



United States Department of Agriculture

Colorado Snow Surveys

# Water Availability Task Force Meeting

## April 20<sup>th</sup>, 2021

### NRCS Snow Survey and Water Supply Forecasting Program

Brian Domonkos

Hydrologist

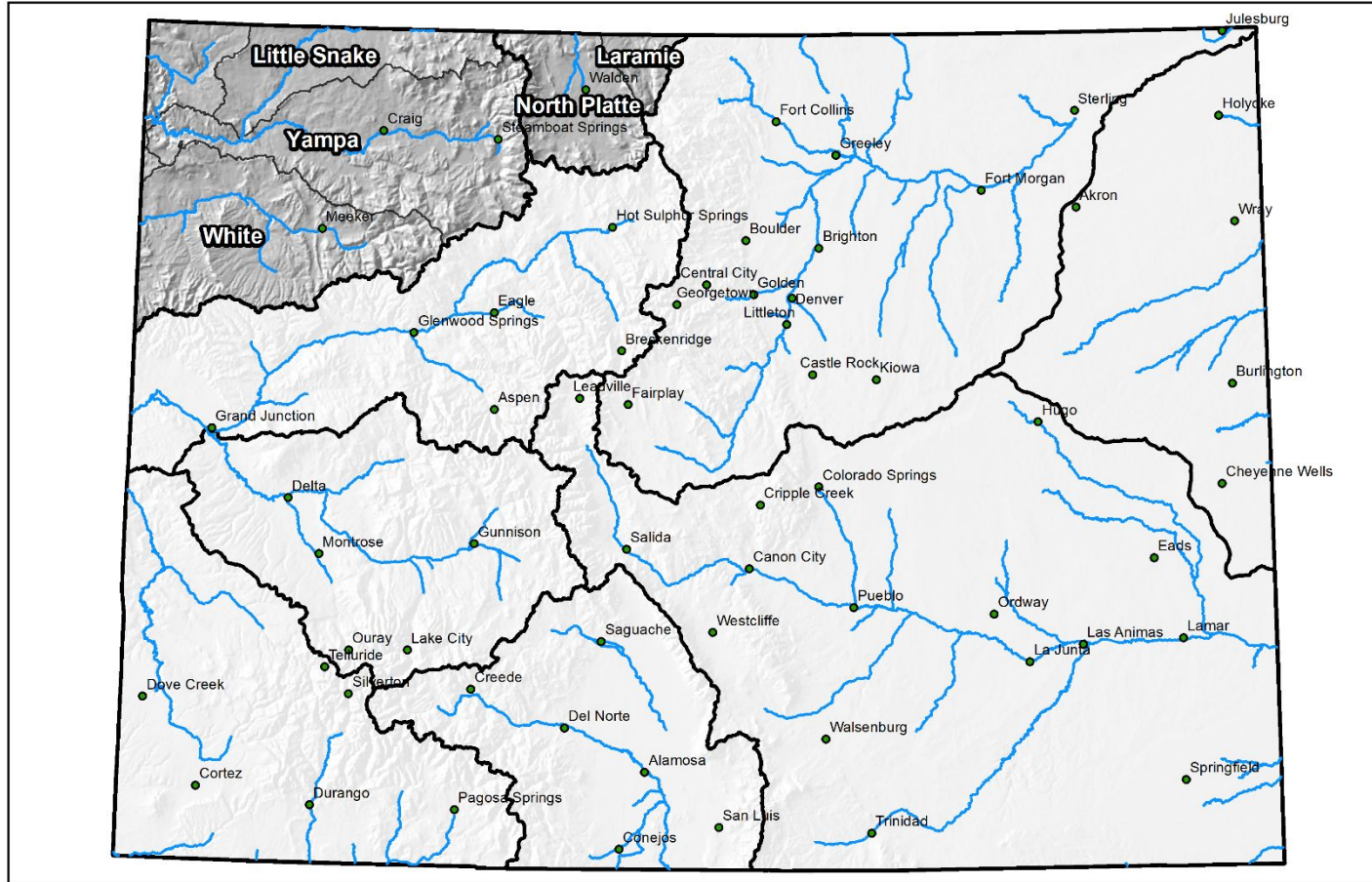
Asst. Snow Survey Supervisor

720-544-2852

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

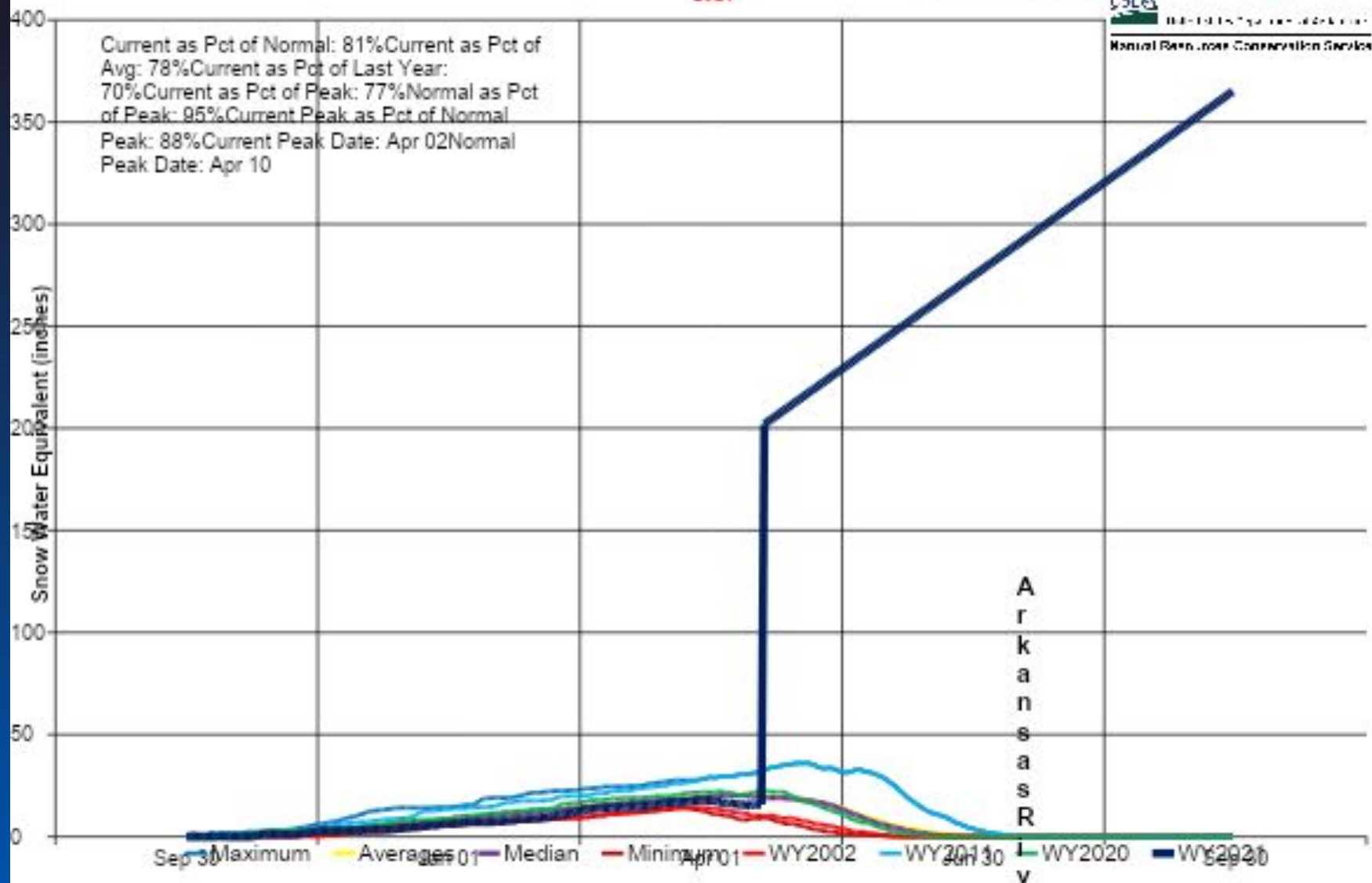
## Major Basin Summary

Yampa, White, and North Platte River Basins

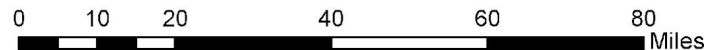
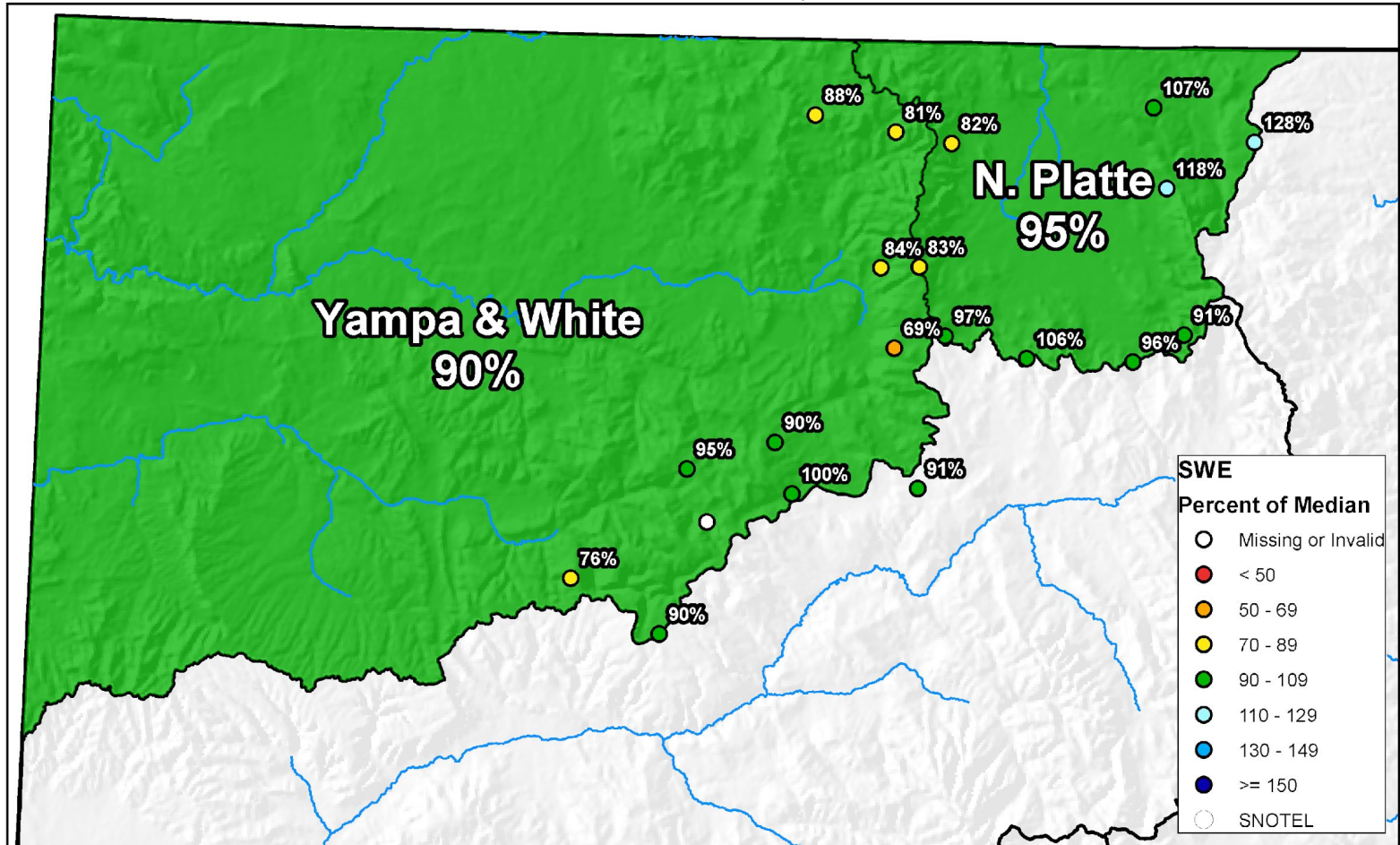


0 25 50 100 150 200 Miles

## Yampa, White and North Platte River Basins High/Low Snowpack Summary Based on Provisional SNOTEL data as of Apr 19, 2021

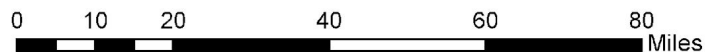
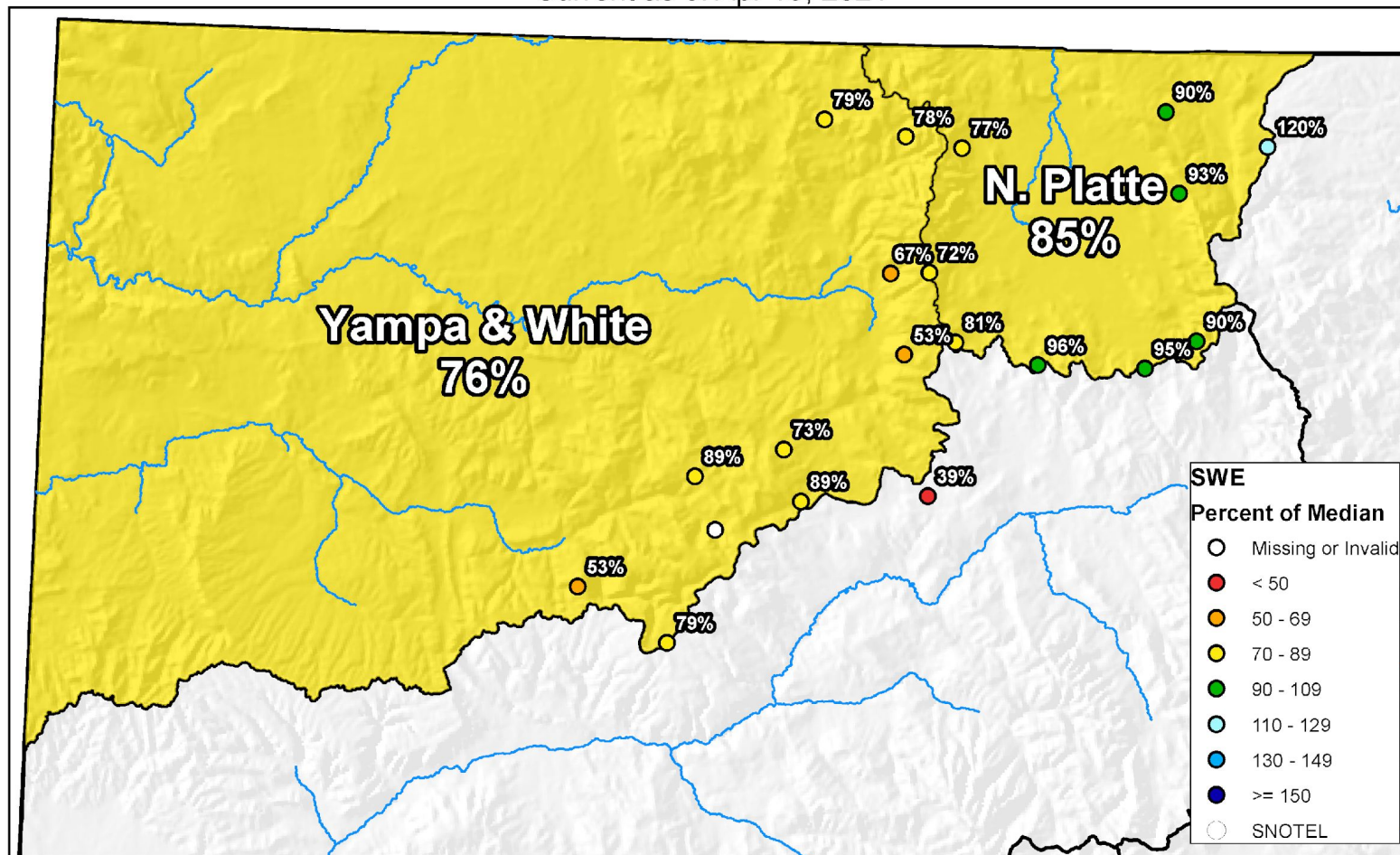


## Yampa, White, and North Platte River Basins Snow Water Equivalent (SWE) Summary Current as of Mar 17, 2021





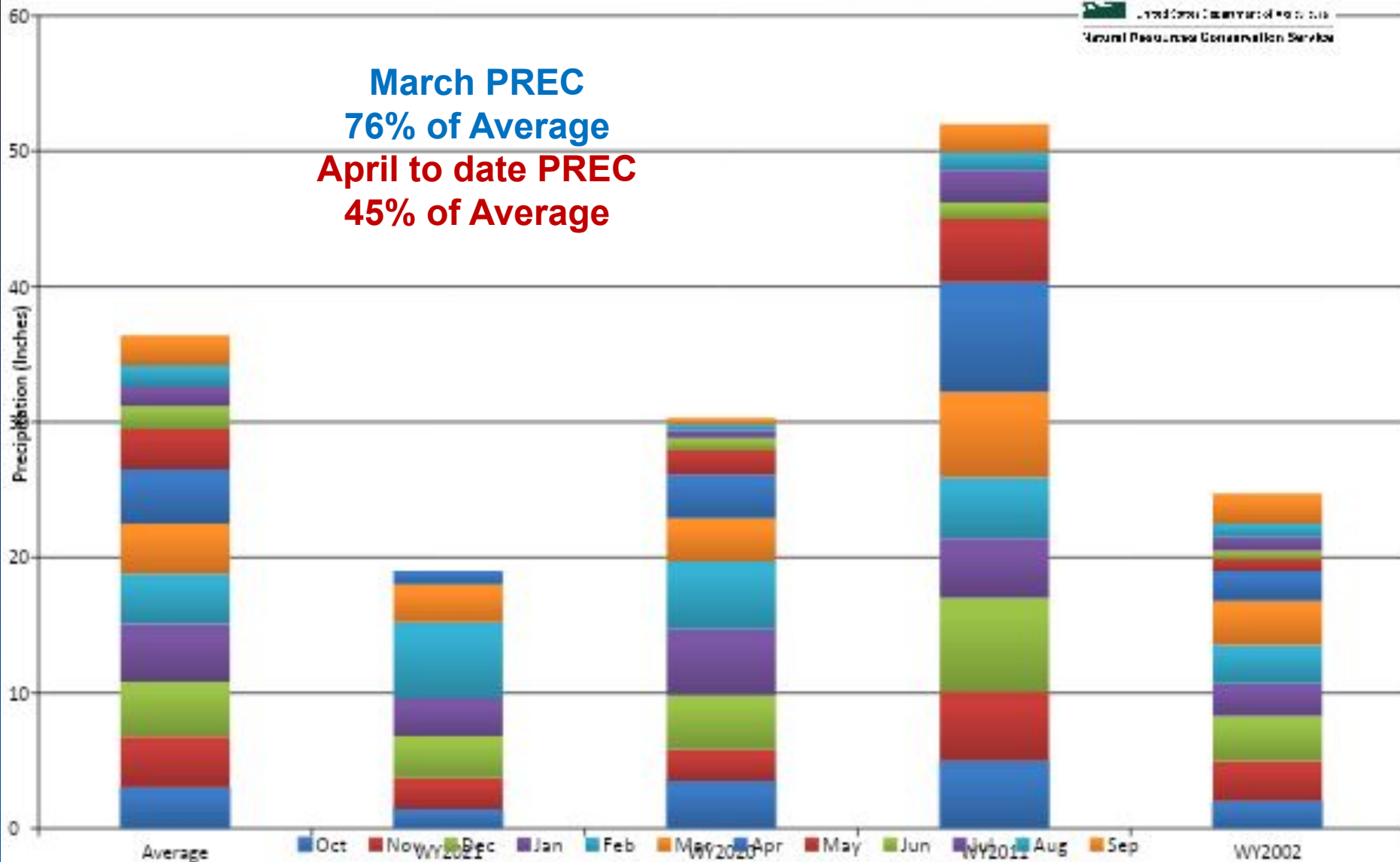
## Yampa, White, and North Platte River Basins Snow Water Equivalent (SWE) Summary Current as of Apr 19, 2021



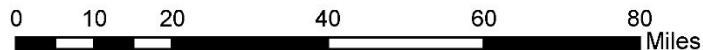
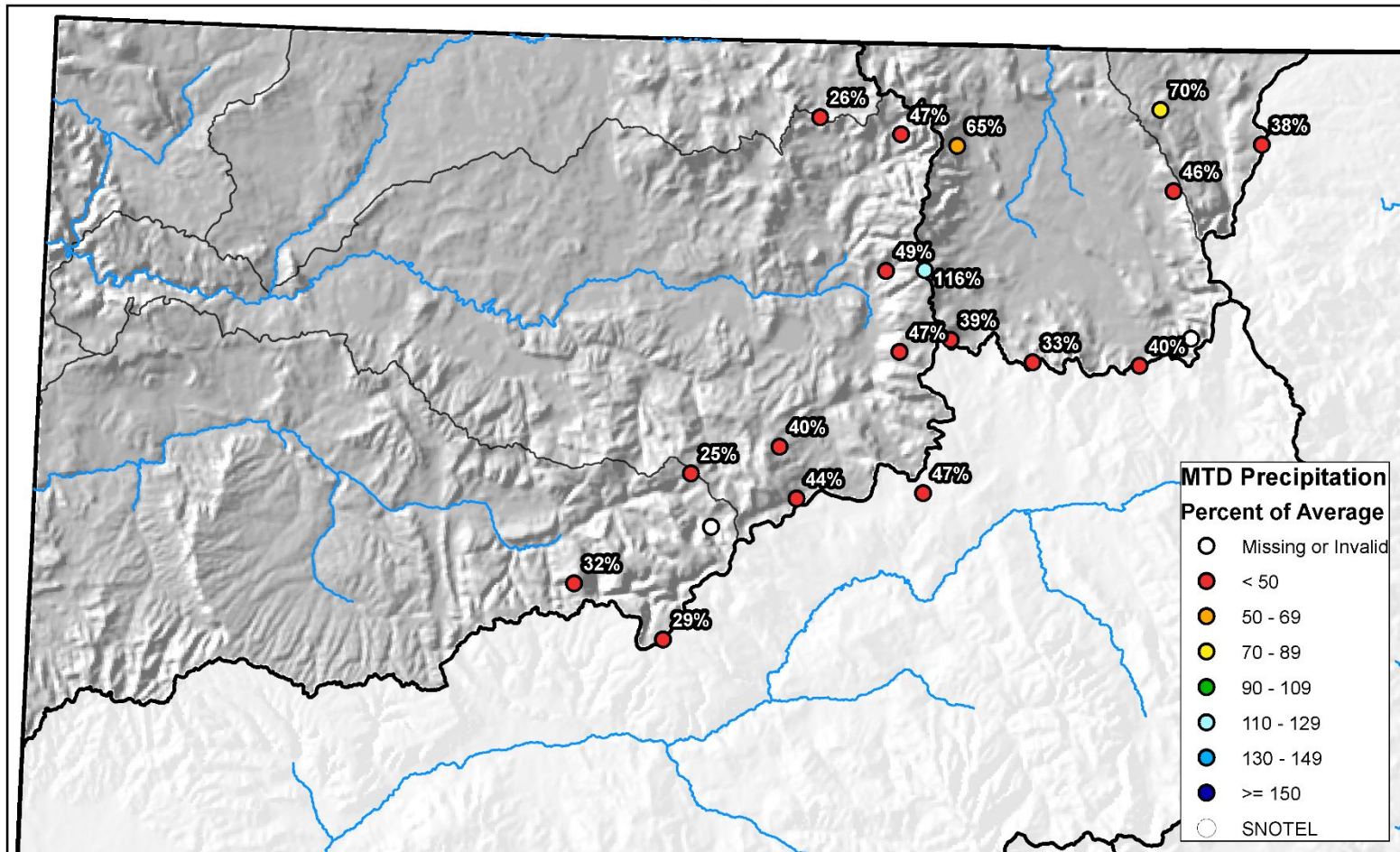


# Colorado Snow Surveys

Yampa and White River Basins High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*



## Yampa, White, and North Platte River Basins Month to Date Precipitation Summary Current as of Apr 19, 2021

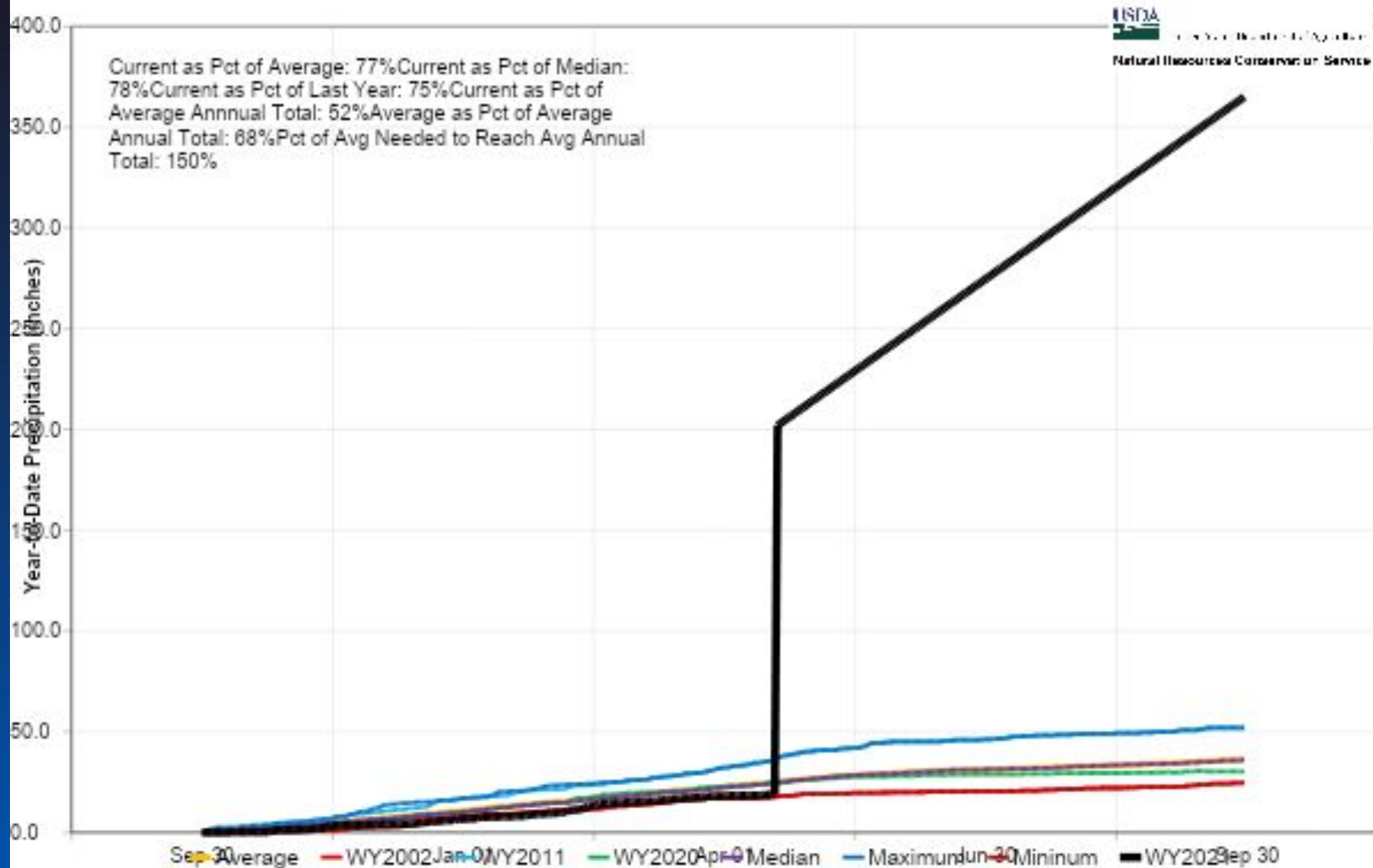






# Yampa and White River Basins High/Low Year-to-Date Precipitation Summary

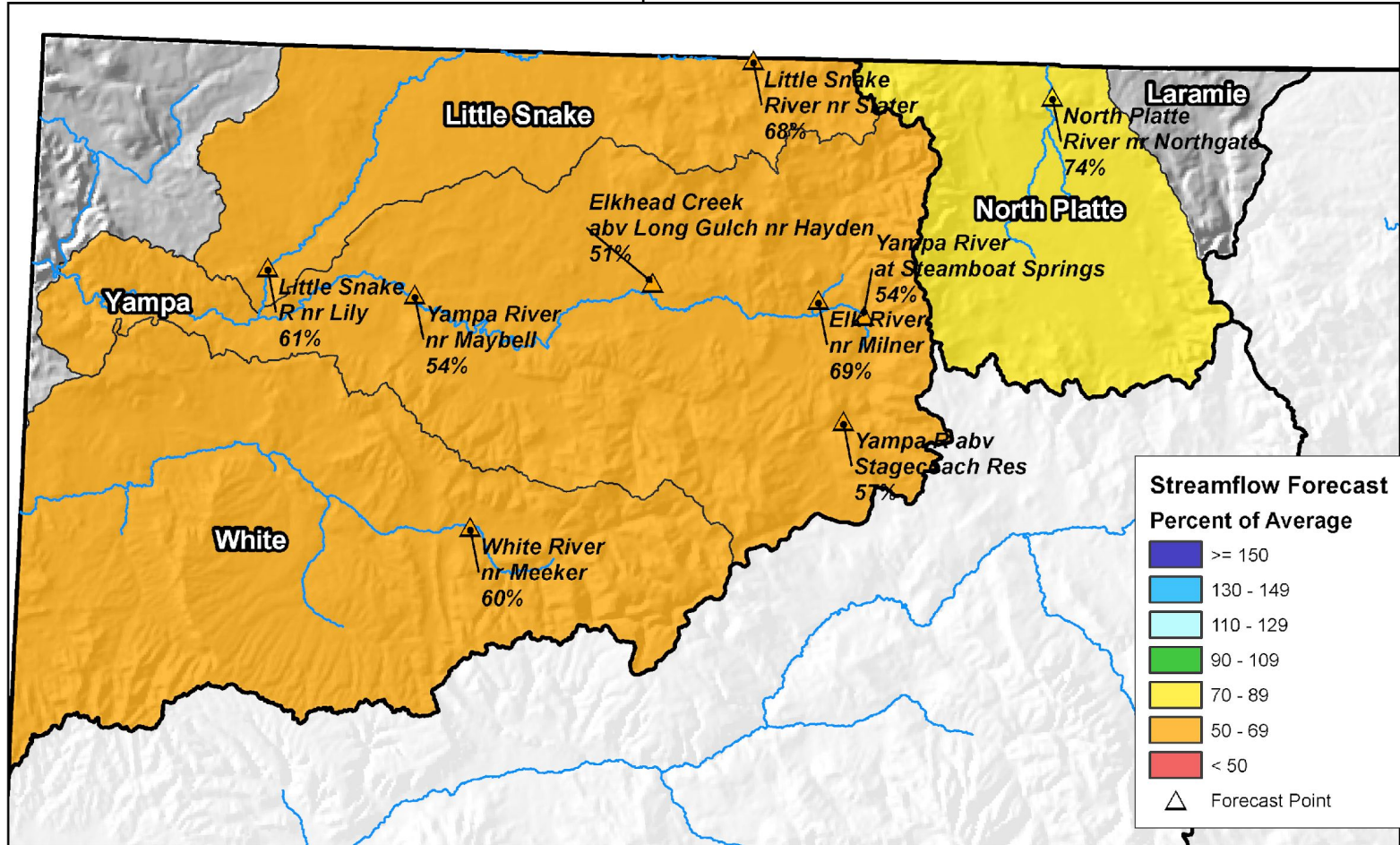
Based on Provisional SNOTEL data as of Apr 19, 2021





