science Contact: Cara.s.McCarthy@por.usda.gov www.wcc.nrcs.usda.gov/ws/daily_forecasts.html

Colorado Statewide Summary

Colorado Major Basins



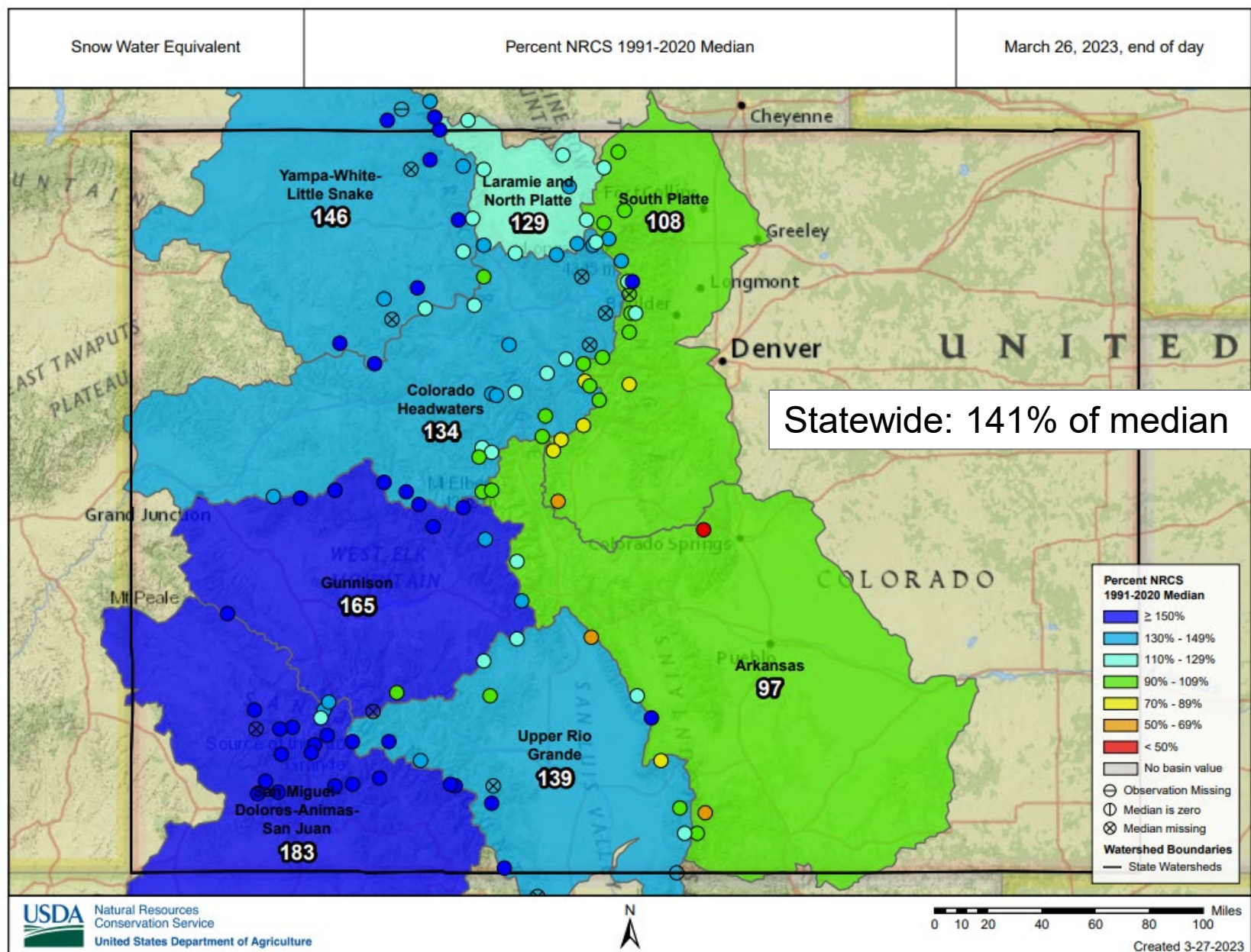
0 25 50 100 150 200 Miles



