



United States Department of Agriculture

Colorado Snow Surveys

Water Availability Task Force Meeting

March 23rd, 2018

NRCS Snow Survey and Water Supply Forecasting Program

Karl Wetlaufer

Hydrologist

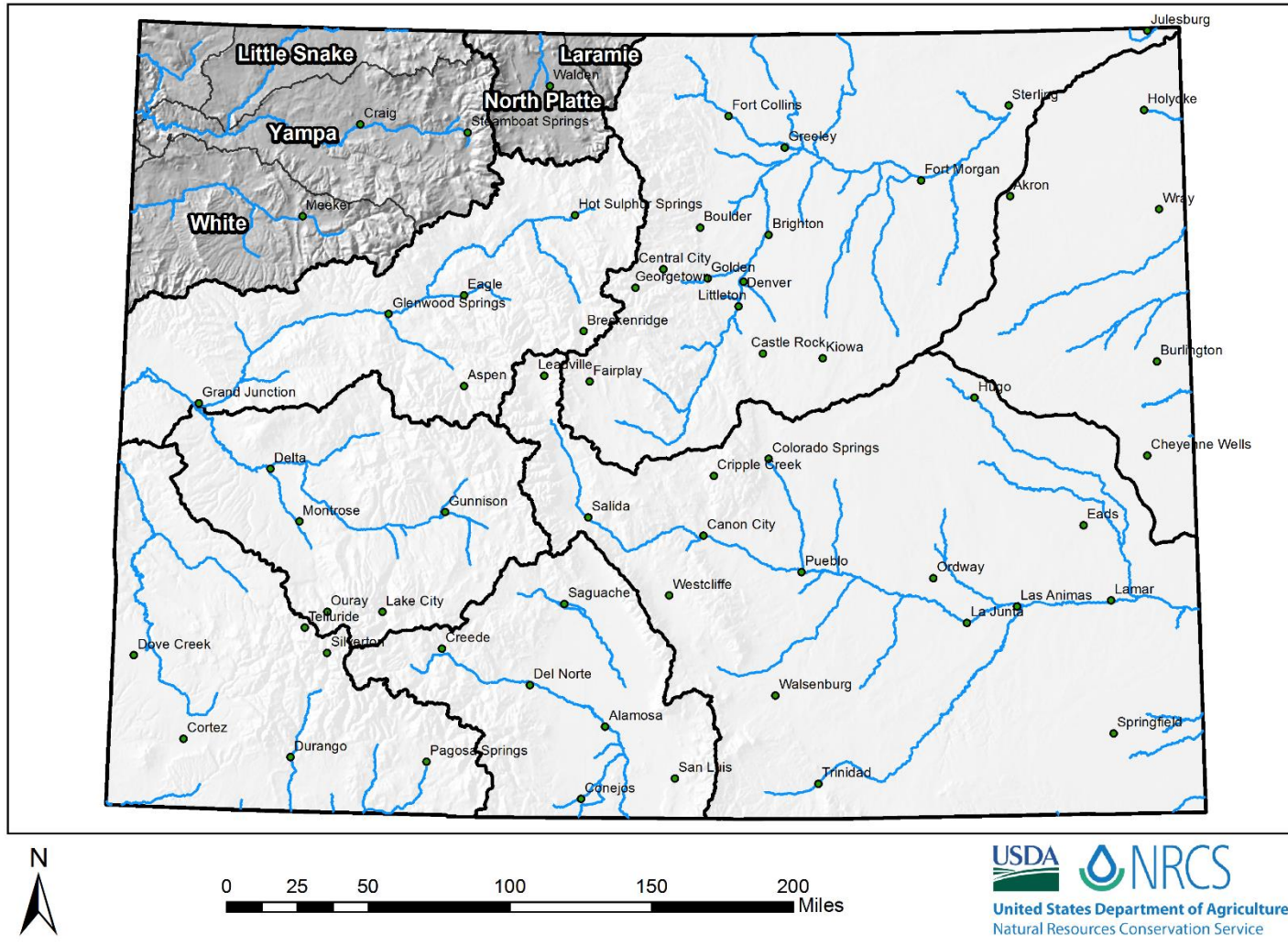
Asst. Snow Survey Supervisor

720-544-2853

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

Major Basin Summary

Yampa, White, and North Platte River Basins





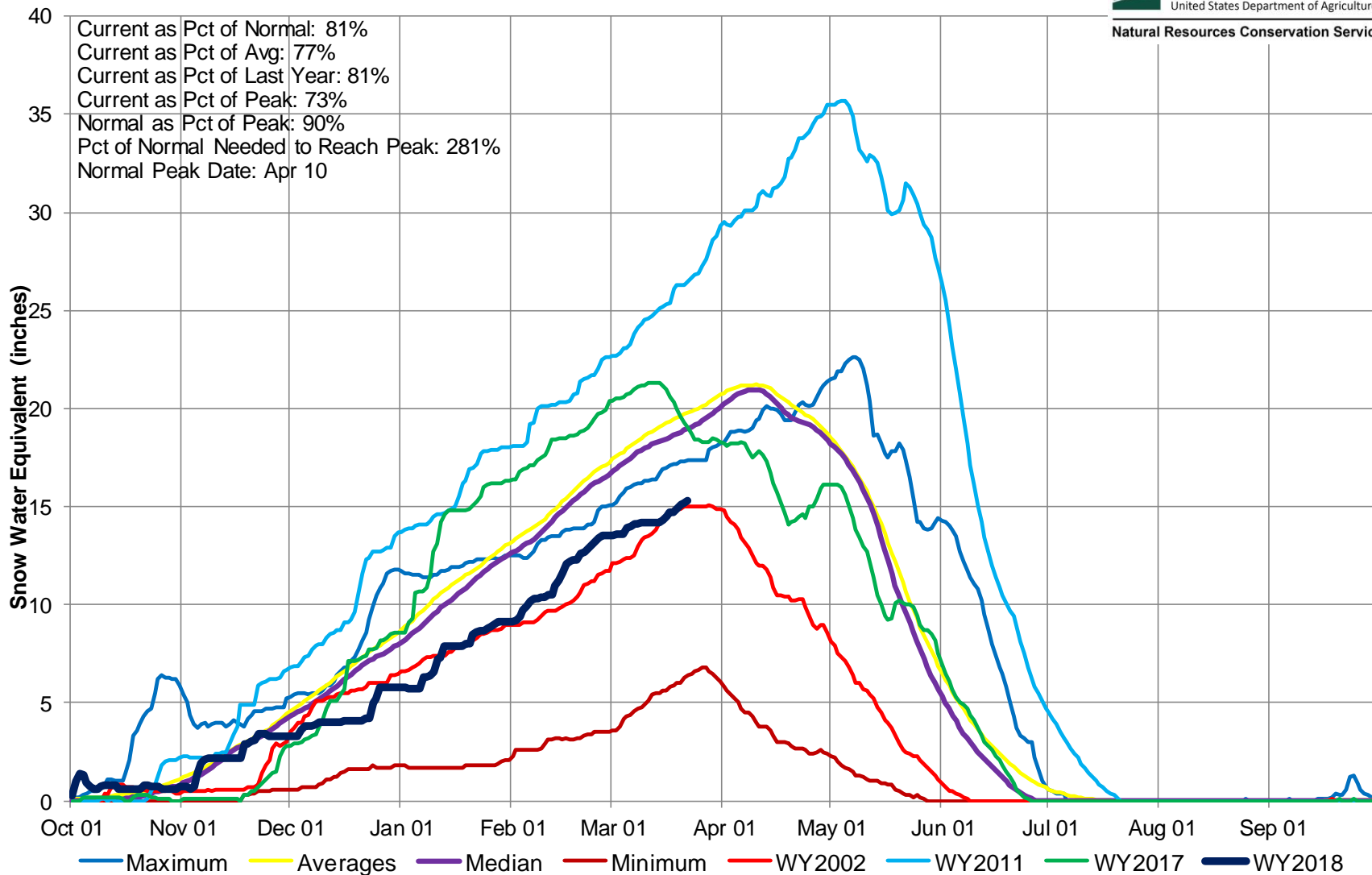
Yampa and White River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



United States Department of Agriculture

Natural Resources Conservation Service



Yampa and White River Basins High/Low Monthly Precipitation Summary

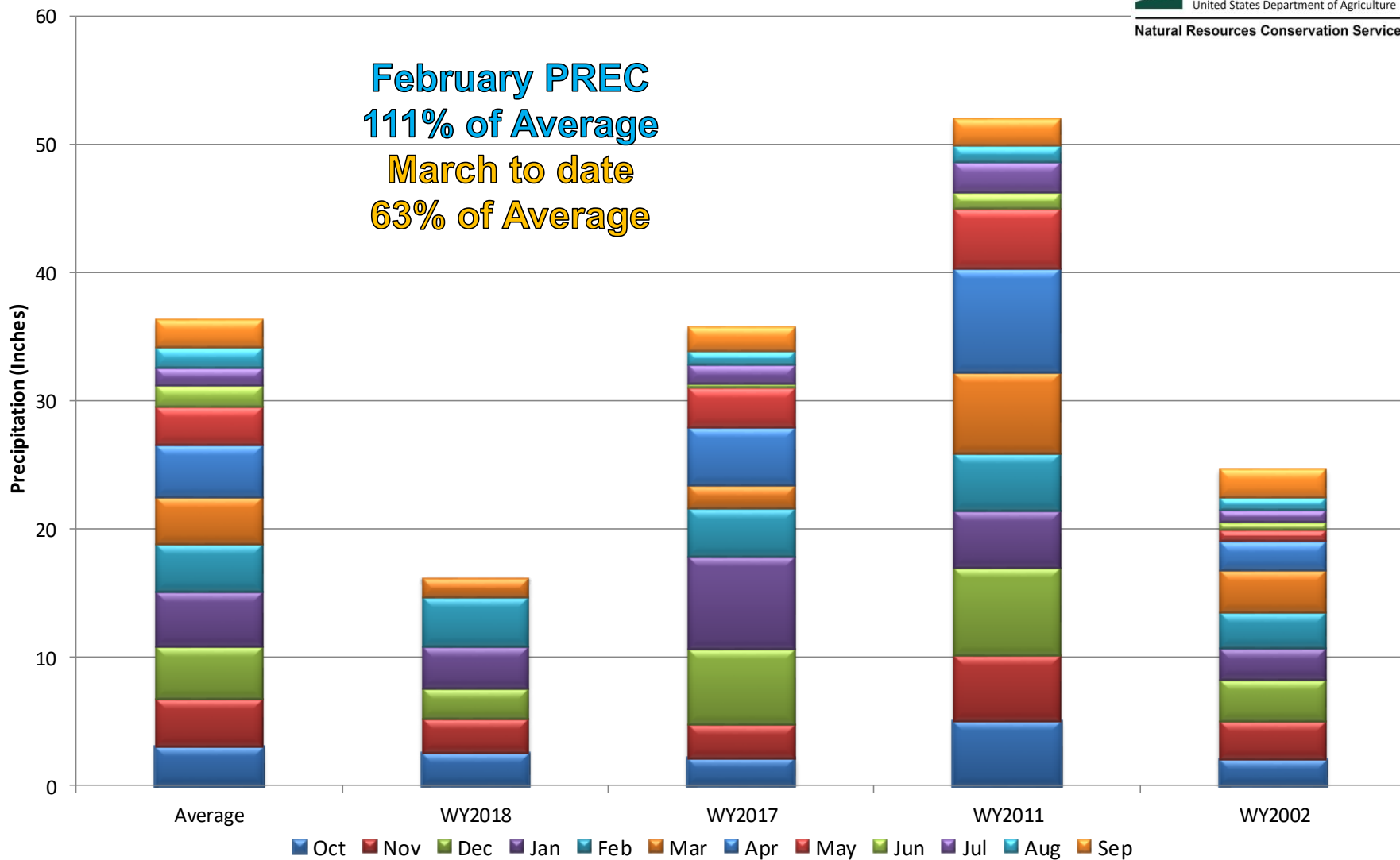
Based on Provisional SNOTEL data as of Mar 22, 2018



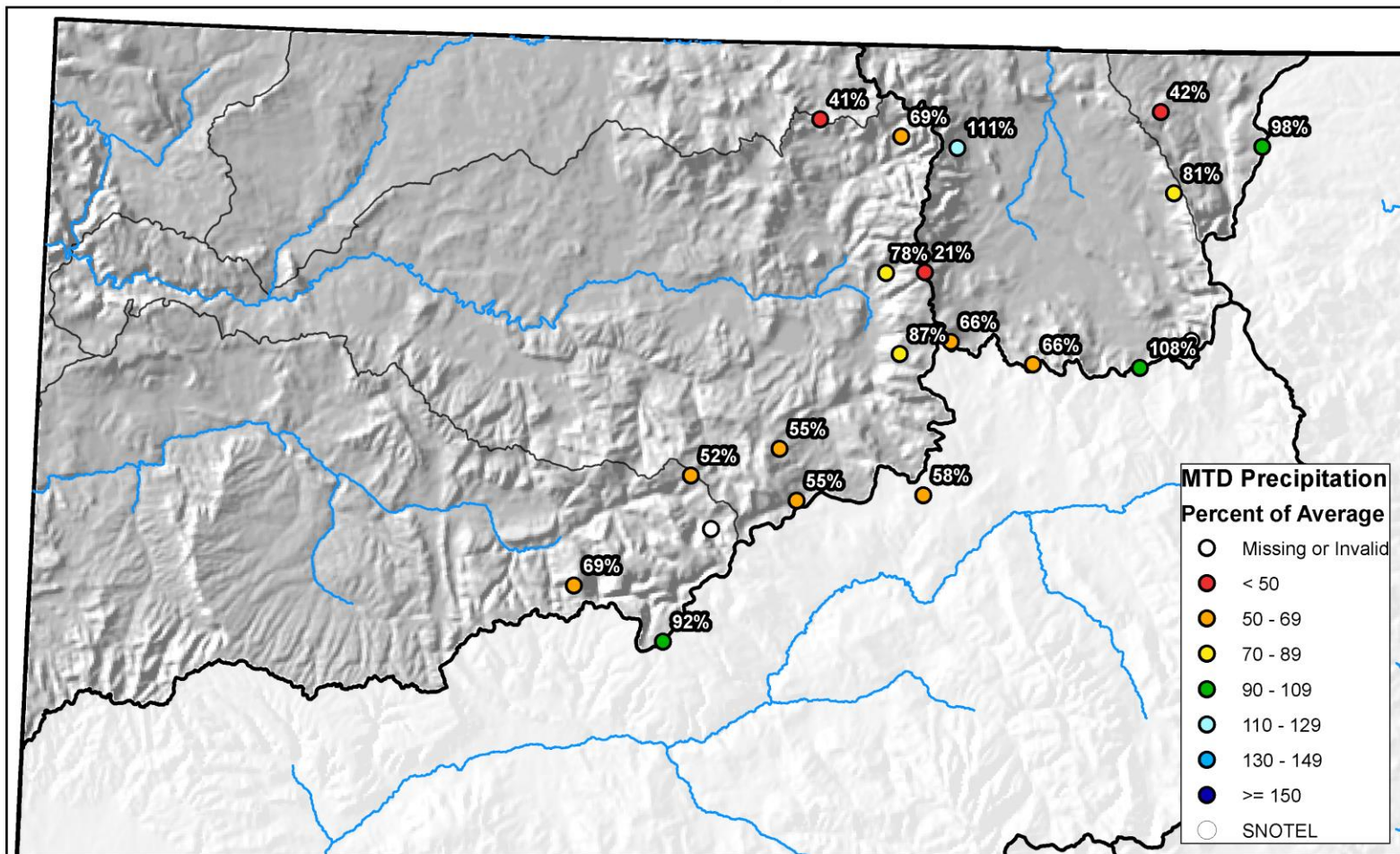
United States Department of Agriculture

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February PREC
111% of Average
March to date
63% of Average



Yampa, White, and North Platte River Basins Month to Date Precipitation Summary Current as of Mar 22, 2018



0 10 20 40 60 80 Miles

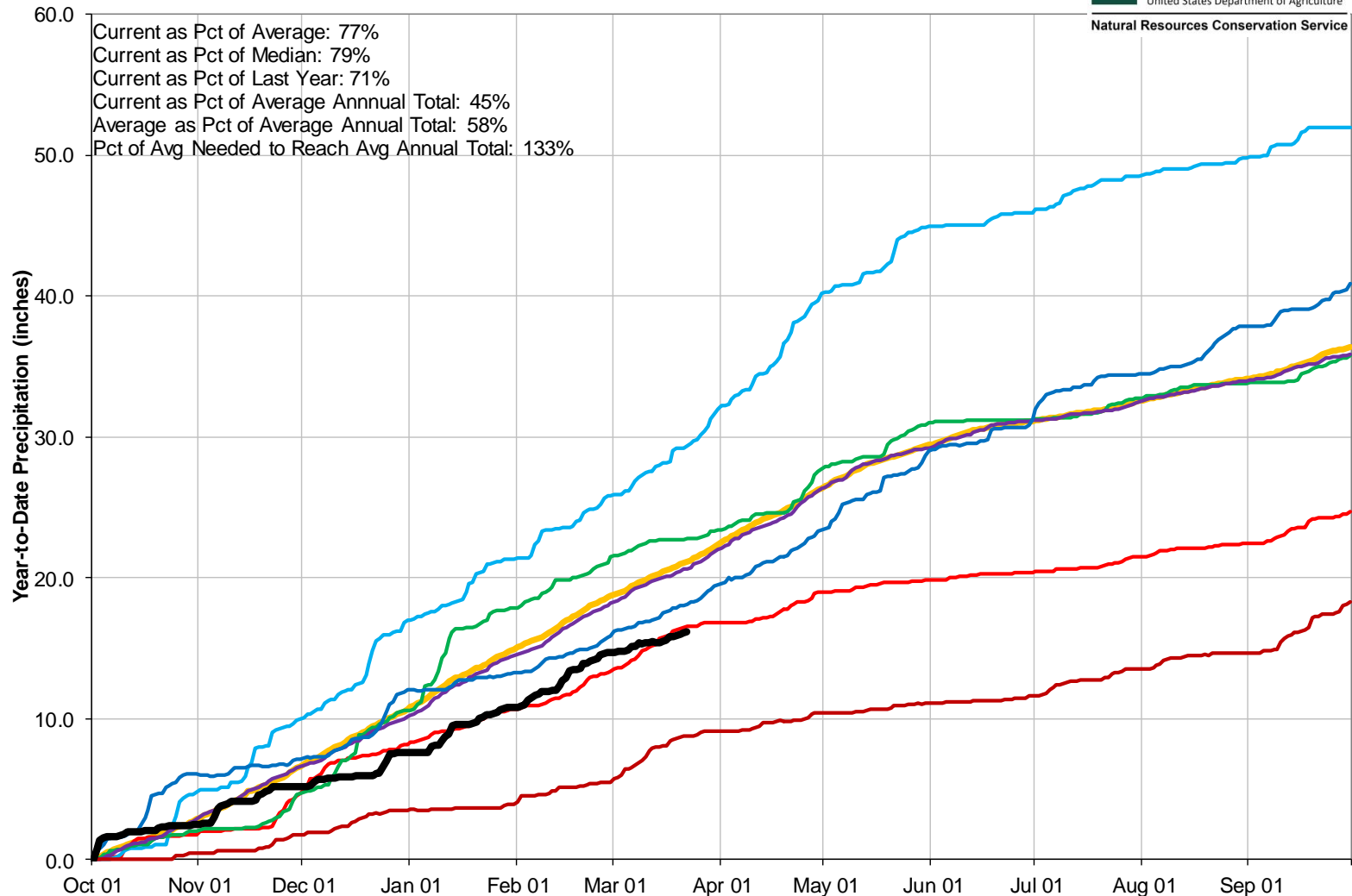
Yampa and White River Basins High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018

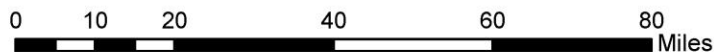
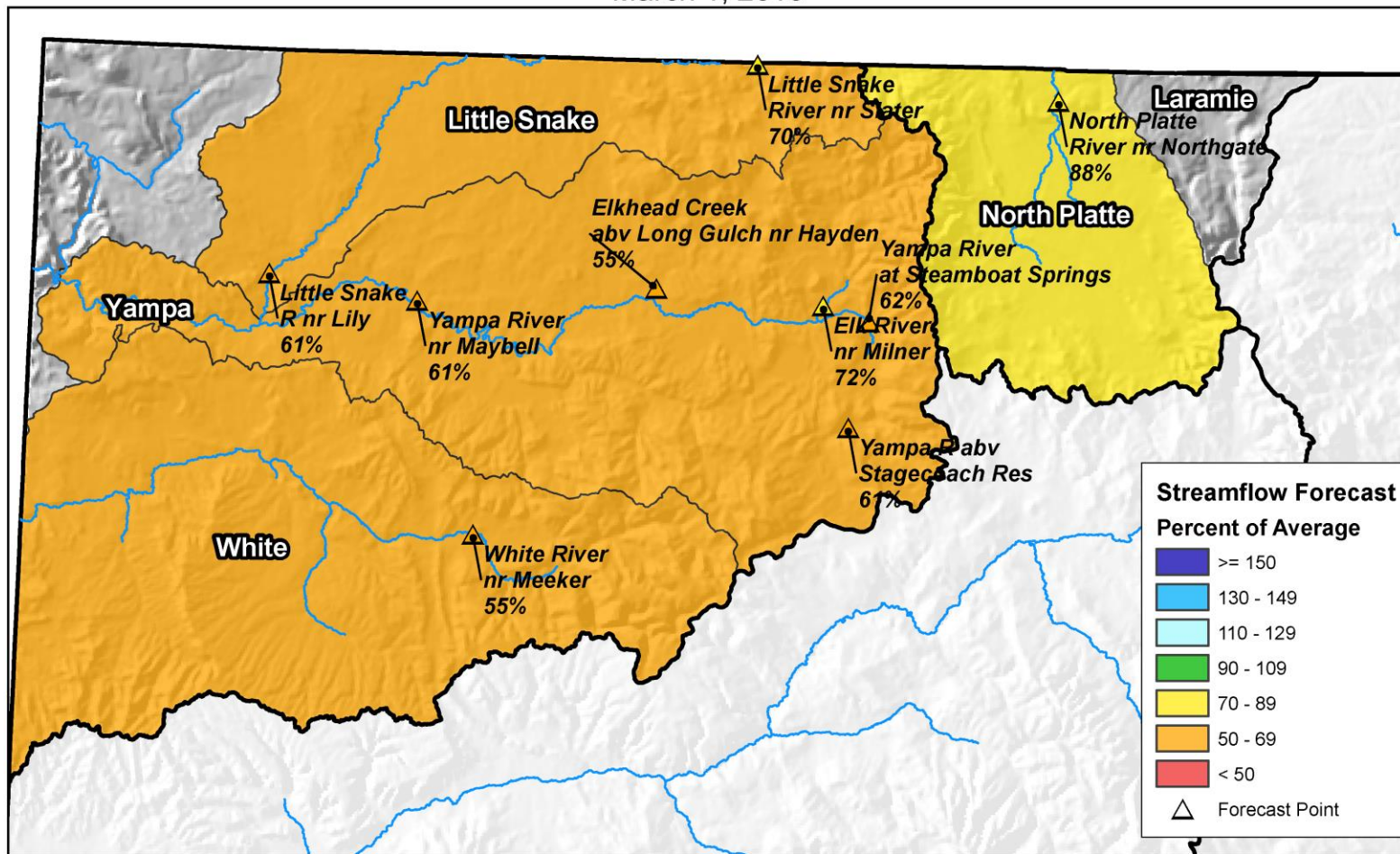


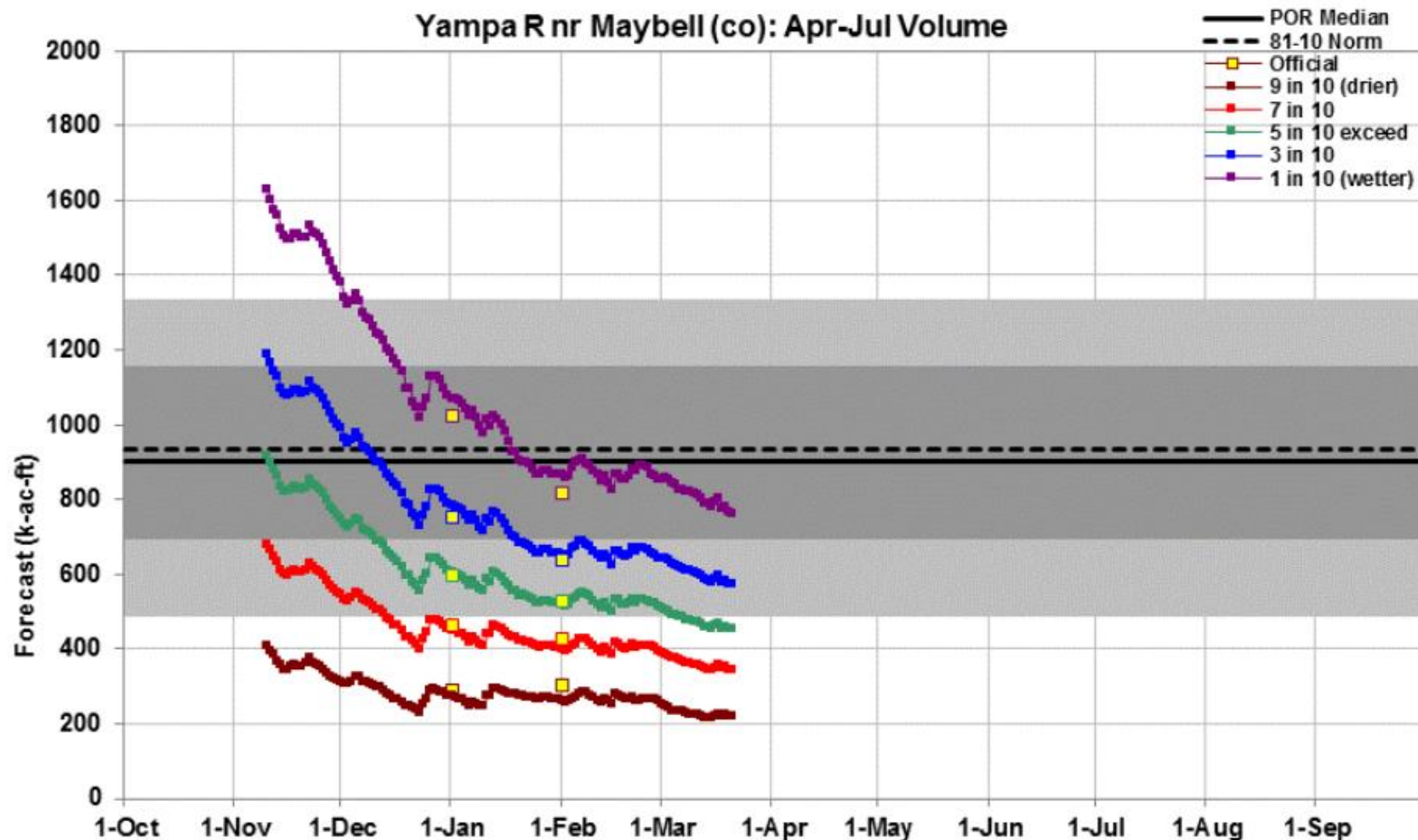
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Yampa, White, and North Platte River Basins Streamflow Forecast Summary March 1, 2018