## Yampa, White, and North Platte River Basins Streamflow Forecast Summary

April 1, 2021



0 10 20 40 60 80 Miles



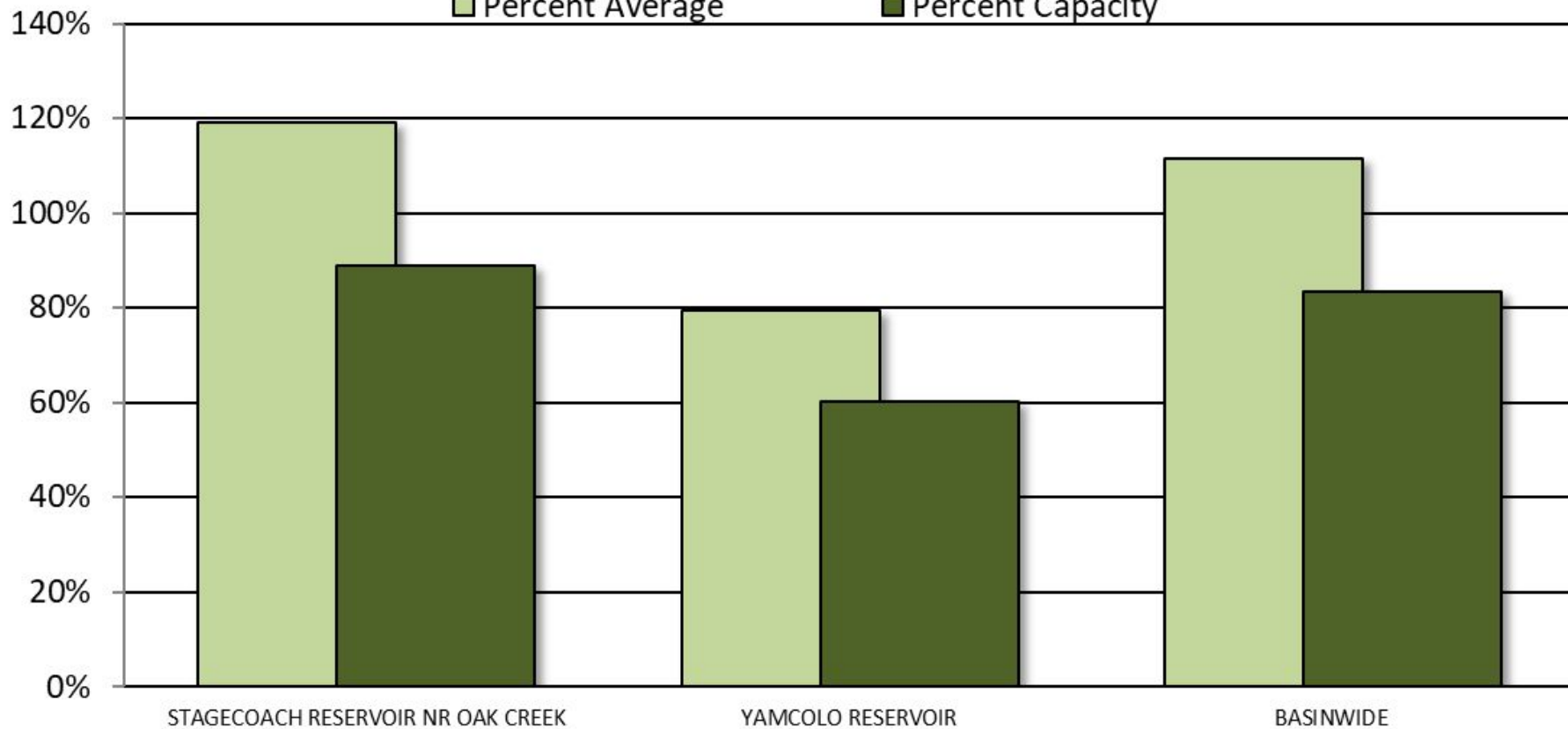
United States Department of Agriculture

Natural Resources Conservation Service

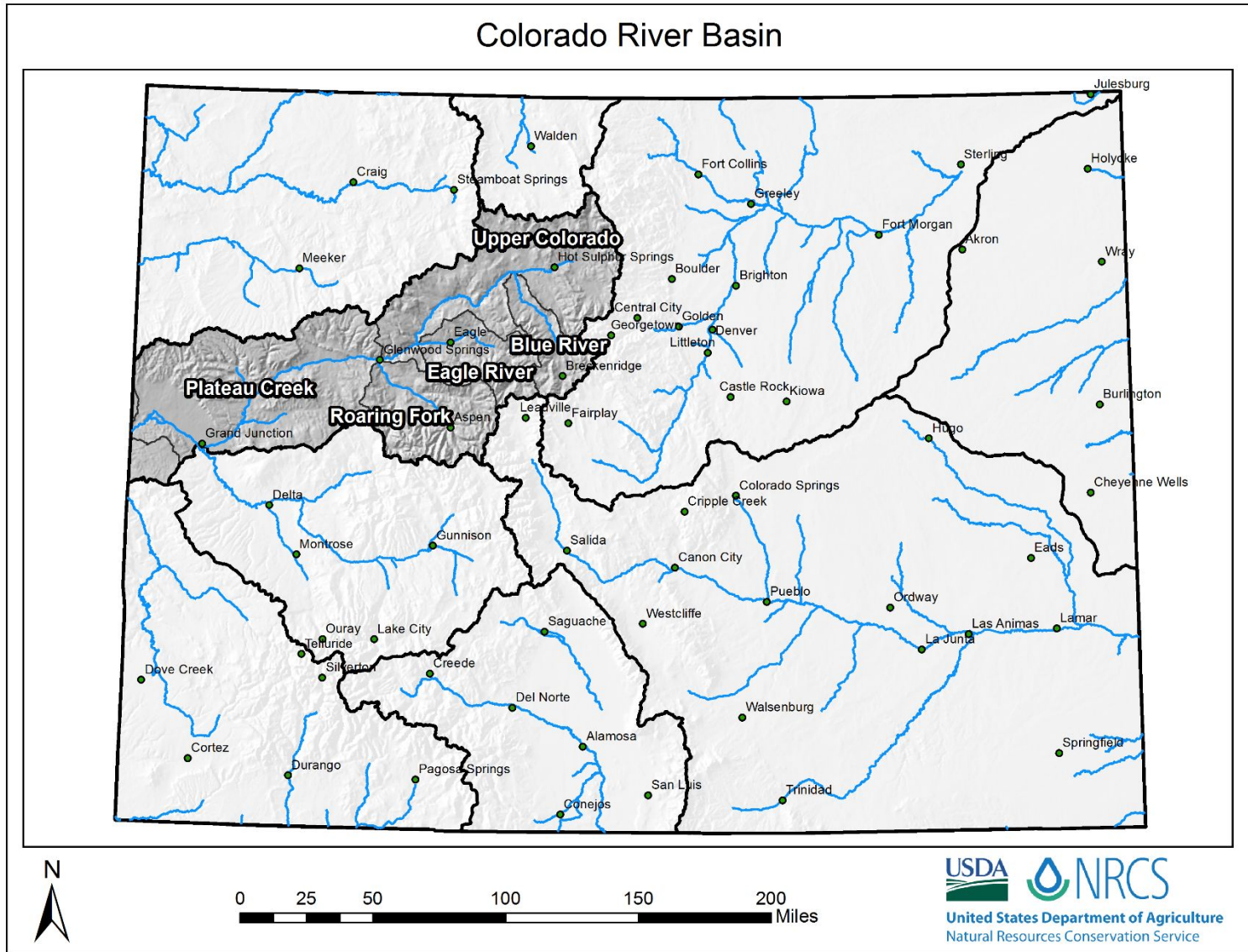
## End of March Reservoir Storage

■ Percent Average

■ Percent Capacity



## Major Basin Summary

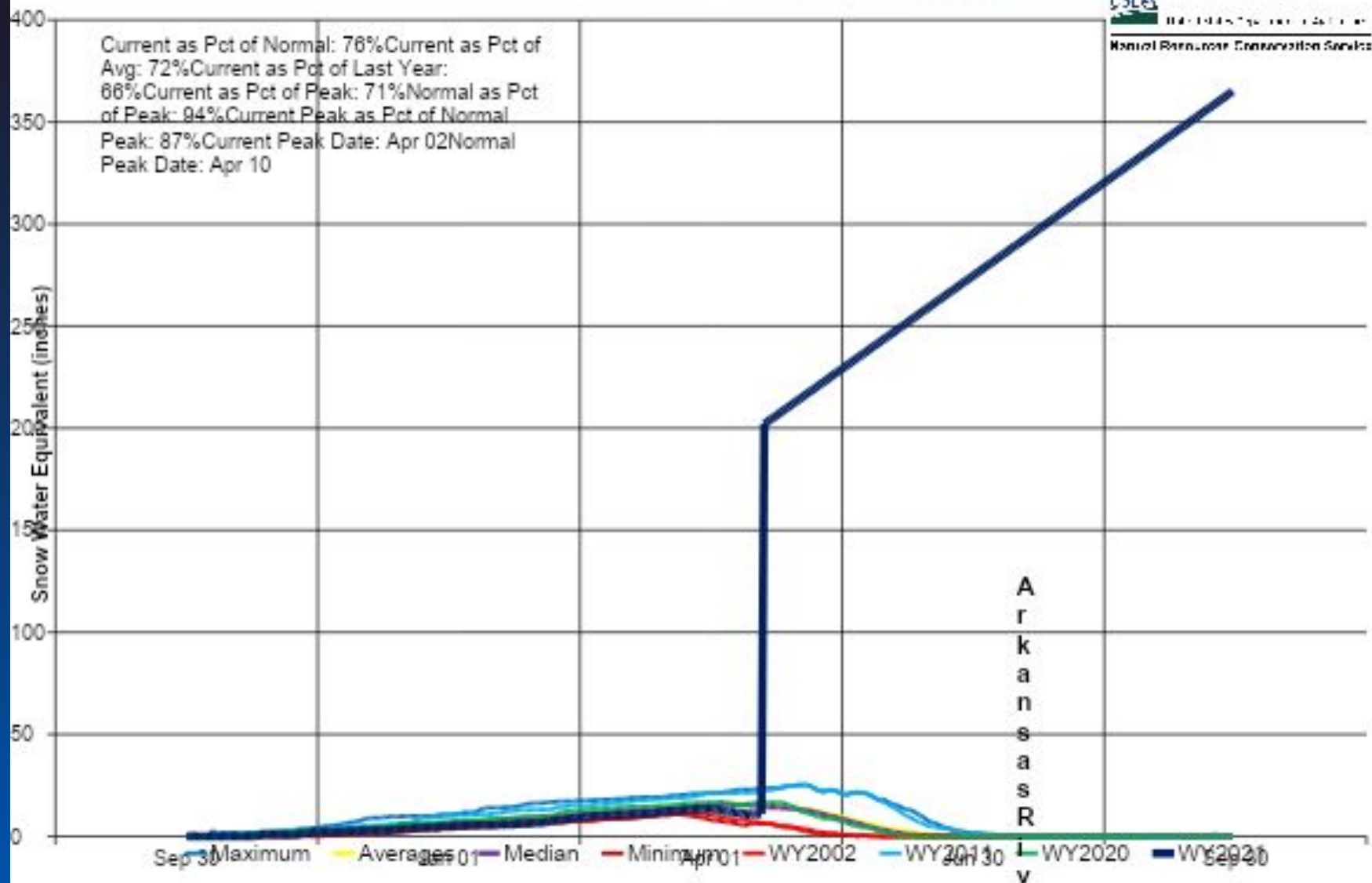




## Upper Colorado River Basin High/Low Snowpack Summary

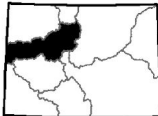
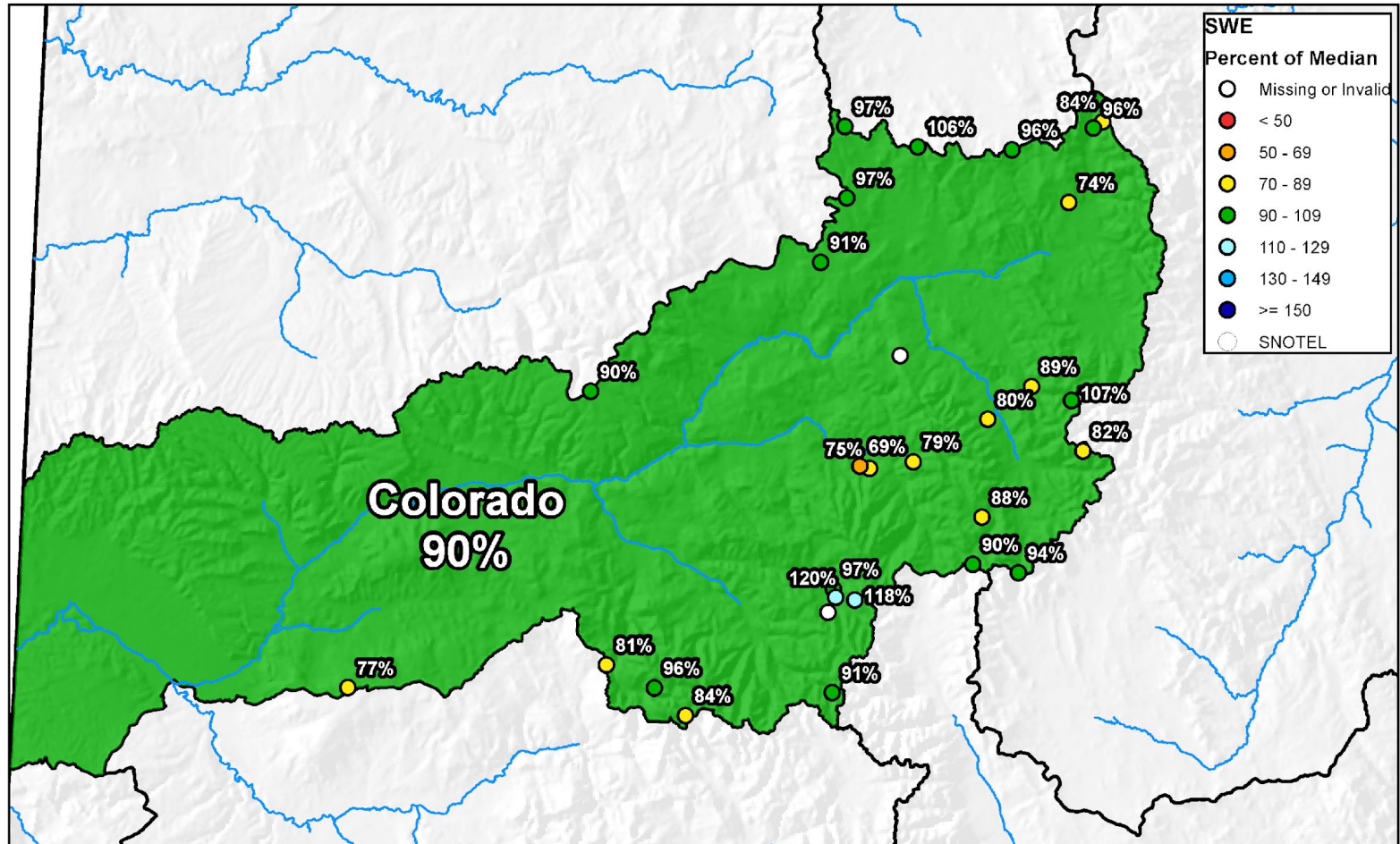
Based on Provisional SNOTEL data as of Apr 19, 2021

USDA  
Natural Resource Conservation Service





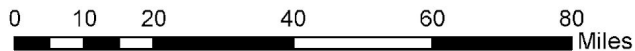
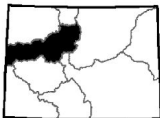
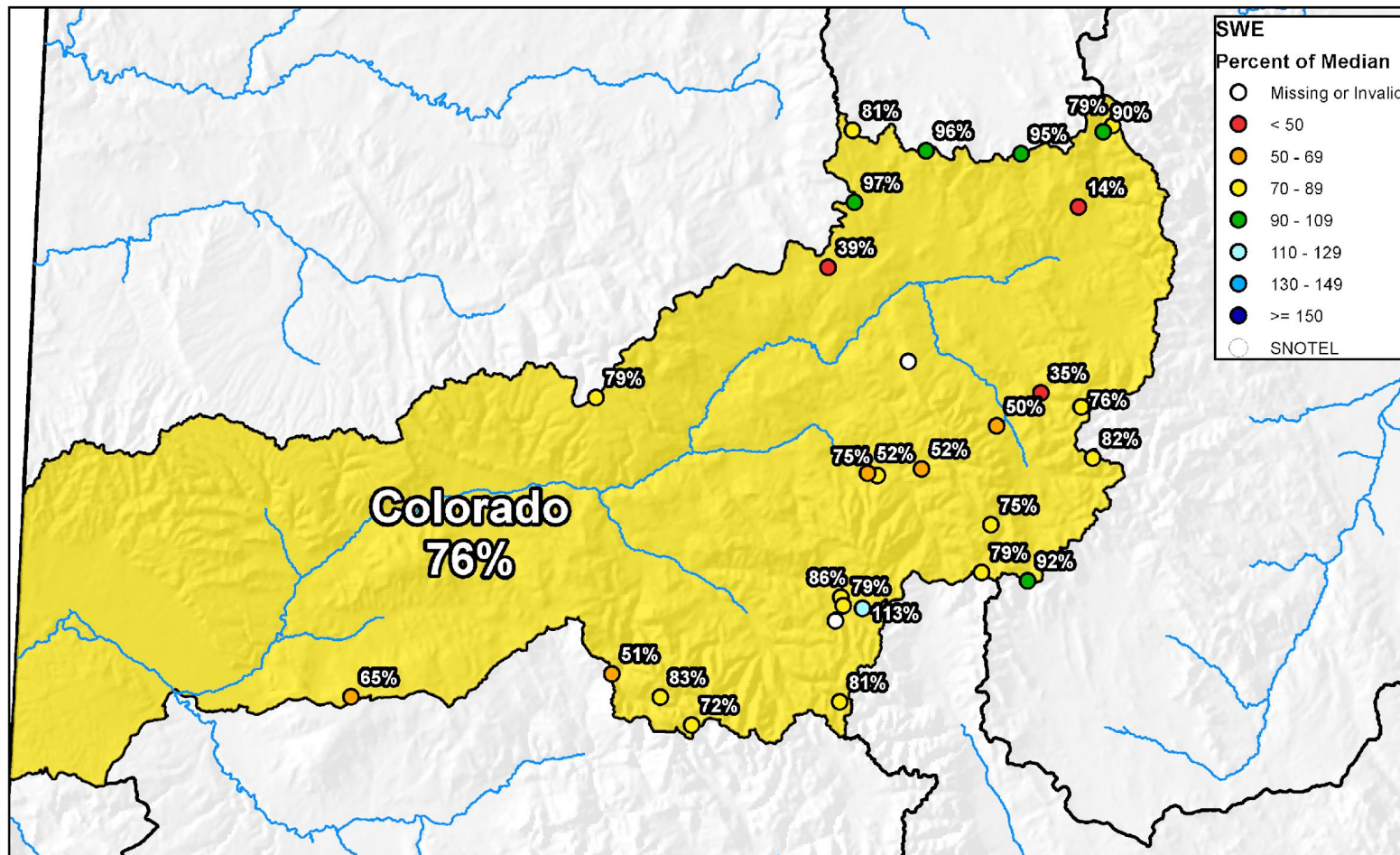
## Upper Colorado River Basin Snow Water Equivalent (SWE) Summary Current as of Mar 17, 2021



0 10 20 40 60 80 Miles

## Upper Colorado River Basin Snow Water Equivalent (SWE) Summary

Current as of Apr 19, 2021



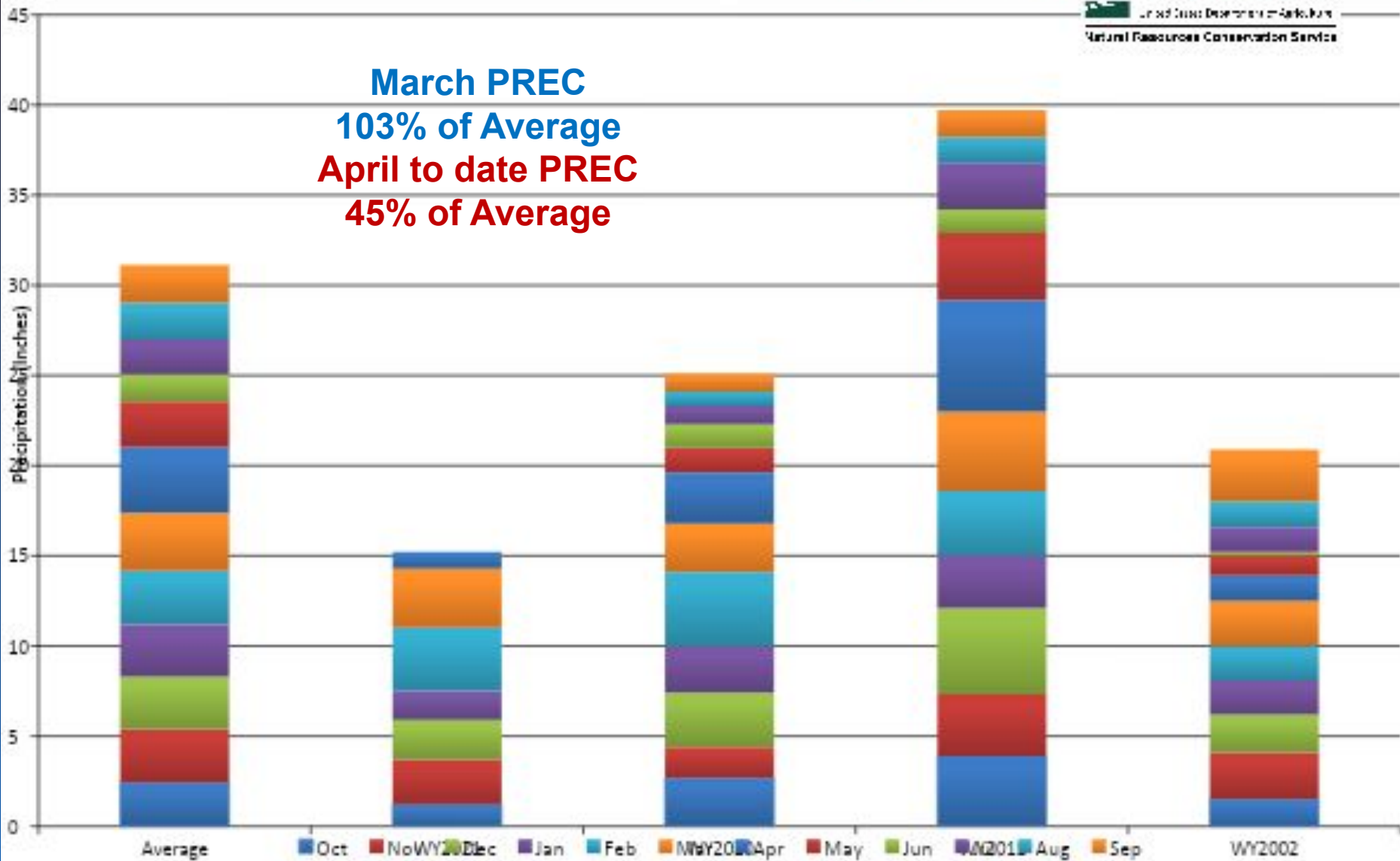


# Colorado Snow Surveys

Upper Colorado River Basin High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*

USDA  
United States Department of Agriculture  
Natural Resources Conservation Service

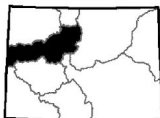
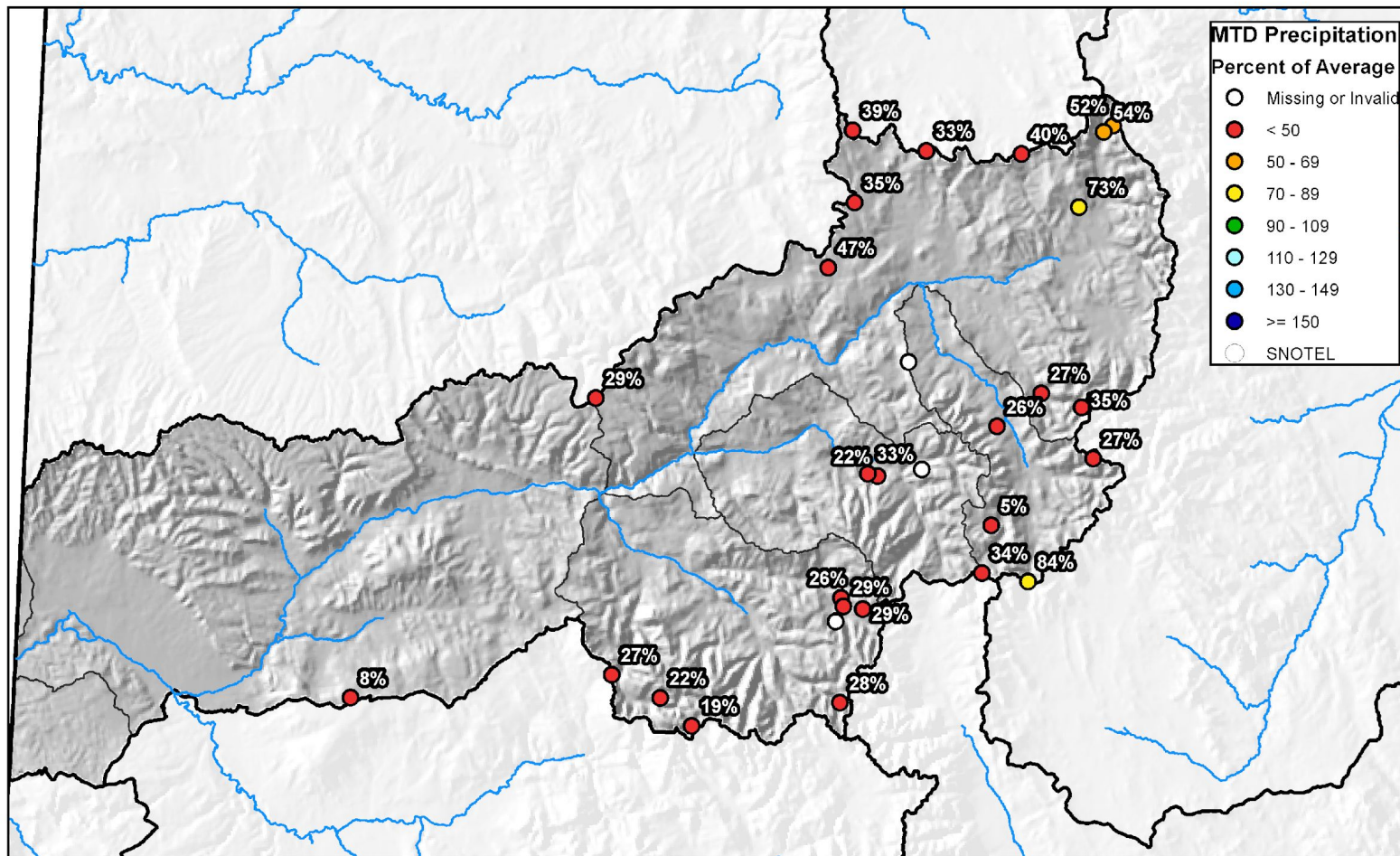
**March PREC**  
**103% of Average**  
**April to date PREC**  
**45% of Average**





## Upper Colorado River Basin Month to Date Precipitation Summary

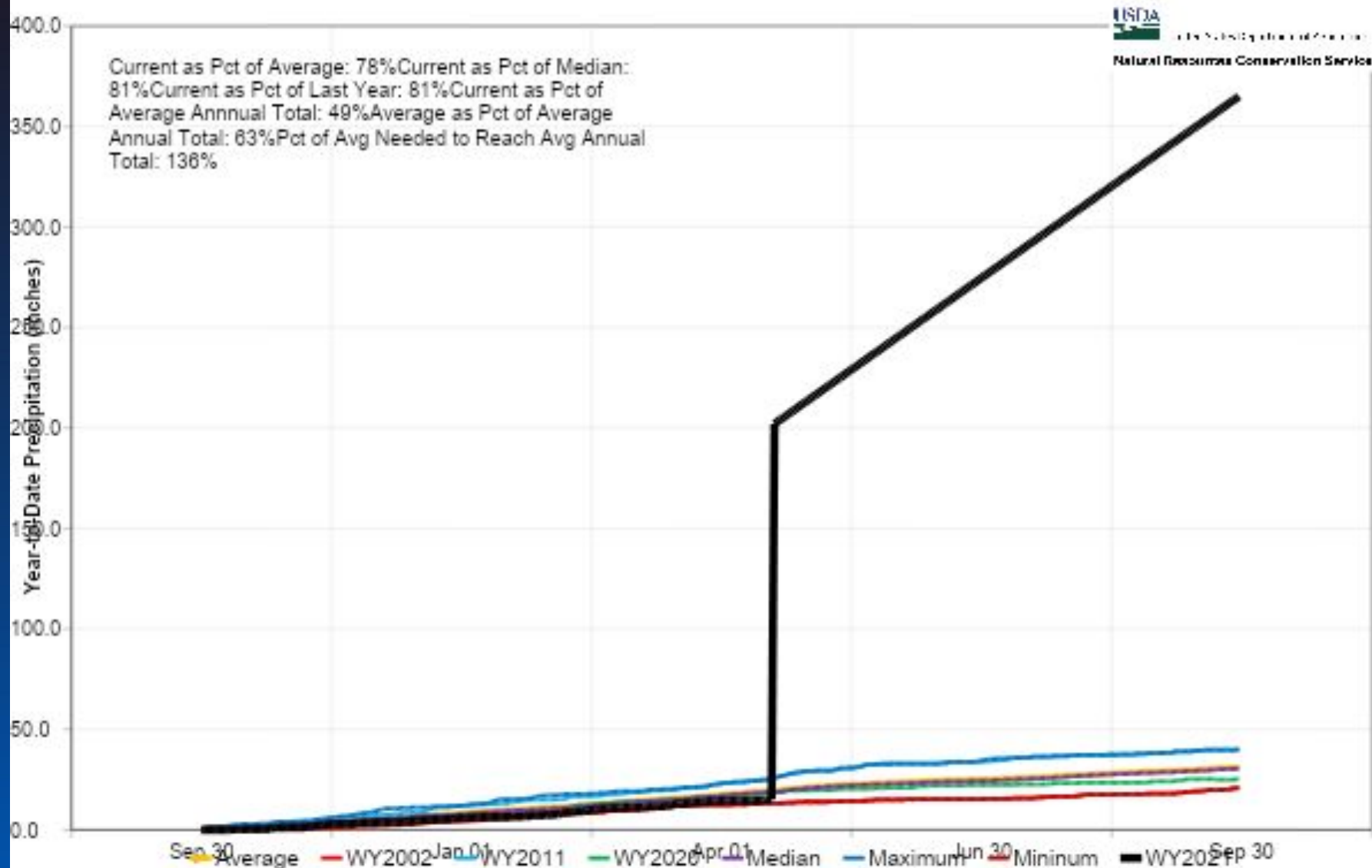
Current as of Apr 19, 2021



0 10 20 40 60 80 Miles

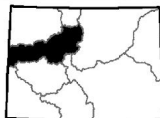
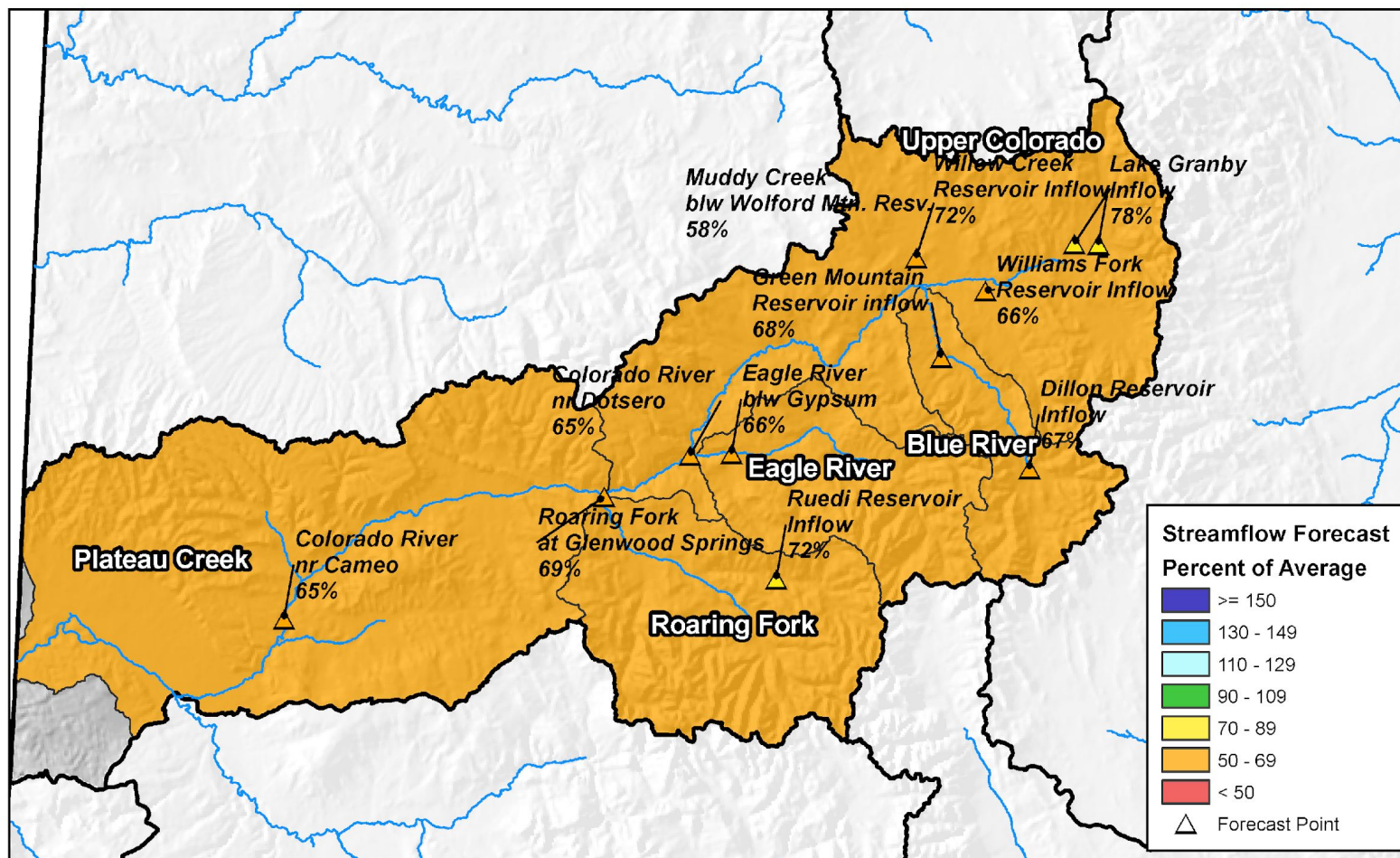


## Upper Colorado River Basin High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Apr 19, 2021



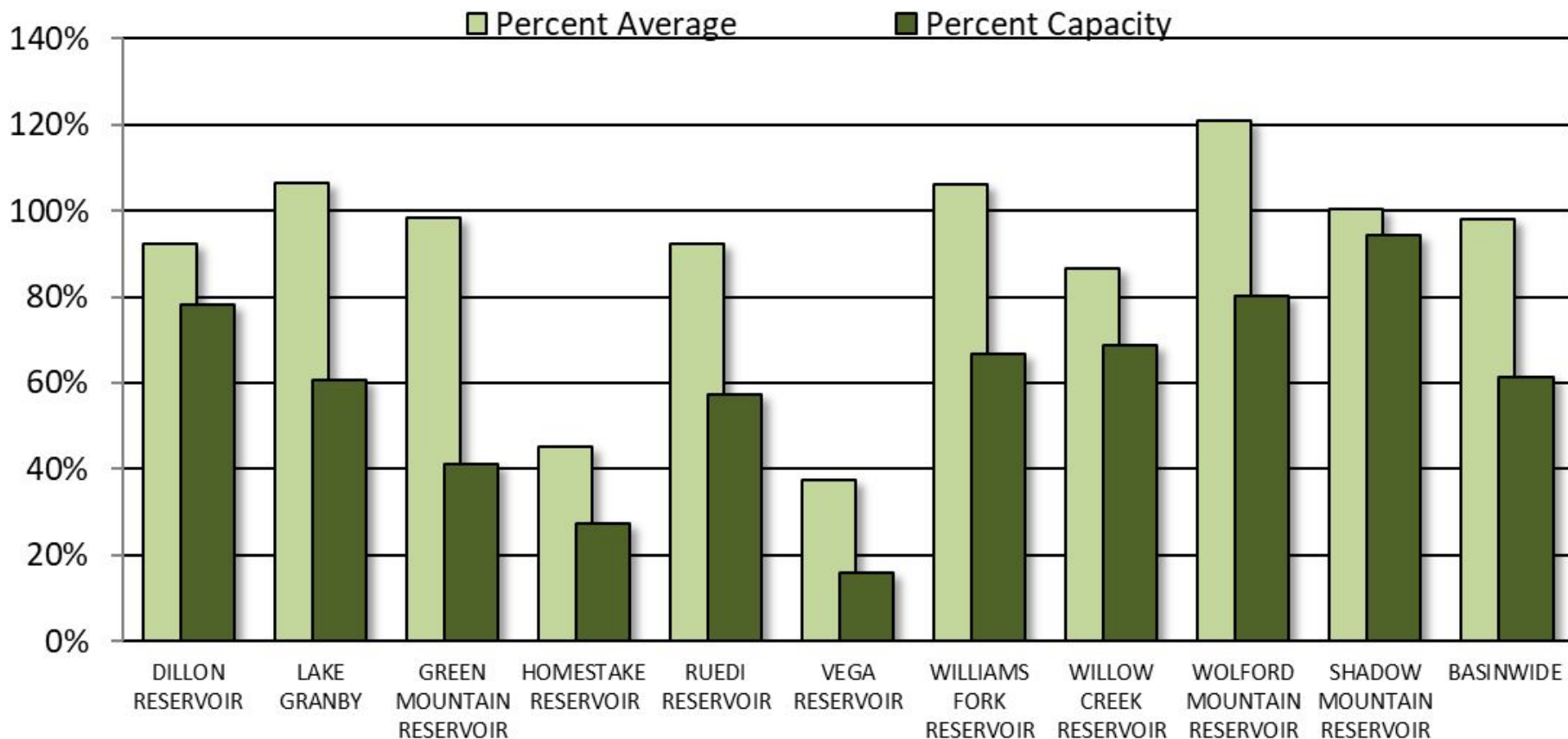
## Upper Colorado River Basin Streamflow Forecast Summary

April 1, 2021

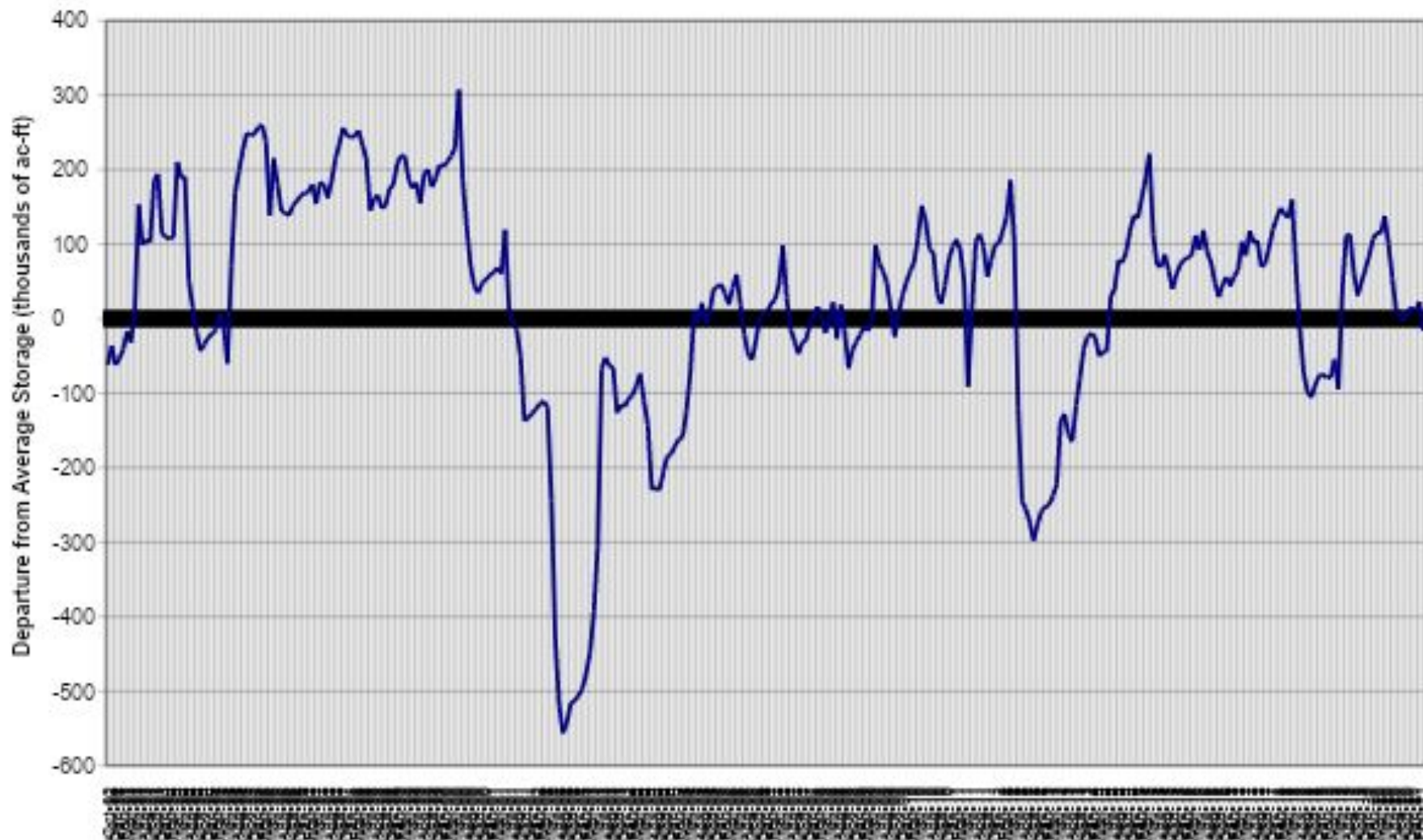


0 10 20 40 60 80 Miles

## End of March Reservoir Storage



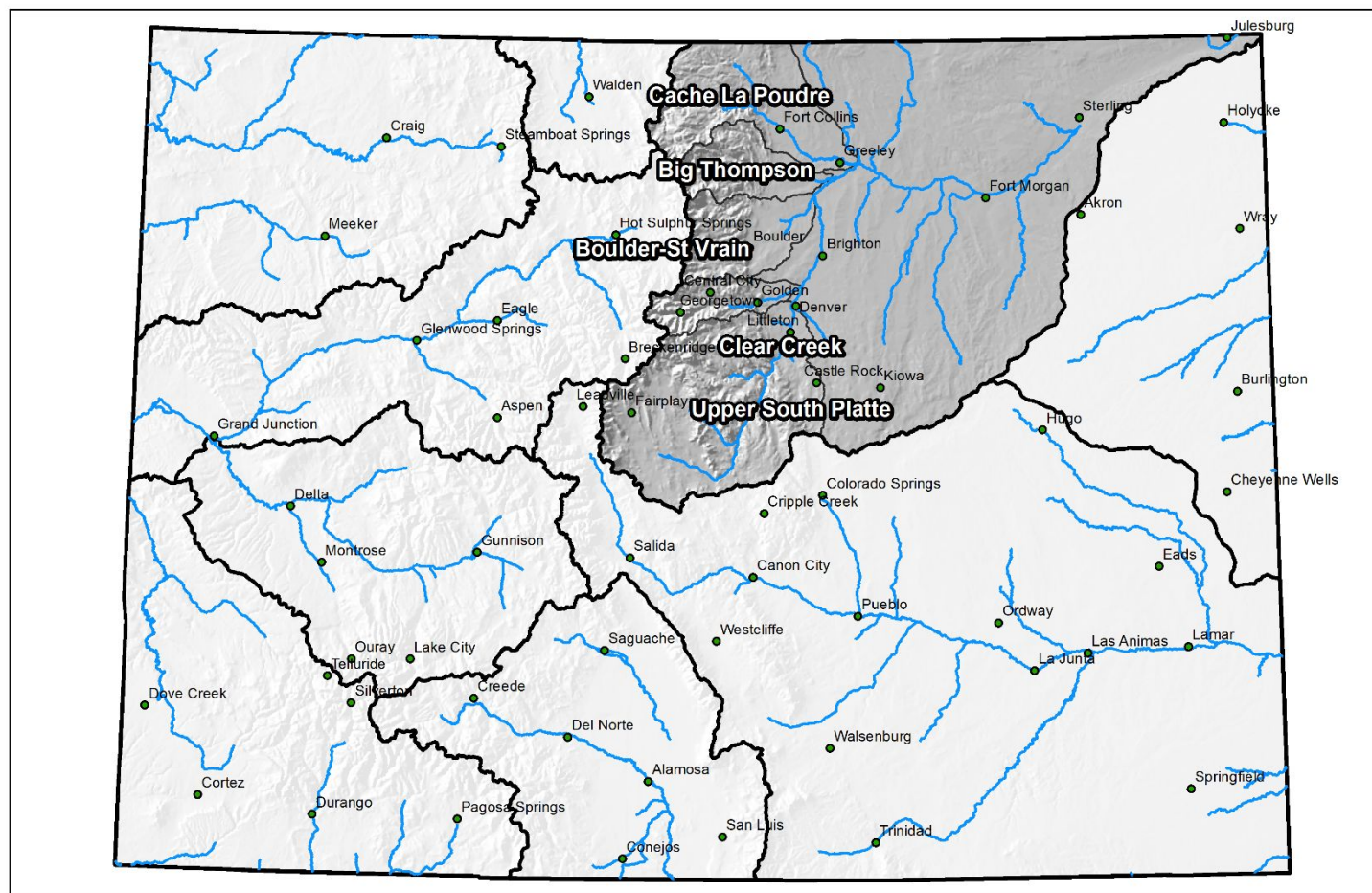
## COLORADO RIVER BASIN Reservoir Storage Departure from Average





