



United States Department of Agriculture

Colorado Snow Surveys

Water Availability Task Force Meeting

March 18th, 2021

NRCS Snow Survey and Water Supply Forecasting Program

Brian Domonkos

Hydrologist

Asst. Snow Survey Supervisor

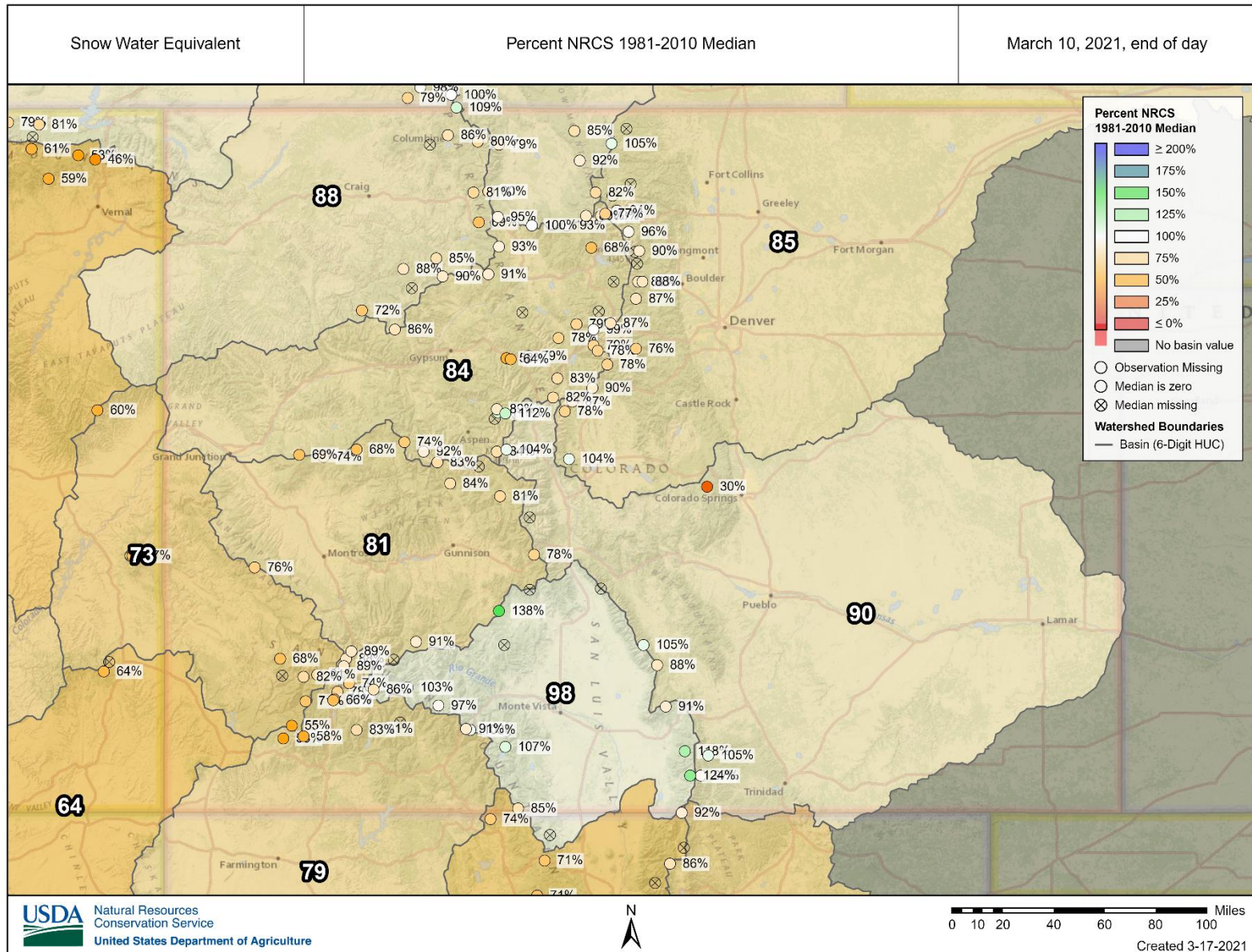
720-544-2852

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



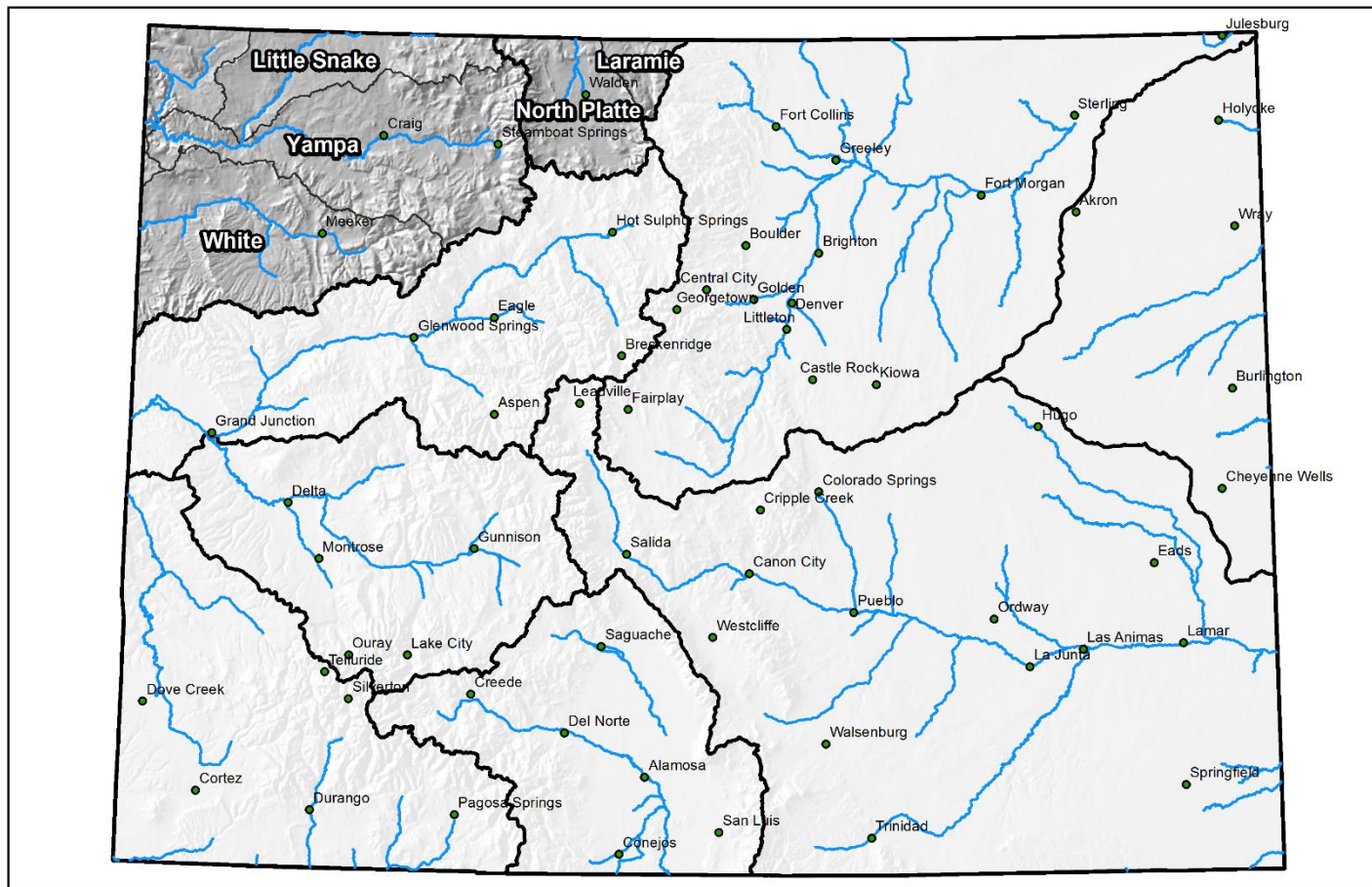
United States Department of Agriculture

Colorado Snow Surveys



Major Basin Summary

Yampa, White, and North Platte River Basins



0 25 50 100 150 200 Miles



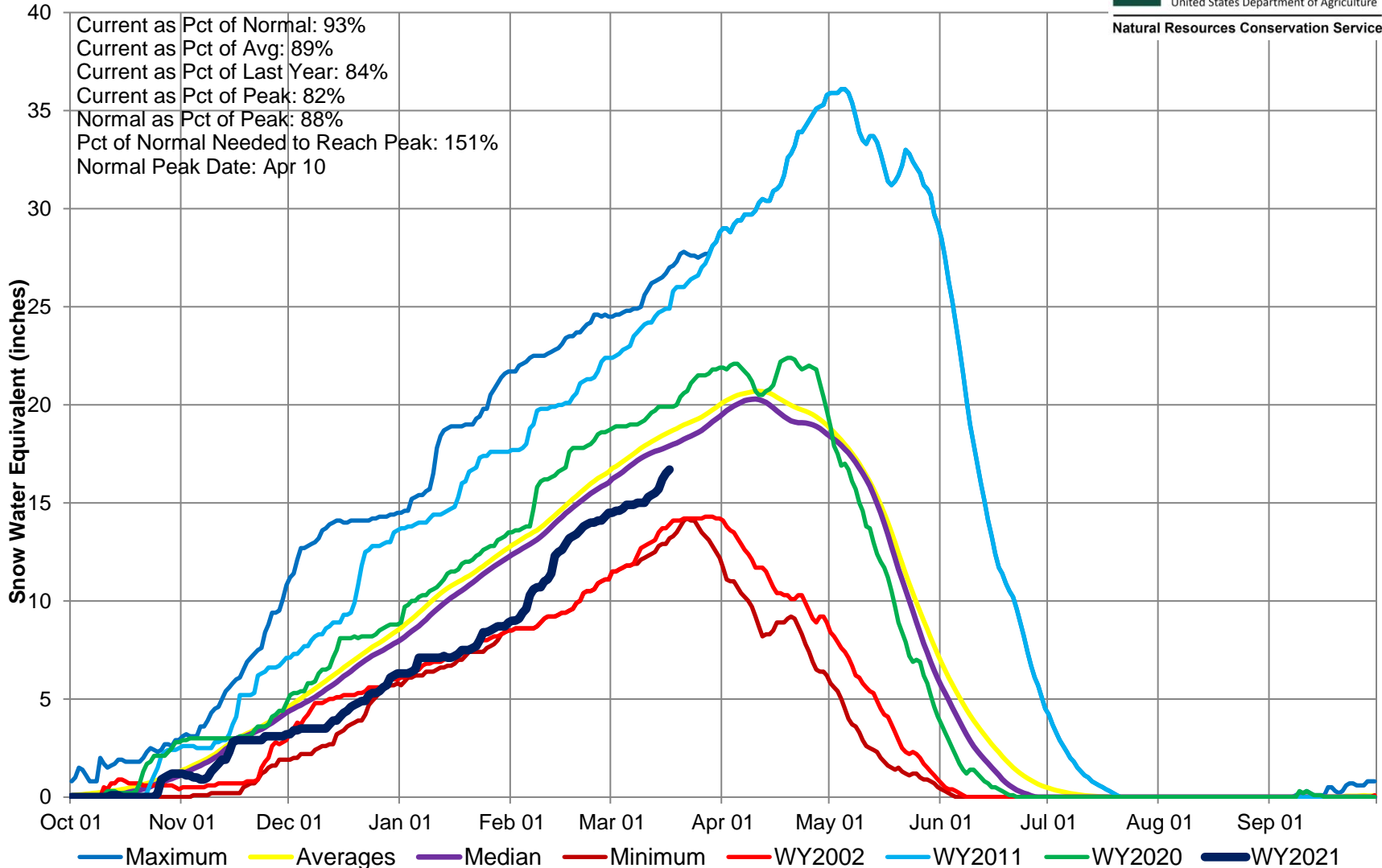
Yampa, White and North Platte River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021

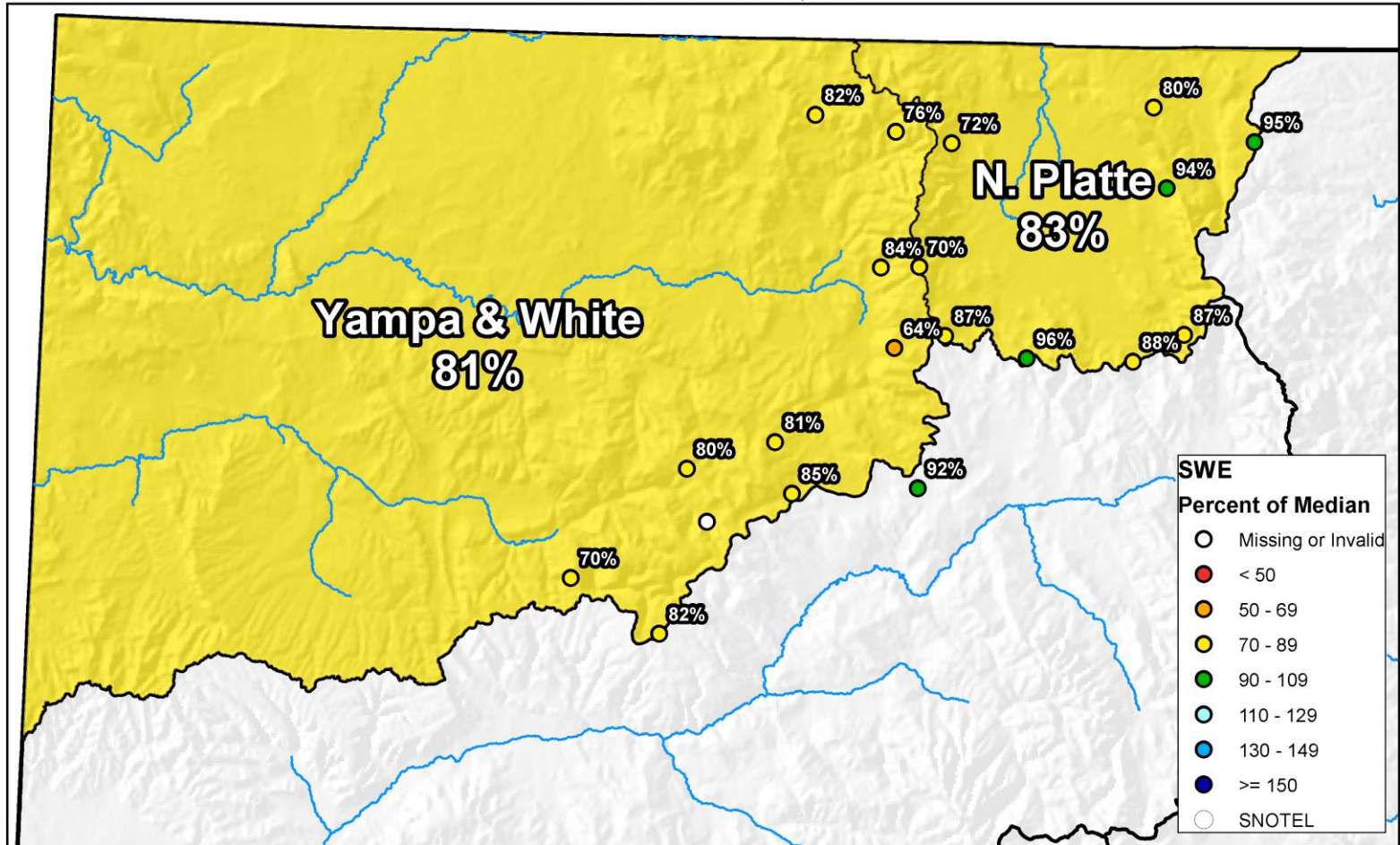


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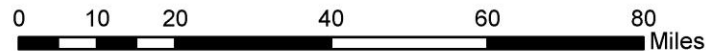
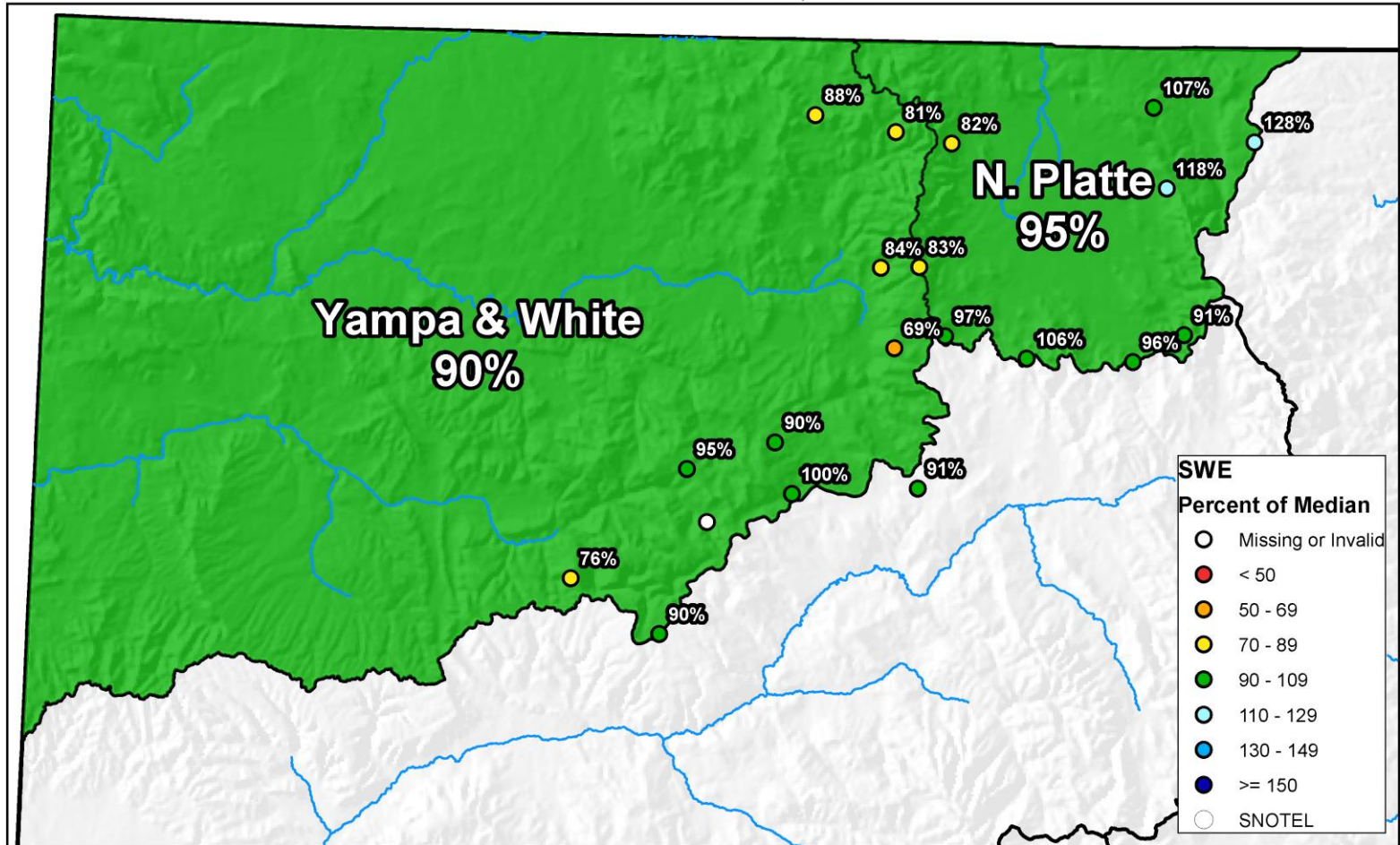
Natural Resources Conservation Service



Yampa, White, and North Platte River Basins Snow Water Equivalent (SWE) Summary Current as of Feb 12, 2021



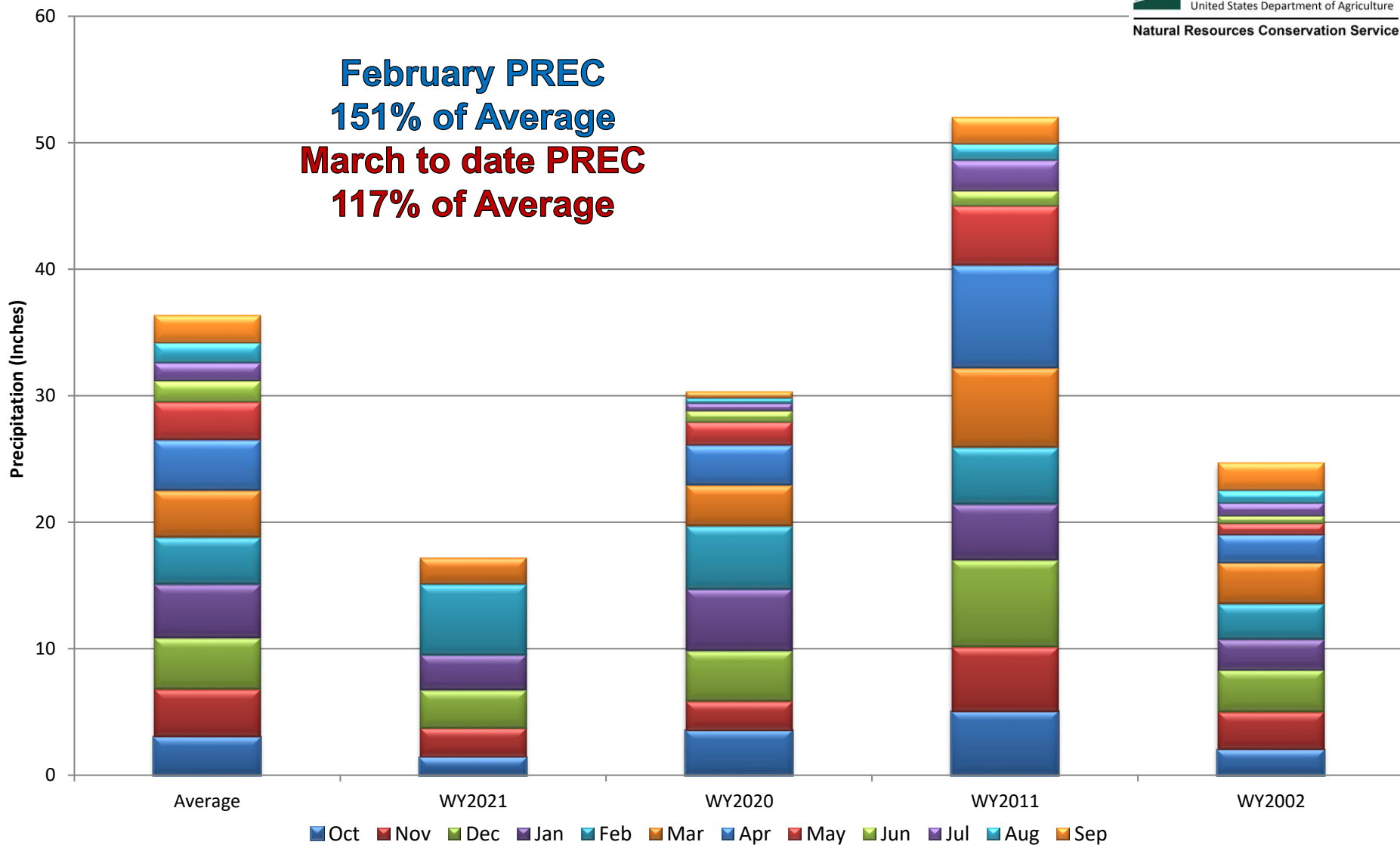
Yampa, White, and North Platte River Basins Snow Water Equivalent (SWE) Summary Current as of Mar 17, 2021



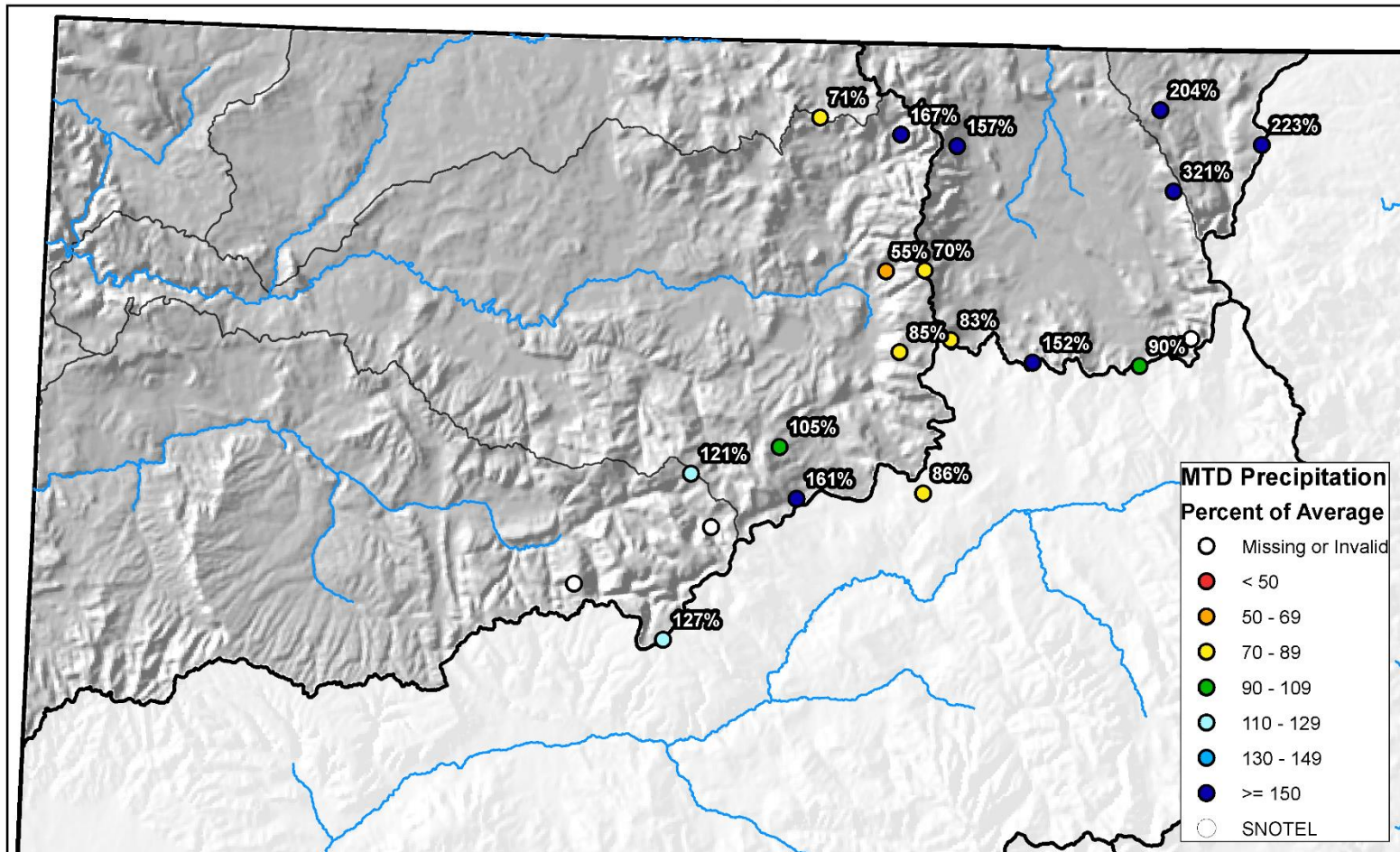


Yampa and White River Basins High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



Yampa, White, and North Platte River Basins Month to Date Precipitation Summary Current as of Mar 17, 2021

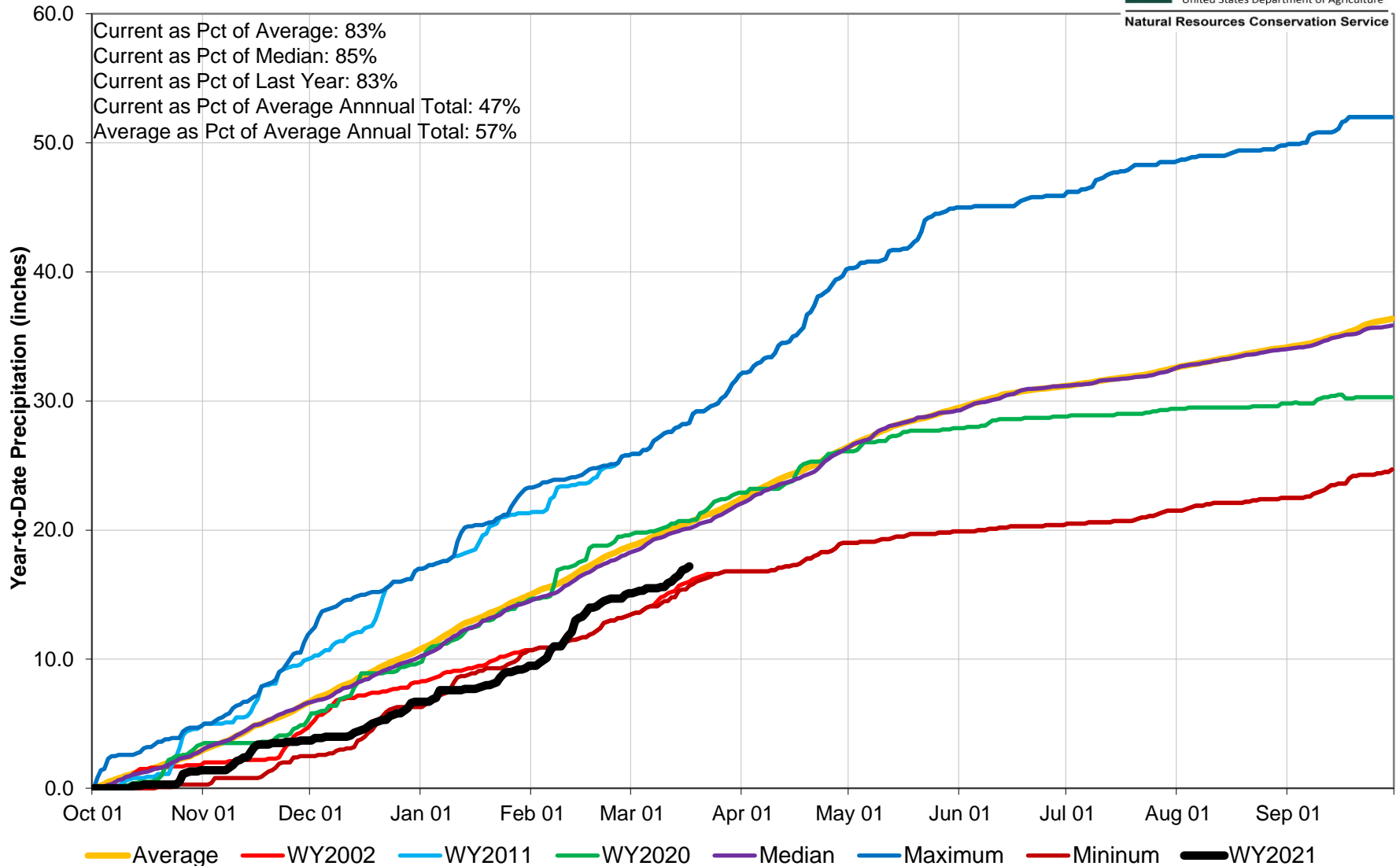


0 10 20 40 60 80 Miles

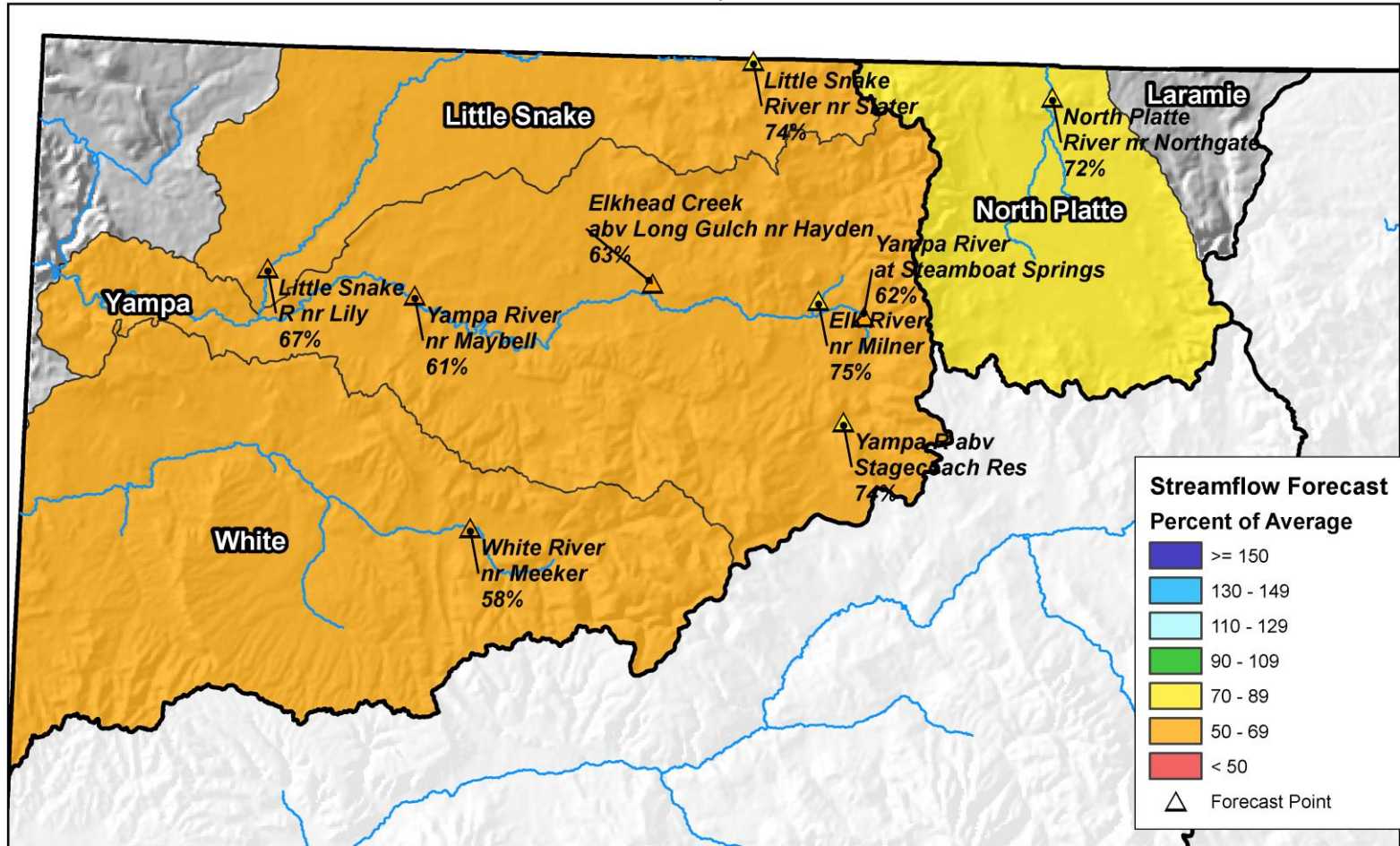


Yampa and White River Basins High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



Yampa, White, and North Platte River Basins Streamflow Forecast Summary March 1, 2021