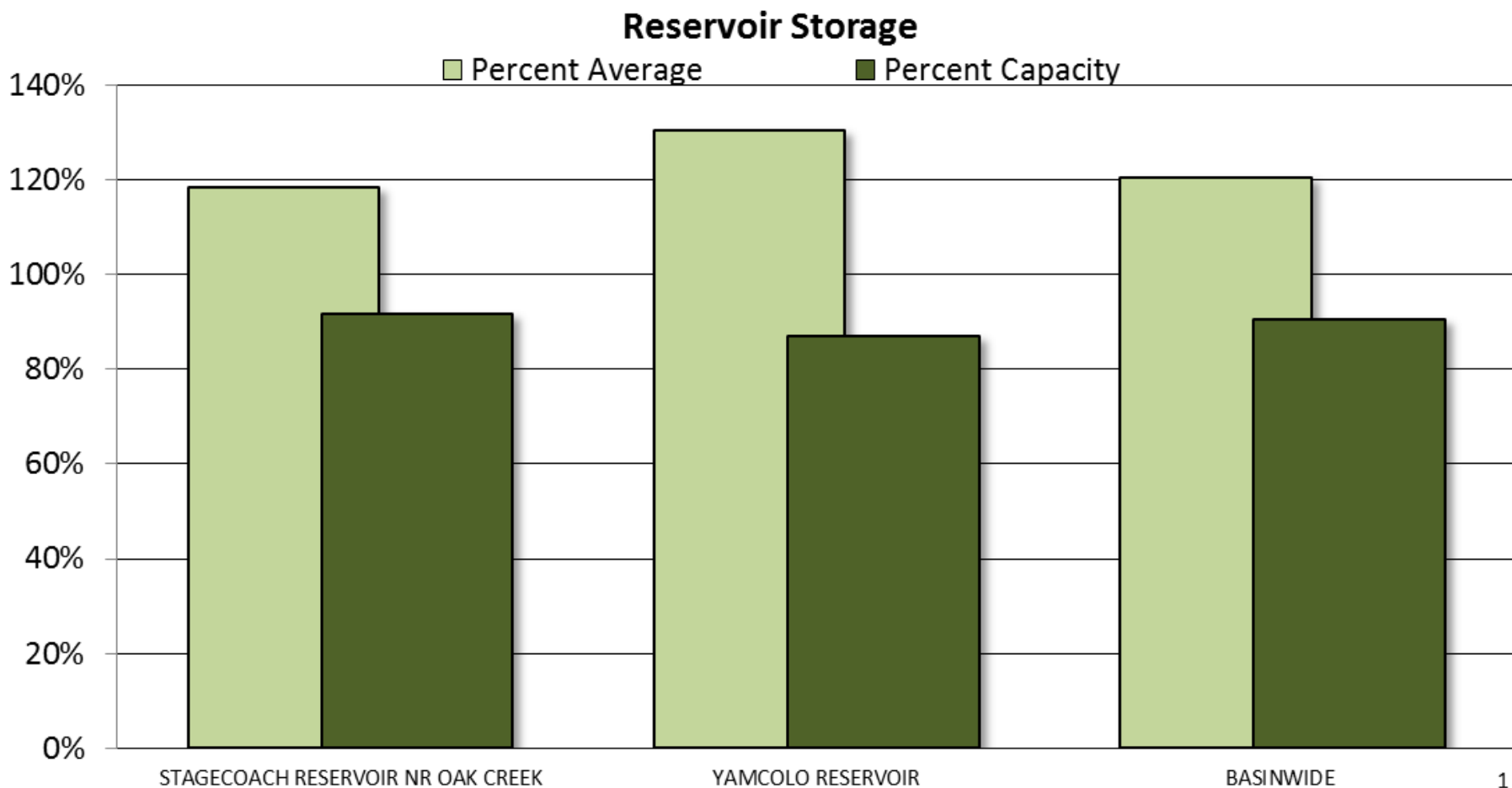




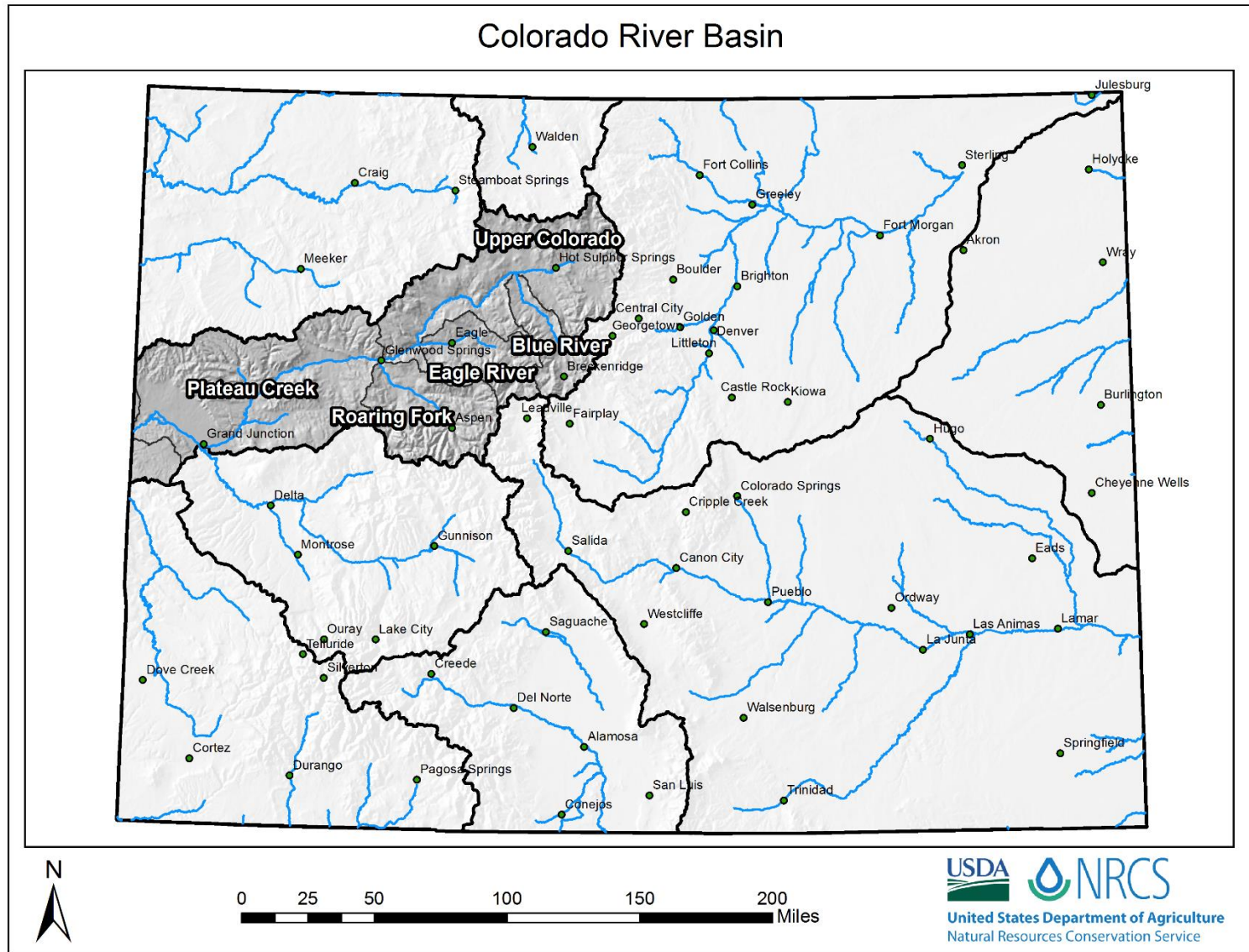
Created 7:47 Mar 21 2018



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



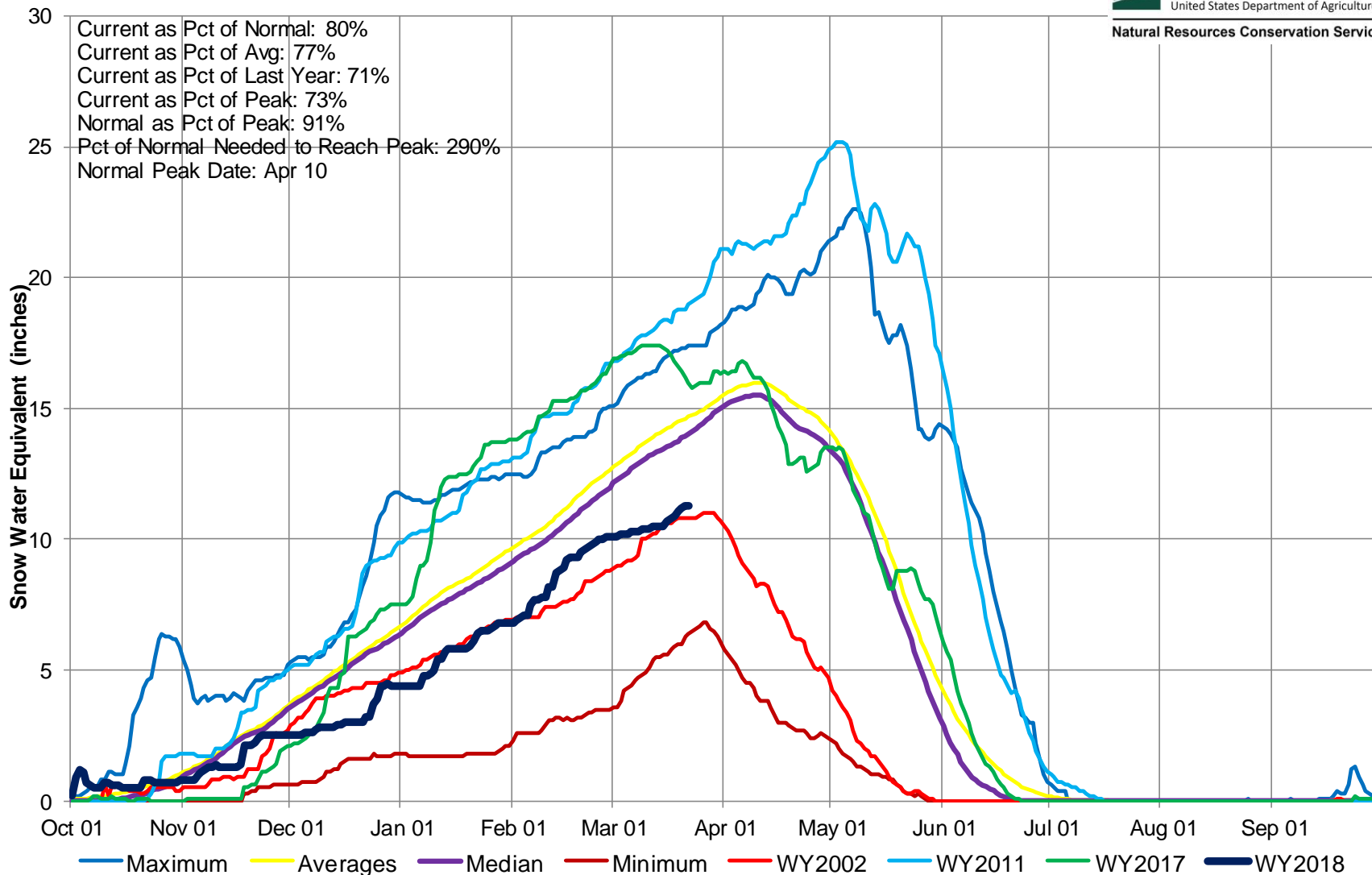
Upper Colorado River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



United States Department of Agriculture

Natural Resources Conservation Service



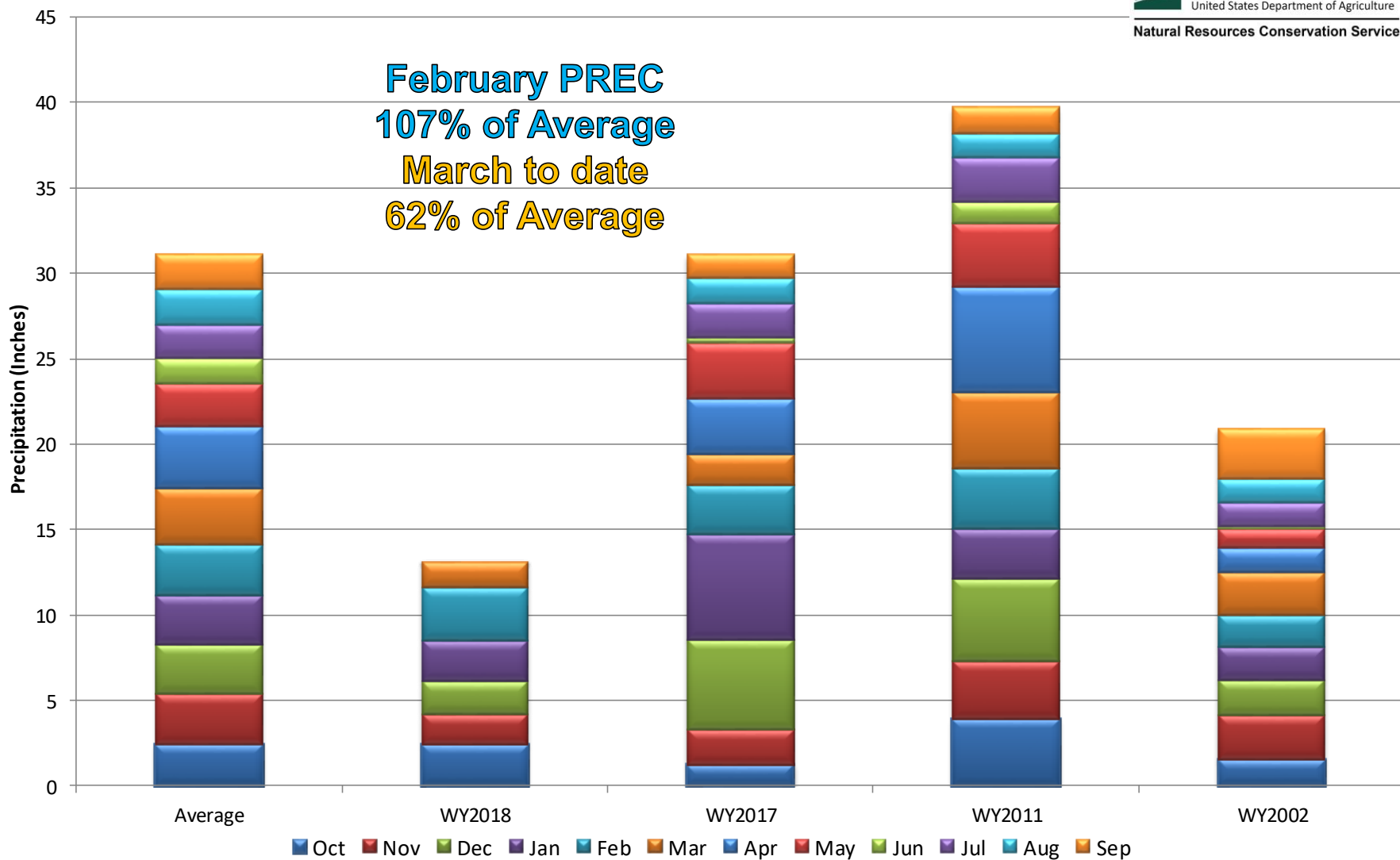
Upper Colorado River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



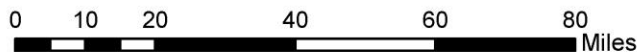
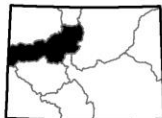
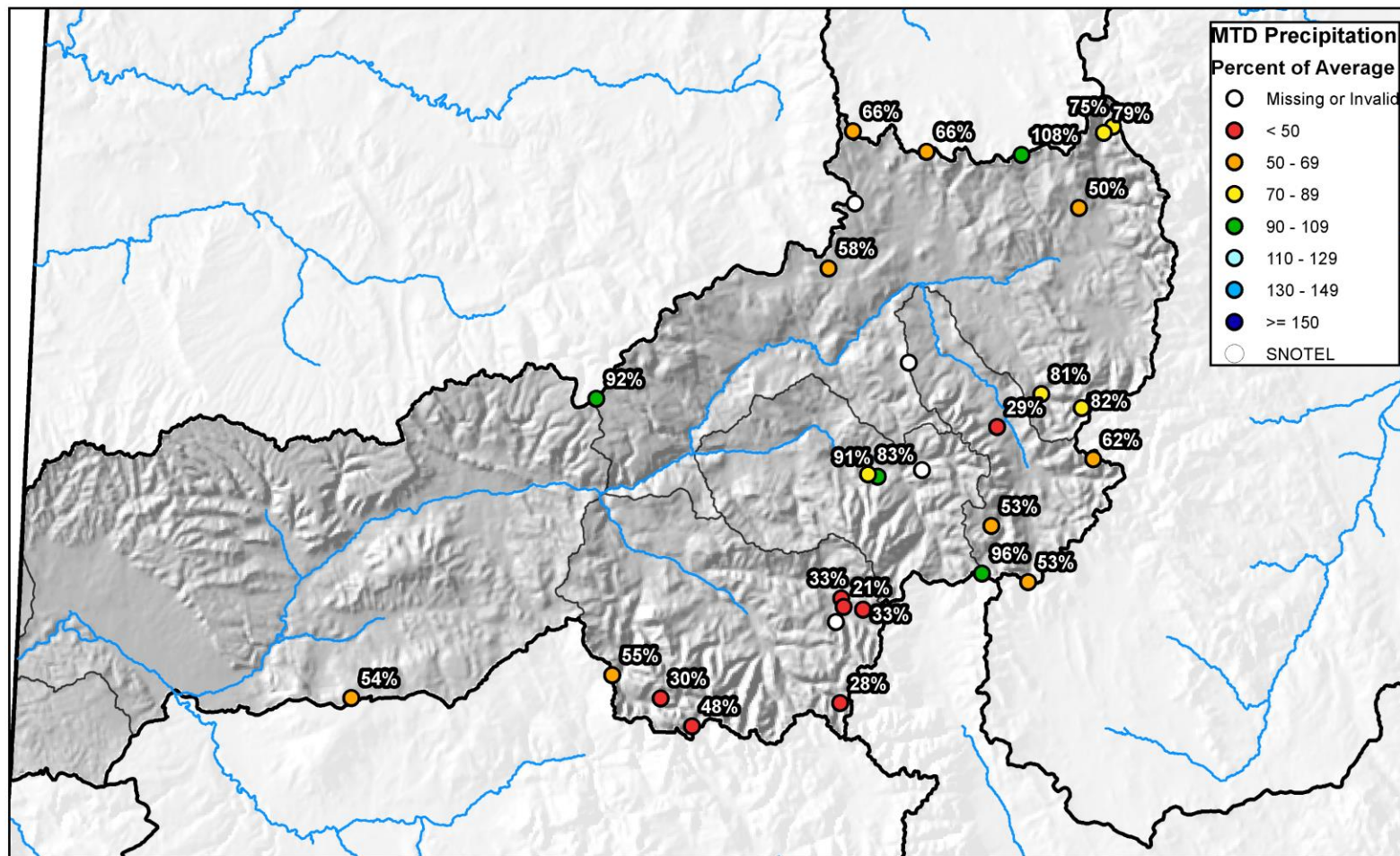
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Upper Colorado River Basin Month to Date Precipitation Summary

Current as of Mar 22, 2018





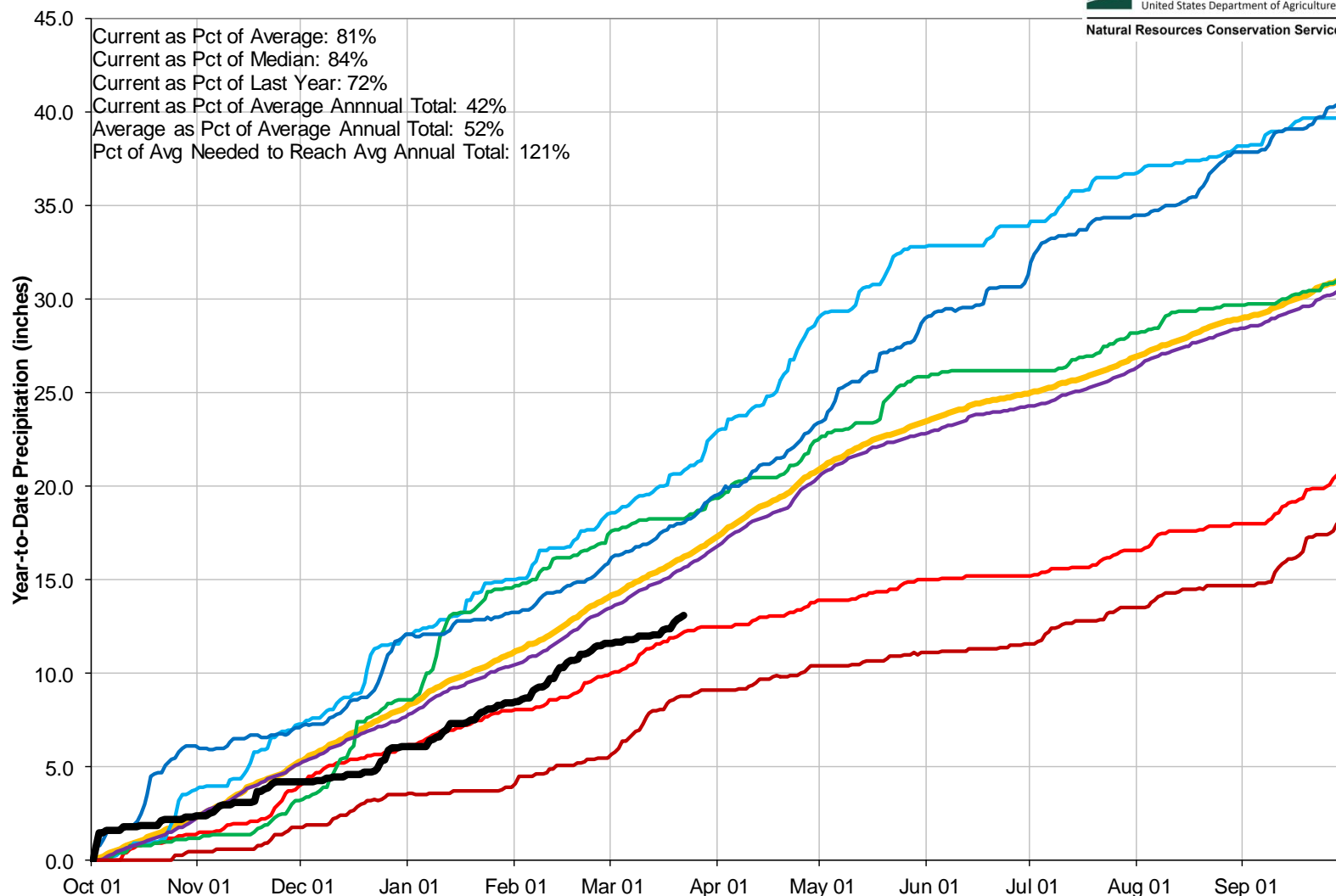
Upper Colorado River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



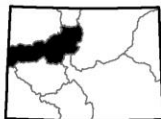
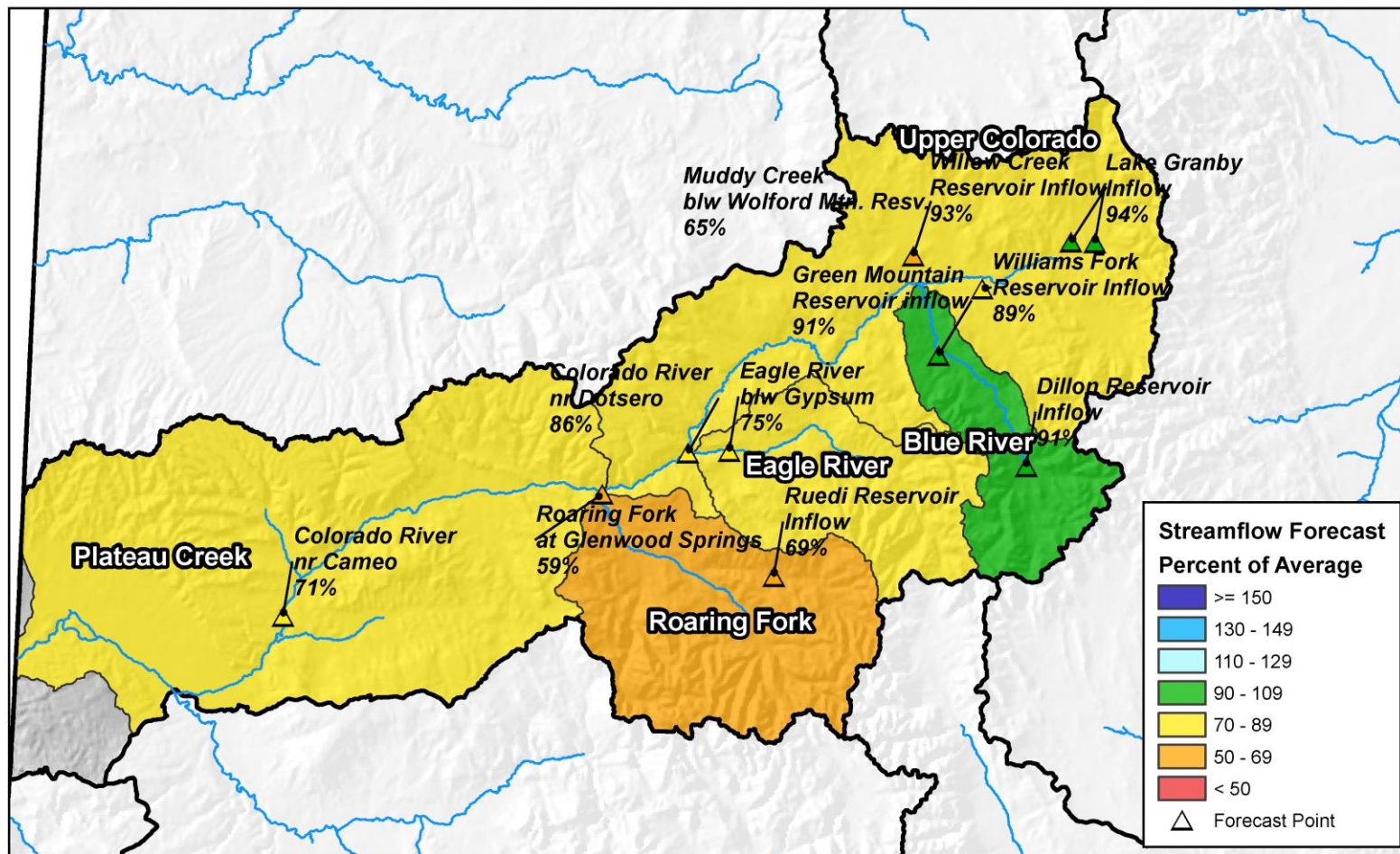
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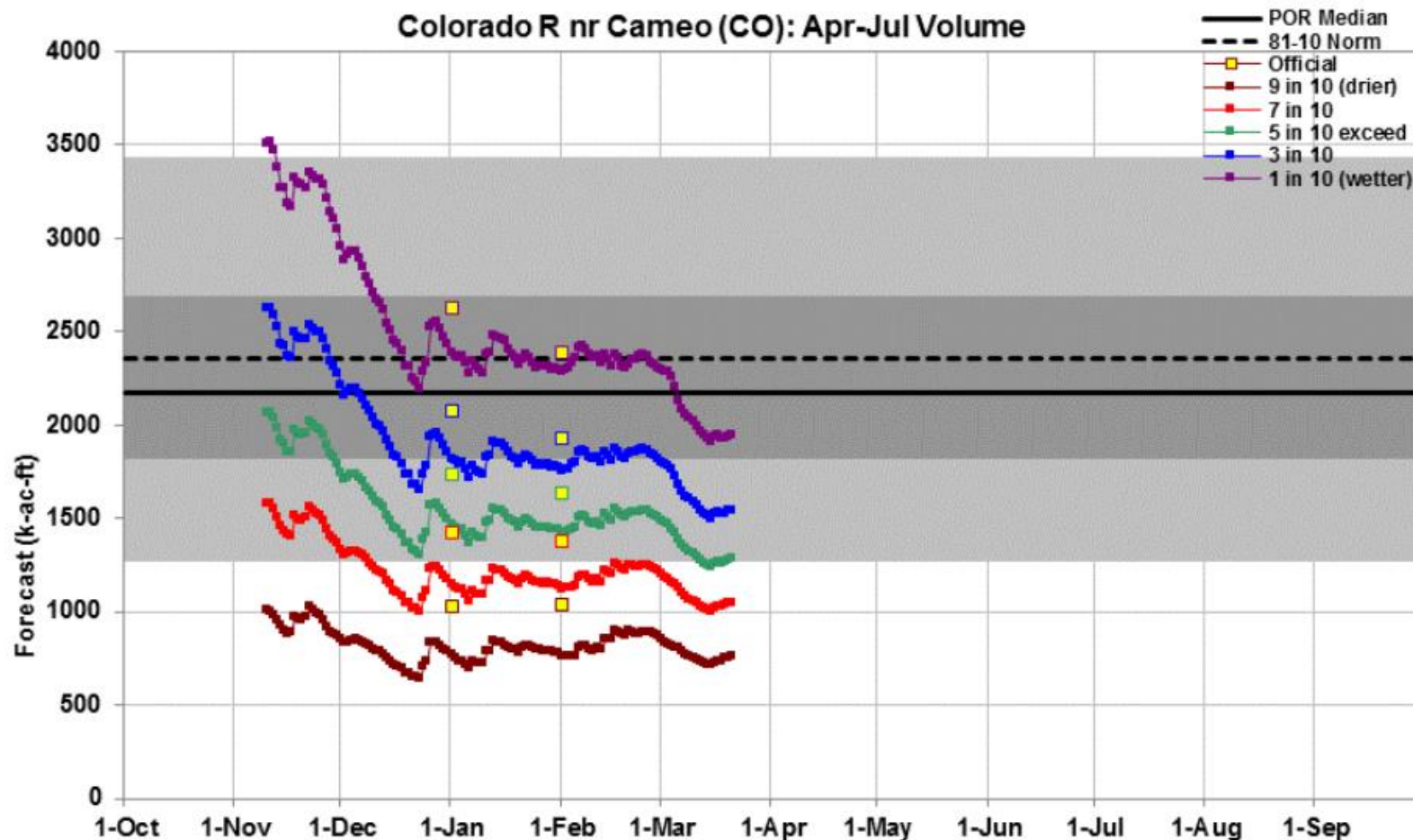


Upper Colorado River Basin Streamflow Forecast Summary

March 1, 2018



0 10 20 40 60 80 Miles



Created 7:32 Mar 21 2018

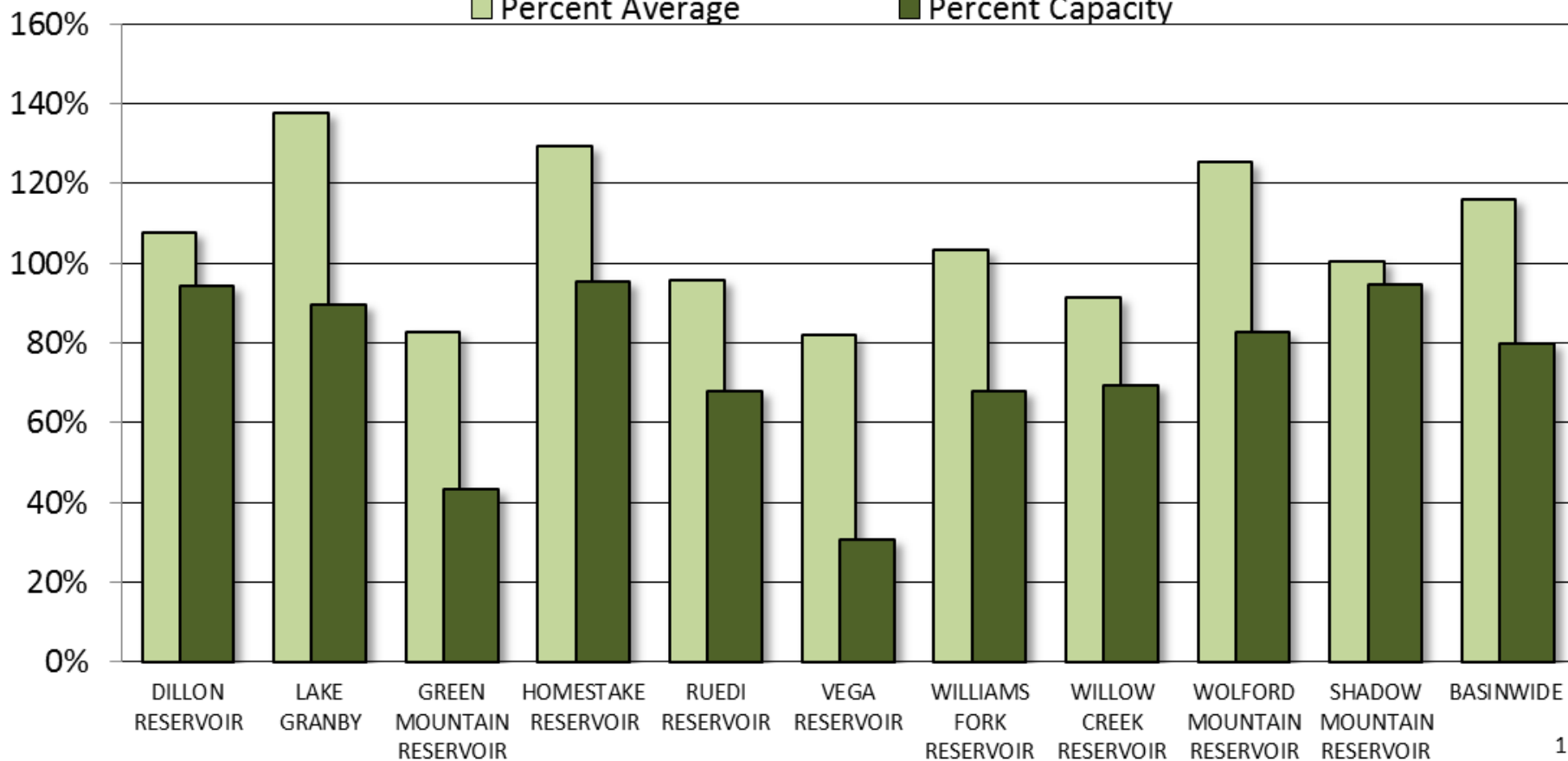


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Reservoir Storage

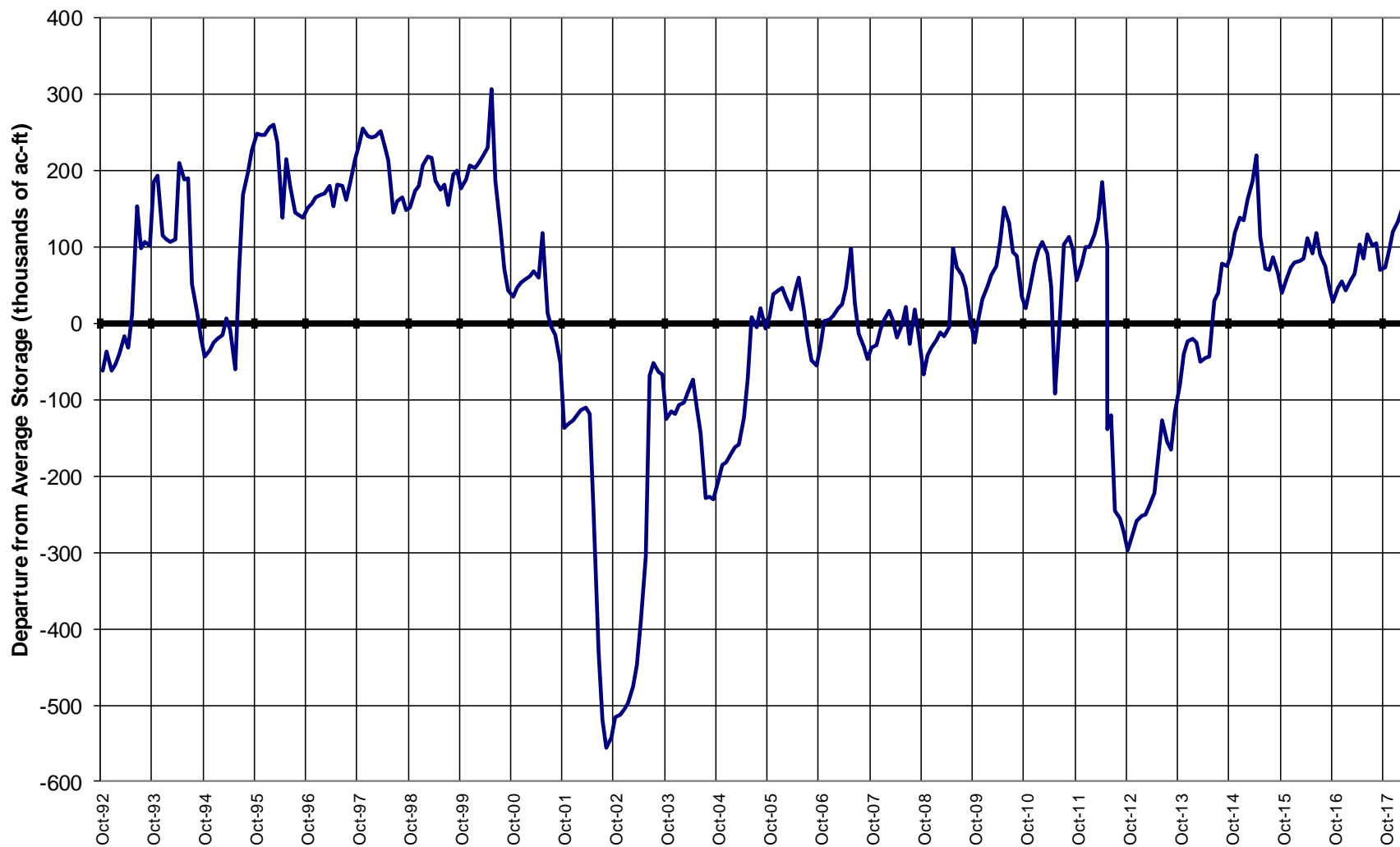
■ Percent Average

■ Percent Capacity



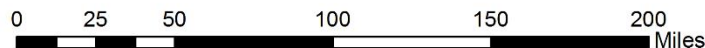
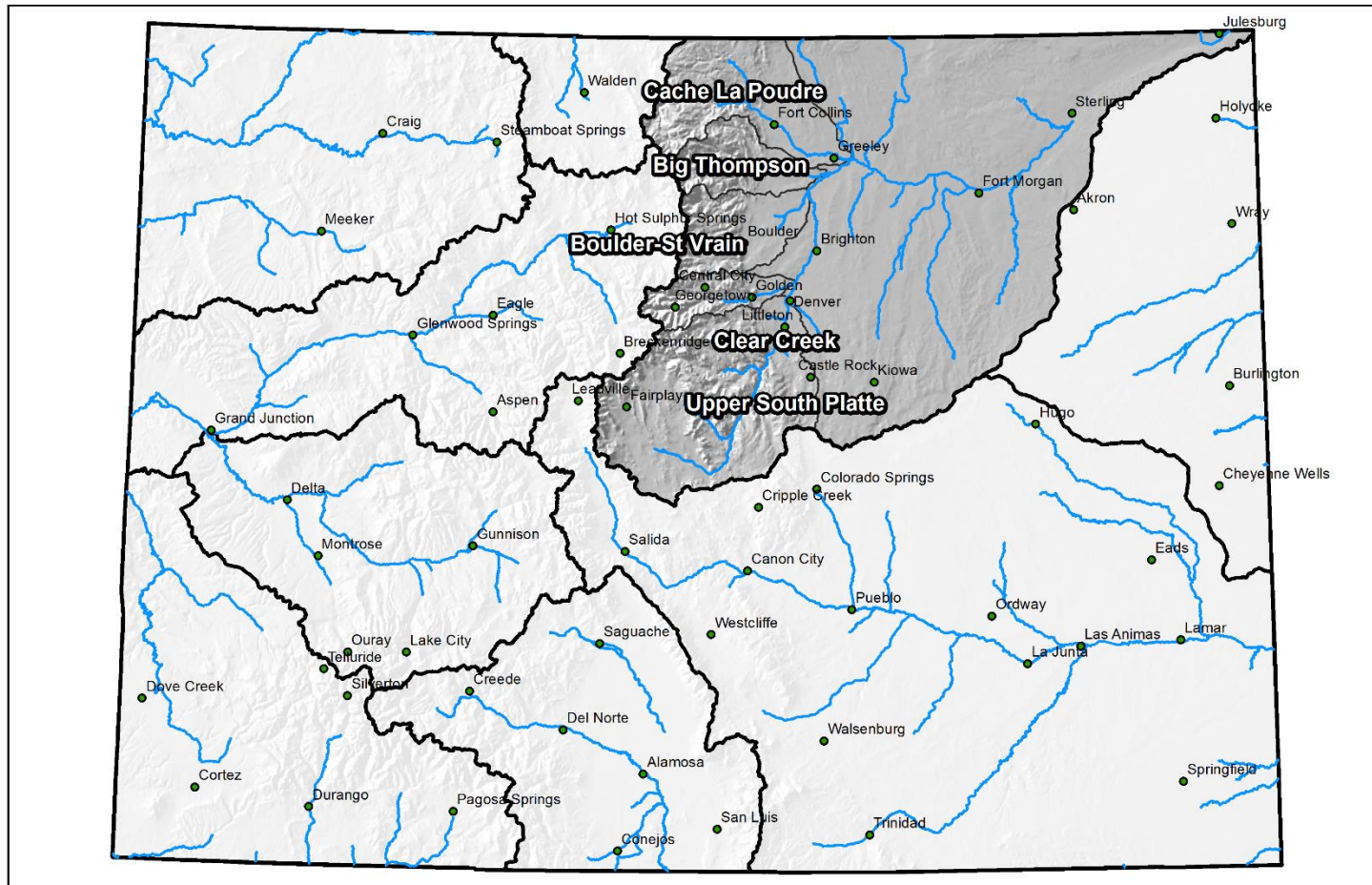