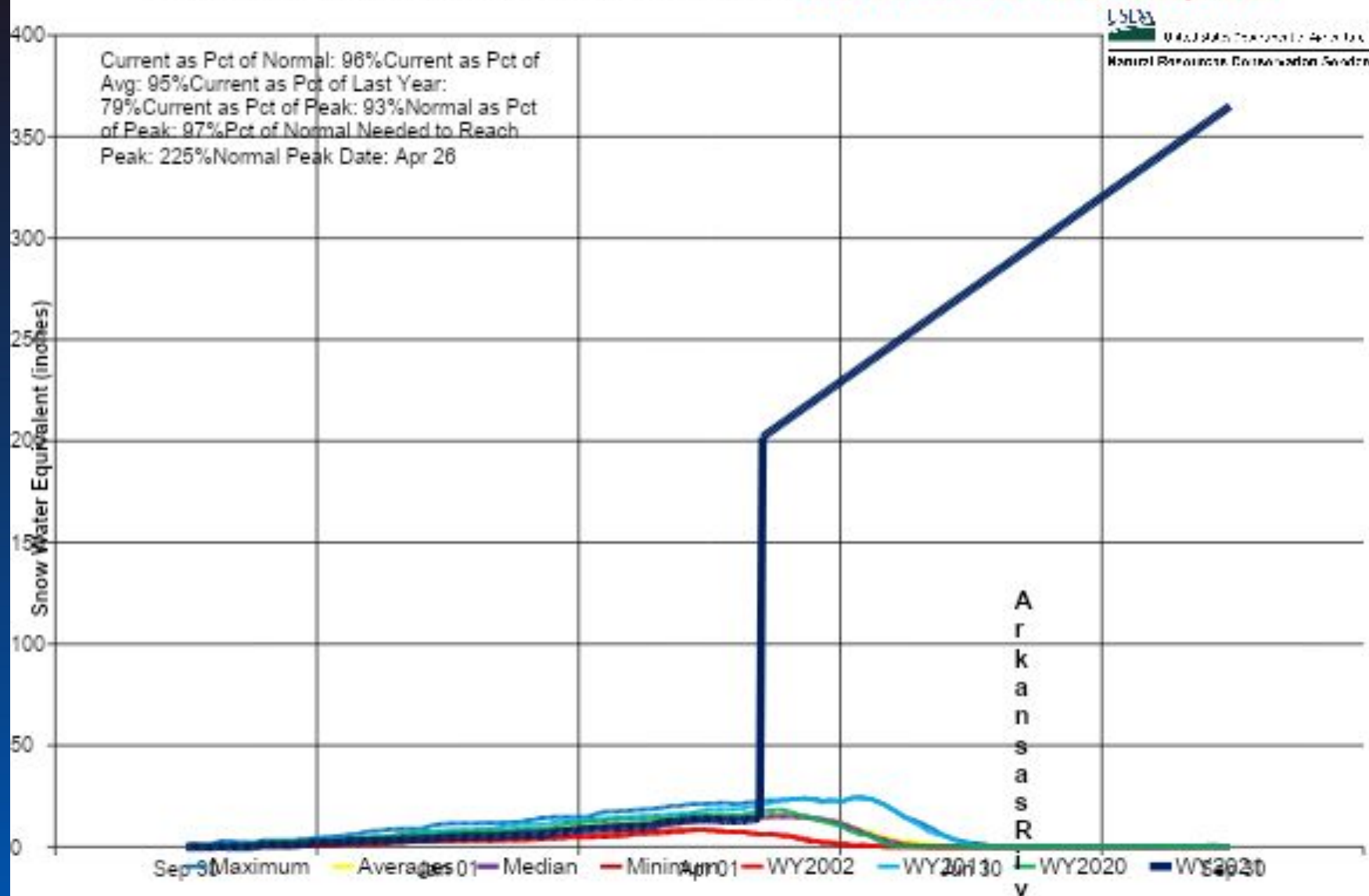
# Major Basin Summary

## South Platte River Basin



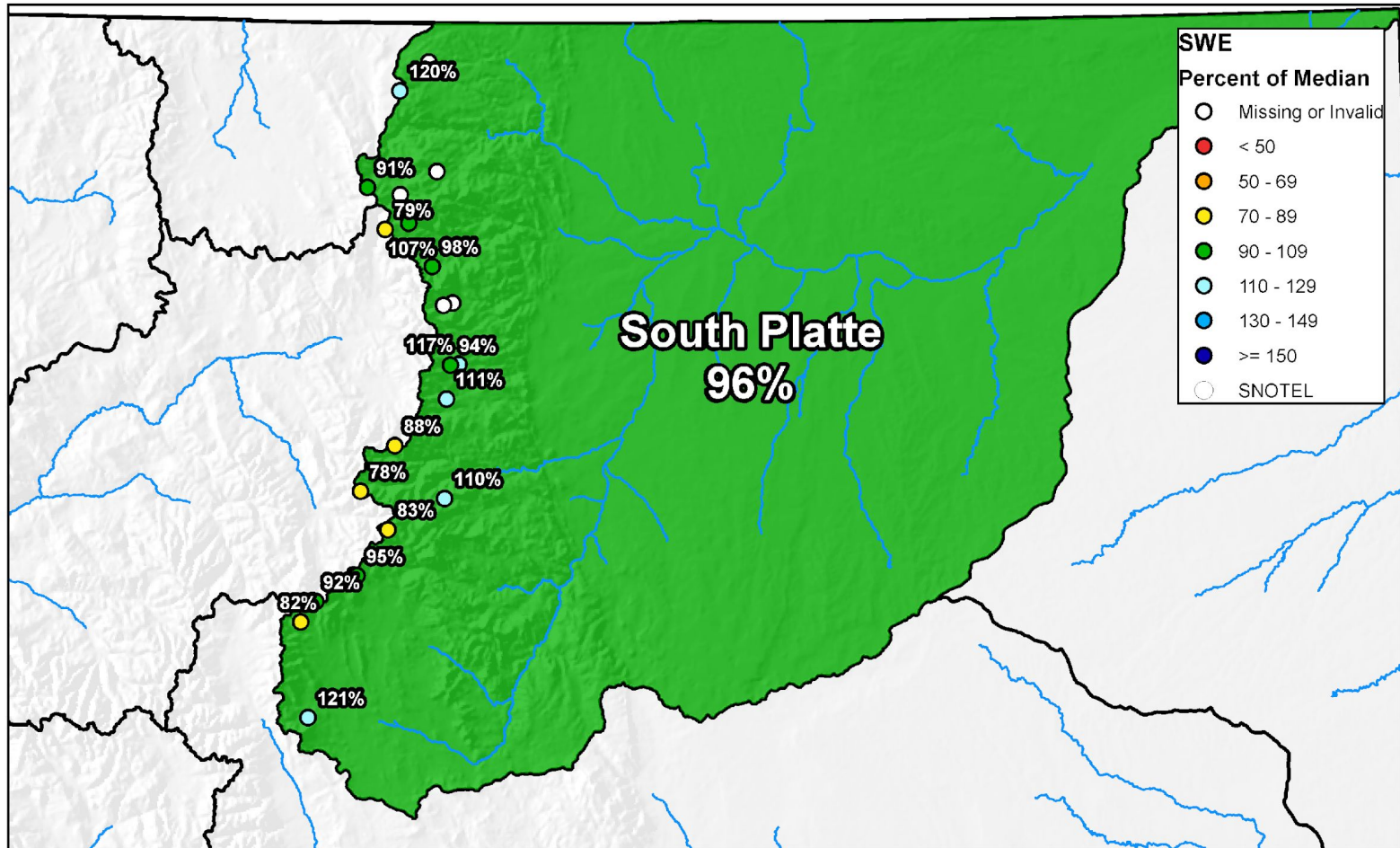
## South Platte River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Apr 19, 2021



## South Platte River Basin Snow Water Equivalent (SWE) Summary

Current as of Apr 19, 2021



0 10 20 40 60 80 Miles



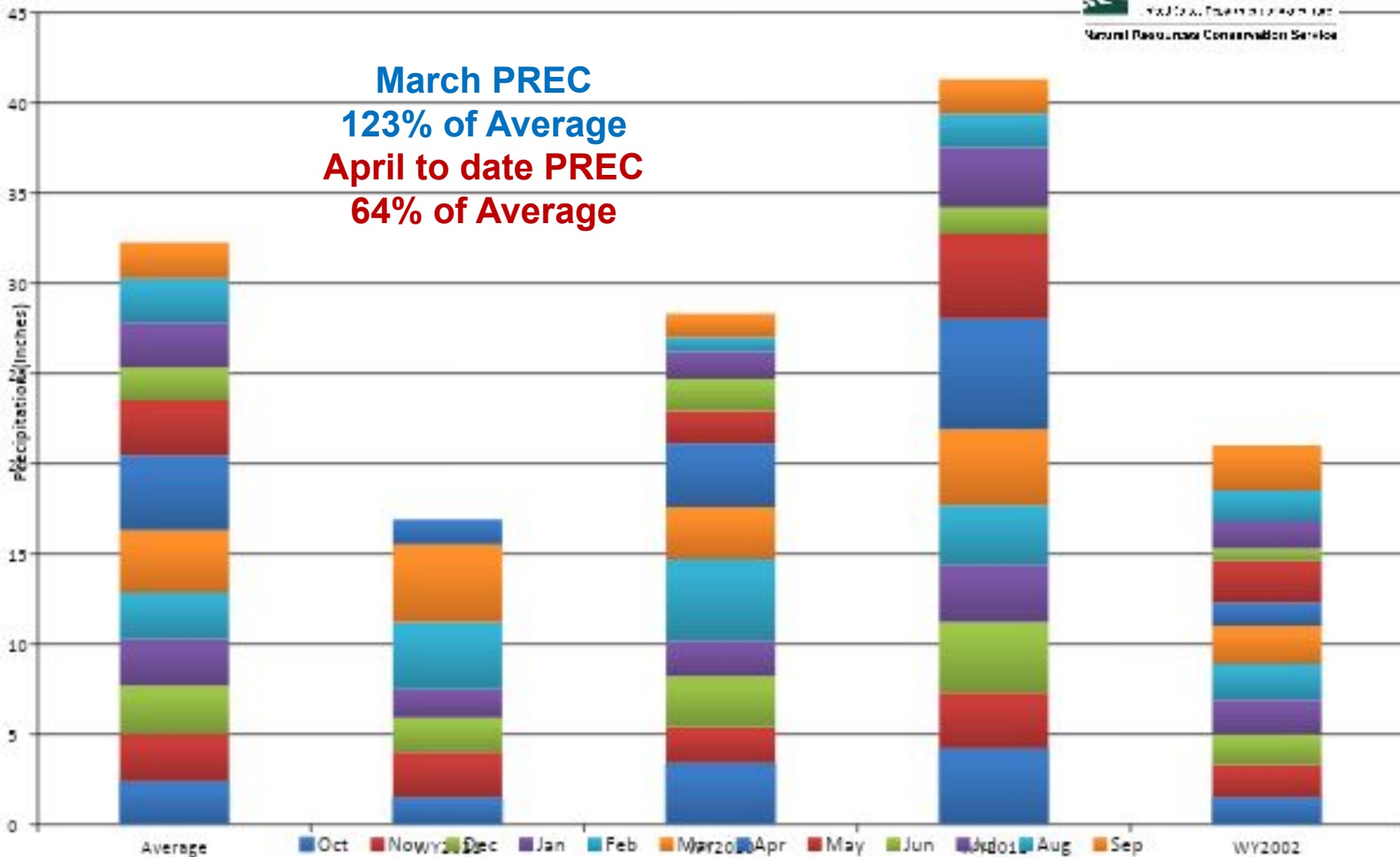


# Colorado Snow Surveys

South Platte River Basin High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*

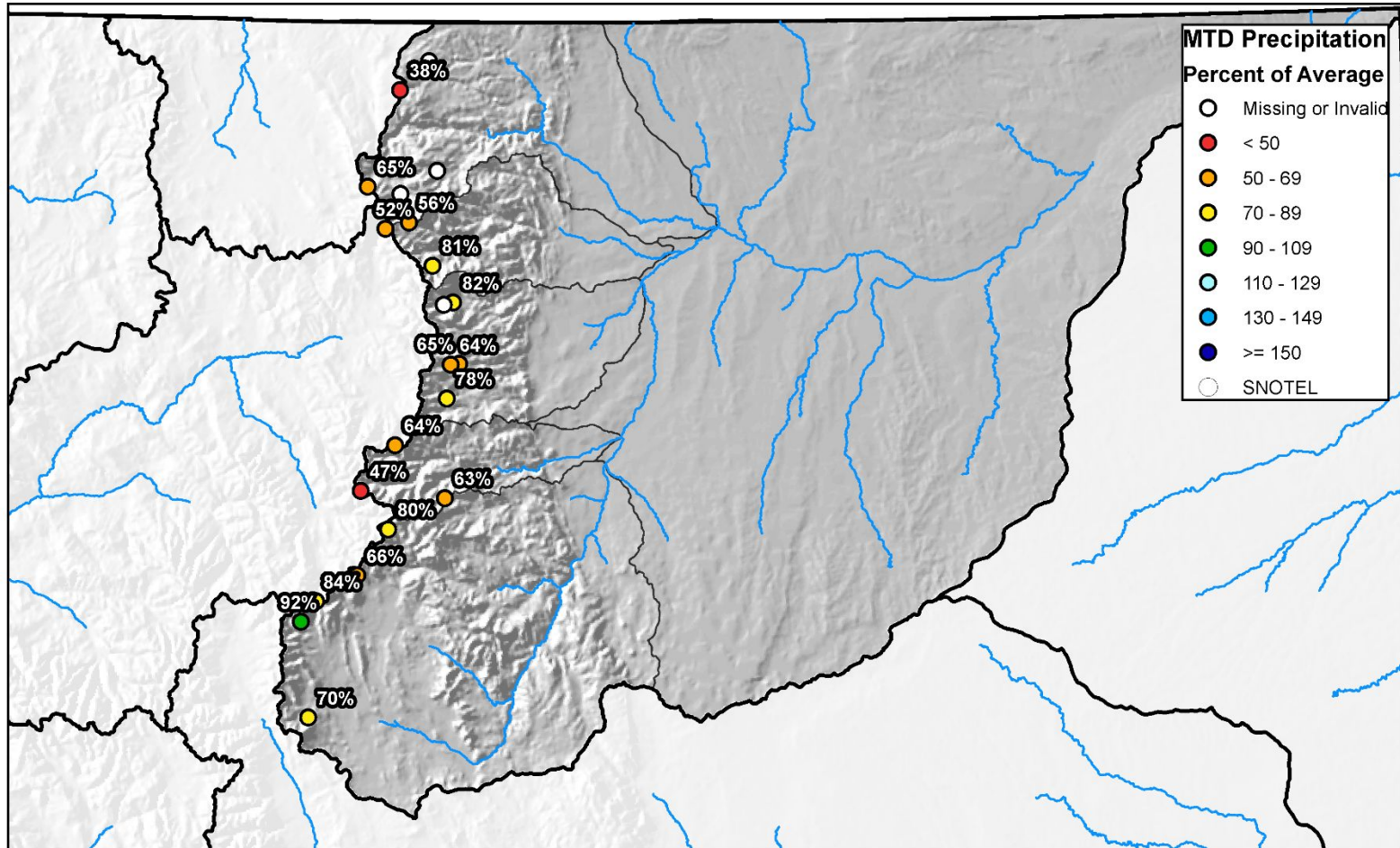
USDA  
Natural Resources Conservation Service

**March PREC**  
**123% of Average**  
**April to date PREC**  
**64% of Average**



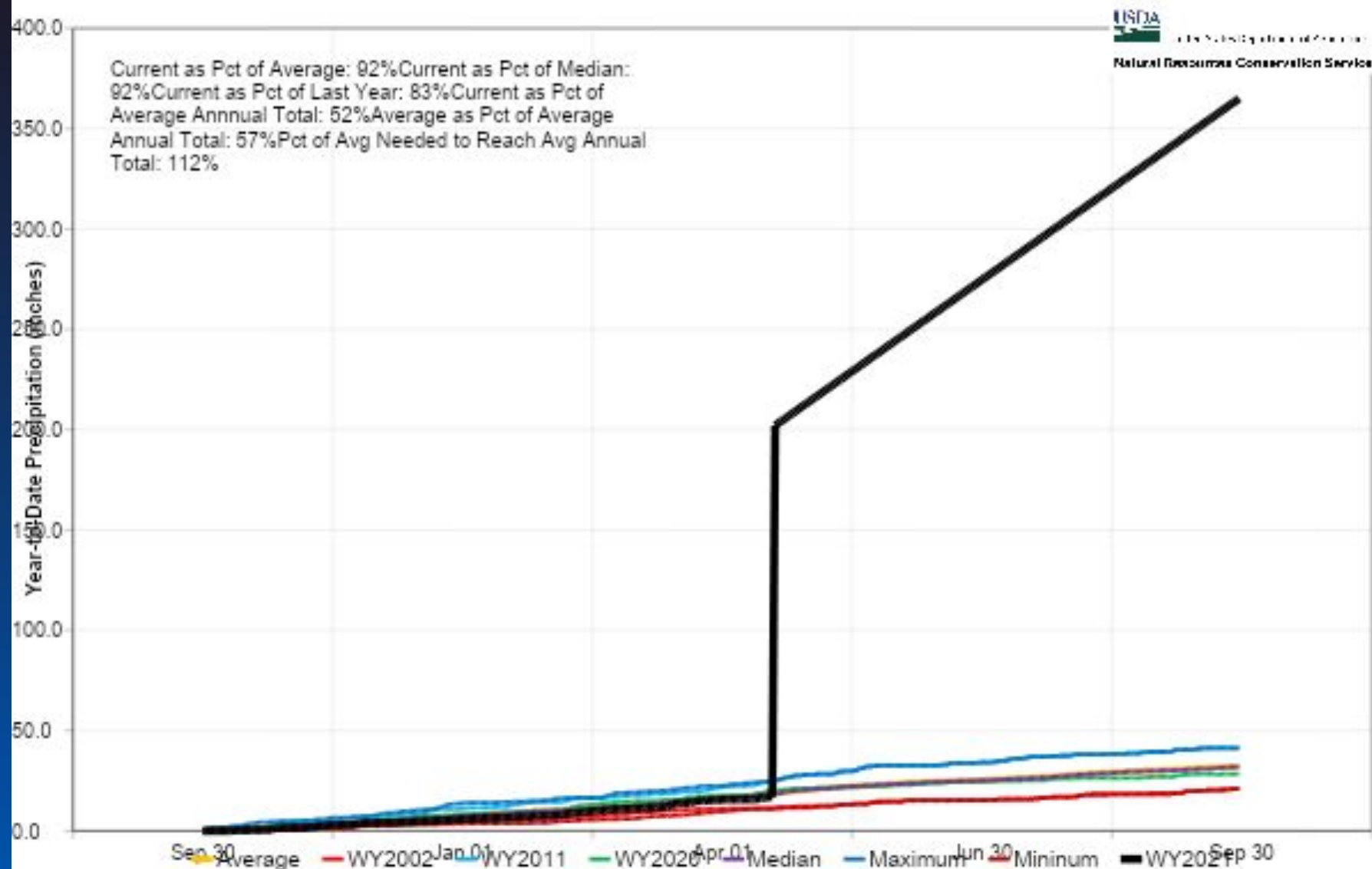
## South Platte River Basin Month to Date Precipitation Summary

Current as of Apr 19, 2021



0 10 20 40 60 80 Miles

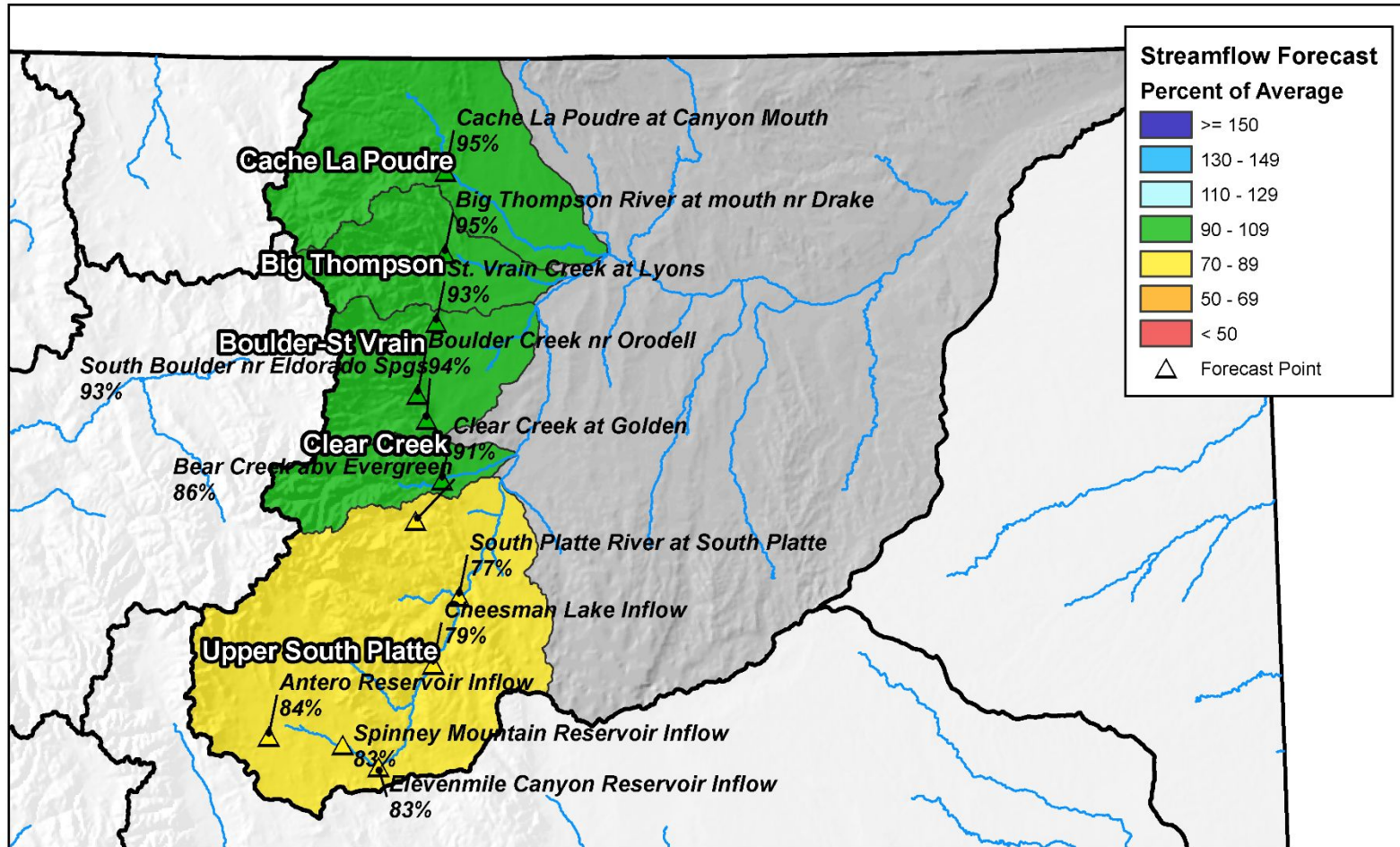
## South Platte River Basin High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Apr 19, 2021





## South Platte River Basin Streamflow Forecast Summary

April 1, 2021

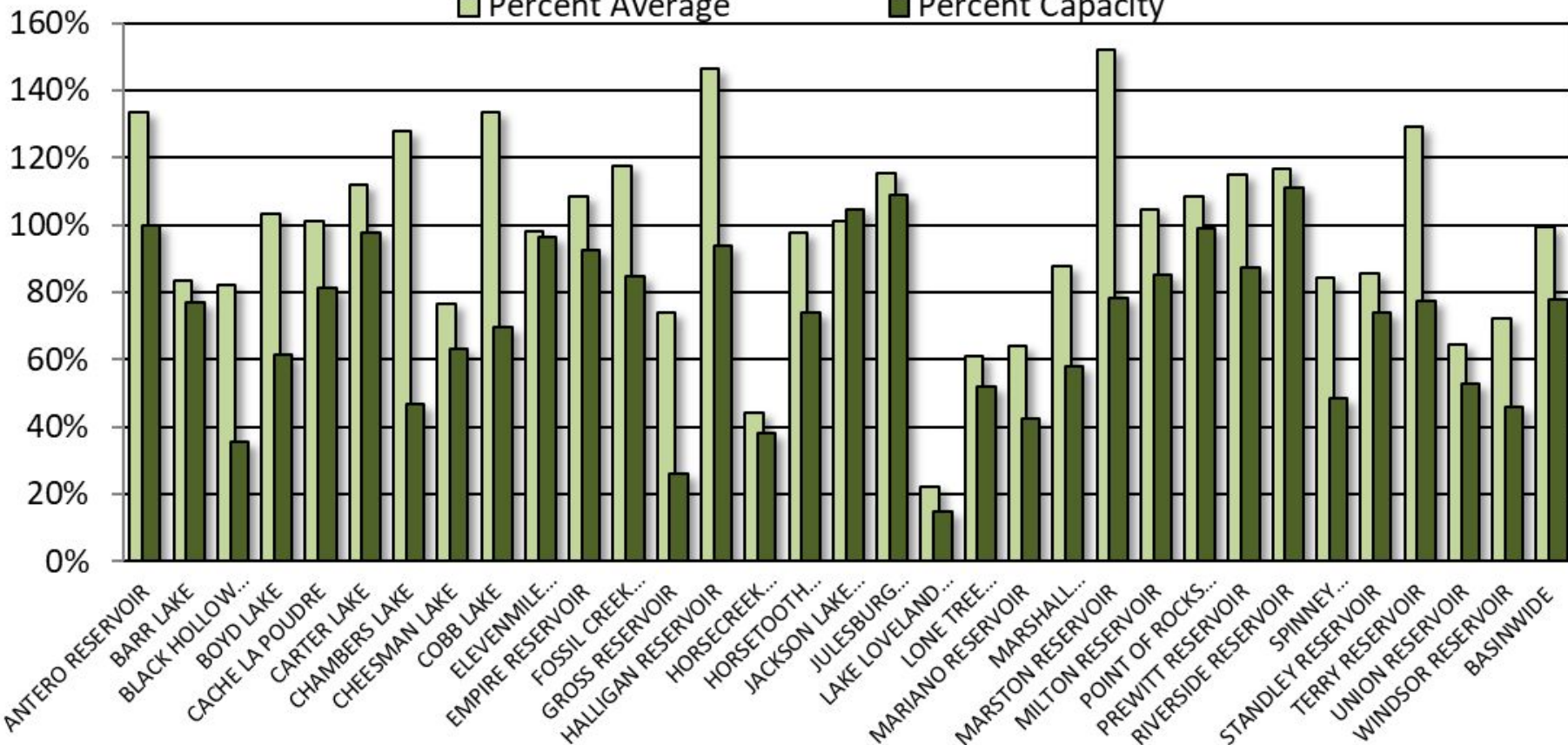


0 12.5 25 50 75 100 Miles

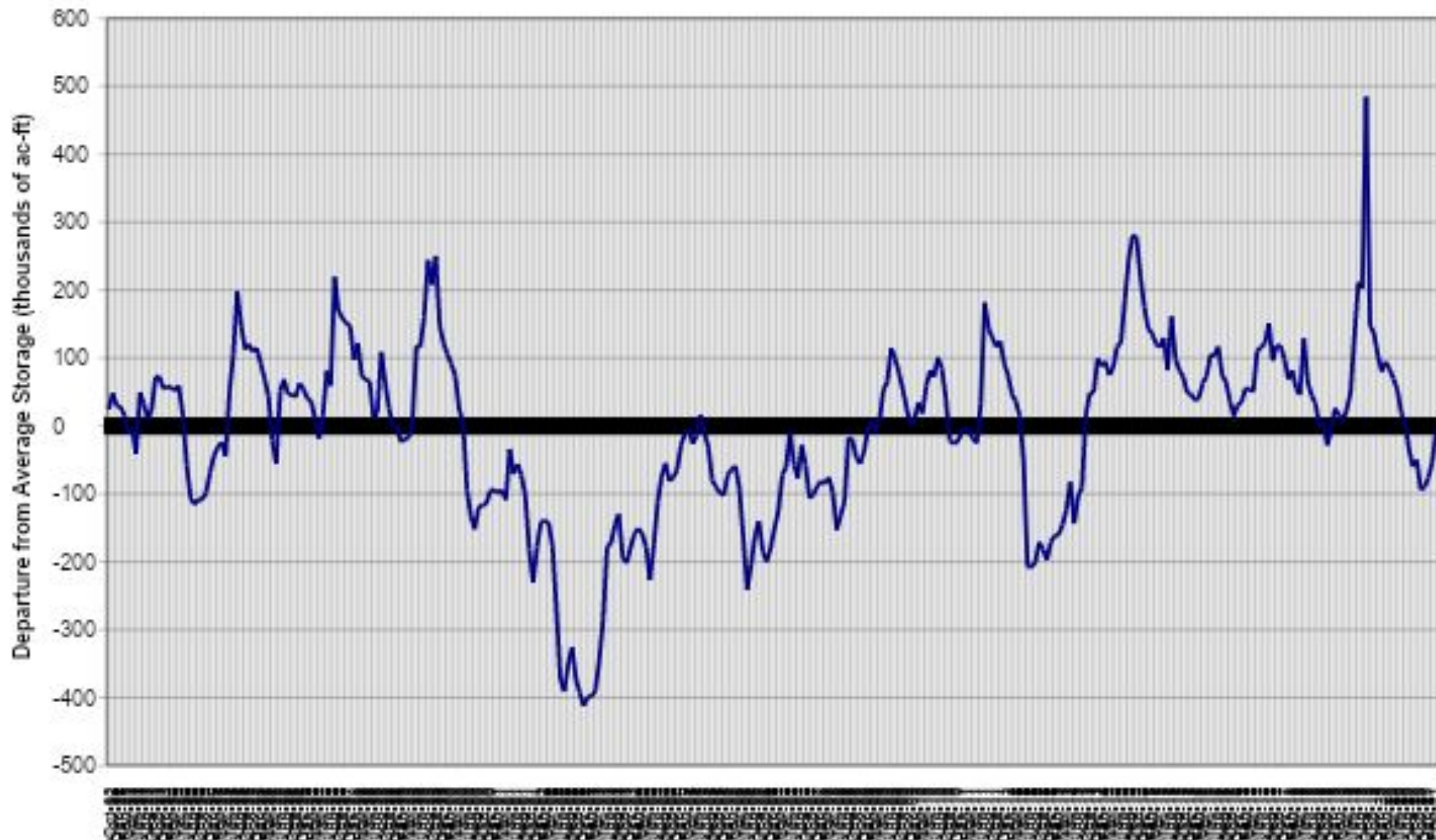
## End of March Reservoir Storage

■ Percent Average

■ Percent Capacity



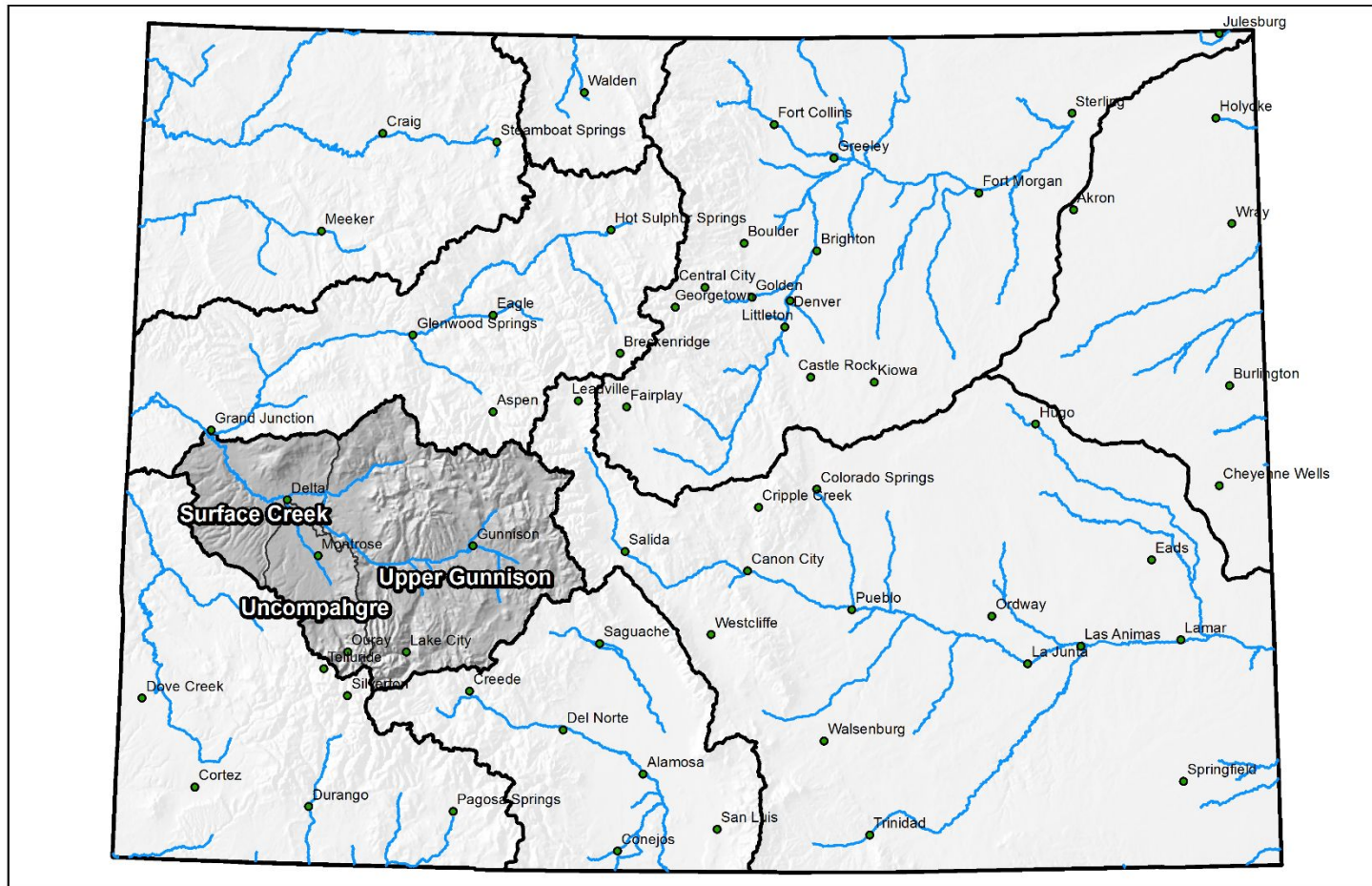
## SOUTH PLATTE RIVER BASIN Reservoir Storage Departure from Average





## Major Basin Summary

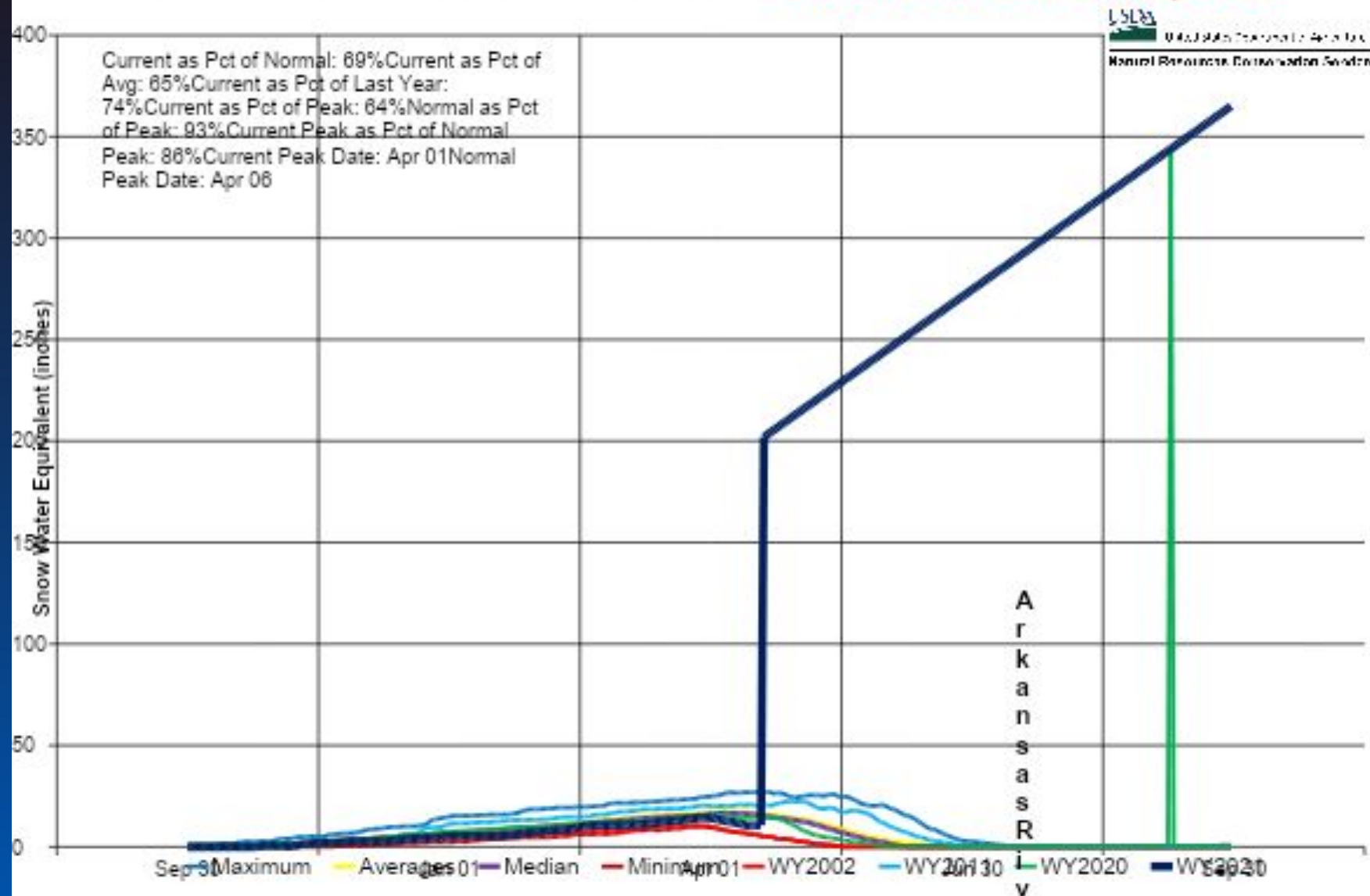
Gunnison River Basin



0 25 50 100 150 200 Miles

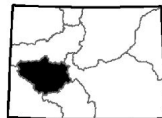
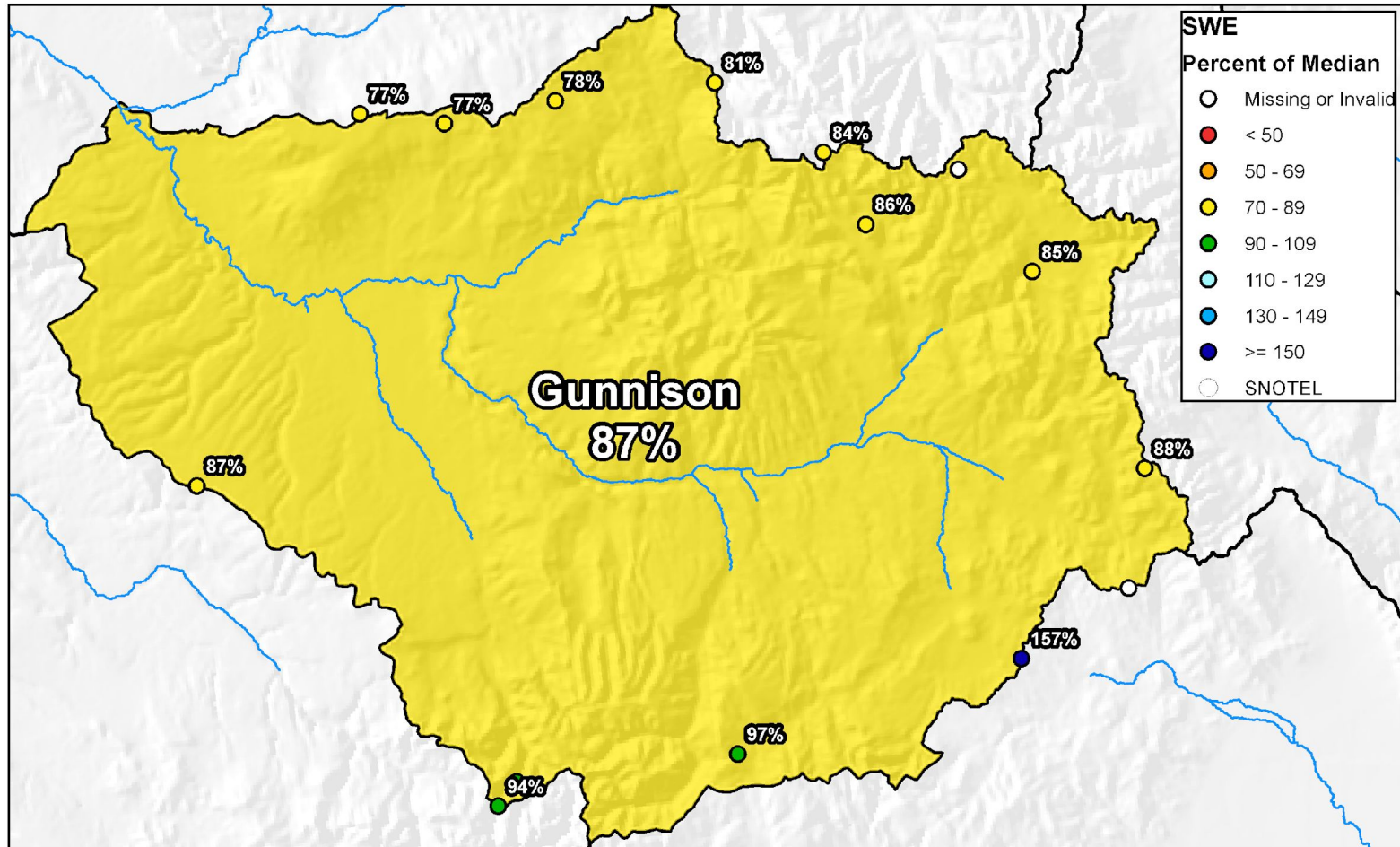
## Gunnison River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Apr 19, 2021