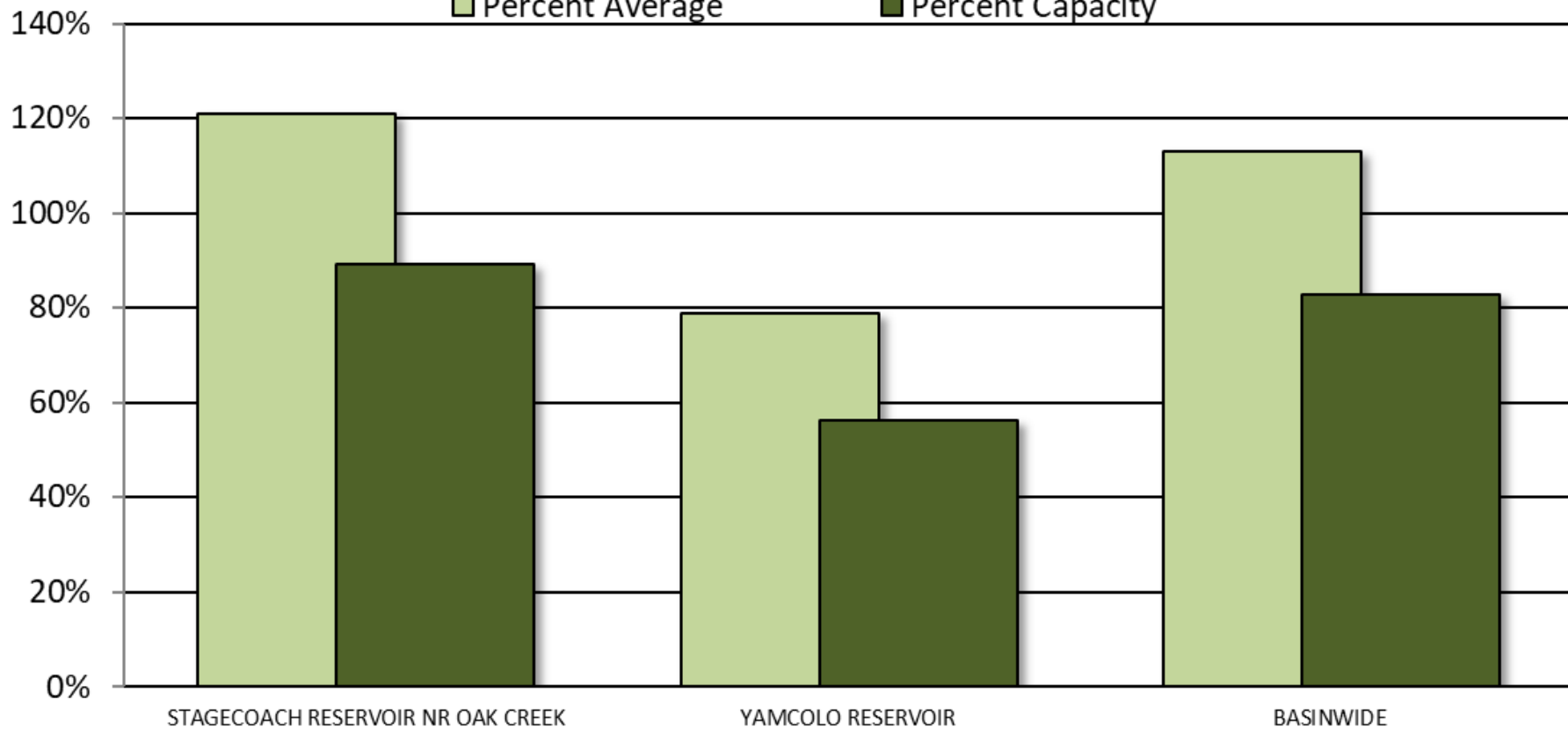


0 10 20 40 60 80 Miles

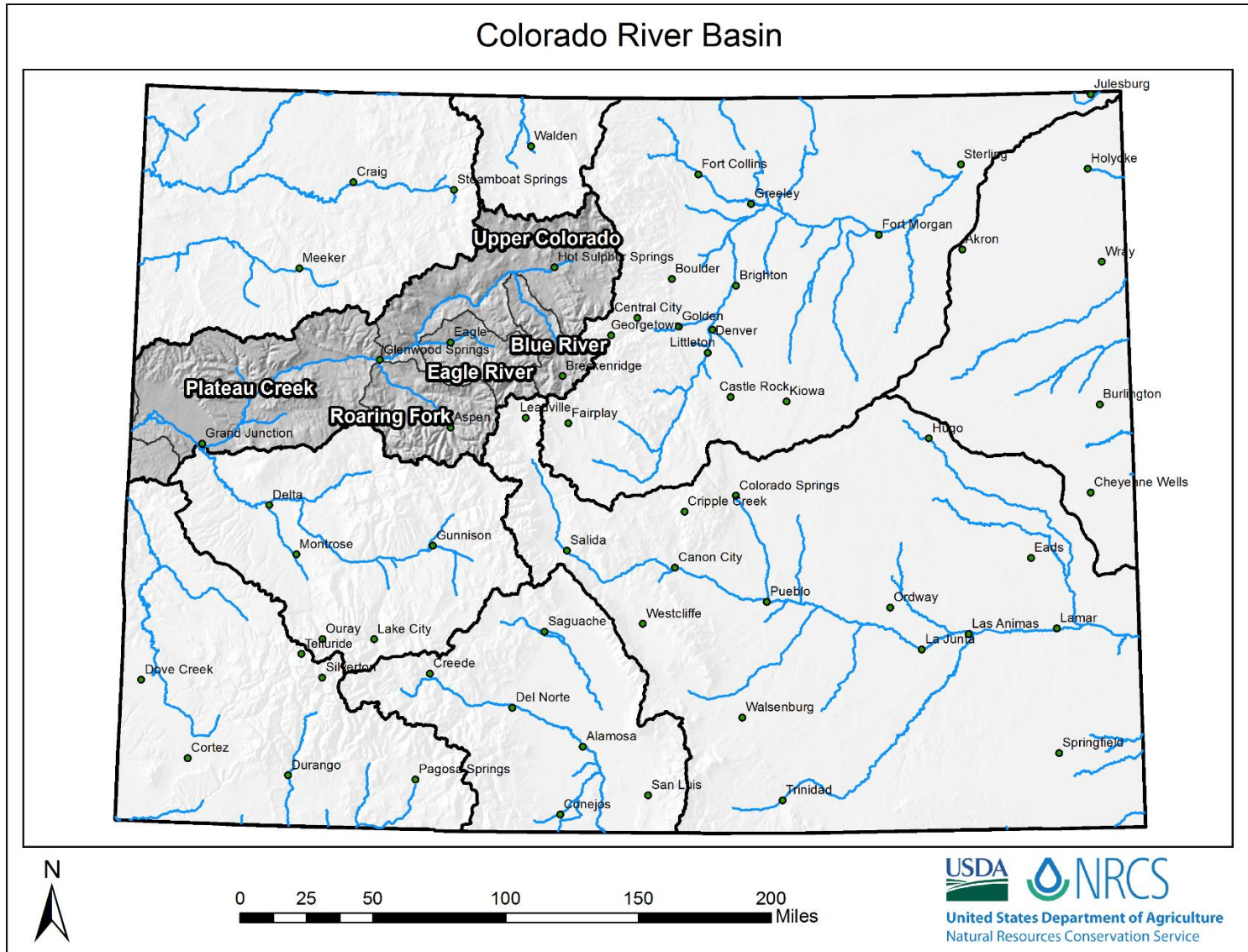
End of February Reservoir Storage

■ Percent Average

■ Percent Capacity



Major Basin Summary





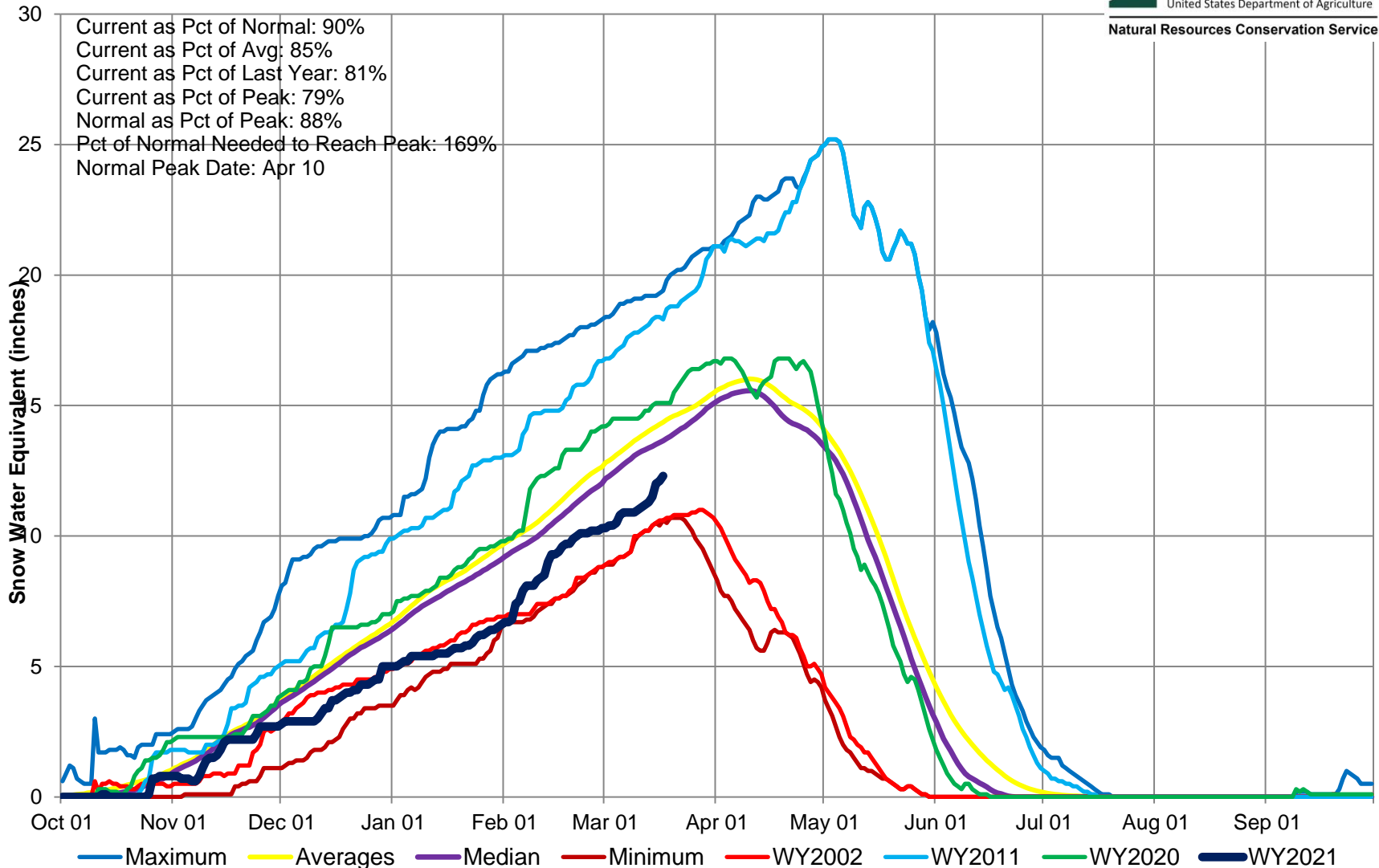
Upper Colorado River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



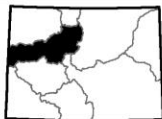
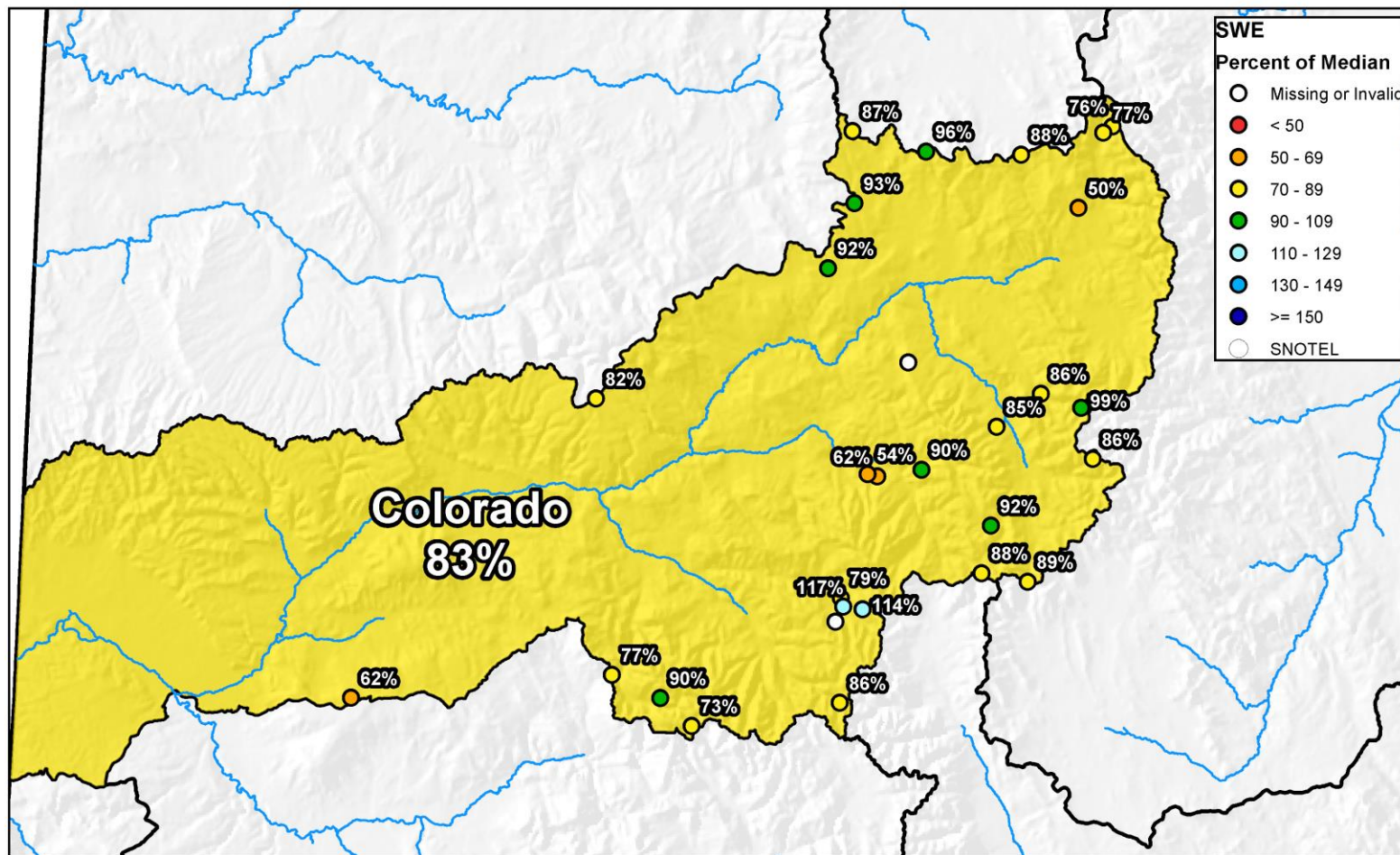
United States Department of Agriculture

Natural Resources Conservation Service

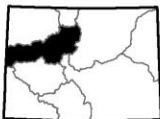
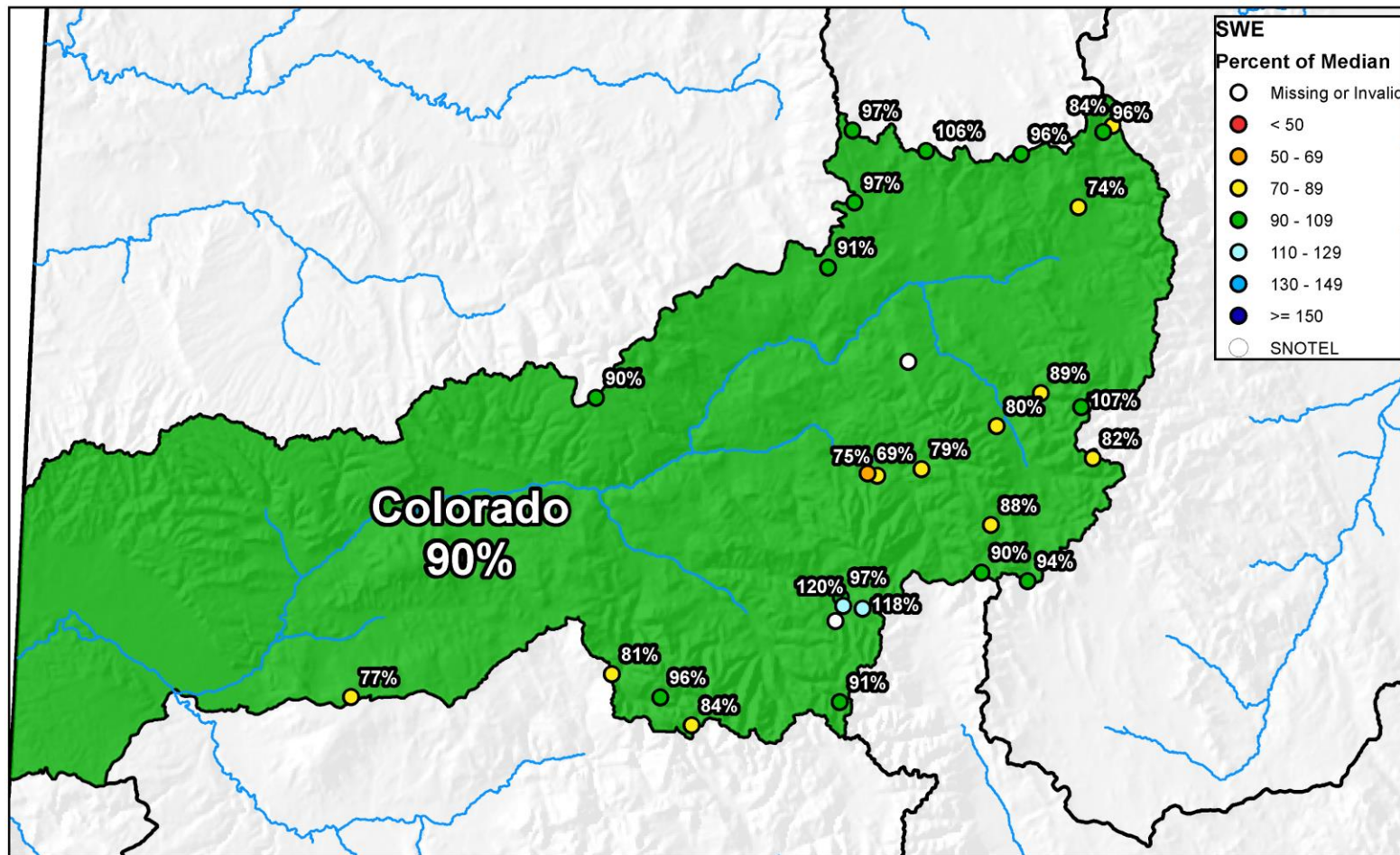


Upper Colorado River Basin Snow Water Equivalent (SWE) Summary

Current as of Feb 12, 2021



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



0 10 20 40 60 80 Miles



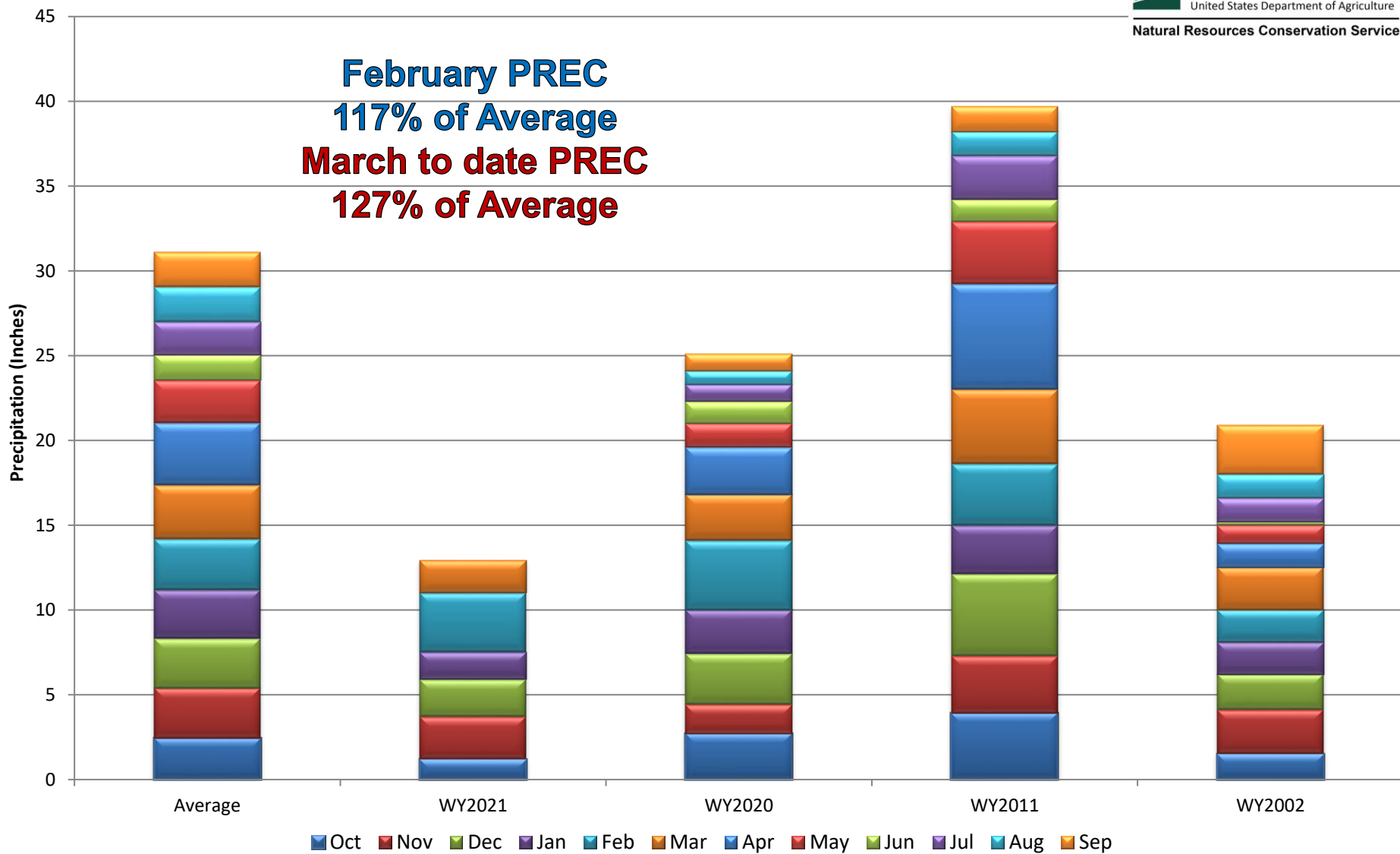
United States Department of Agriculture

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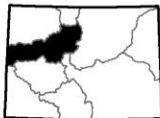
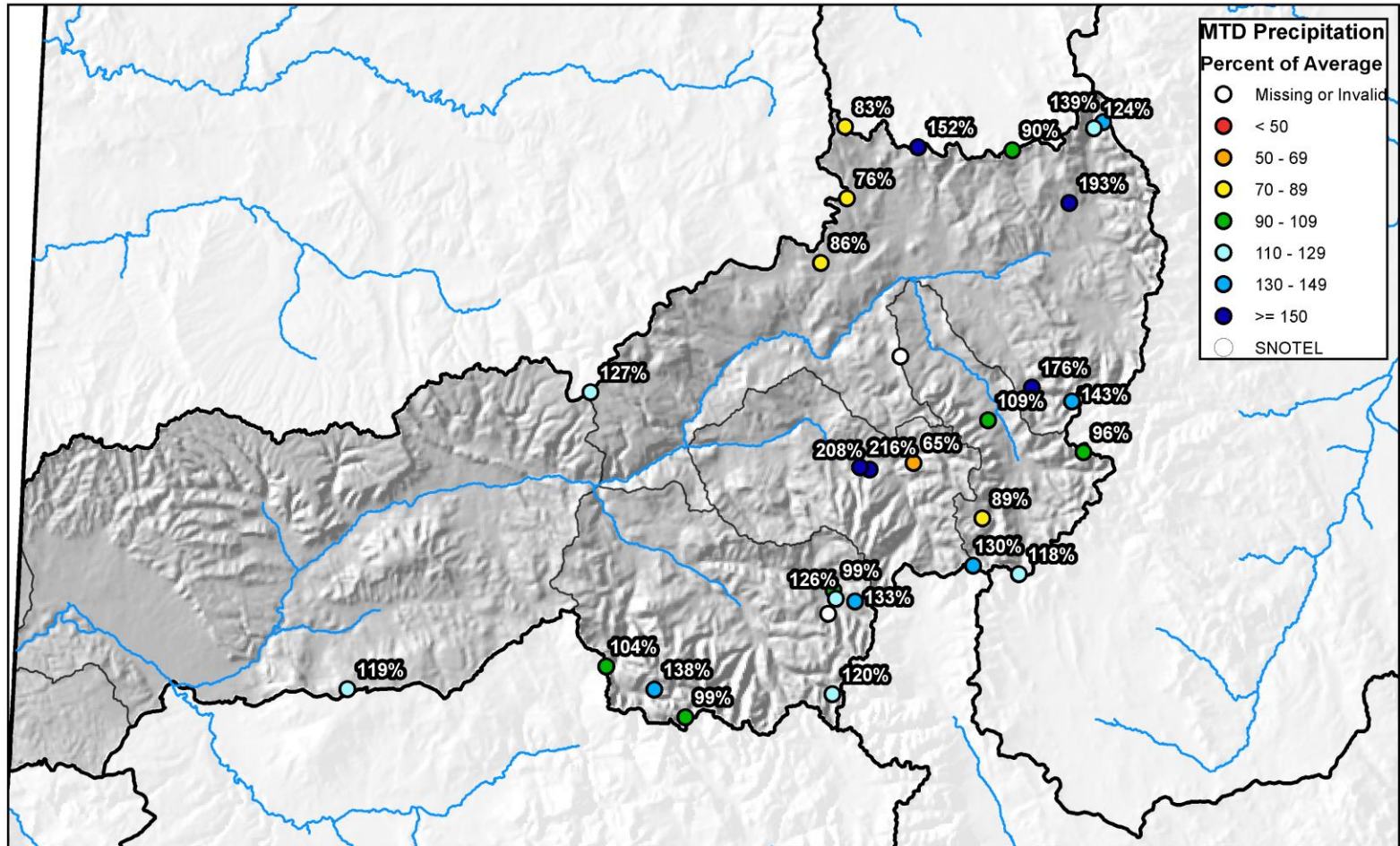
Upper Colorado River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



Upper Colorado River Basin Month to Date Precipitation Summary

Current as of Mar 17, 2021



0 10 20 40 60 80 Miles



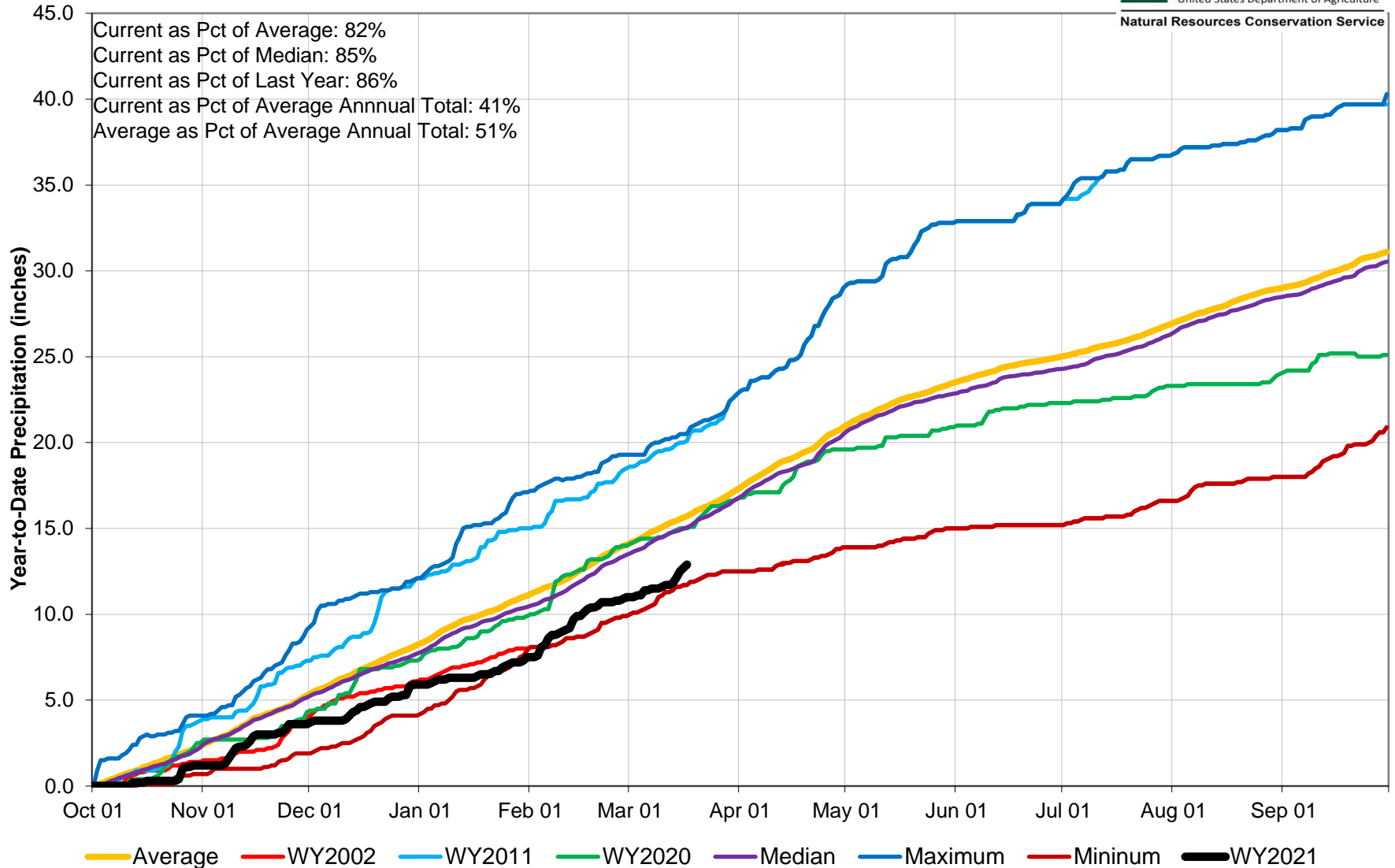
United States Department of Agriculture

Natural Resources Conservation Service



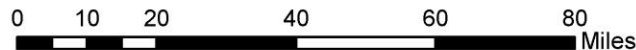
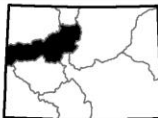
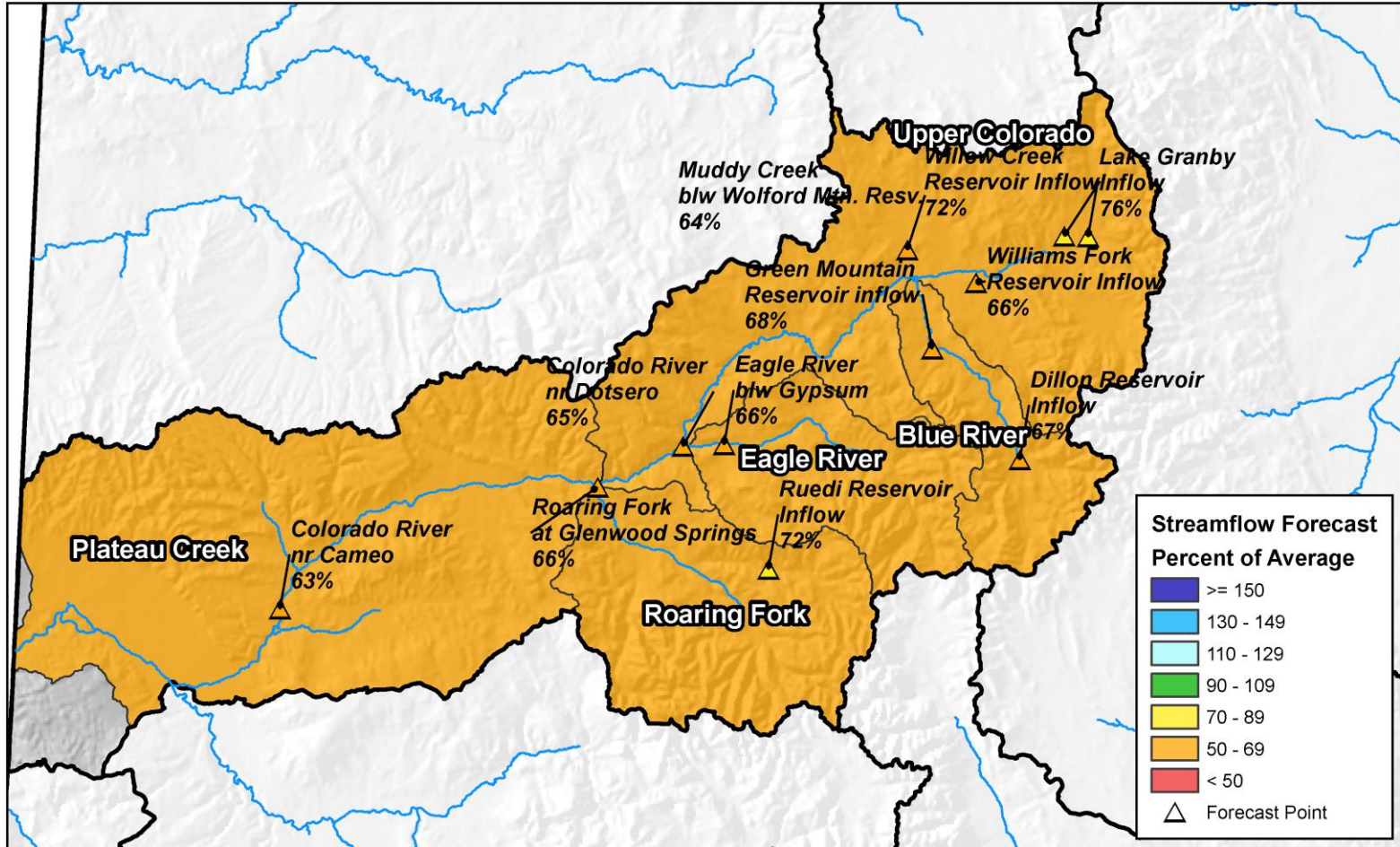
Upper Colorado River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