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Colorado Snow Surveys

Snowpack





Colorado Snow Surveys

SNOW WATER EQUIVALENT IN STATE OF COLORADO

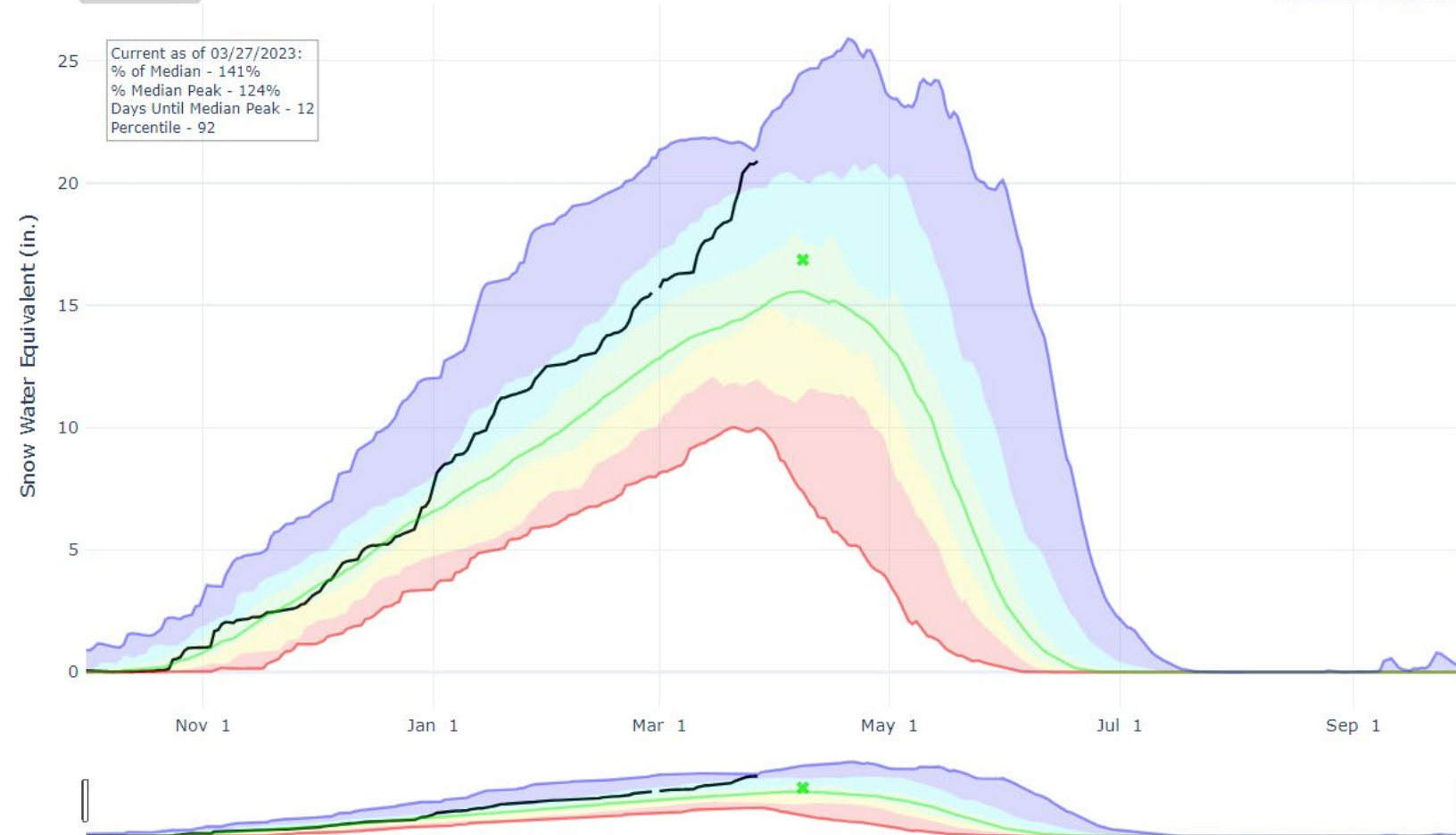