COLORADO RIVER BASIN Reservoir Storage Departure from Average



Major Basin Summary

South Platte River Basin





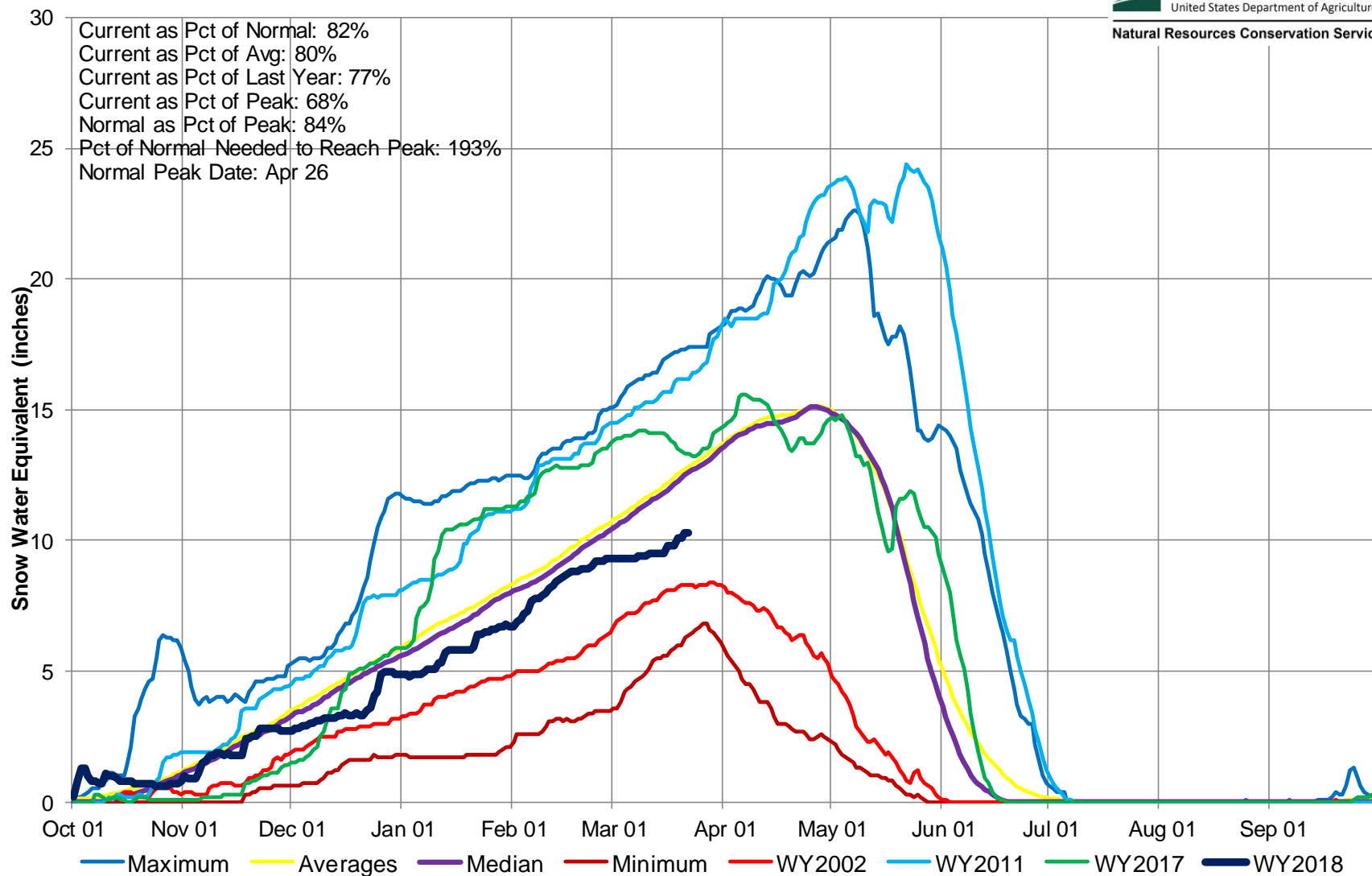
South Platte River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



United States Department of Agriculture

Natural Resources Conservation Service



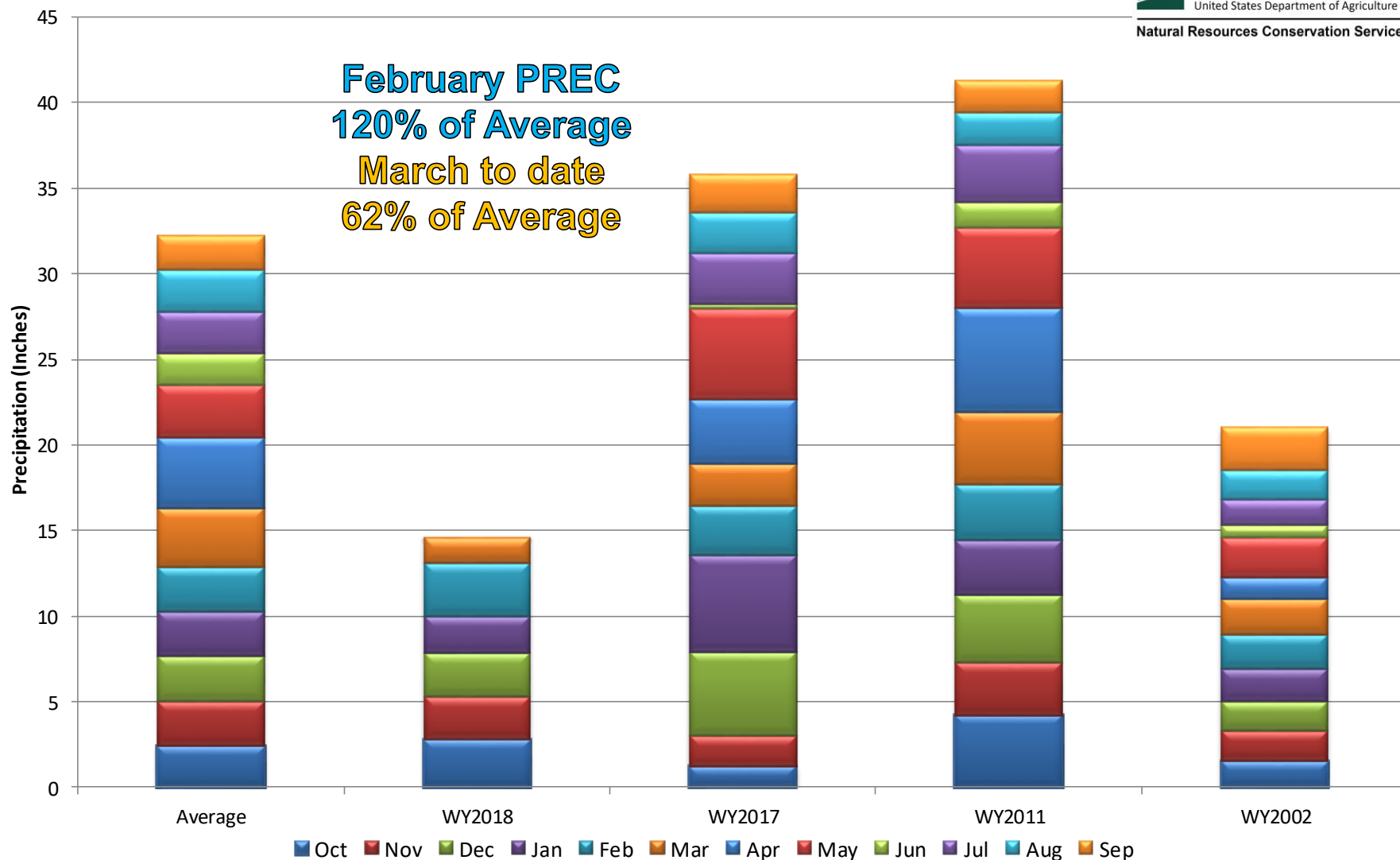
South Platte River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



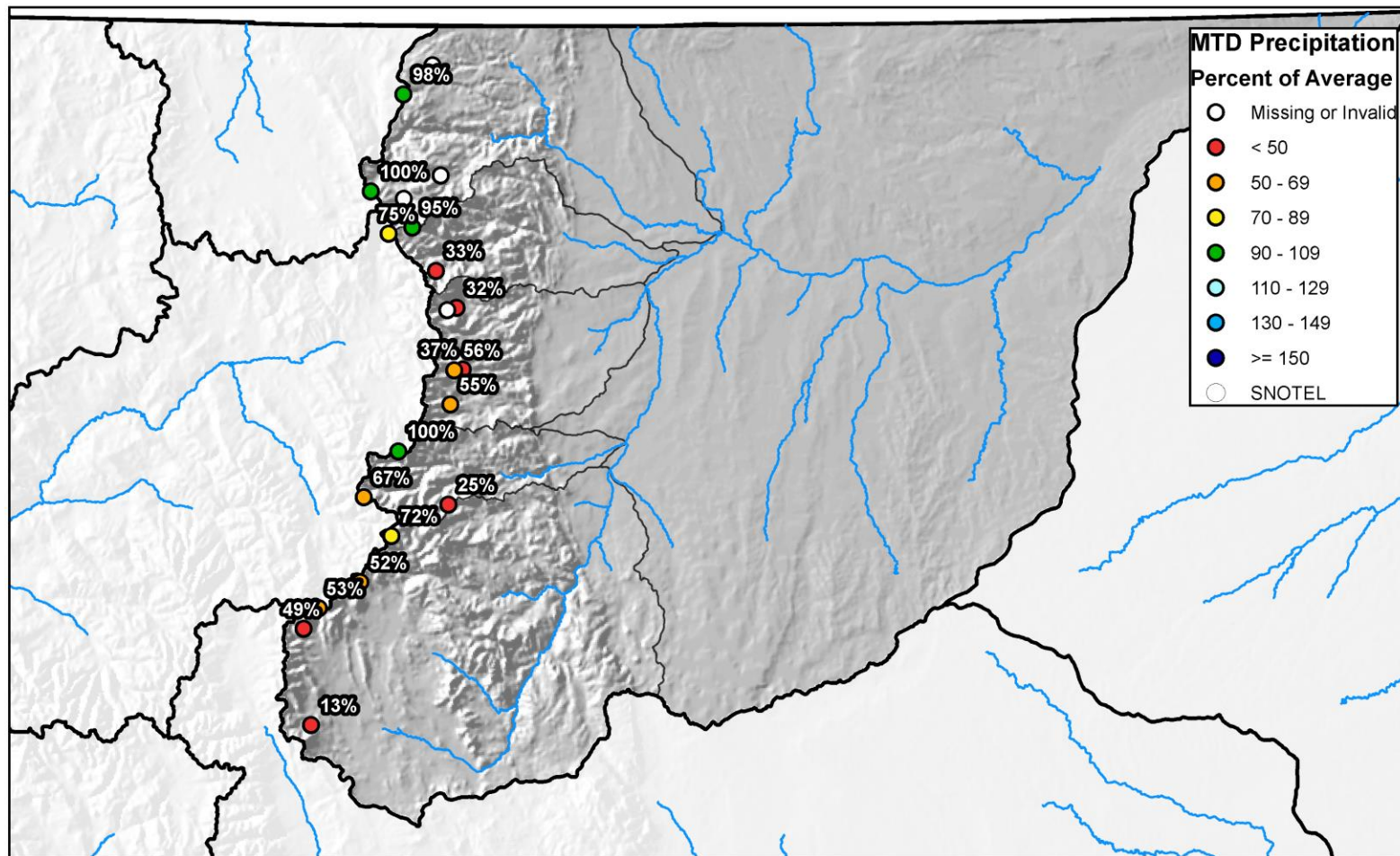
United States Department of Agriculture

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South Platte River Basin Month to Date Precipitation Summary

Current as of Mar 22, 2018



0 10 20 40 60 80 Miles

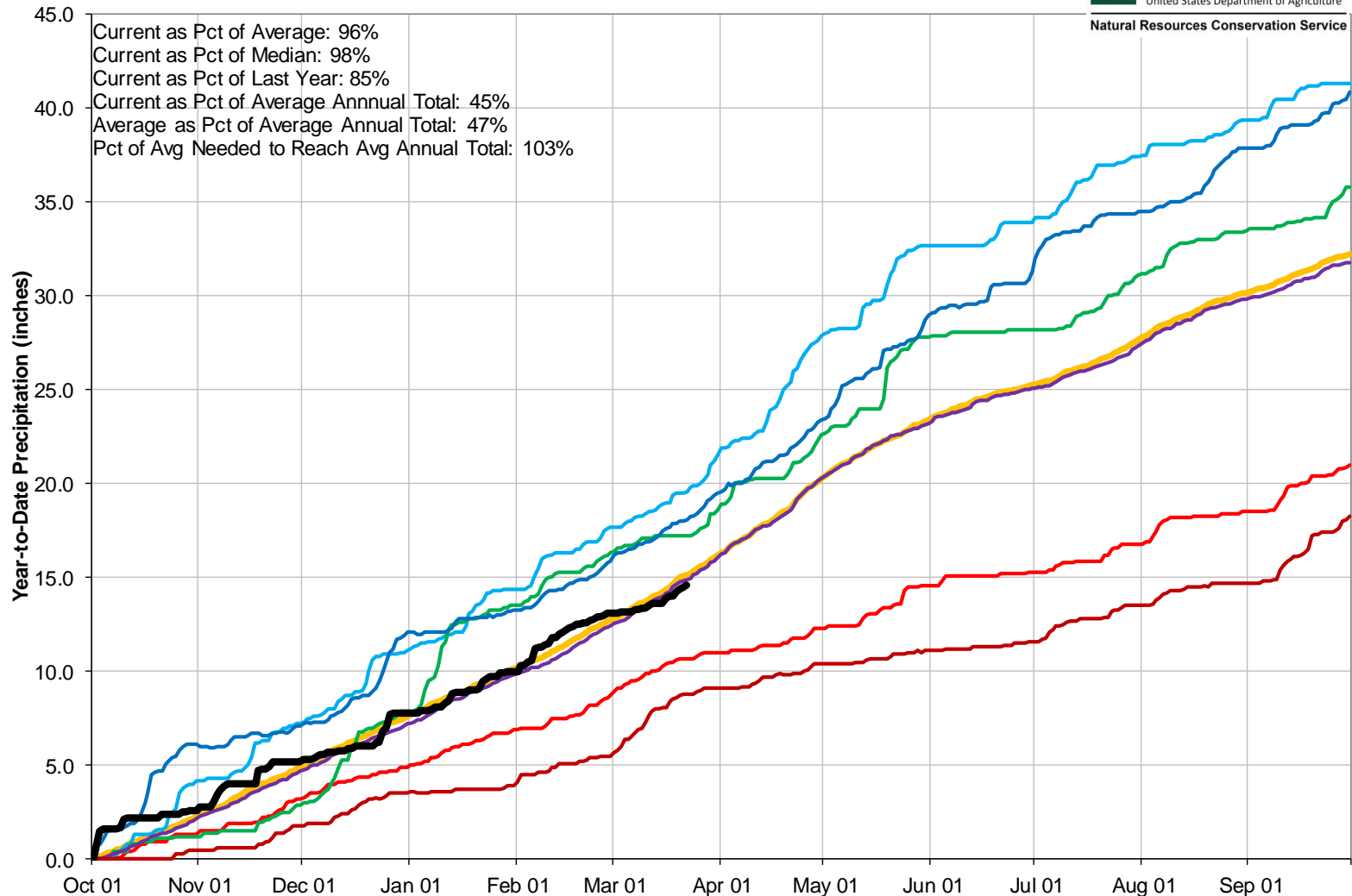
South Platte River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



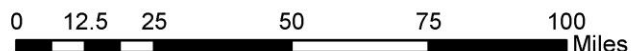
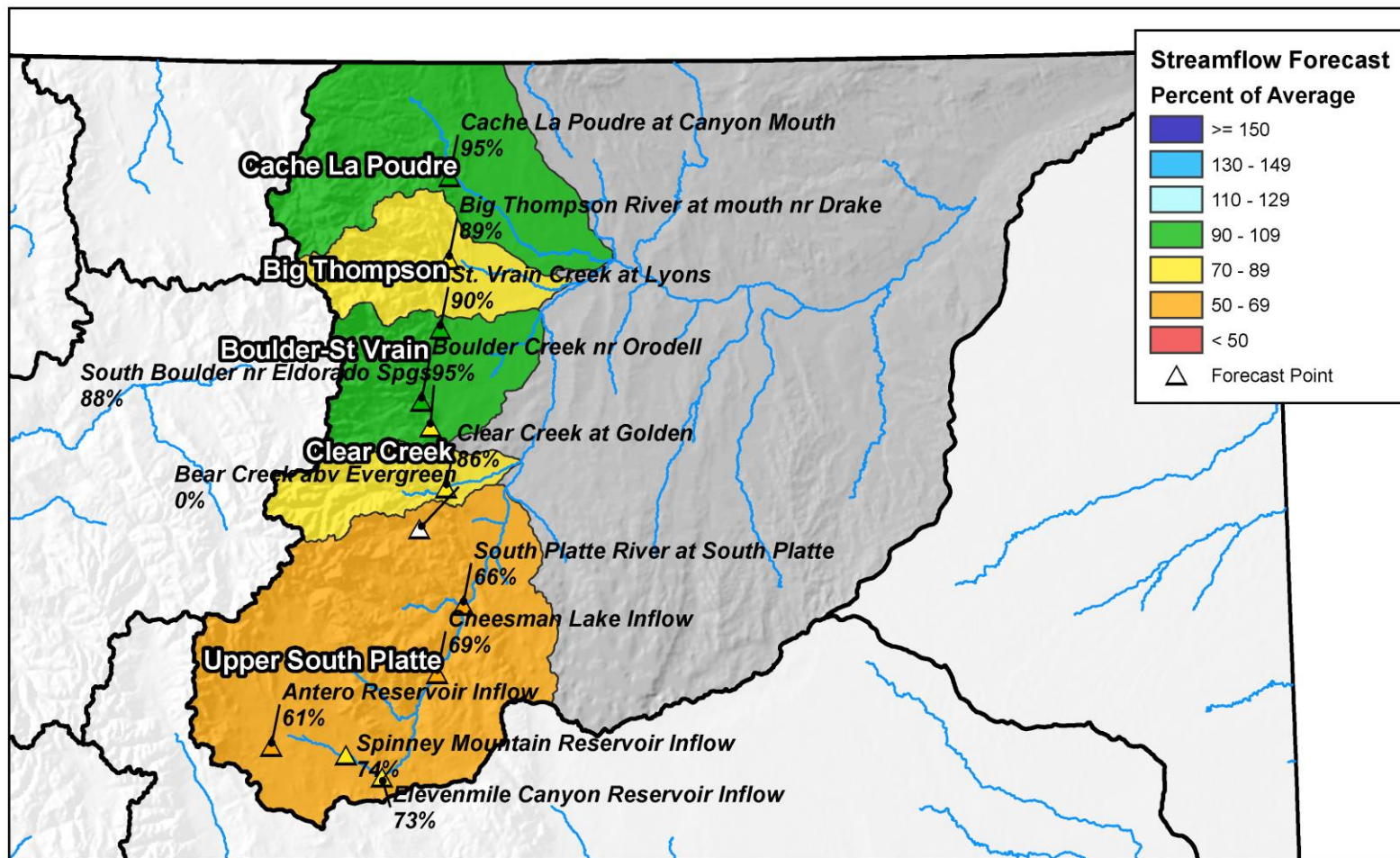
United States Department of Agriculture

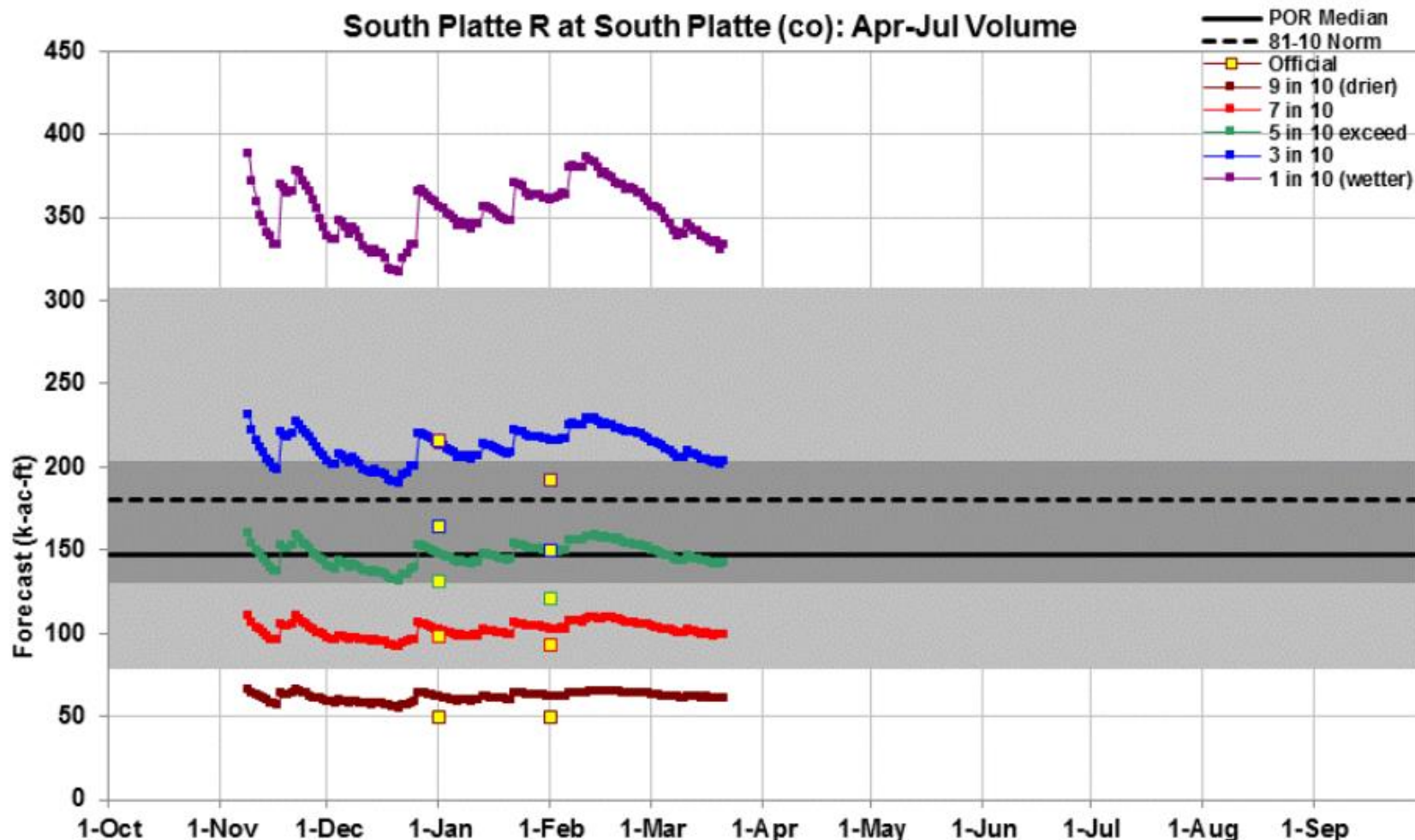
Natural Resources Conservation Service



South Platte River Basin Streamflow Forecast Summary

March 1, 2018

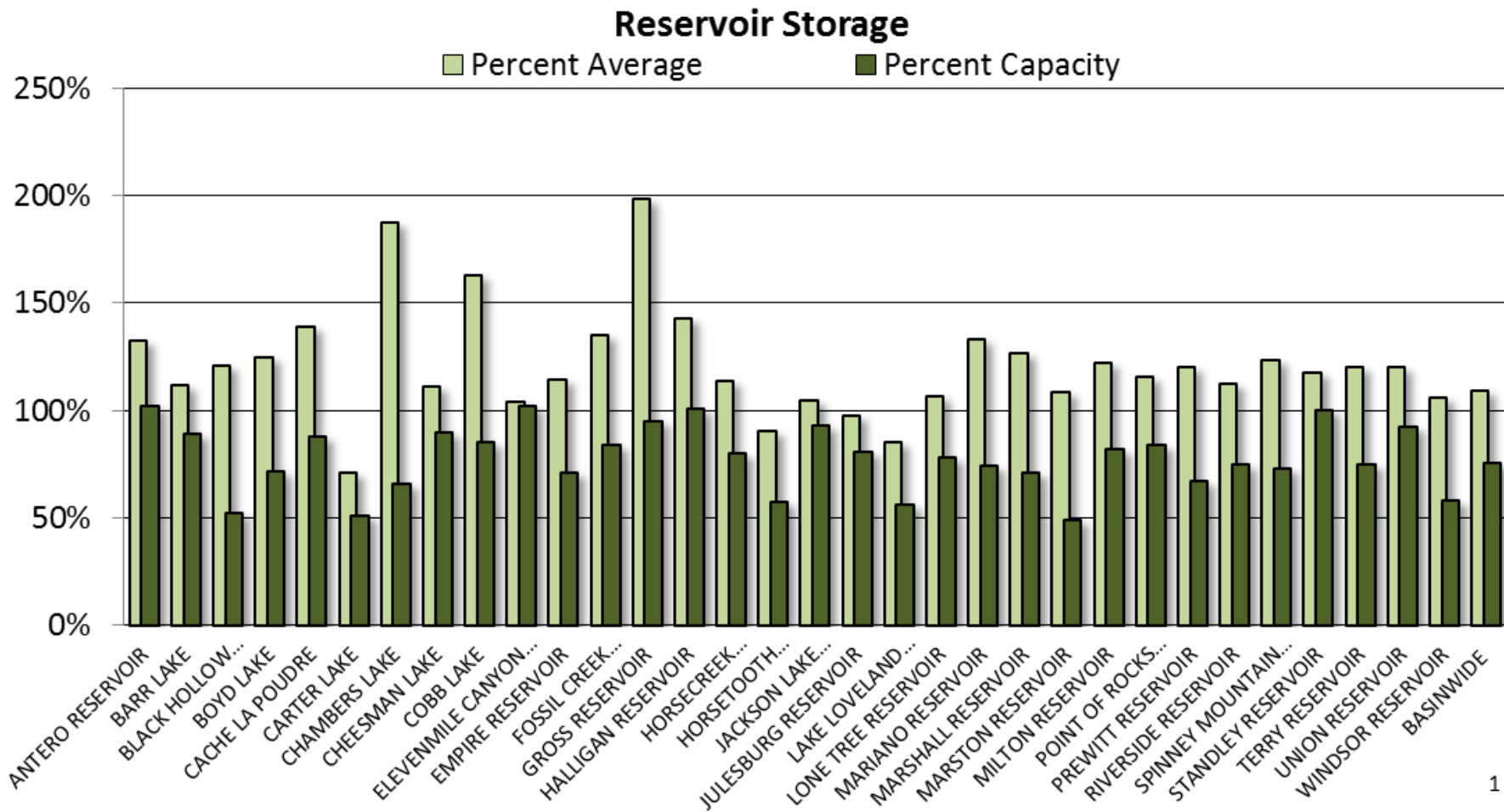




Created 6:56 Mar 21 2018

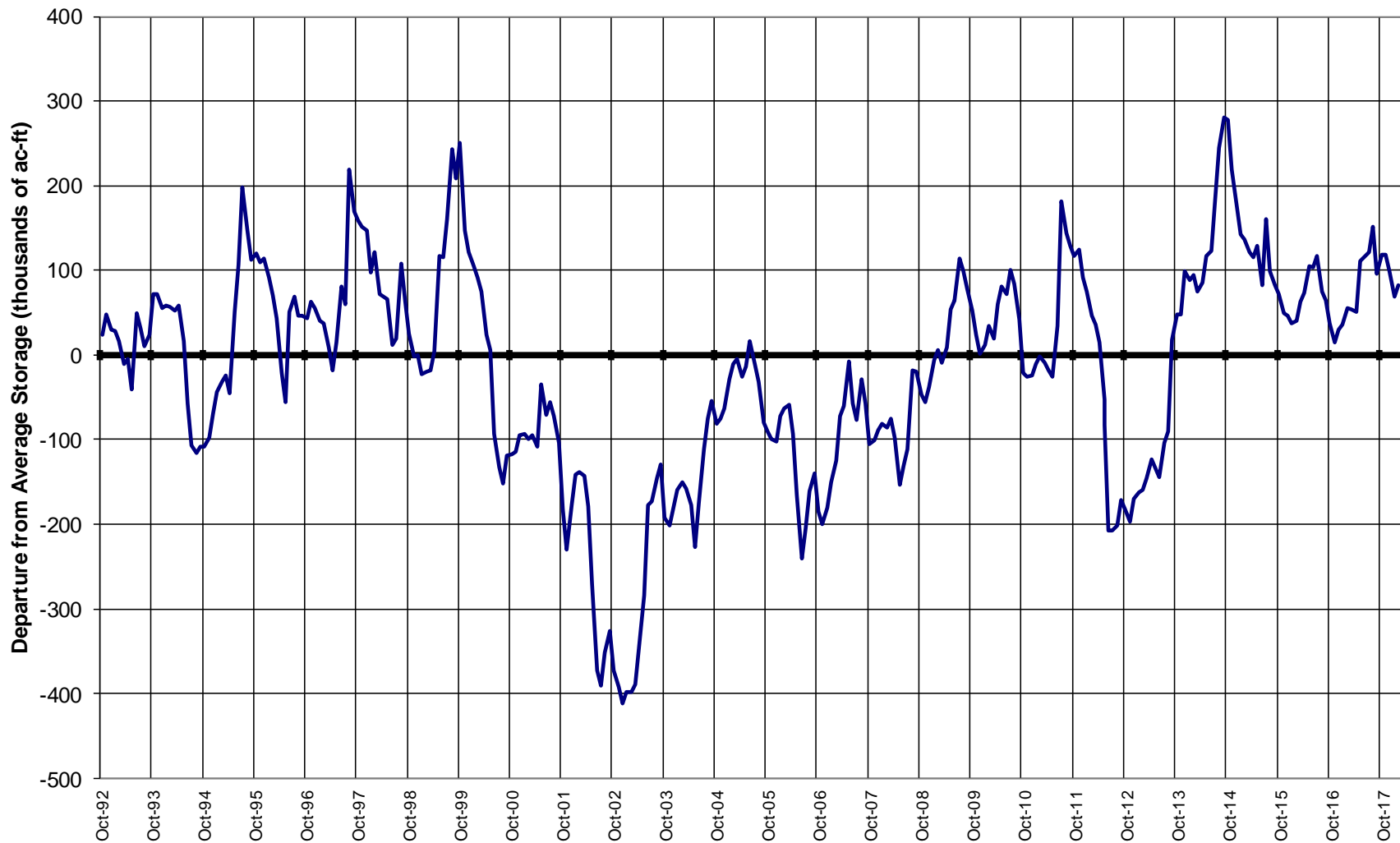


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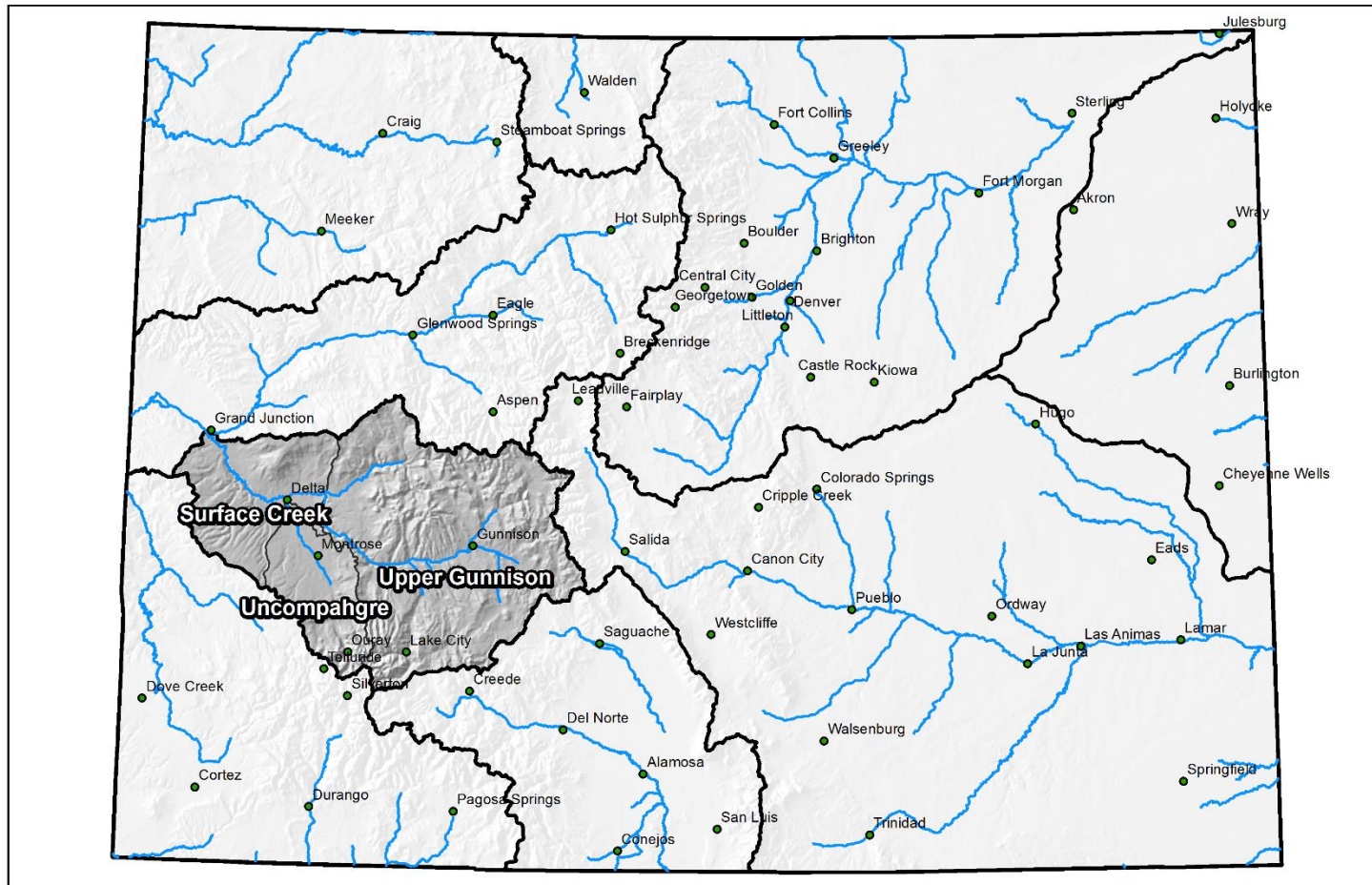