Upper Colorado River Basin Streamflow Forecast Summary

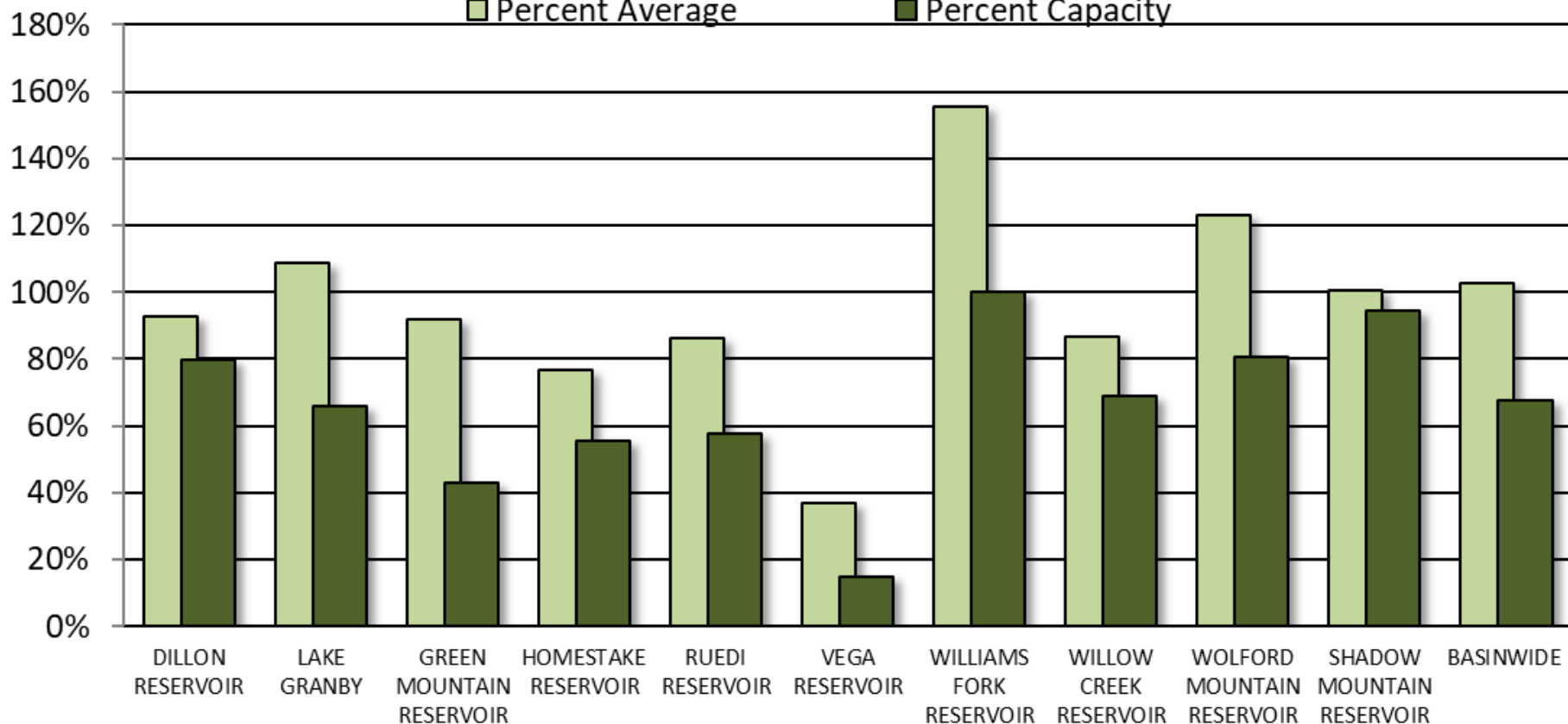
March 1, 2021



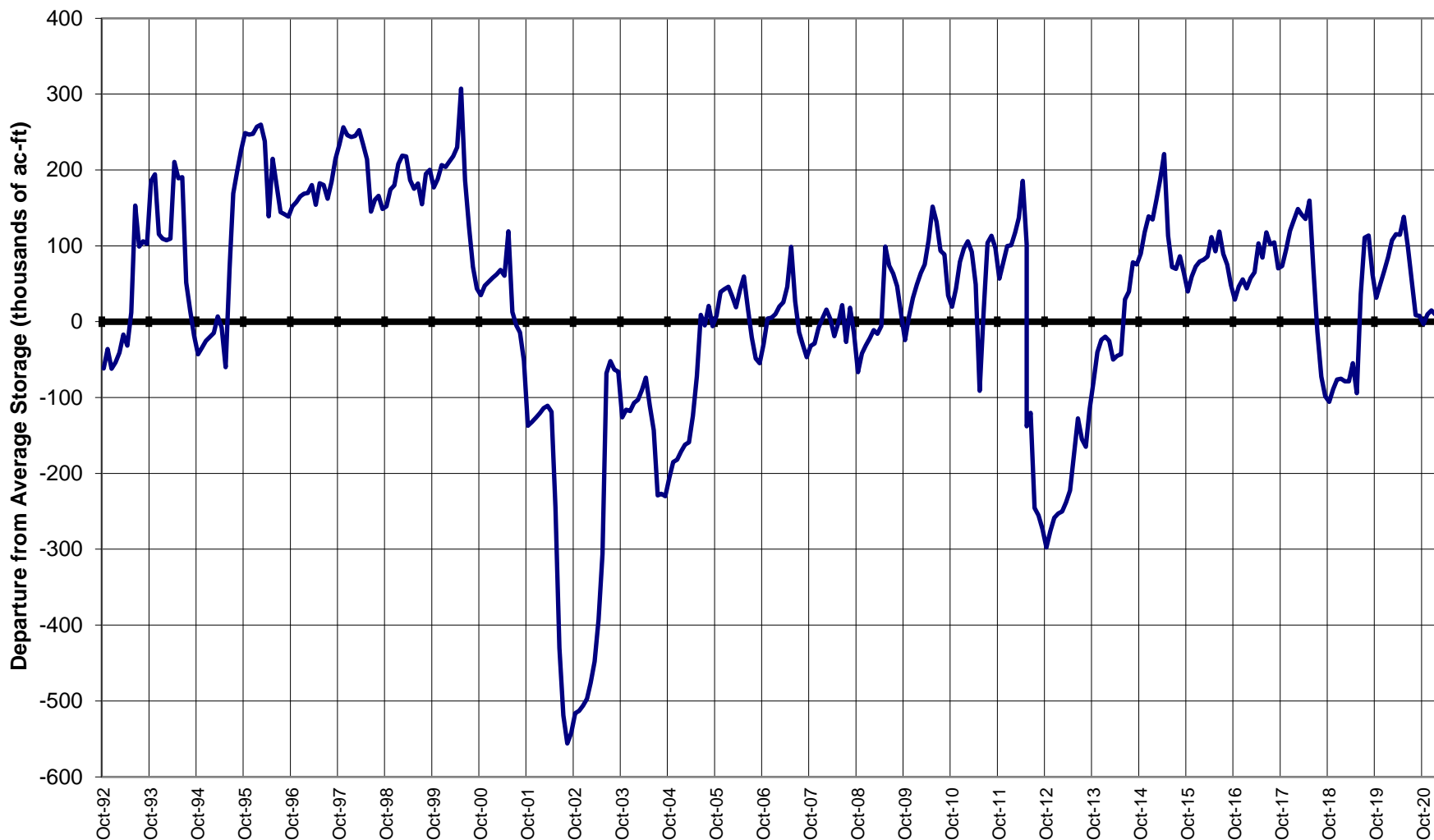
End of February Reservoir Storage

■ Percent Average

■ Percent Capacity

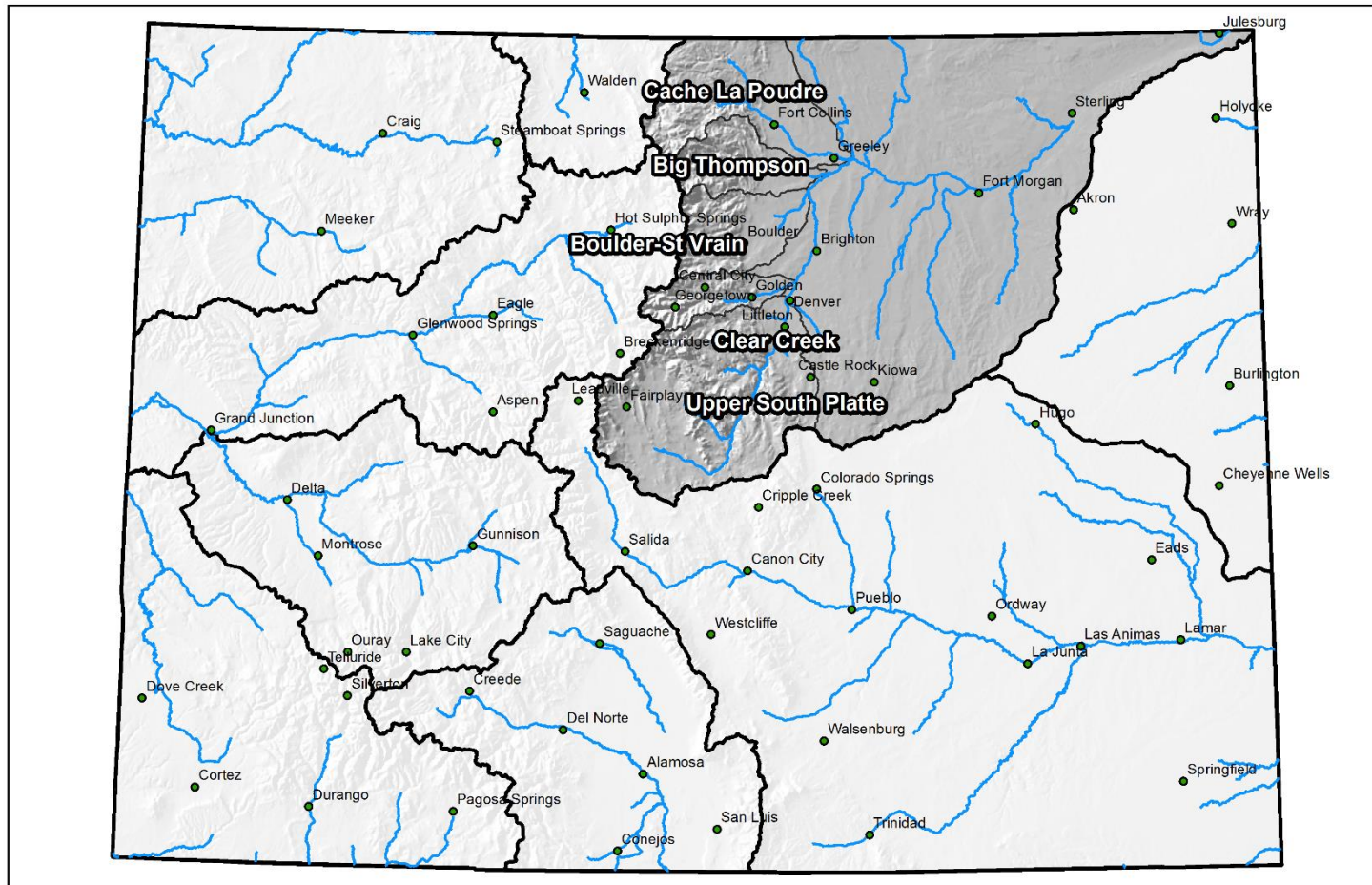


COLORADO RIVER BASIN Reservoir Storage Departure from Average



Major Basin Summary

South Platte River Basin





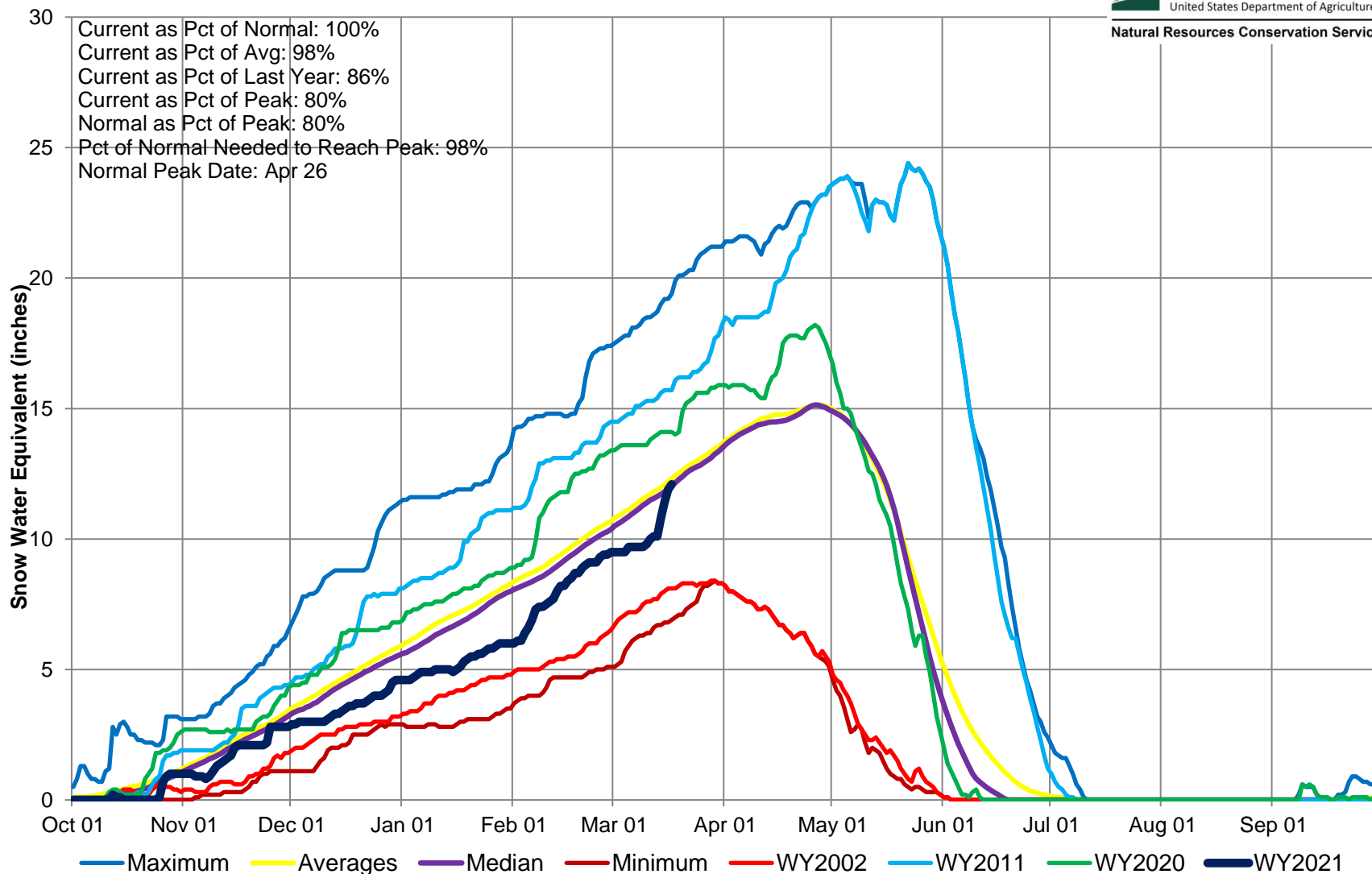
South Platte River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



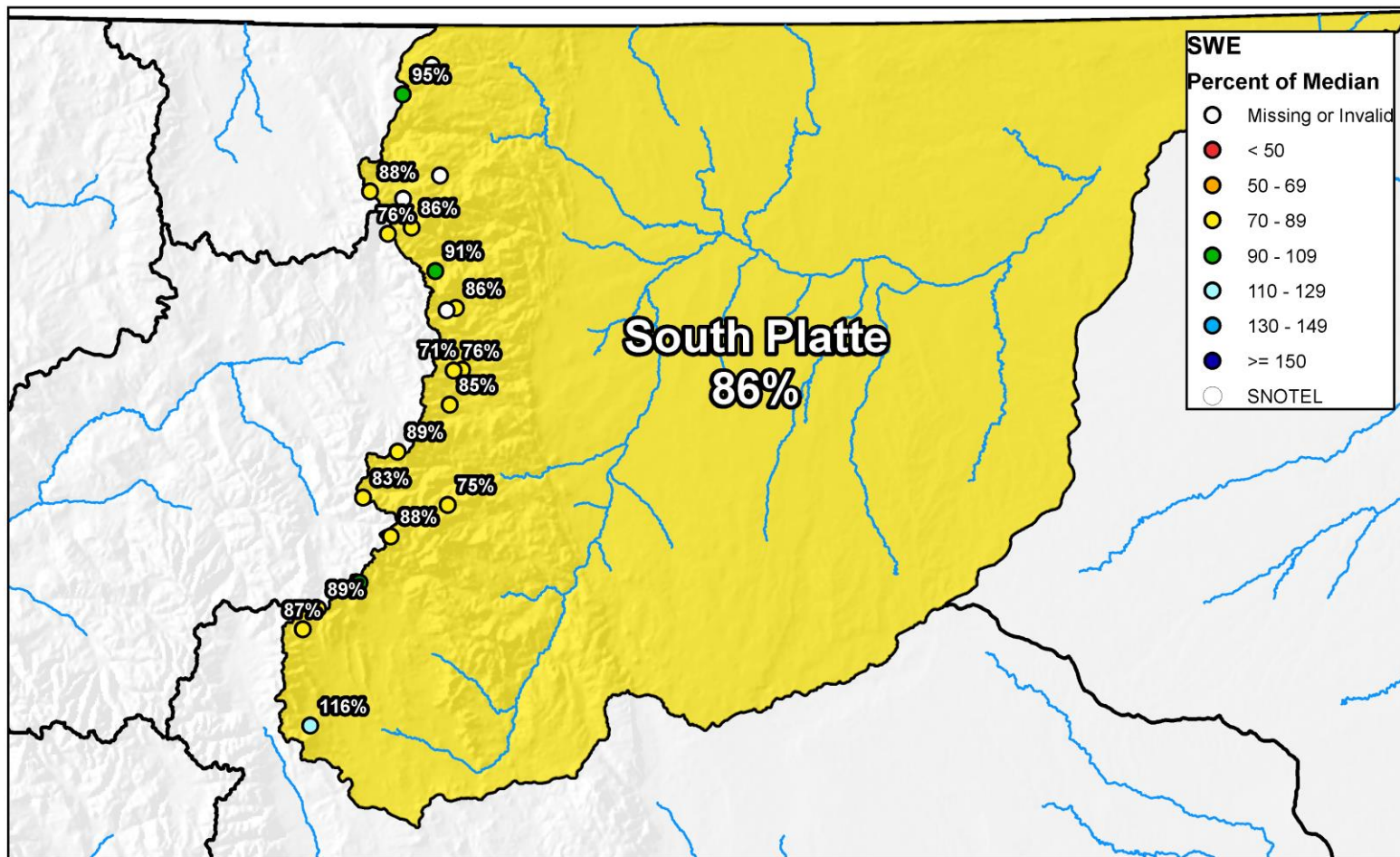
United States Department of Agriculture

Natural Resources Conservation Service



South Platte River Basin Snow Water Equivalent (SWE) Summary

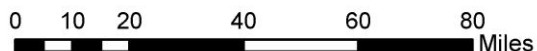
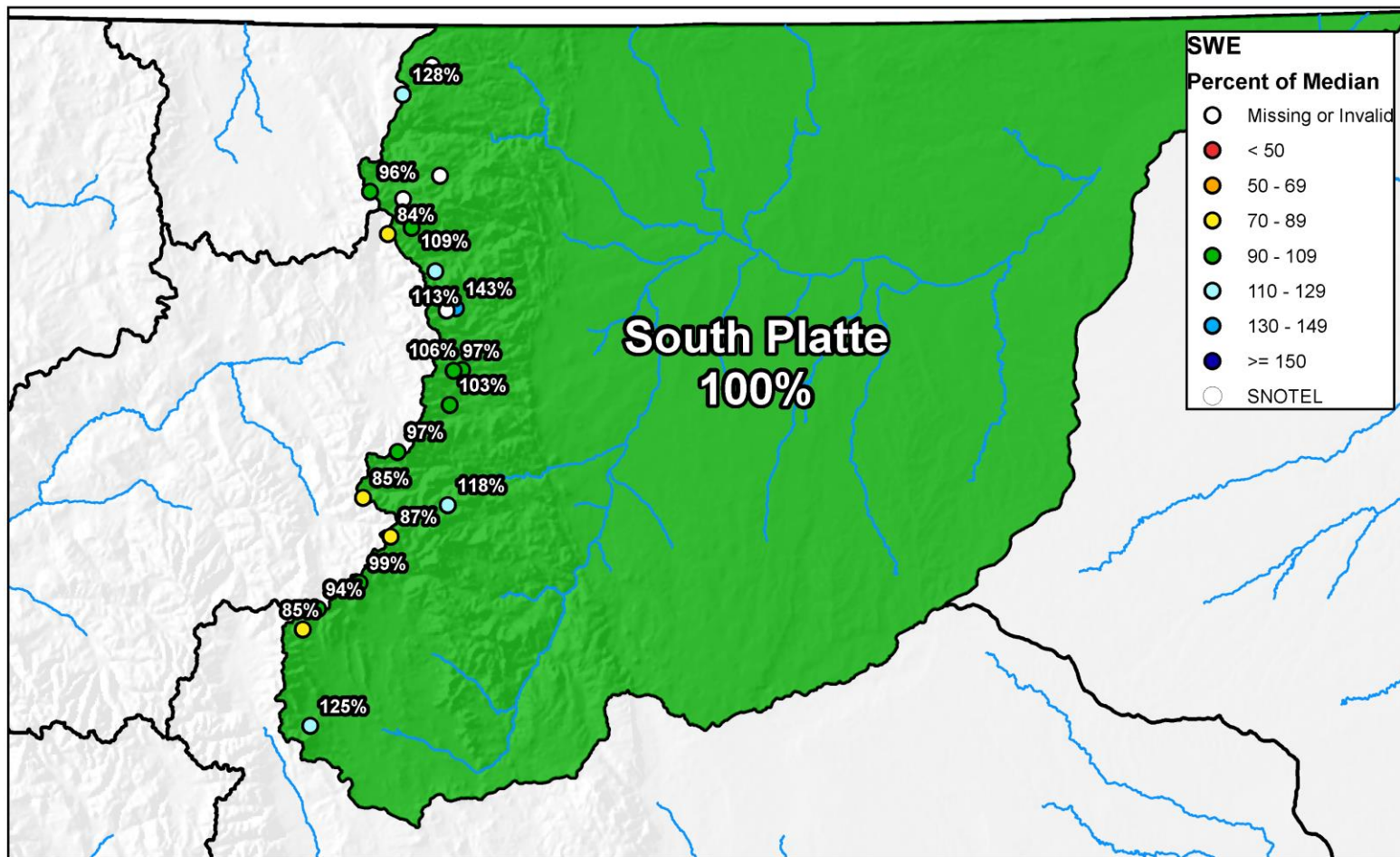
Current as of Feb 12, 2021



0 10 20 40 60 80 Miles

South Platte River Basin Snow Water Equivalent (SWE) Summary

Current as of Mar 17, 2021



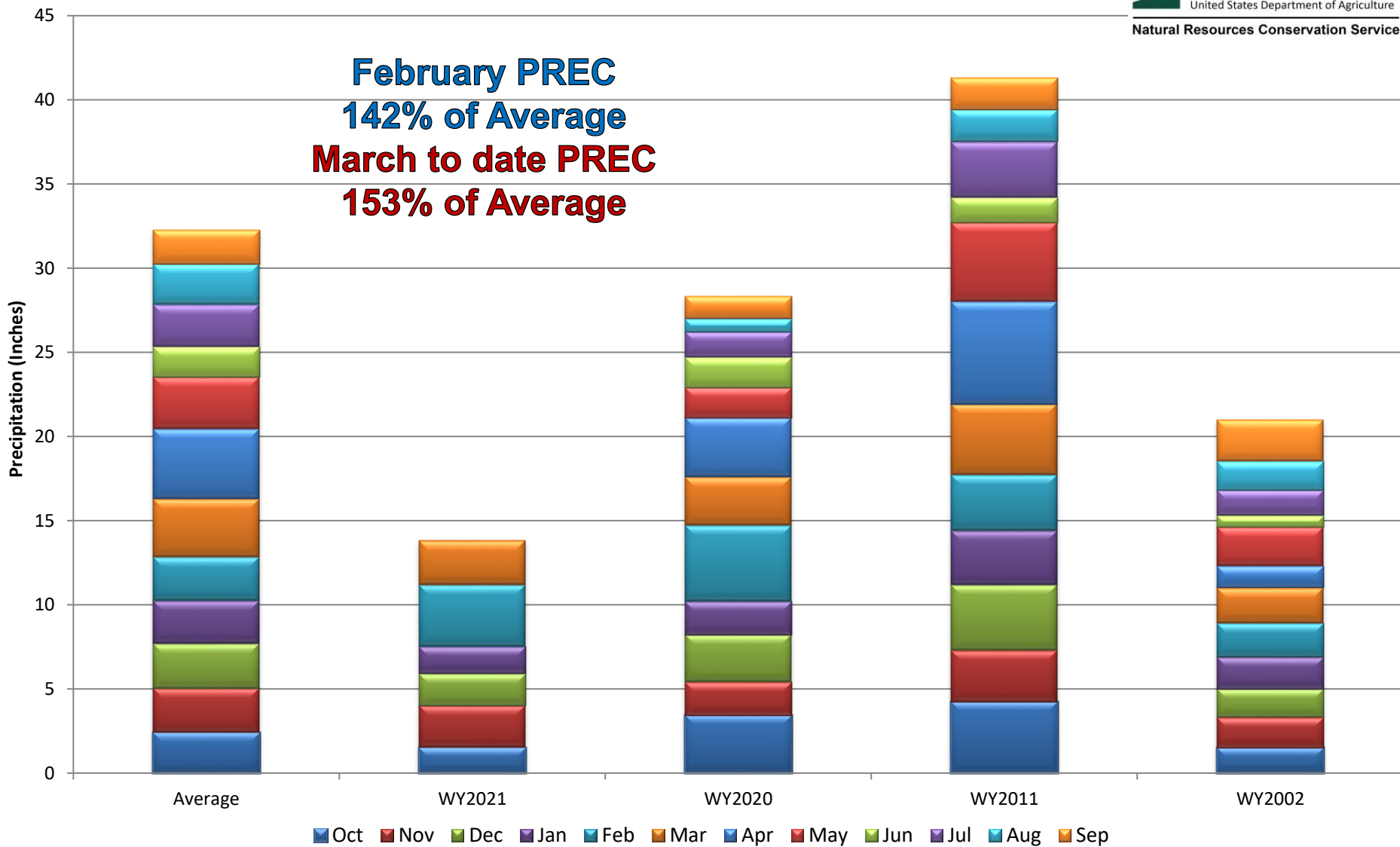


South Platte River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021

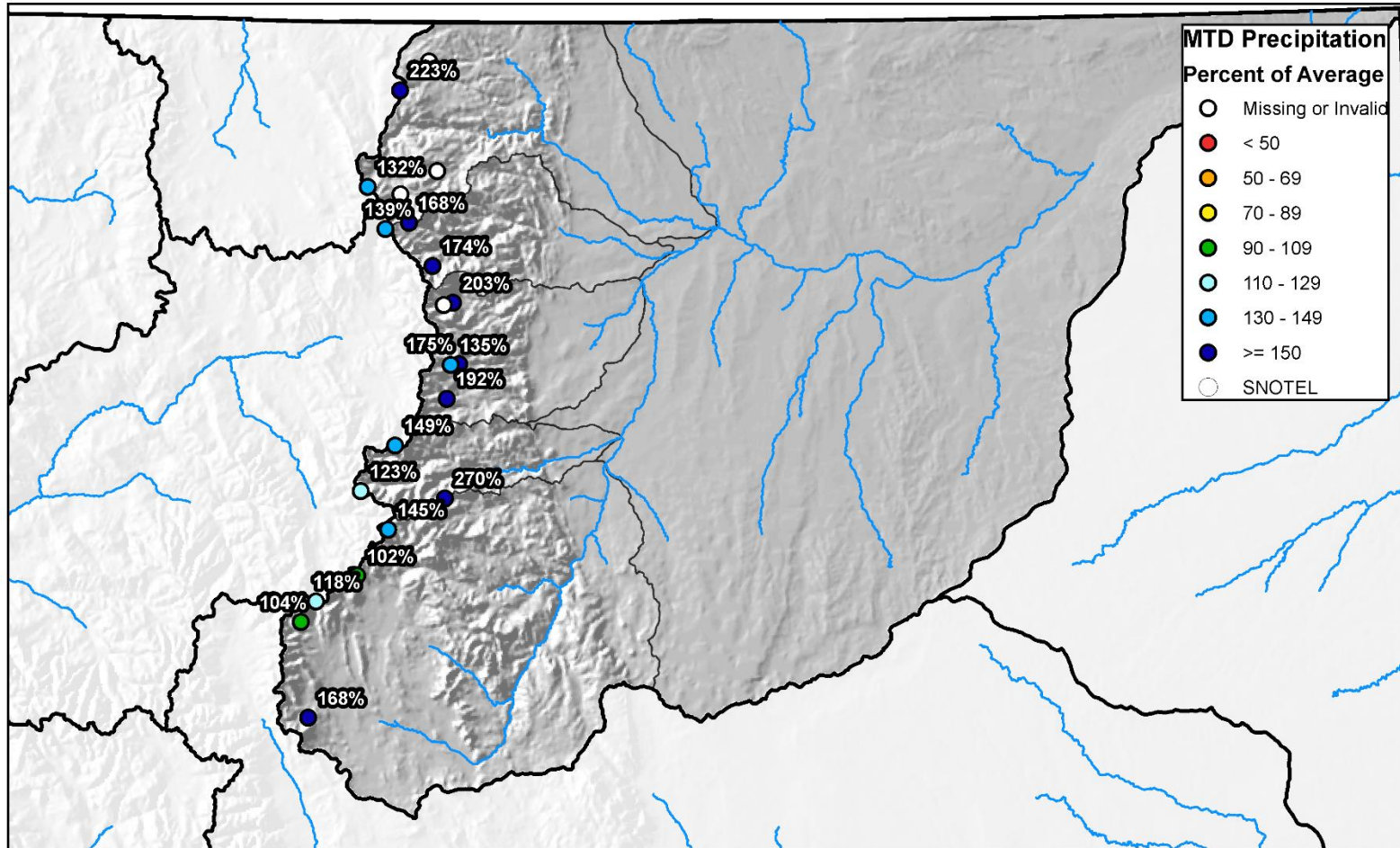


February PREC
142% of Average
March to date PREC
153% of Average



South Platte River Basin Month to Date Precipitation Summary

Current as of Mar 17, 2021

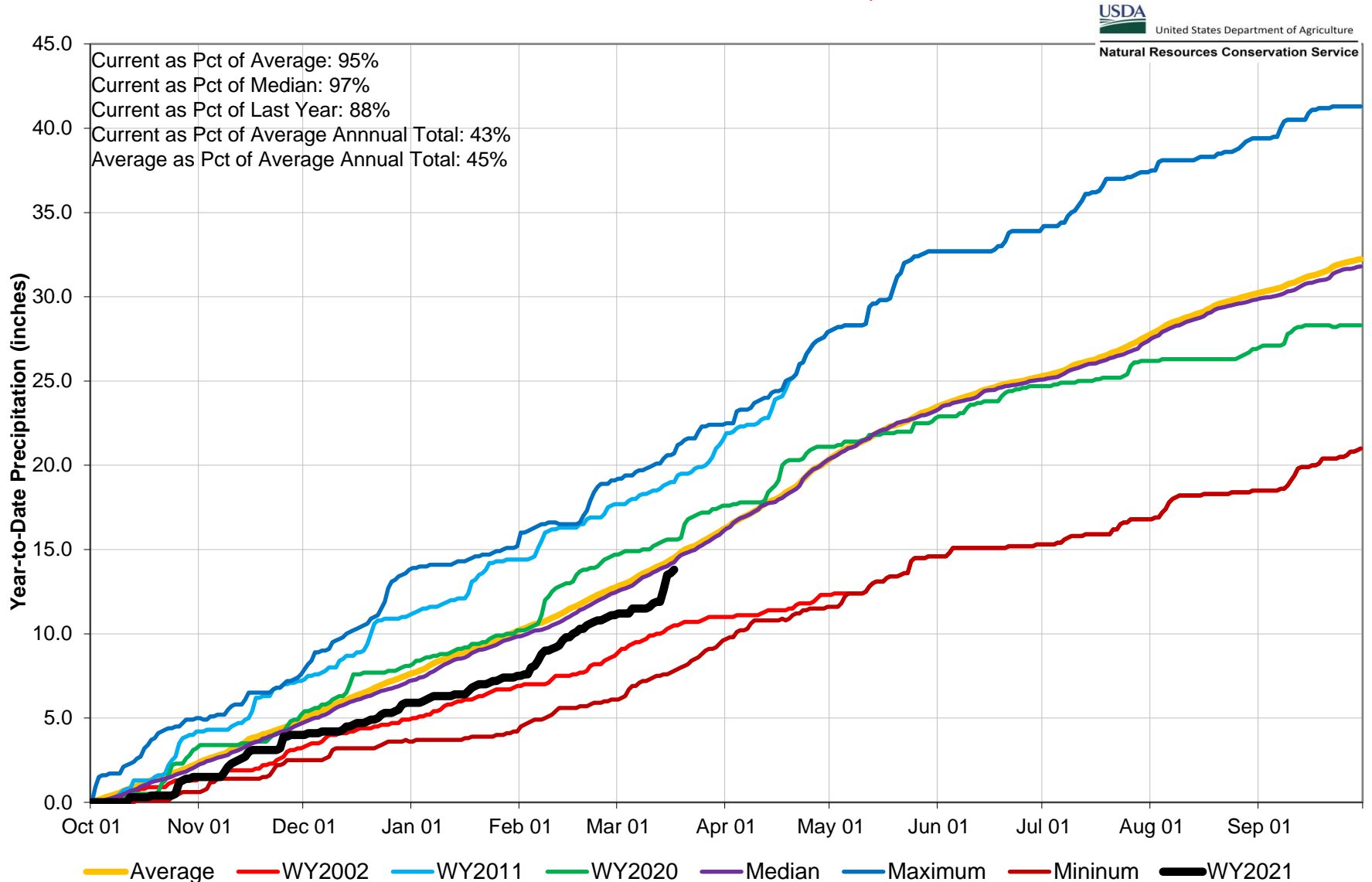


0 10 20 40 60 80 Miles



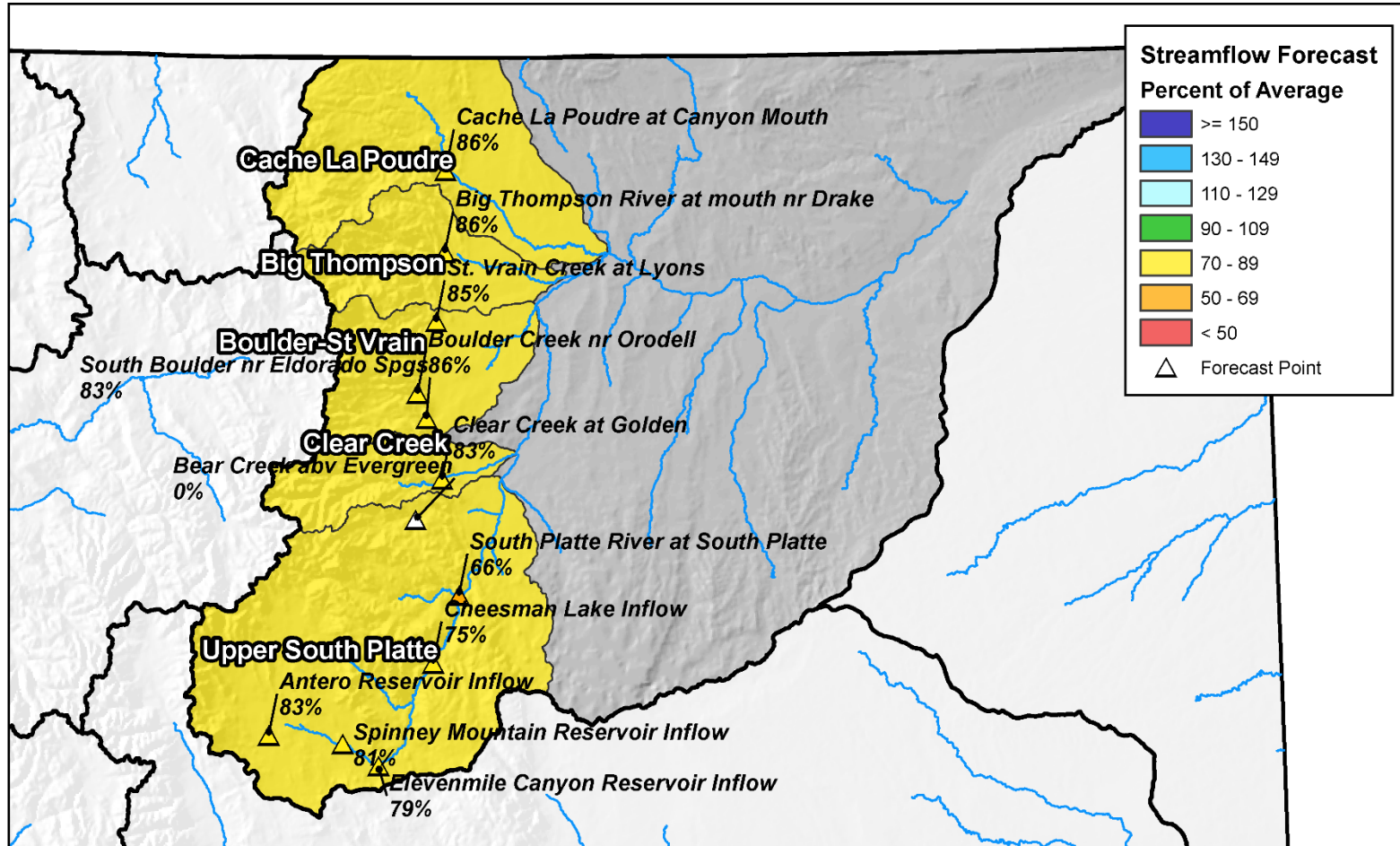
South Platte River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



South Platte River Basin Streamflow Forecast Summary

March 1, 2021

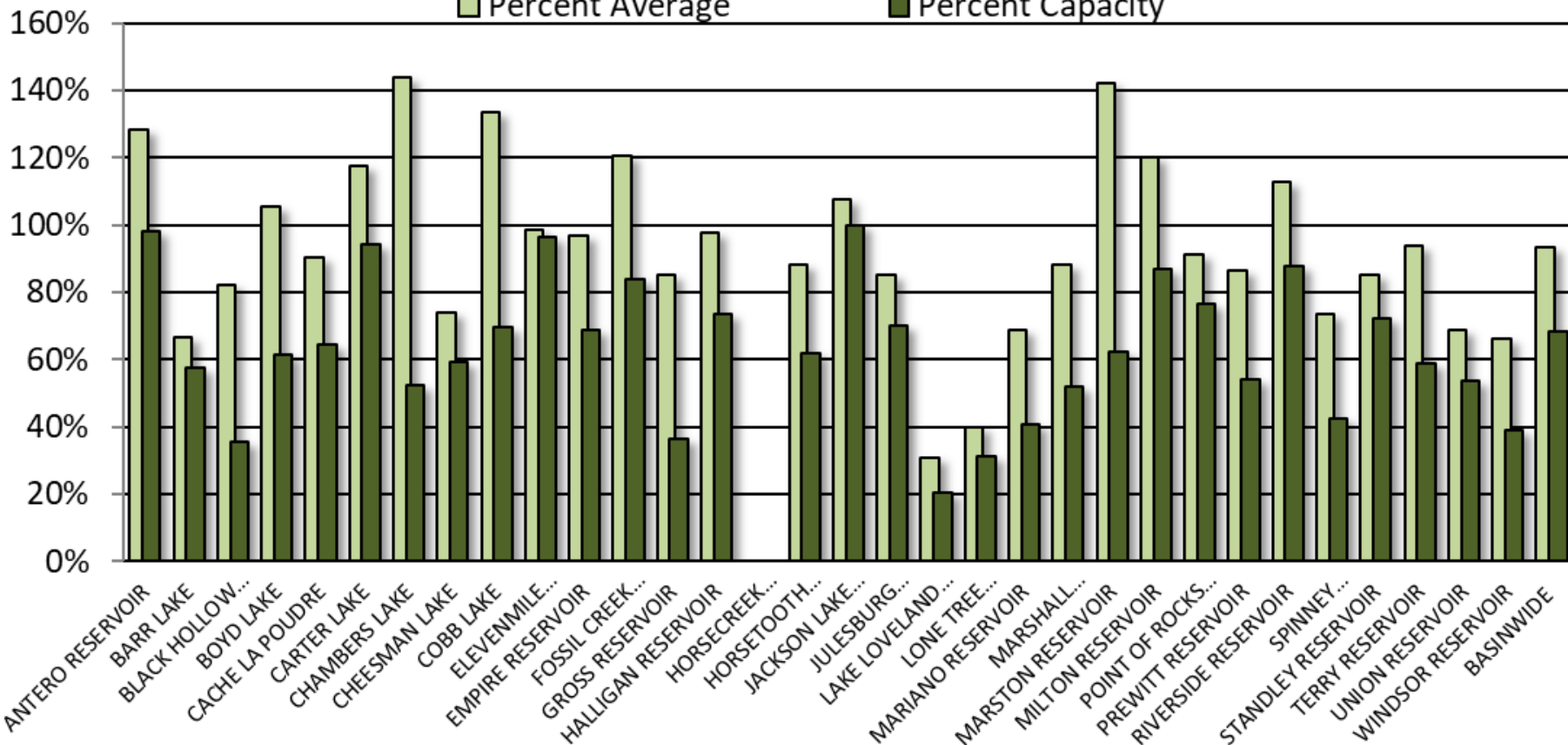


0 12.5 25 50 75 100 Miles

End of February Reservoir Storage

■ Percent Average

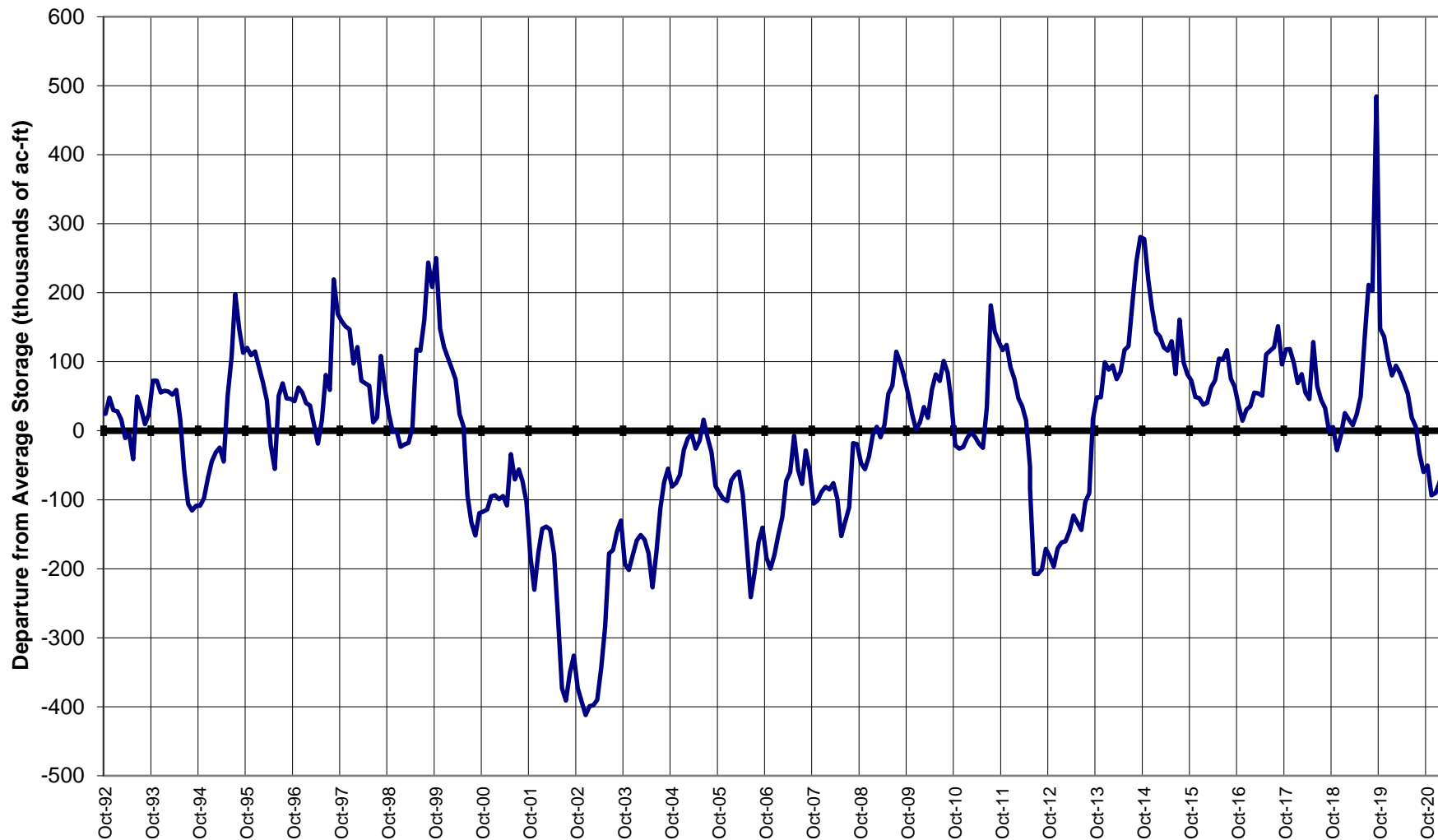
■ Percent Capacity





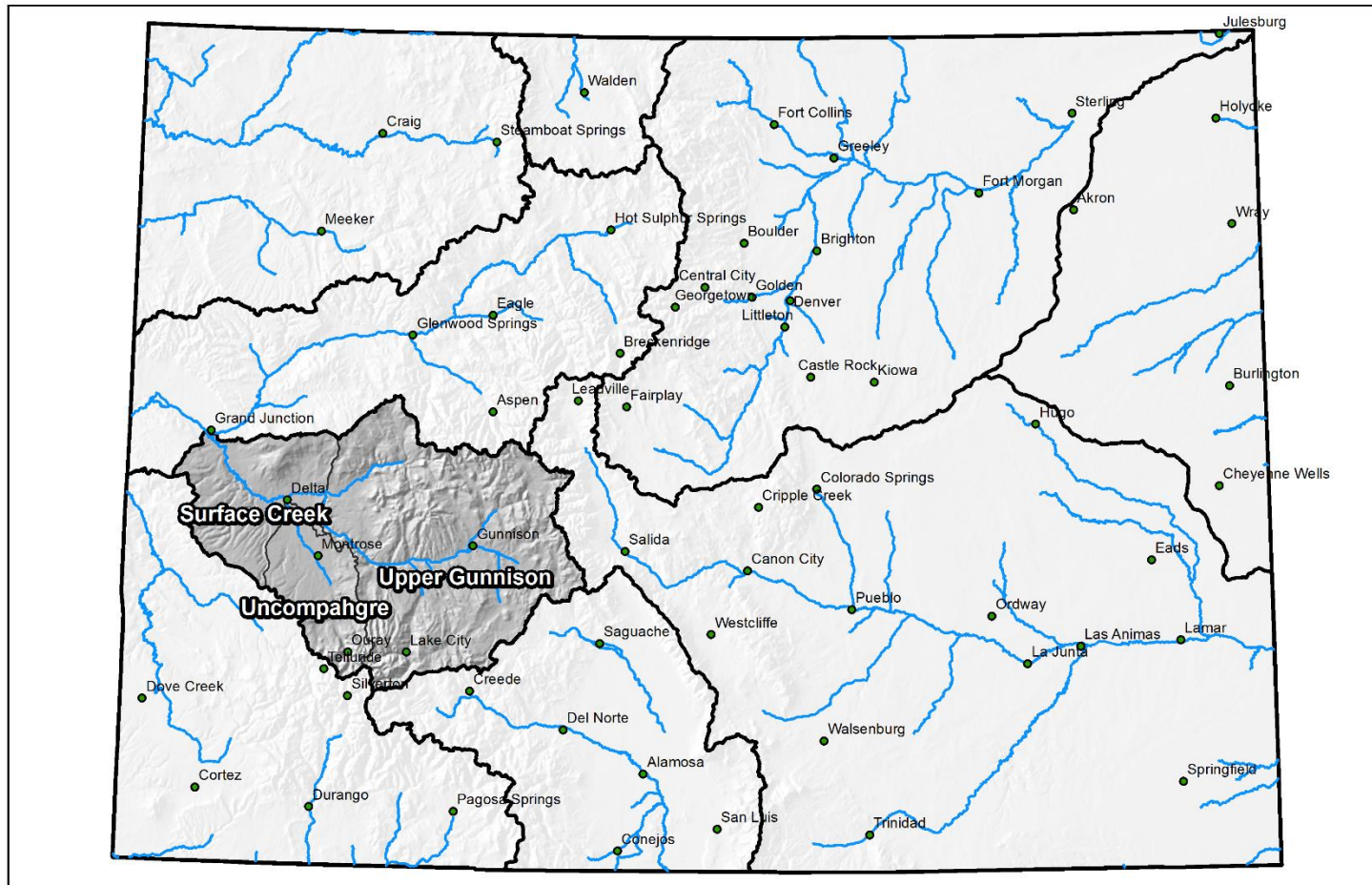
SOUTH PLATTE RIVER BASIN

Reservoir Storage
Departure from Average



Major Basin Summary

Gunnison River Basin



0 25 50 100 150 200 Miles



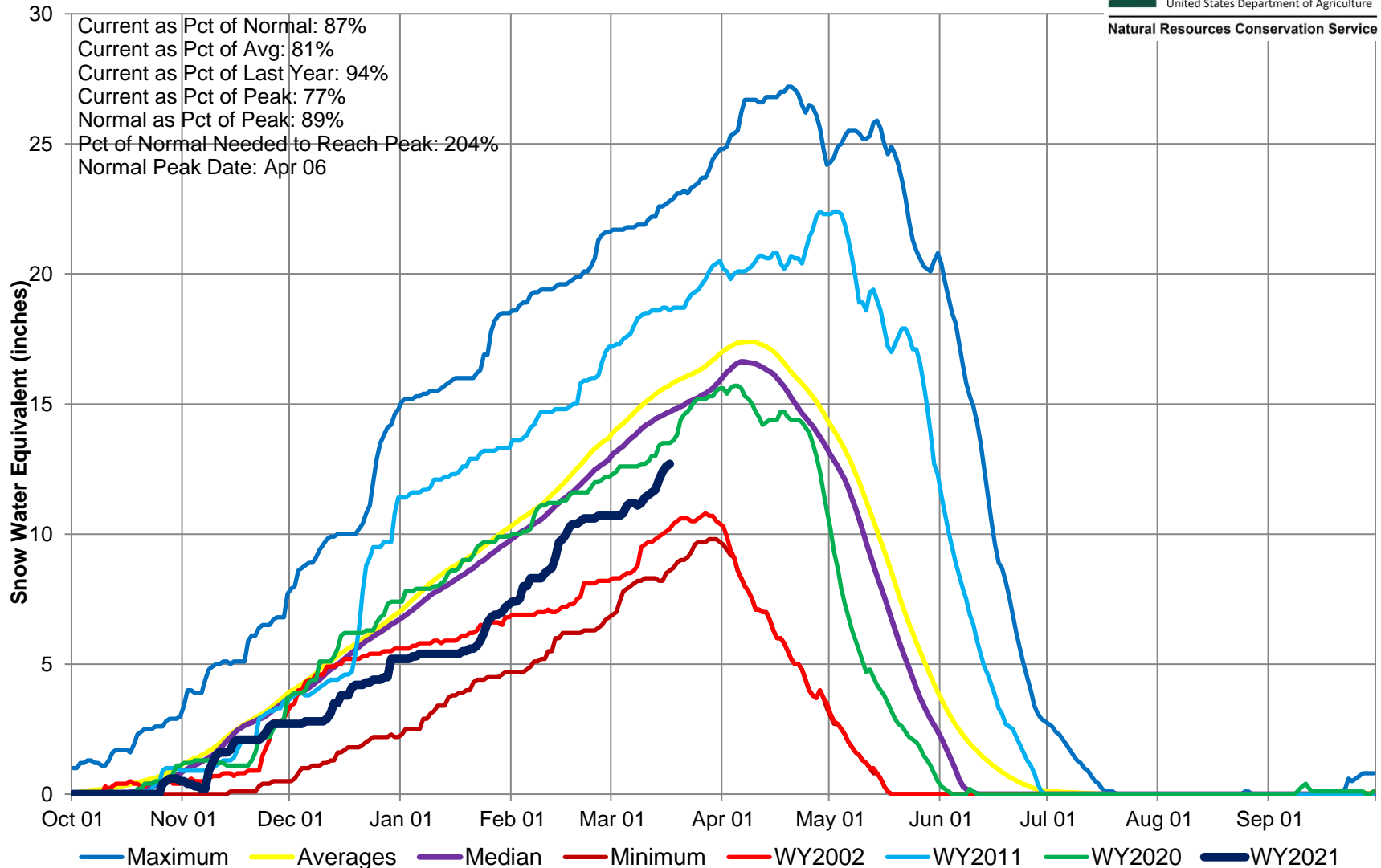
Gunnison River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