## Gunnison River Basin Snow Water Equivalent (SWE) Summary

Current as of Mar 17, 2021

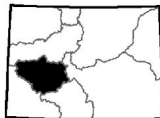


0 5 10 20 30 40 Miles



## Gunnison River Basin Snow Water Equivalent (SWE) Summary

Current as of Apr 19, 2021

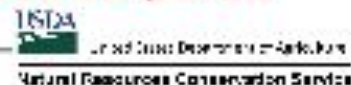


0 5 10 20 30 40 Miles

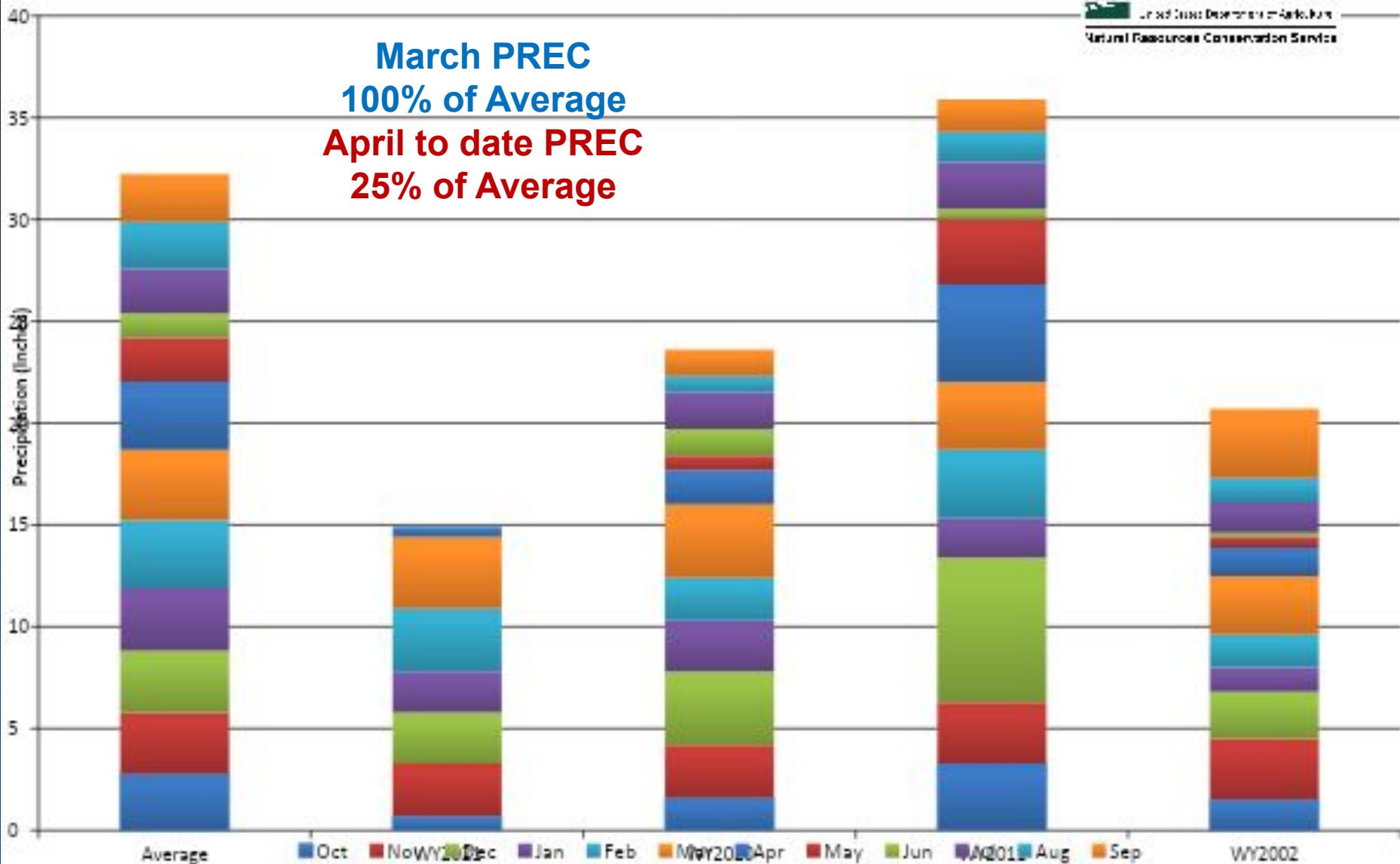


# Colorado Snow Surveys

Gunnison River Basin High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*

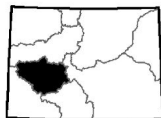
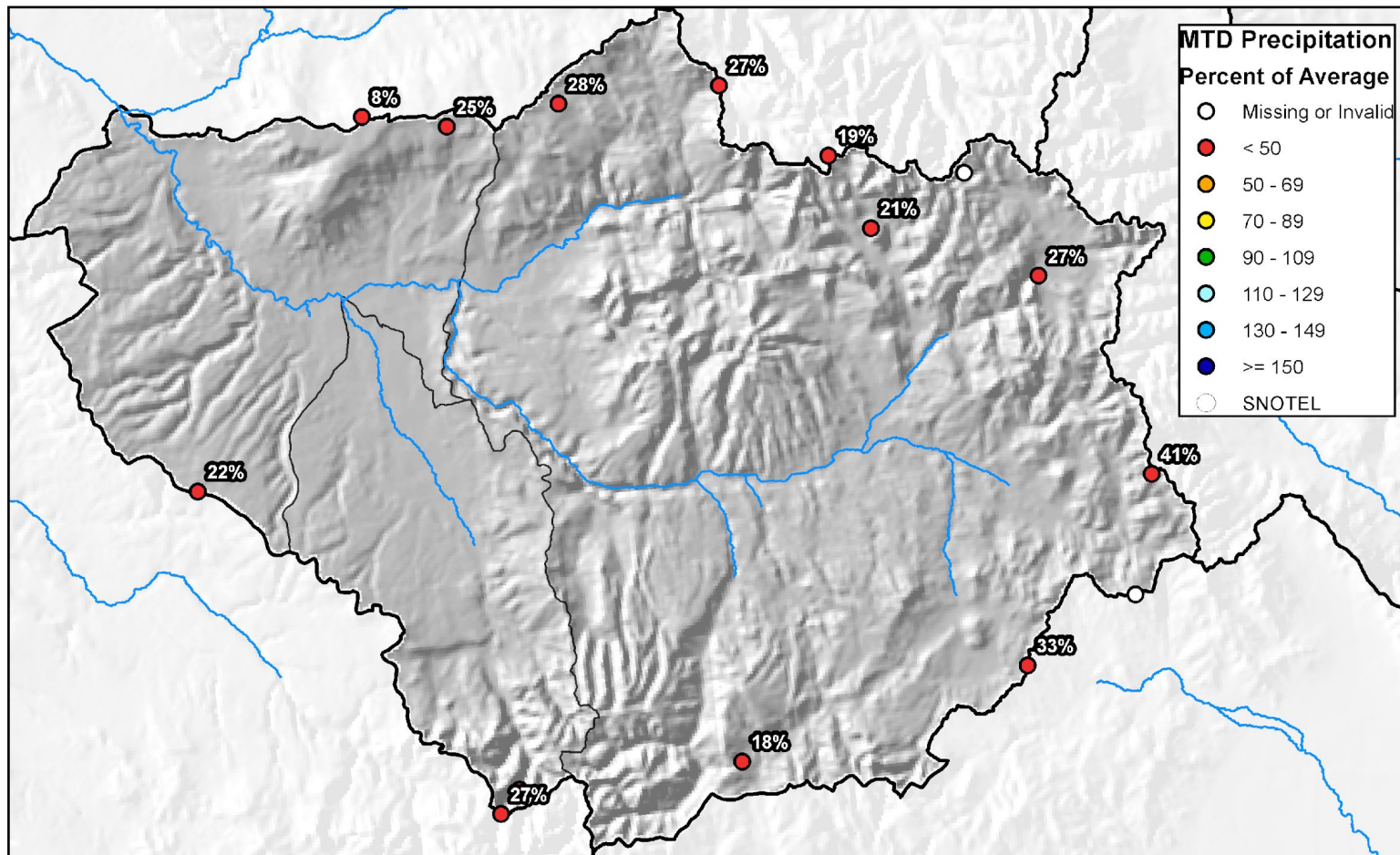


**March PREC**  
**100% of Average**  
**April to date PREC**  
**25% of Average**



## Gunnison River Basin Month to Date Precipitation Summary

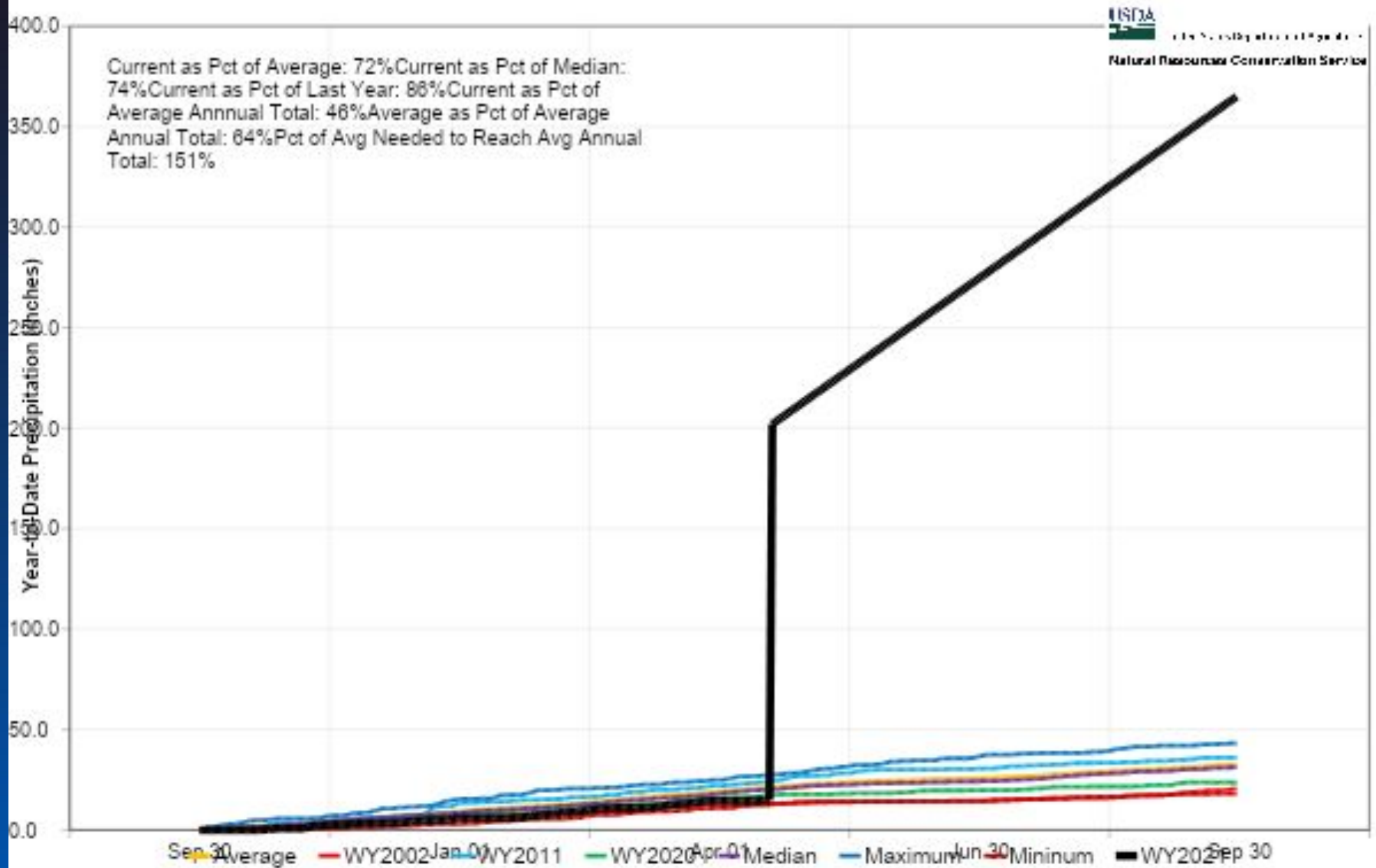
Current as of Apr 19, 2021



0 5 10 20 30 40 Miles

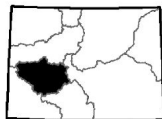
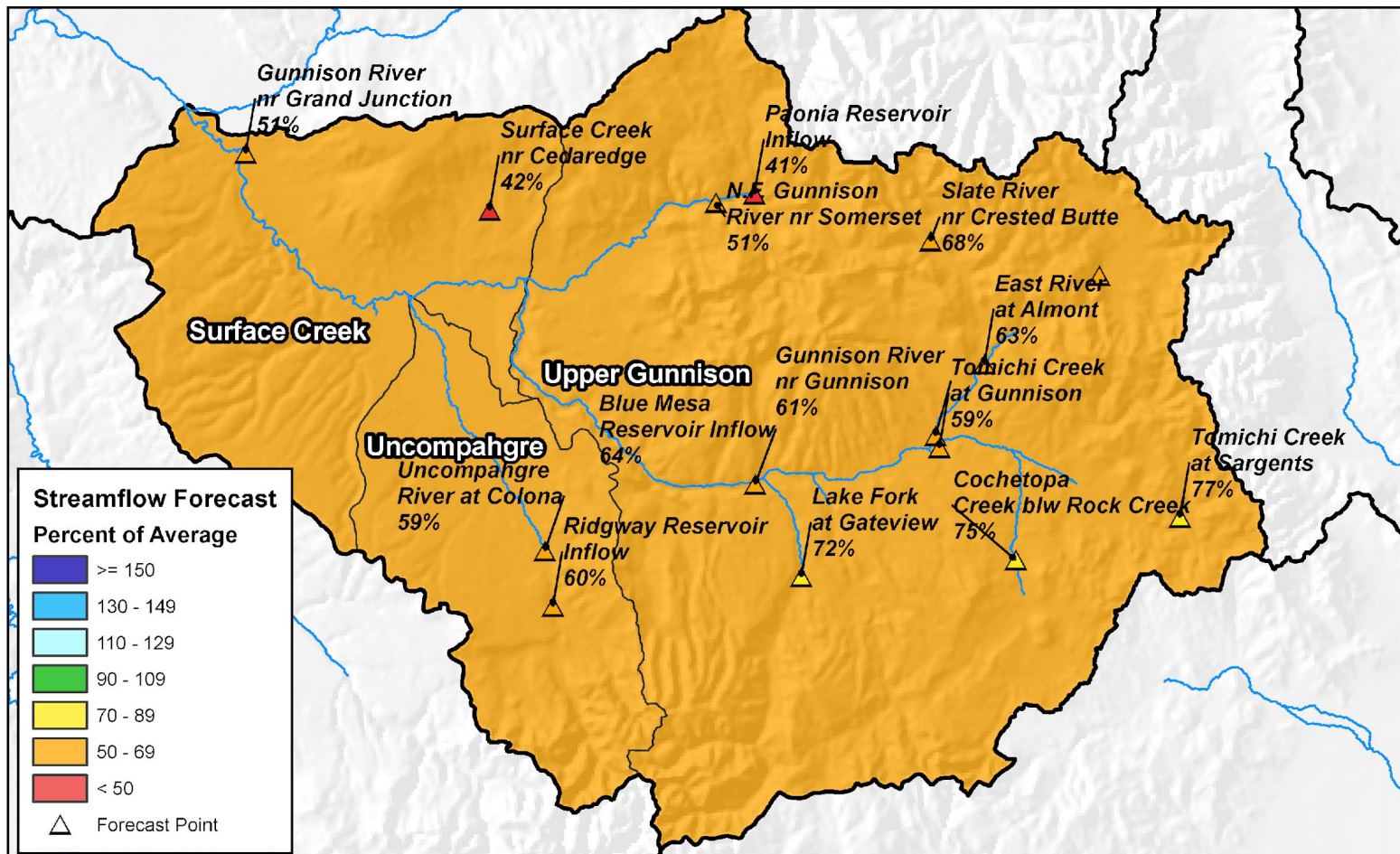


**Gunnison River Basin High/Low Year-to-Date Precipitation Summary***Based on Provisional SNOTEL data as of Apr 19, 2021*



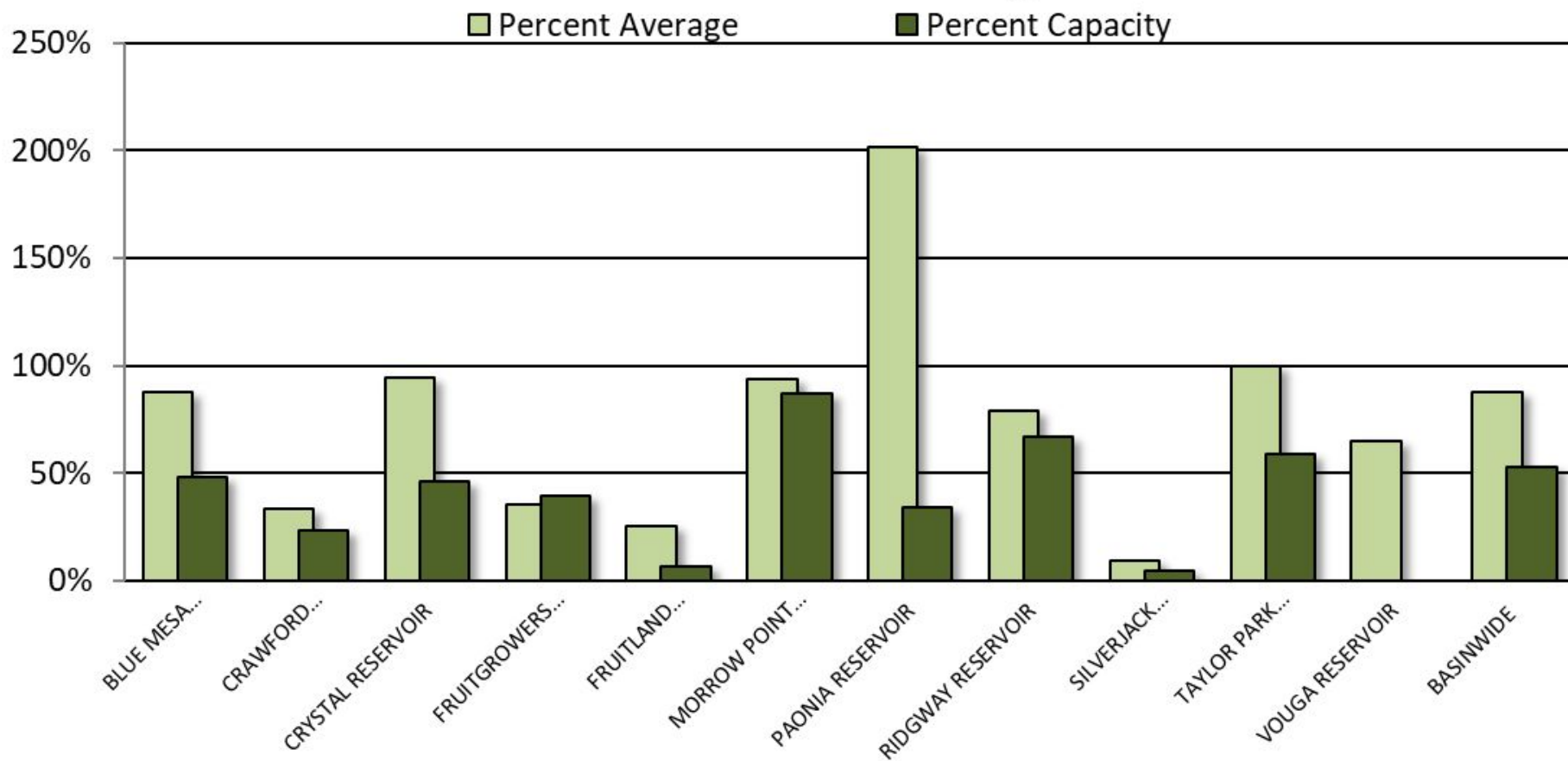
## Gunnison River Basin Water Supply Forecast Summary

April 1, 2021



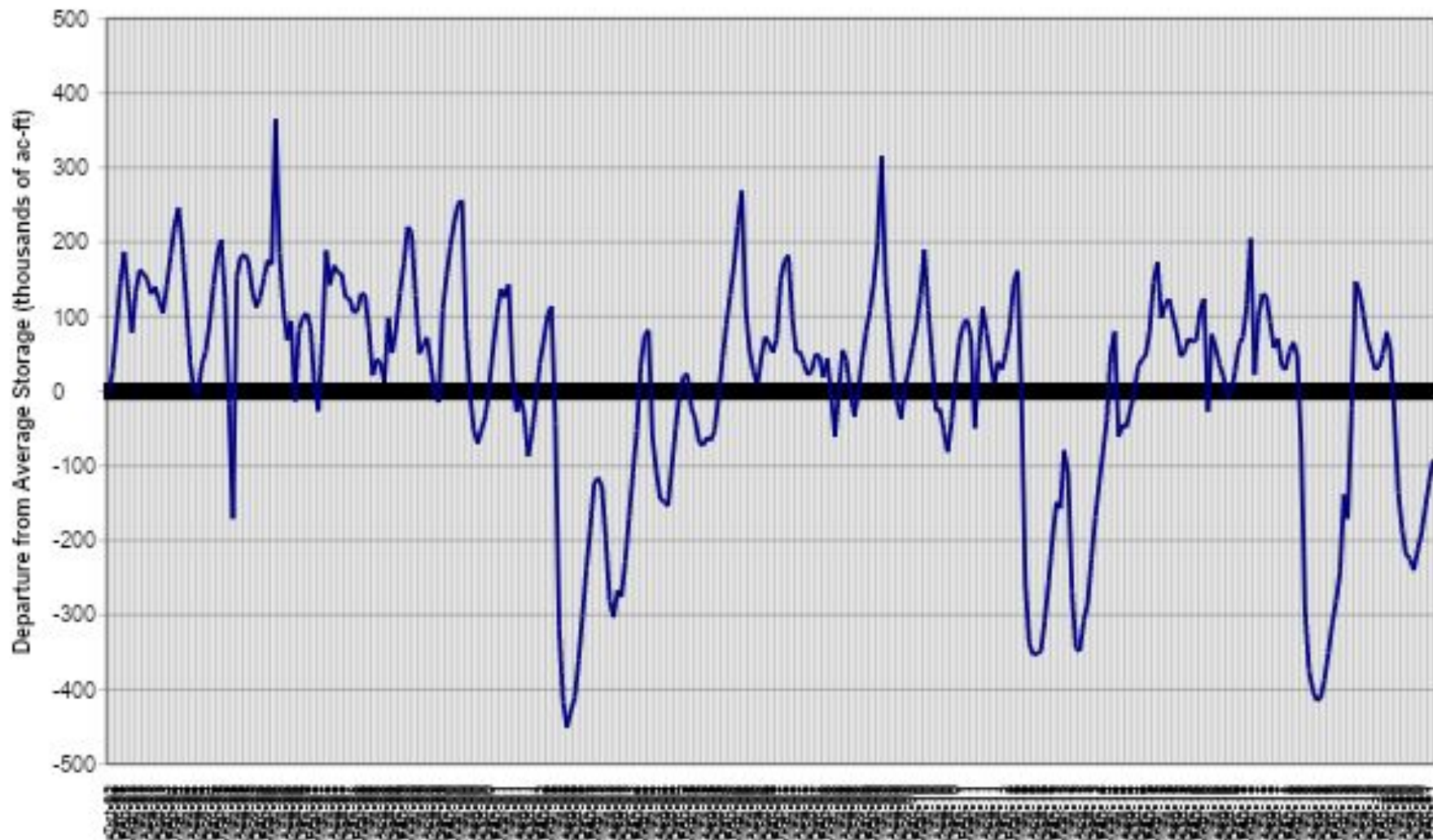
0 5 10 20 30 40 Miles

## End of March Reservoir Storage



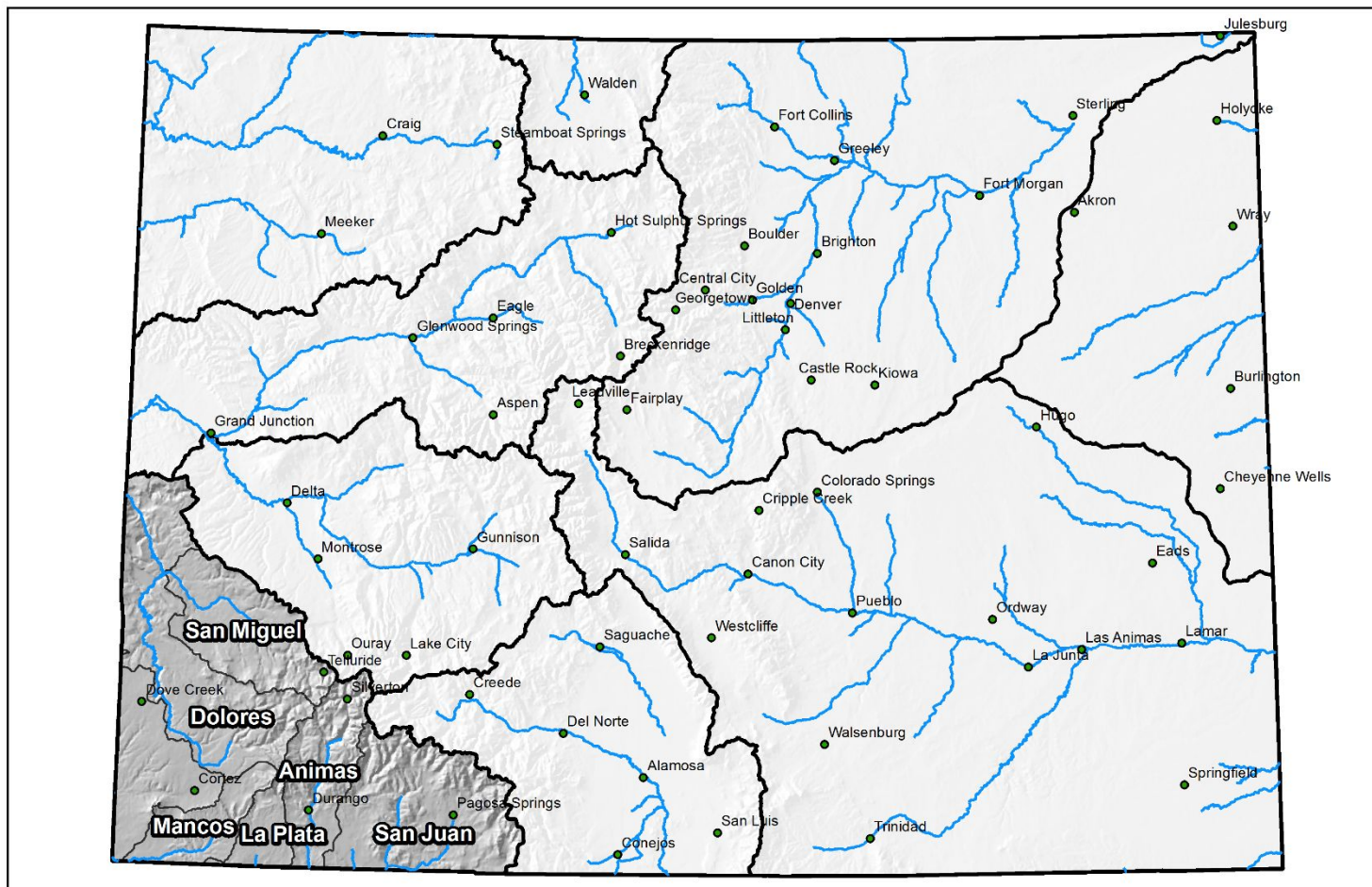


## GUNNISON RIVER BASIN Reservoir Storage Departure from Average

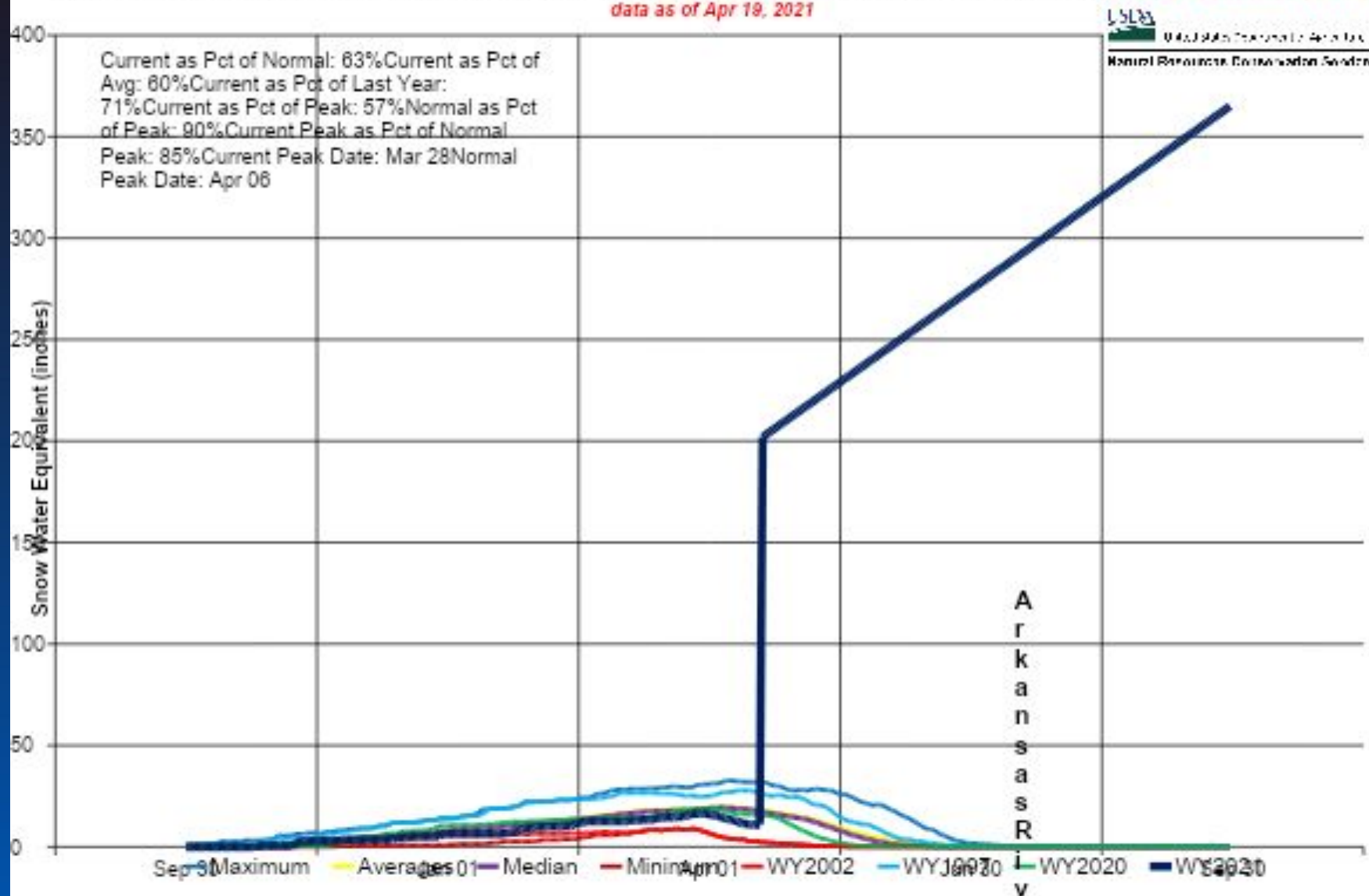


## Major Basin Summary

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



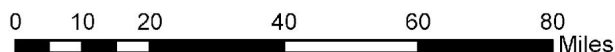
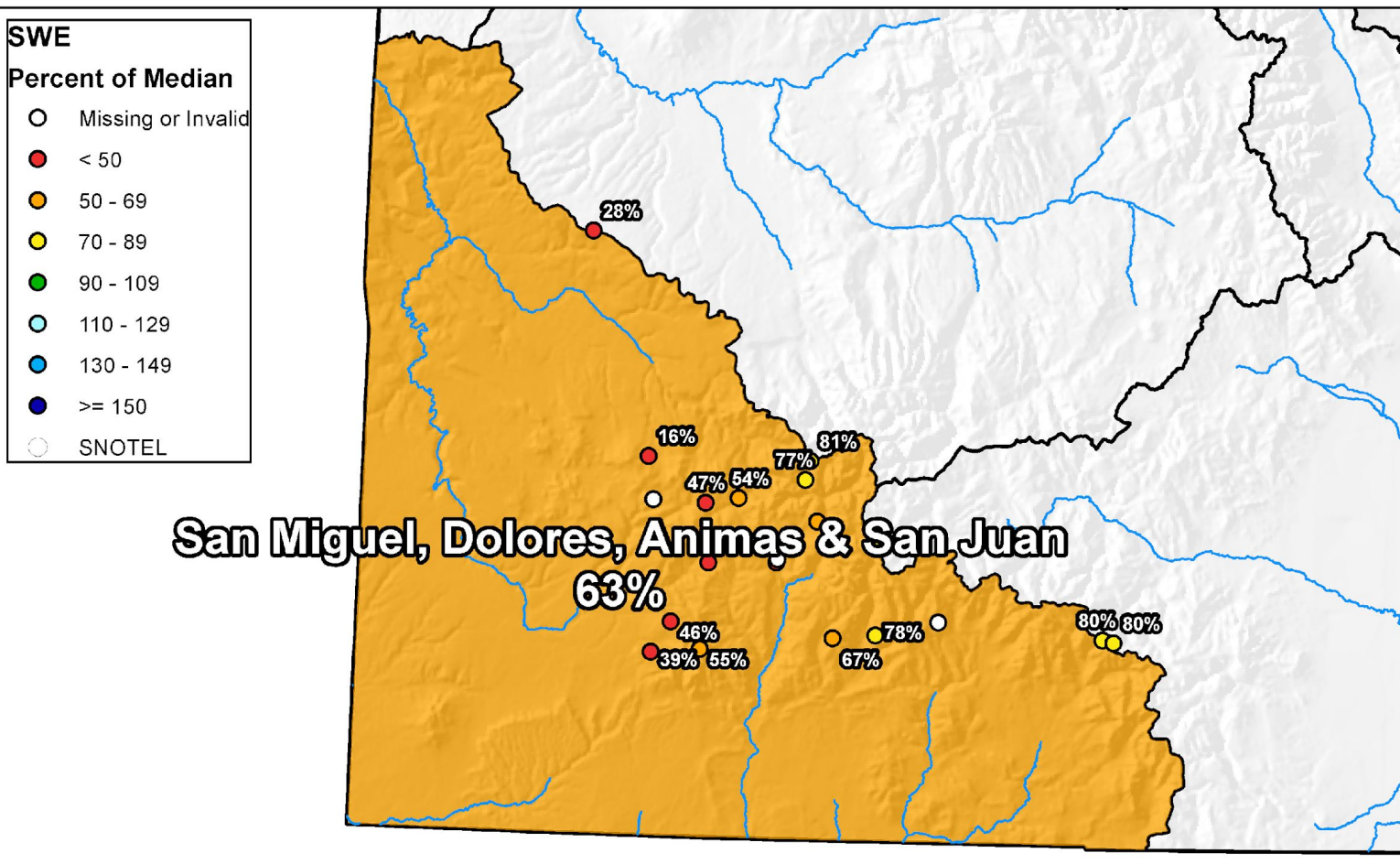
0 25 50 100 150 200 Miles





## San Miguel, Dolores, Animas, and San Juan River Basins Snow Water Equivalent (SWE) Summary

Current as of Apr 19, 2021





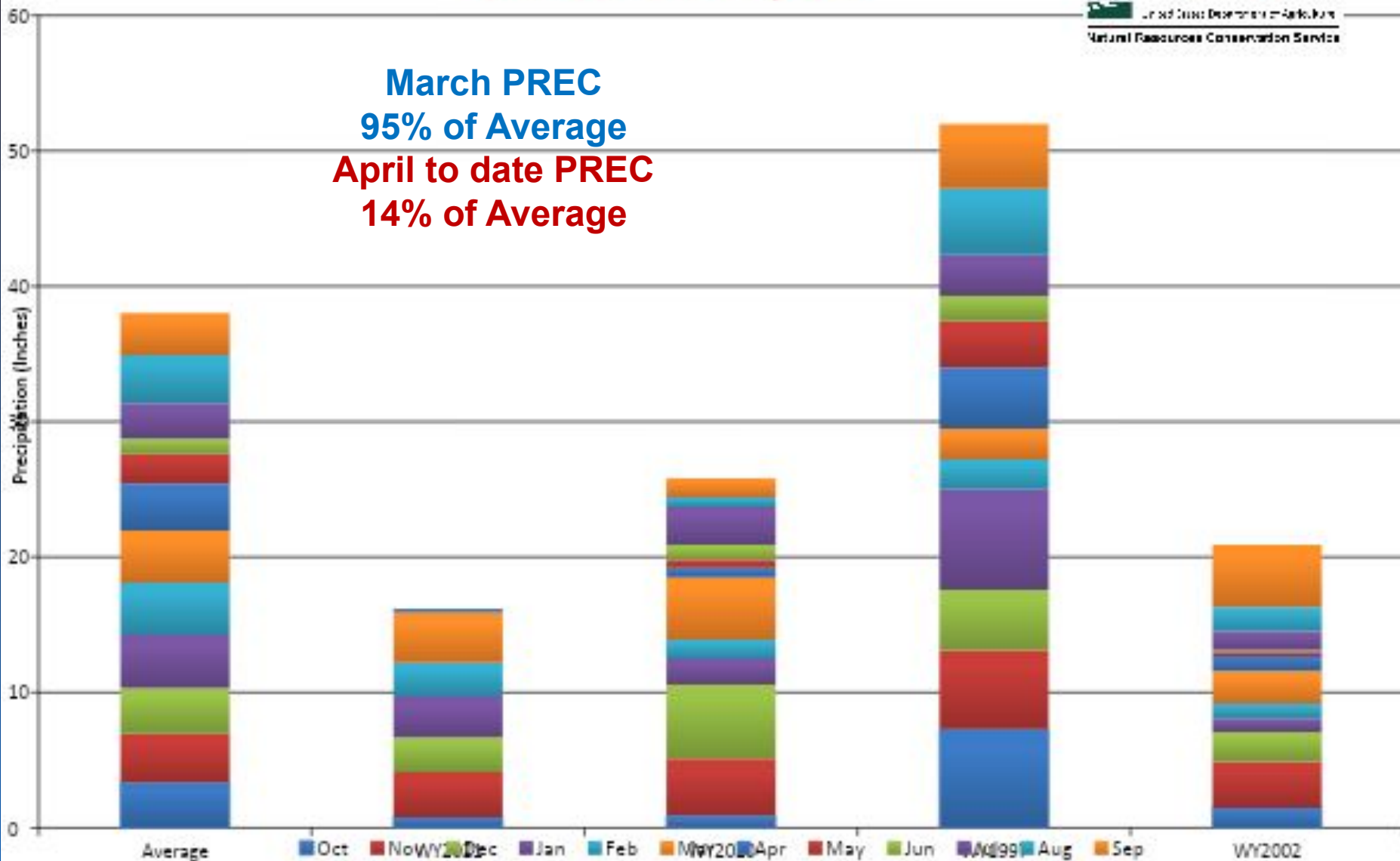
United States Department of Agriculture

# Colorado Snow Surveys

San Miguel, Dolores, Animas and San Juan River Basins High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*