SOUTH PLATTE RIVER BASIN Reservoir Storage Departure from Average



Major Basin Summary

Gunnison River Basin



0 25 50 100 150 200 Miles



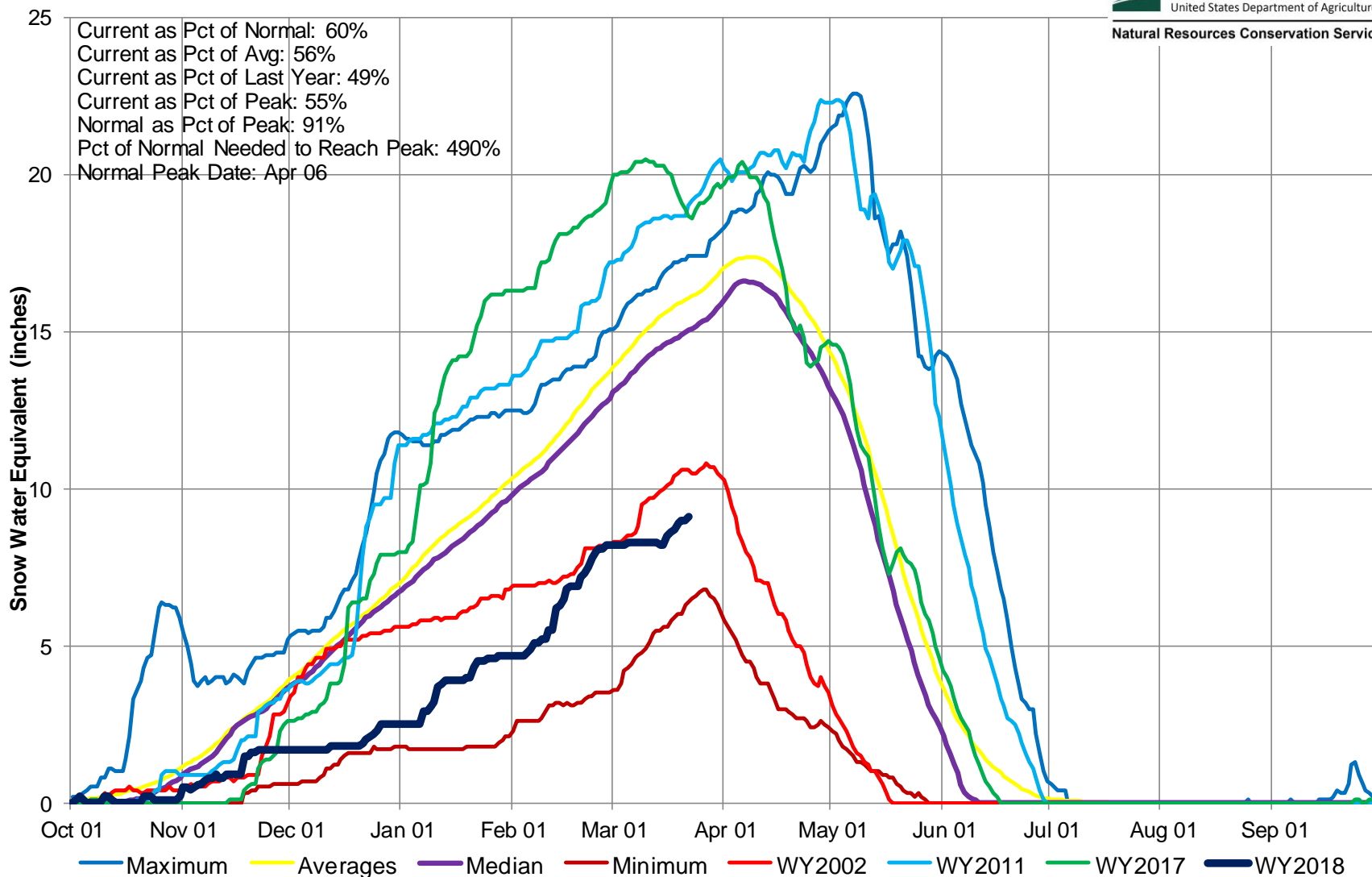
Gunnison River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



United States Department of Agriculture

Natural Resources Conservation Service



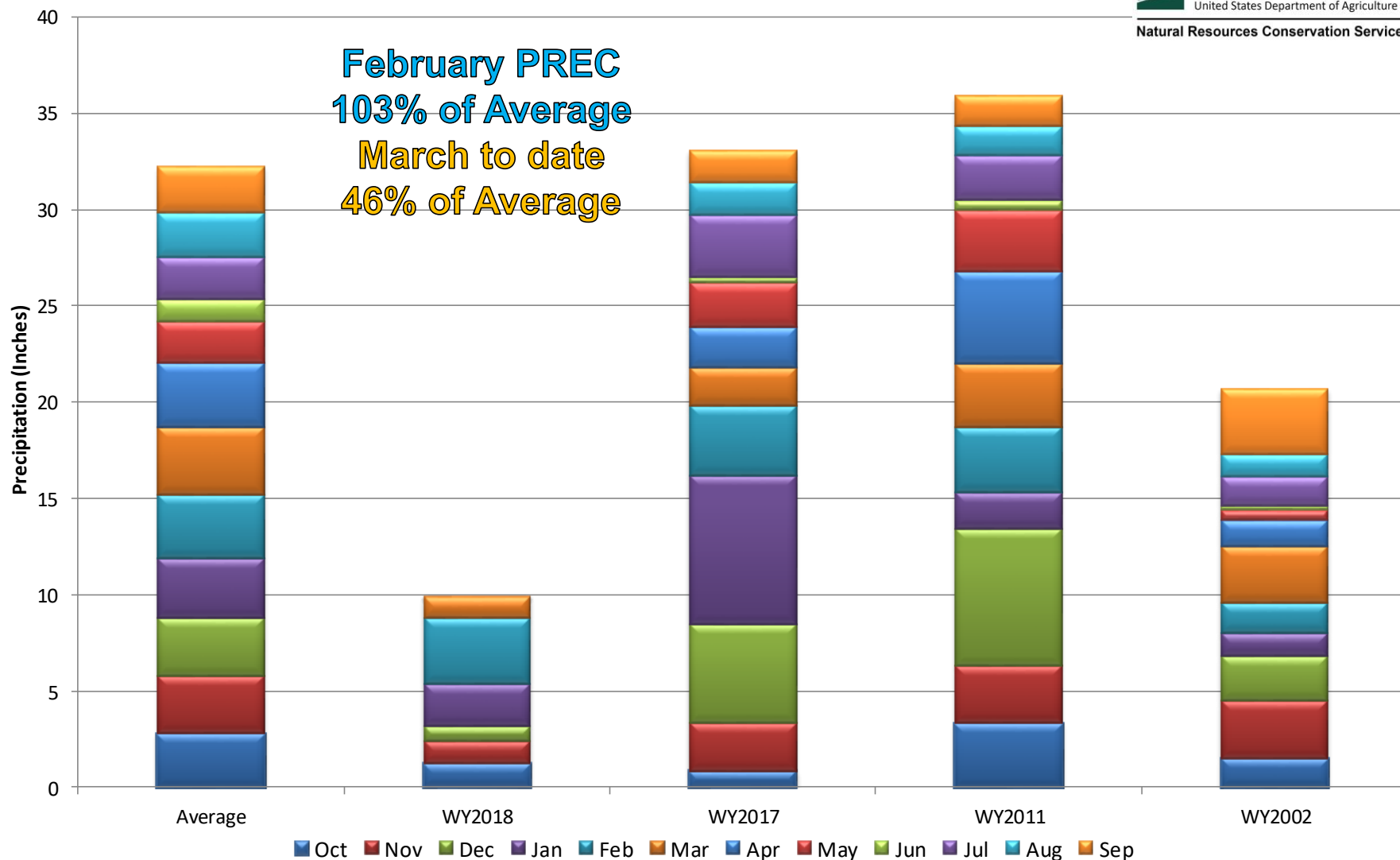
Gunnison River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



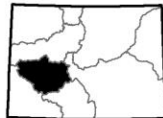
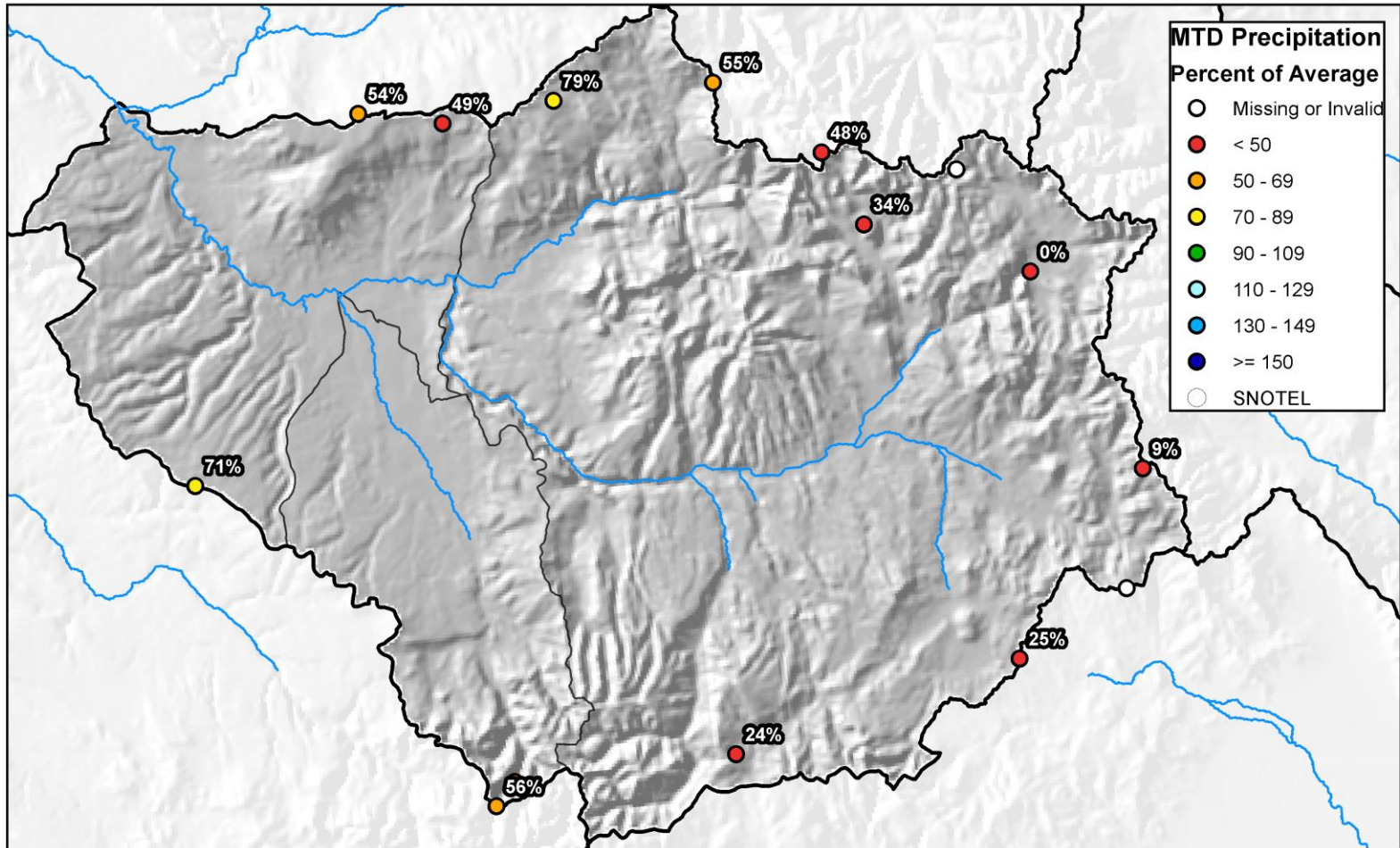
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Gunnison River Basin Month to Date Precipitation Summary

Current as of Mar 22, 2018



0 5 10 20 30 40 Miles

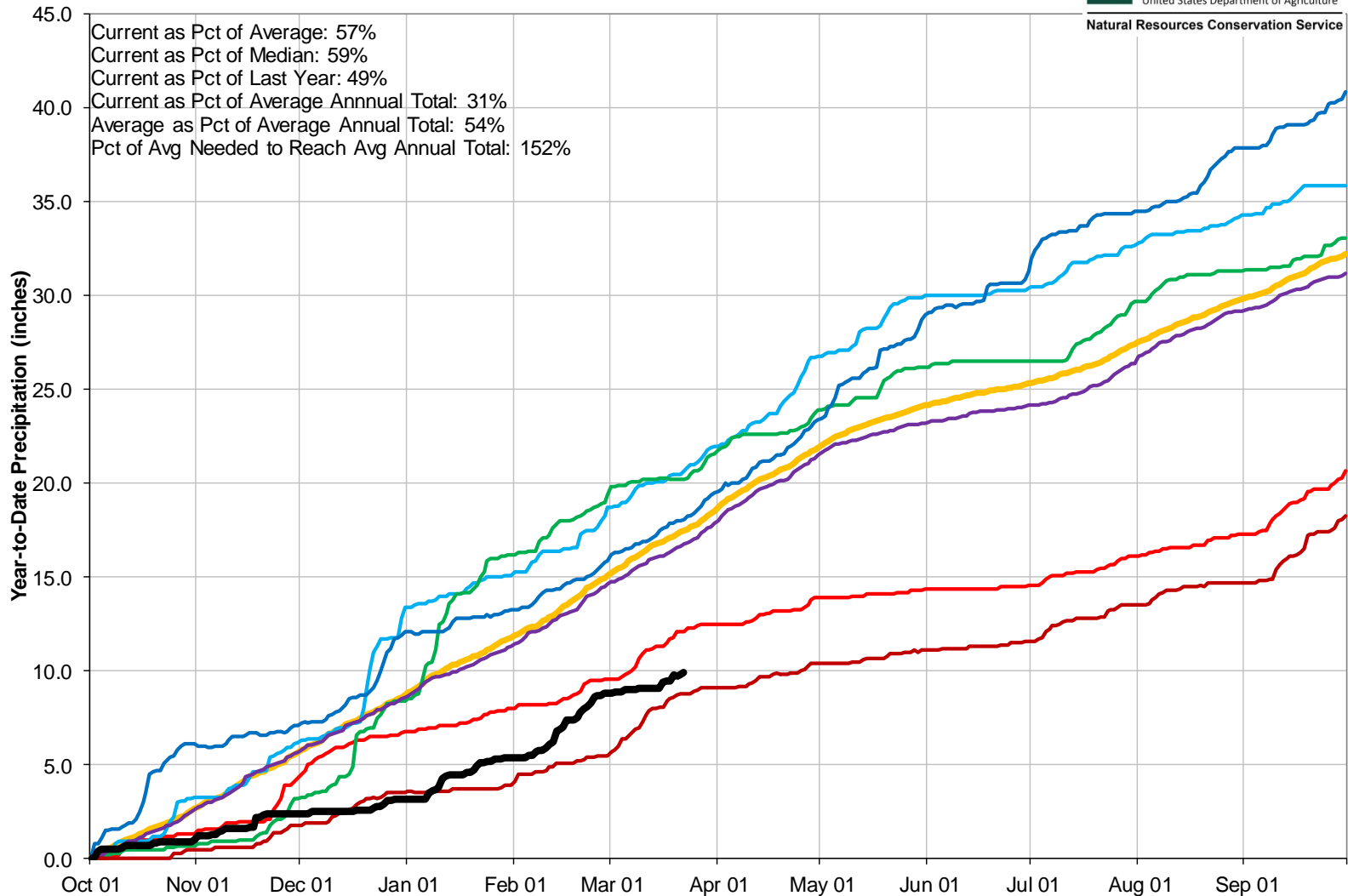
Gunnison River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



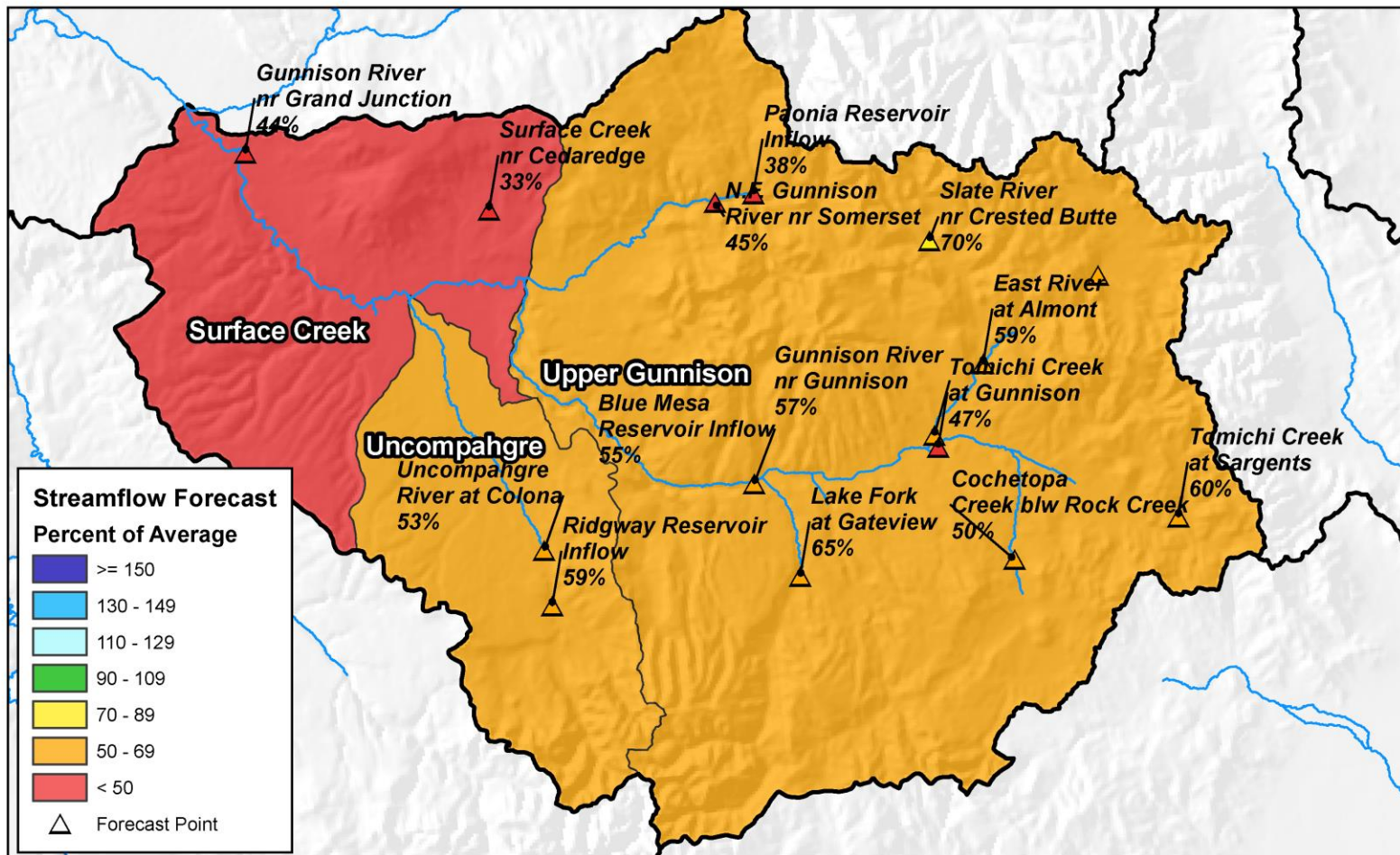
United States Department of Agriculture

Natural Resources Conservation Service

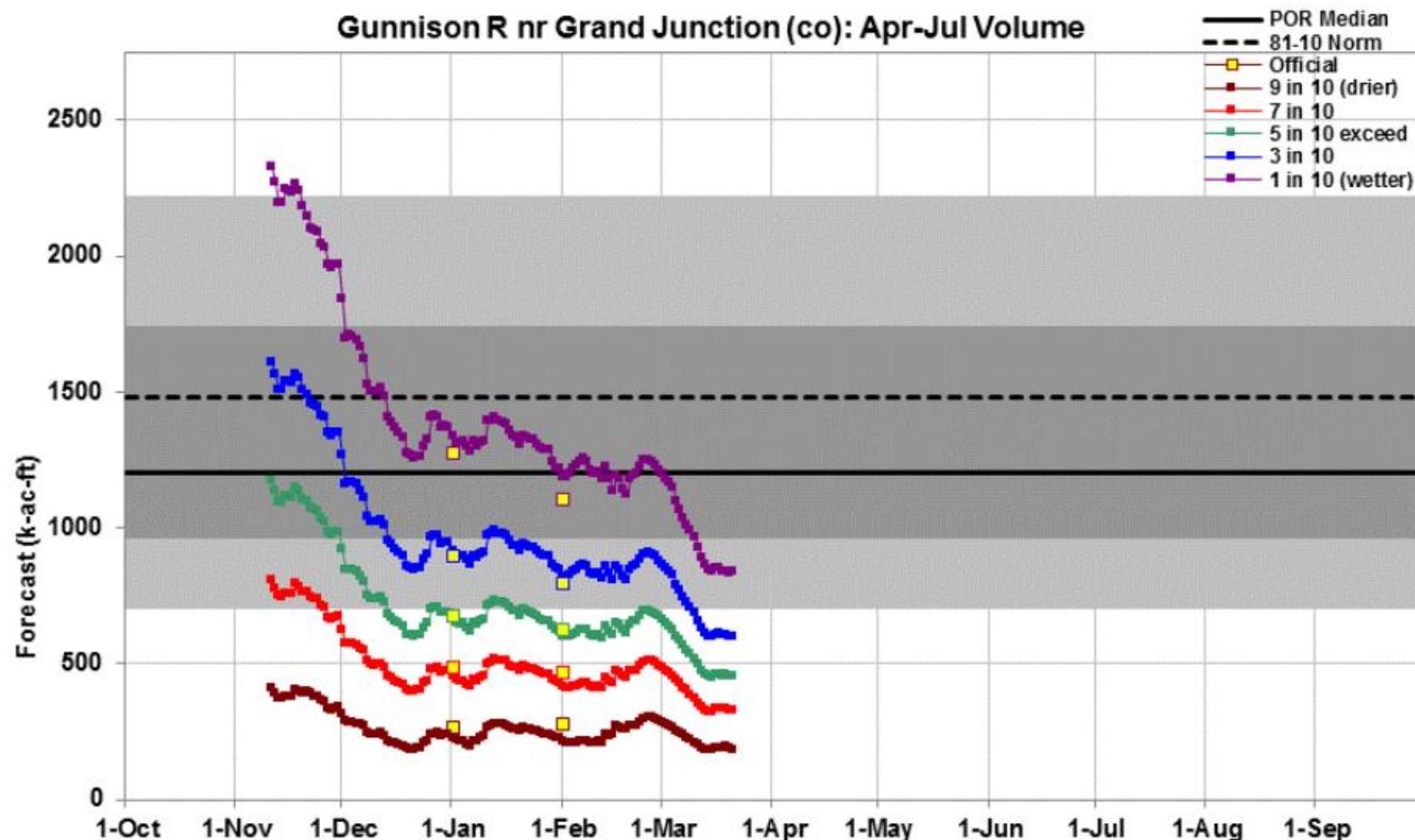


Gunnison River Basin Water Supply Forecast Summary

March 1, 2018



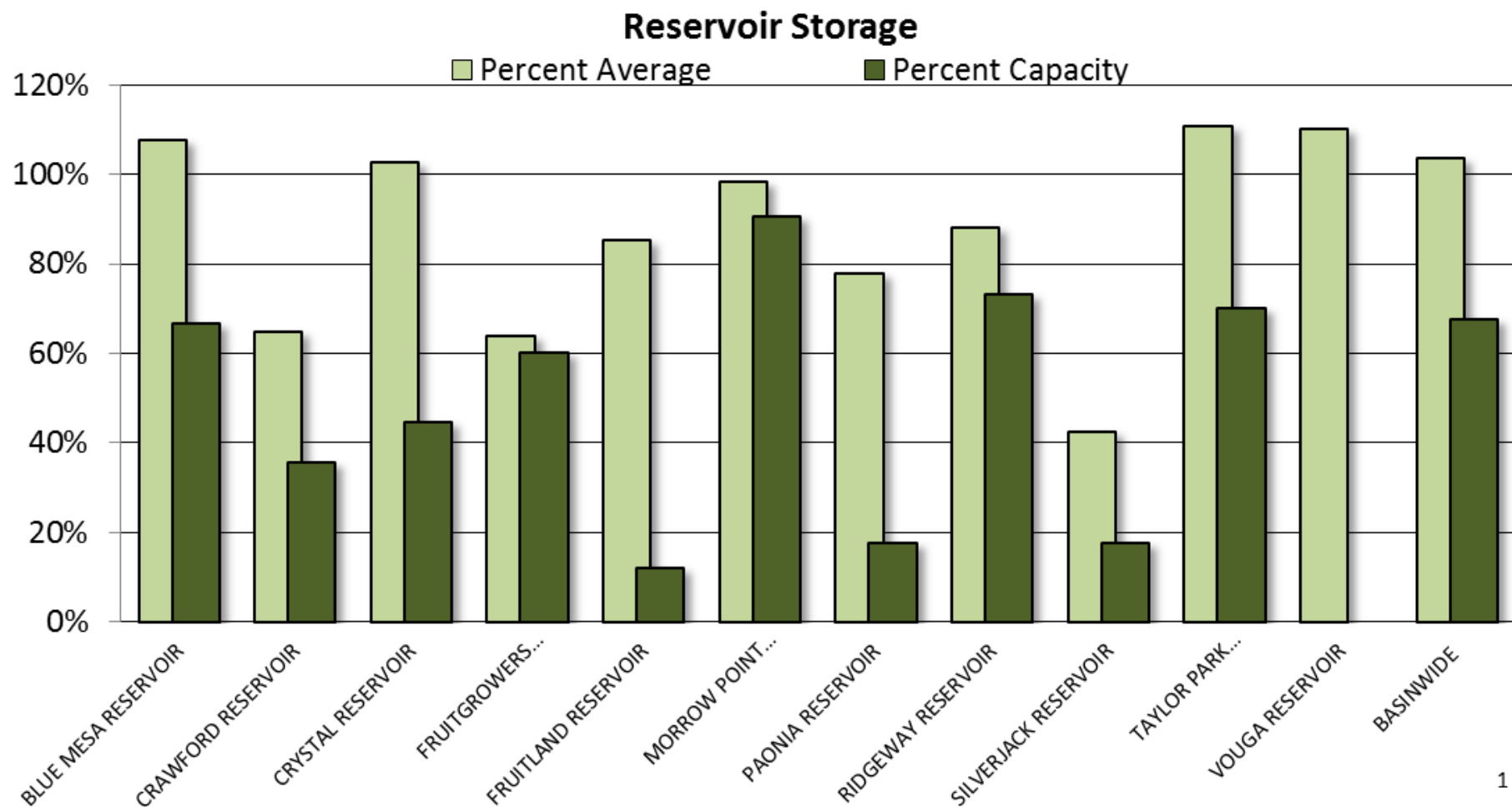
0 5 10 20 30 40 Miles



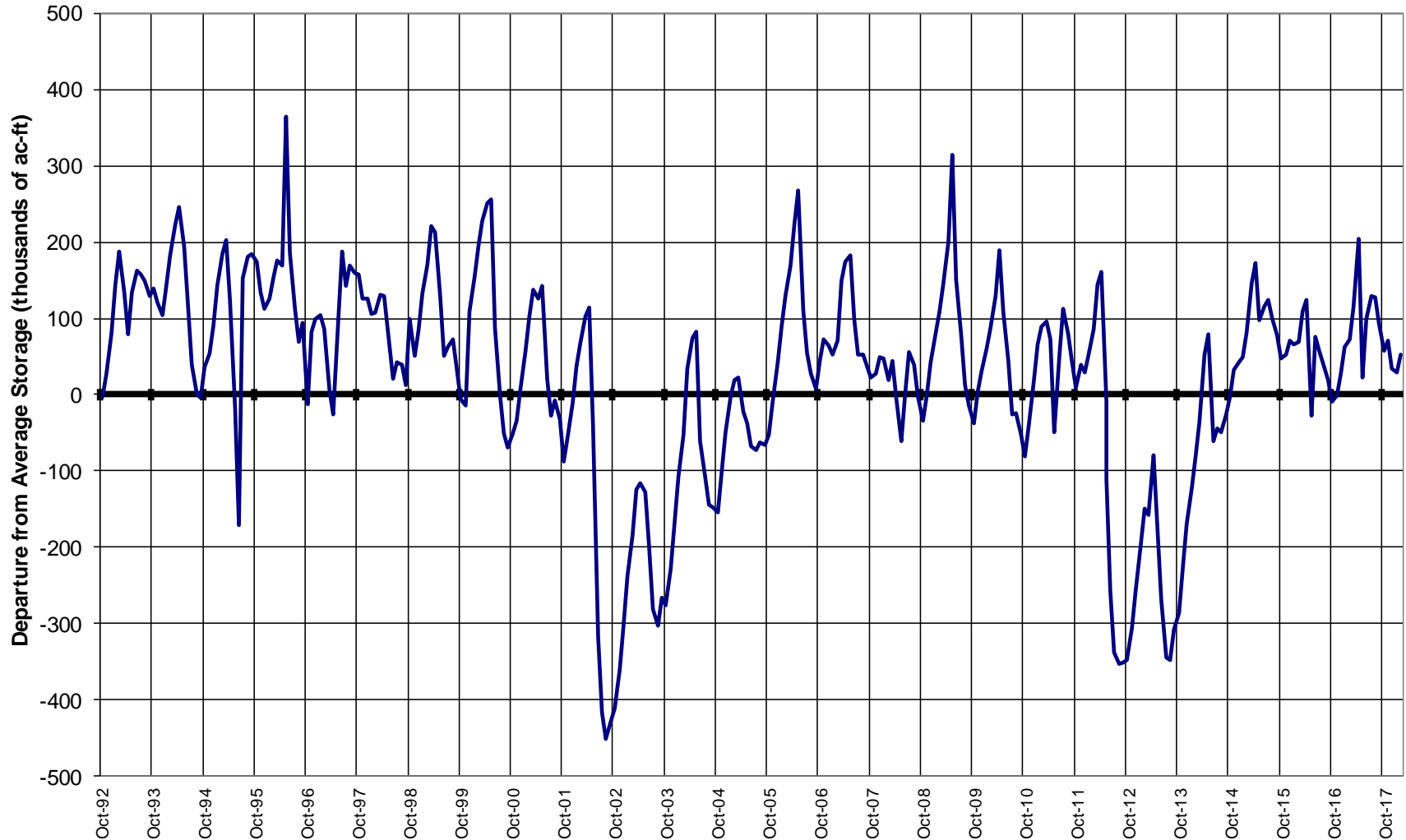
Created 7:39 Mar 21 2018



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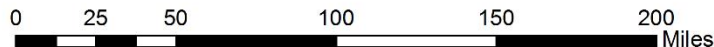
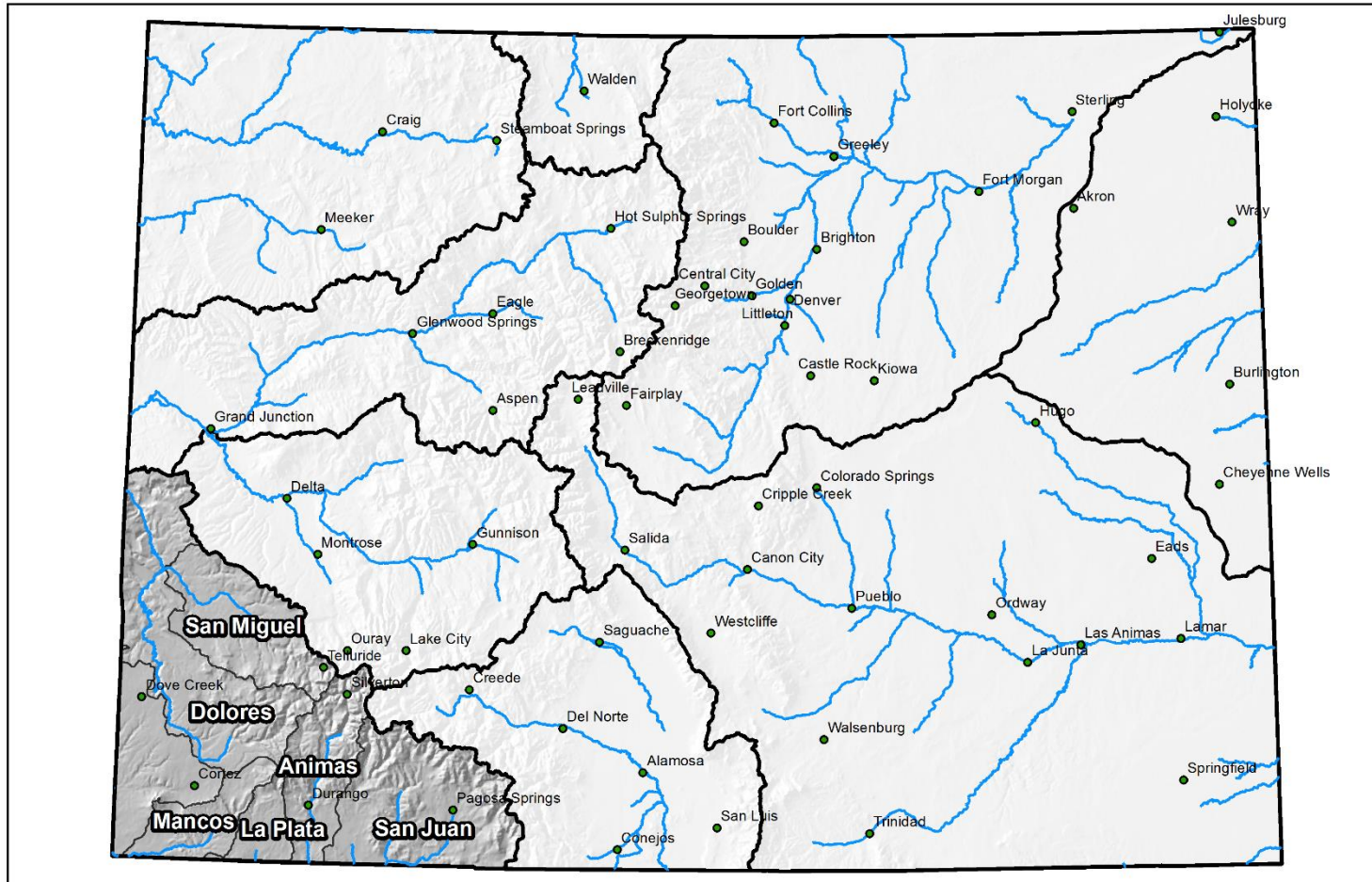