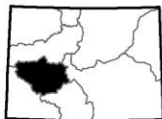
United States Department of Agriculture

Natural Resources Conservation Service



Gunnison River Basin Snow Water Equivalent (SWE) Summary

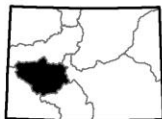
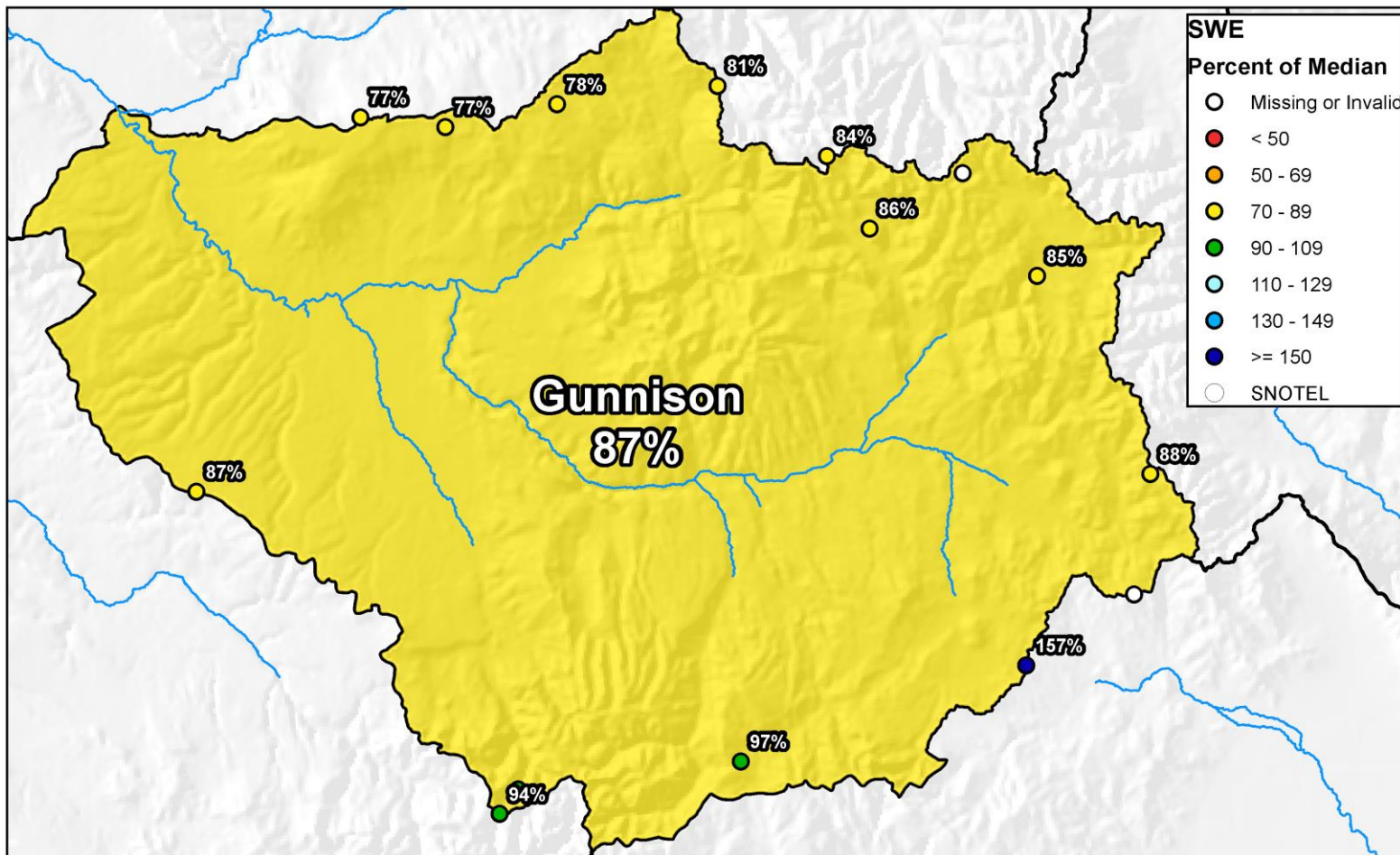
Current as of Feb 12, 2021



0 5 10 20 30 40 Miles

Gunnison River Basin Snow Water Equivalent (SWE) Summary

Current as of Mar 17, 2021

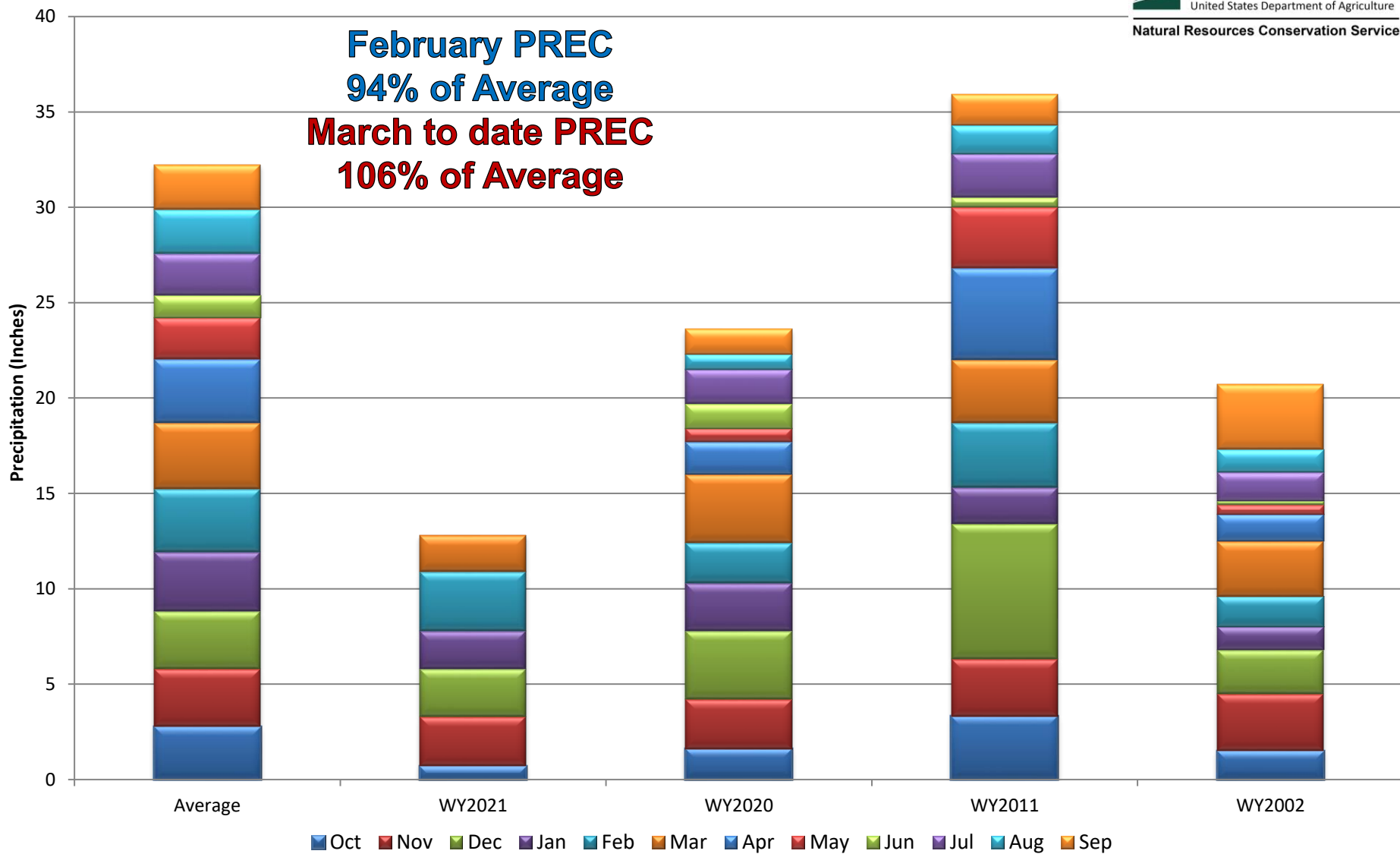


0 5 10 20 30 40 Miles

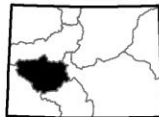
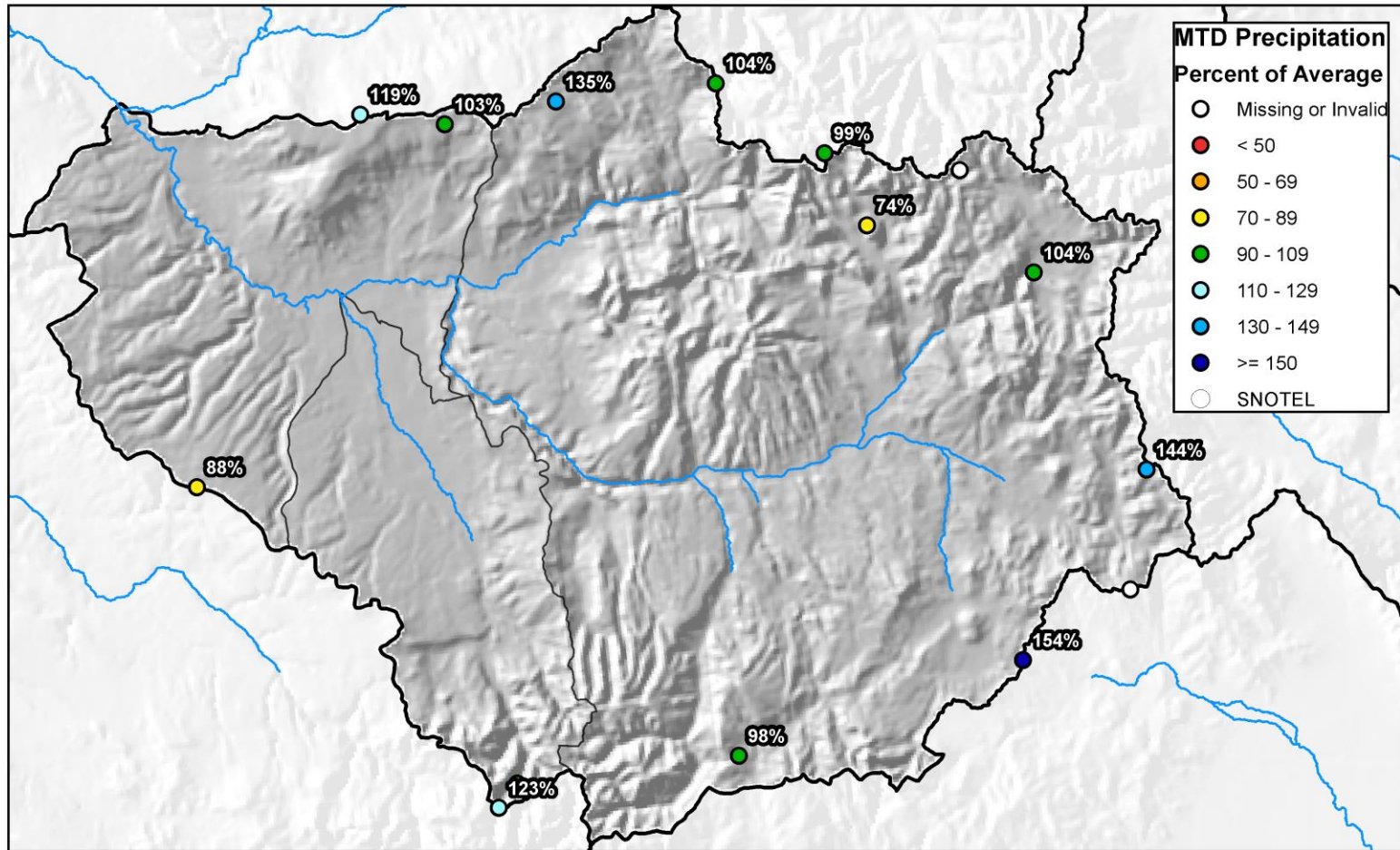


Gunnison River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



Gunnison River Basin Month to Date Precipitation Summary Current as of Mar 17, 2021

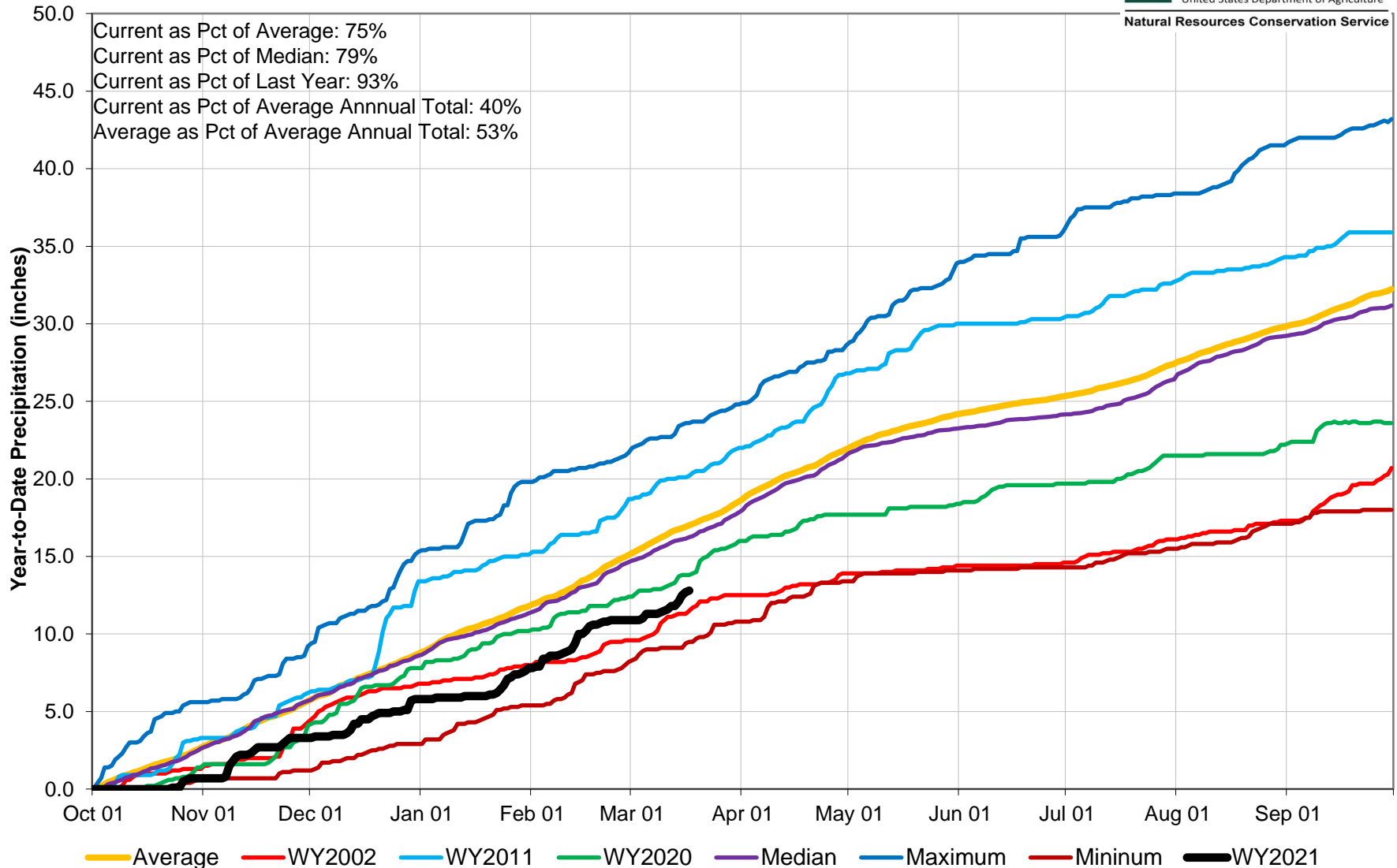


0 5 10 20 30 40 Miles



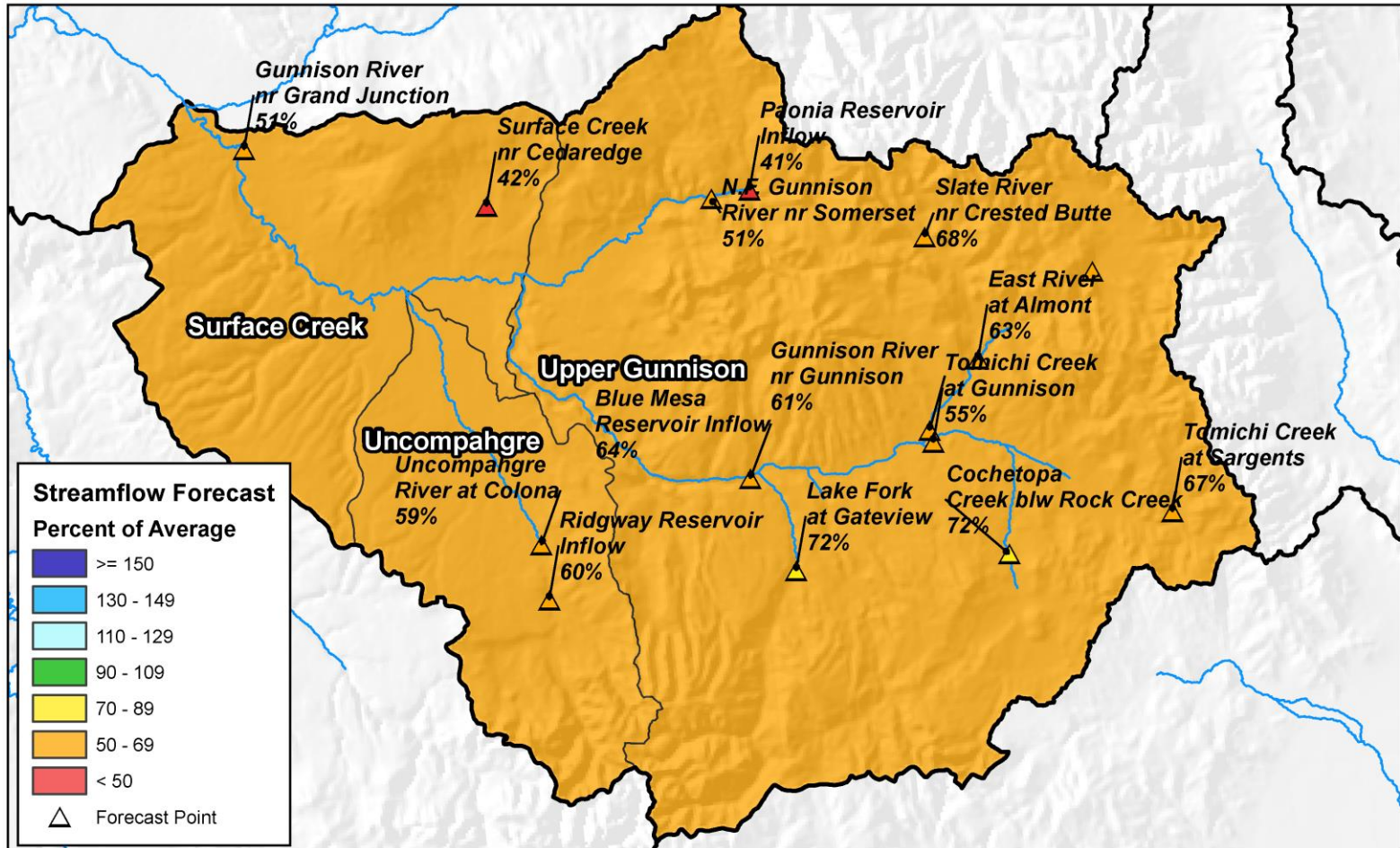
Gunnison River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



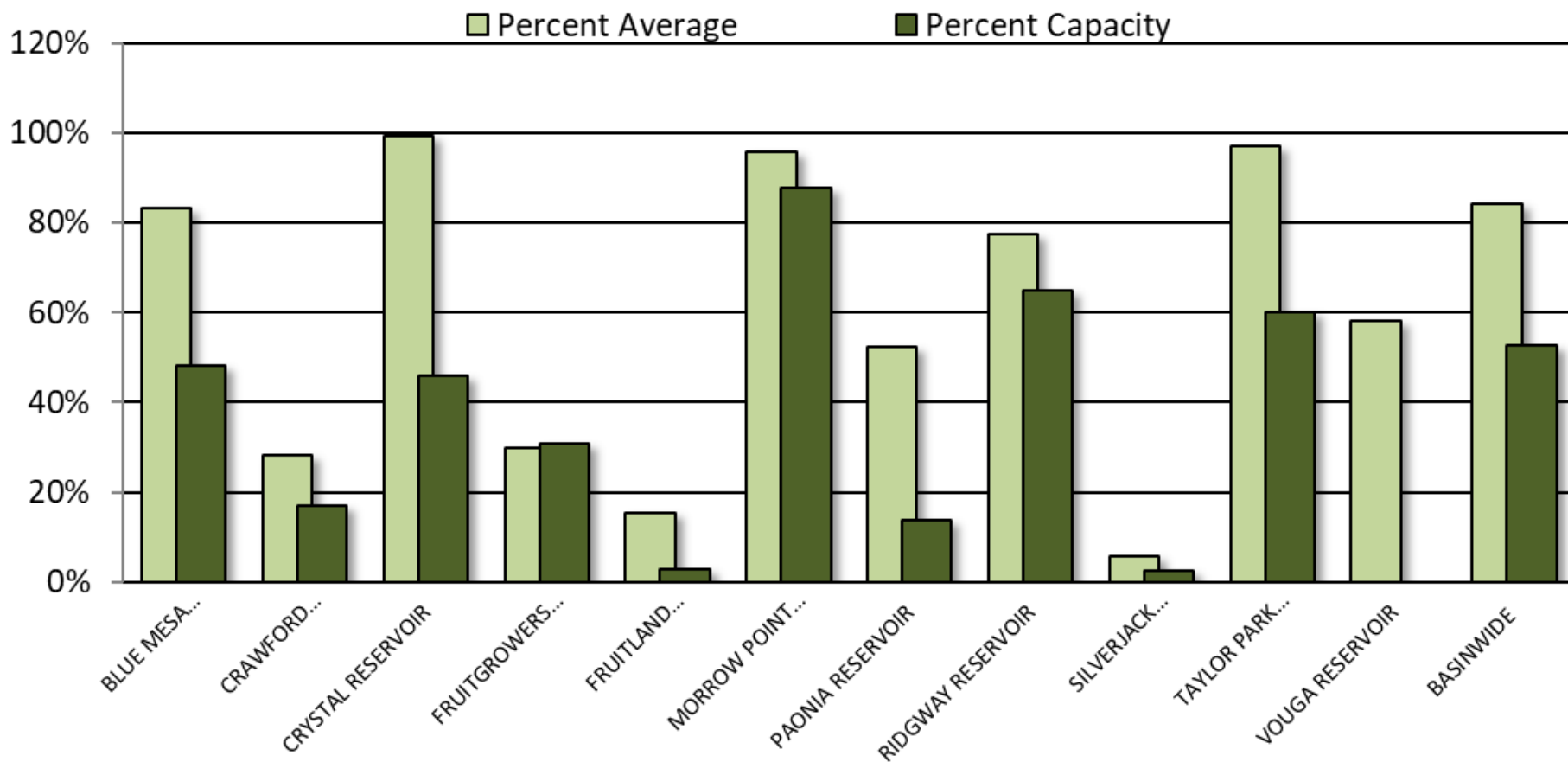
Gunnison River Basin Water Supply Forecast Summary

March 1, 2021

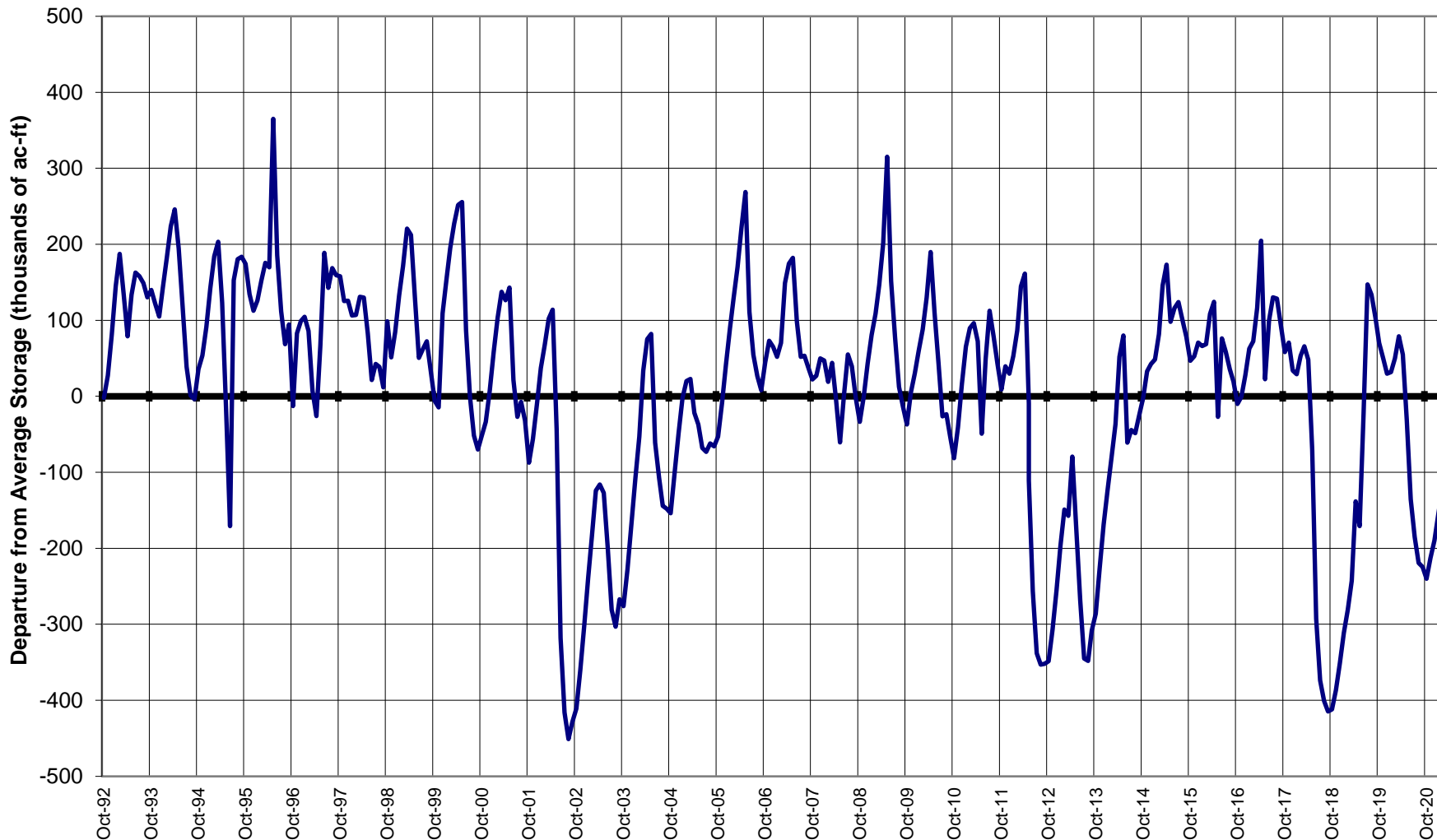


0 5 10 20 30 40 Miles

End of February Reservoir Storage

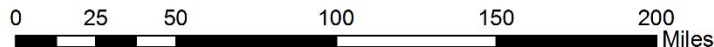
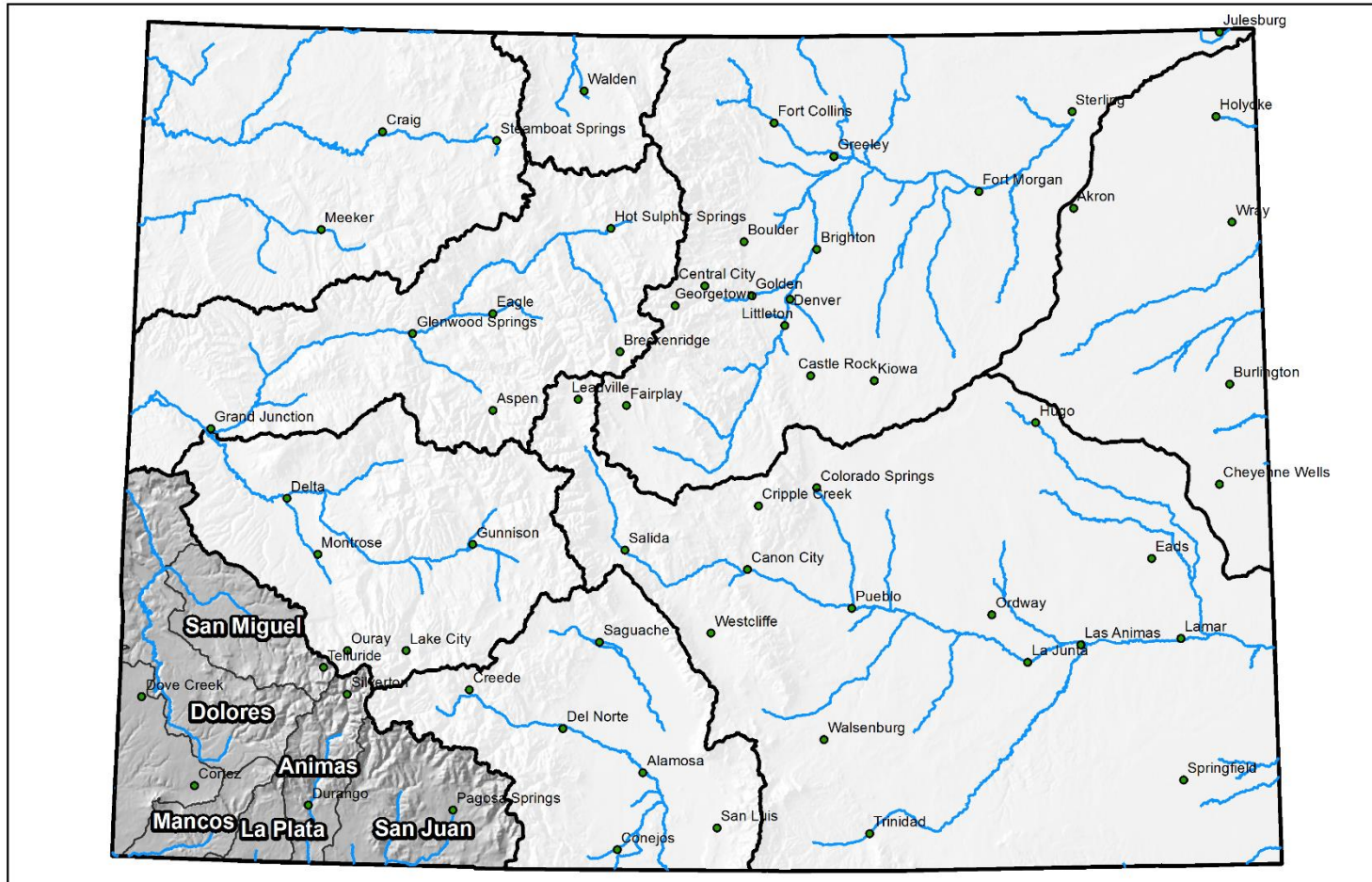


GUNNISON RIVER BASIN Reservoir Storage Departure from Average



Major Basin Summary

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





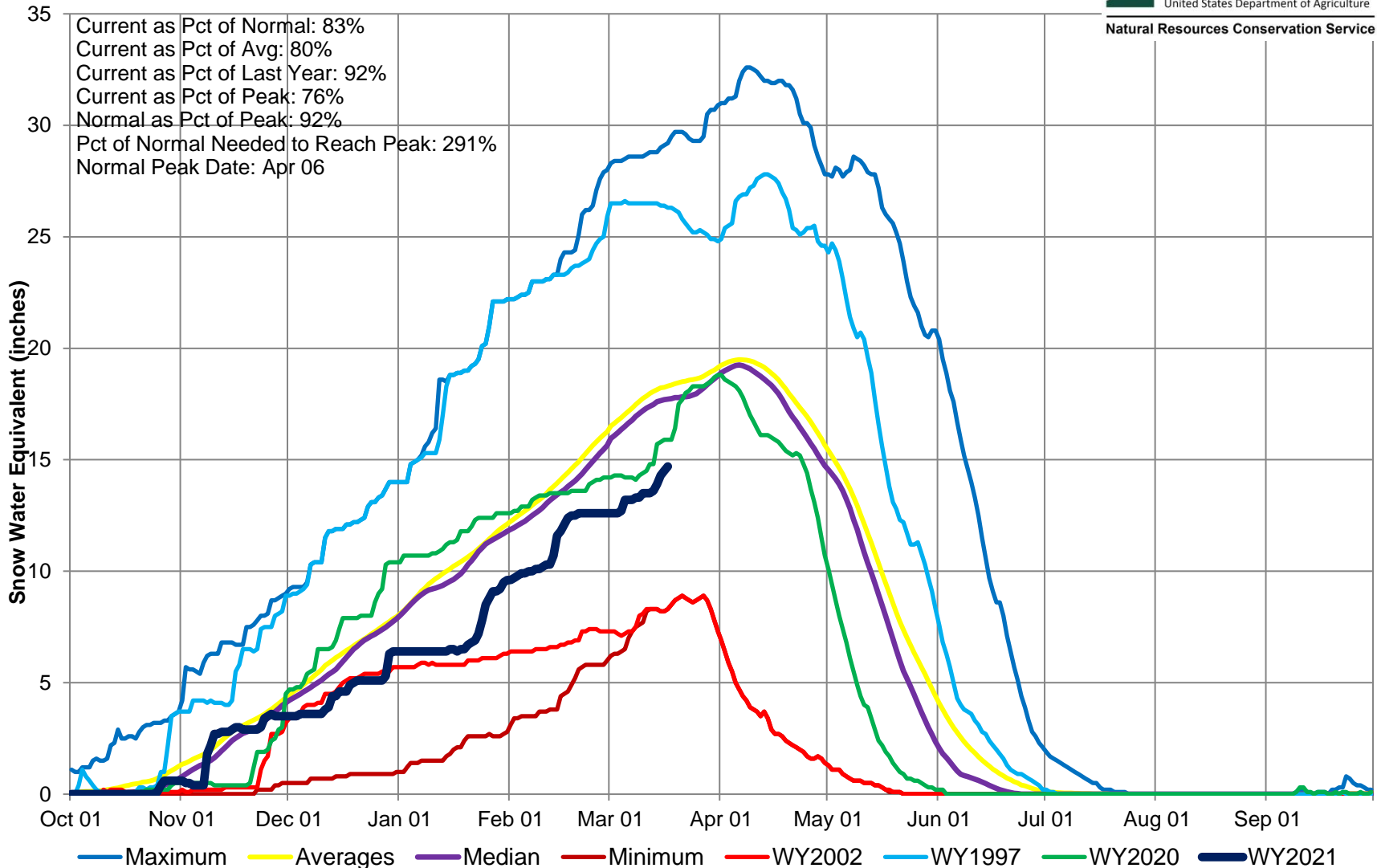
San Miguel, Dolores, Animas and San Juan River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