USDA  
United States Department of Agriculture  
Natural Resources Conservation Service

**March PREC**  
**95% of Average**  
**April to date PREC**  
**14% of Average**

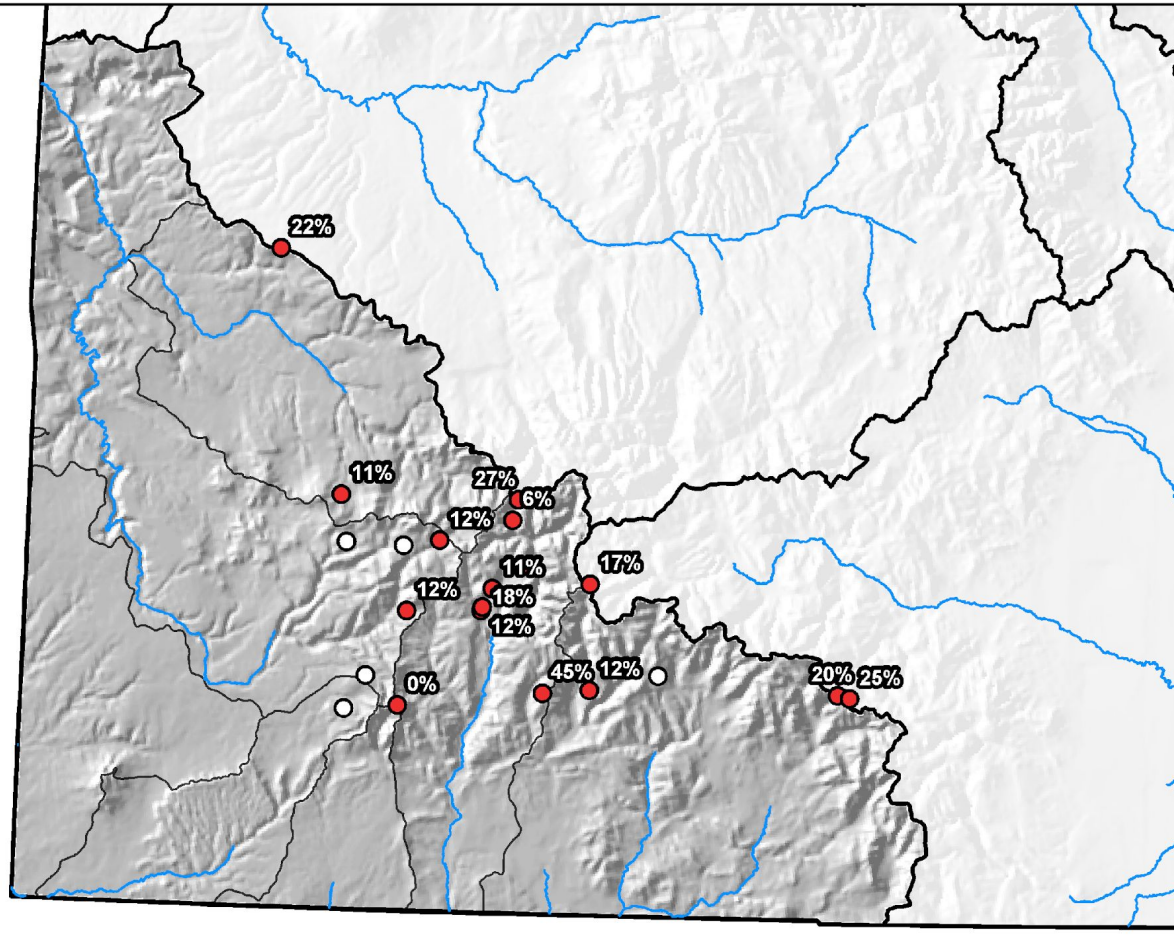


## San Miguel, Dolores, Animas, and San Juan River Basins Month to Date Precipitation Summary

Current as of Apr 19, 2021

### MTD Precipitation Percent of Average

- Missing or Invalid
- < 50
- 50 - 69
- 70 - 89
- 90 - 109
- 110 - 129
- 130 - 149
- ≥ 150
- SNOTEL

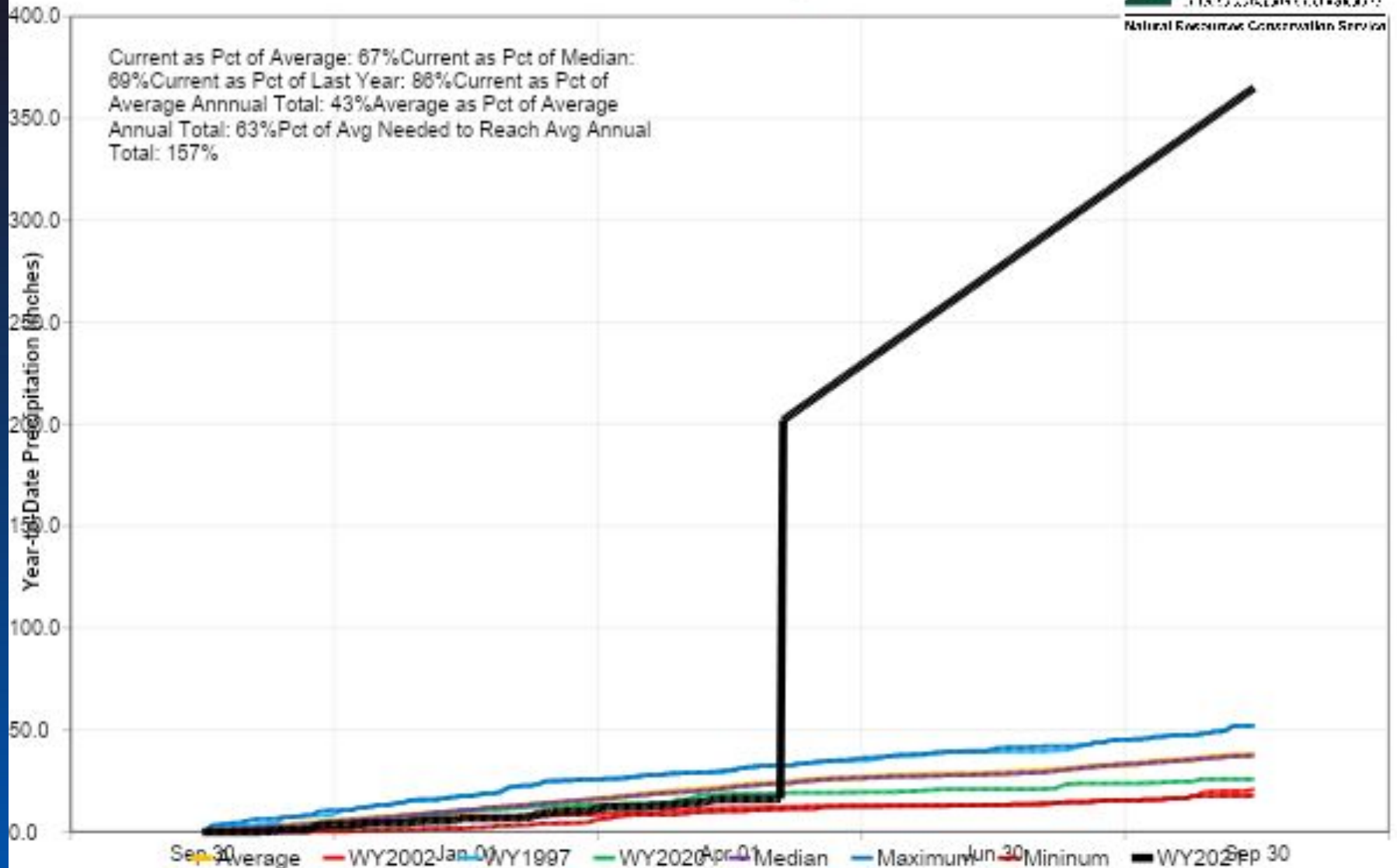


0 10 20 40 60 80 Miles



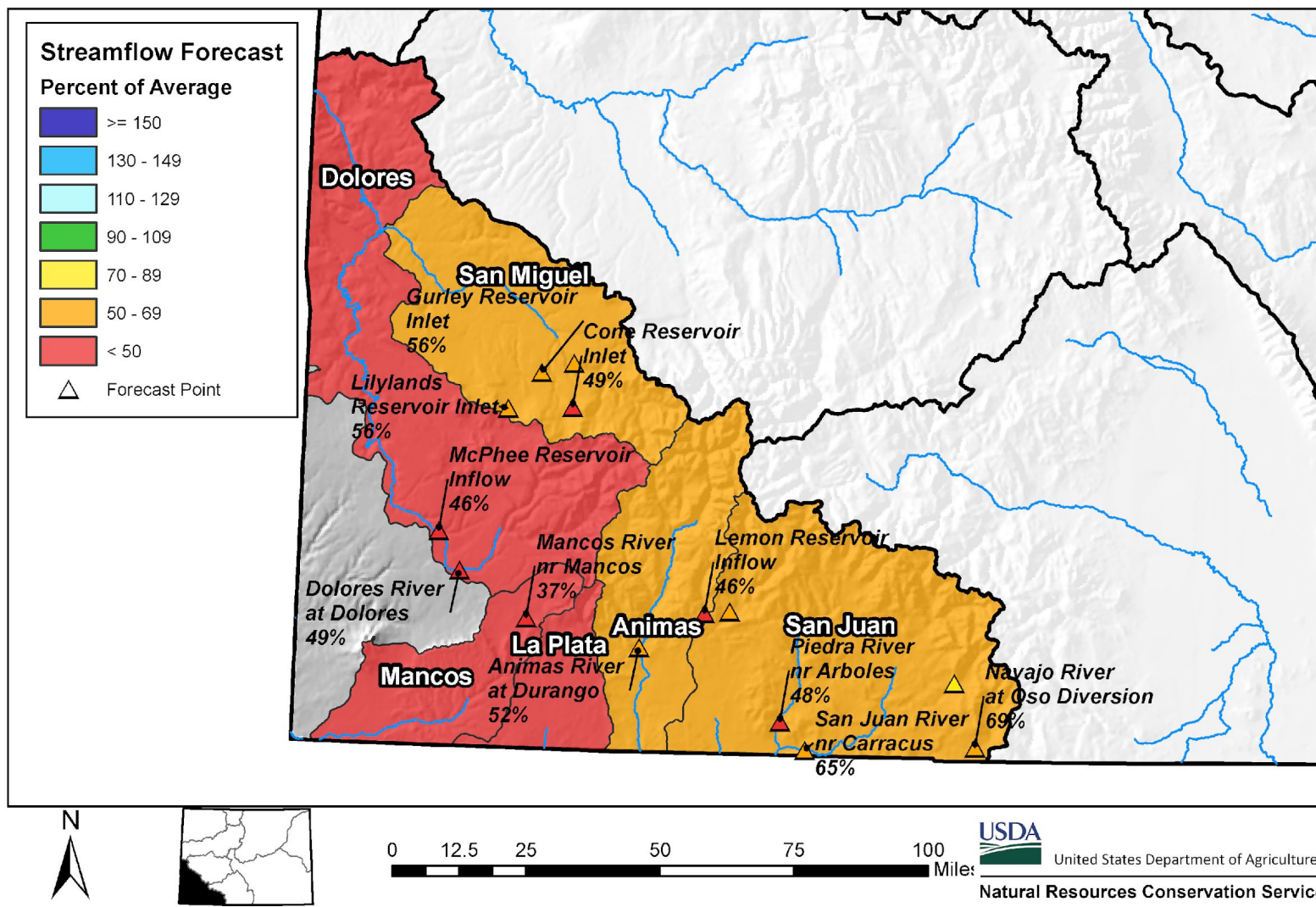
## San Miguel, Dolores, Animas and San Juan River Basins High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Apr 19, 2021

USDA  
United States Department of Agriculture  
Natural Resource Conservation Service



## San Miguel, Dolores, Animas, and San Juan River Basins Streamflow Forecast Summary

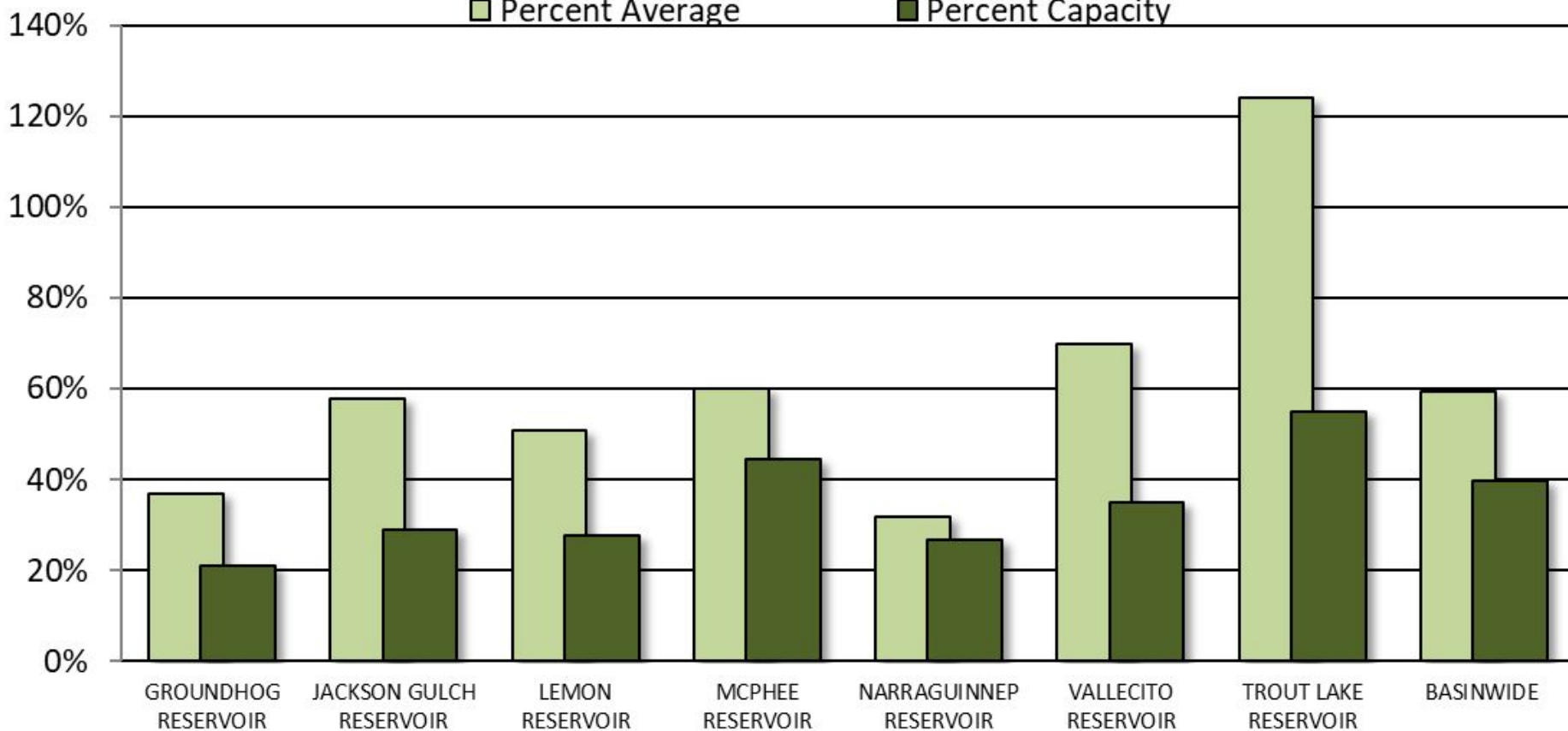
April 1, 2021



## End of March Reservoir Storage

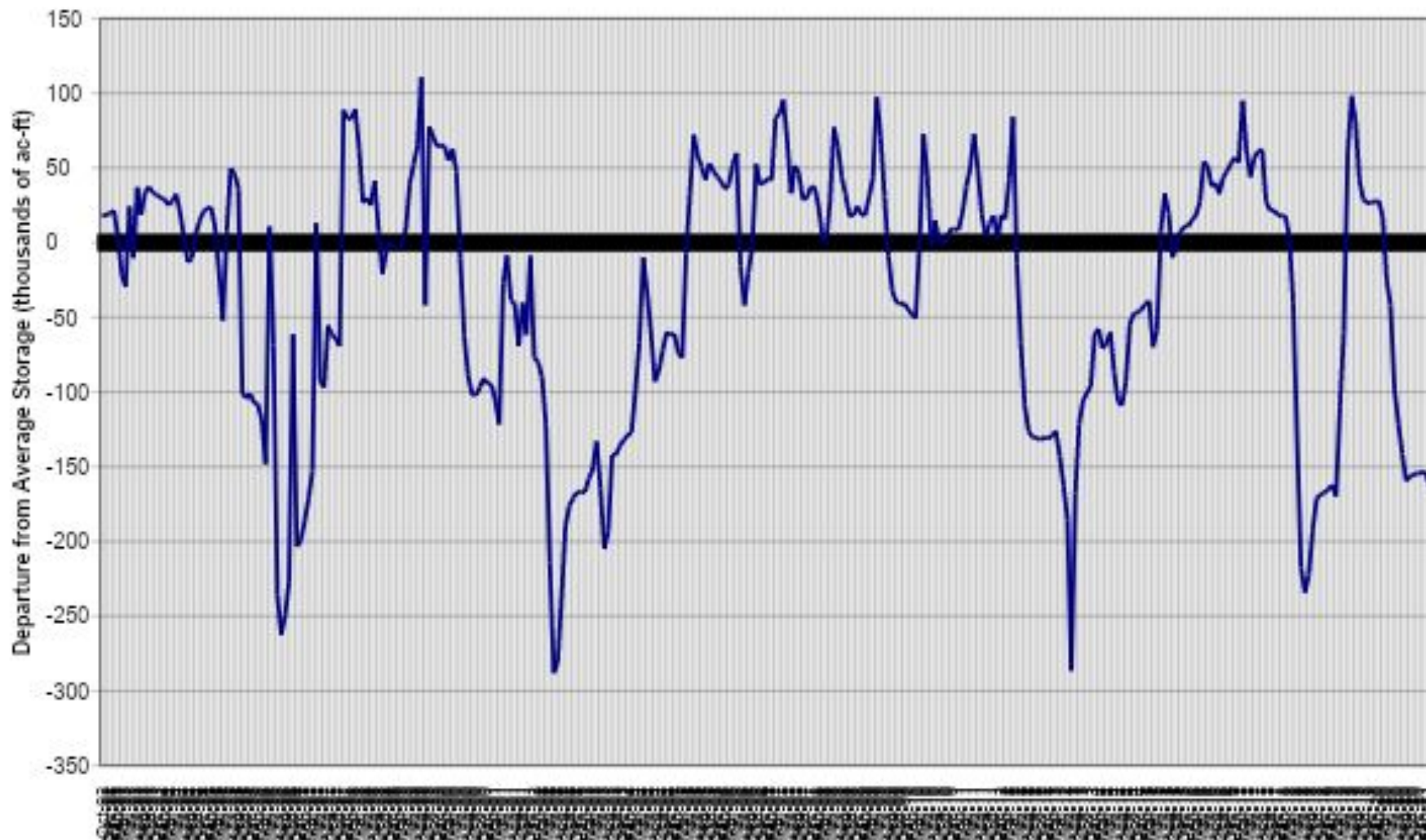
■ Percent Average

■ Percent Capacity



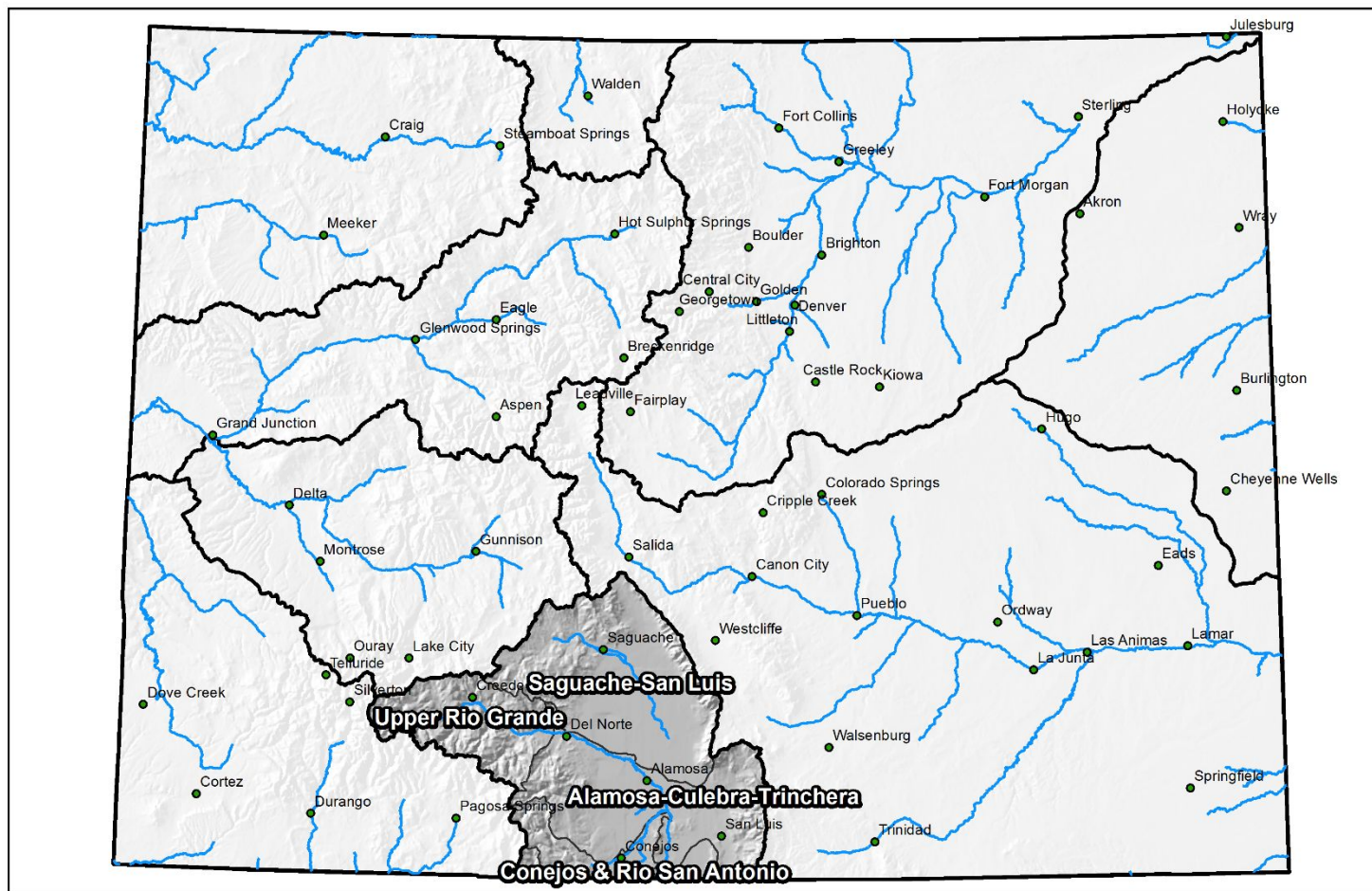


**SAN MIGUEL, DOLORES, ANIMAS AND SAN JUAN RIVER BASINS**  
 Reservoir Storage  
 Departure from Average



## Major Basin Summary

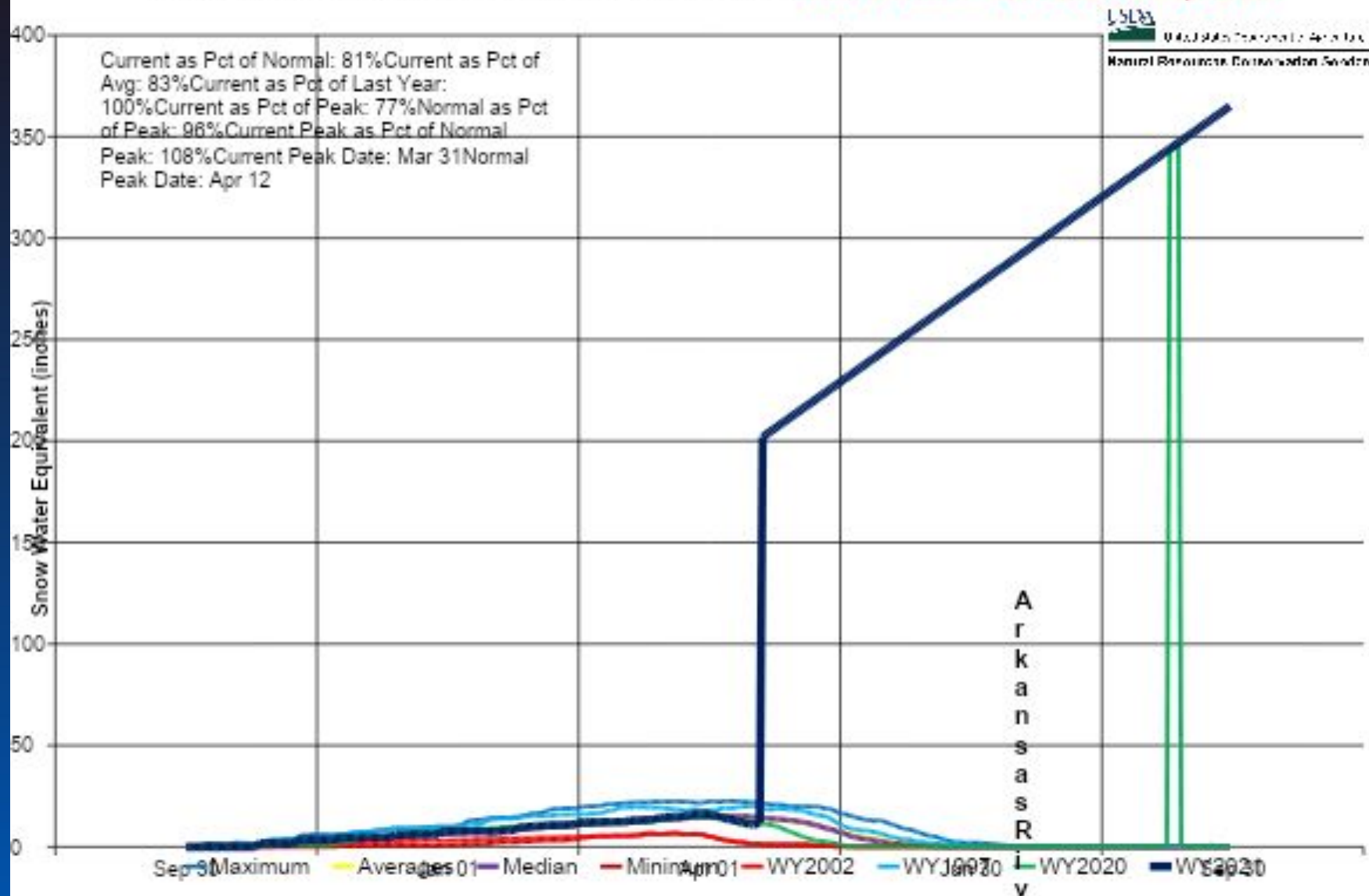
### Upper Rio Grande River Basin



0 25 50 100 150 200 Miles

## Upper Rio Grande Basin High/Low Snowpack Summary

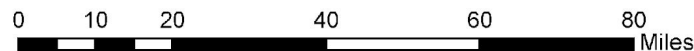
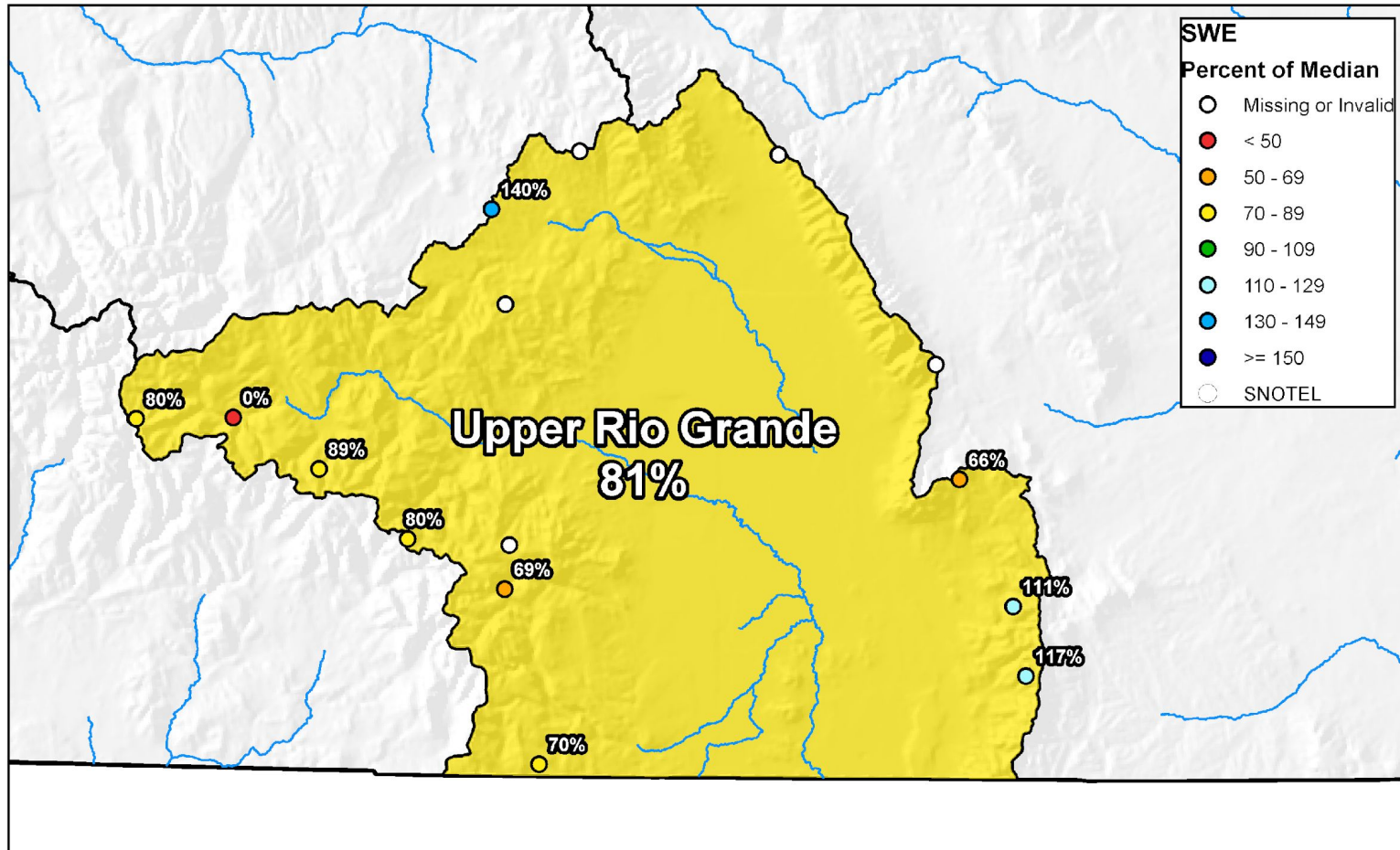
Based on Provisional SNOTEL data as of Apr 19, 2021





## Upper Rio Grande River Basin Snow Water Equivalent (SWE) Summary

Current as of Apr 19, 2021



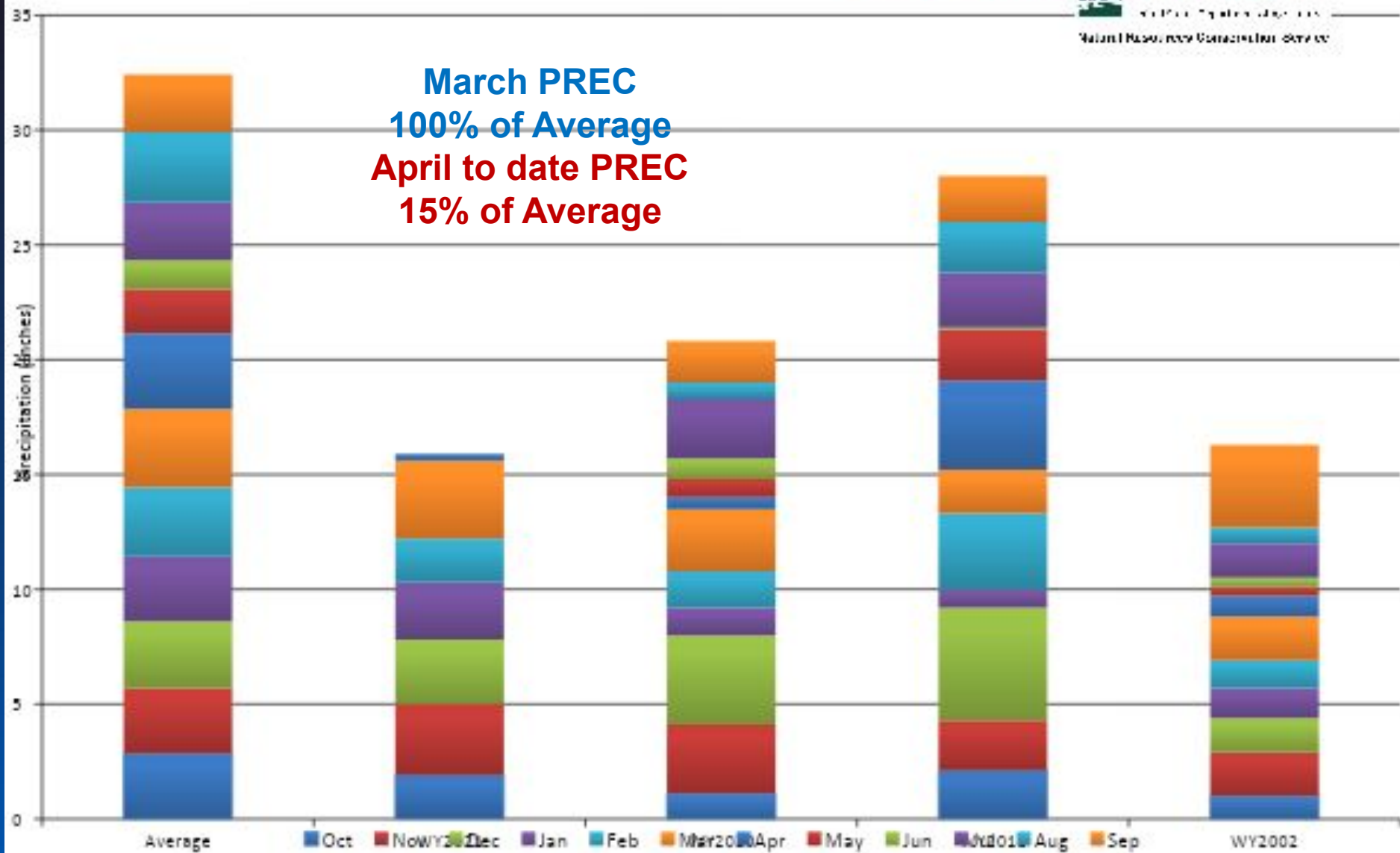


# Colorado Snow Surveys

Upper Rio Grande River Basin High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*

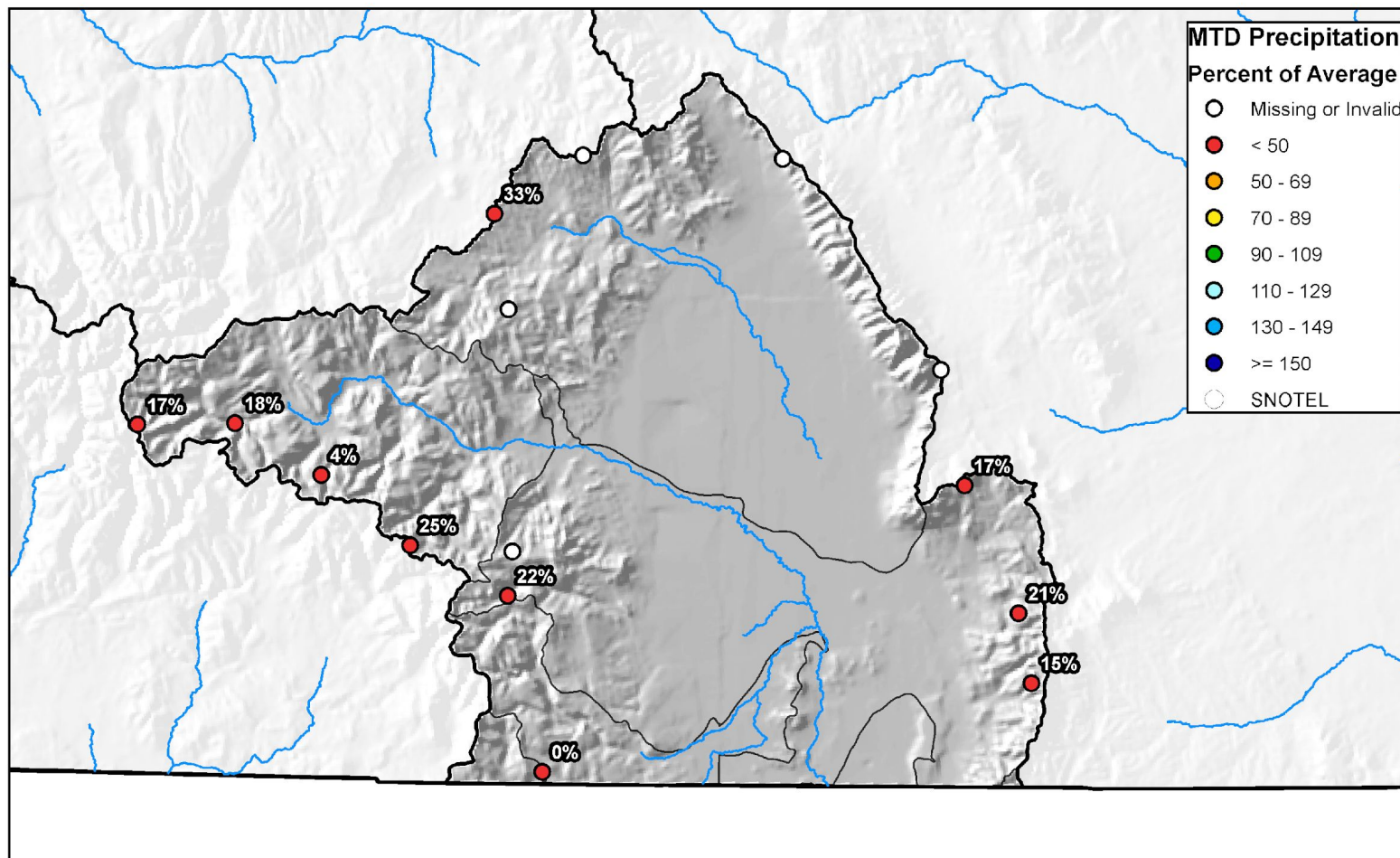
USDA  
Natural Resources Conservation Service