GUNNISON RIVER BASIN Reservoir Storage Departure from Average



Major Basin Summary

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





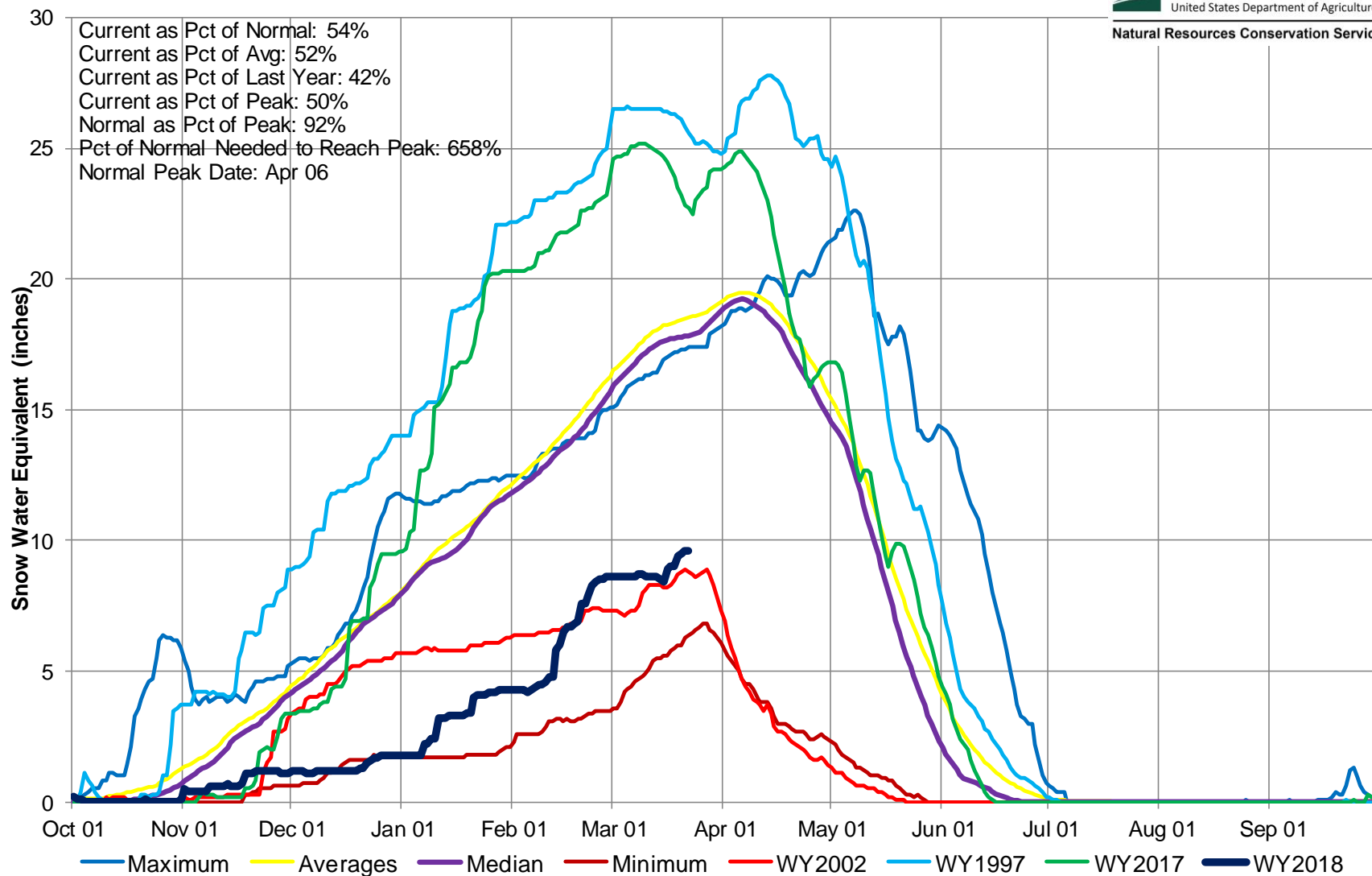
San Miguel, Dolores, Animas and San Juan River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



United States Department of Agriculture

Natural Resources Conservation Service



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

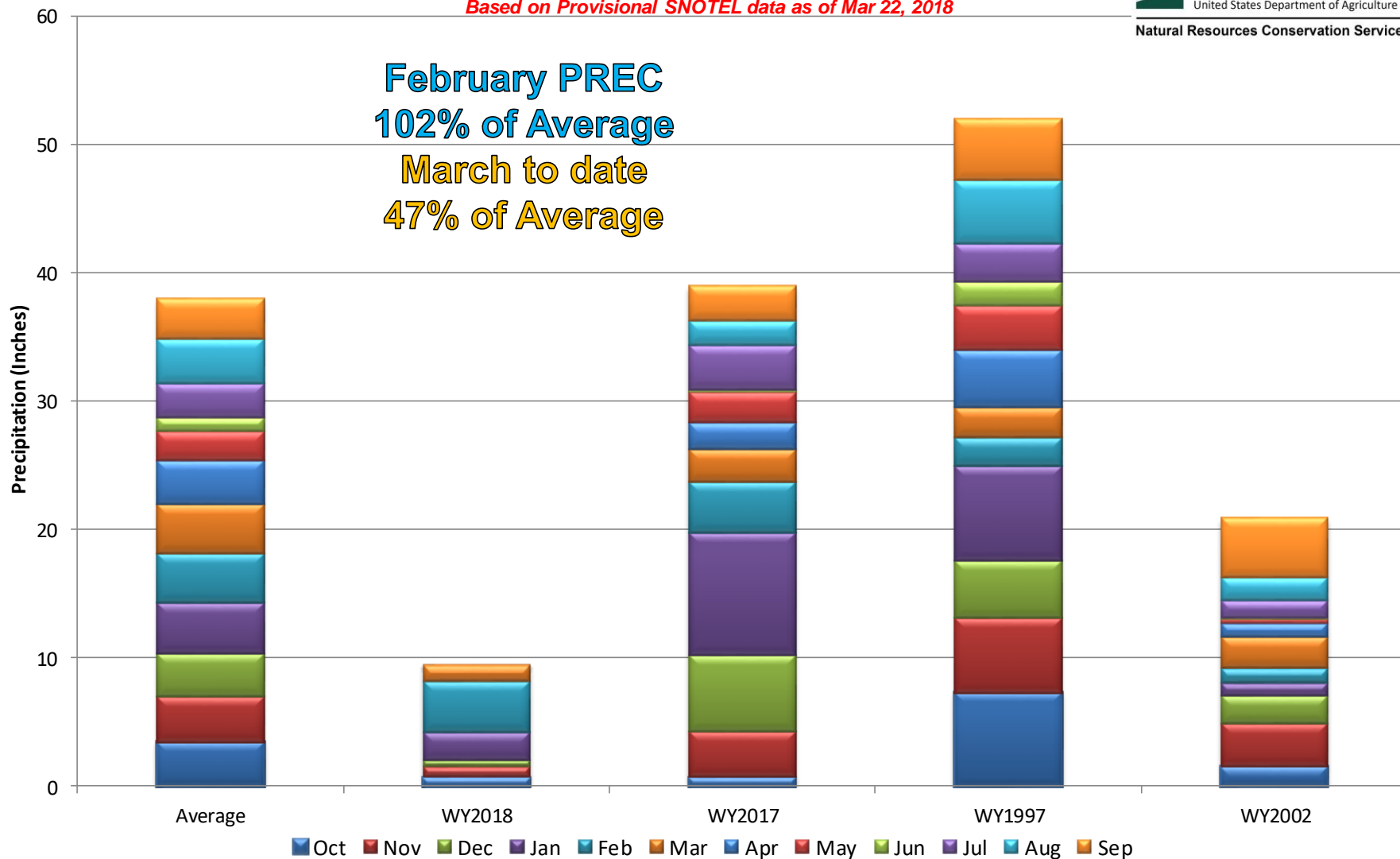
Based on Provisional SNOTEL data as of Mar 22, 2018



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February PREC
102% of Average
March to date
47% of Average

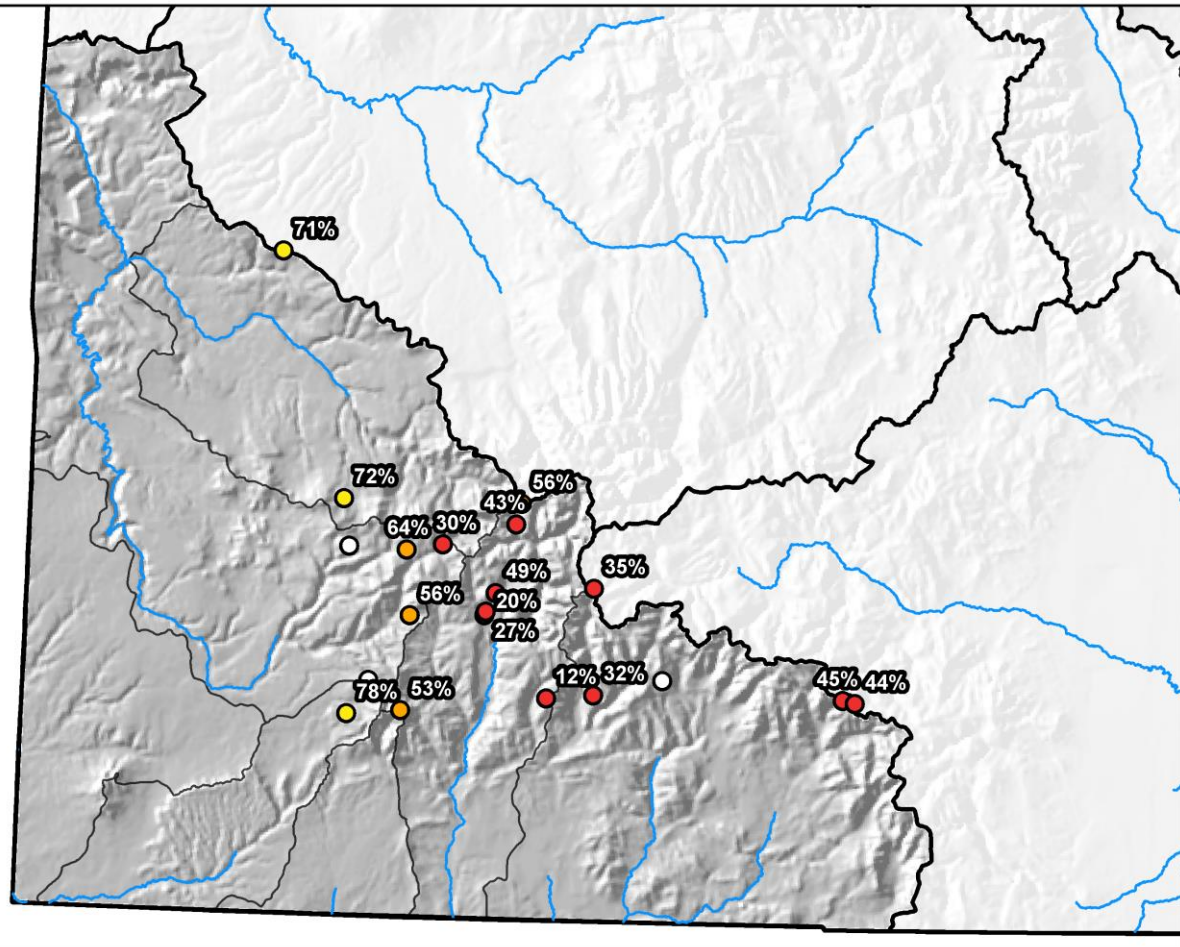


San Miguel, Dolores, Animas, and San Juan River Basins Month to Date Precipitation Summary

Current as of Mar 22, 2018

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

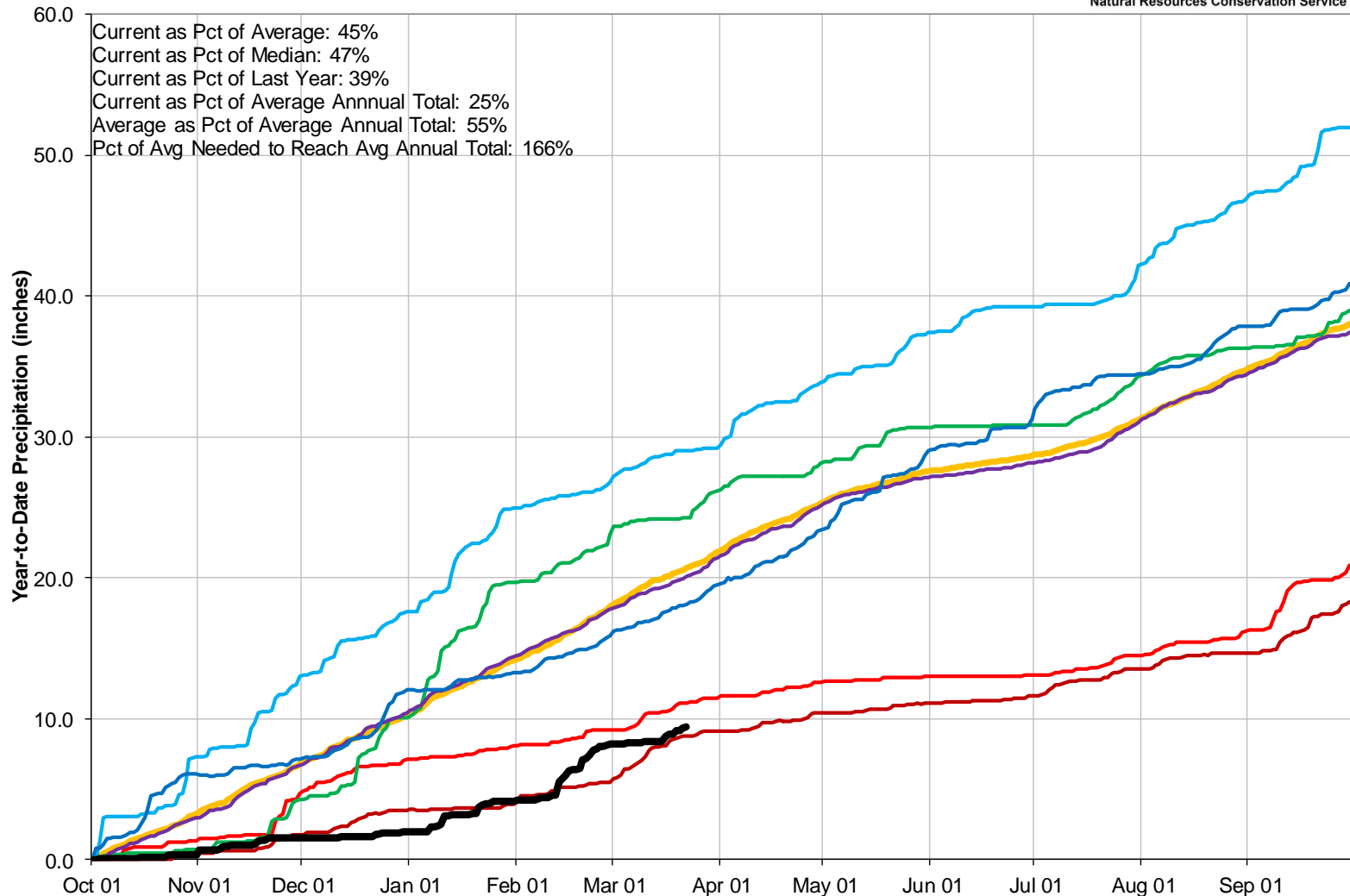
San Miguel, Dolores, Animas and San Juan River Basins High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



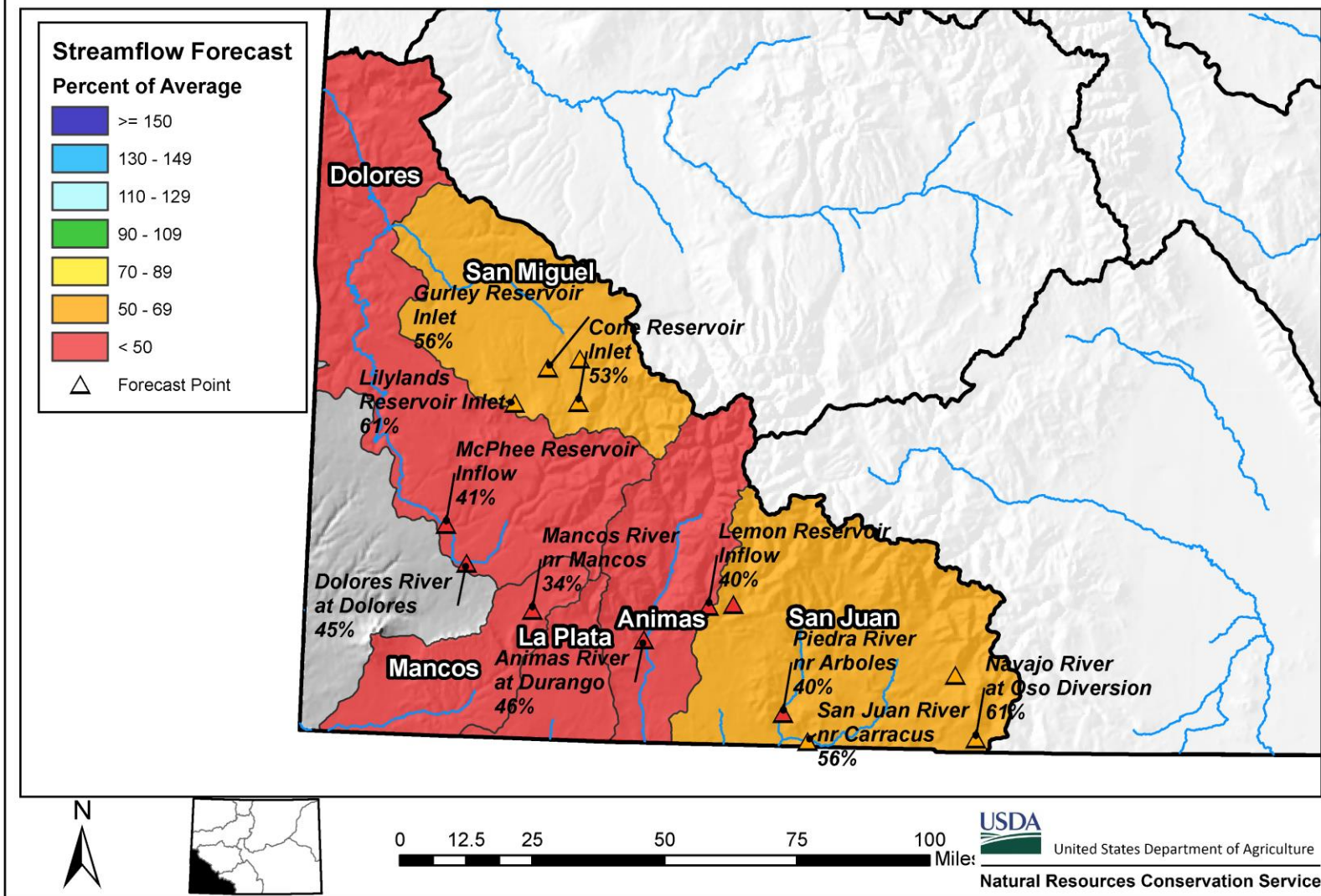
United States Department of Agriculture

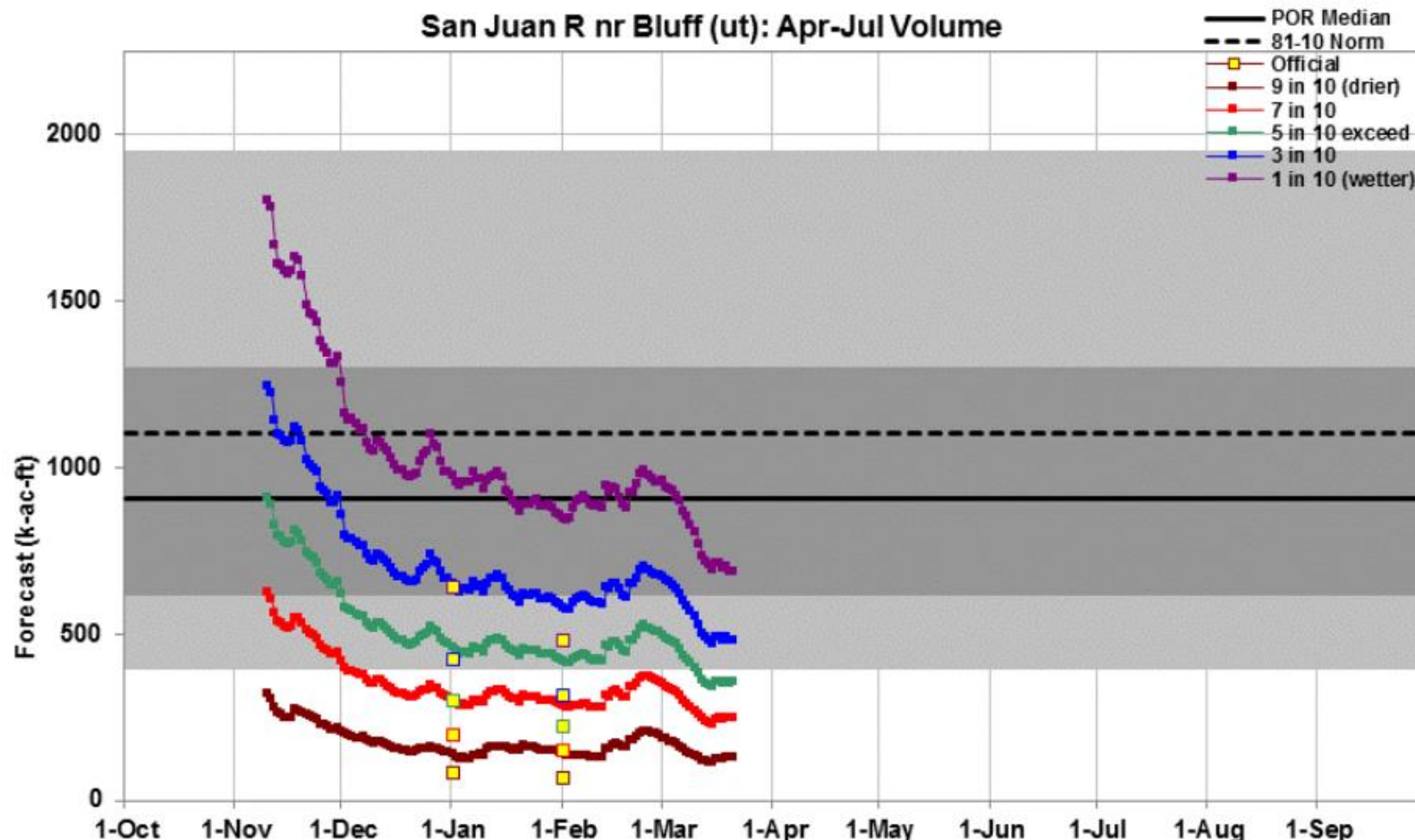
Natural Resources Conservation Service



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

March 1, 2018

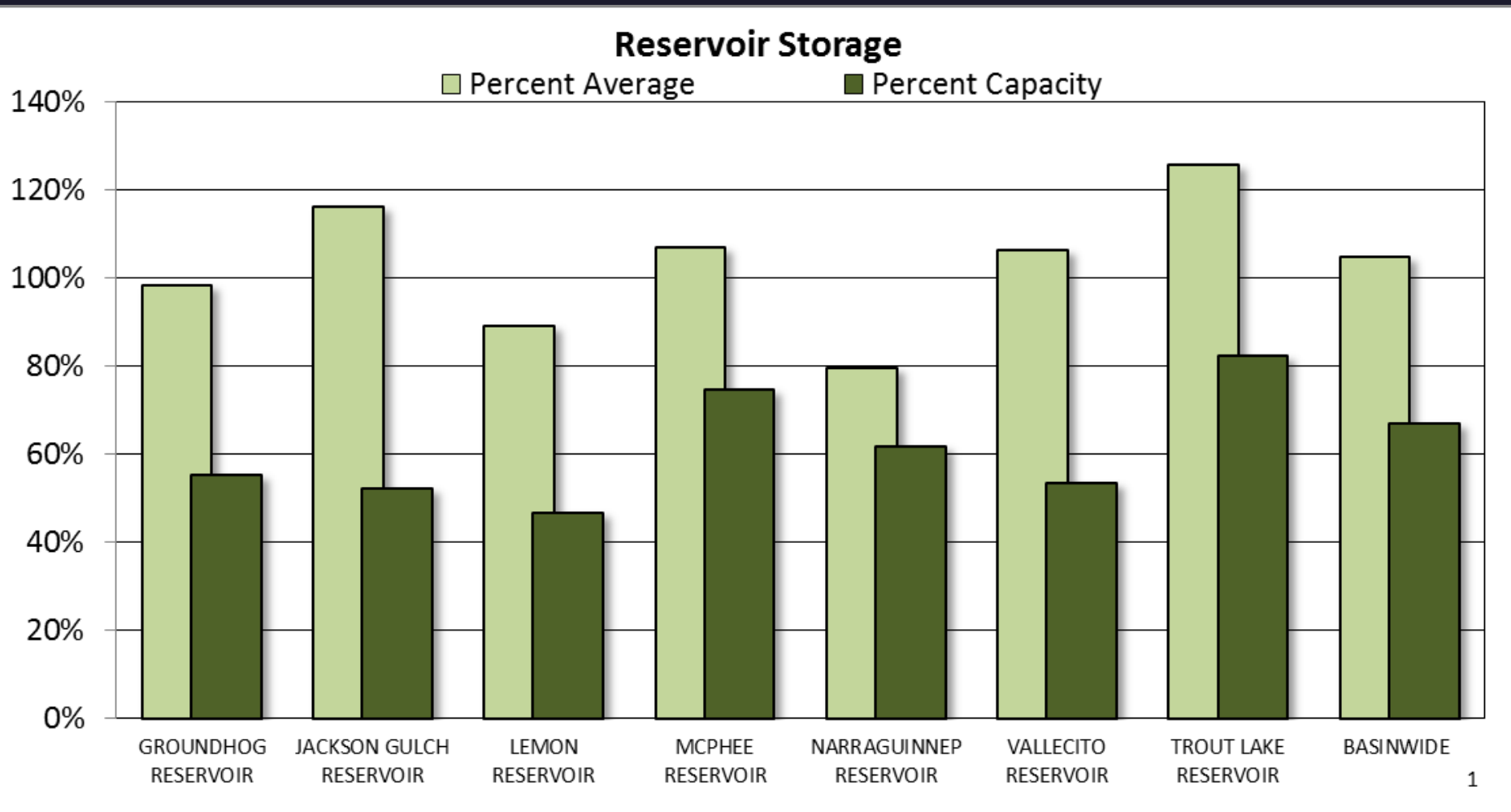




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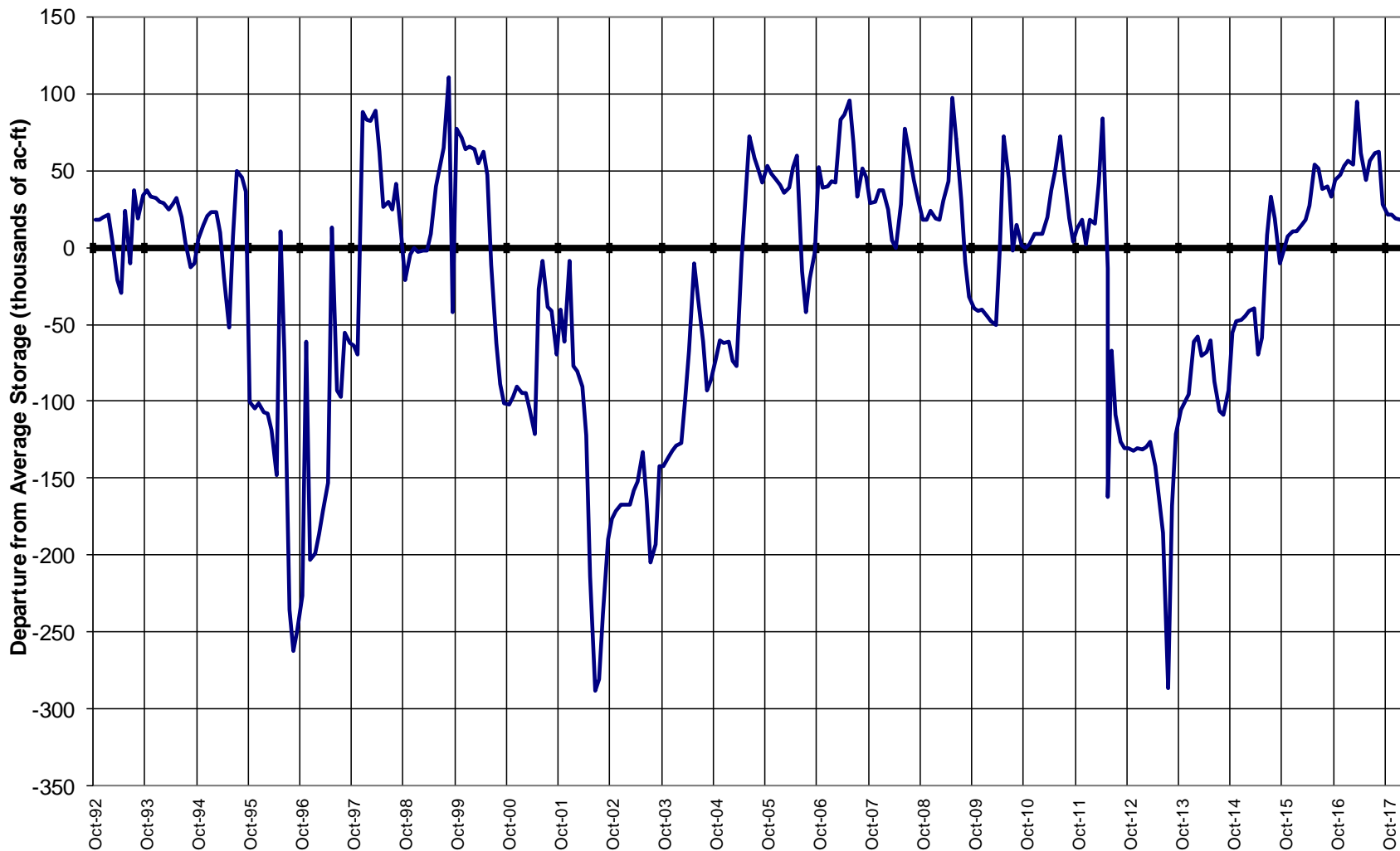