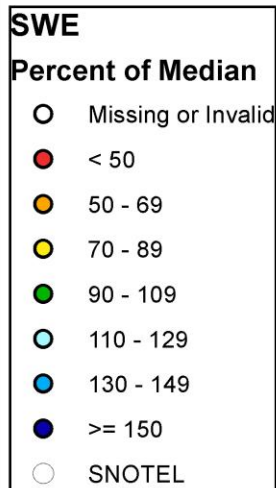
United States Department of Agriculture

Natural Resources Conservation Service



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

Current as of Mar 17, 2021



San Miguel, Dolores, Animas & San Juan

83%

87%

77%

93%

91%

93%

94%

58%

66%

61%

84%

91%

94%

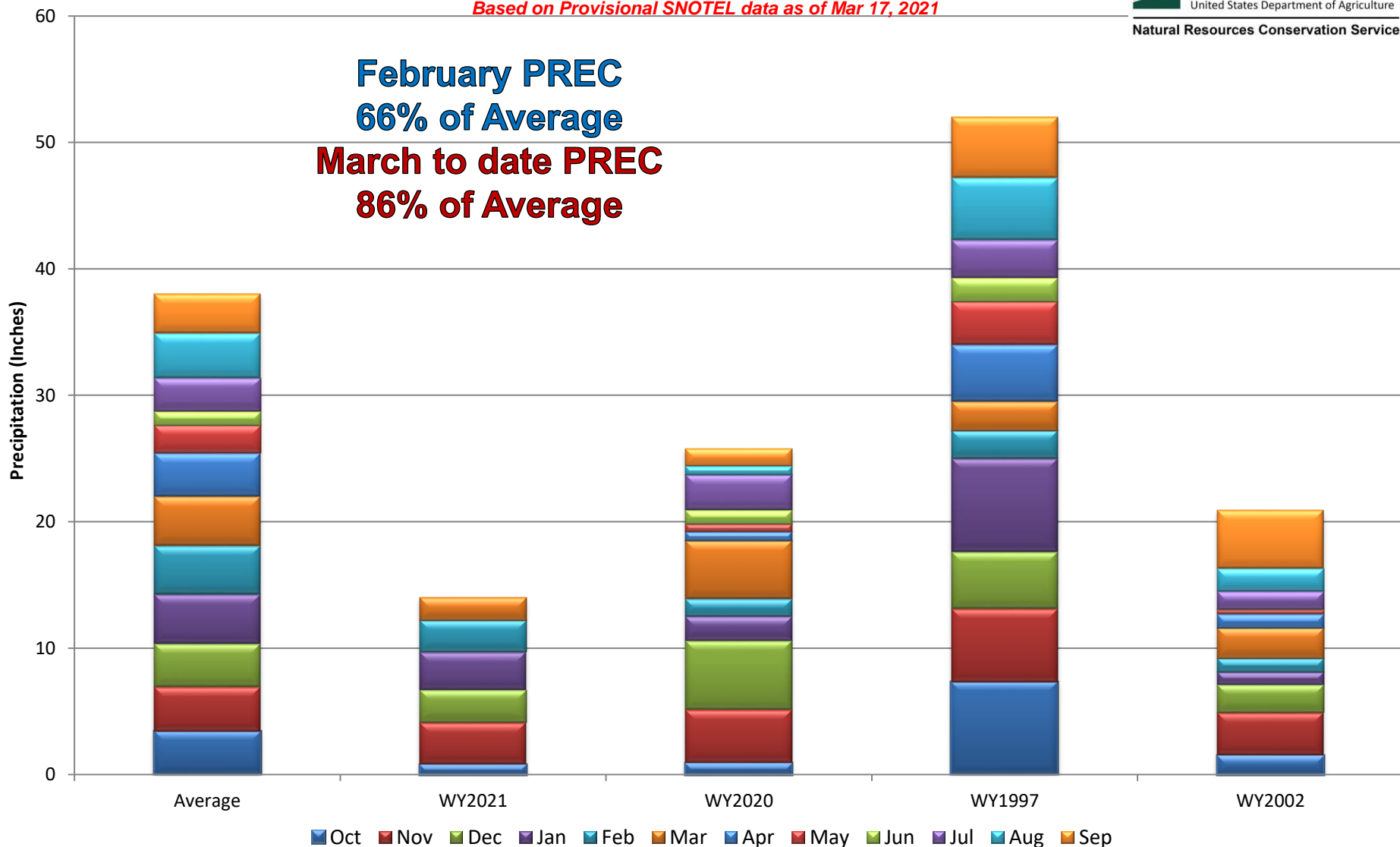
107%





San Miguel, Dolores, Animas and San Juan River Basins High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021

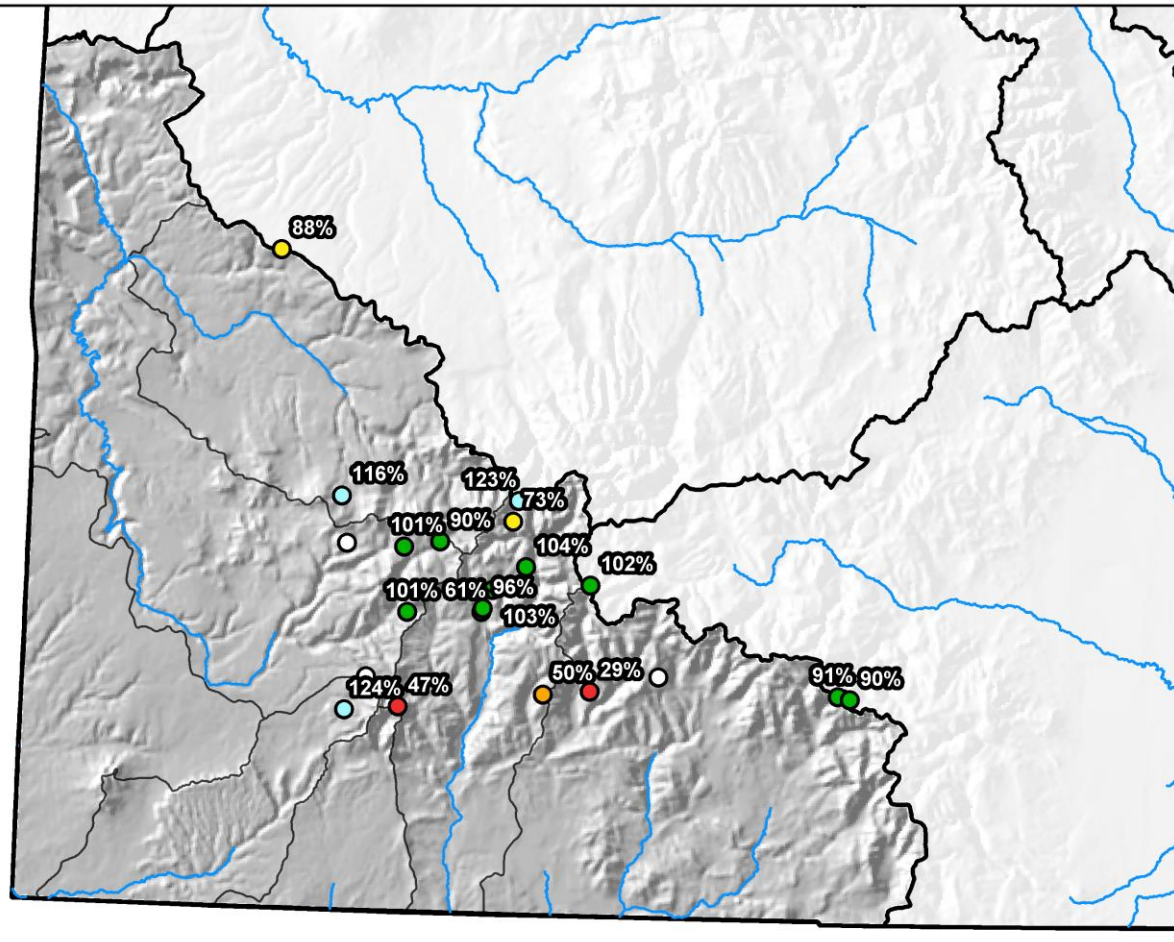


San Miguel, Dolores, Animas, and San Juan River Basins Month to Date Precipitation Summary

Current as of Mar 17, 2021

MTD Precipitation Percent of Average

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

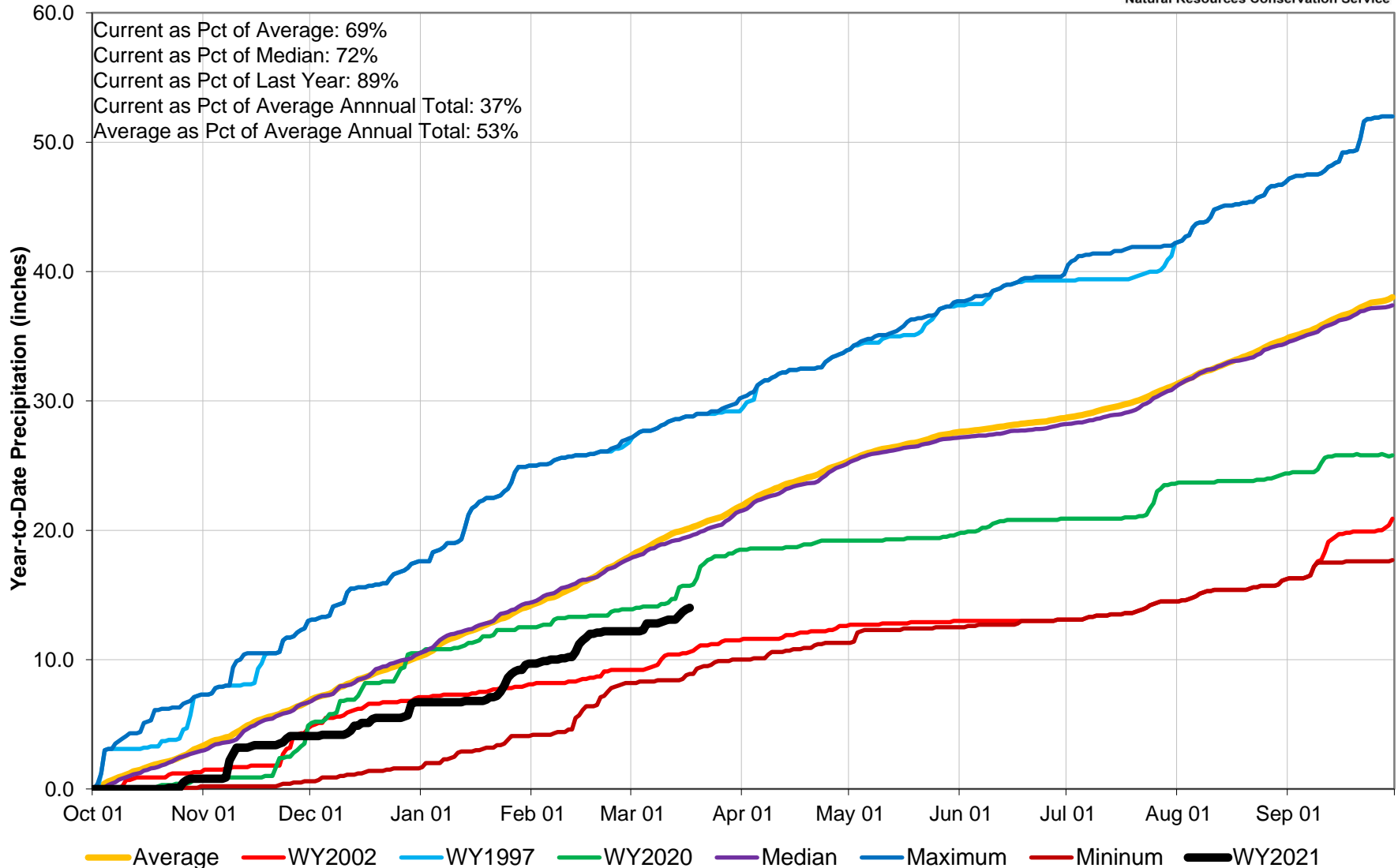


0 10 20 40 60 80 Miles



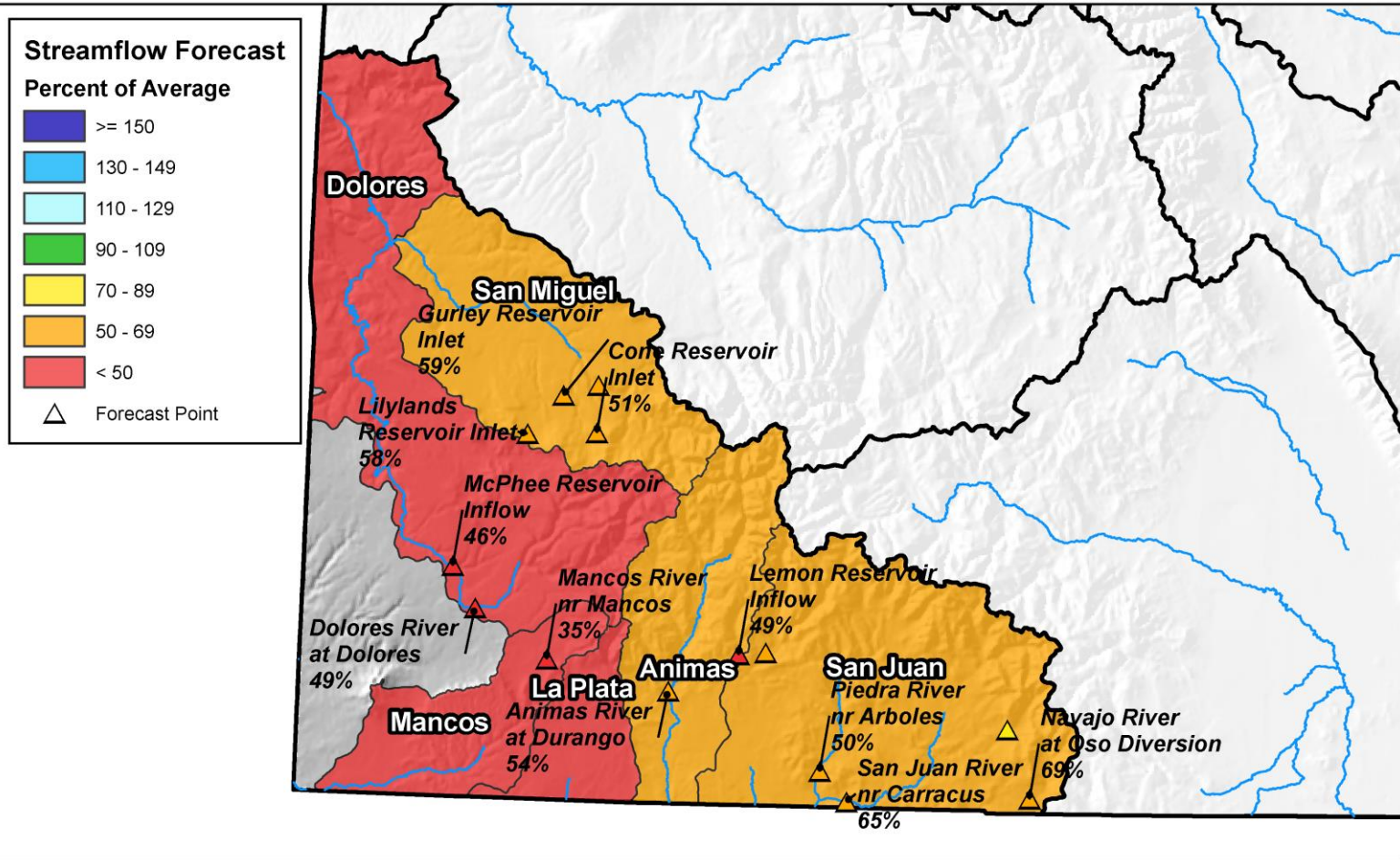
San Miguel, Dolores, Animas and San Juan River Basins High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



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

March 1, 2021

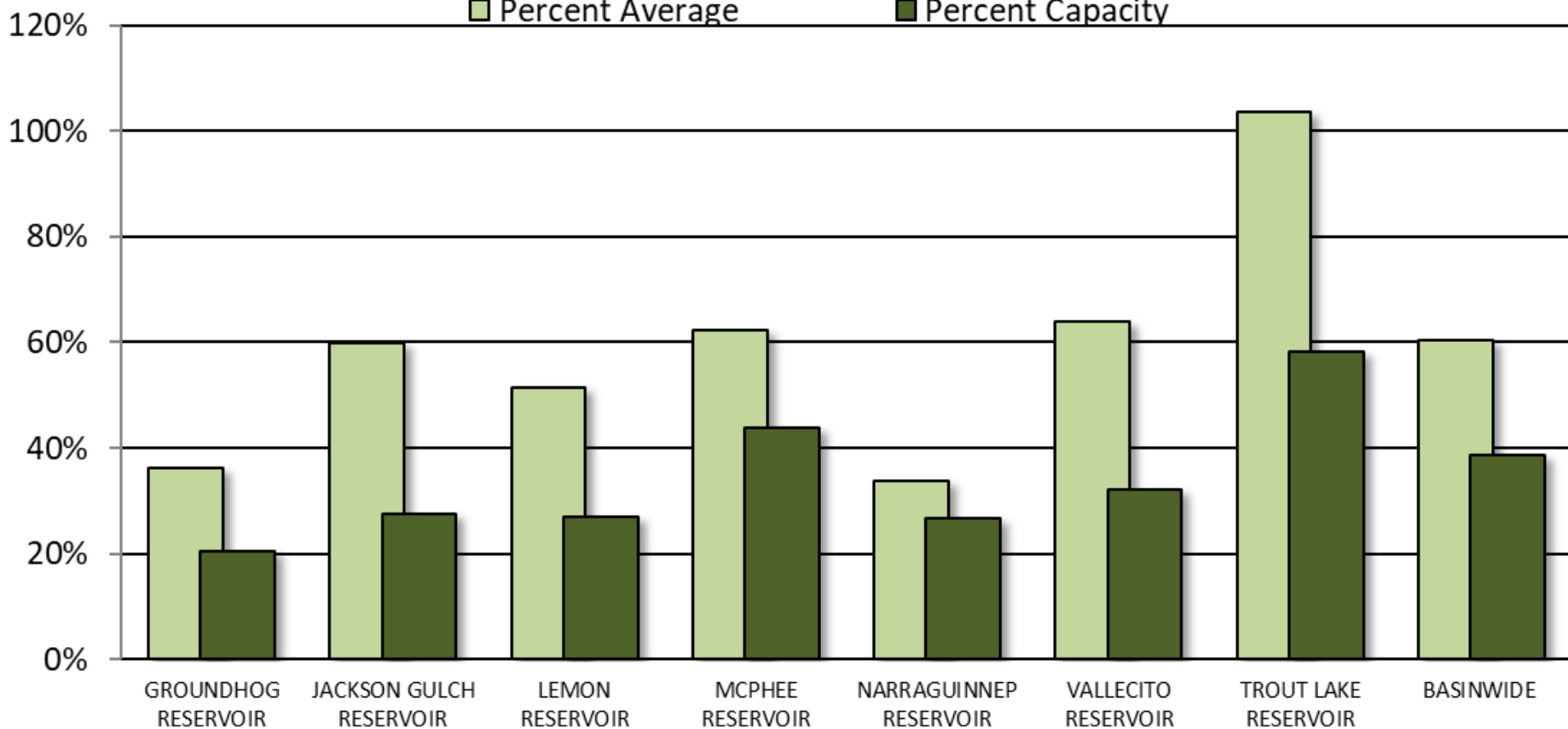


0 12.5 25 50 75 100 Miles

End of February Reservoir Storage

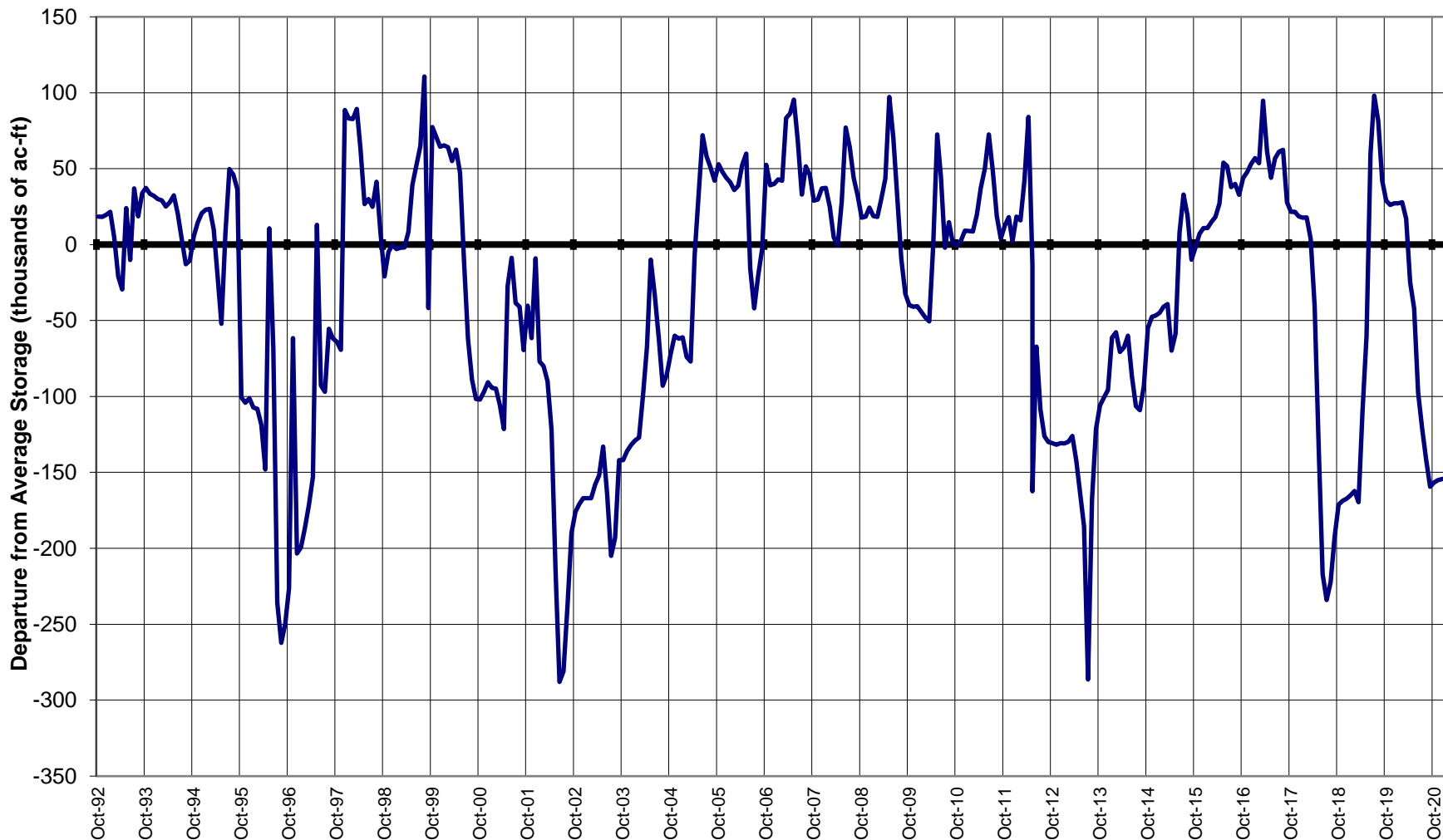
■ Percent Average

■ Percent Capacity



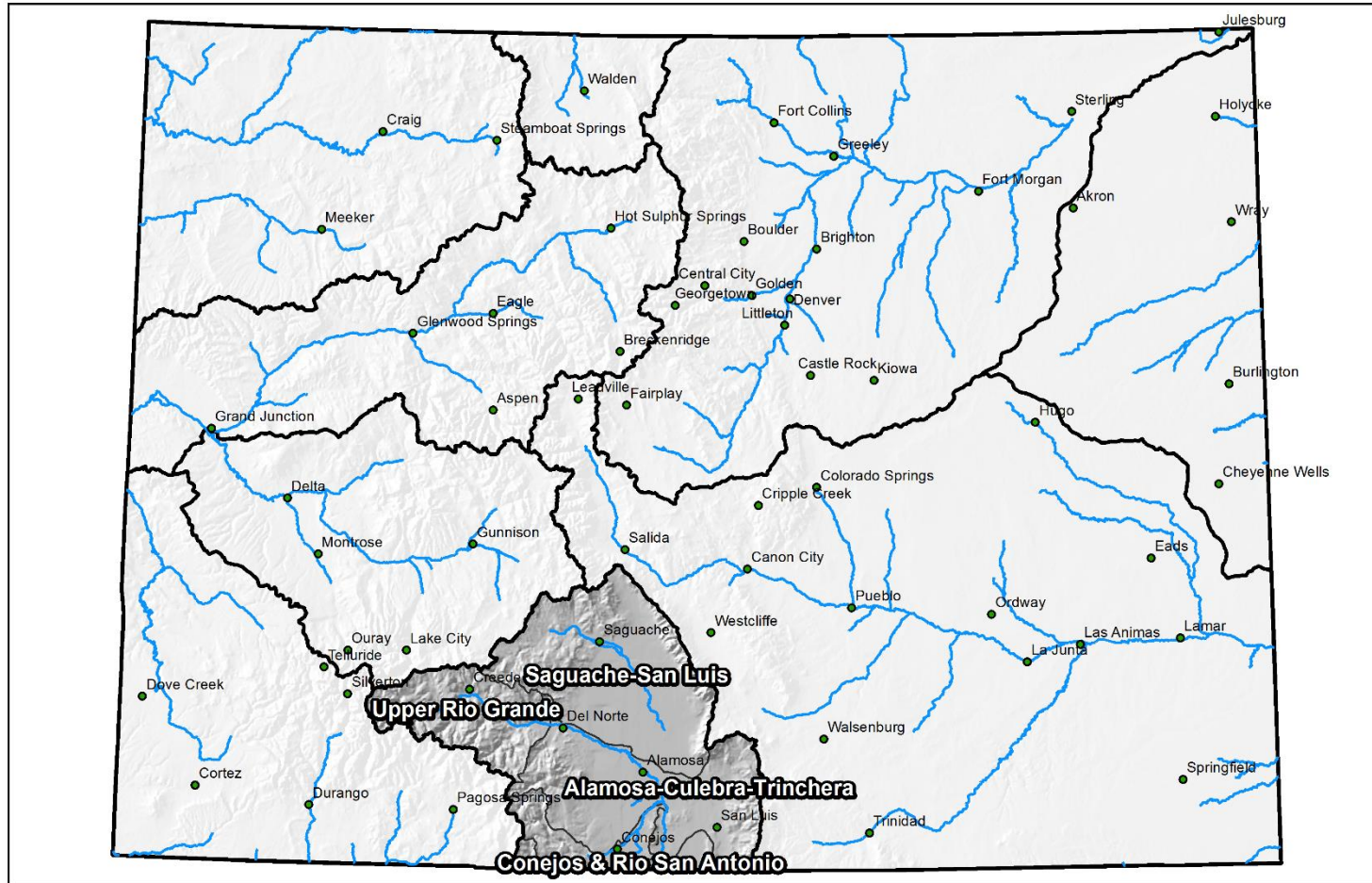
SAN MIGUEL, DOLORES, ANIMAS AND SAN JUAN RIVER BASINS

Reservoir Storage
Departure from Average



Major Basin Summary

Upper Rio Grande River Basin



0 25 50 100 150 200 Miles



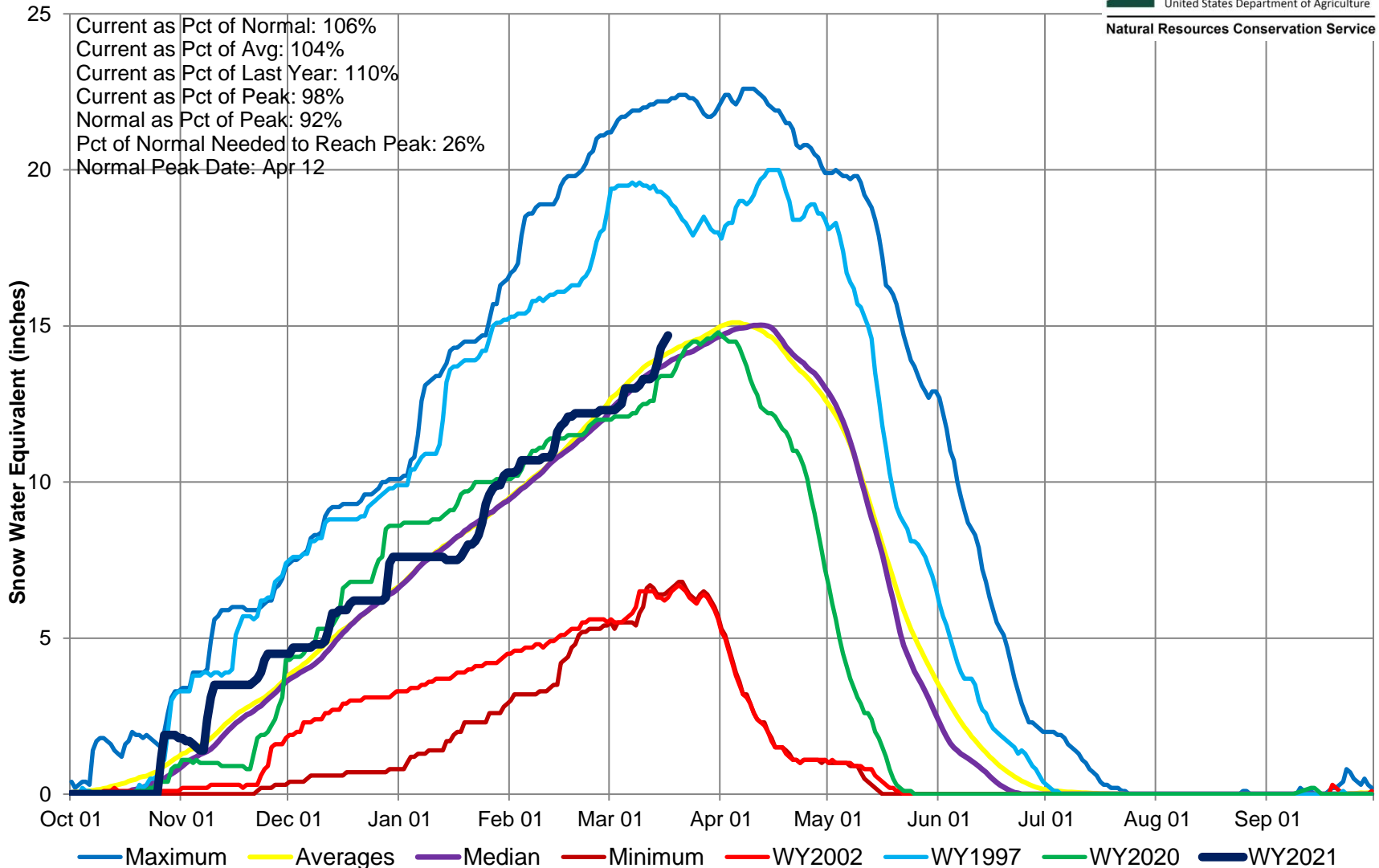
Upper Rio Grande Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



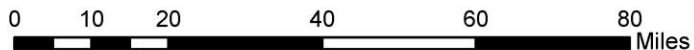
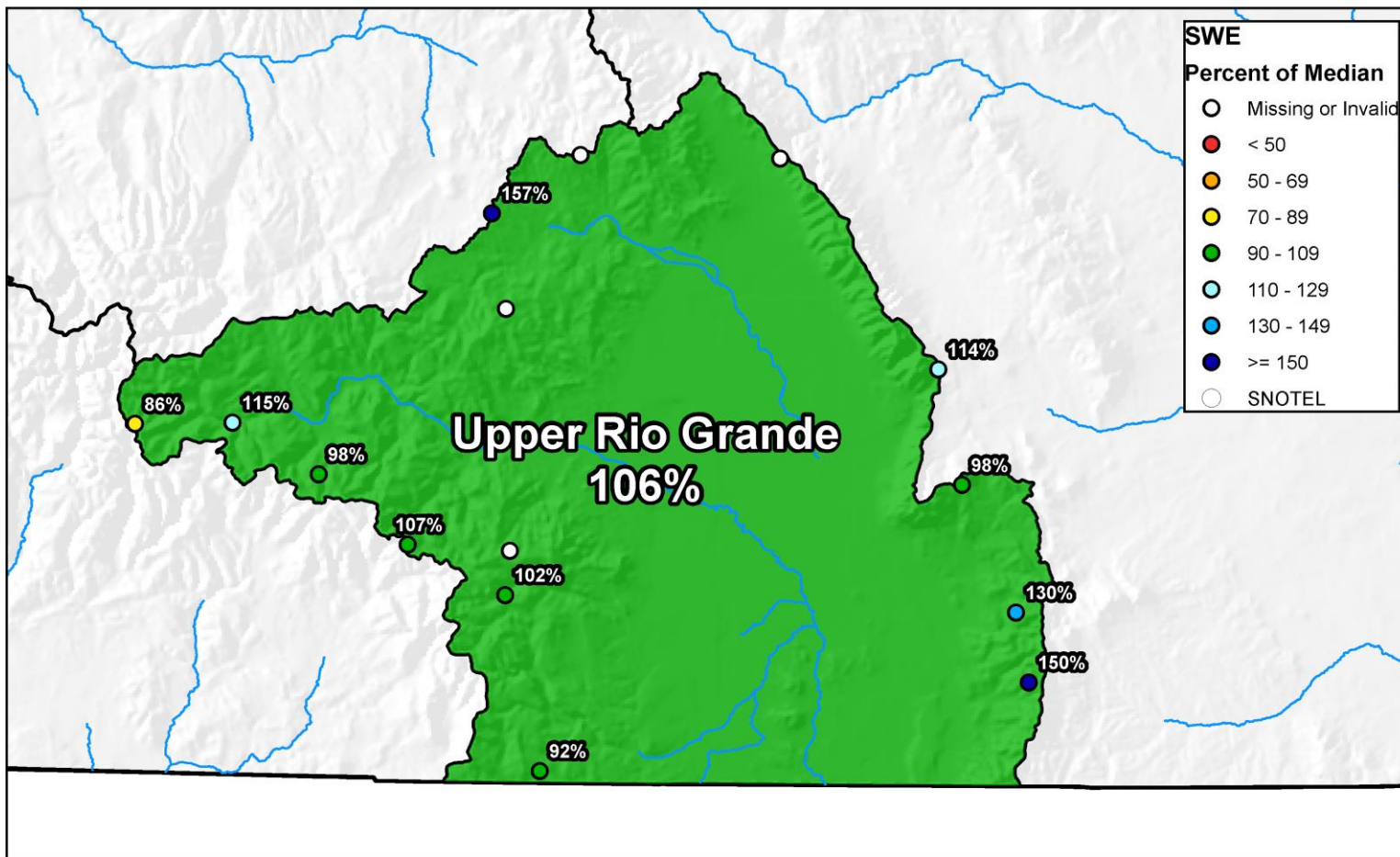
United States Department of Agriculture

Natural Resources Conservation Service



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

Current as of Mar 17, 2021





Upper Rio Grande River Basin High/Low Monthly Precipitation Summary

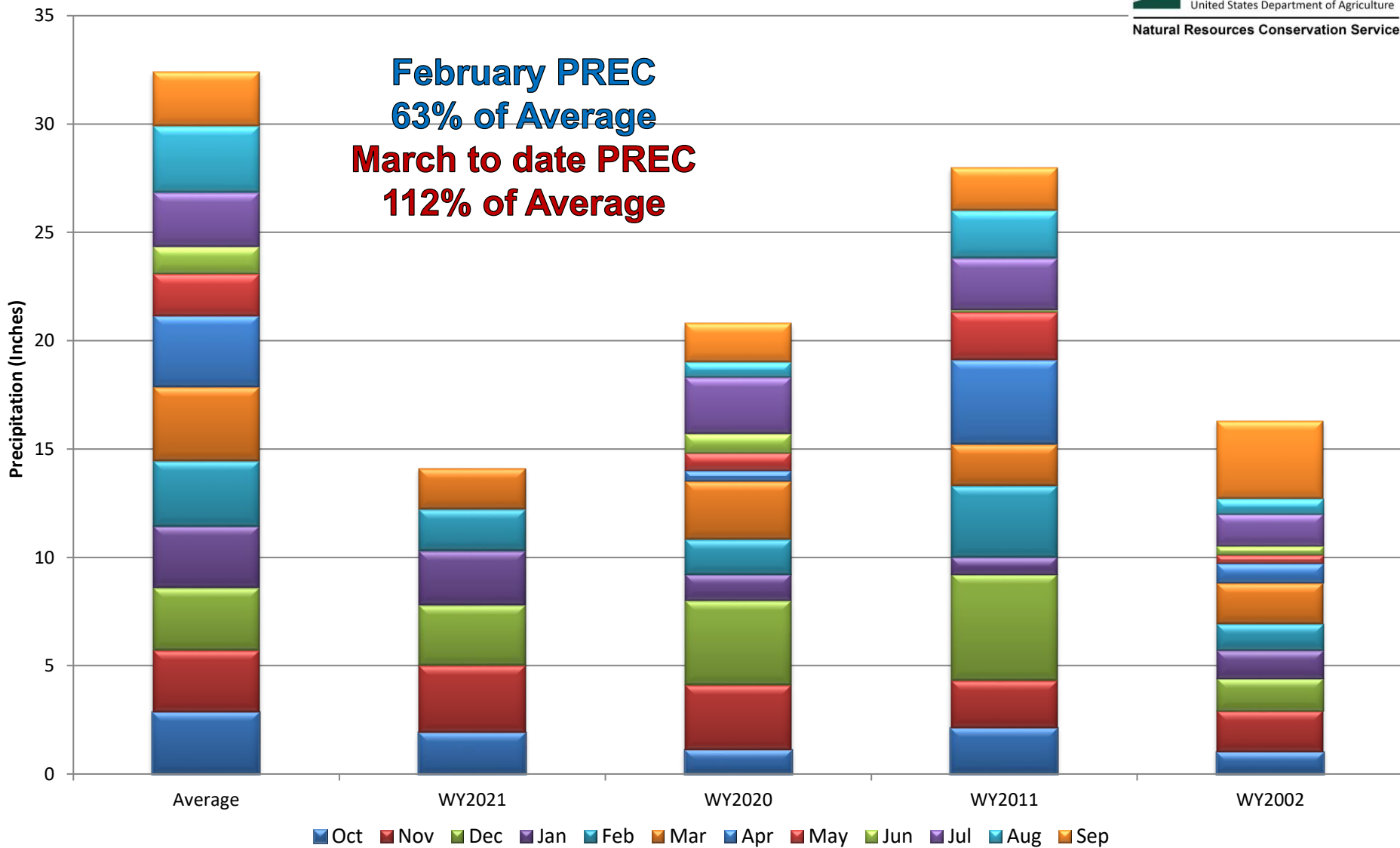
Based on Provisional SNOTEL data as of Mar 17, 2021