**March PREC**  
**100% of Average**  
**April to date PREC**  
**15% of Average**



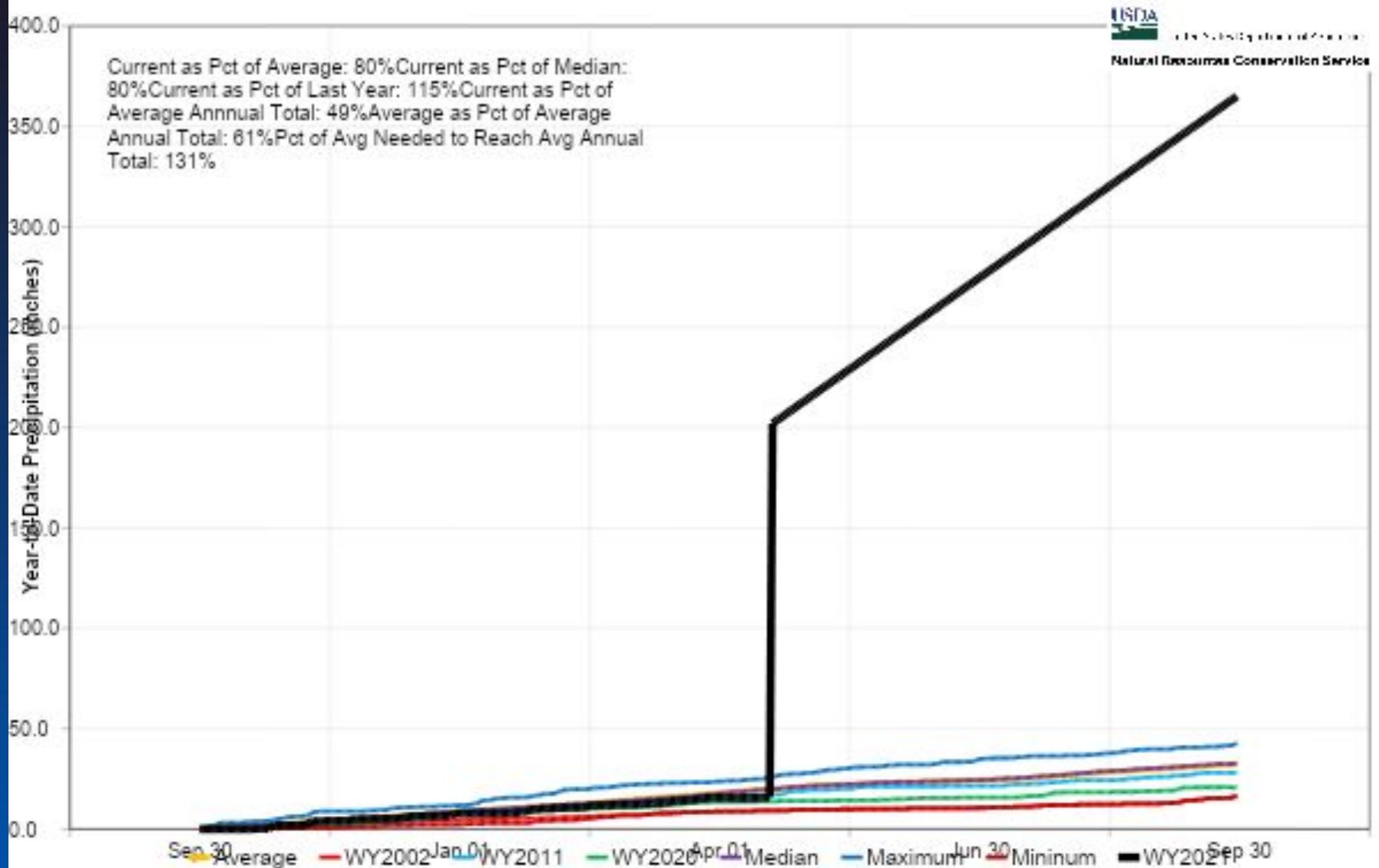
## Upper Rio Grande River Basin Month to Date Precipitation Summary

Current as of Apr 19, 2021



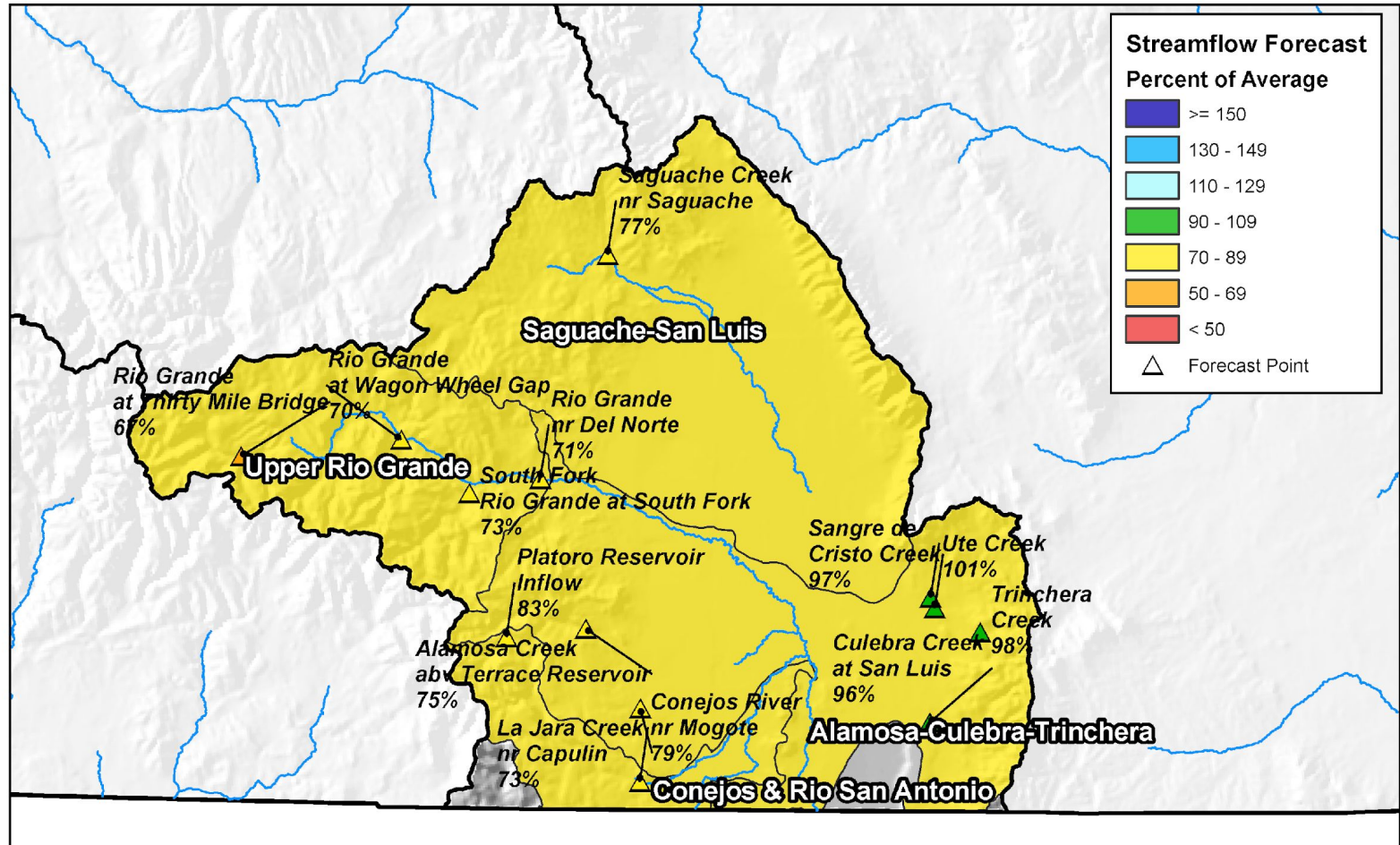


Upper Rio Grande River Basin High/Low Year-to-Date Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*



## Upper Rio Grande River Basin Streamflow Forecast Summary

April 1, 2021

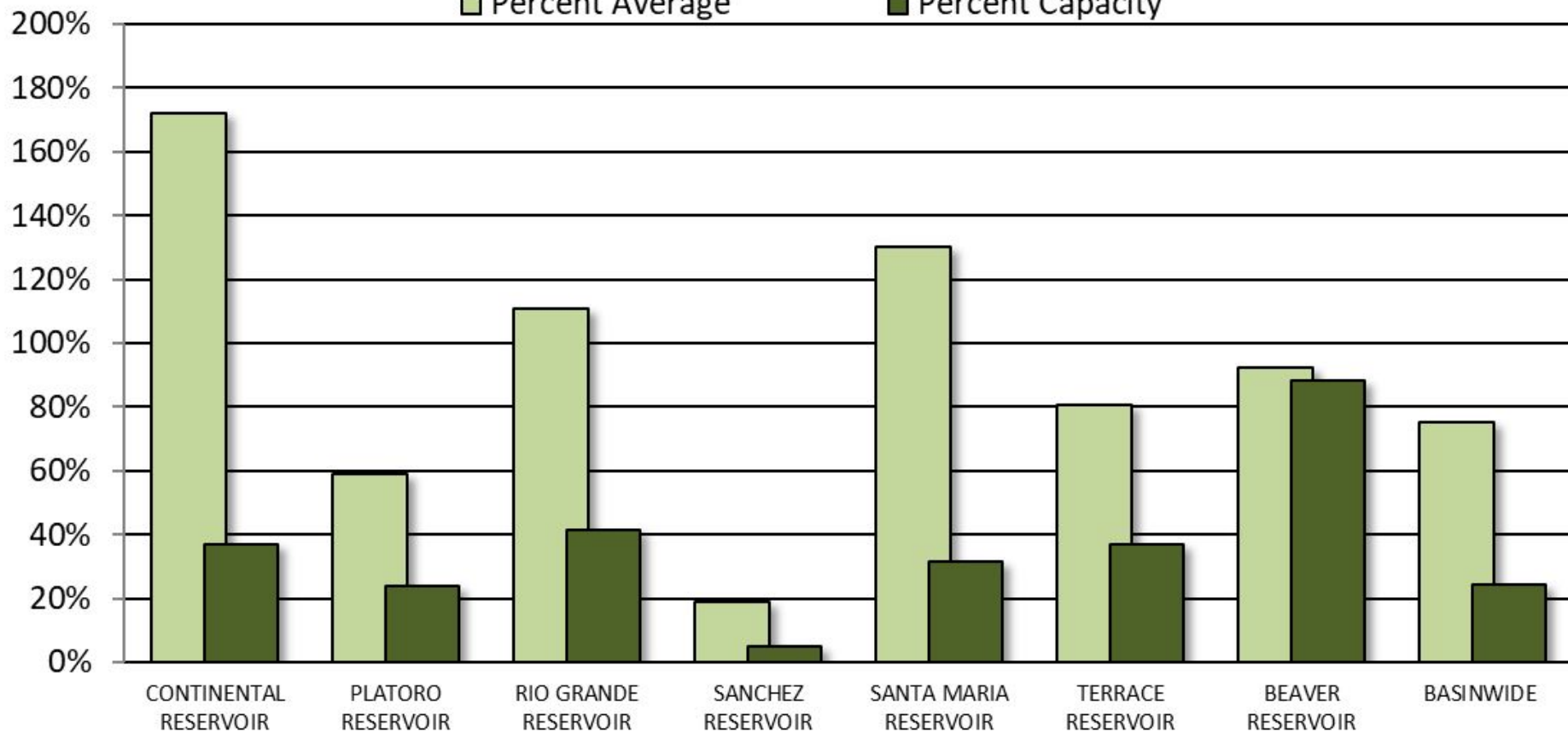


0 10 20 40 60 80 Miles

## End of March Reservoir Storage

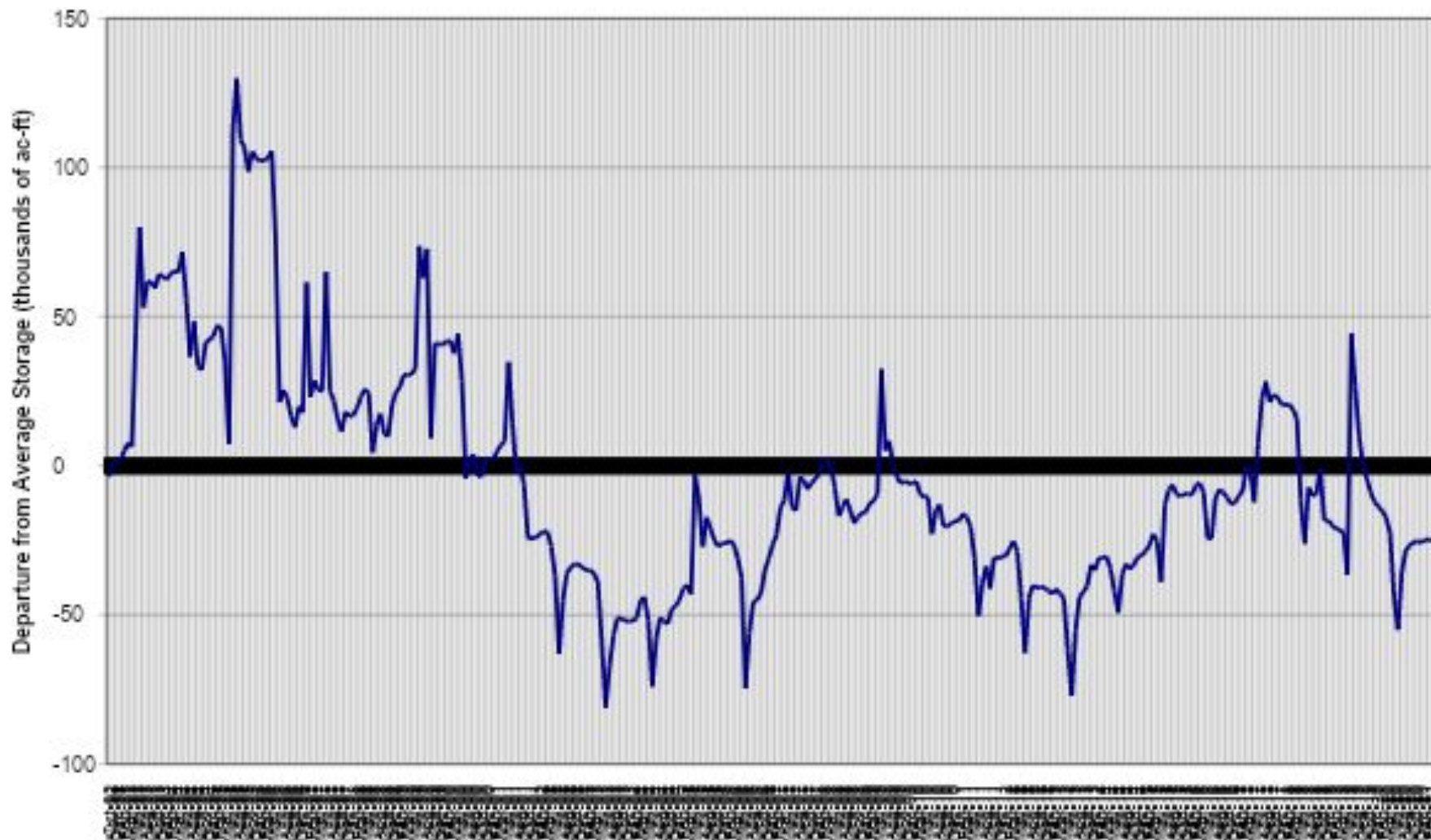
■ Percent Average

■ Percent Capacity



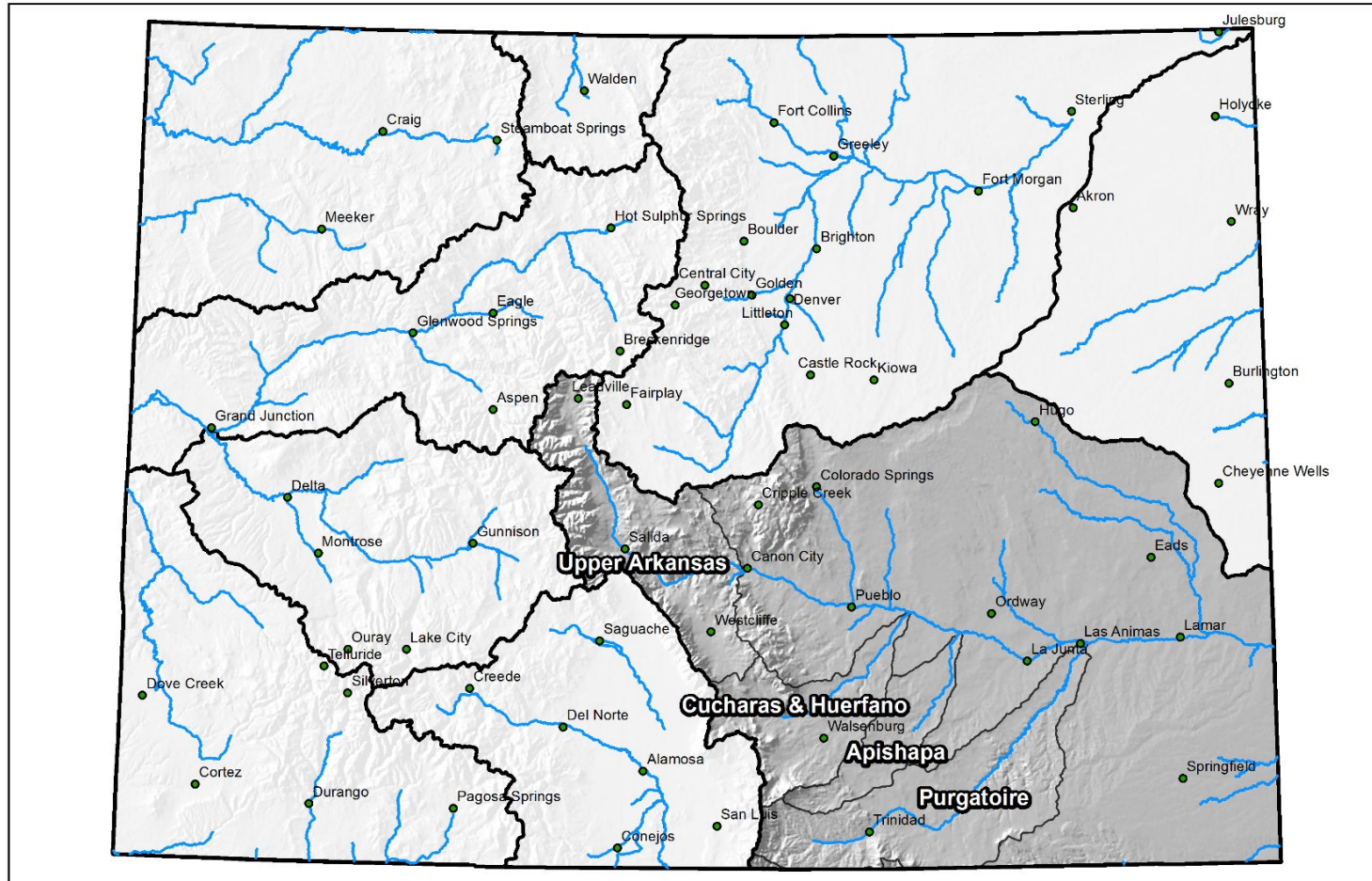


## UPPER RIO GRANDE BASIN Reservoir Storage Departure from Average



## Major Basin Summary

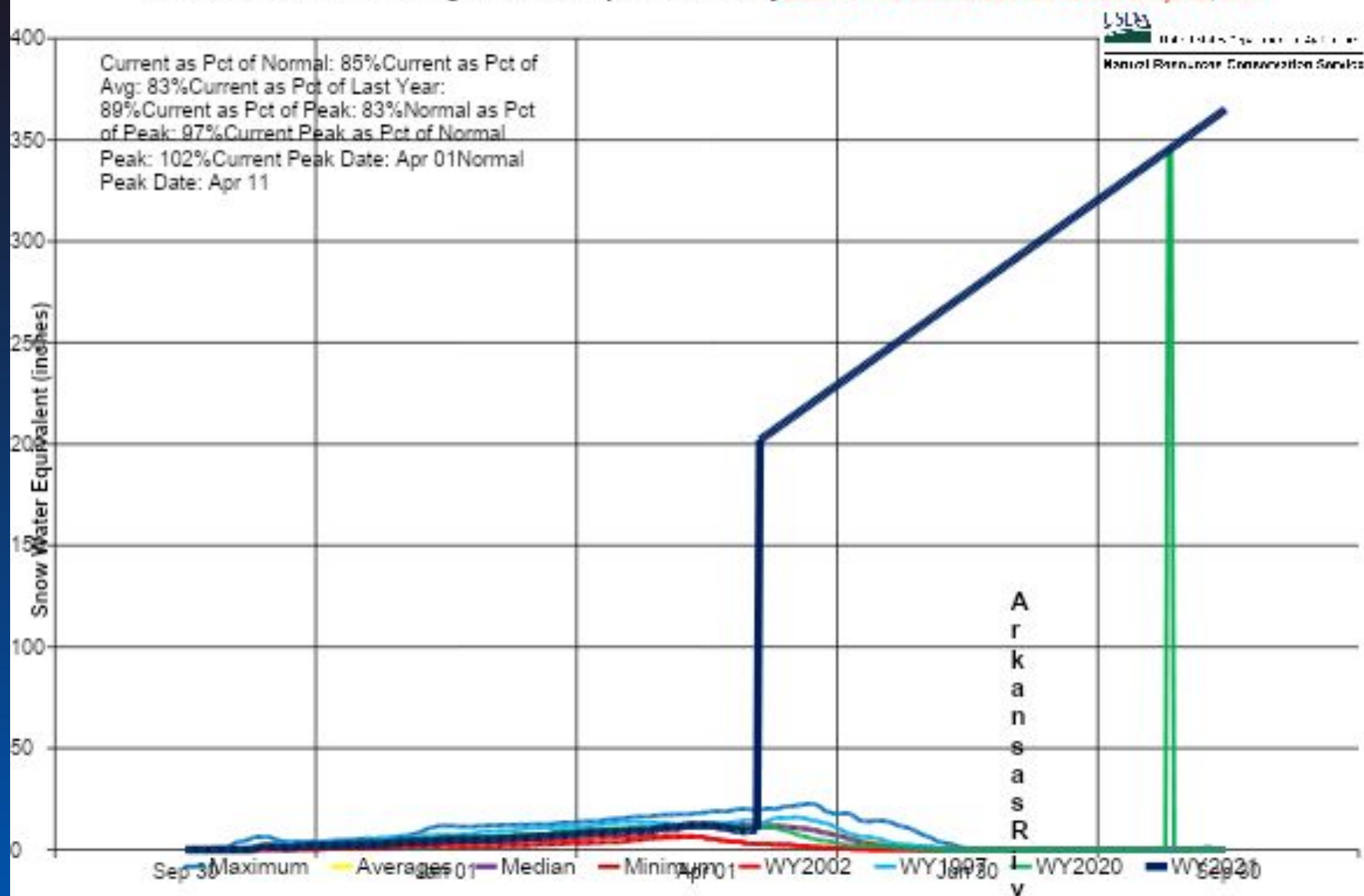
### Arkansas River Basin



0 25 50 100 150 200 Miles

## Arkansas River Basin High/Low Snowpack Summary

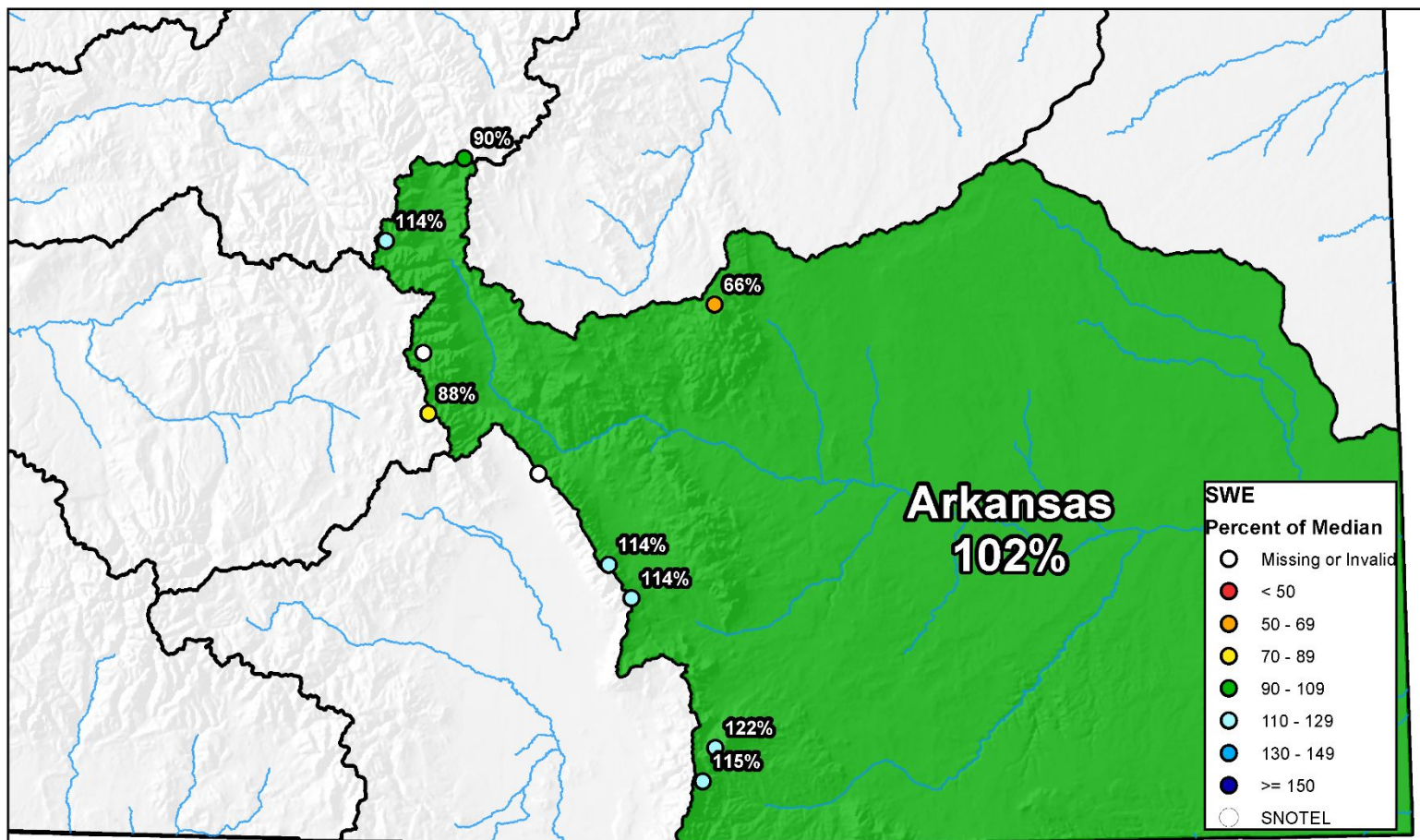
Based on Provisional SNOTEL data as of Apr 19, 2021





## Arkansas River Basin Snow Water Equivalent (SWE) Summary

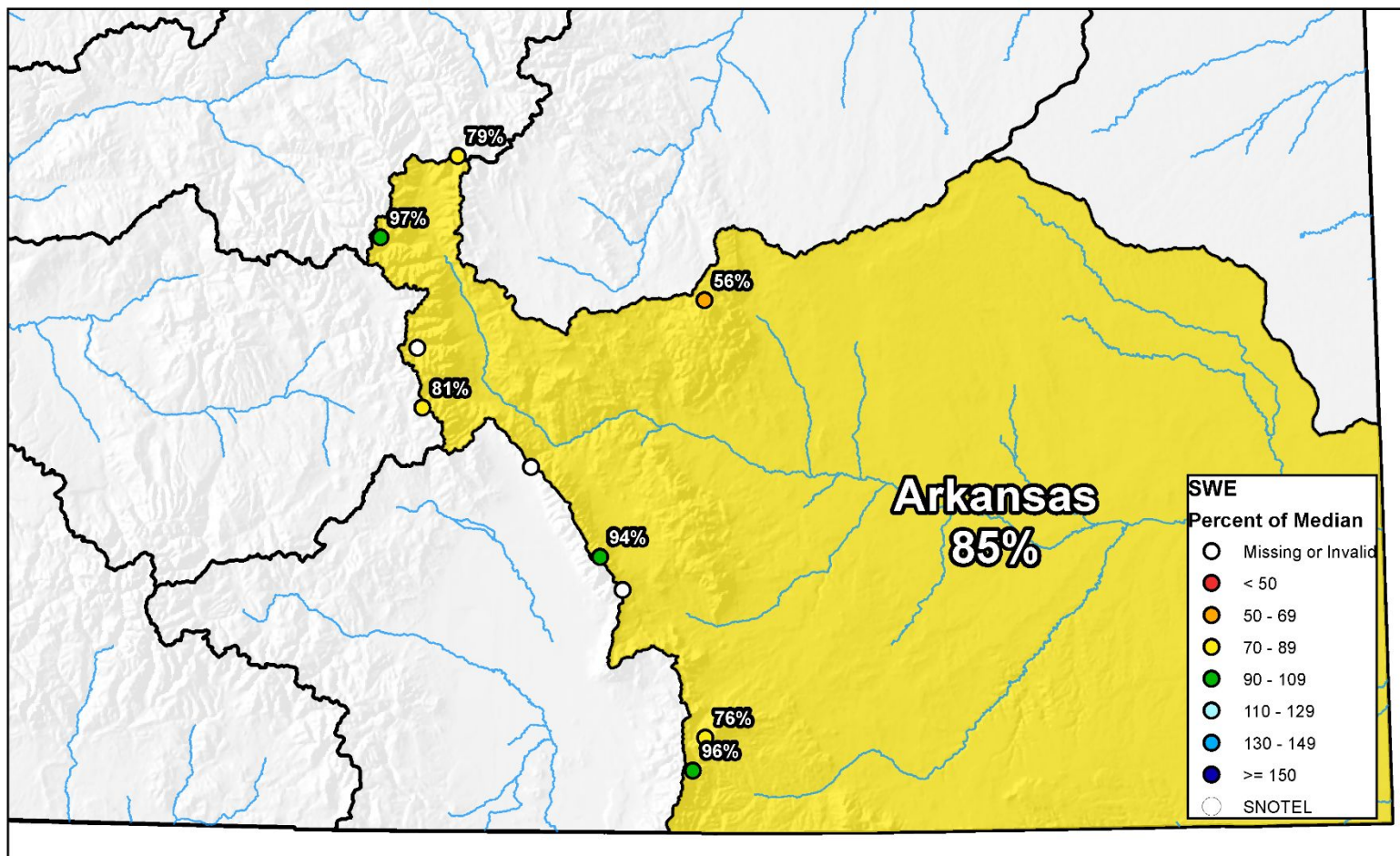
Current as of Mar 17, 2021



0 10 20 40 60 80 Miles

## Arkansas River Basin Snow Water Equivalent (SWE) Summary

Current as of Apr 19, 2021



0 10 20 40 60 80 Miles



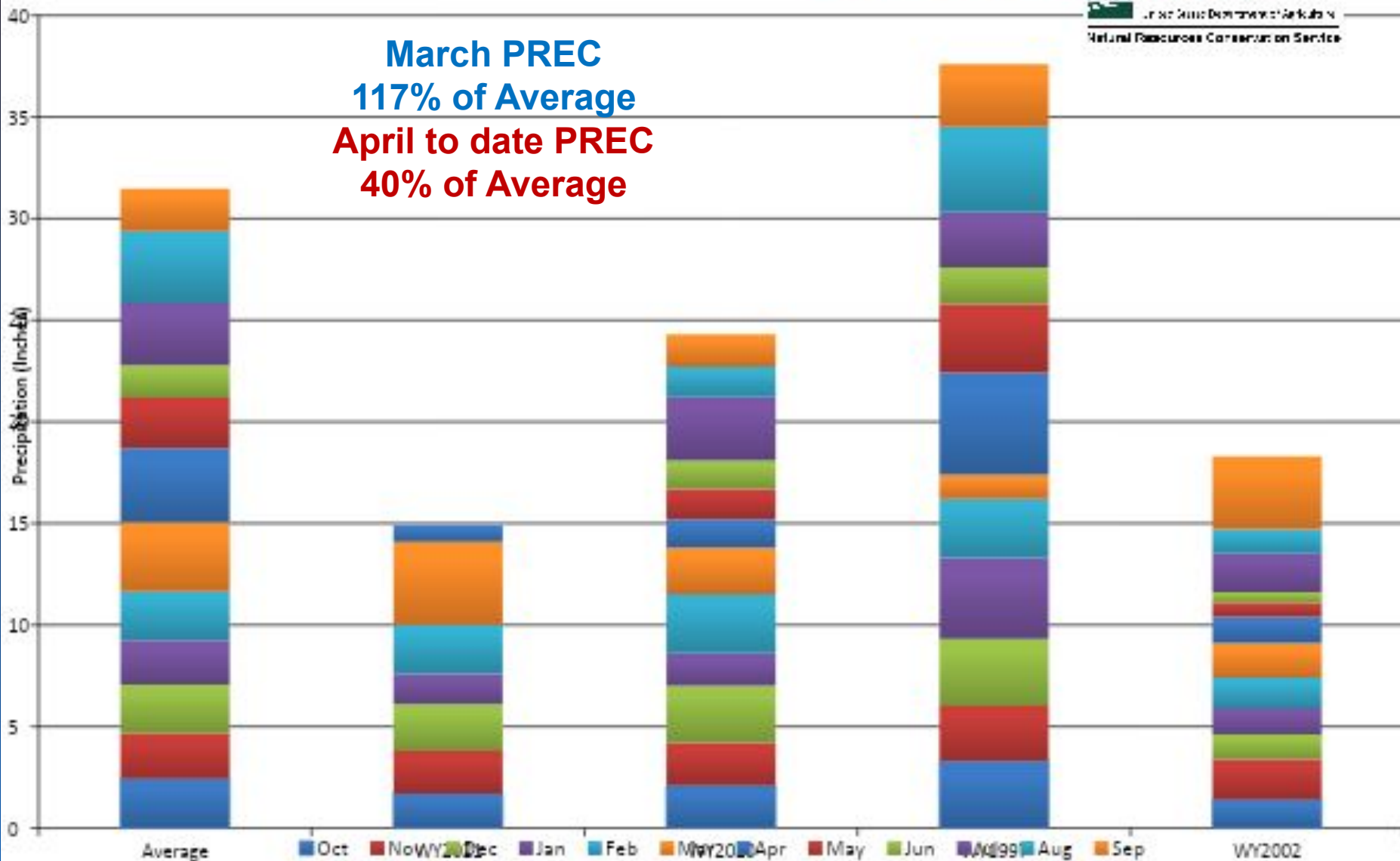
United States Department of Agriculture

# Colorado Snow Surveys

Arkansas River Basin High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*

USDA  
United States Department of Agriculture  
Natural Resources Conservation Service

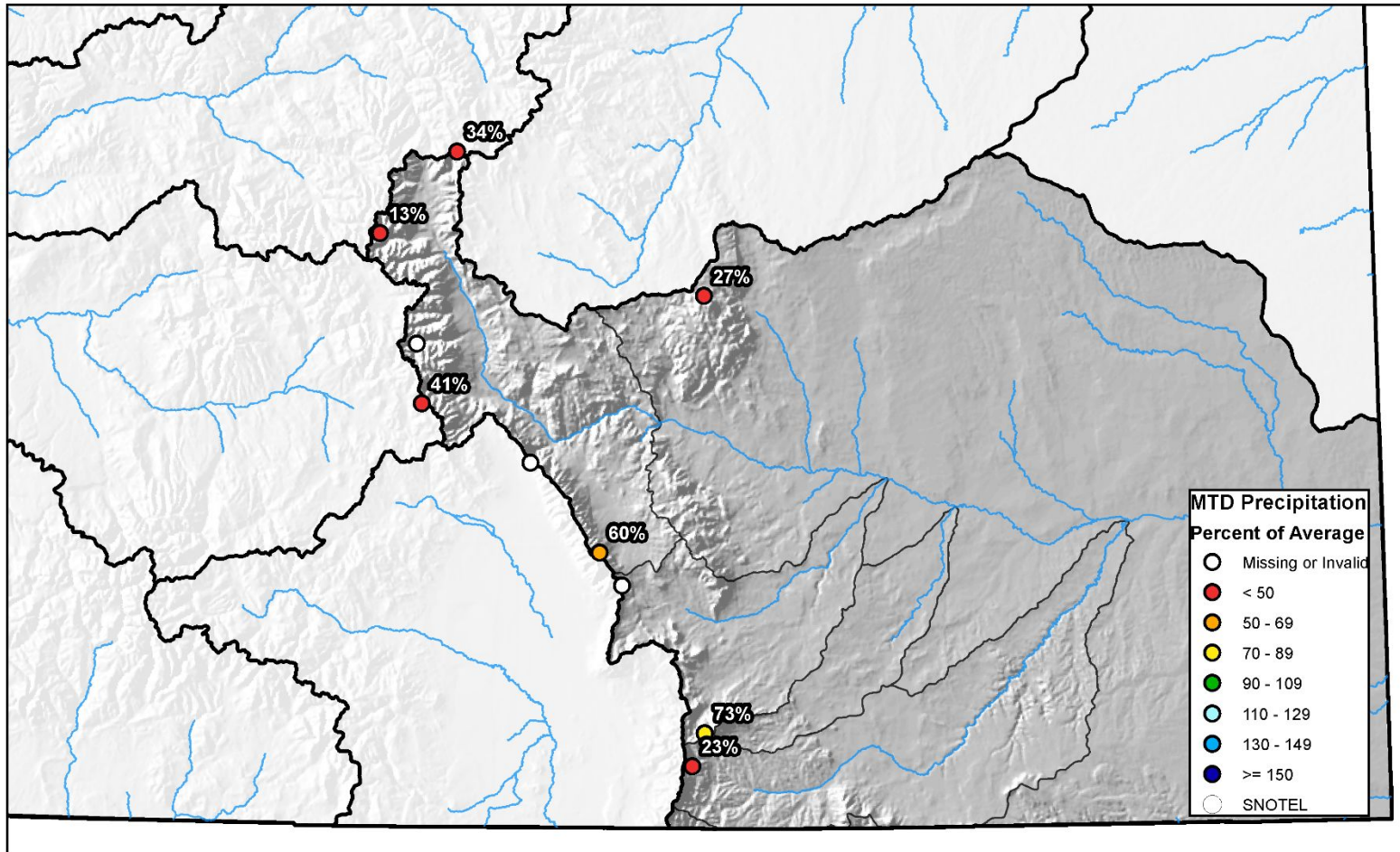
**March PREC**  
**117% of Average**  
**April to date PREC**  
**40% of Average**





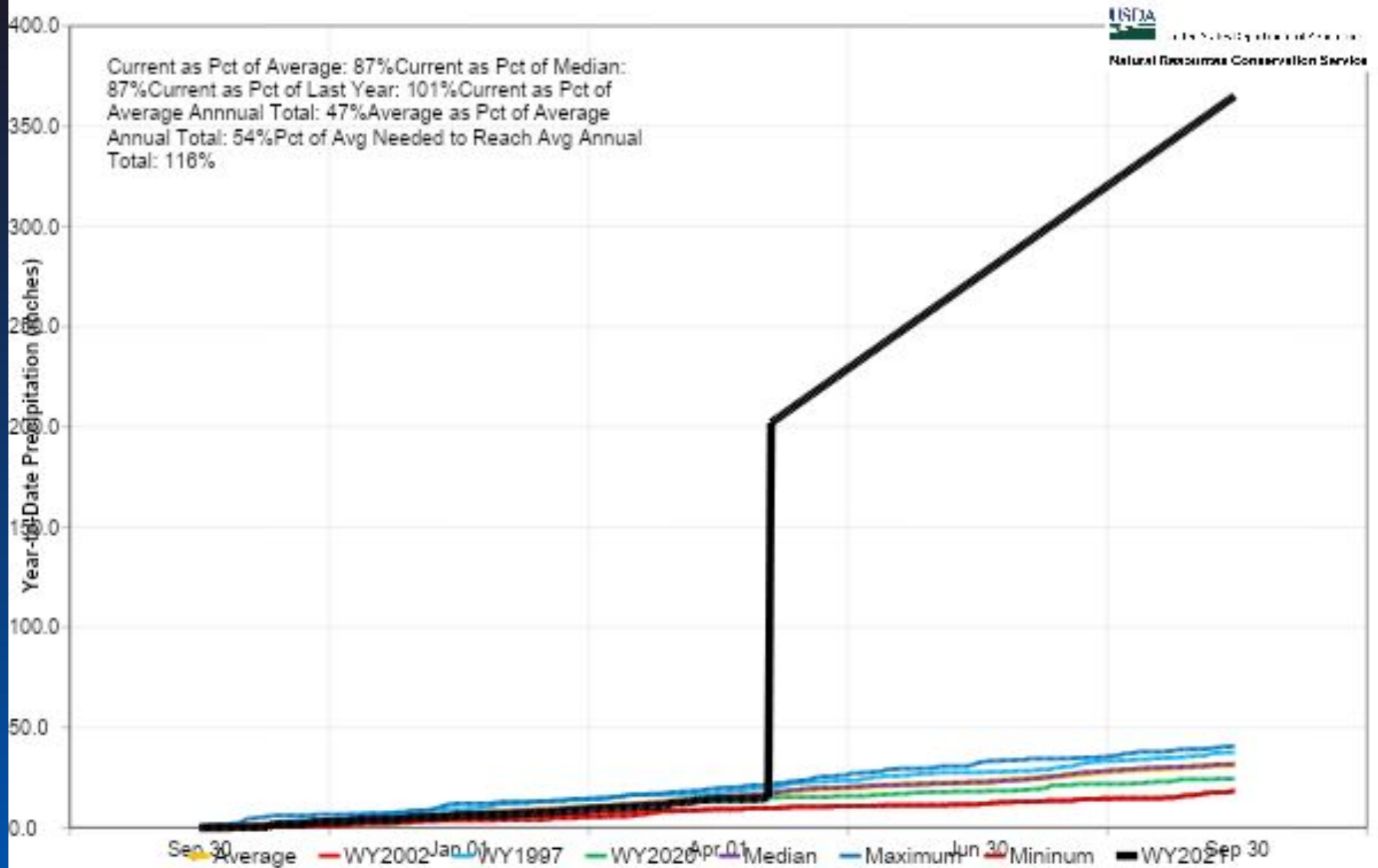
## Arkansas River Basin Month to Date Precipitation Summary