Reset Range

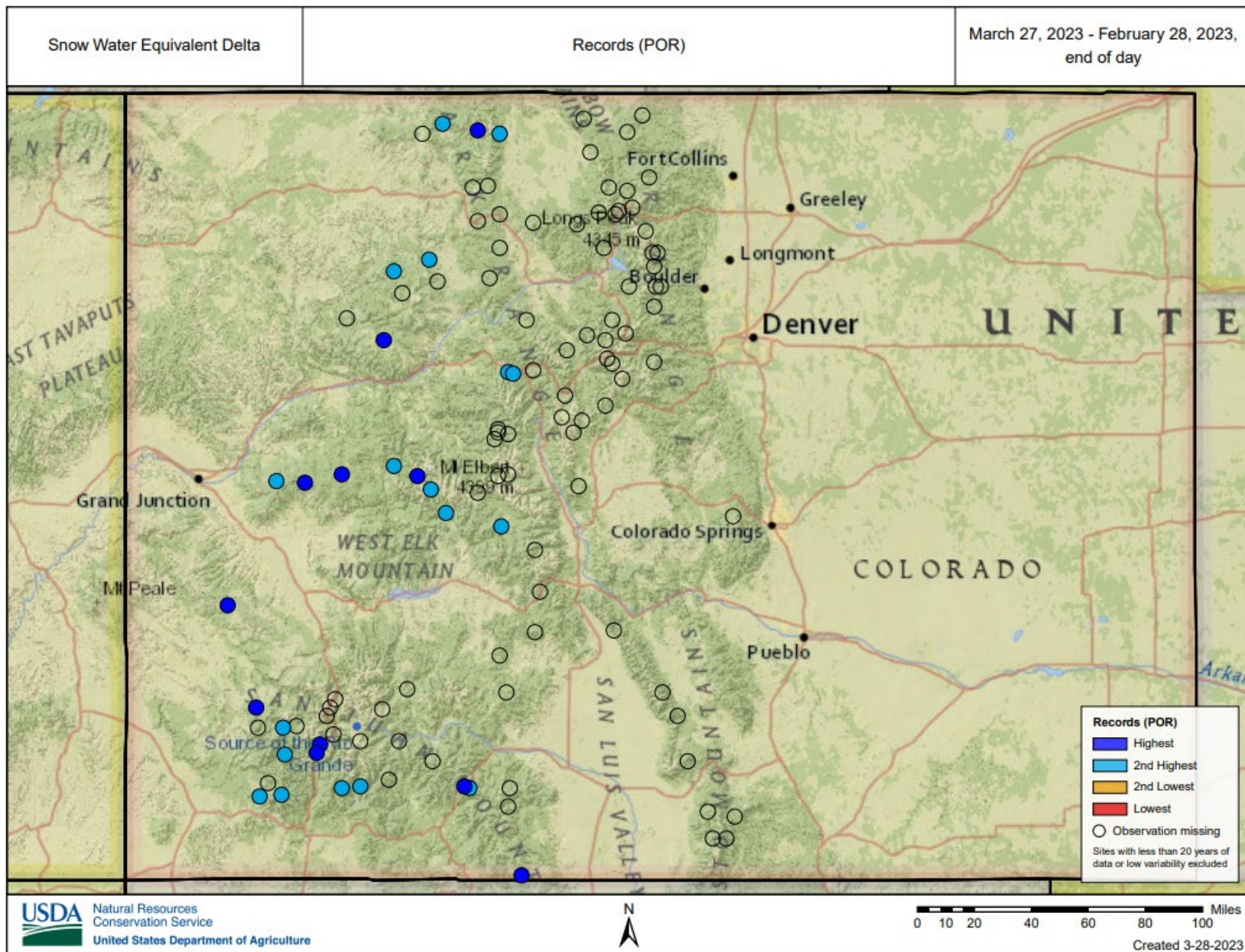
[Link to data: CSV / JSON](#)

[Station List](#)

Current as of 03/27/2023:
% of Median - 141%
% Median Peak - 124%
Days Until Median Peak - 12
Percentile - 92