United States Department of Agriculture

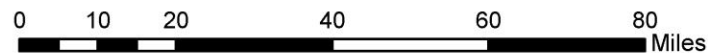
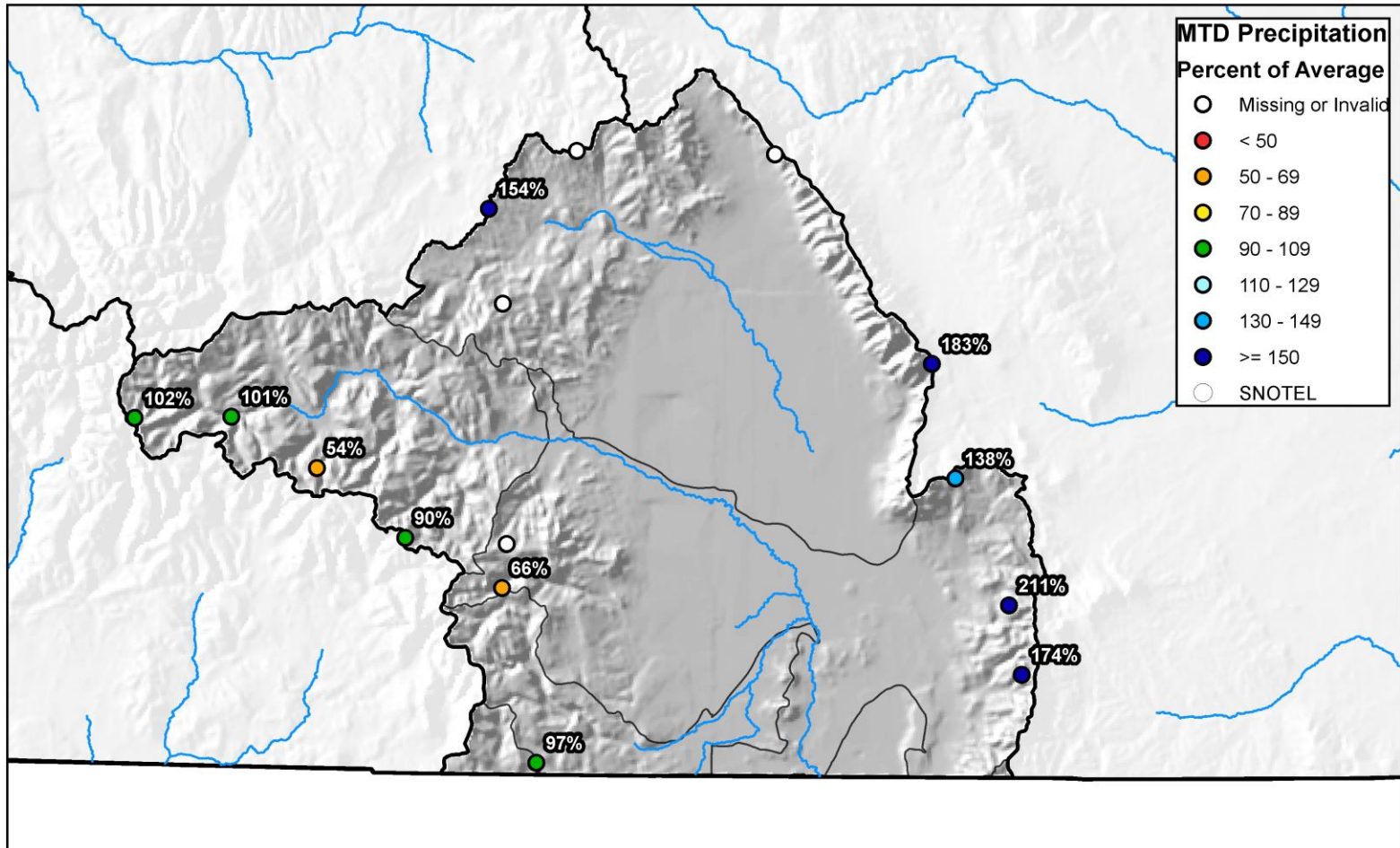
Natural Resources Conservation Service

February PREC
63% of Average
March to date PREC
112% of Average



Upper Rio Grande River Basin Month to Date Precipitation Summary

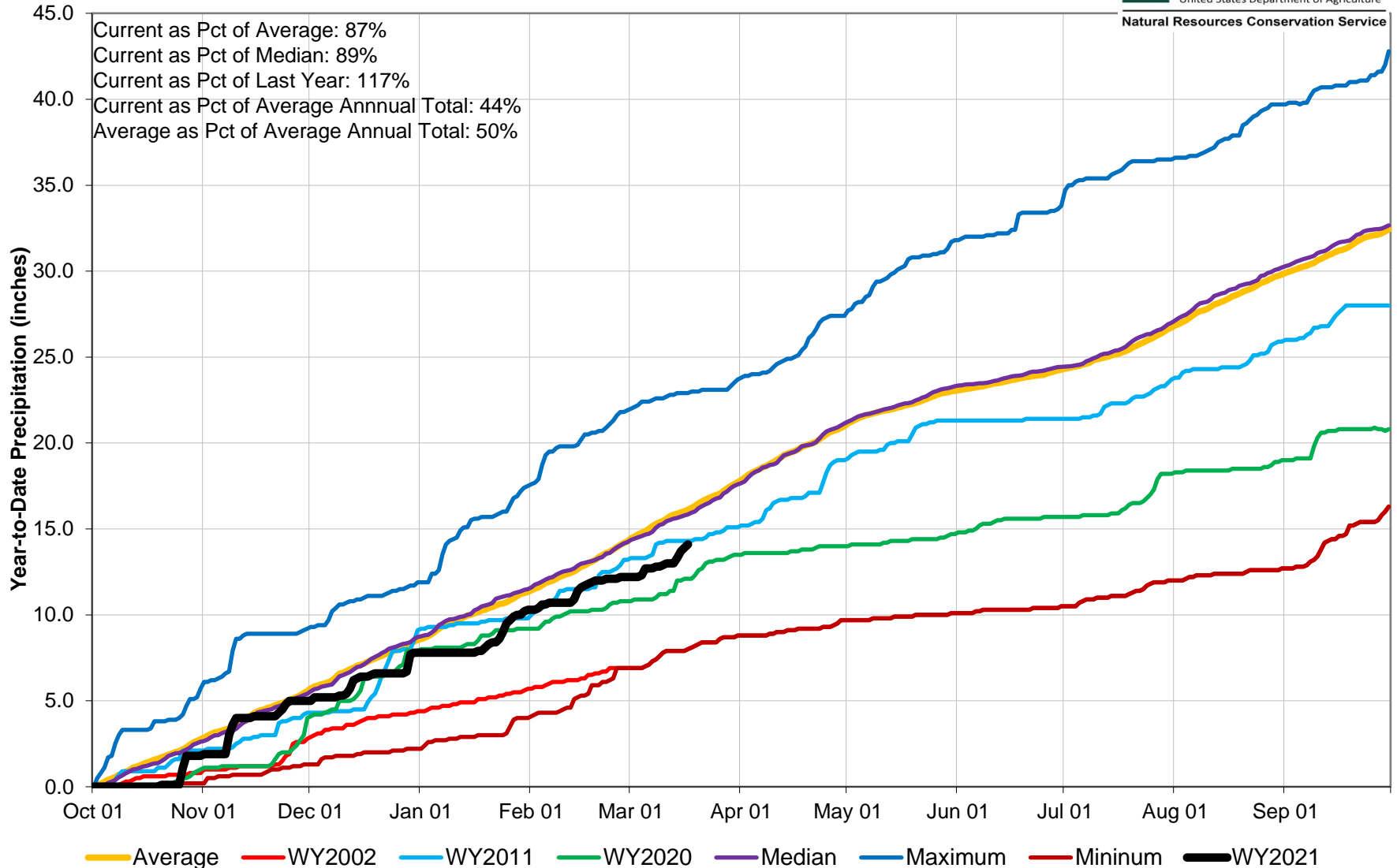
Current as of Mar 17, 2021





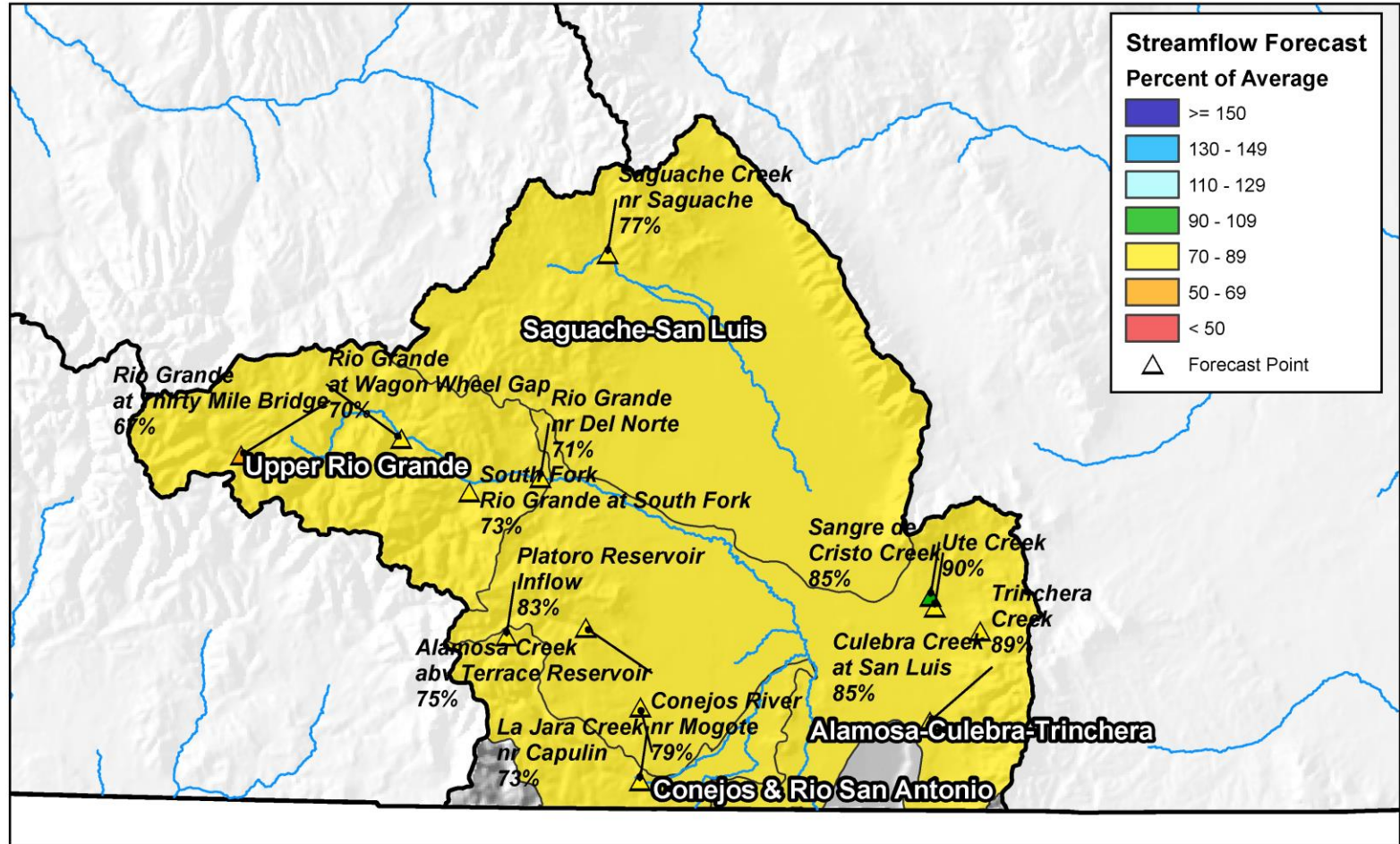
Upper Rio Grande River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



Upper Rio Grande River Basin Streamflow Forecast Summary

March 1, 2021

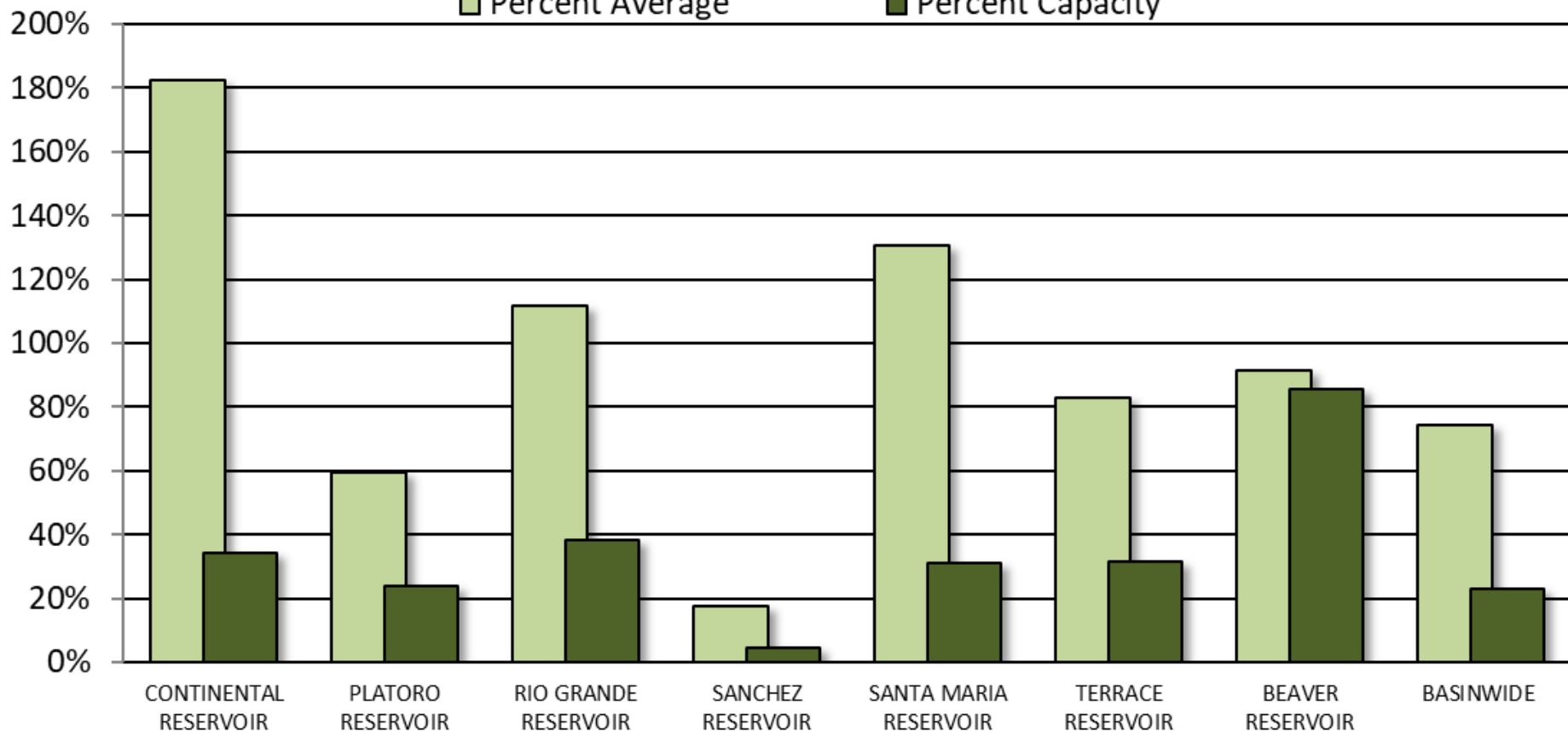


0 10 20 40 60 80 Miles

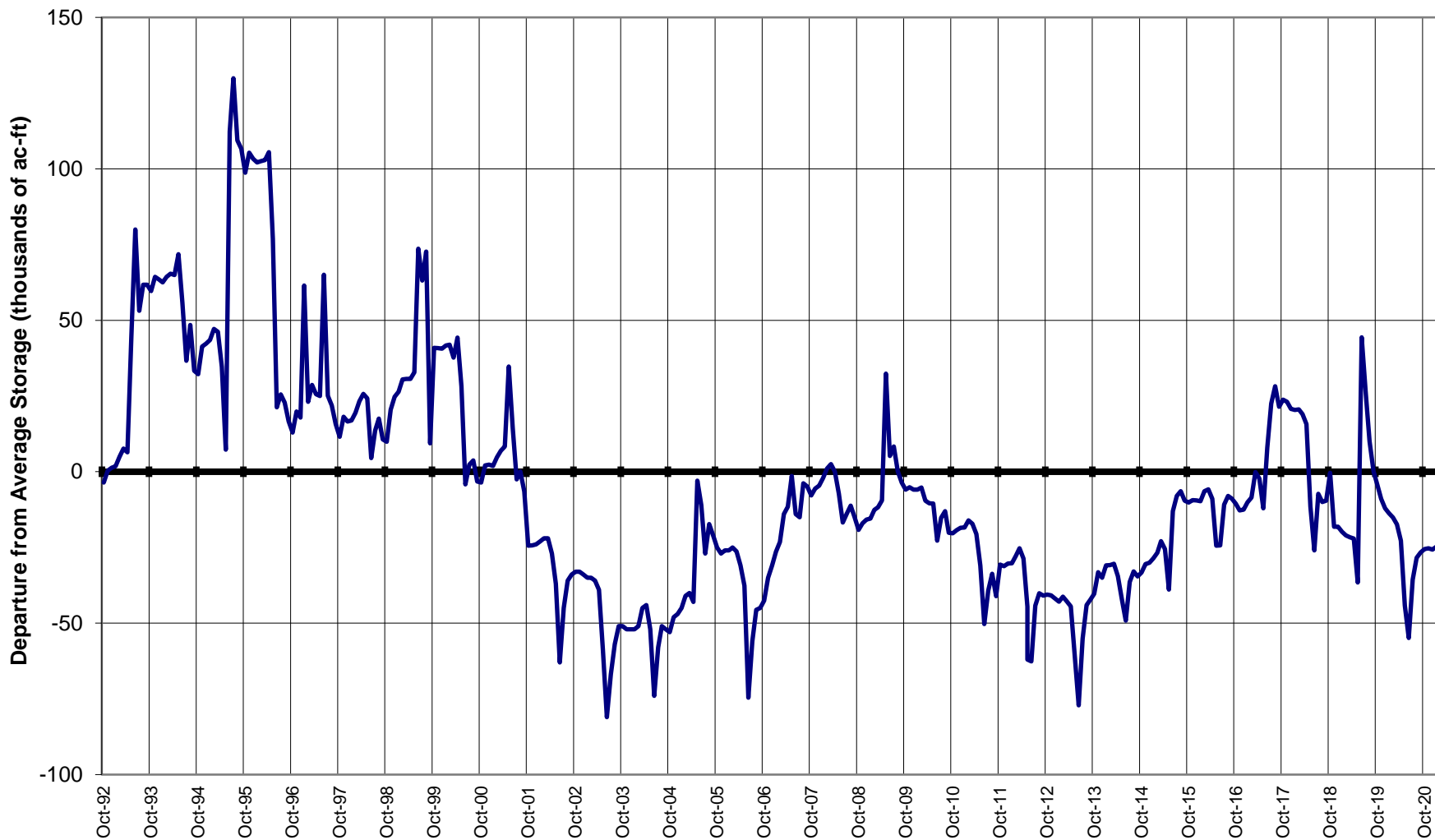
End of February Reservoir Storage

■ Percent Average

■ Percent Capacity

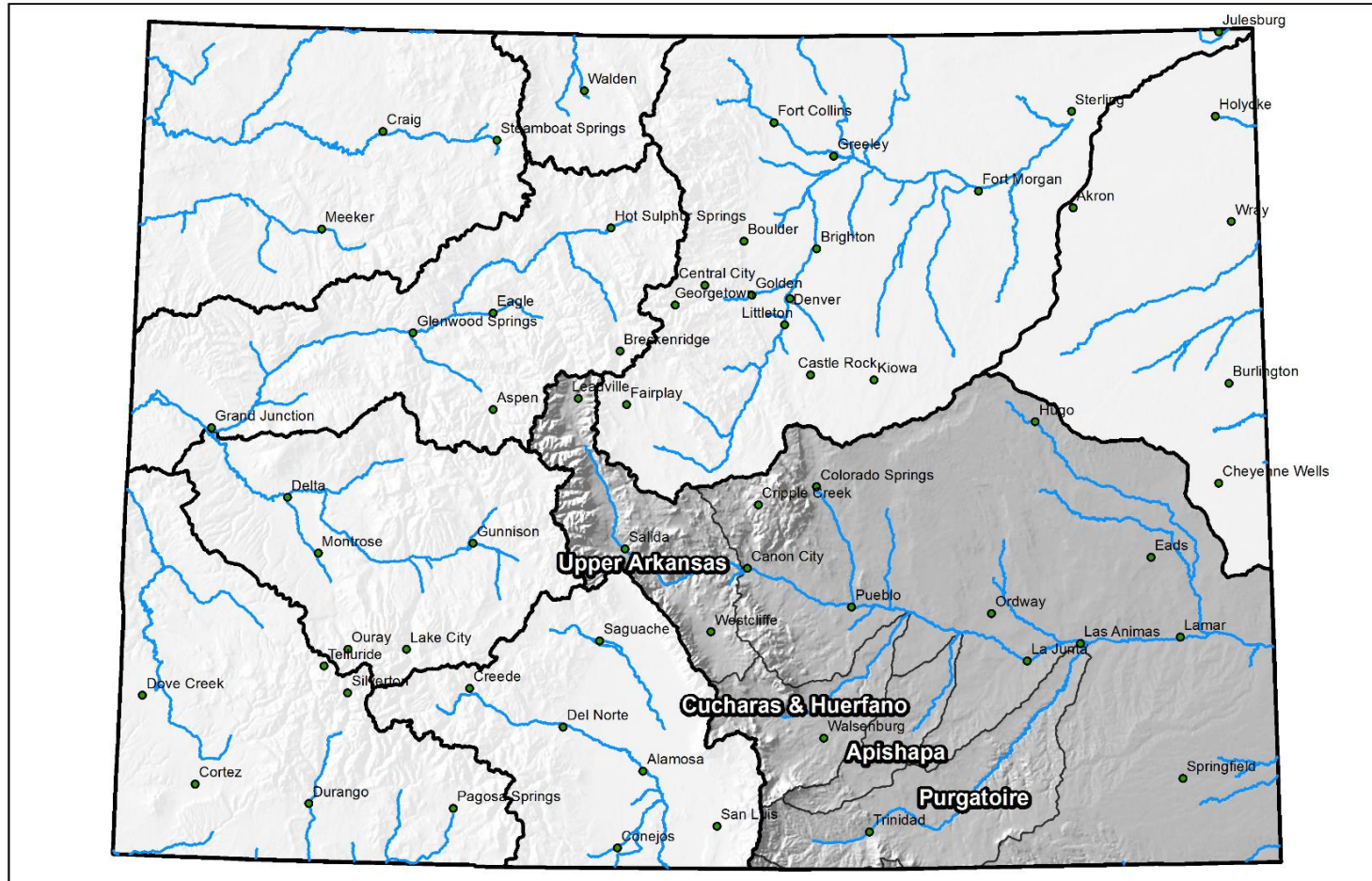


UPPER RIO GRANDE BASIN Reservoir Storage Departure from Average



Major Basin Summary

Arkansas River Basin



0 25 50 100 150 200 Miles



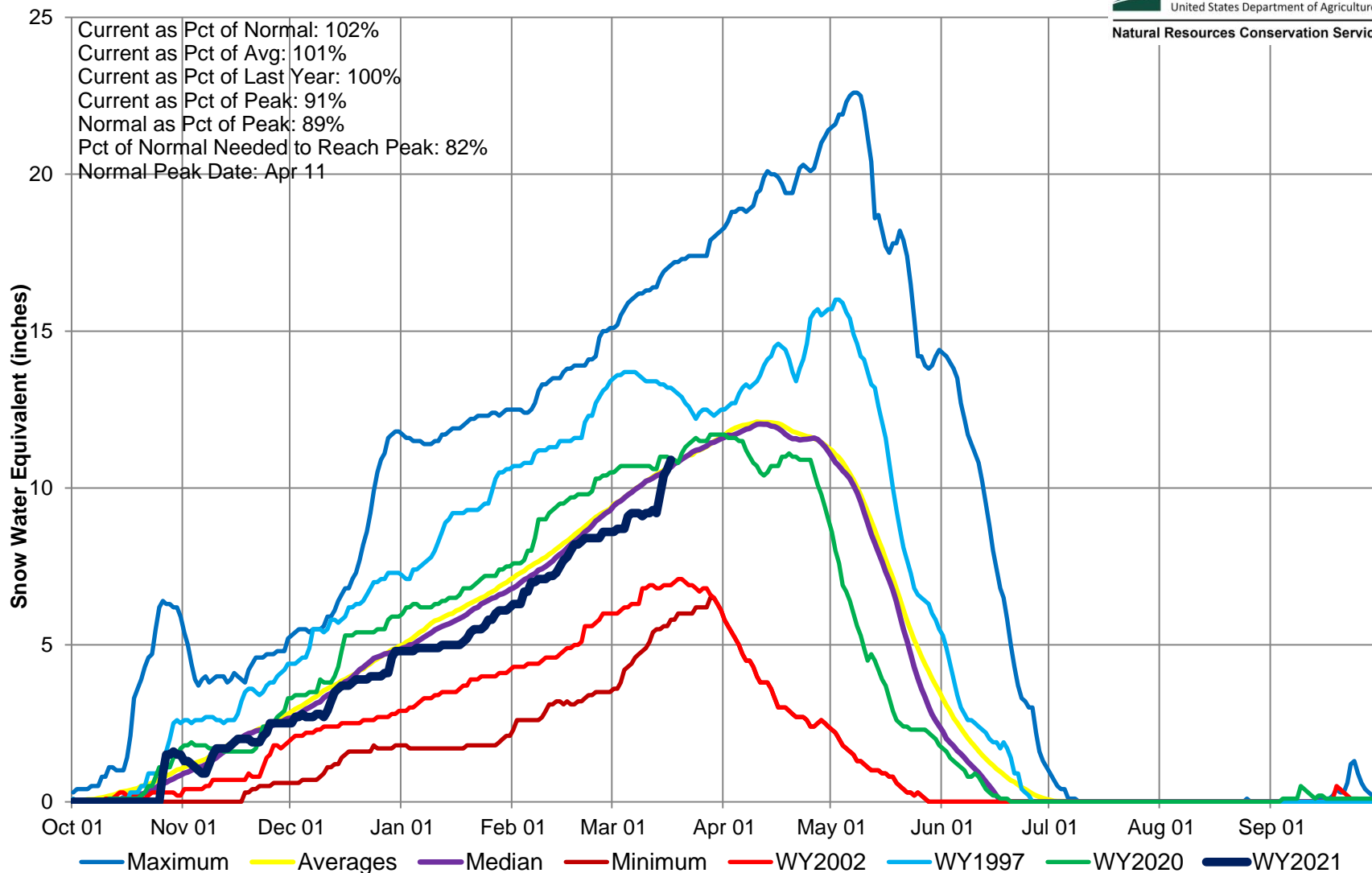
Arkansas River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



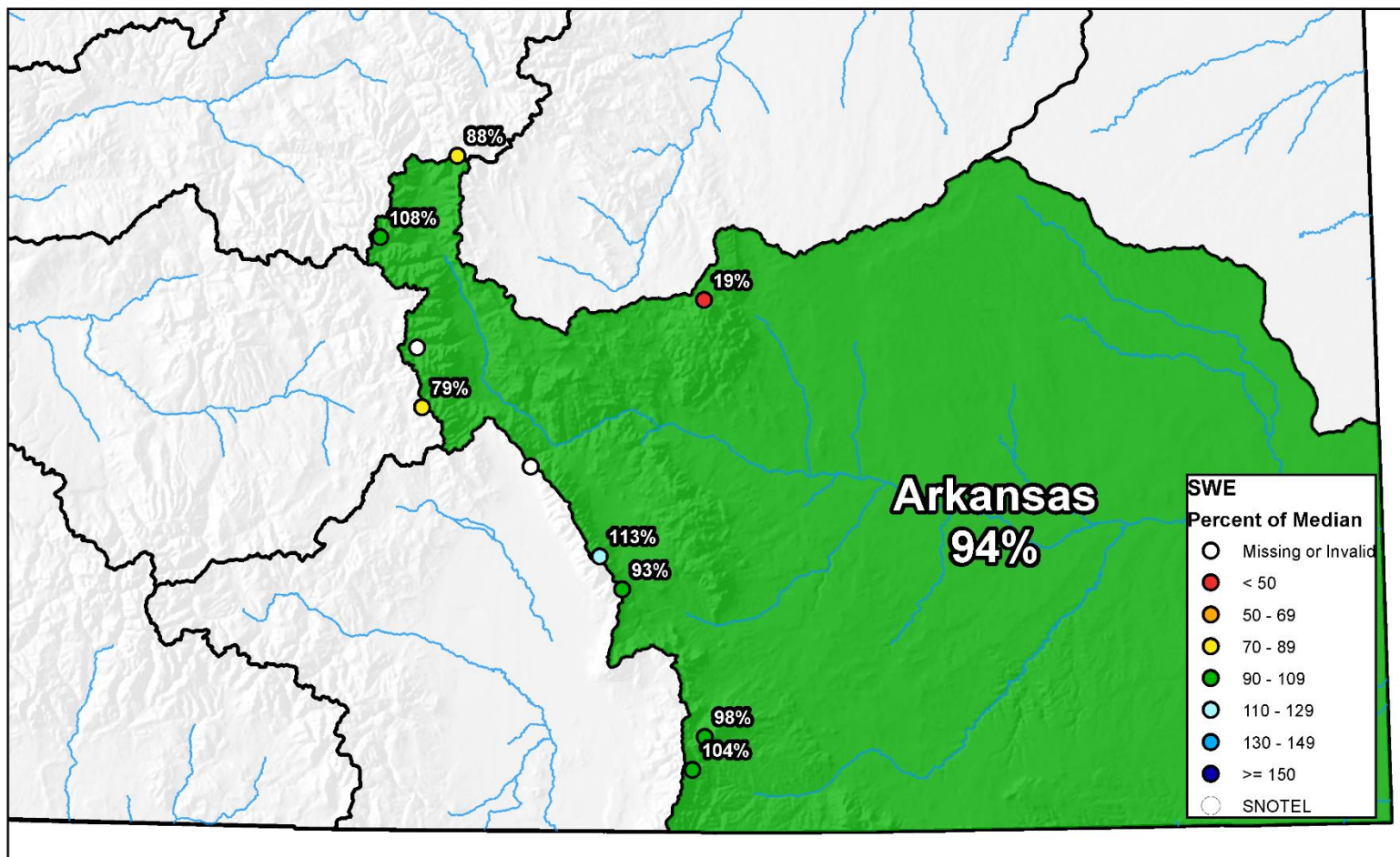
United States Department of Agriculture

Natural Resources Conservation Service



Arkansas River Basin Snow Water Equivalent (SWE) Summary

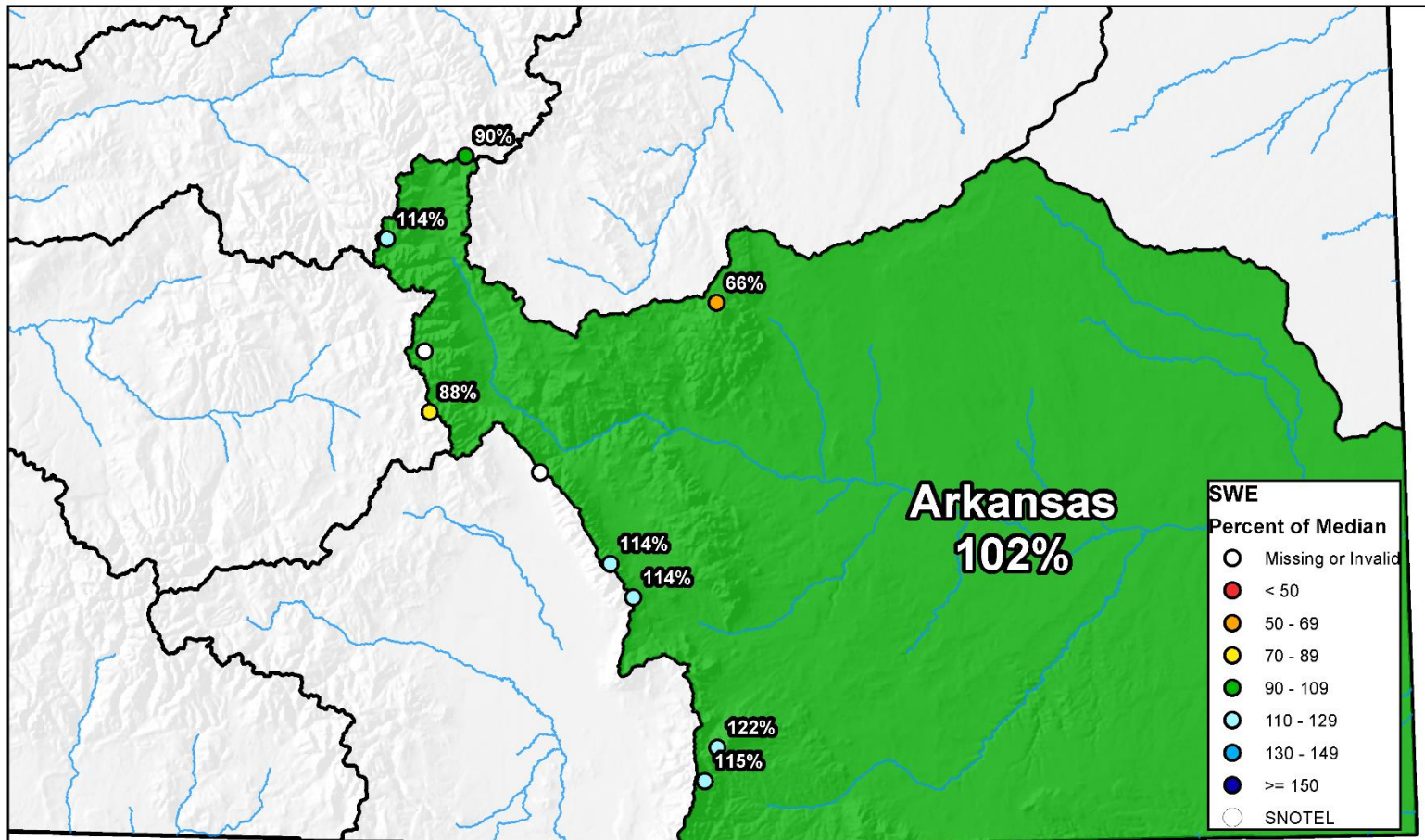
Current as of Feb 12, 2021



0 10 20 40 60 80 Miles

Arkansas River Basin Snow Water Equivalent (SWE) Summary

Current as of Mar 17, 2021



0 10 20 40 60 80 Miles

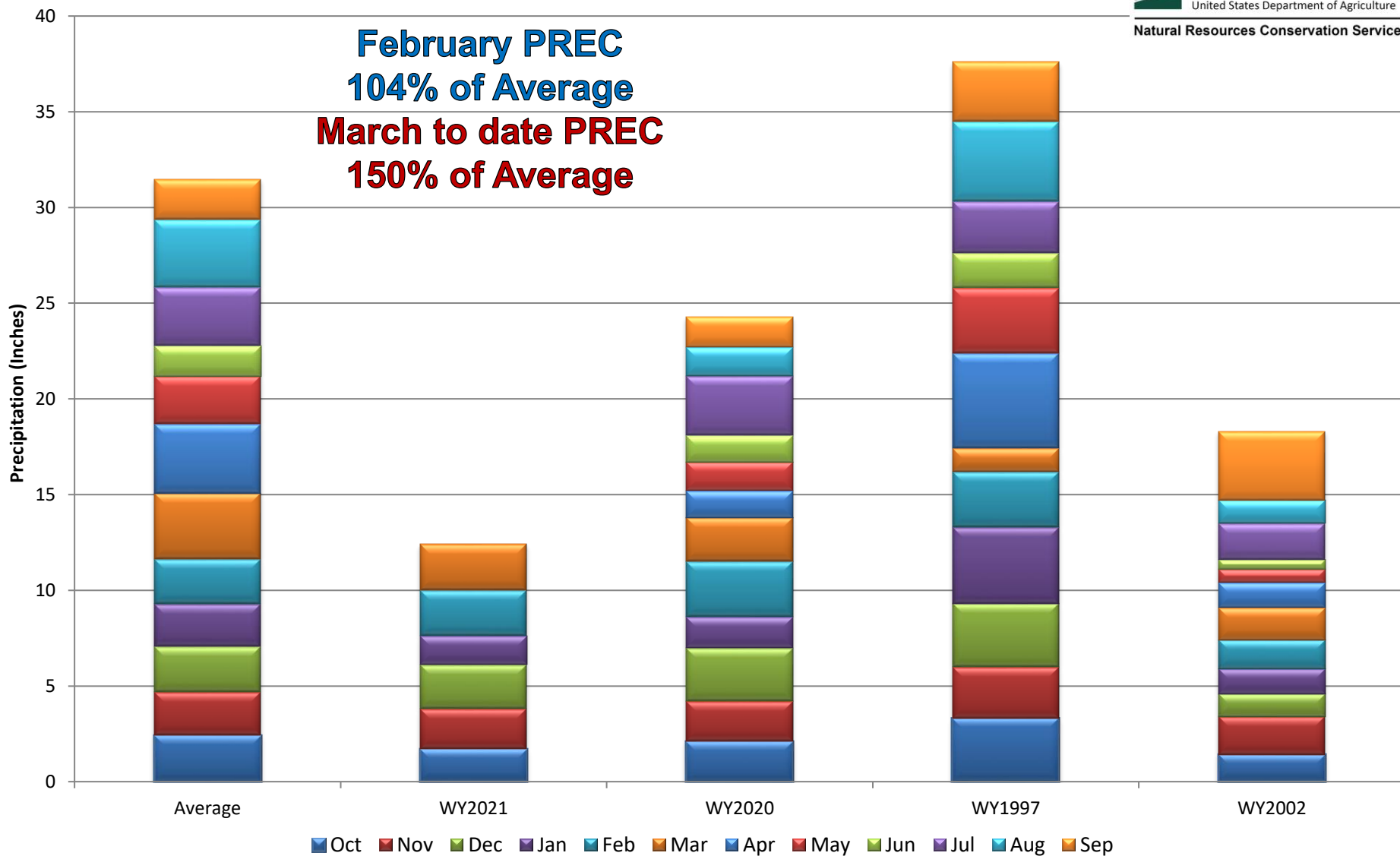
Arkansas River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