Current as of Apr 19, 2021



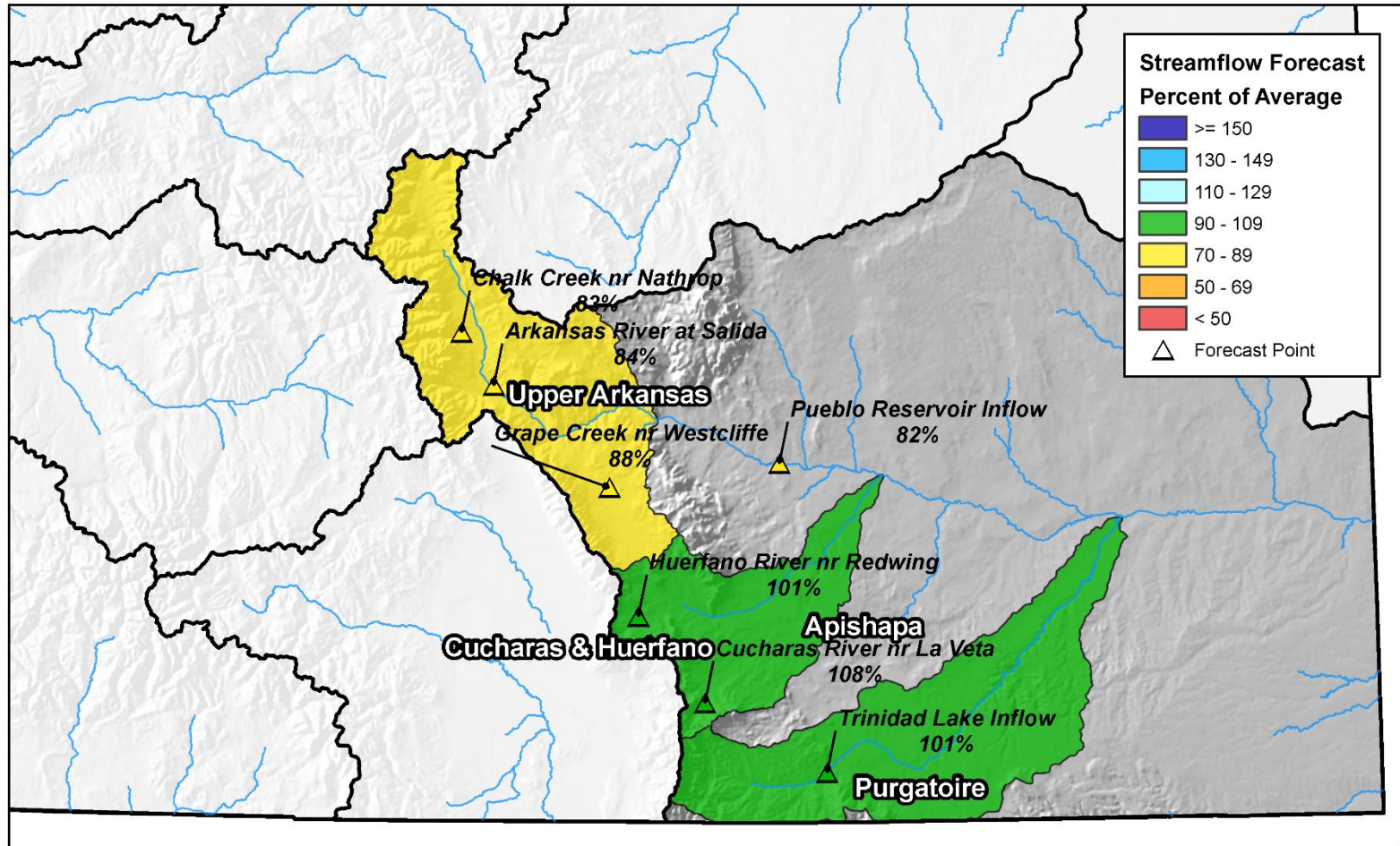
0 10 20 40 60 80 Miles

Arkansas River Basin High/Low Year-to-Date Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*



## Arkansas River Basin Streamflow Forecast Summary

April 1, 2021



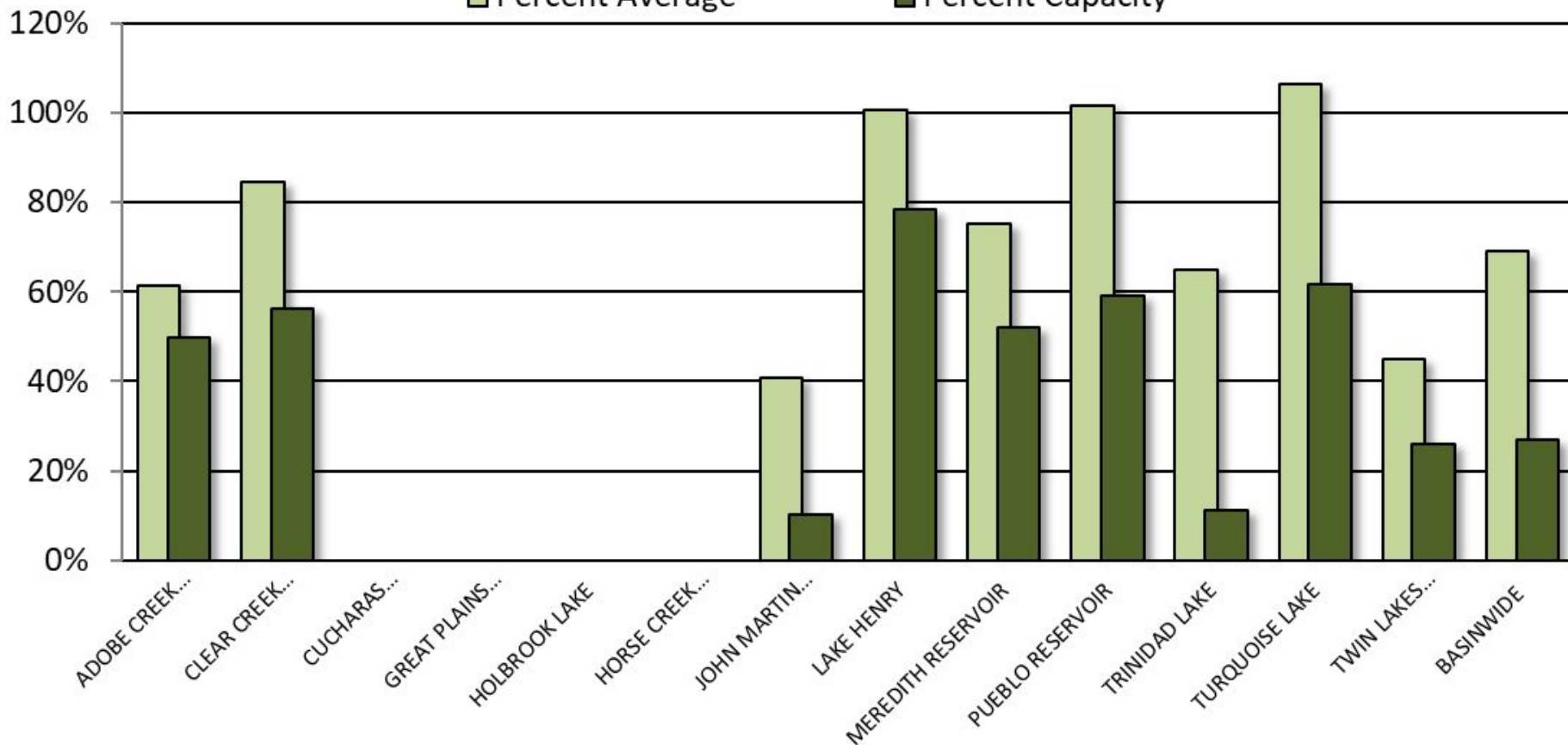
0 10 20 40 60 80 Miles



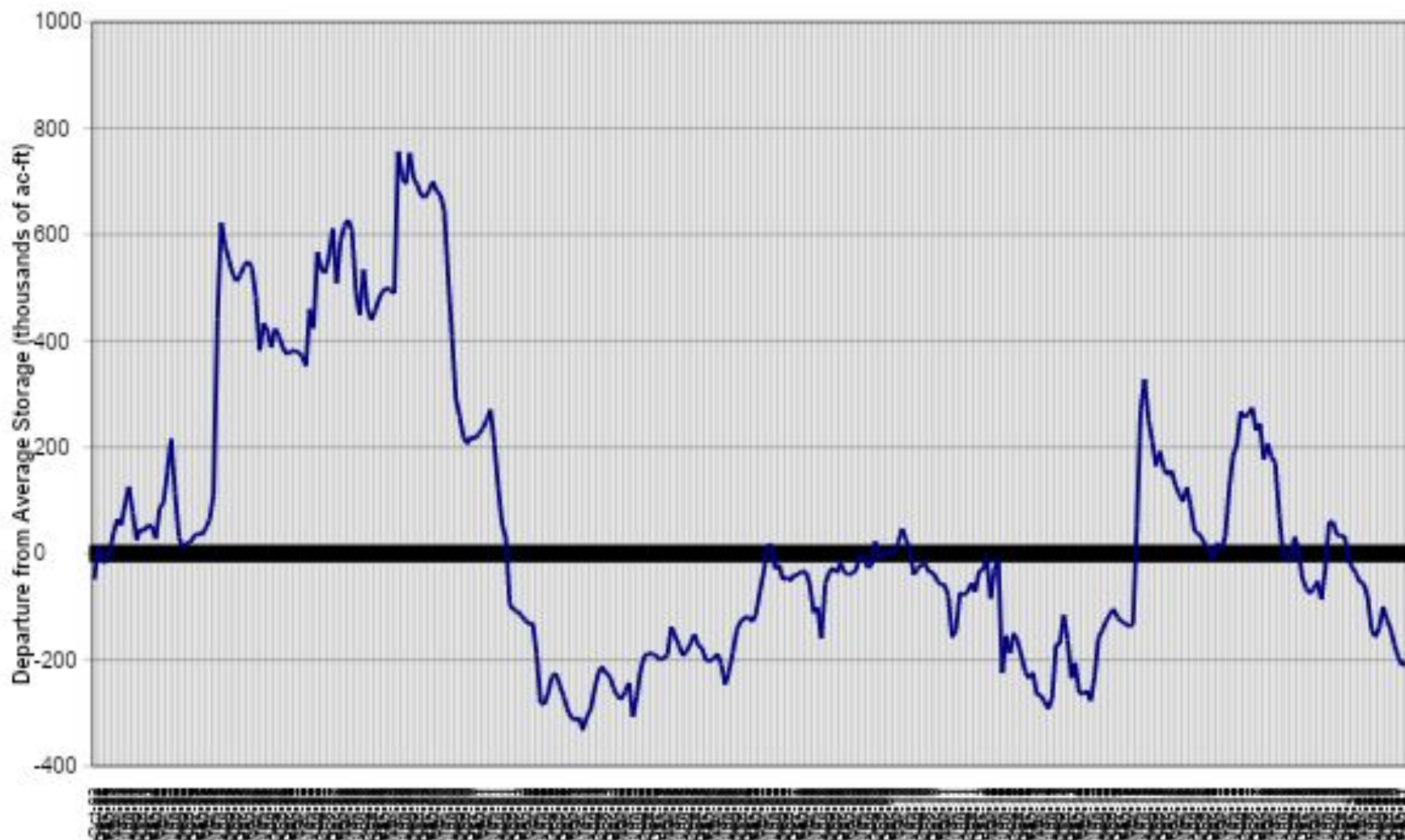
## End of March Reservoir Storage

■ Percent Average

■ Percent Capacity

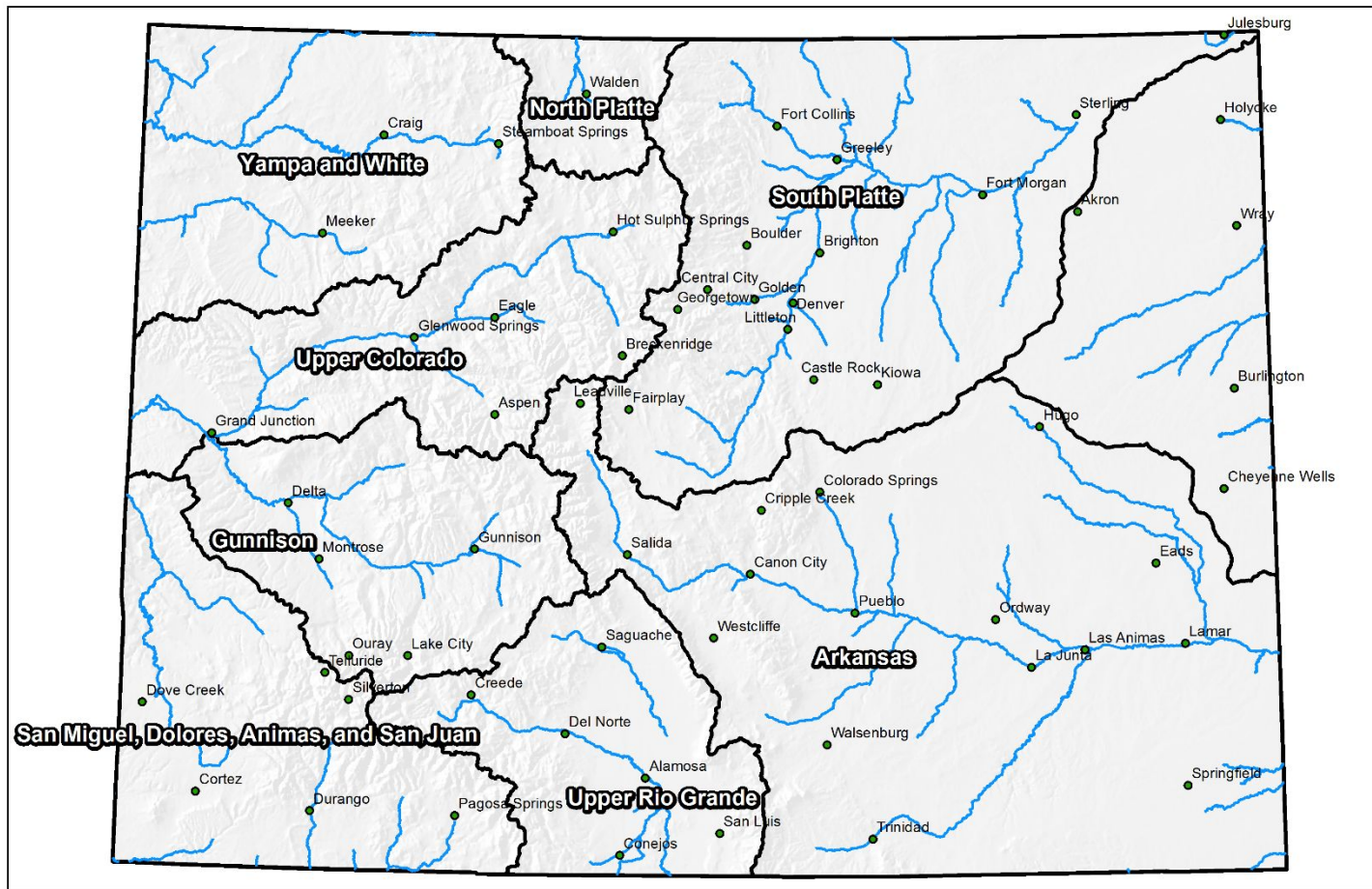


ARKANSAS RIVER BASIN  
Reservoir Storage  
Departure from Average



# Colorado Statewide Summary

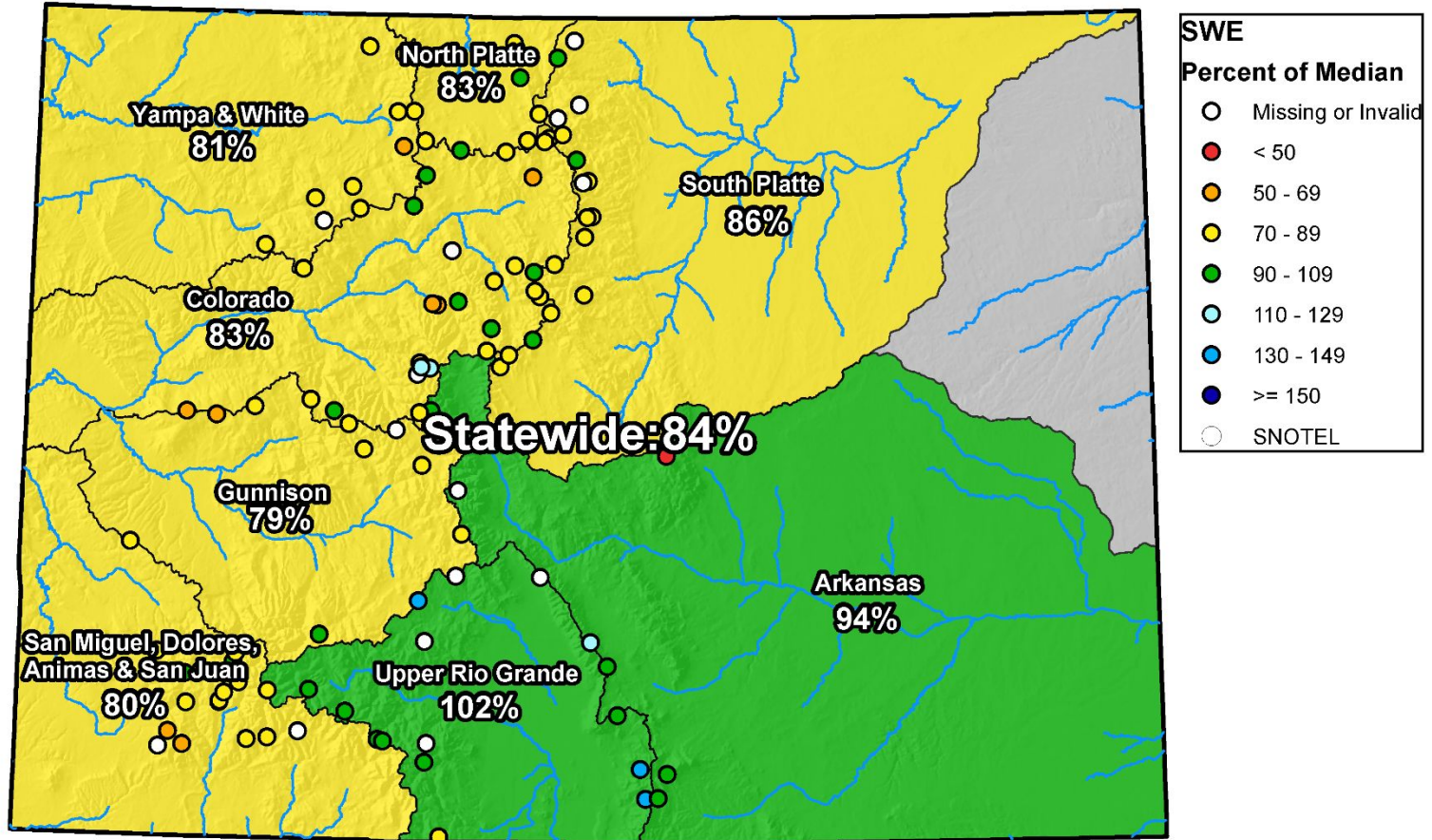
## Colorado Major Basins





## Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

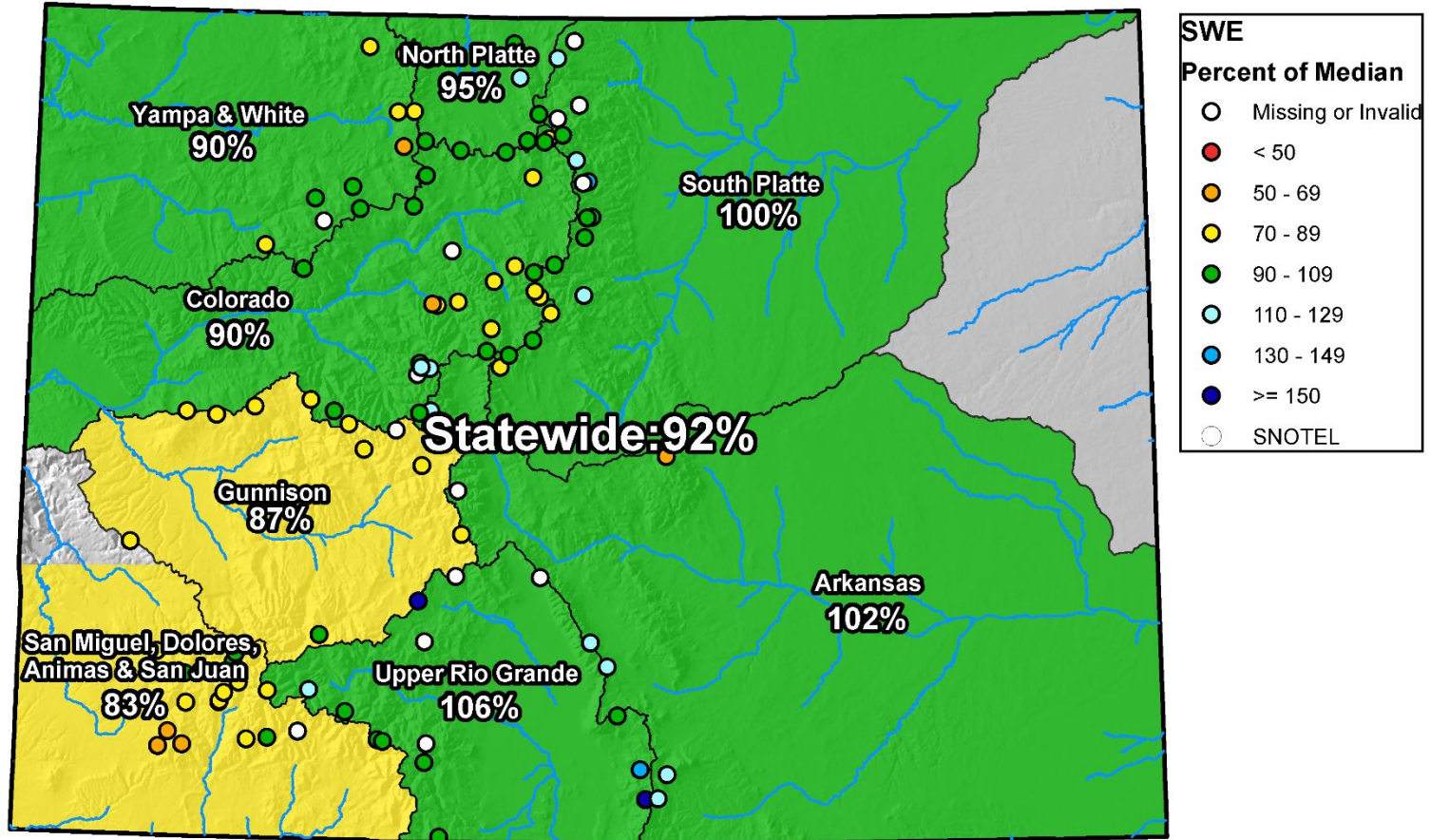
Current as of Feb 12, 2021



0 25 50 100 150 200 Miles

## Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

Current as of Mar 17, 2021

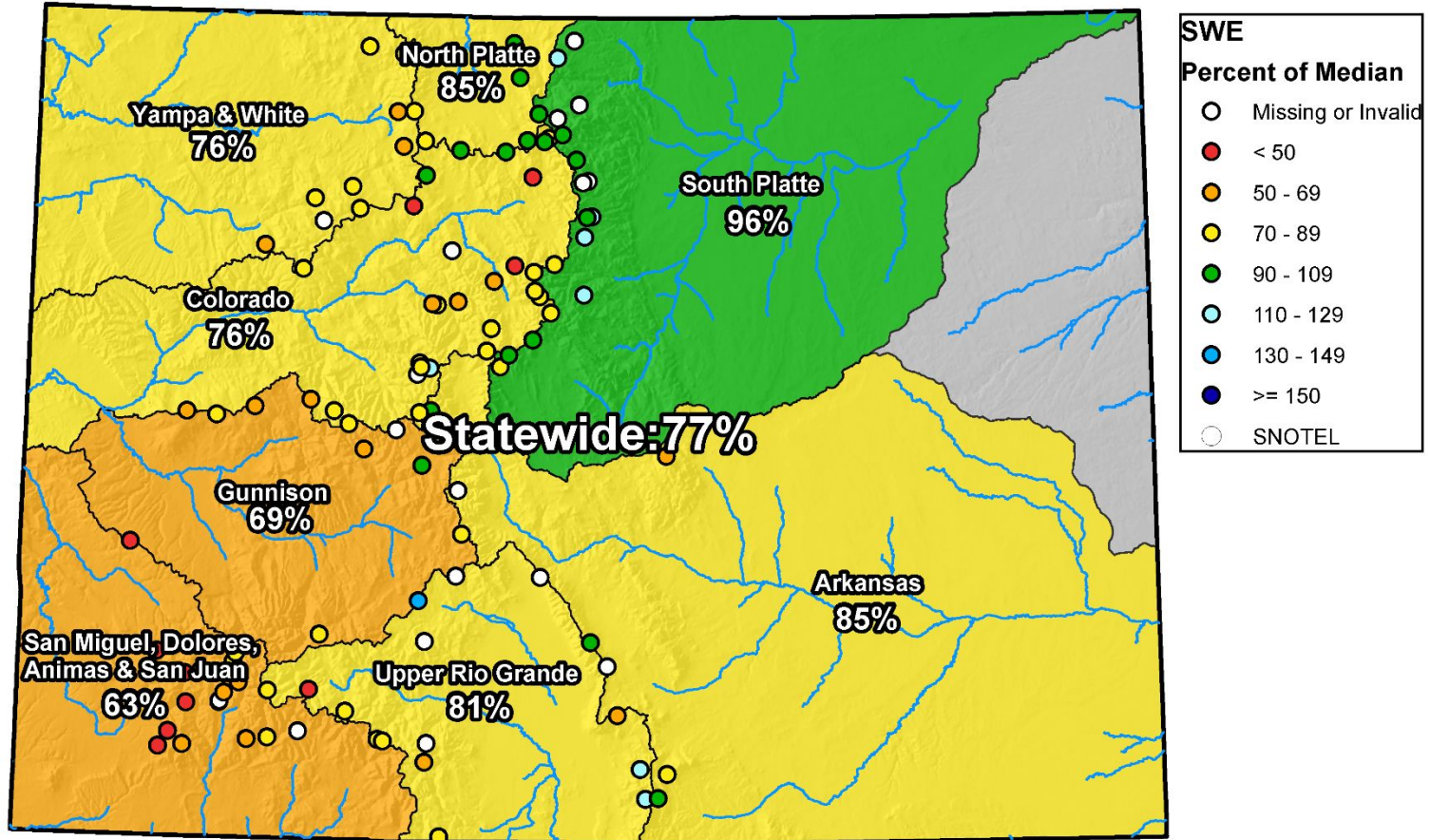


0 25 50 100 150 200 Miles



## Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

Current as of Apr 19, 2021

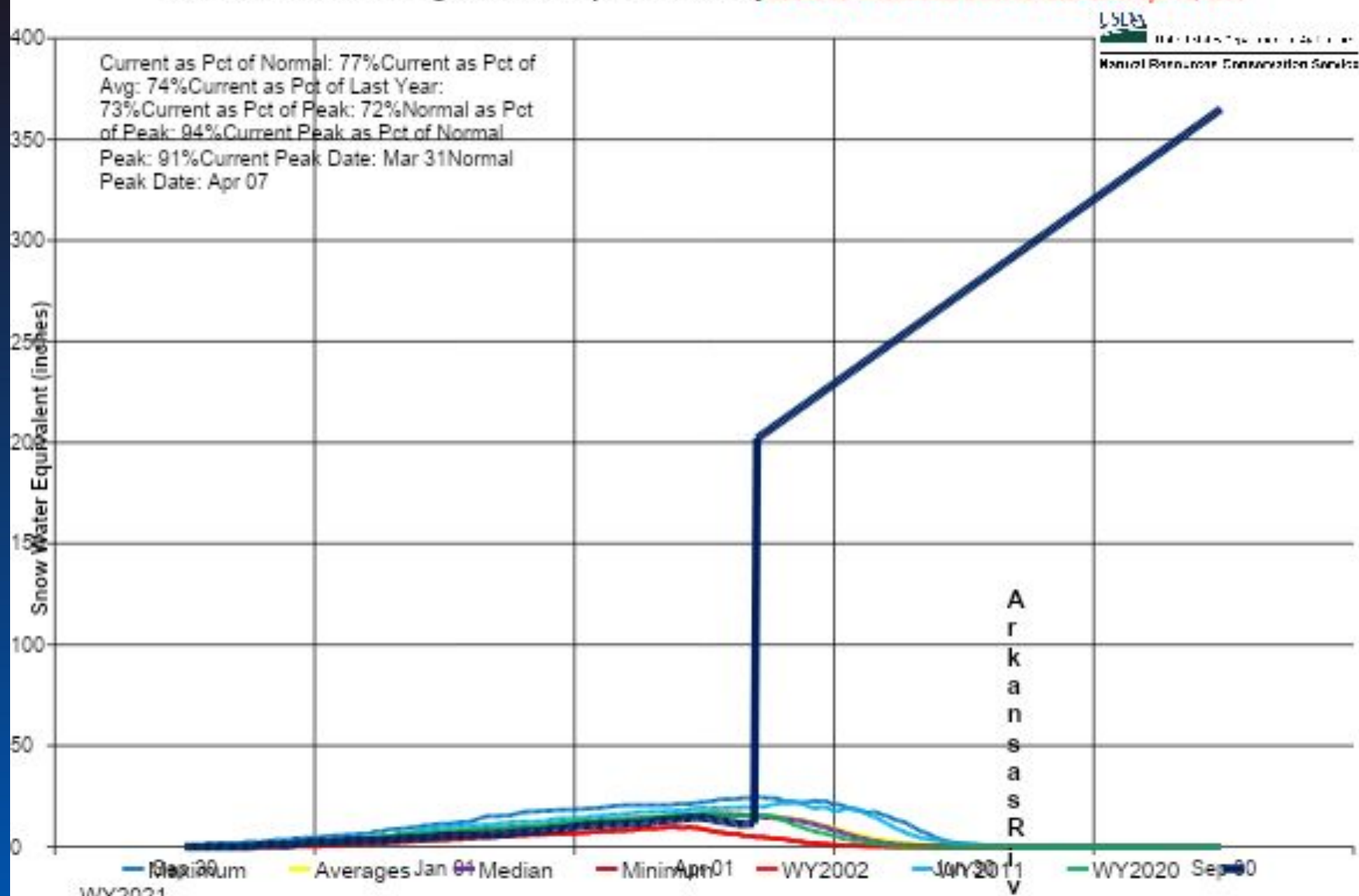


0 25 50 100 150 200 Miles



## Colorado Statewide High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Apr 19, 2021



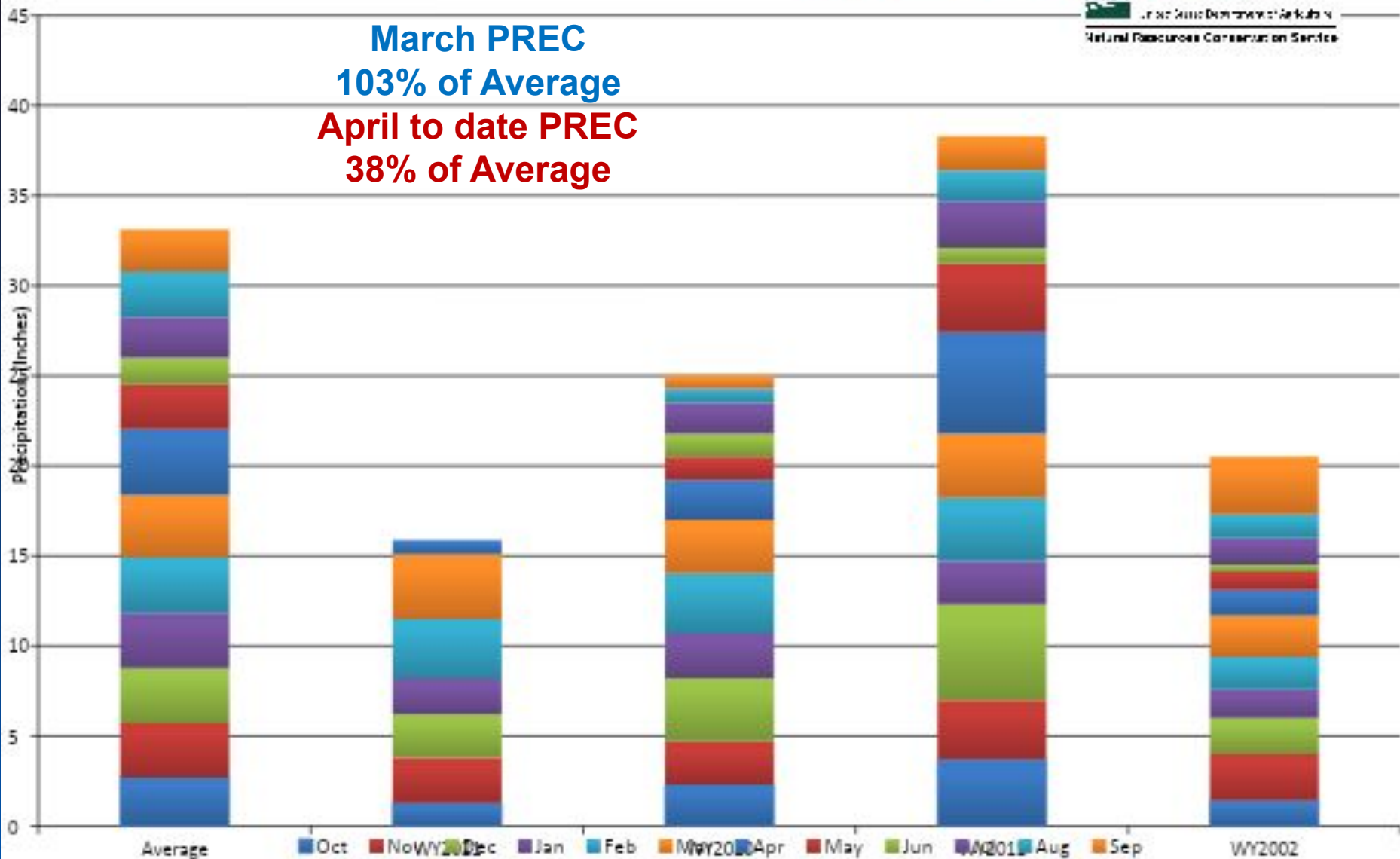


# Colorado Snow Surveys

Colorado Statewide High/Low Monthly Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*