- ✱ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (115 sites)
- 2022 (115 sites)
- 2021 (115 sites)
- 2020 (115 sites)
- 2019 (115 sites)
- 2018 (115 sites)
- 2017 (115 sites)
- 2016 (115 sites)
- 2015 (115 sites)
- 2014 (115 sites)
- 2013 (115 sites)
- 2012 (115 sites)
- 2011 (114 sites)
- 2010 (112 sites)
- 2009 (108 sites)
- 2008 (105 sites)
- 2007 (102 sites)
- 2006 (102 sites)
- 2005 (101 sites)



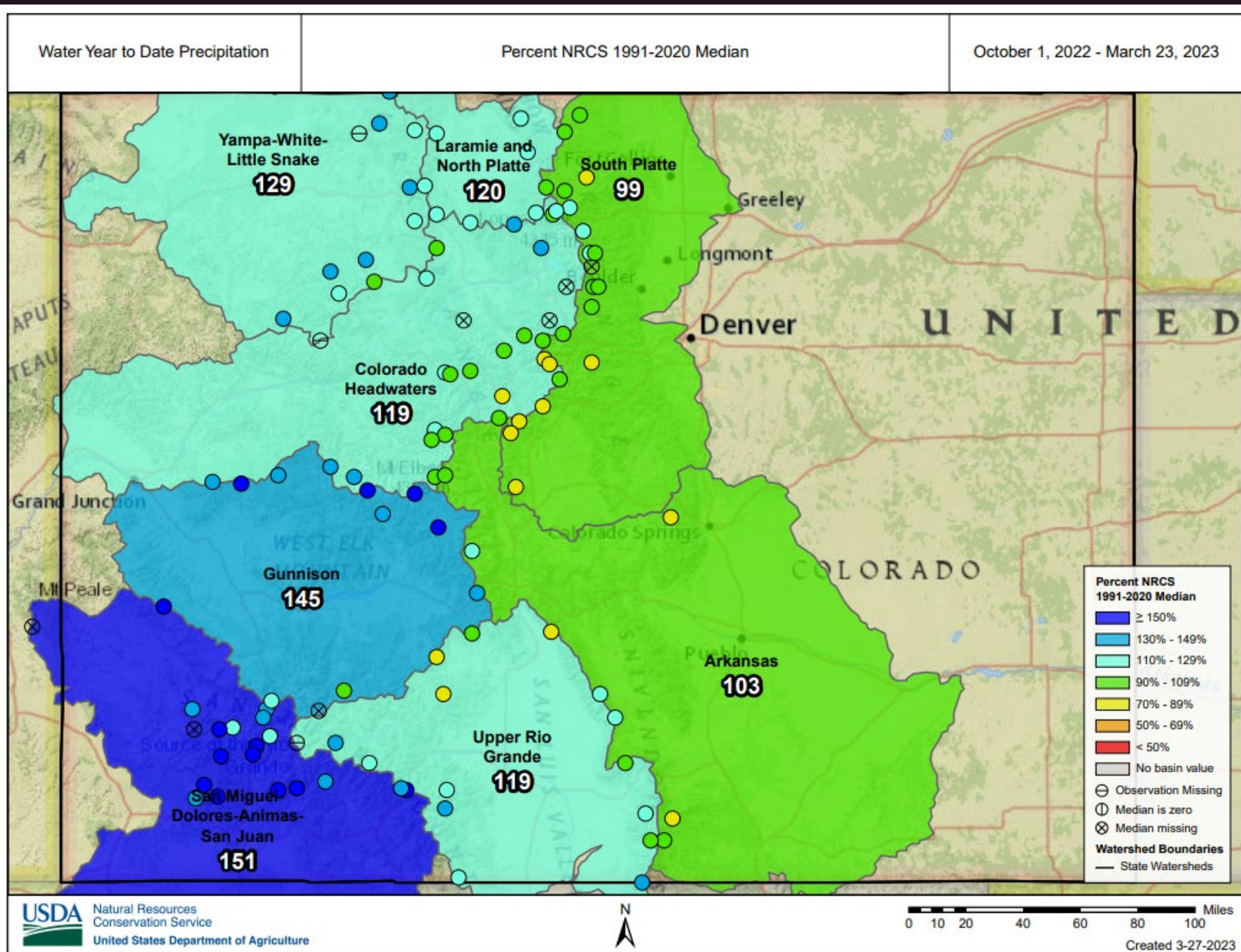




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WY Precipitation

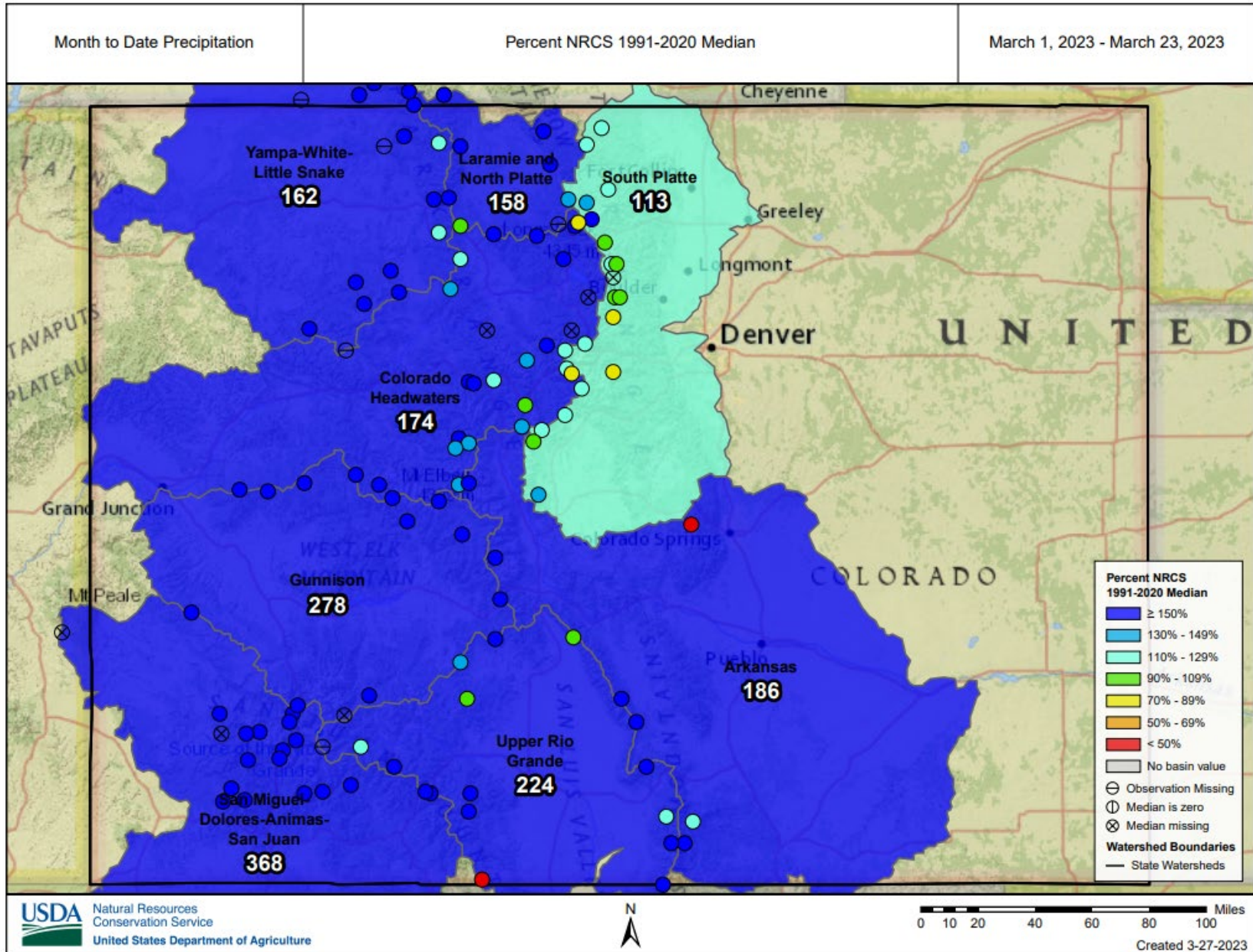




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MTD Precipitation

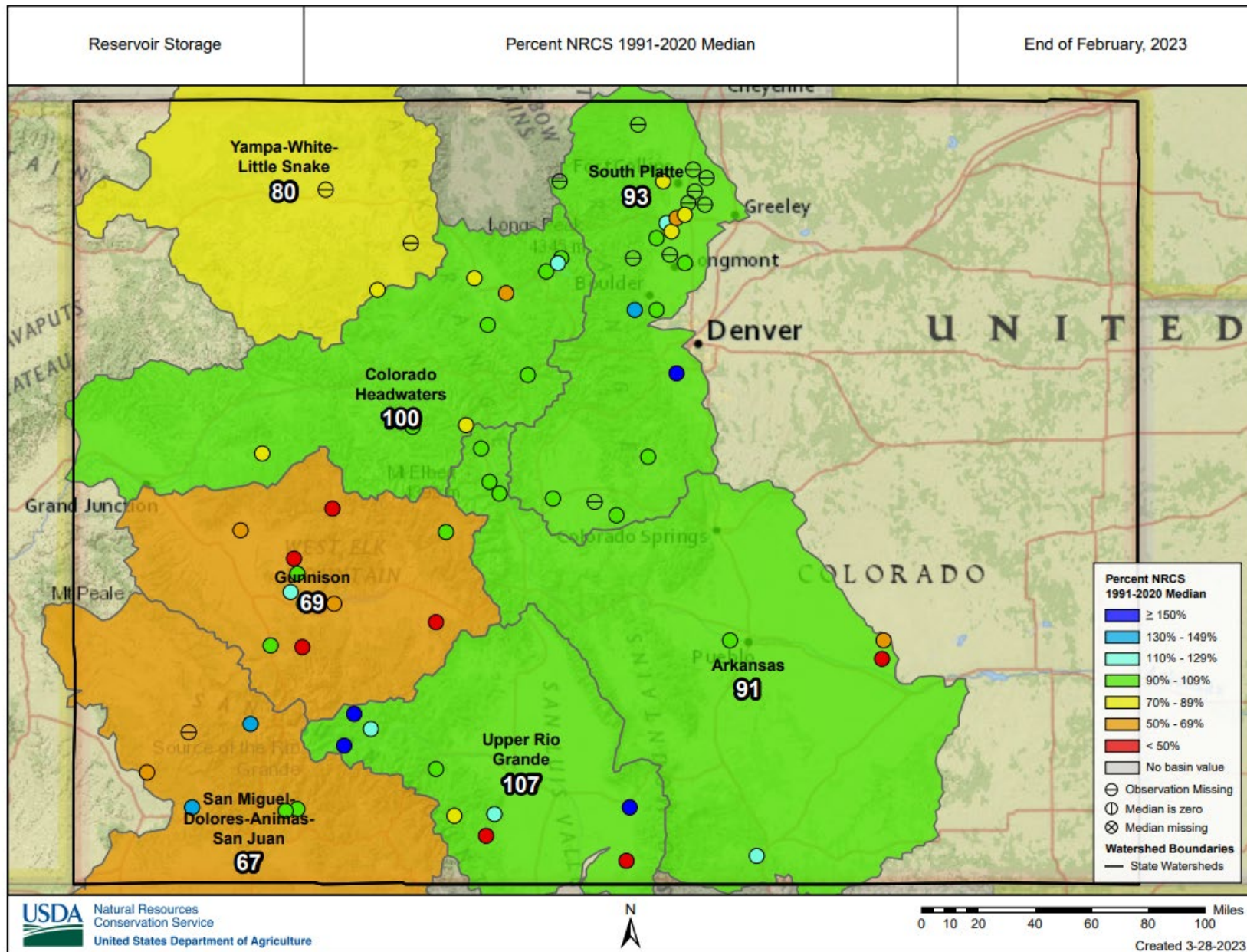


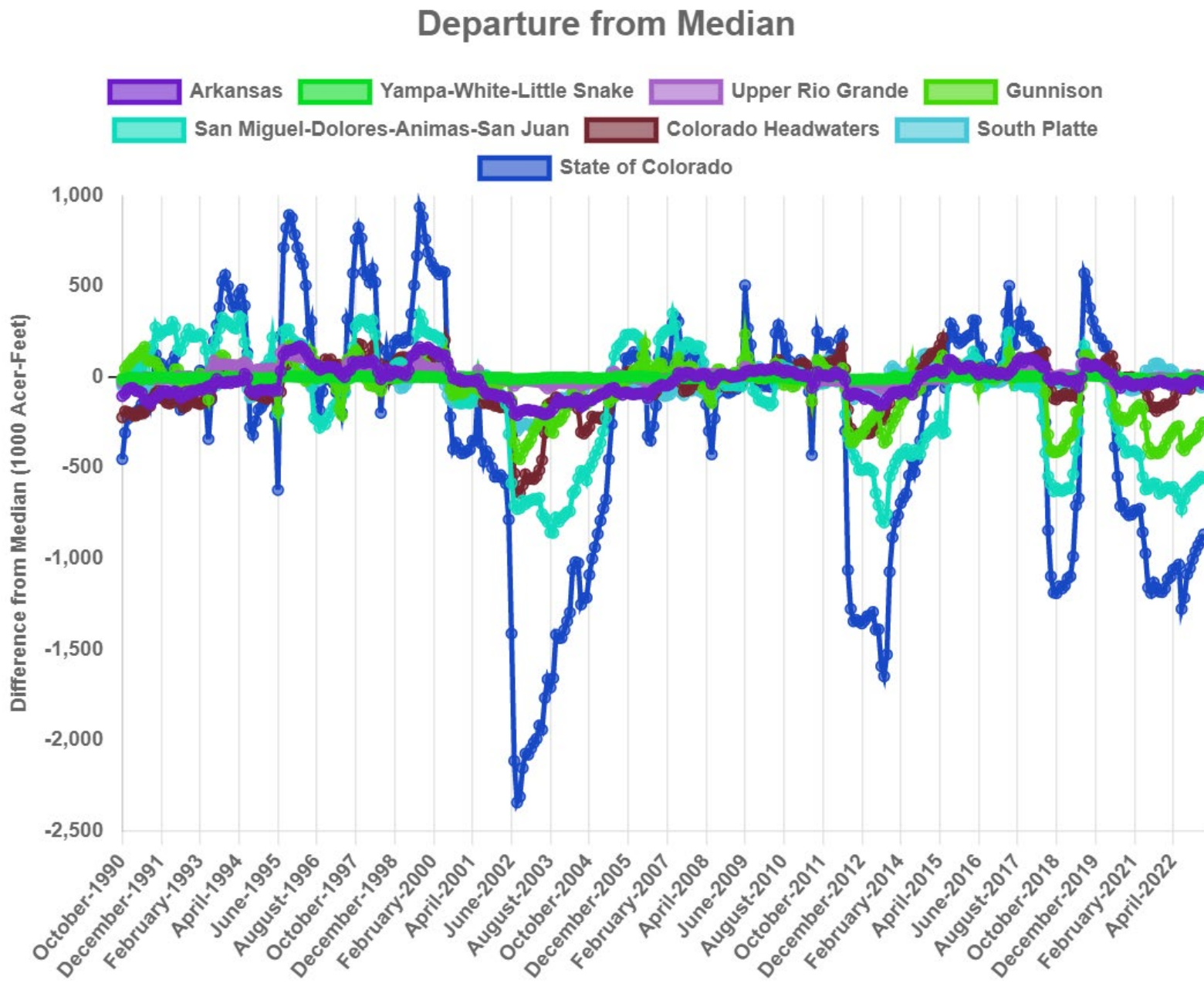


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Reservoir Storage