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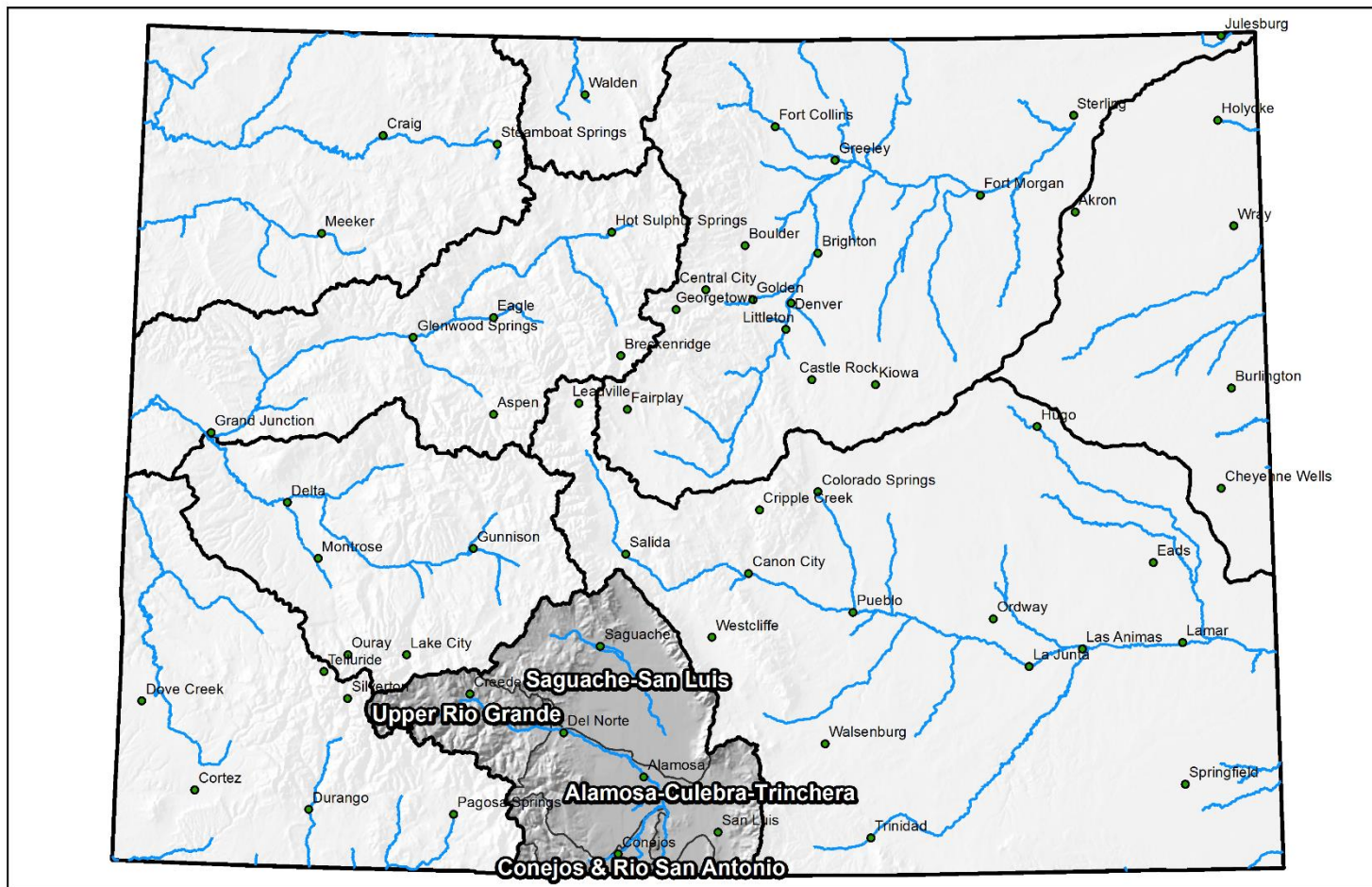
SAN MIGUEL, DOLORES, ANIMAS AND SAN JUAN RIVER BASINS

Reservoir Storage
Departure from Average



Major Basin Summary

Upper Rio Grande River Basin



0 25 50 100 150 200 Miles

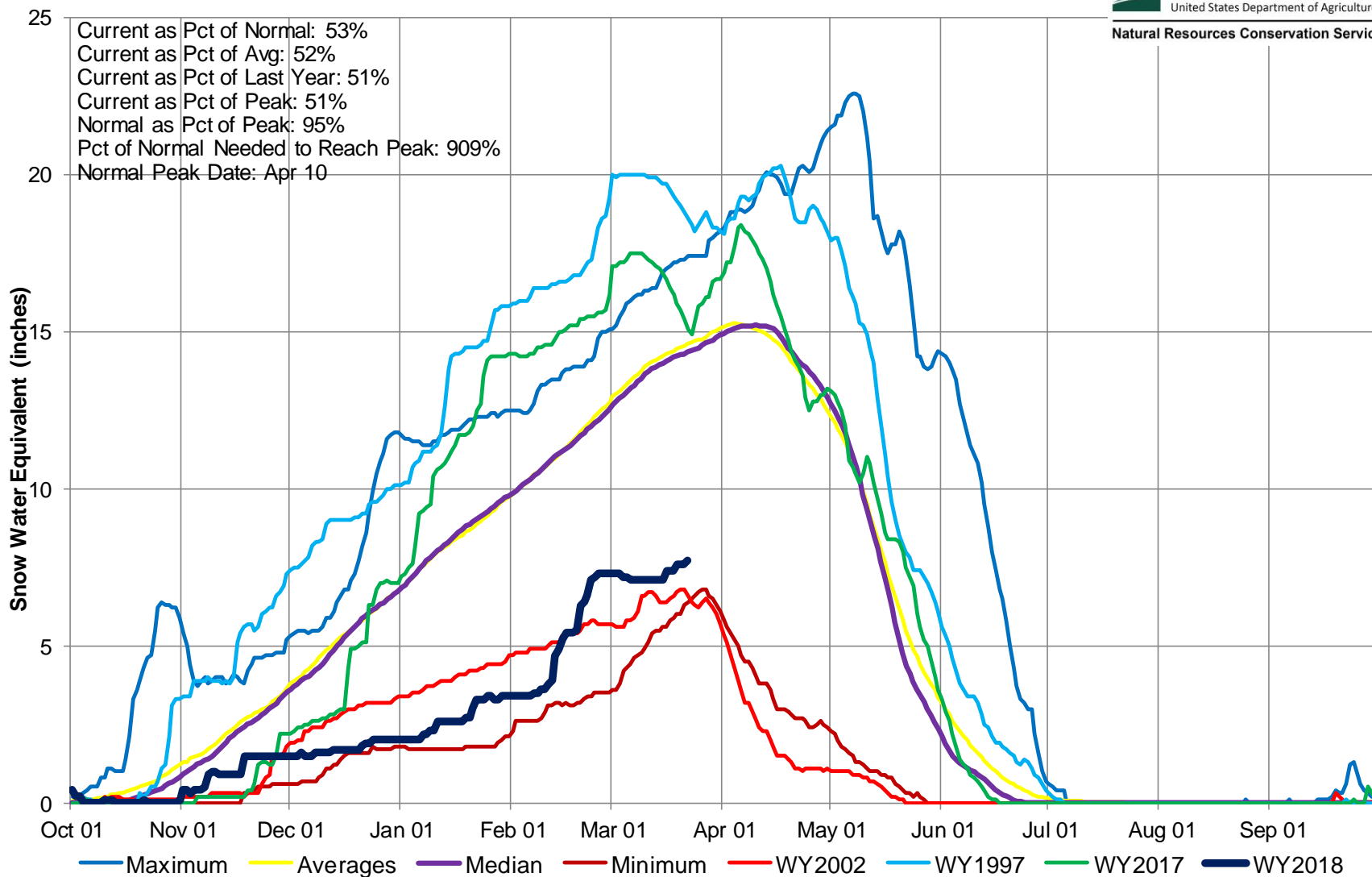
Upper Rio Grande Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



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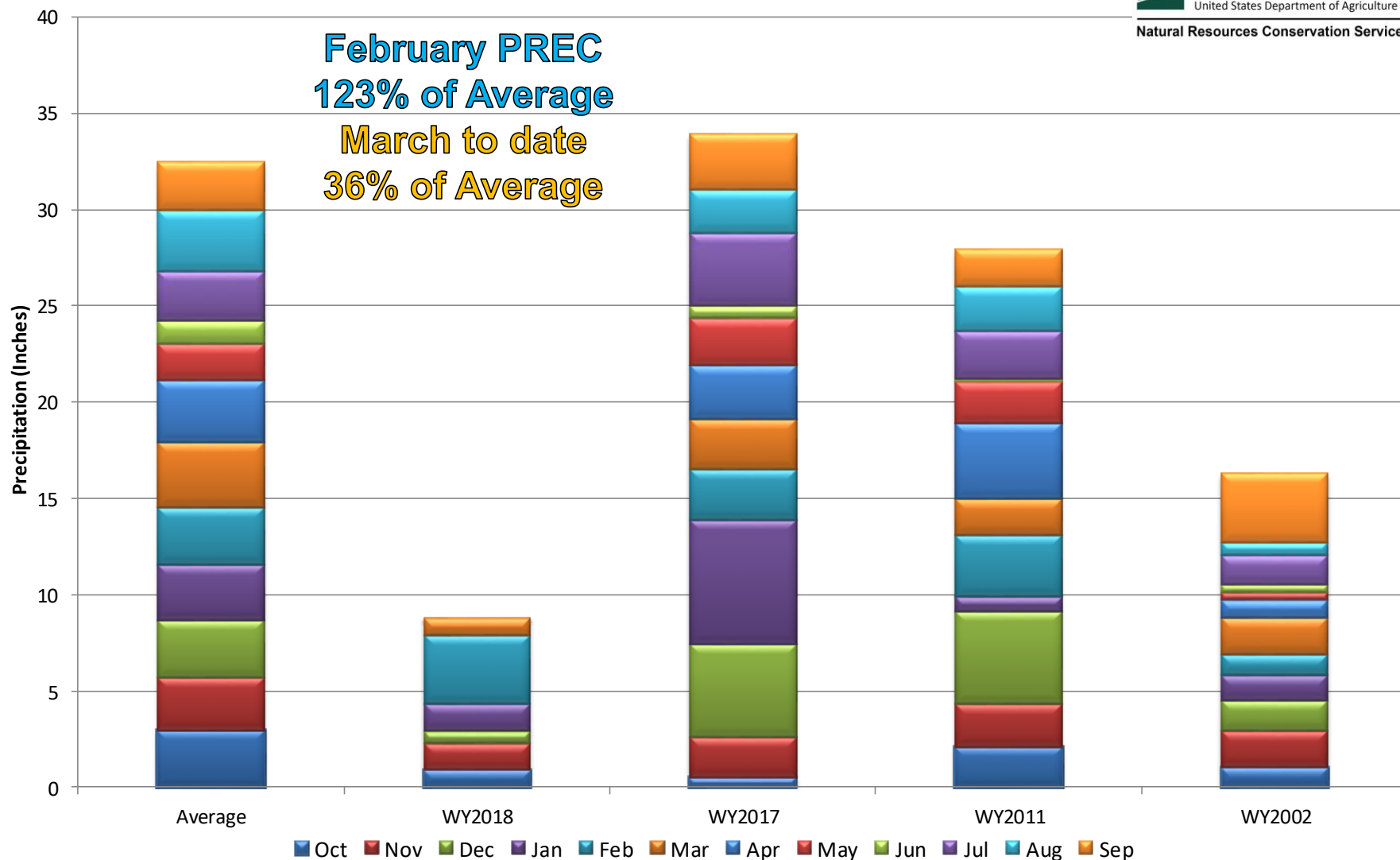
Upper Rio Grande River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



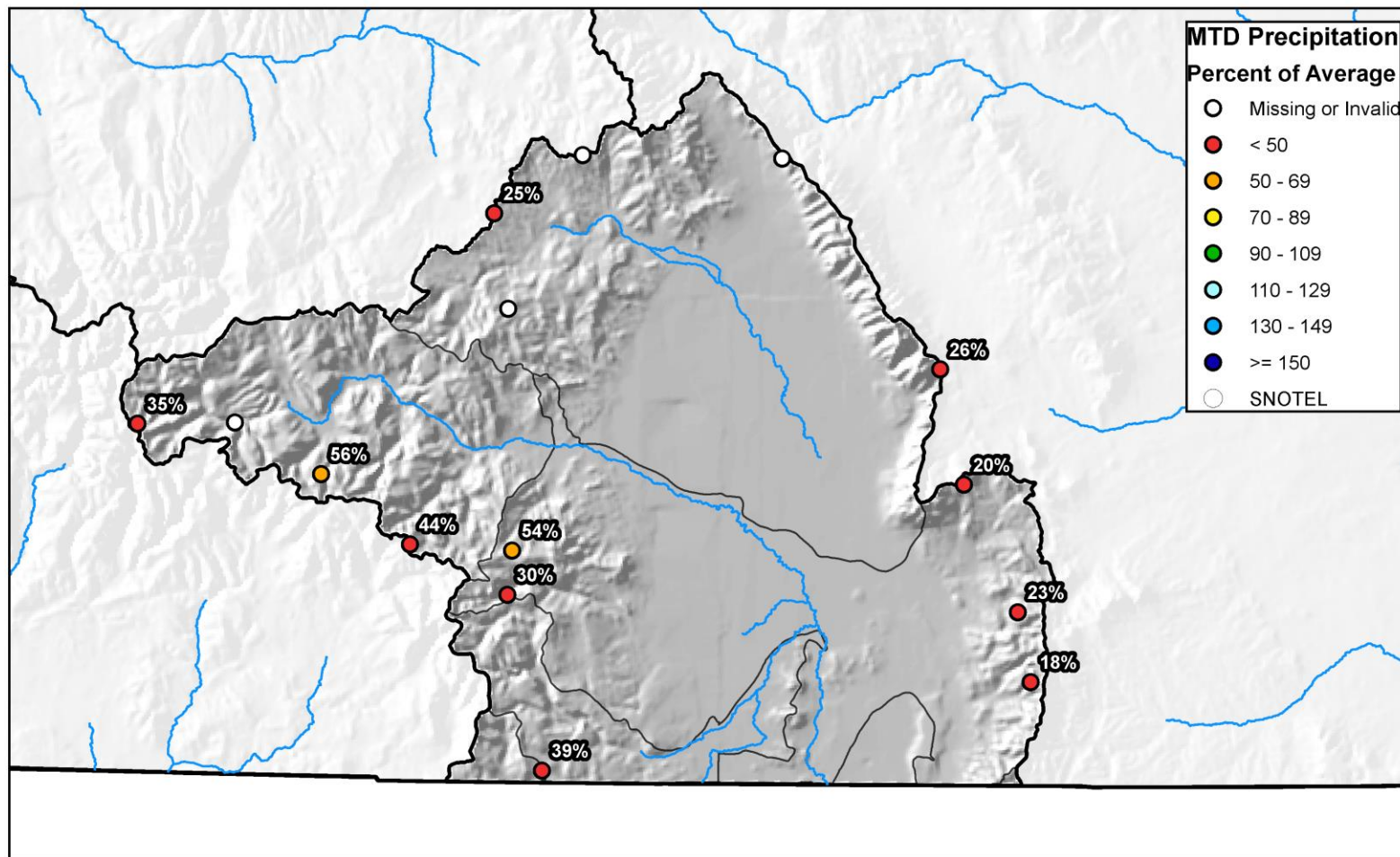
United States Department of Agriculture

Natural Resources Conservation Service



Upper Rio Grande River Basin Month to Date Precipitation Summary

Current as of Mar 22, 2018





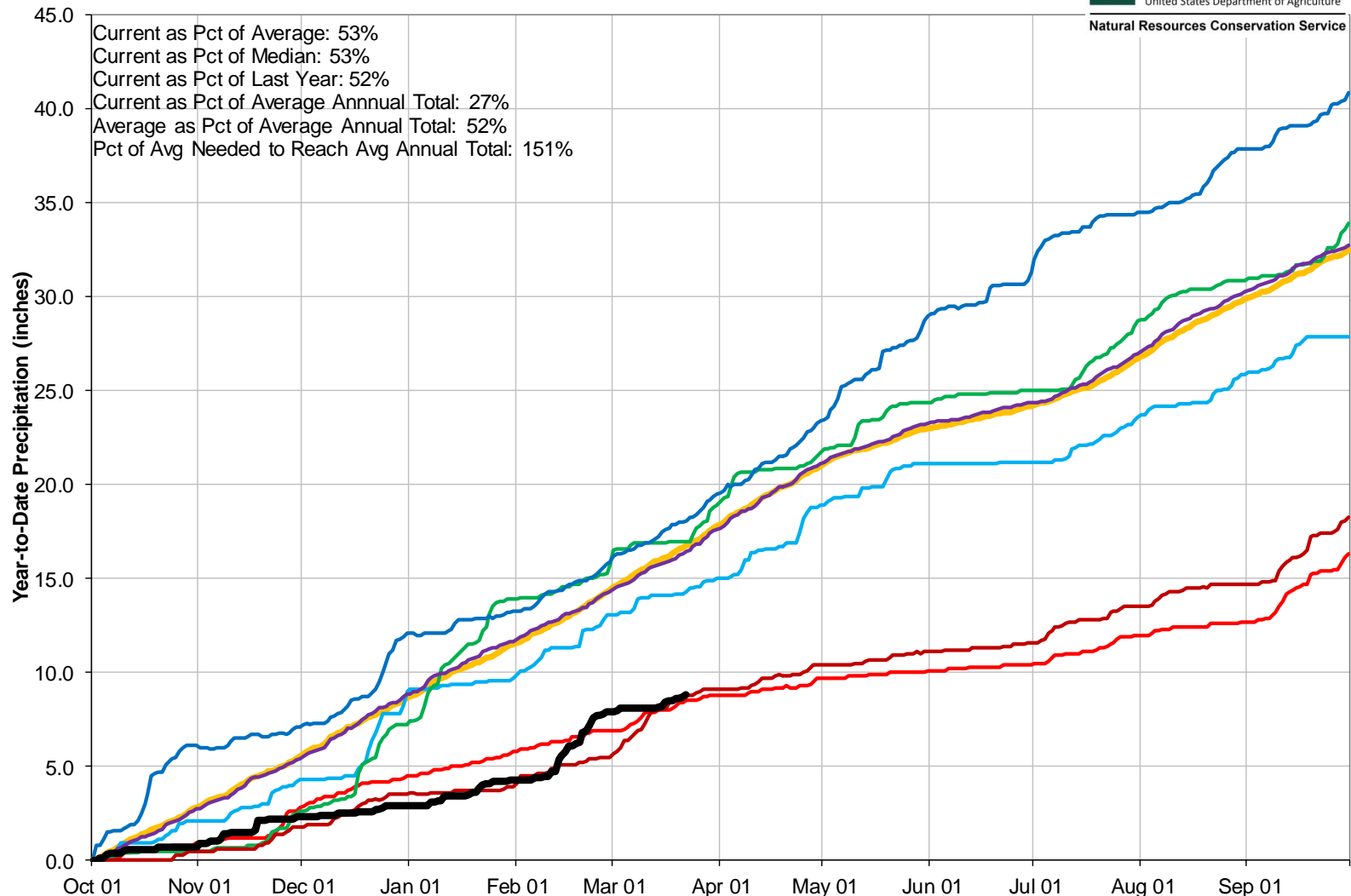
Upper Rio Grande River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



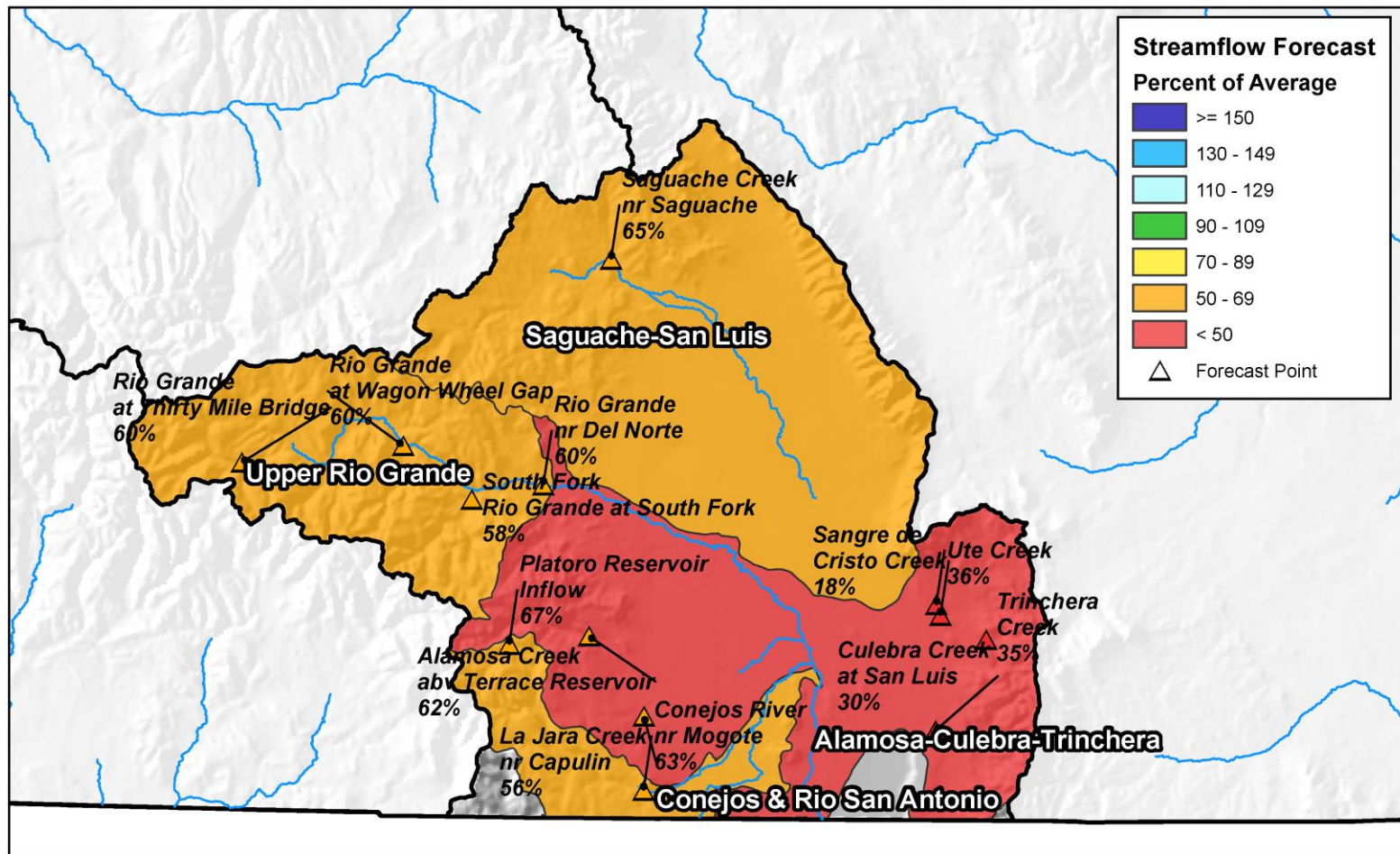
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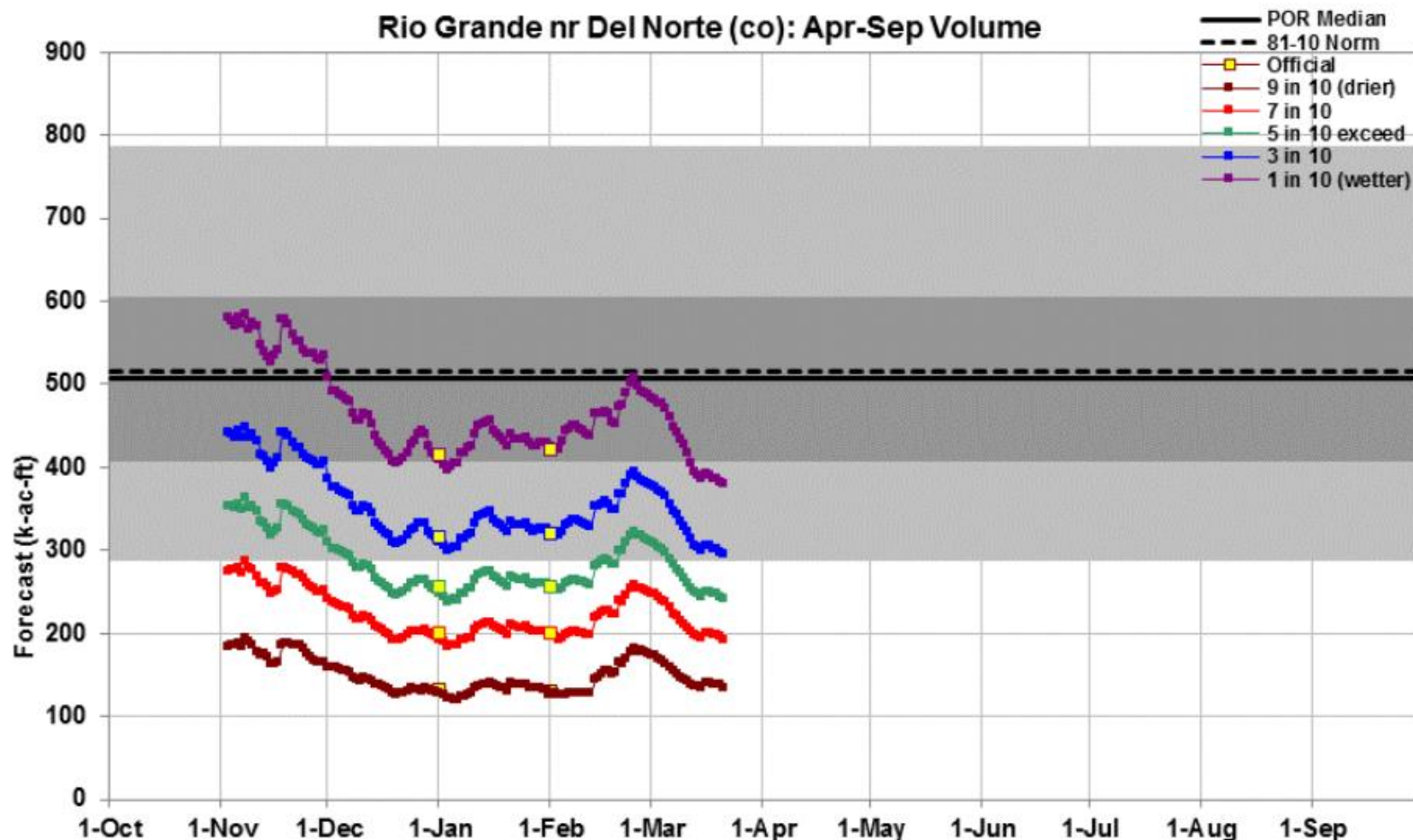