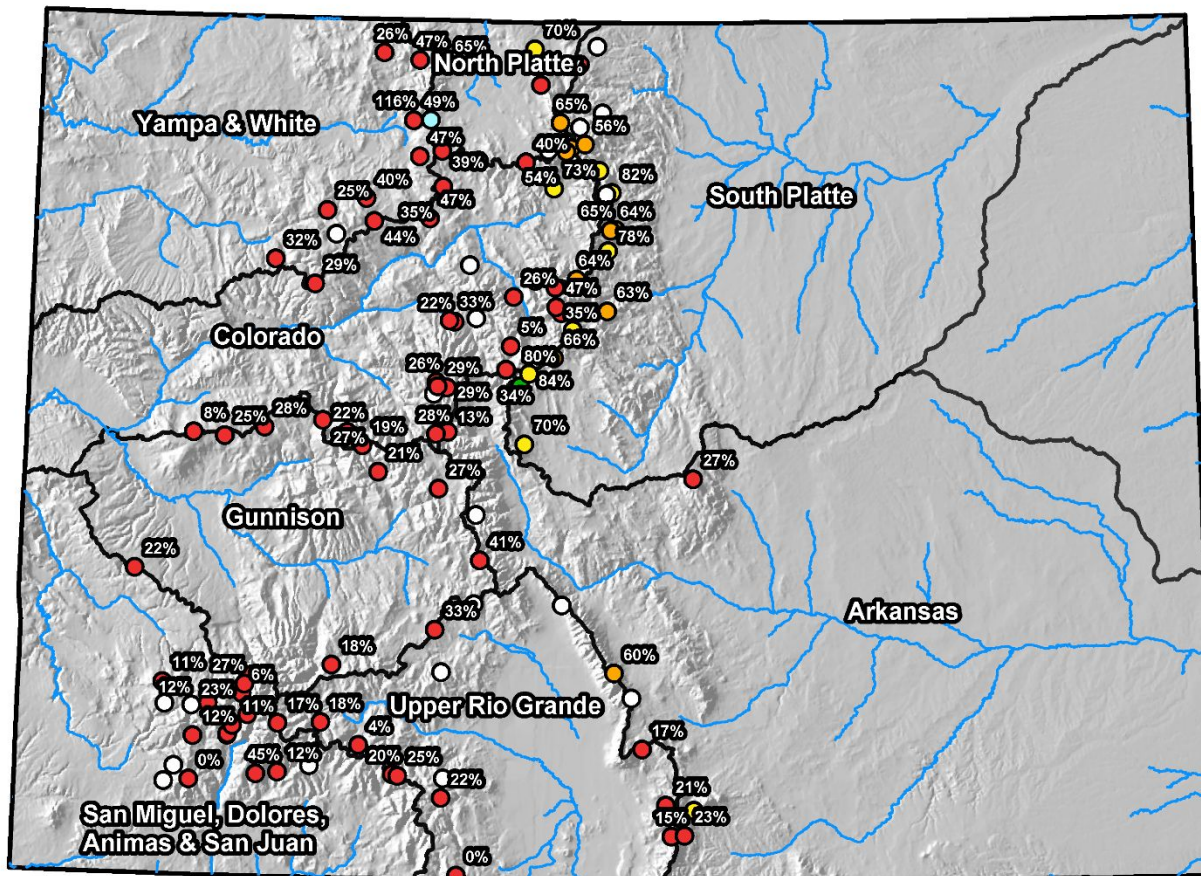


**March PREC**  
**103% of Average**  
**April to date PREC**  
**38% of Average**



## Colorado SNOTEL Month-to-Date Precipitation

Current as of Apr 19, 2021



### MTD Precipitation Percent of Average

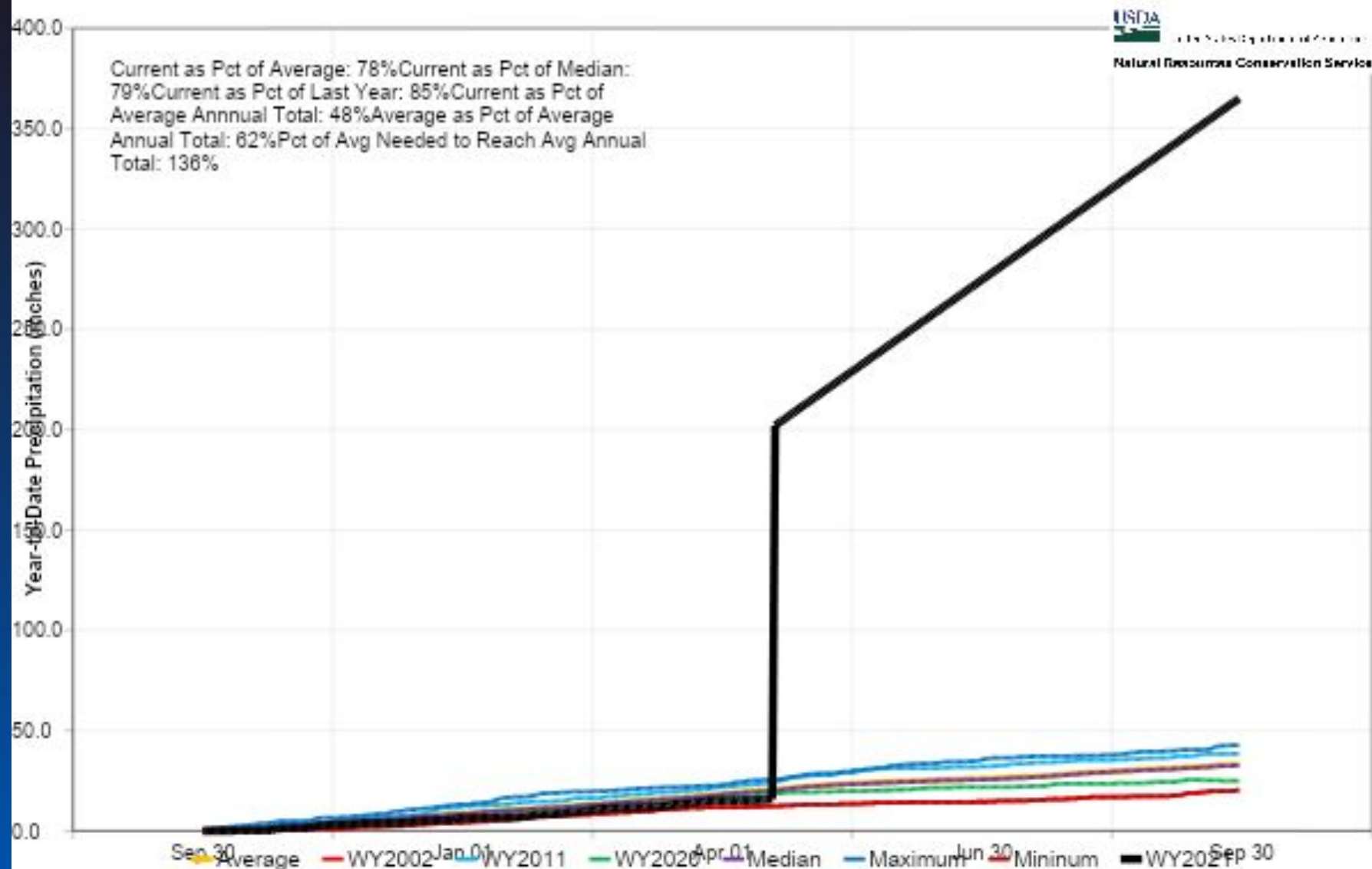
- Missing or Invalid
- < 50
- 50 - 69
- 70 - 89
- 90 - 109
- 110 - 129
- 130 - 149
- >= 150
- SNOTEL



0 25 50 100 150 200 Miles

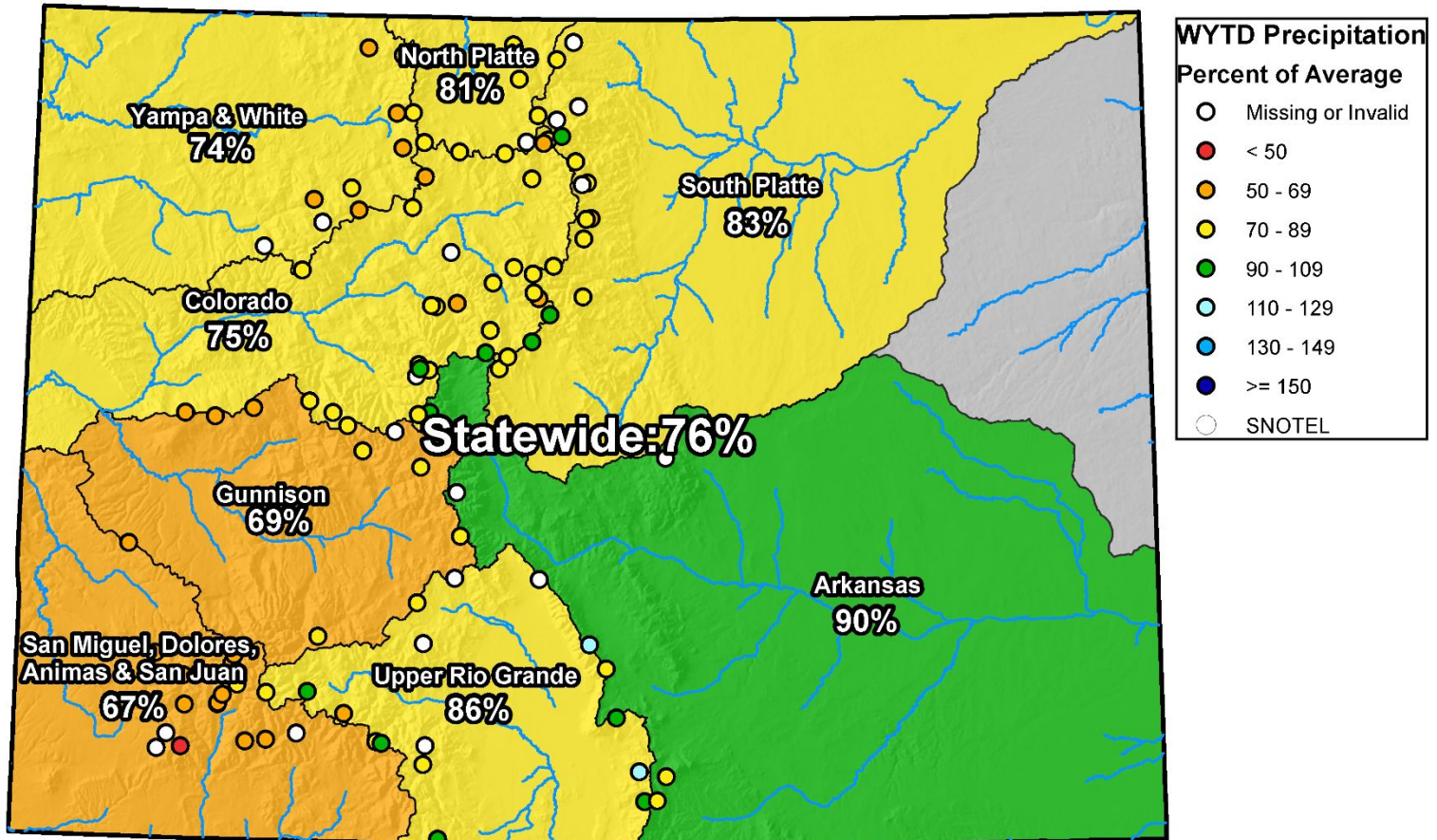


## Colorado Statewide High/Low Year-to-Date Precipitation Summary *Based on Provisional SNOTEL data as of Apr 19, 2021*



## Colorado SNOTEL Water Year to Date Precipitation

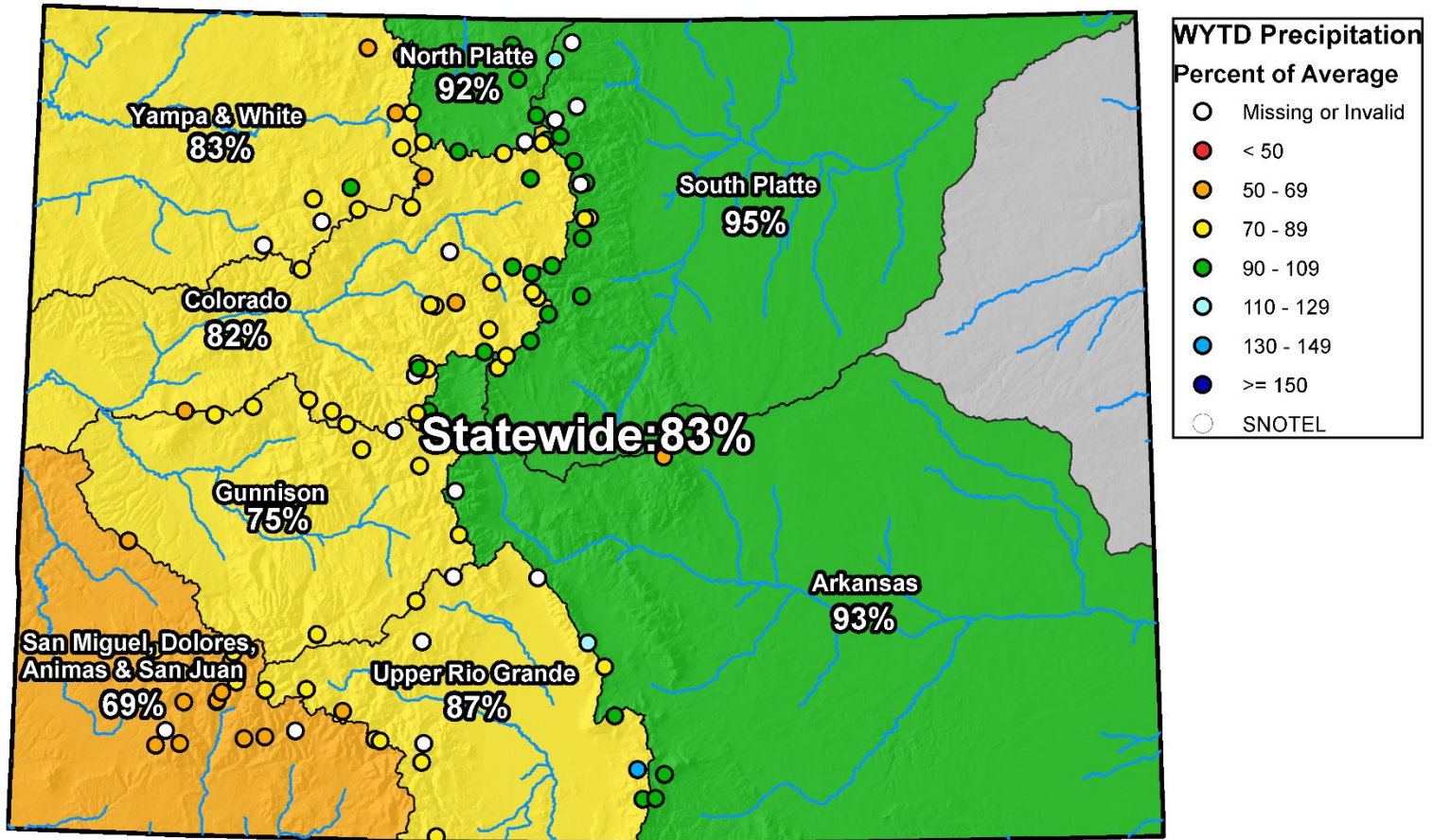
Current as of Feb 12, 2021



0 25 50 100 150 200 Miles

## Colorado SNOTEL Water Year to Date Precipitation

Current as of Mar 17, 2021

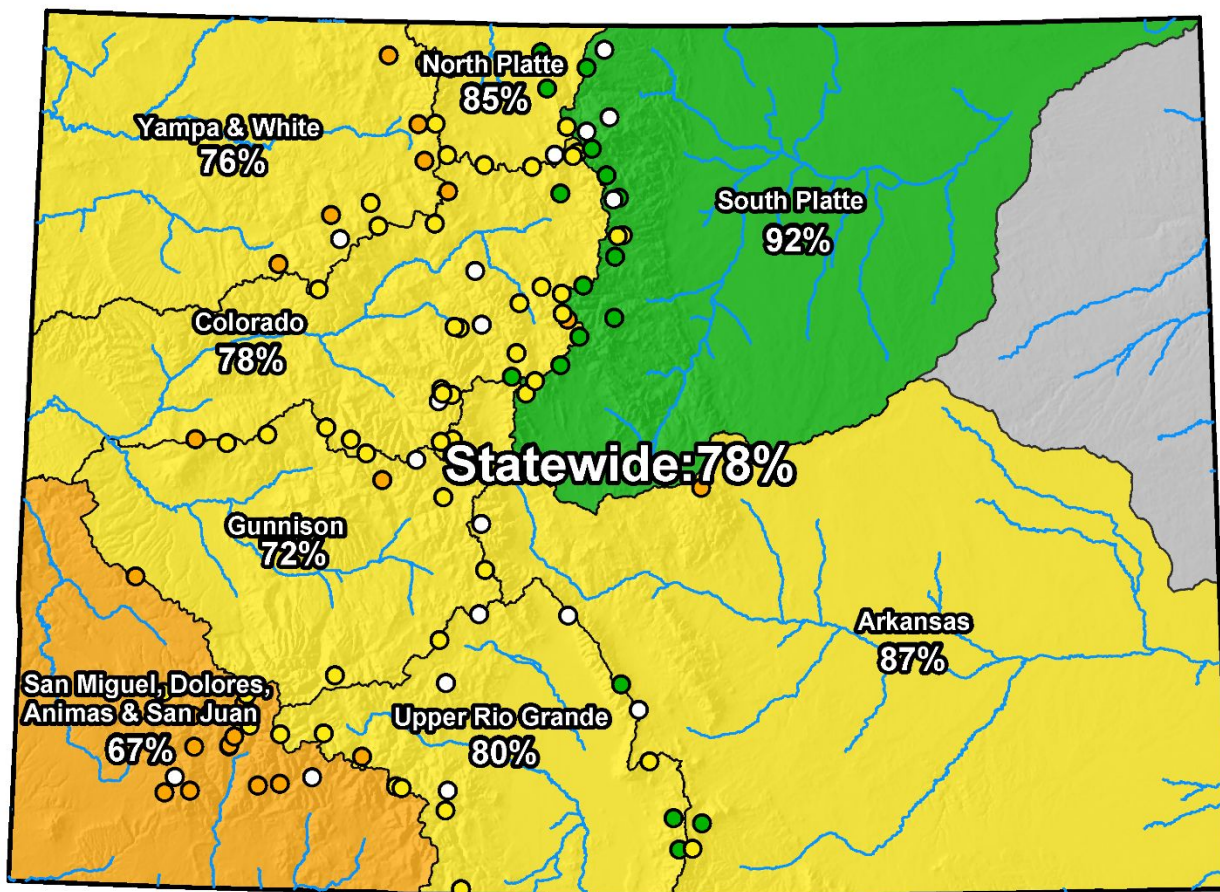


0 25 50 100 150 200 Miles



## Colorado SNOTEL Water Year to Date Precipitation

Current as of Apr 19, 2021



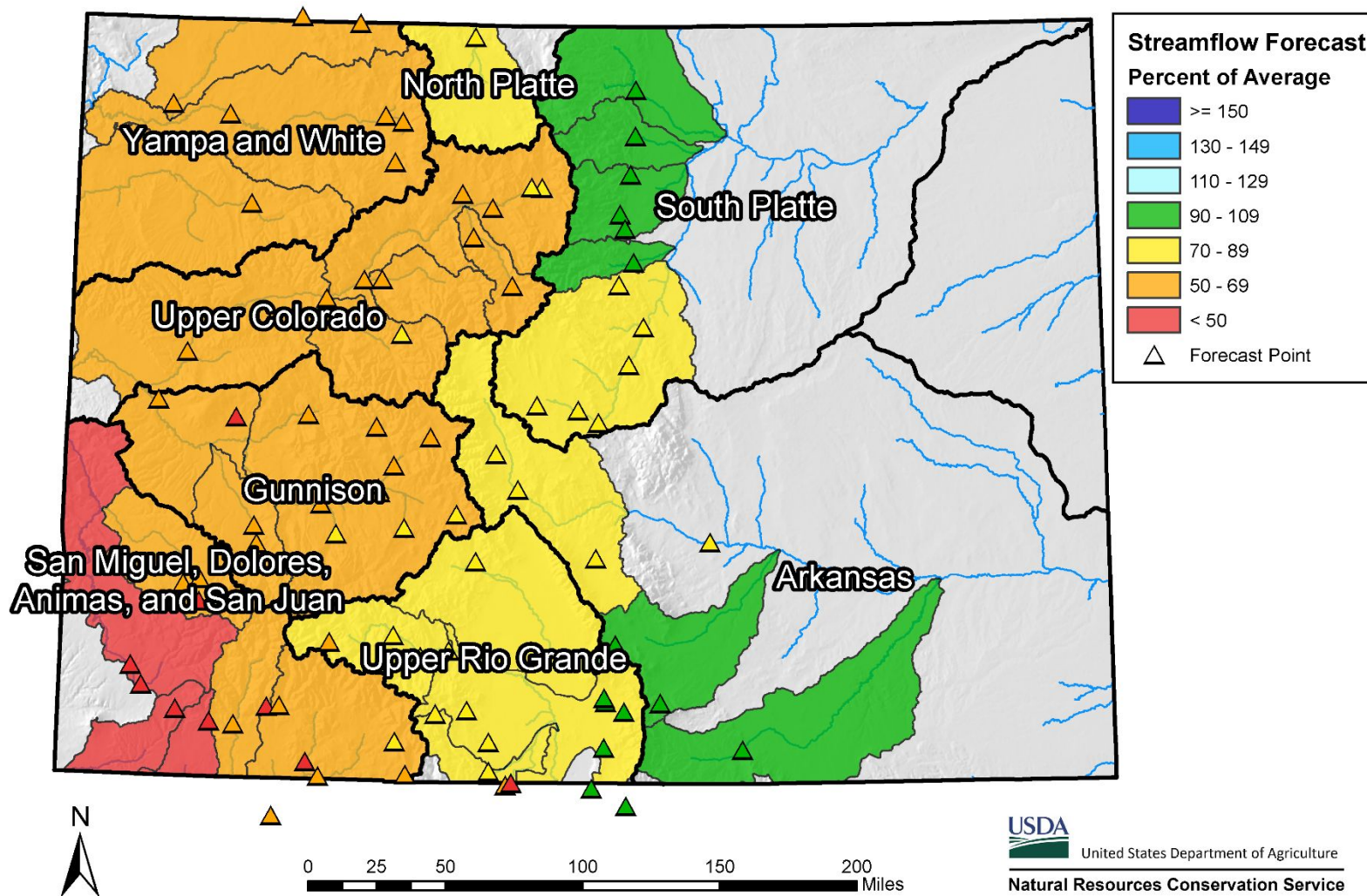
### WYTD Precipitation Percent of Average

- Missing or Invalid
- < 50
- 50 - 69
- 70 - 89
- 90 - 109
- 110 - 129
- 130 - 149
- ≥ 150
- SNOTEL



0 25 50 100 150 200 Miles

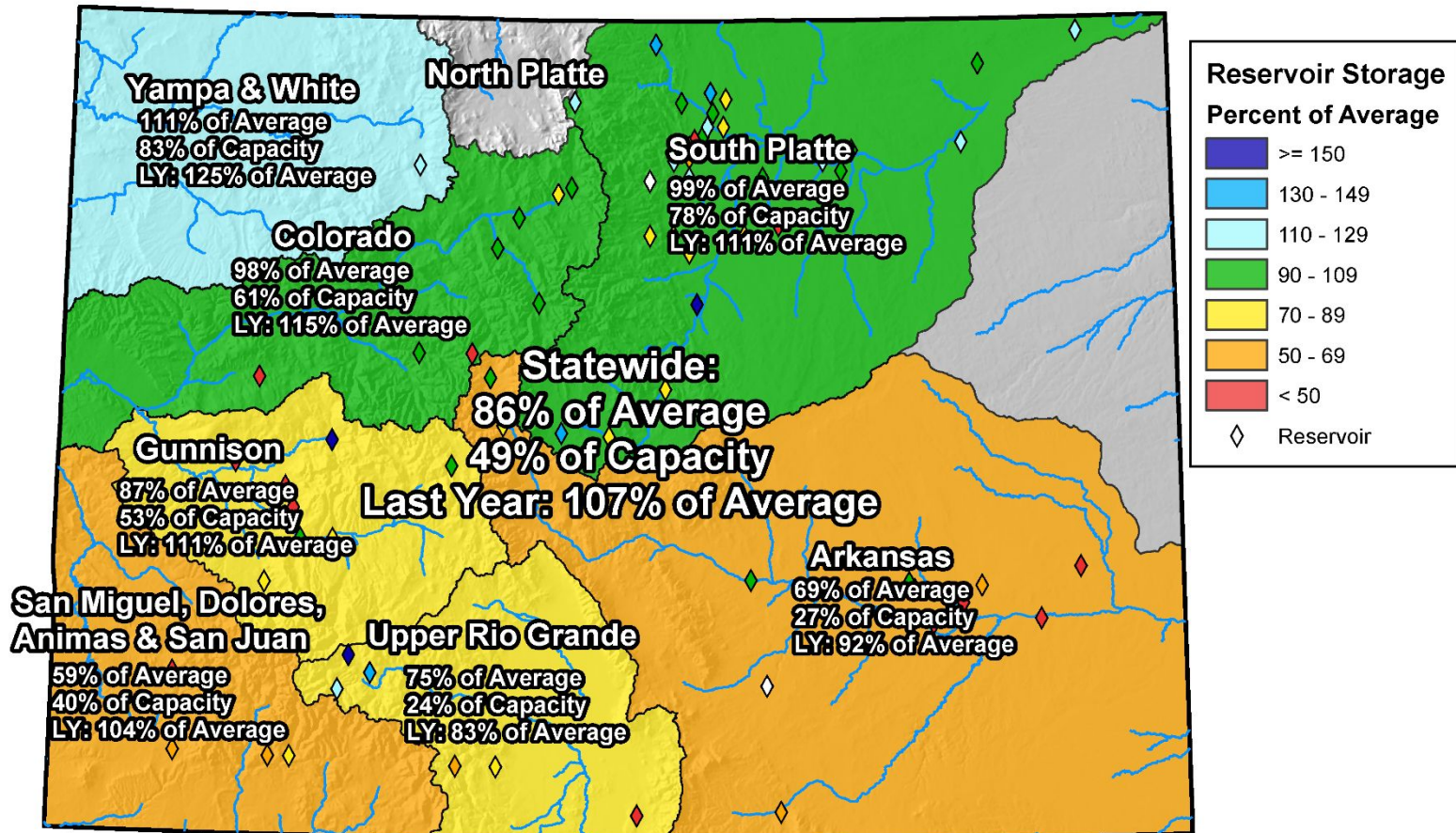
## Colorado Streamflow Forecasts Summary April 1, 2021





## Colorado Monthly Reservoir Storage Summary

End of March 2021

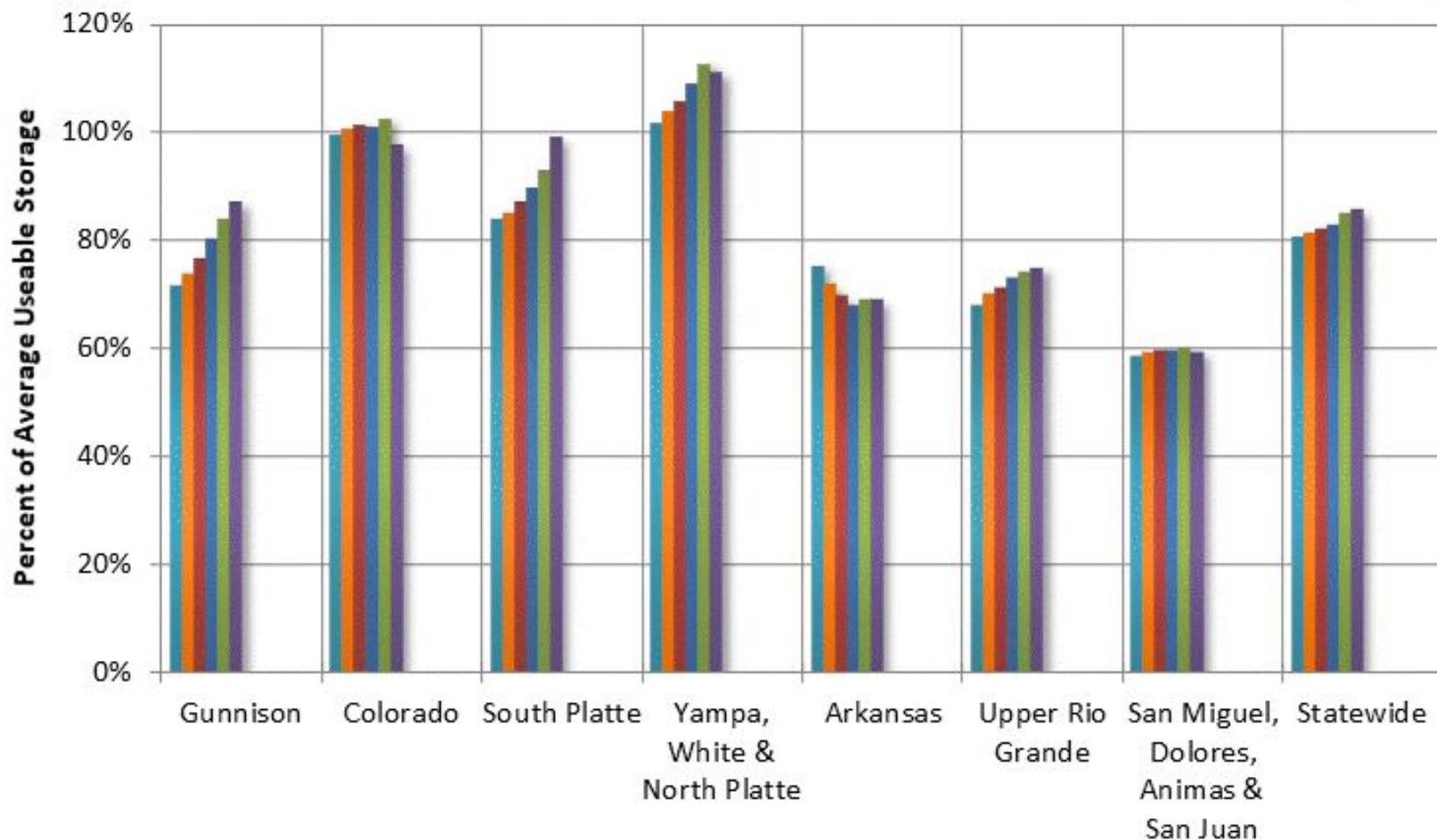


0 25 50 100 150 200 Miles

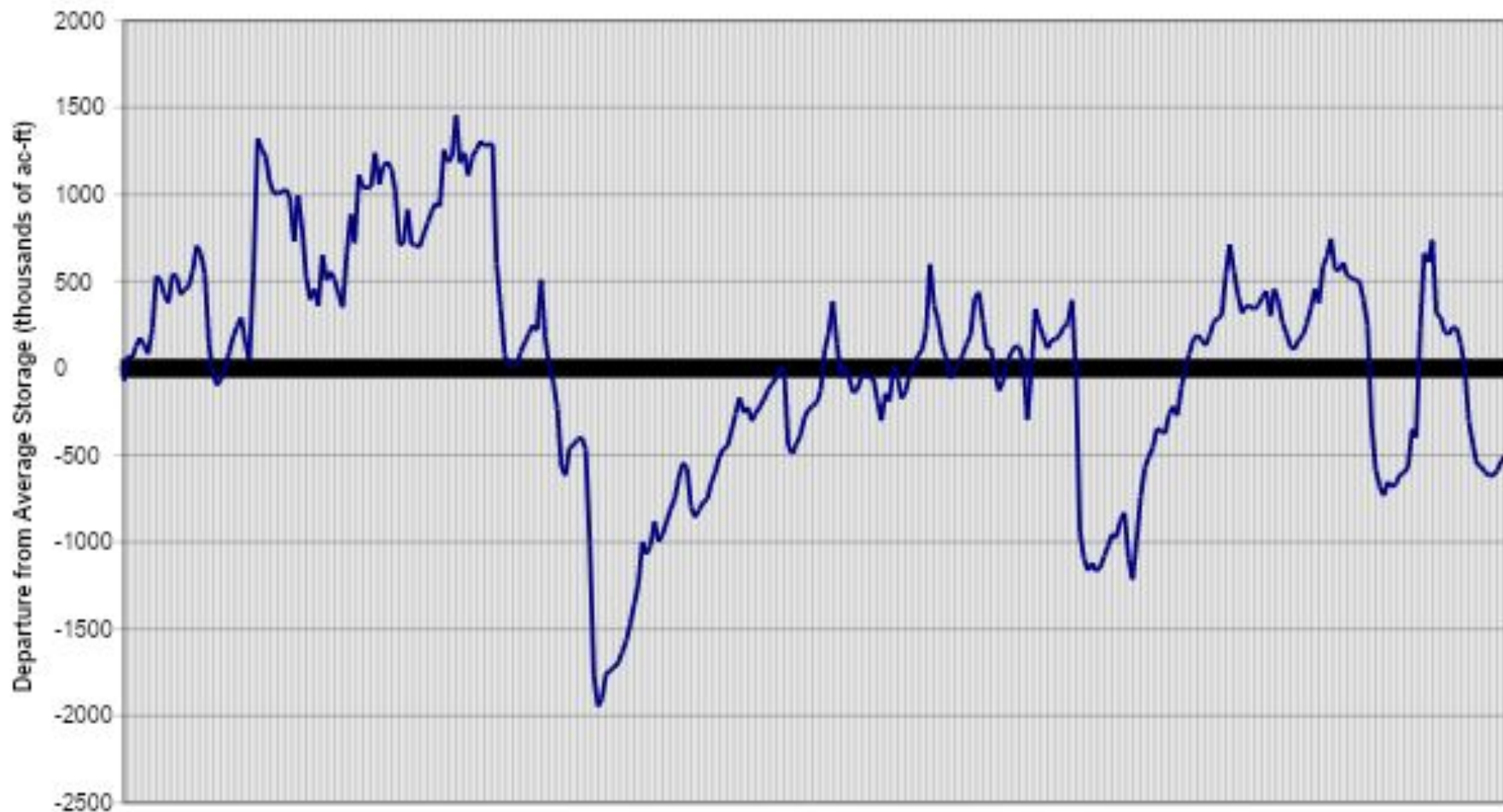


## Colorado Reservoir Storage

■ Oct-20 ■ Nov-20 ■ Dec-20 ■ Jan-21 ■ Feb-21 ■ Mar-21  
 ■ Apr-21 ■ May-21 ■ Jun-21 ■ Jul-21 ■ Aug-21 ■ Sep-21



COLORADO STATEWIDE  
Reservoir Storage  
Departure from Average

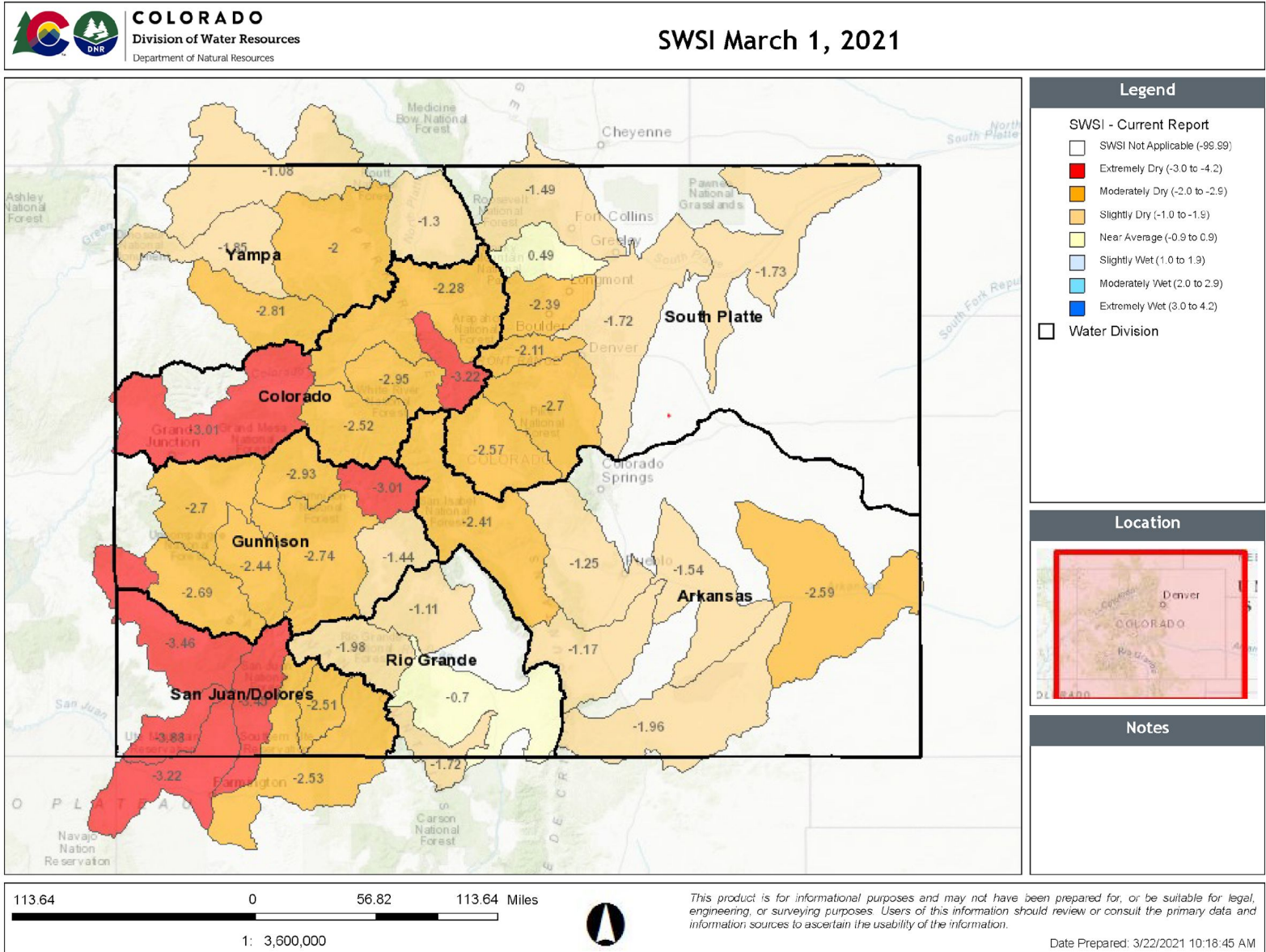




United States Department of Agriculture

# Colorado Snow Surveys

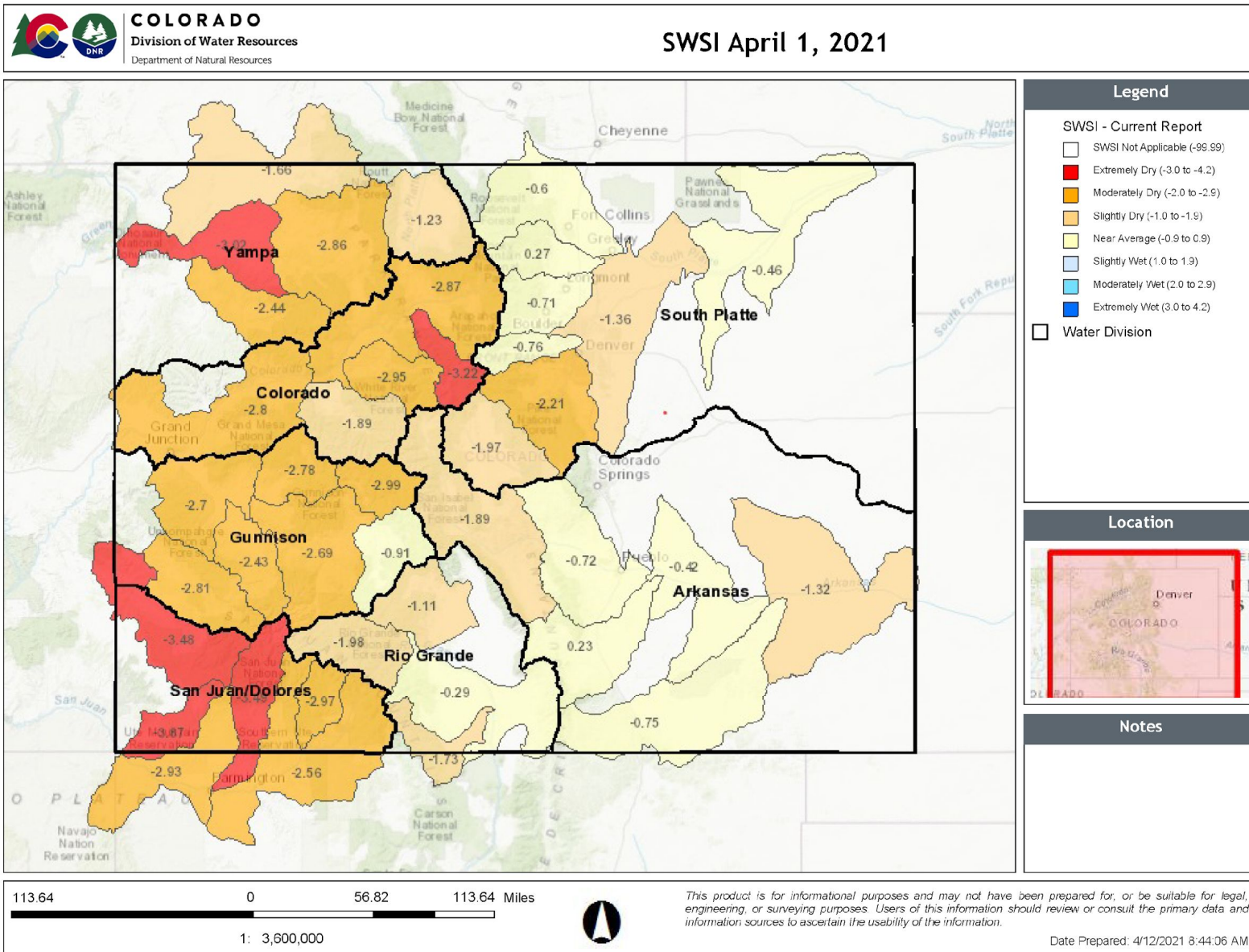
March 1, 2020 SWSI







April 1, 2020 SWSI



## Summary

- **Colorado Statewide snowpack at 77% of median**
  - April snow accumulation has been below normal and seen considerable snow melt
  - Have already likely seen the statewide snowpack peak at 91 percent of normal
- **Colorado year-to-date precipitation is 78% of average**
  - Month to date precipitation statewide for April so far has been 38% of average
- **Reservoir Storage is 86% of average, up 1% from last month with basin-wide storage values remaining better in the northern half of the state nearer normal below normal in the southern half of the state.**
- **Streamflow forecasts indicate below normal runoff this spring and summer.**
  - March snowstorm did little to improve runoff prospects.
  - Current April conditions will likely further decrease streamflow prospects.
  - Dry soils and low baseflows in rivers across the state are a significant factor in addition to the below normal precipitation in the predicted low streamflows.



United States Department of Agriculture

Colorado Snow Surveys

# Water Availability Task Force Meeting

## April 20<sup>th</sup>, 2021

### NRCS Snow Survey and Water Supply Forecasting Program

Brian Domonkos

Hydrologist

Asst. Snow Survey Supervisor

720-544-2852

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





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