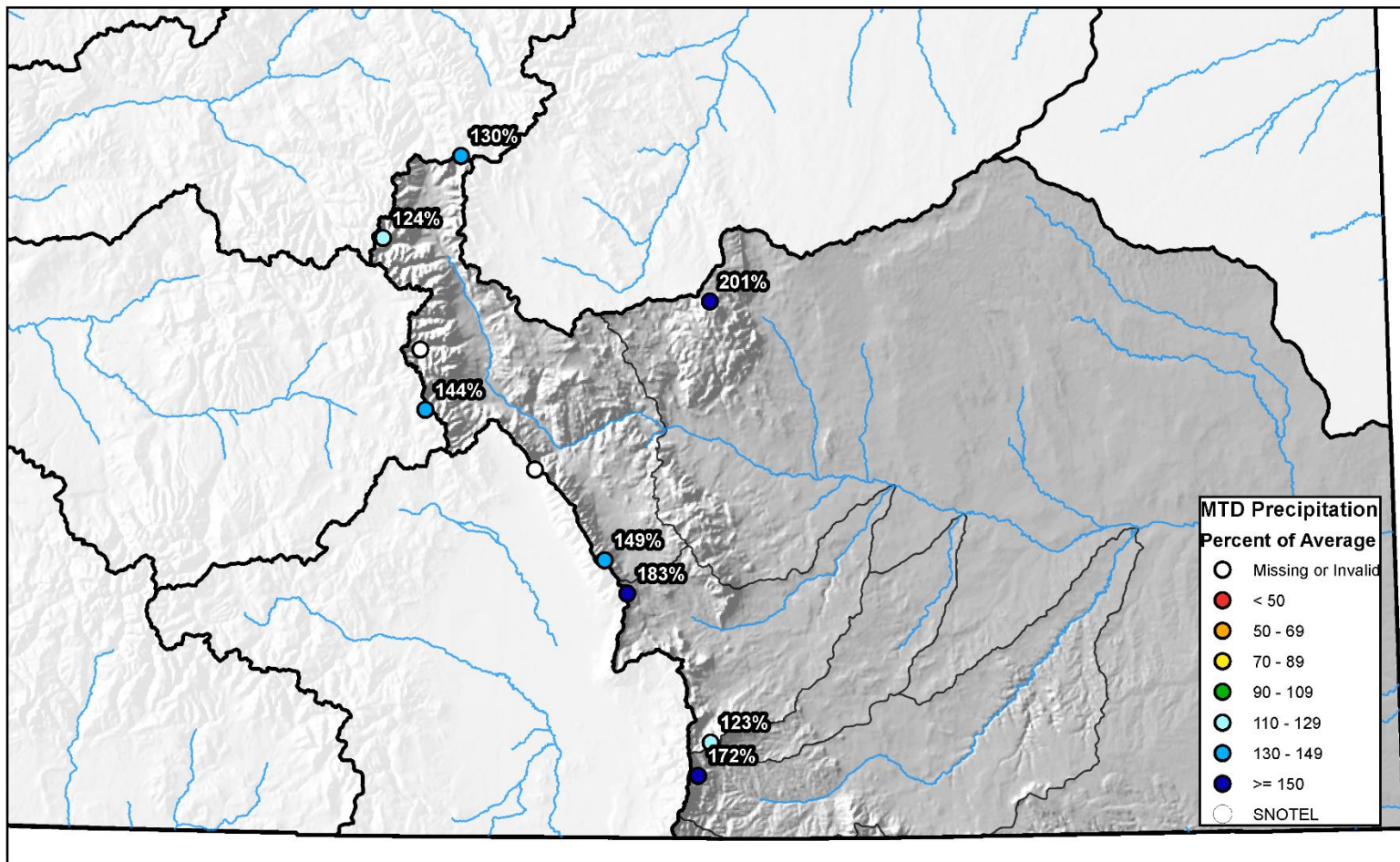
United States Department of Agriculture

Natural Resources Conservation Service



Arkansas River Basin Month to Date Precipitation Summary

Current as of Mar 17, 2021

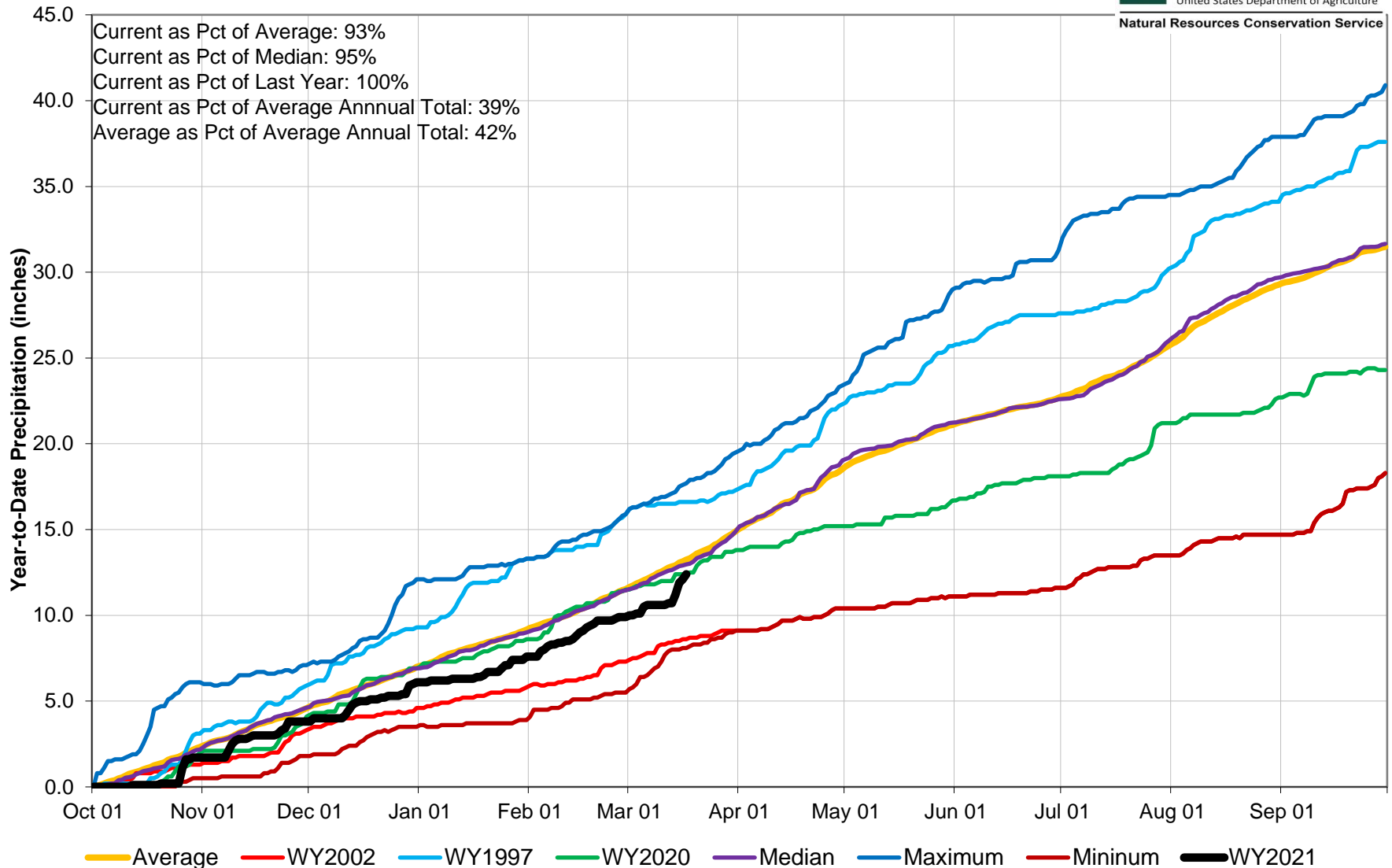


0 10 20 40 60 80 Miles



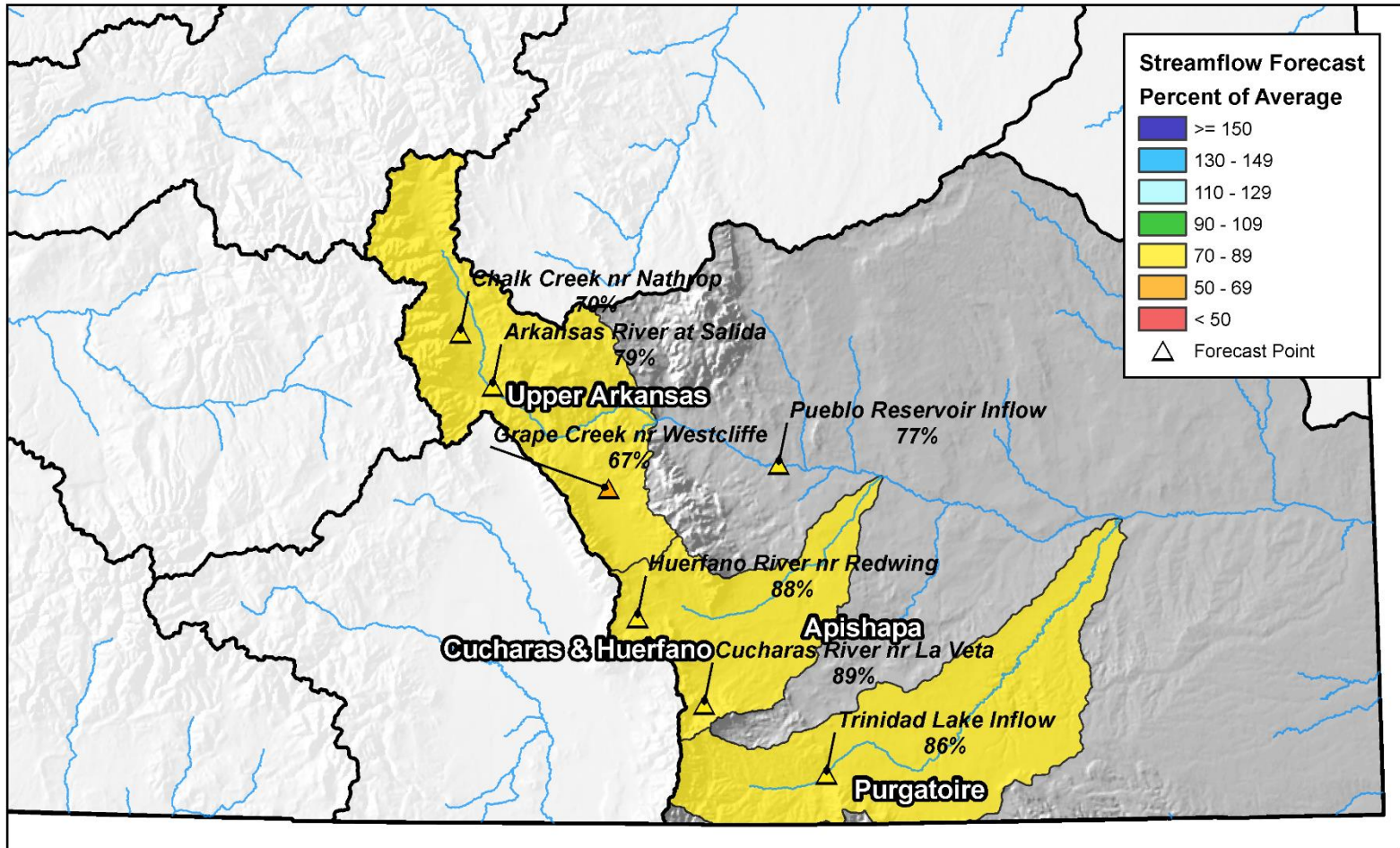
Arkansas River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



Arkansas River Basin Streamflow Forecast Summary

March 1, 2021

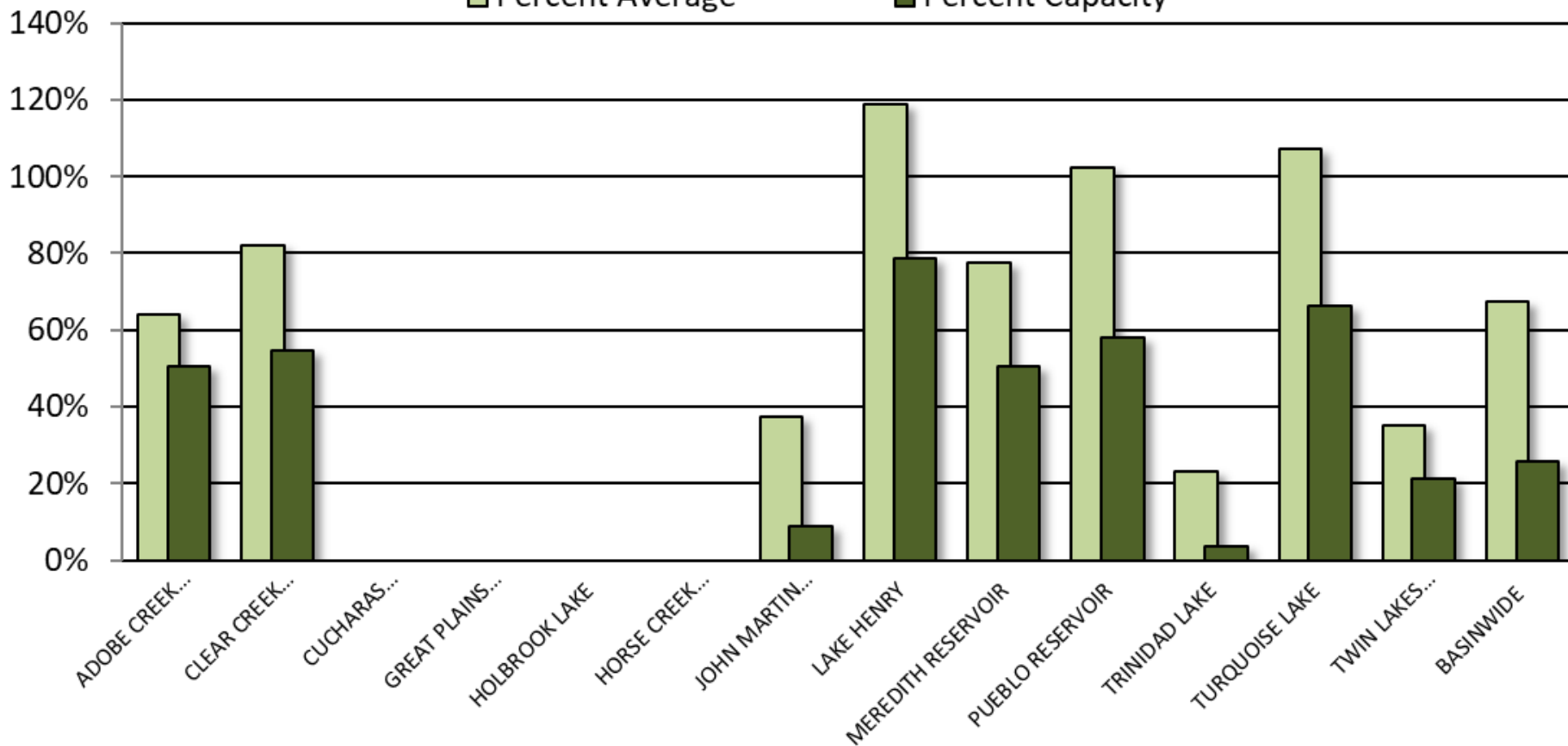


0 10 20 40 60 80 Miles

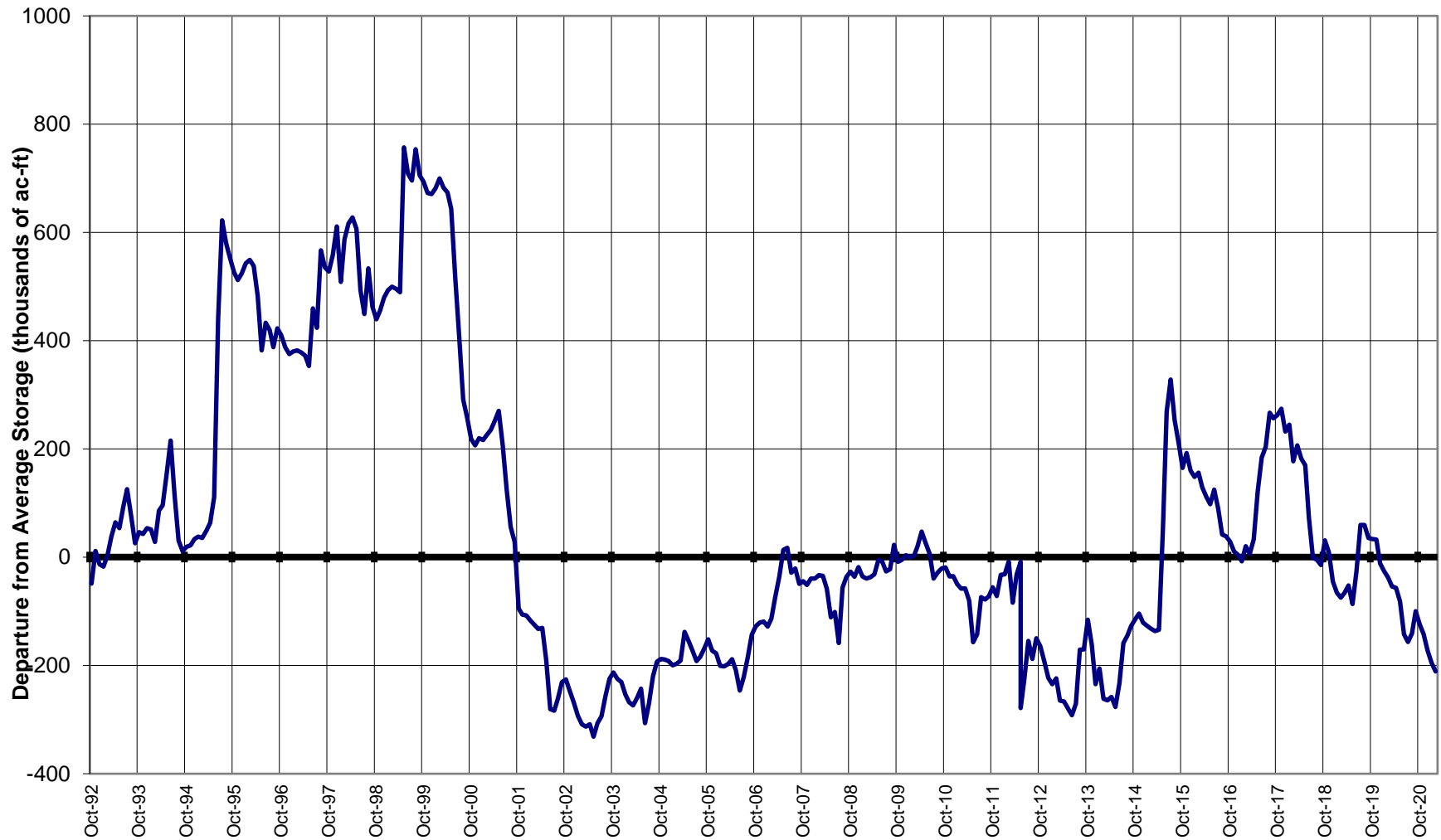
End of February Reservoir Storage

■ Percent Average

■ Percent Capacity

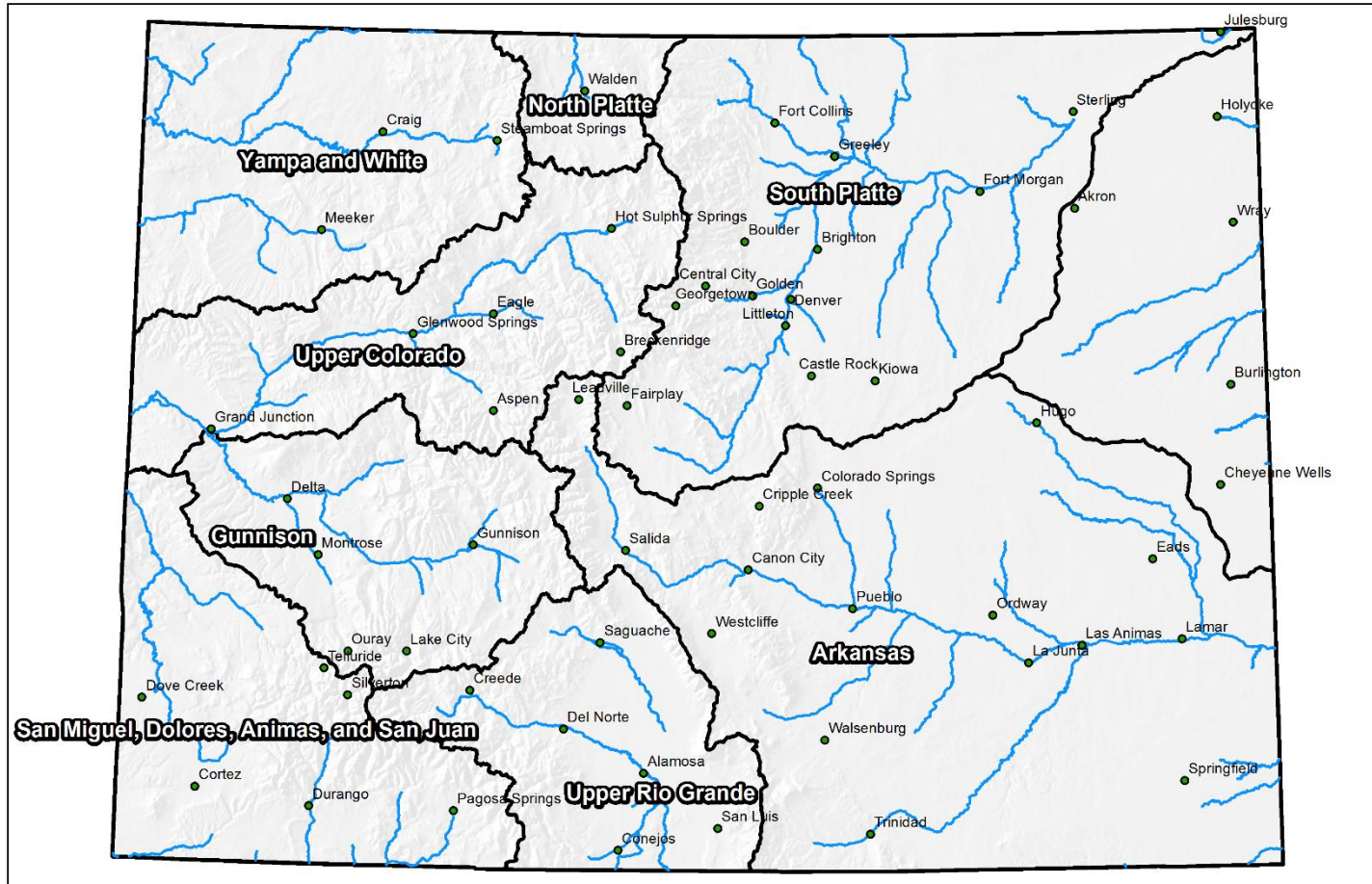


ARKANSAS RIVER BASIN Reservoir Storage Departure from Average



Colorado Statewide Summary

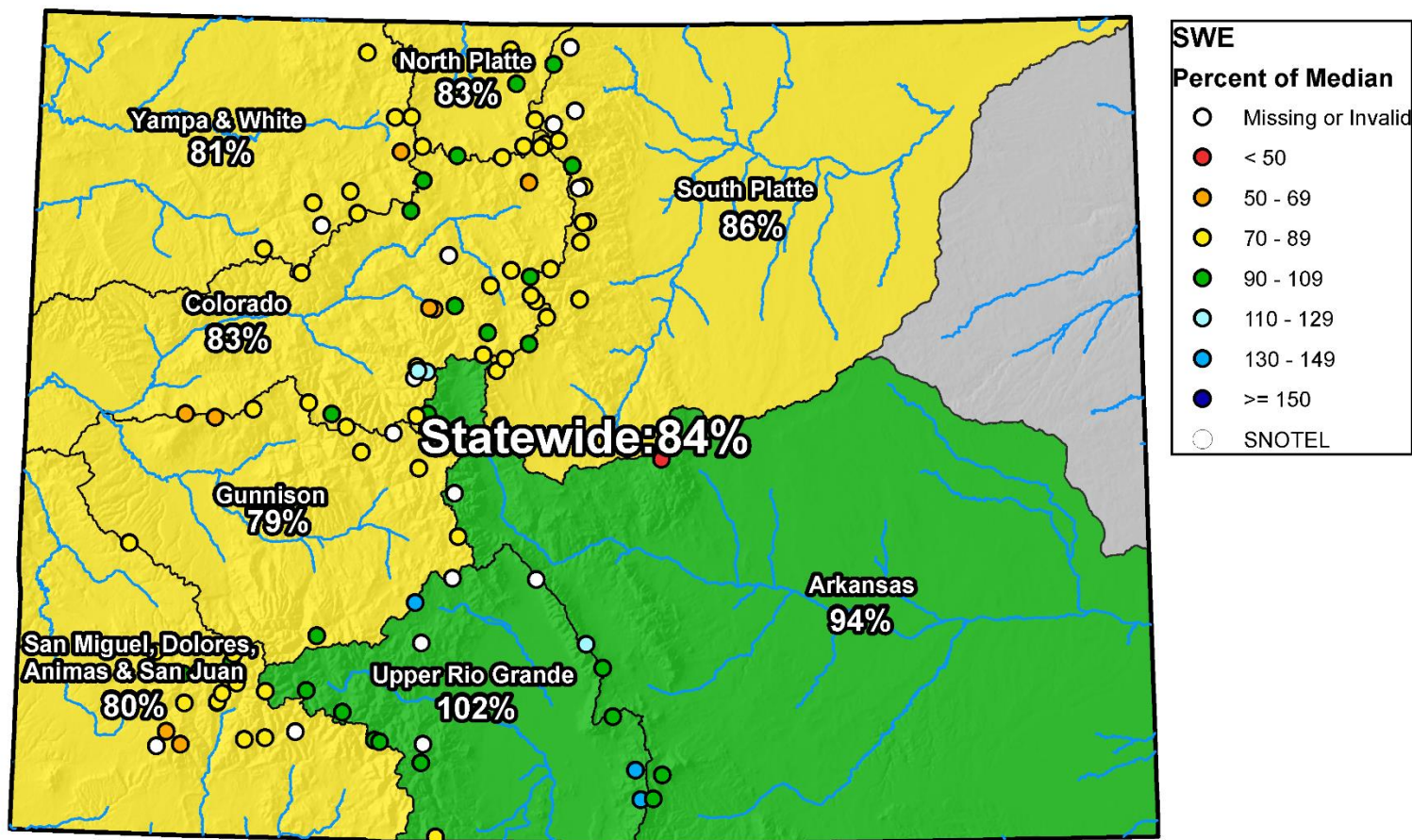
Colorado Major Basins



0 25 50 100 150 200 Miles

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

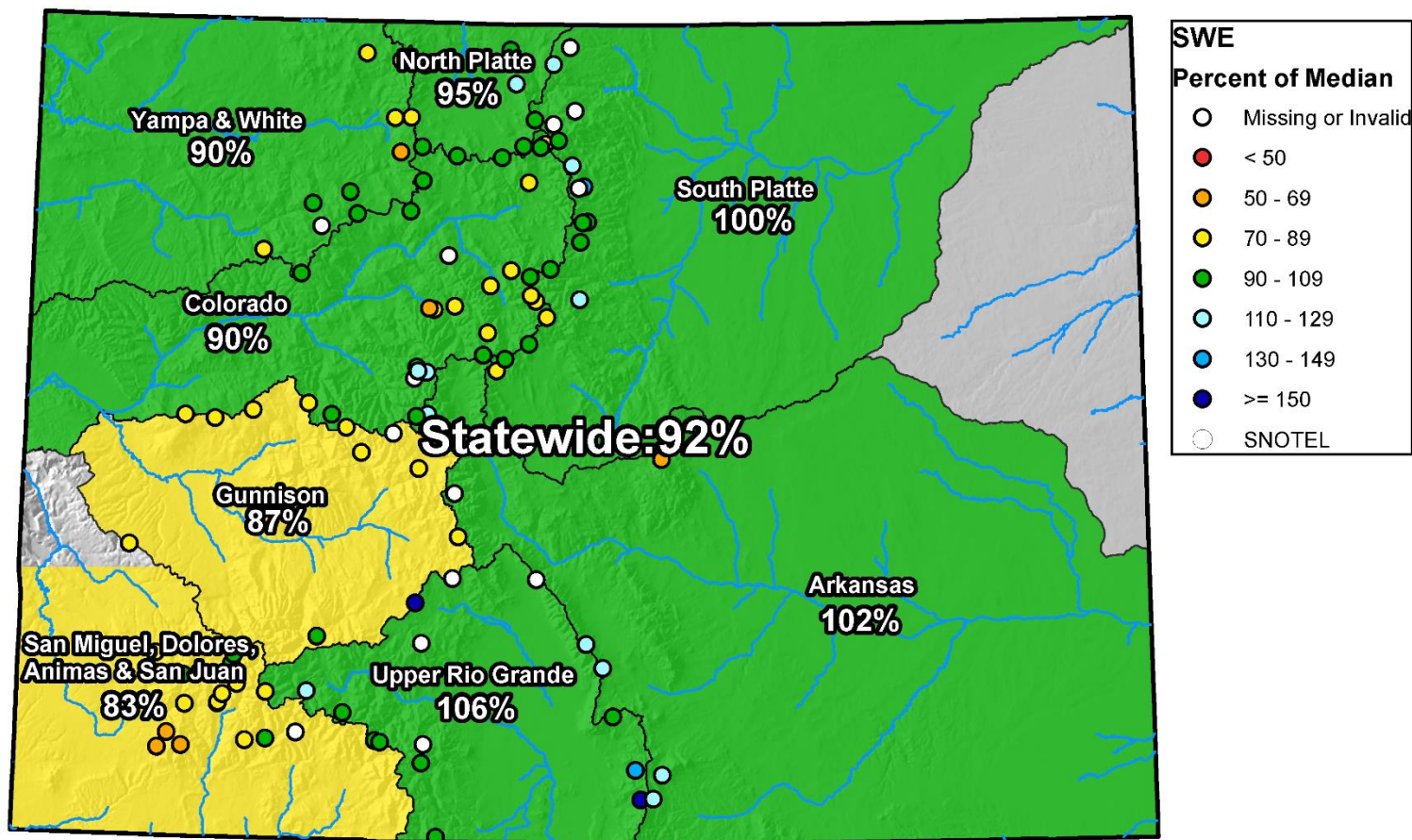
Current as of Feb 12, 2021



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



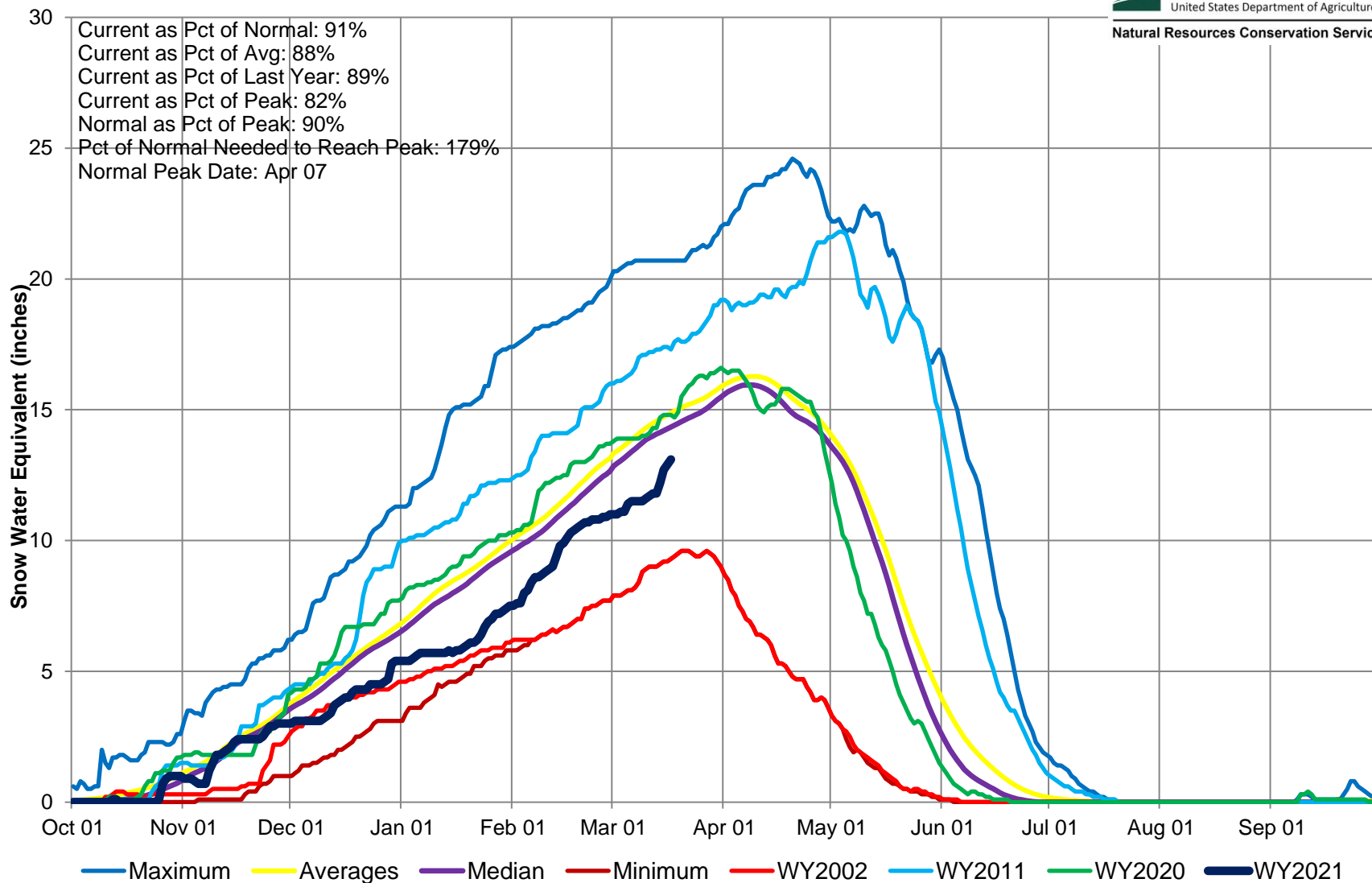
Colorado Statewide High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



United States Department of Agriculture

Natural Resources Conservation Service





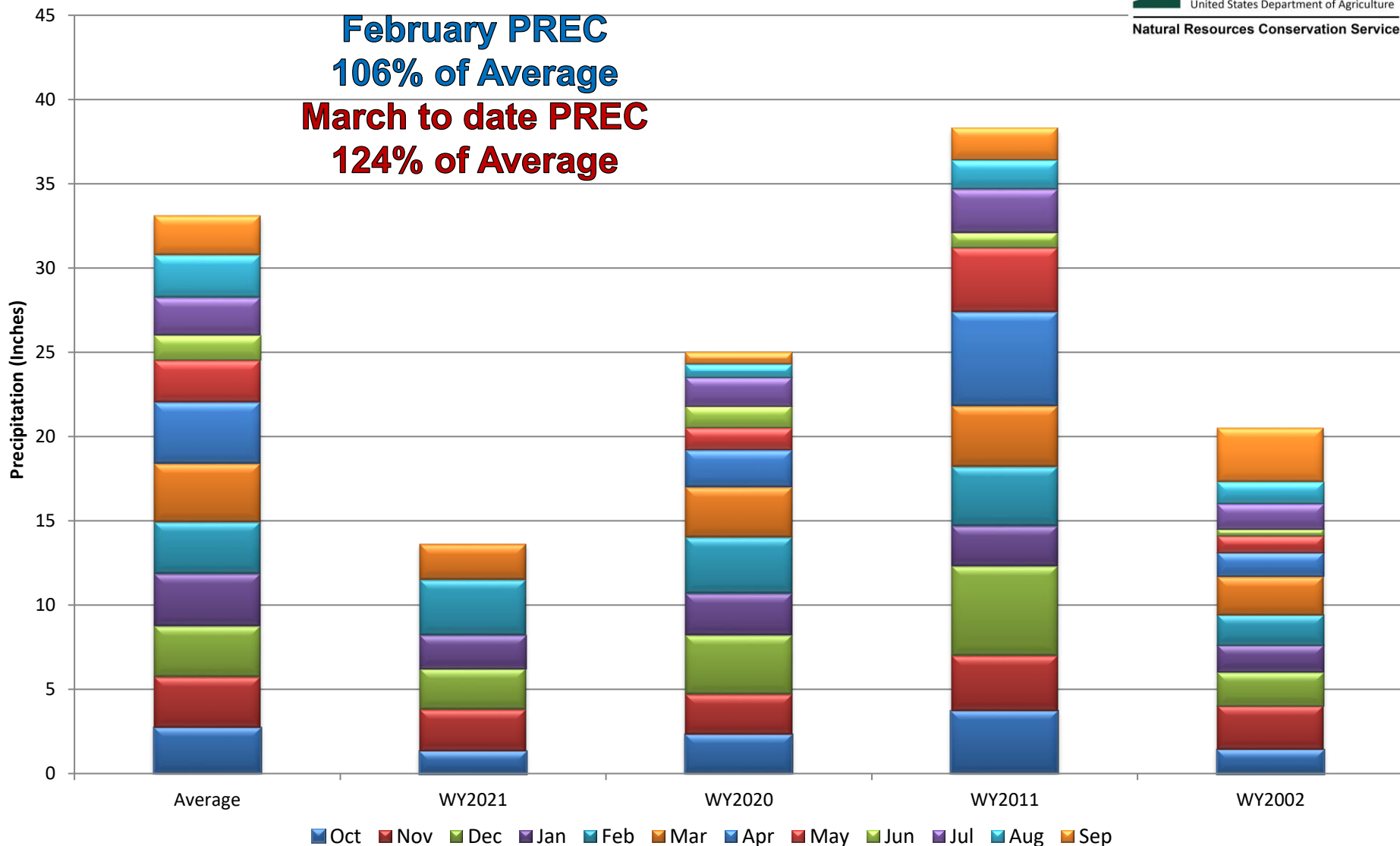
Colorado Statewide High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