Upper Rio Grande River Basin Streamflow Forecast Summary

March 1, 2018



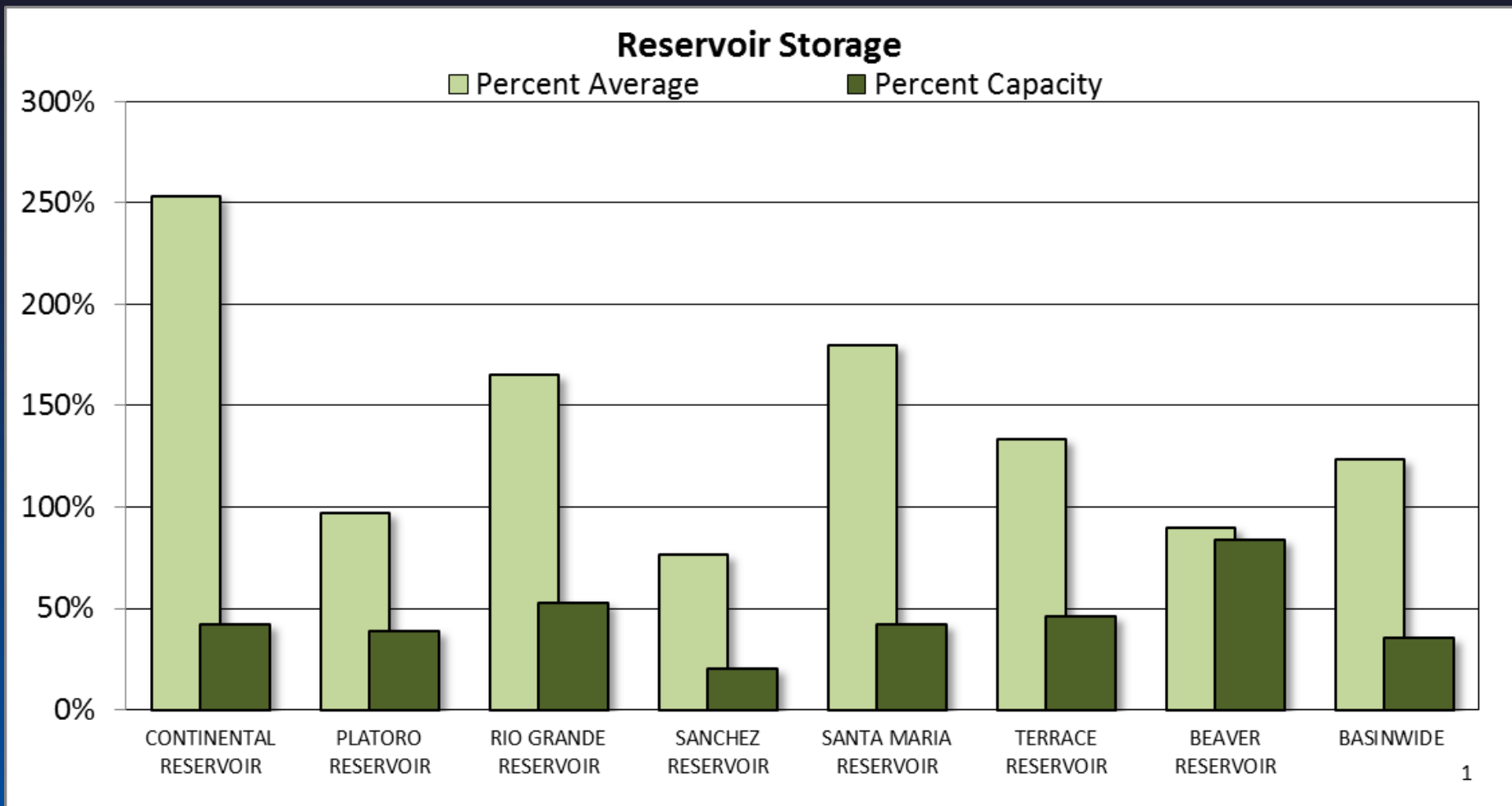
0 10 20 40 60 80 Miles



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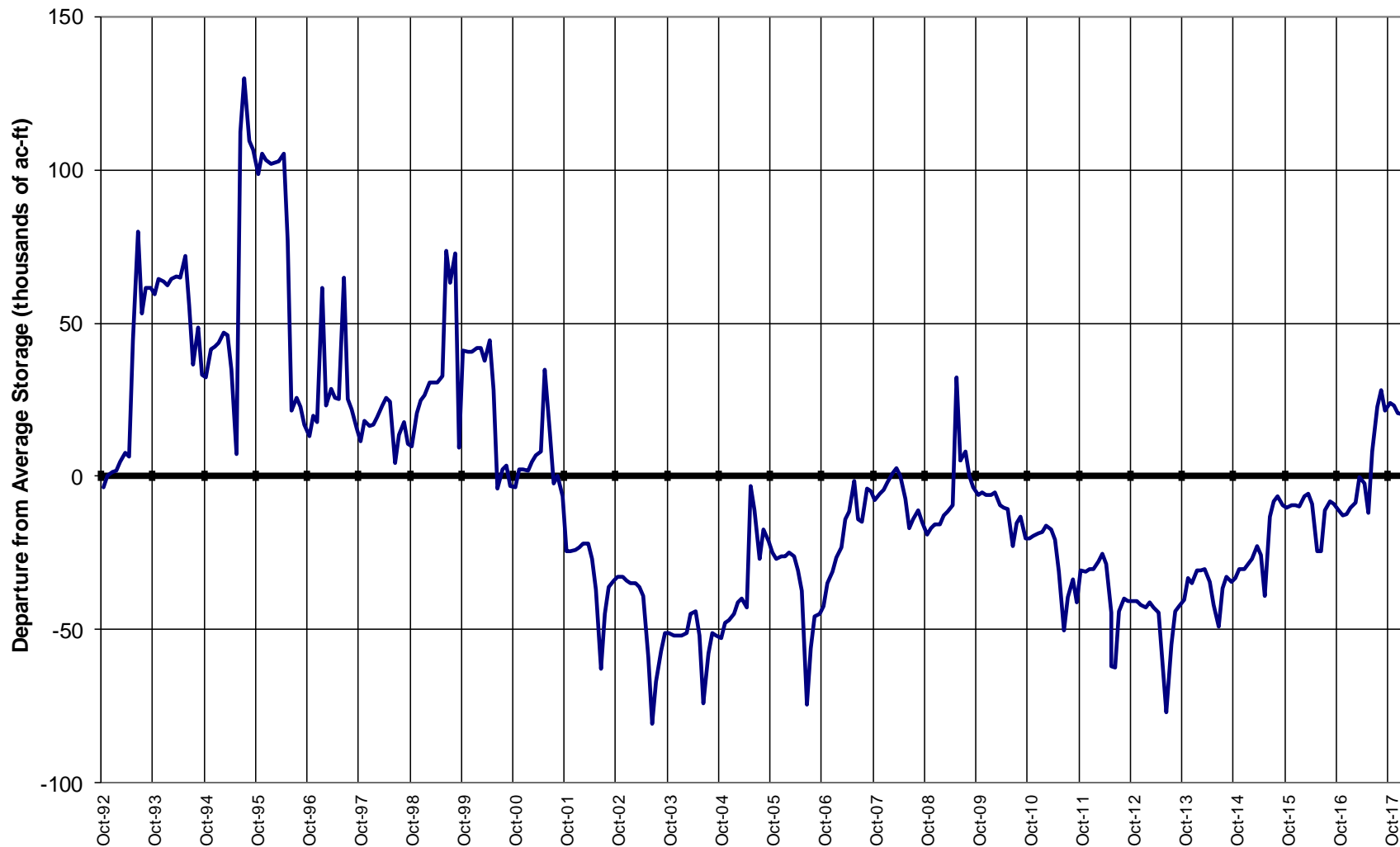
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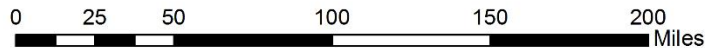
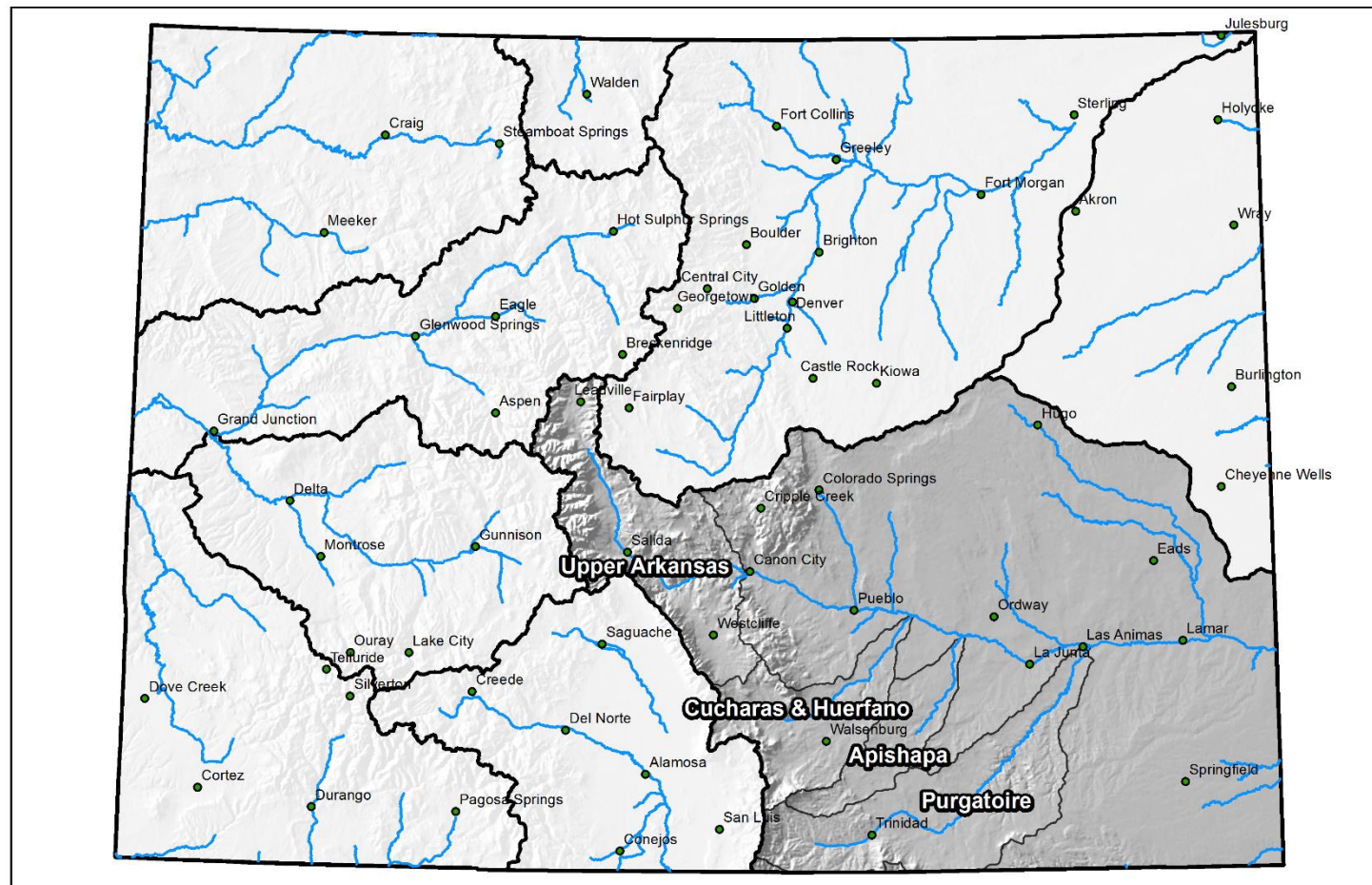


UPPER RIO GRANDE BASIN Reservoir Storage Departure from Average



Major Basin Summary

Arkansas River Basin





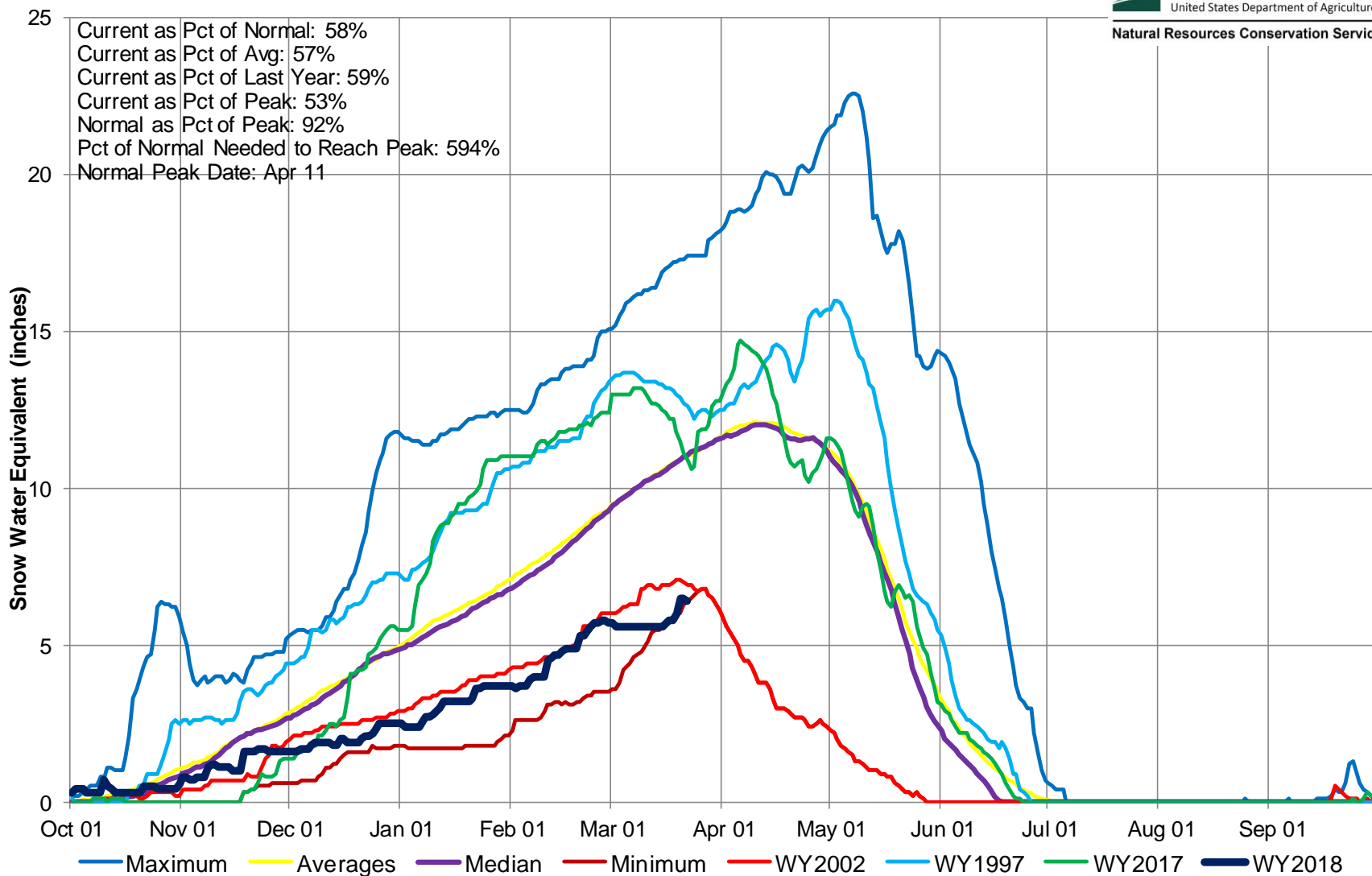
Arkansas River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



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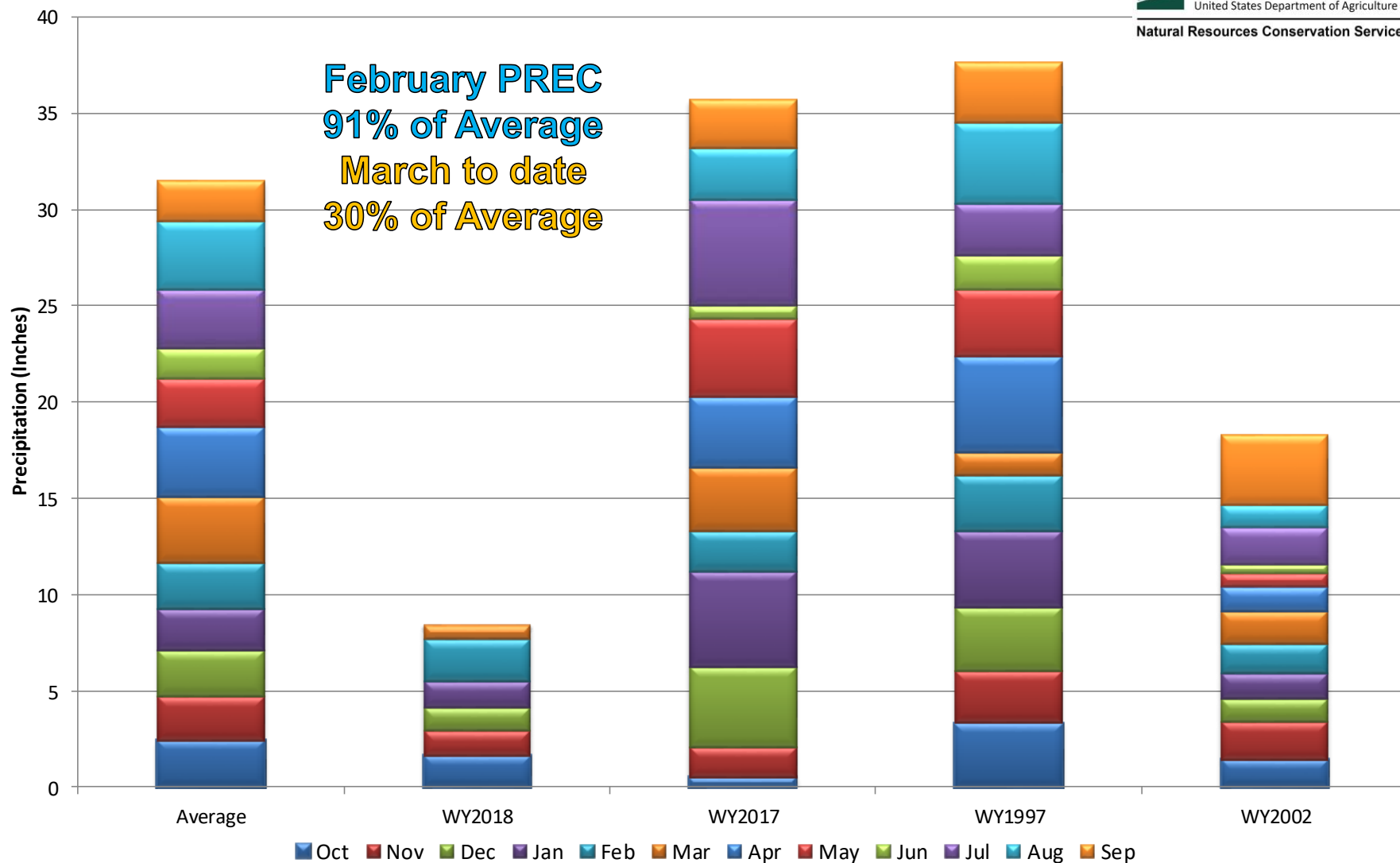
Arkansas River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



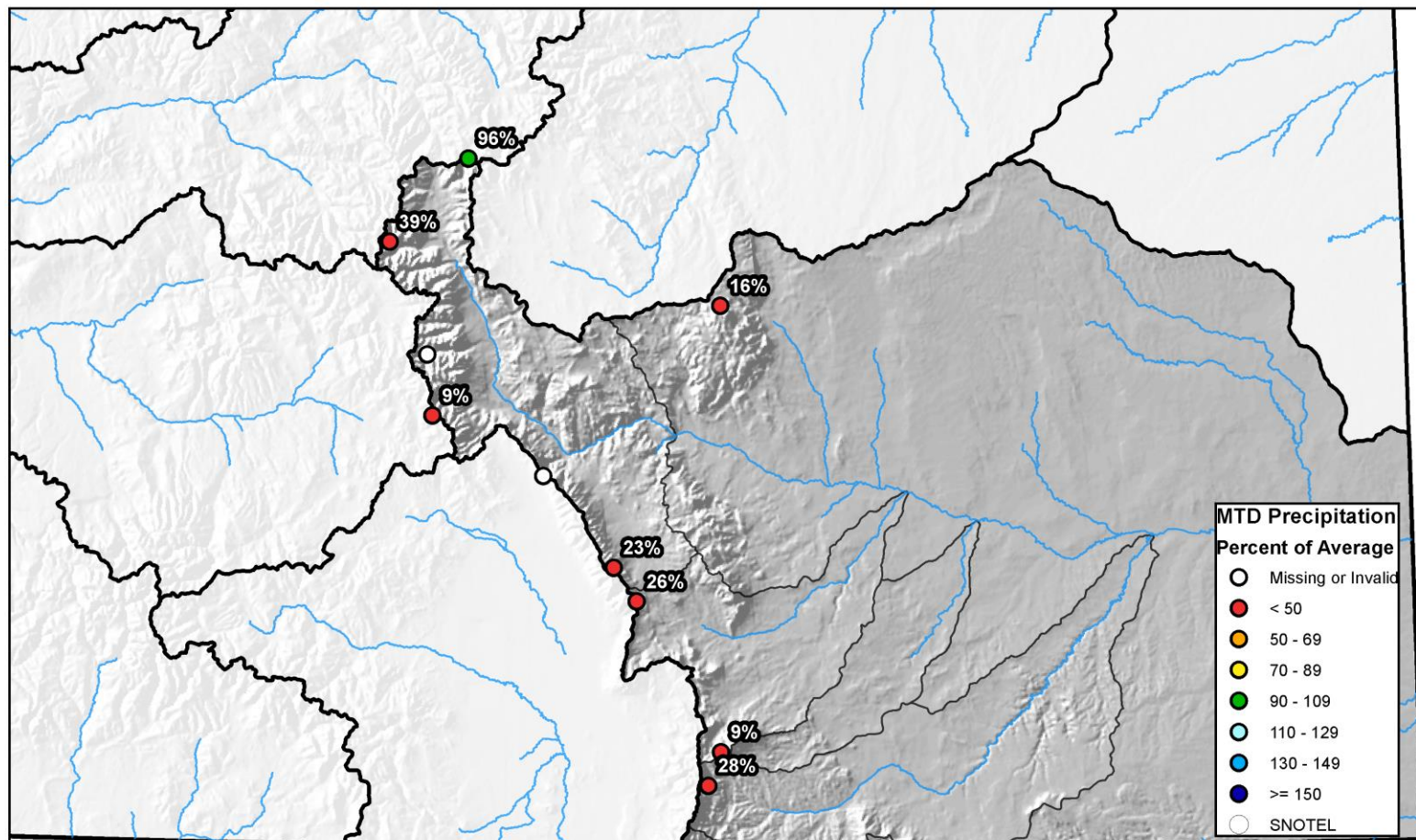
United States Department of Agriculture

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Arkansas River Basin Month to Date Precipitation Summary

Current as of Mar 22, 2018



0 10 20 40 60 80 Miles



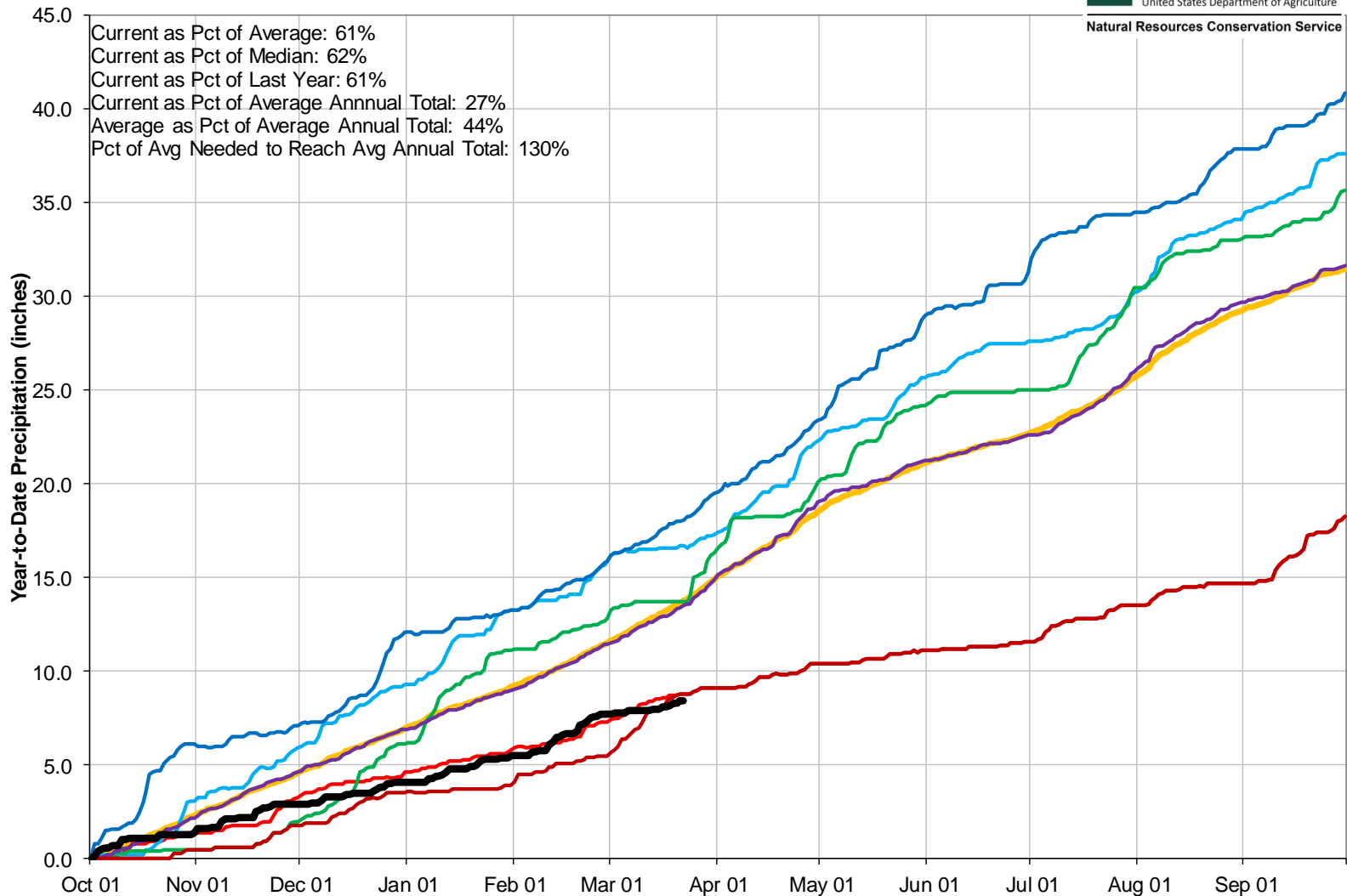
Arkansas River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