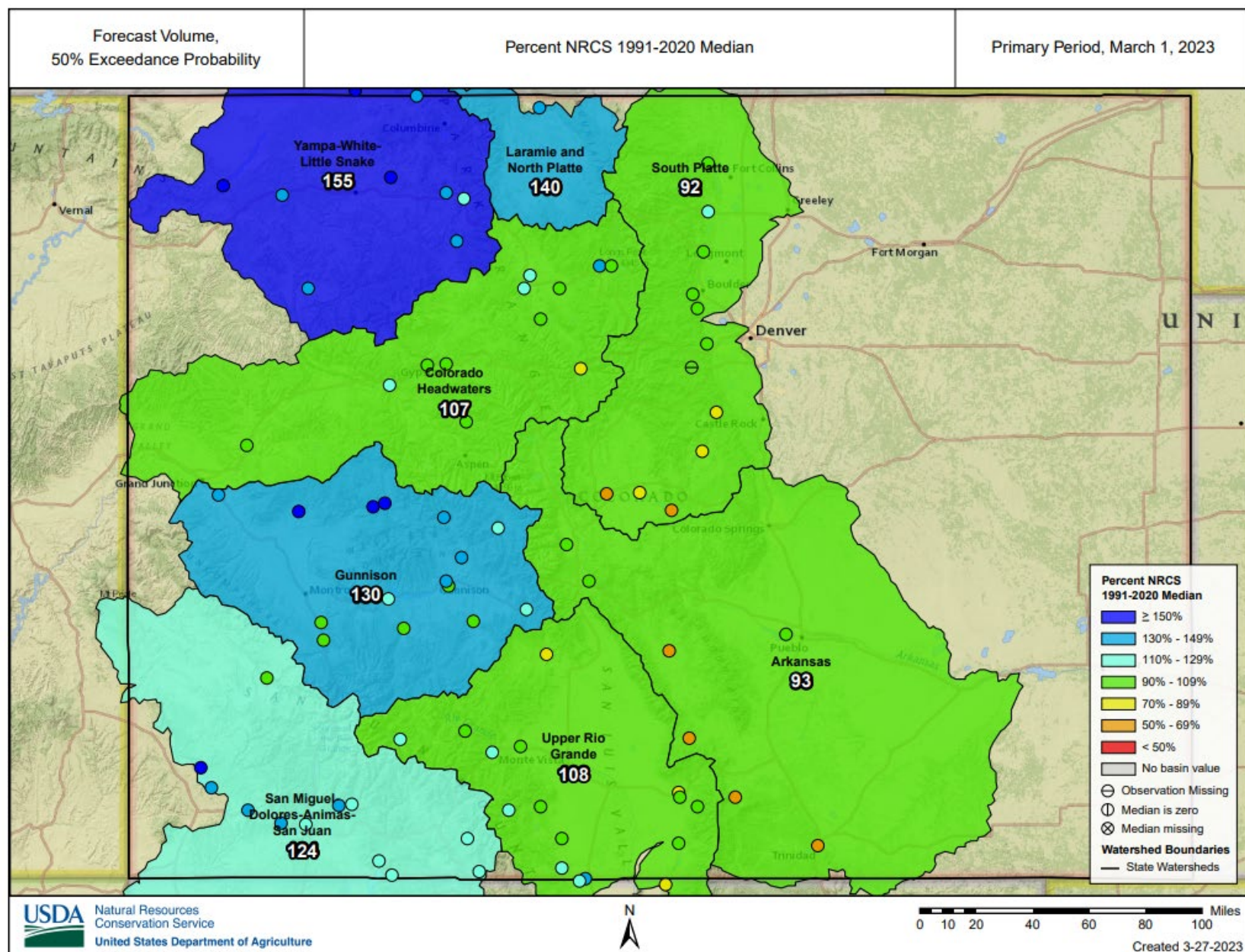




United States Department of Agriculture

Colorado Snow Surveys

Streamflow Forecasts



Summary

- The month of March brought well above normal precipitation and snowpack accumulation across Colorado.
 - Most prominently seen in Southwest Colorado.
- All major basins are holding above normal snowpack with the exception of the Arkansas.
 - The combined basins of Southwest Colorado have reached record snowpack for this time of year.
- March 1st Streamflow Forecasts were for above normal seasonal volumes in all major basins except the Arkansas and South Platte. Forecasts within these basins are also highly variable.
 - Forecasts in many areas are anticipated to be substantially higher for April 1st forecasts after an extremely wet March.
- Reservoir storage remains highly variable across Colorado with the Gunnison and combined Southwest Basins holding substantially less water than any other basins.
 - The basins that are holding the lowest reservoir storage also have the most plentiful snowpack which is encouraging for replenishing storage volumes.



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