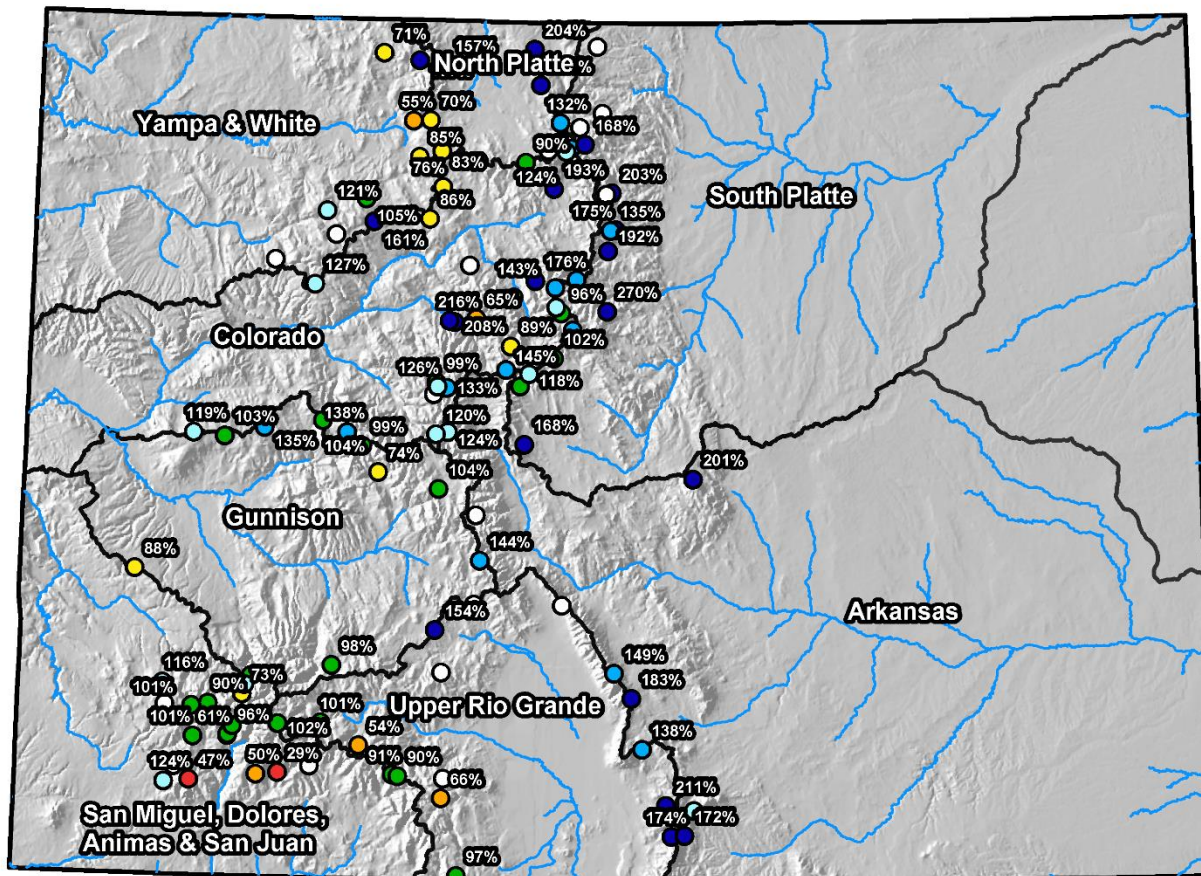
United States Department of Agriculture

Natural Resources Conservation Service



Colorado SNOTEL Month-to-Date Precipitation

Current as of Mar 17, 2021



MTD Precipitation Percent of Average

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

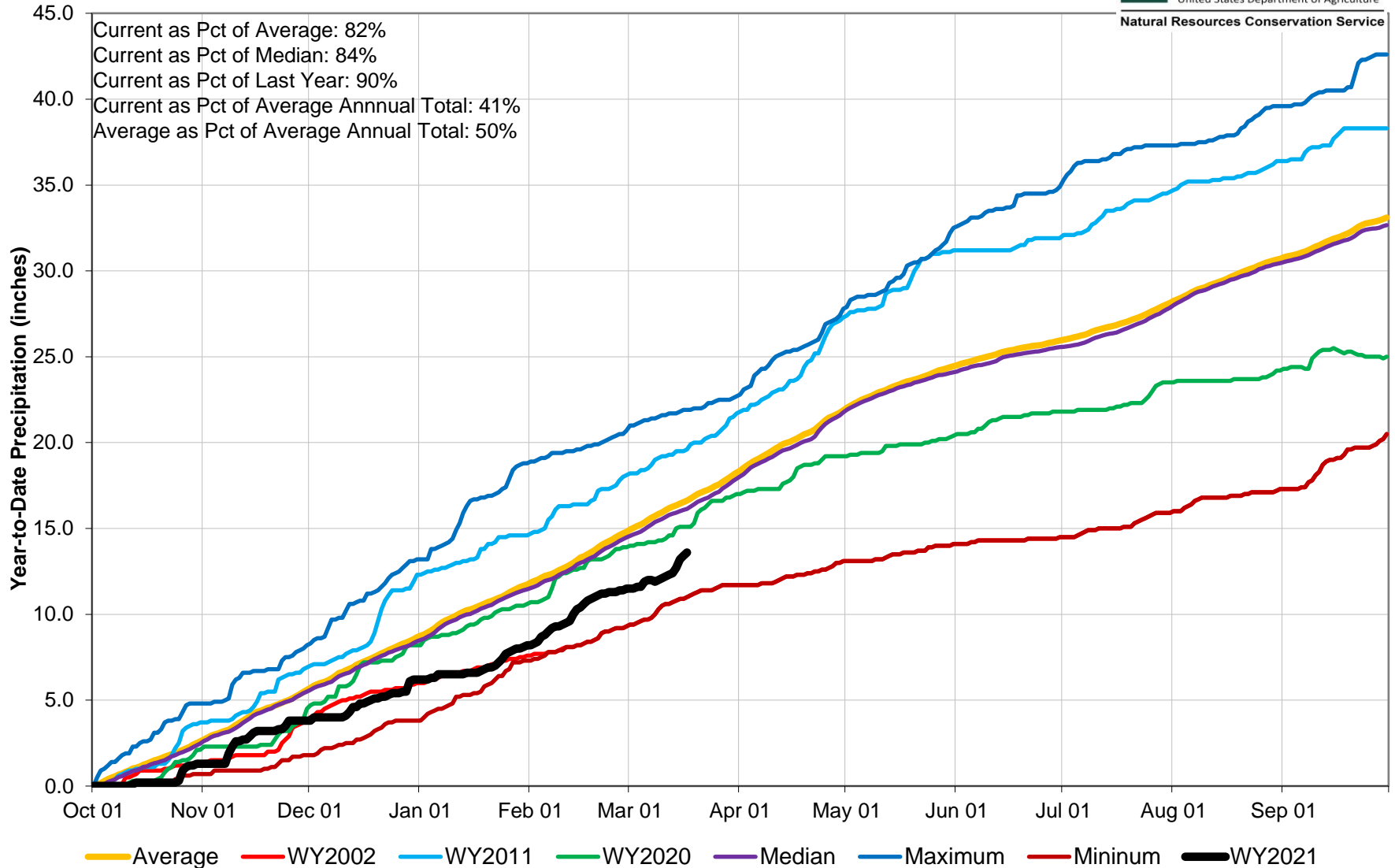


0 25 50 100 150 200 Miles



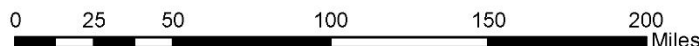
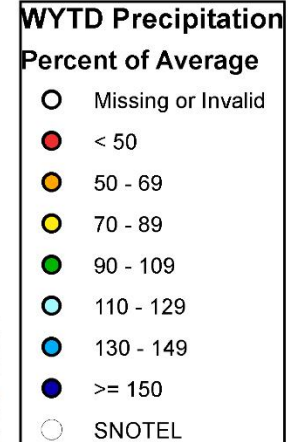
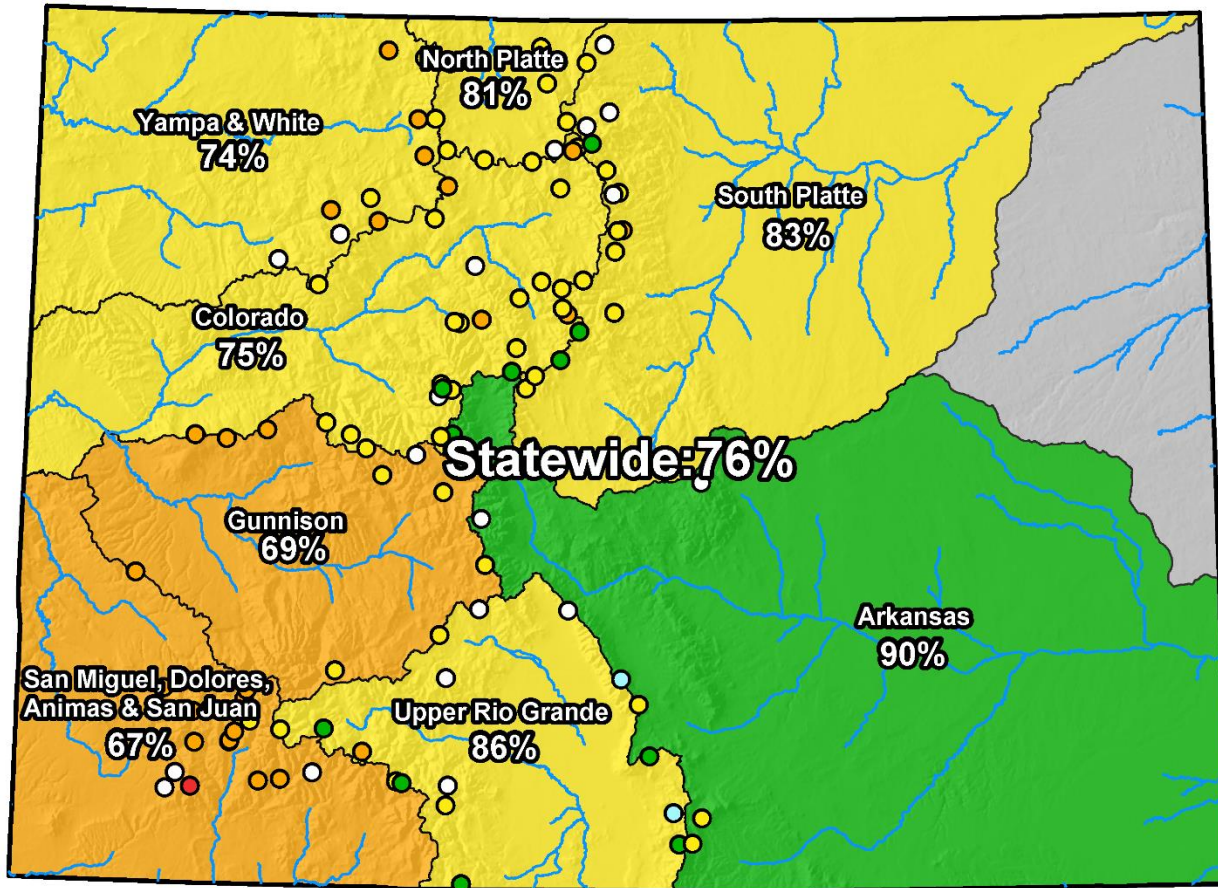
Colorado Statewide High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 17, 2021



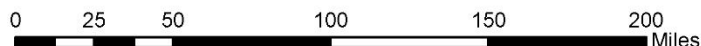
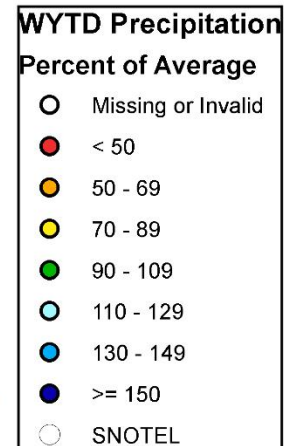
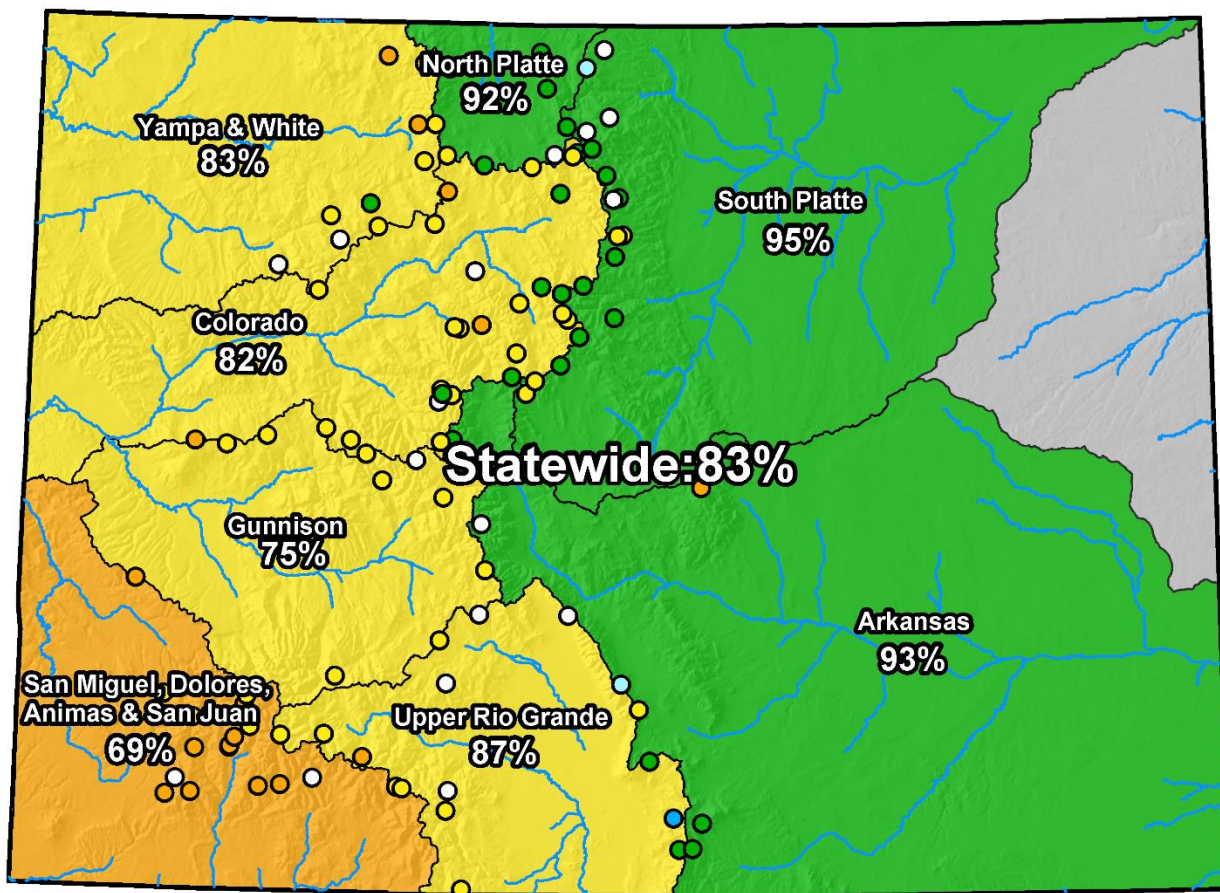
Colorado SNOTEL Water Year to Date Precipitation

Current as of Feb 12, 2021

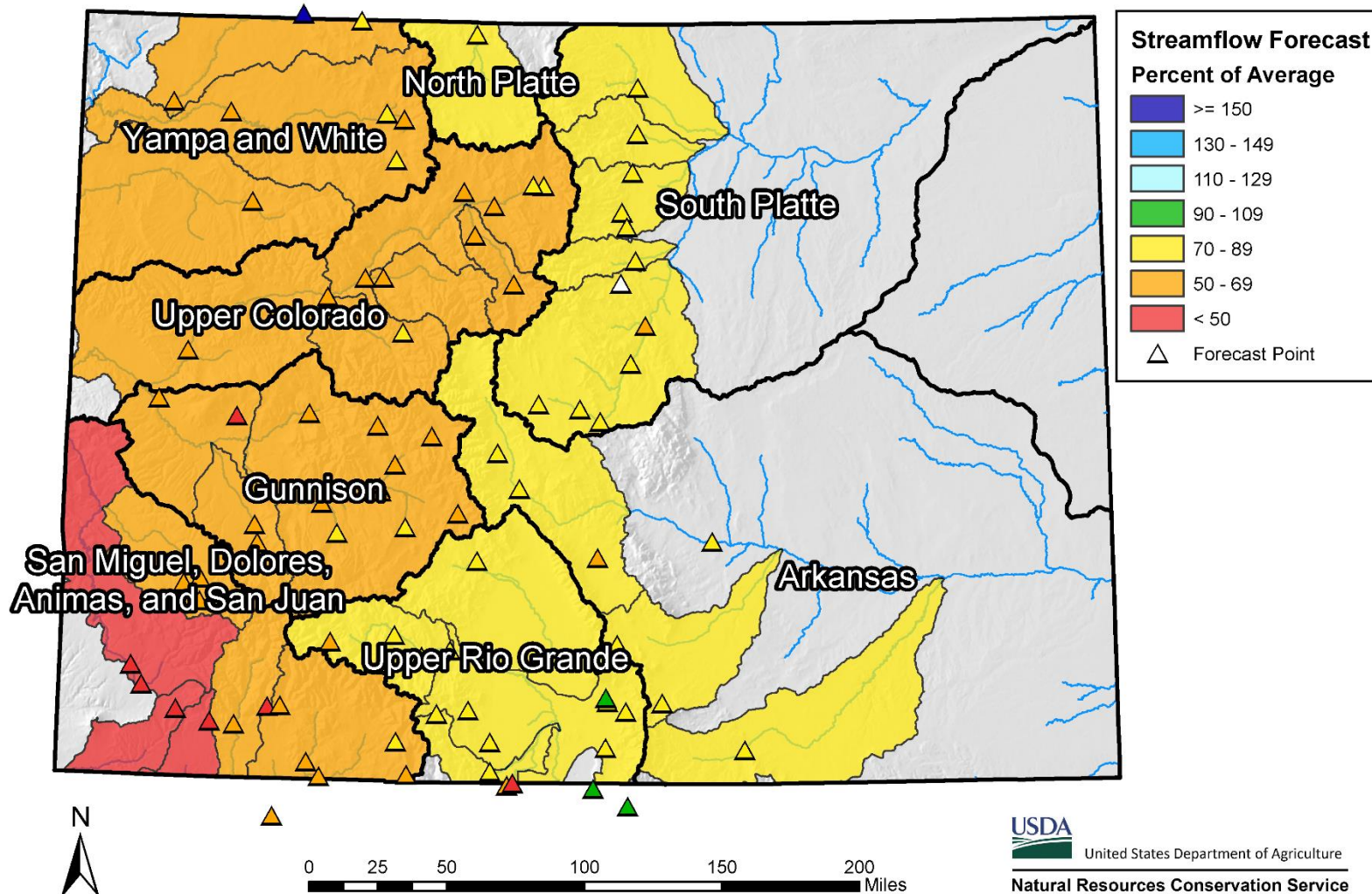


Colorado SNOTEL Water Year to Date Precipitation

Current as of Mar 17, 2021

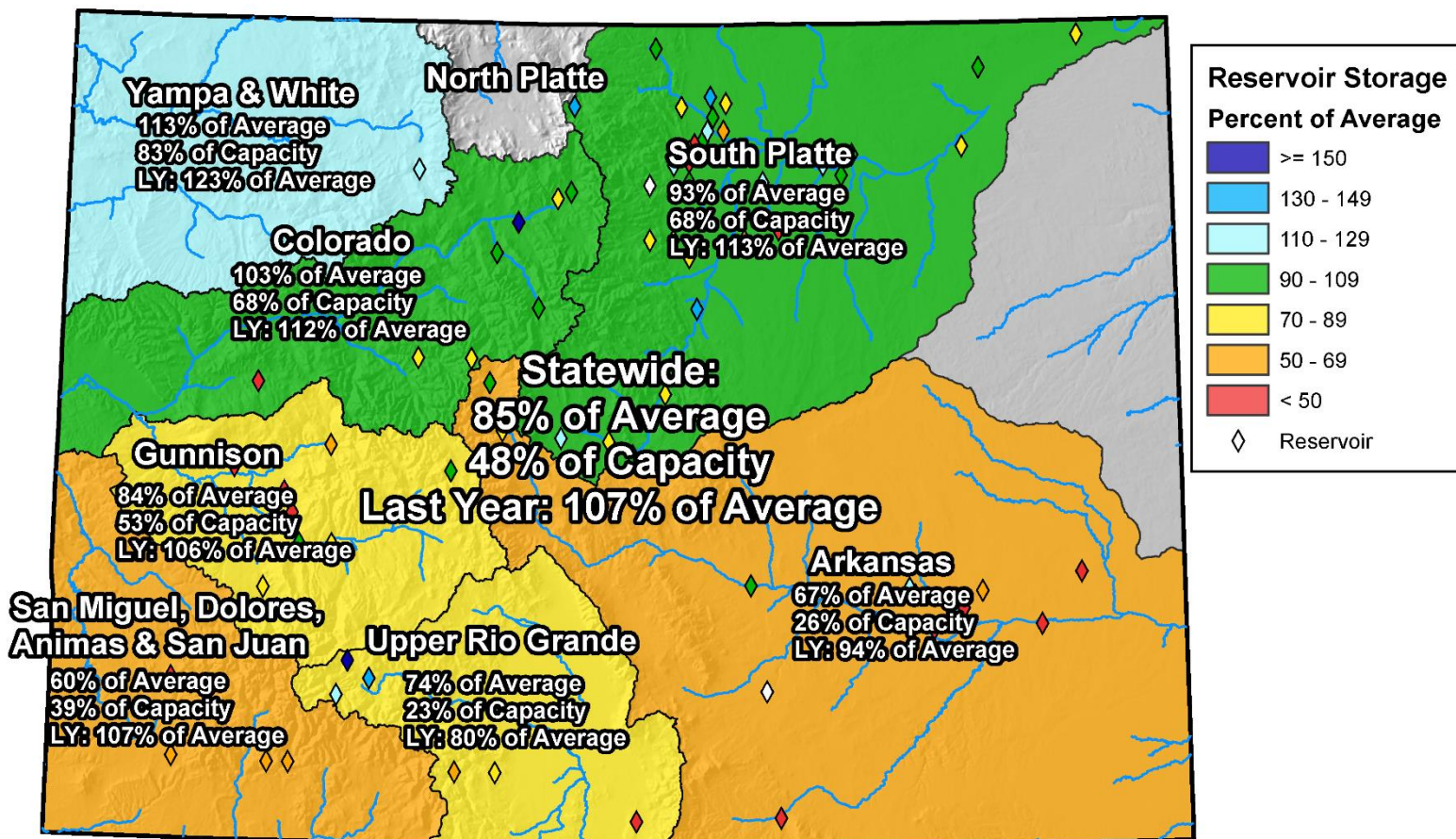


Colorado Streamflow Forecasts Summary March 1, 2021

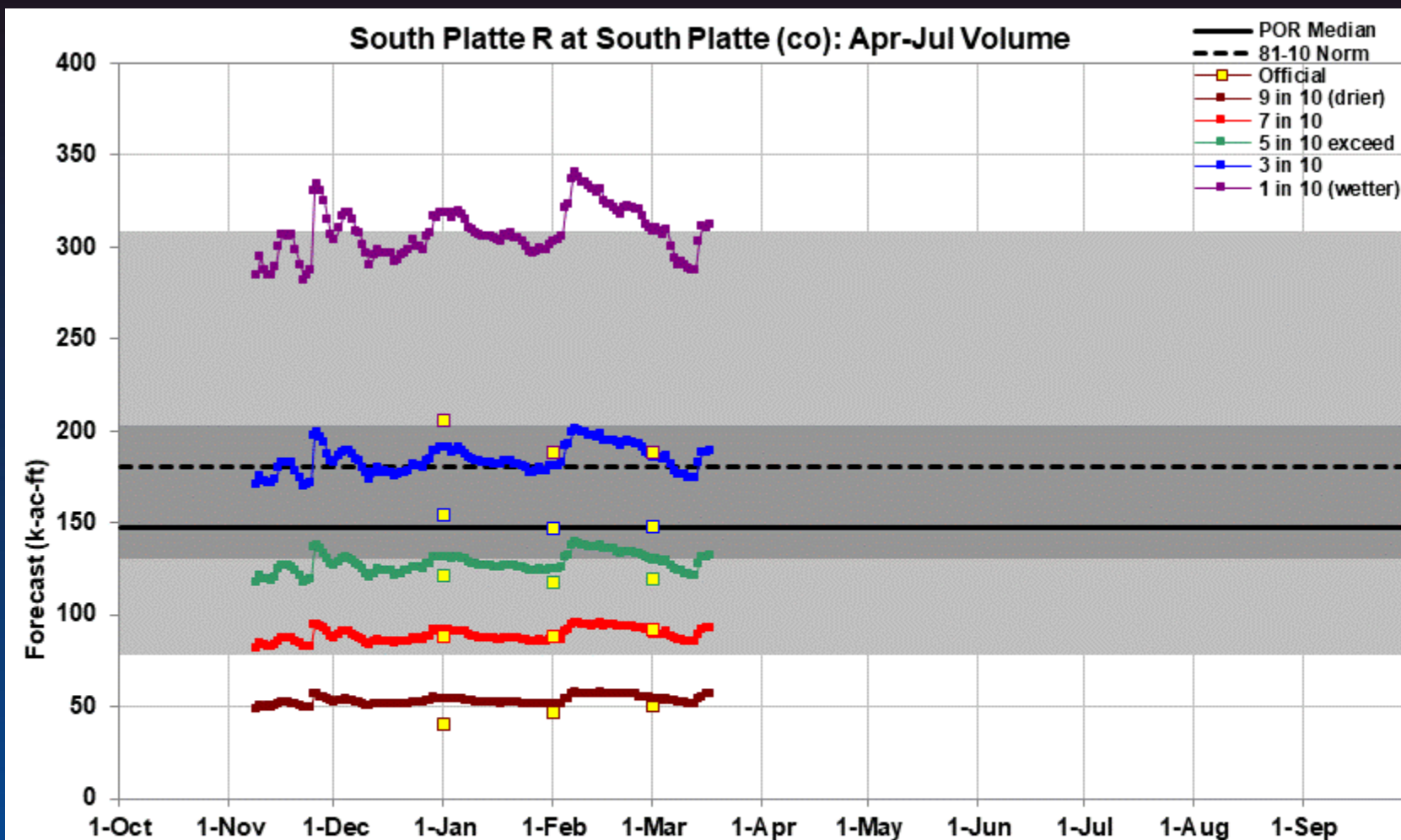


Colorado Monthly Reservoir Storage Summary

End of February 2021



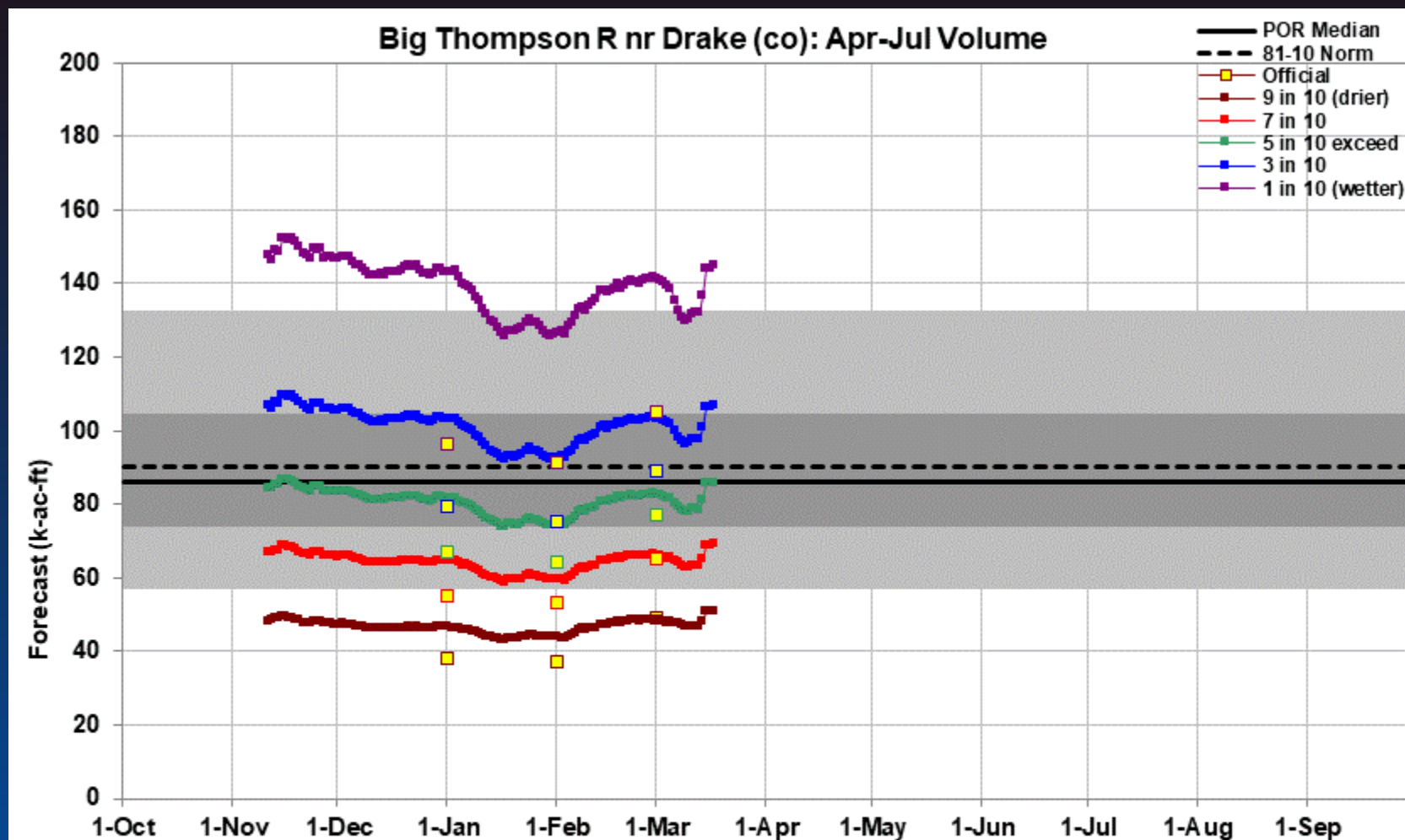
0 25 50 100 150 200 Miles



Created 5:35 Mar 17 2021



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 supersede 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



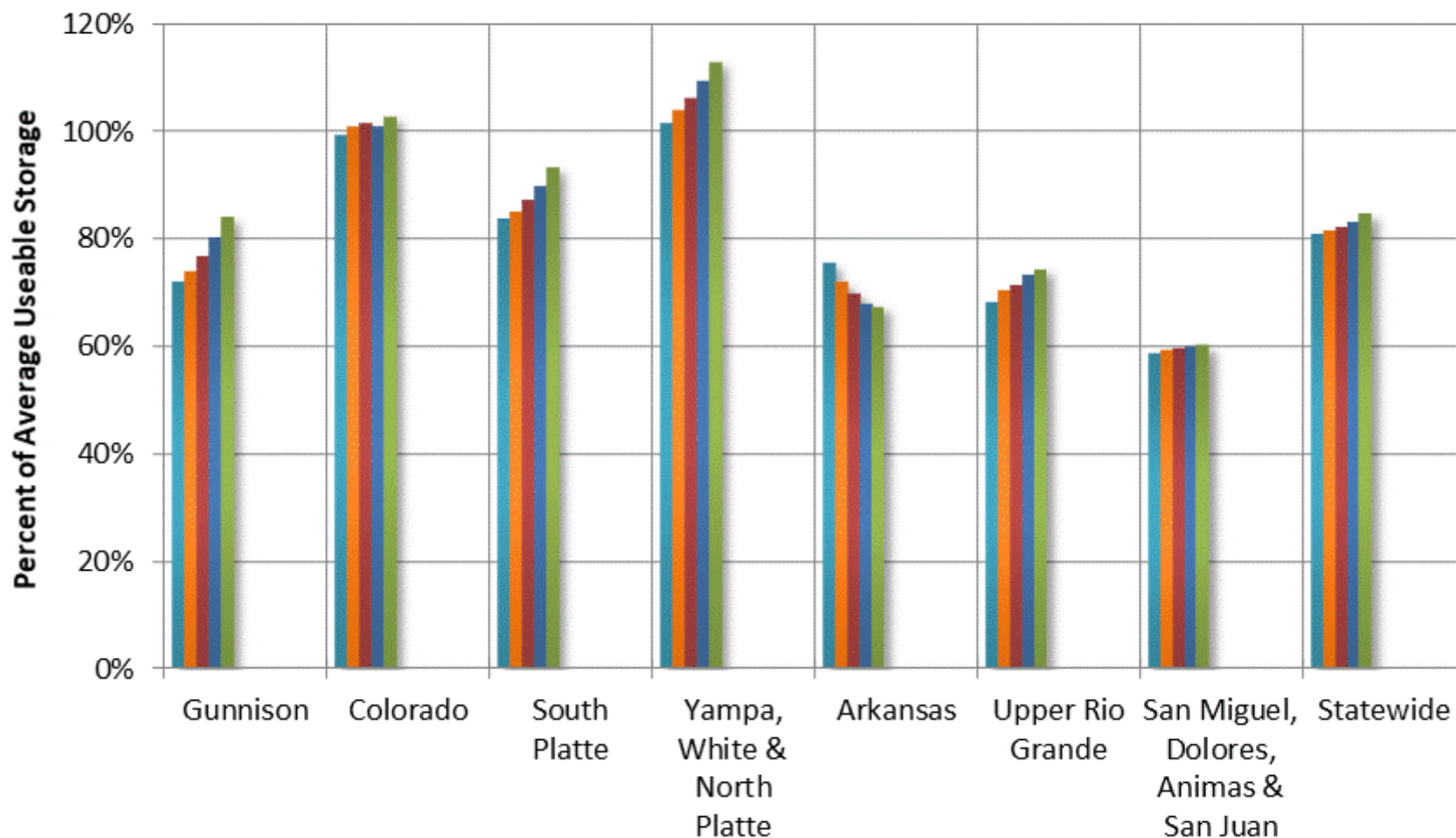
Created 5:36 Mar 17 2021



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 supersede 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

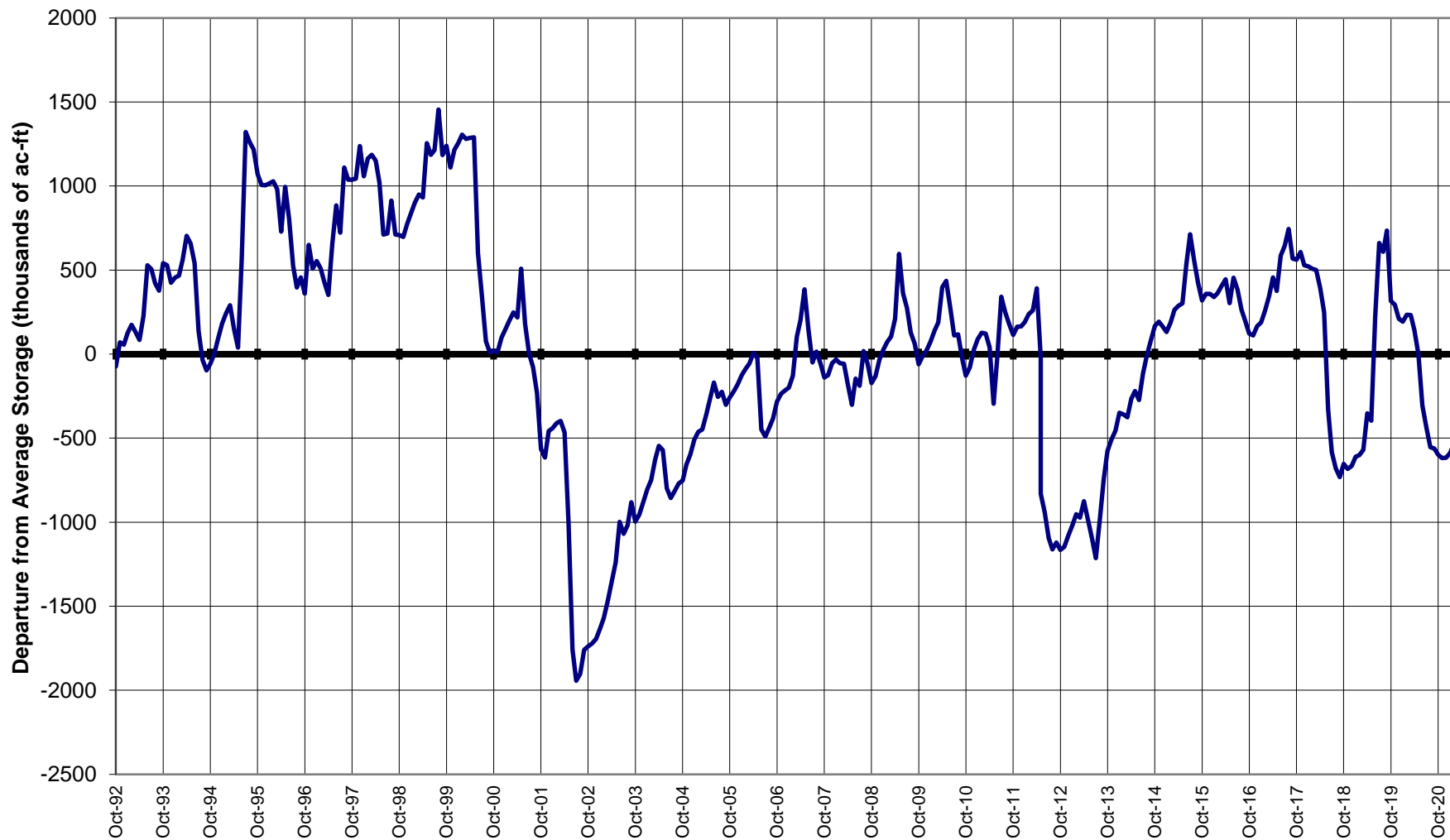
Colorado Reservoir Storage

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



Summary

- **Mid-March storm provided much-needed boost to anticipated snowpack and water supply but fall far short of what is needed to make up for precip and soil moisture deficits**
 - 15% improvement in South Platte Snowpack
 - 12% improvement in Arkansas Snowpack
 - As little as a 5% improvement in Colorado River Basin Snowpack
- **Precipitation Statewide**
 - Since last month's presentation - a slight improvement in precipitation. Larger improvement in the northern half of the state and in the southern a very slight improvement.
- **Reservoir Storage increased 2% since last month to 85% of normal 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. Most recent storm will improve runoff prospects some but not as much as needed. Dry soils and low baseflows in rivers across the state are indicating that snowmelt runoff will likely produce lower runoff volumes than would commonly occur with current snowpack.**



United States Department of Agriculture

Colorado Snow Surveys

Water Availability Task Force Meeting

March 18th, 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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