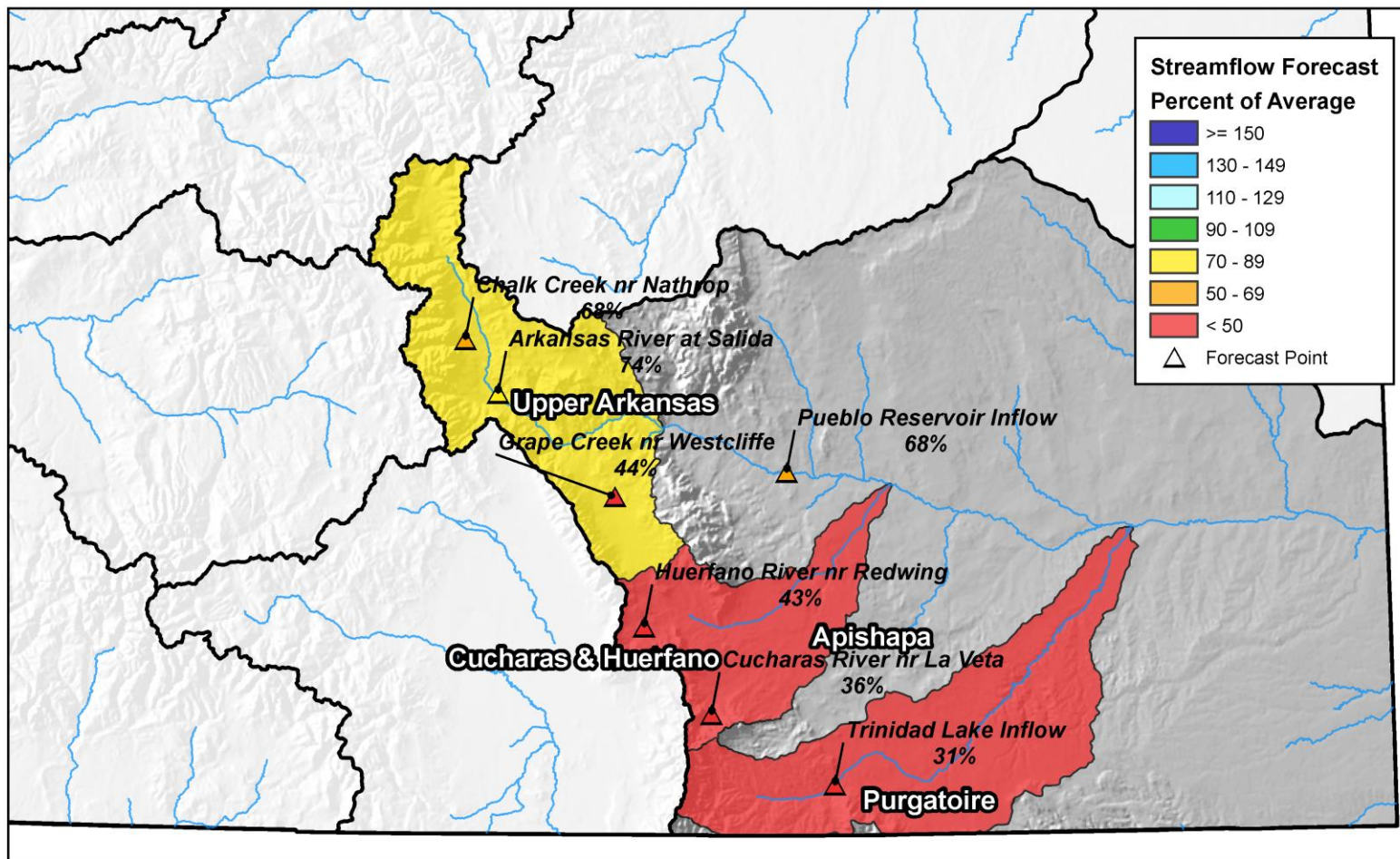
United States Department of Agriculture

Natural Resources Conservation Service

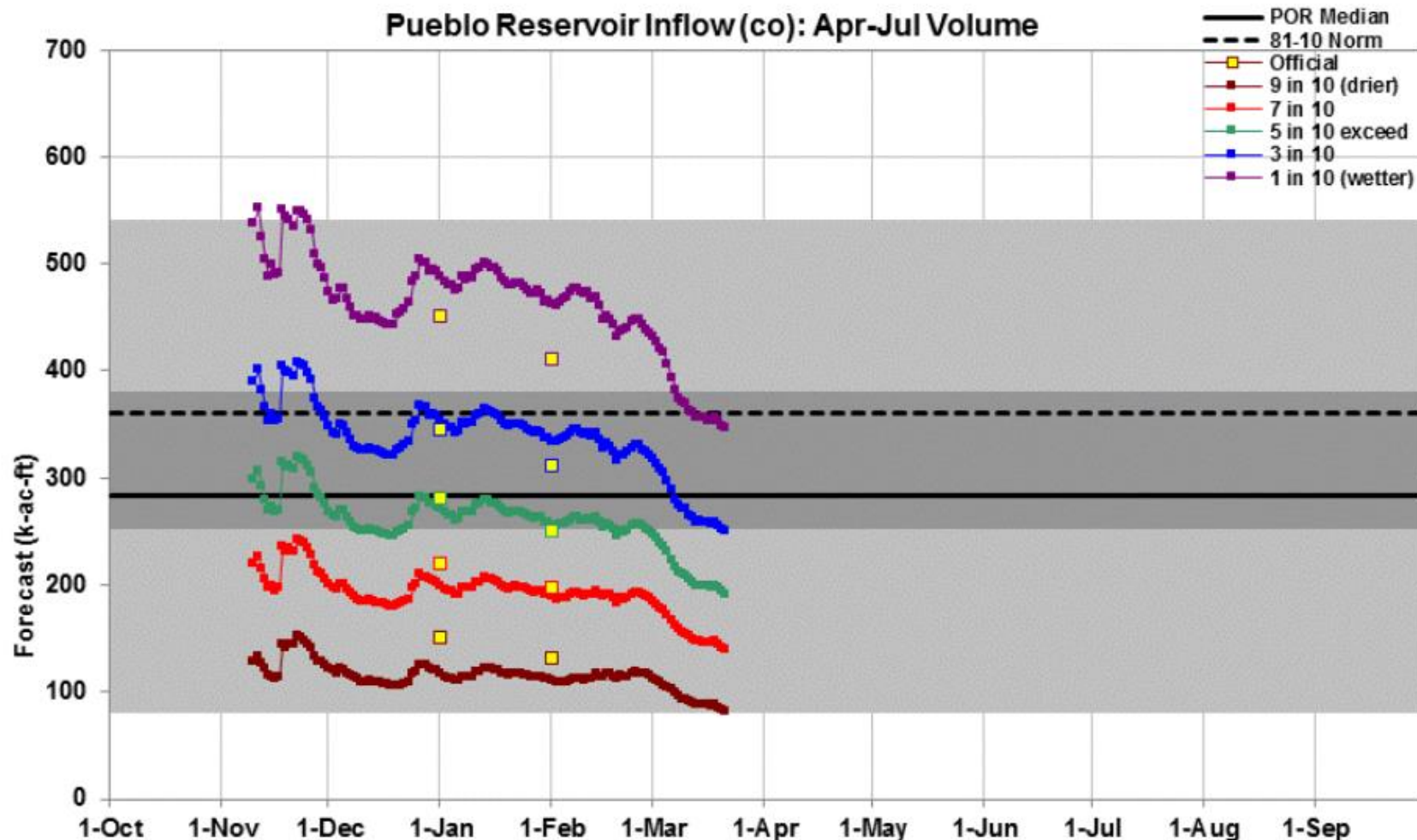


Arkansas River Basin Streamflow Forecast Summary

March 1, 2018



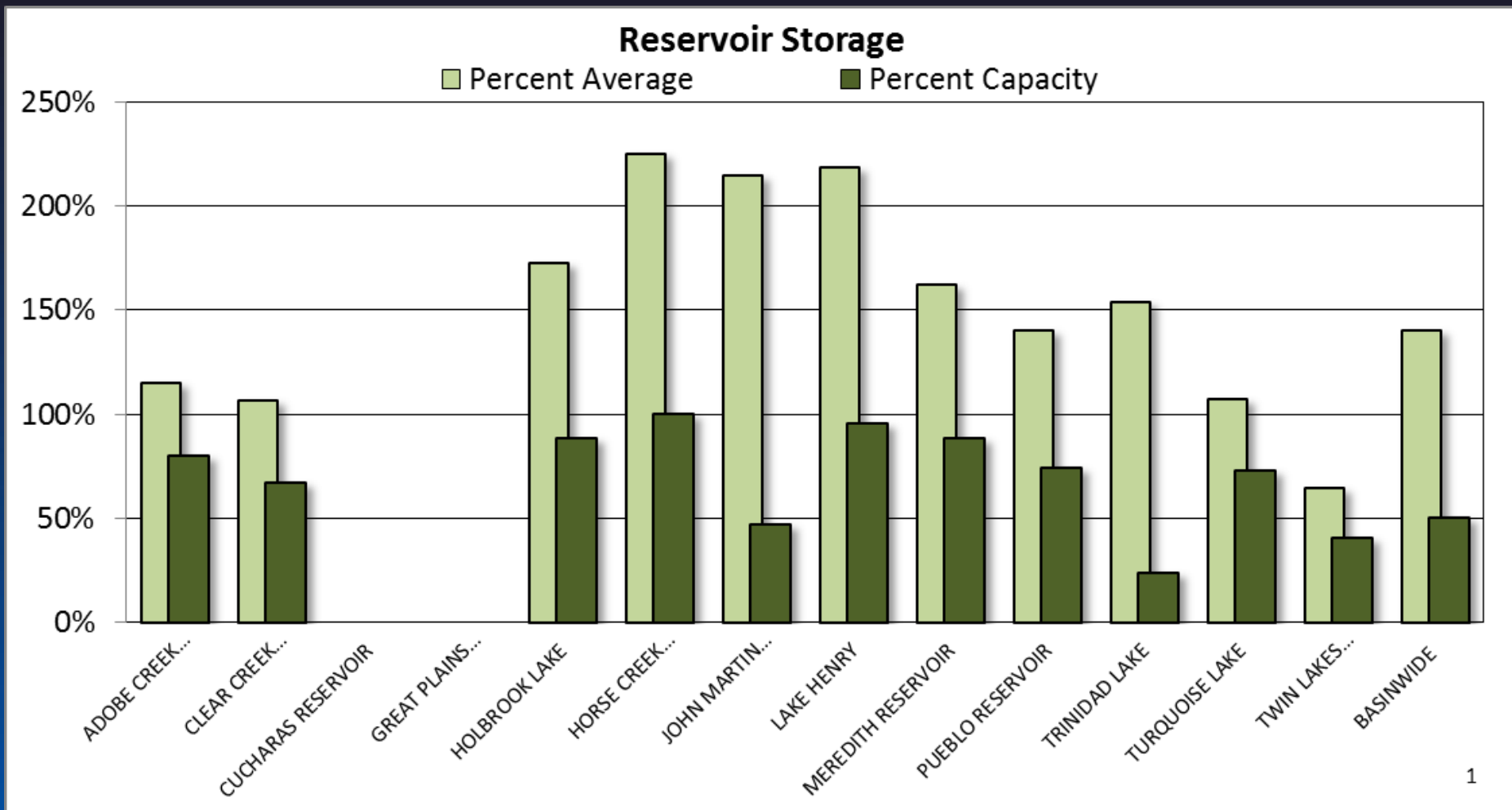
0 10 20 40 60 80 Miles



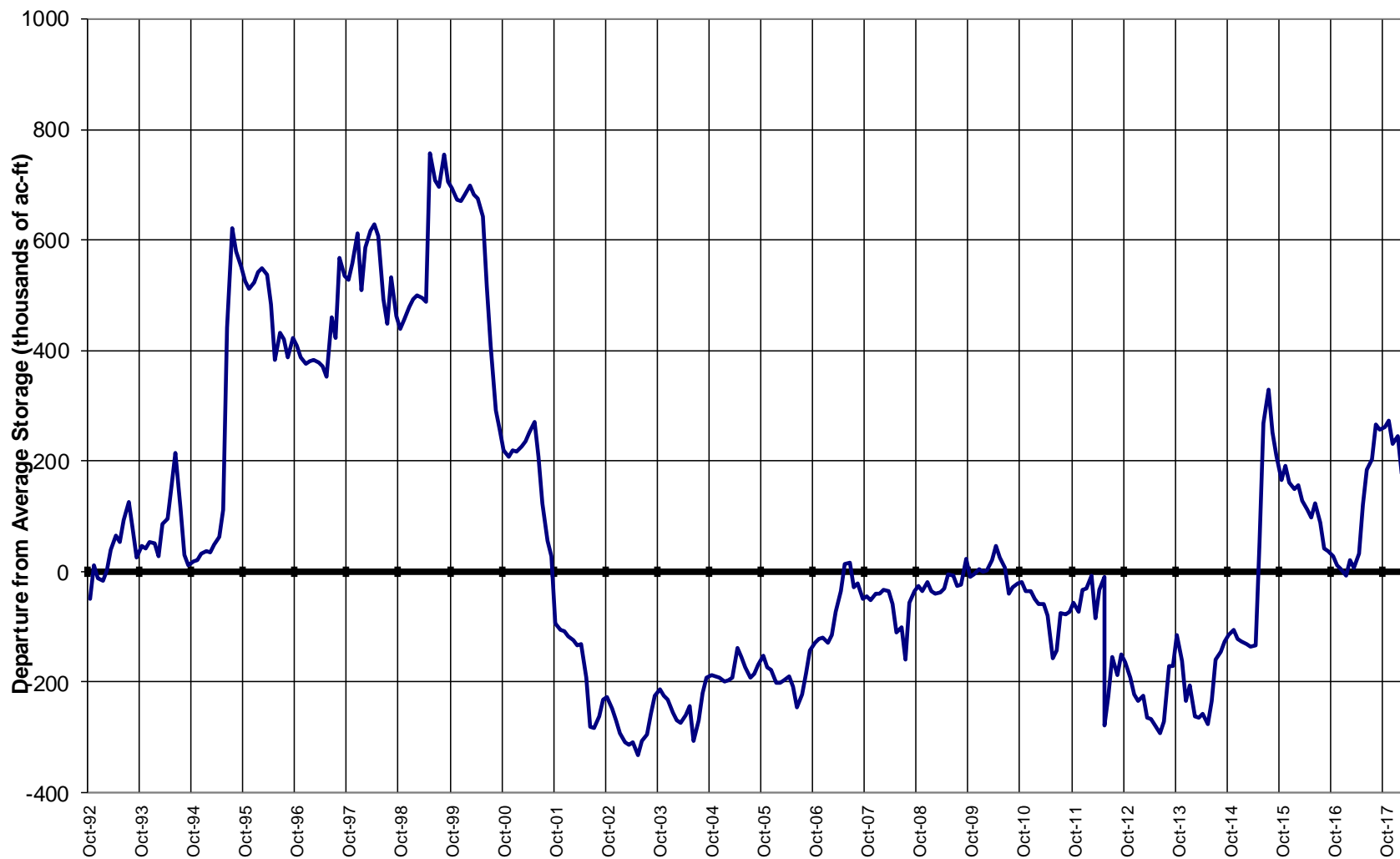
Created 7:01 Mar 21 2018



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

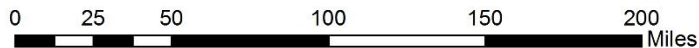
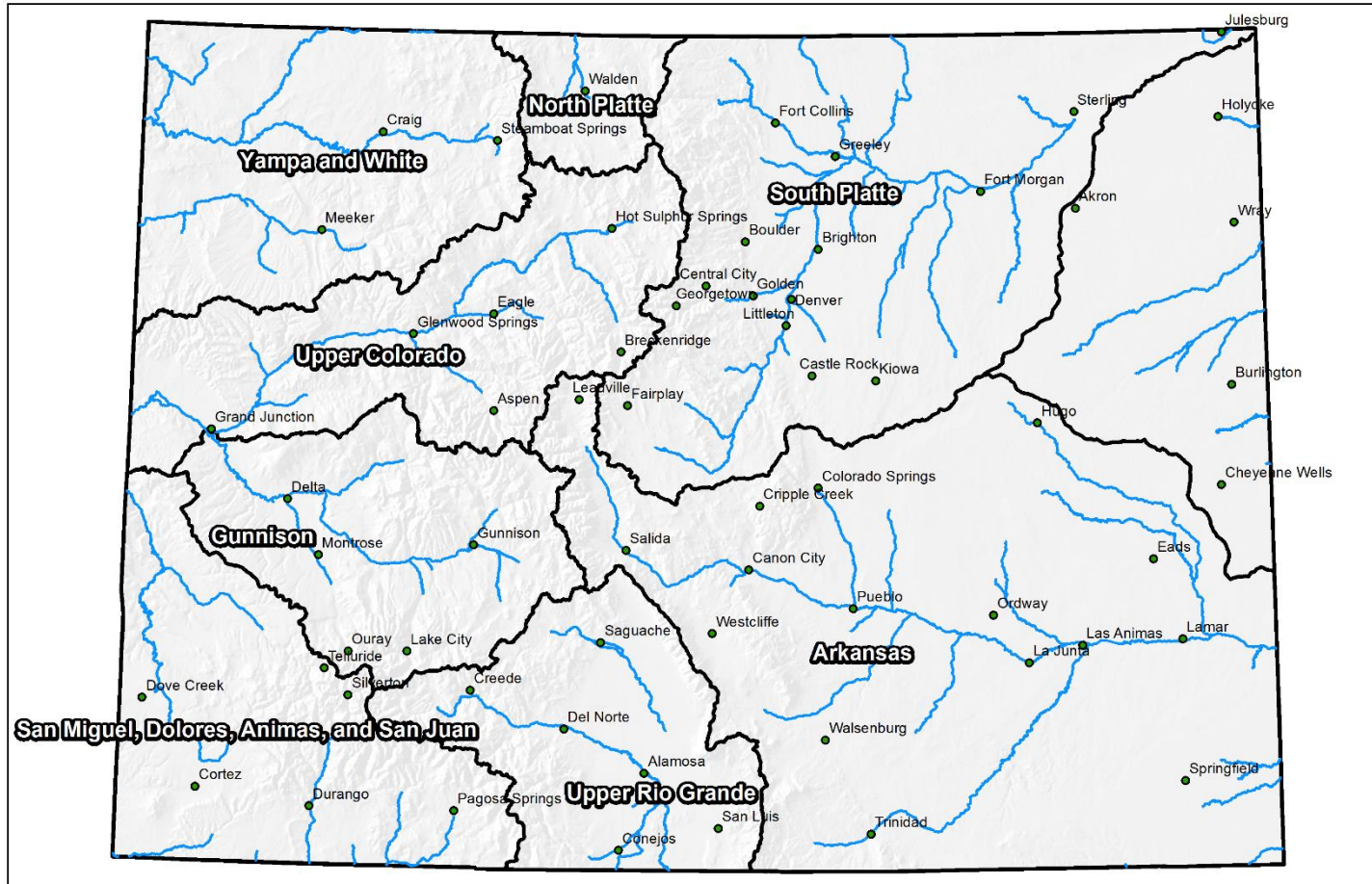


ARKANSAS RIVER BASIN Reservoir Storage Departure from Average



Colorado Statewide Summary

Colorado Major Basins





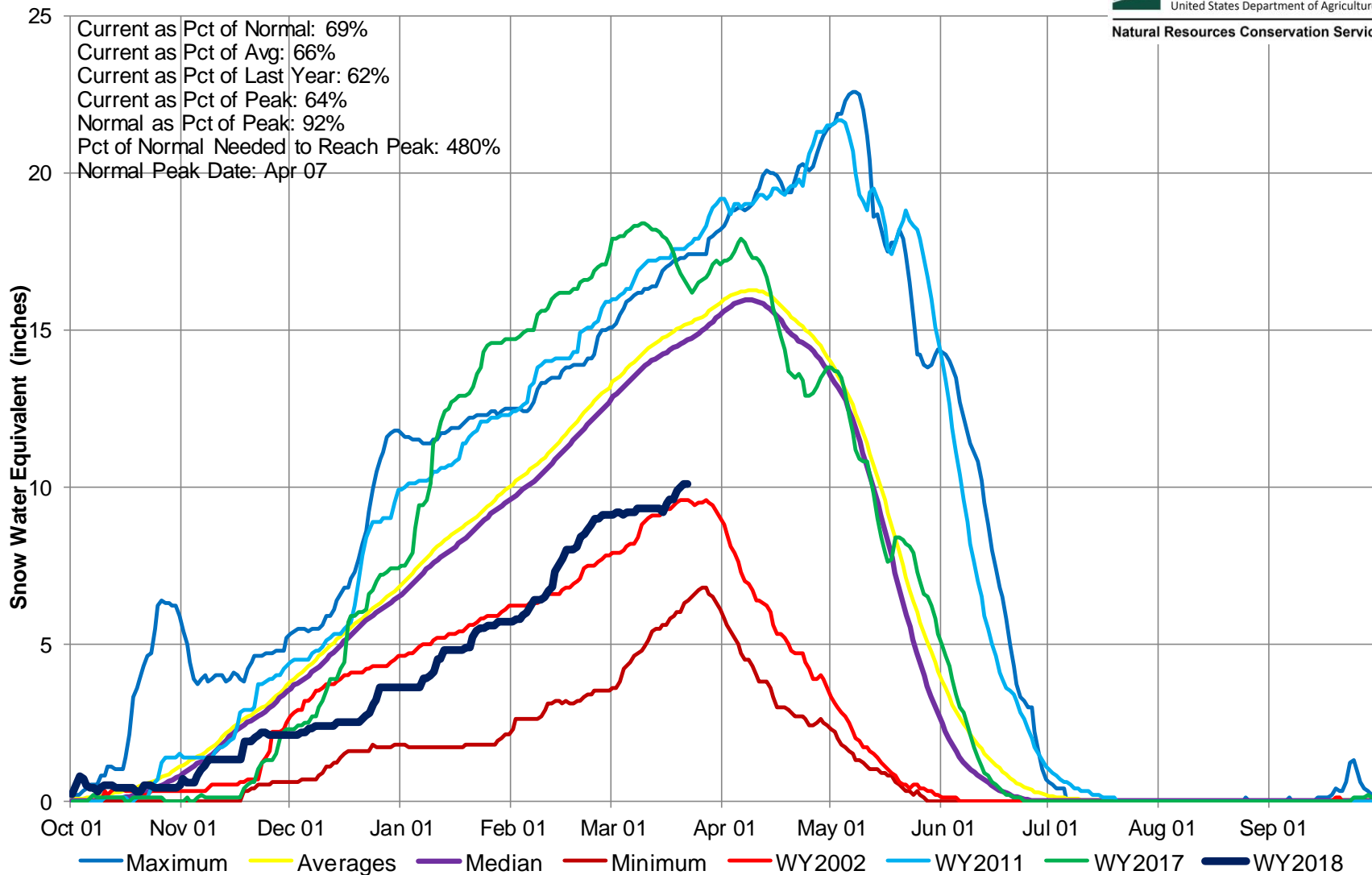
Colorado Statewide High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



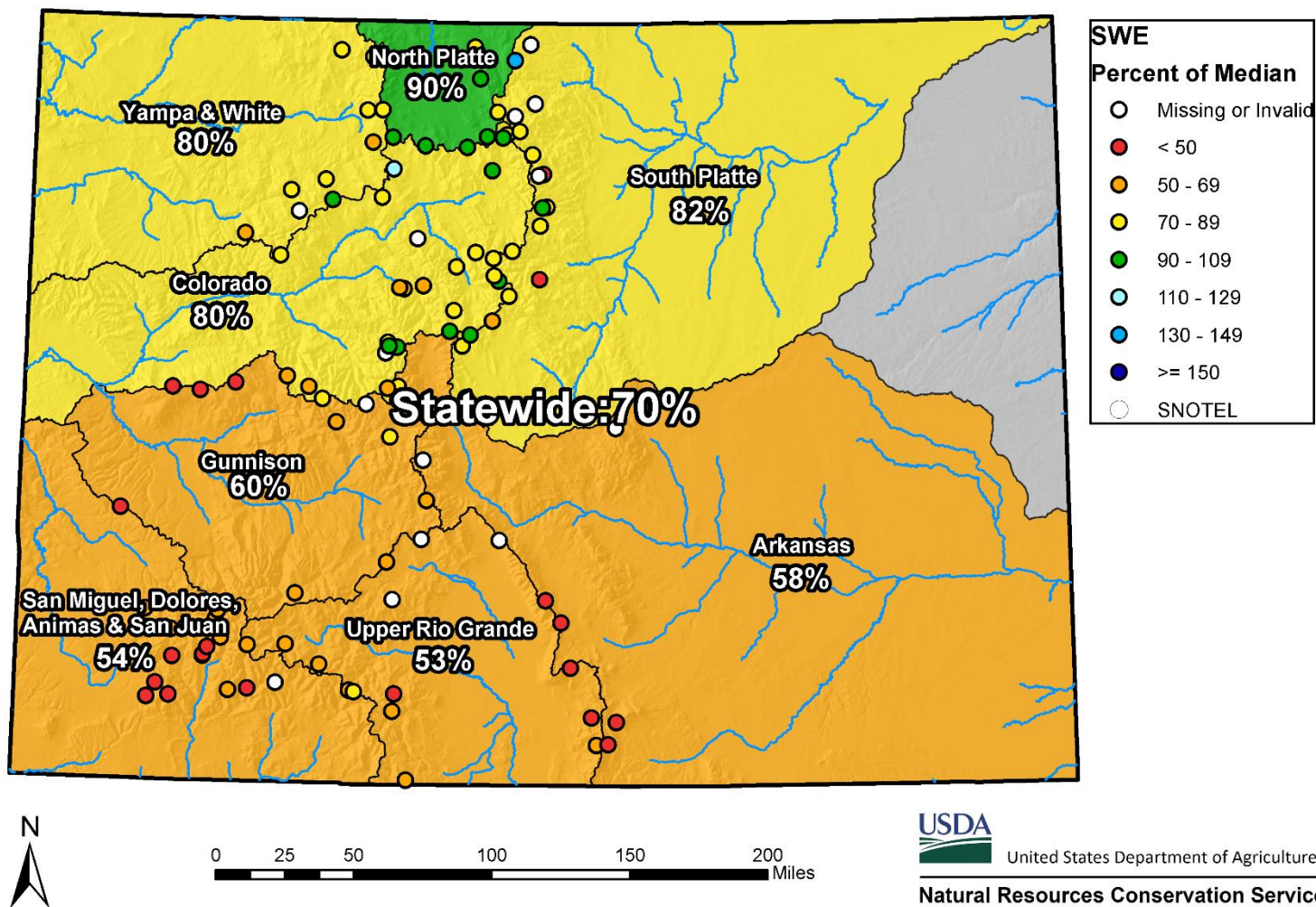
United States Department of Agriculture

Natural Resources Conservation Service



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

Current as of Mar 22, 2018



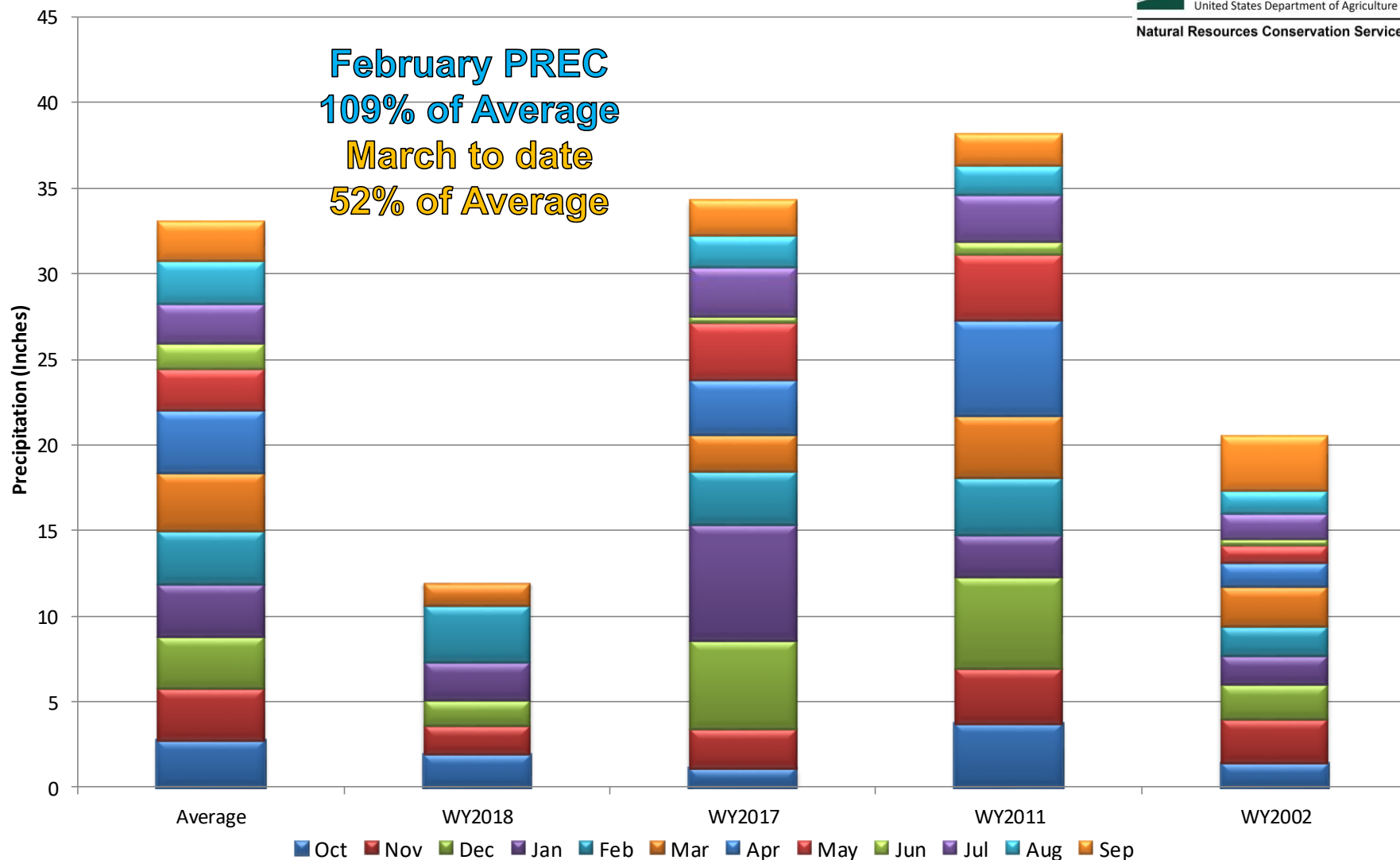
Colorado Statewide High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 22, 2018



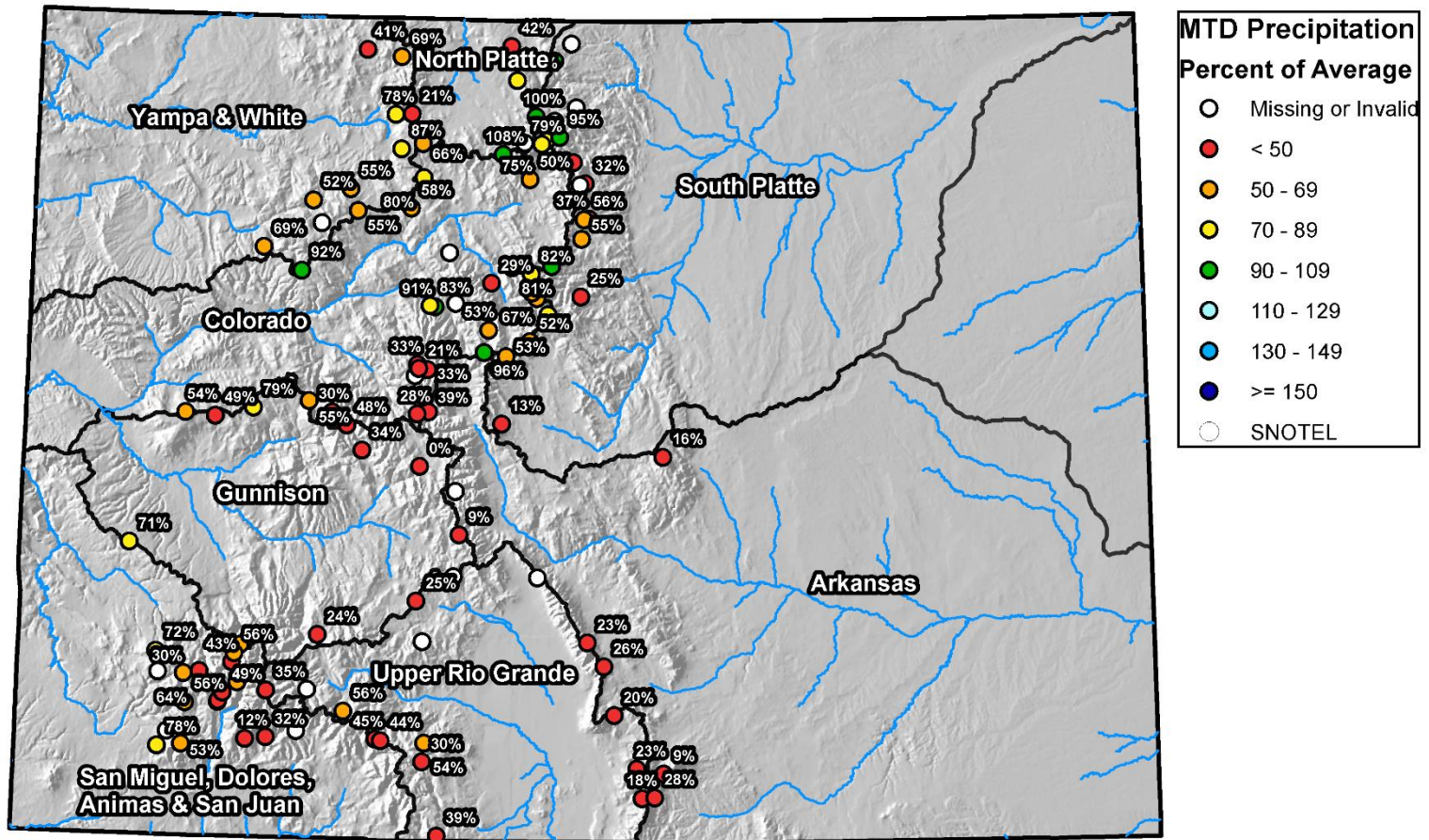
United States Department of Agriculture

Natural Resources Conservation Service



Colorado SNOTEL Month-to-Date Precipitation

Current as of Mar 22, 2018

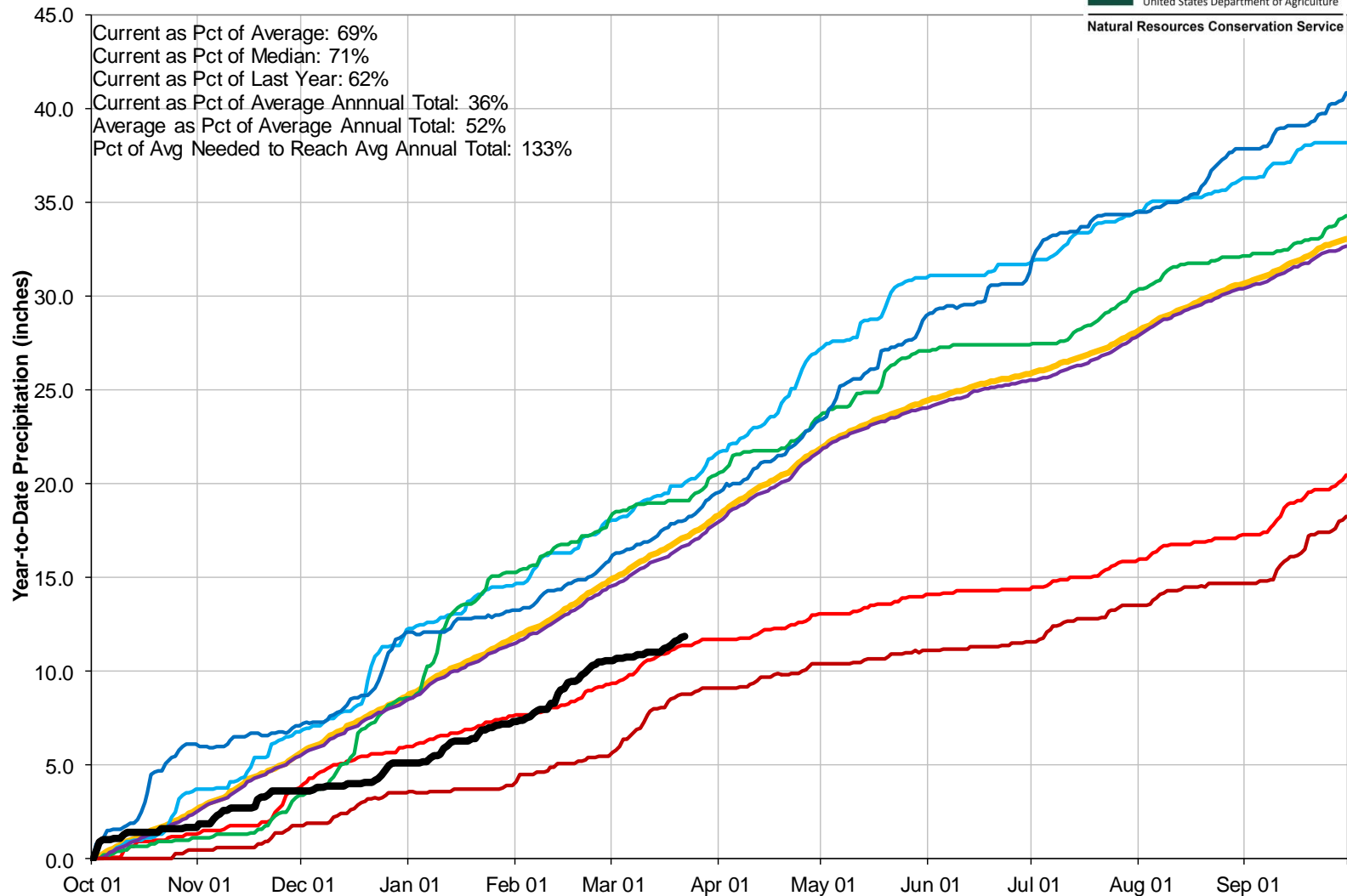


0 25 50 100 150 200 Miles

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

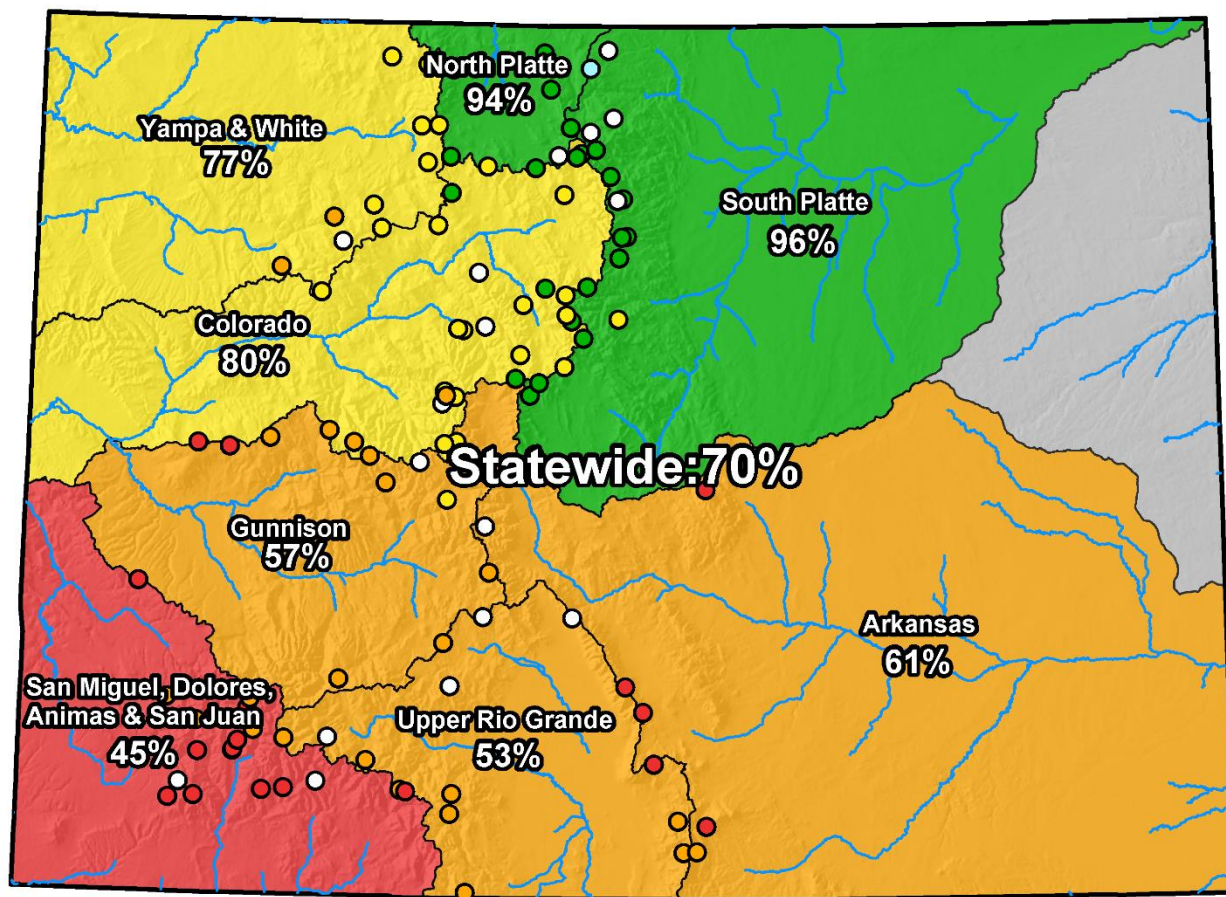
Based on Provisional SNOTEL data as of Mar 22, 2018

USDA
United States Department of Agriculture
Natural Resources Conservation Service



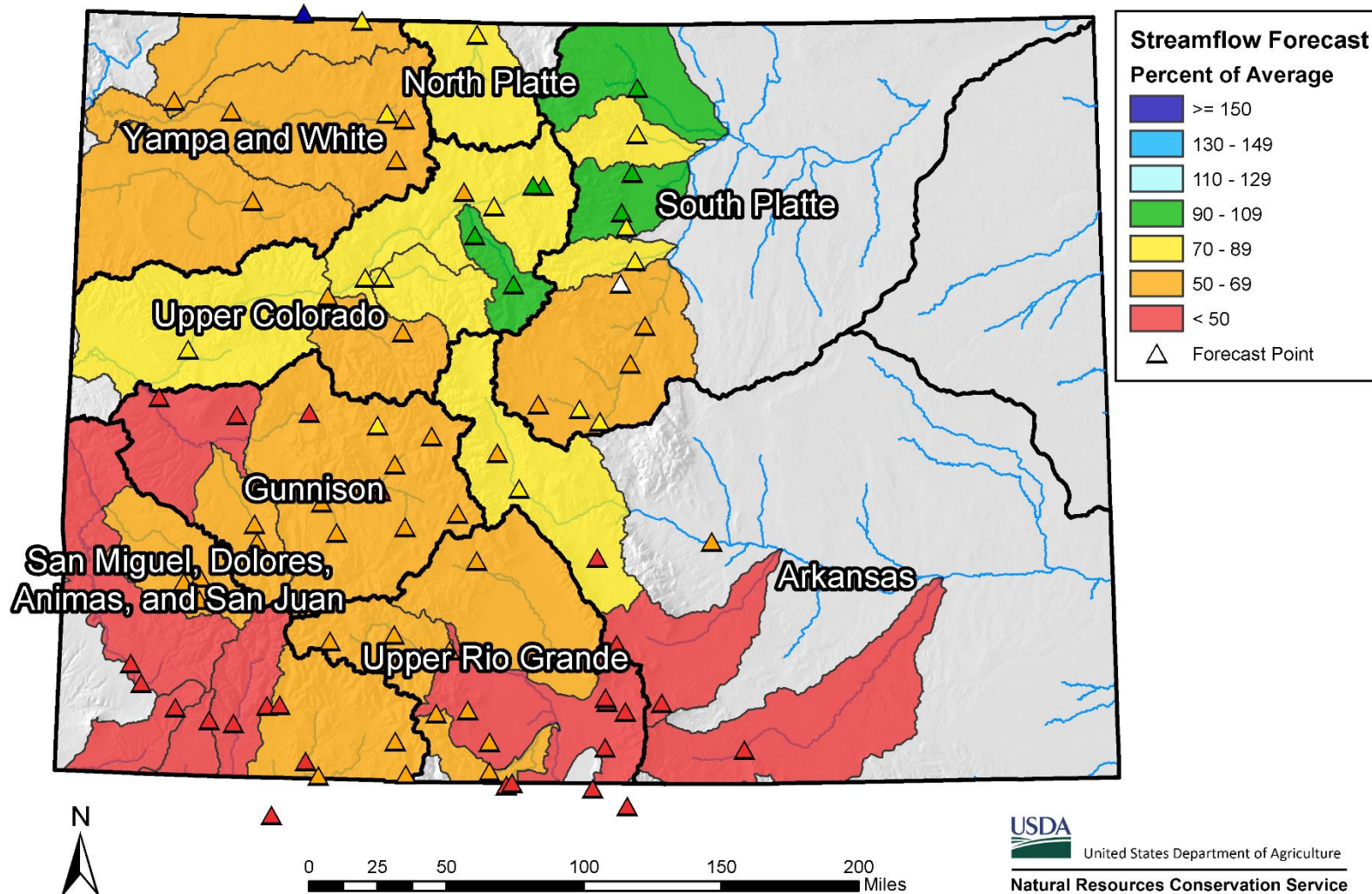
Colorado SNOTEL Water Year to Date Precipitation

Current as of Mar 22, 2018



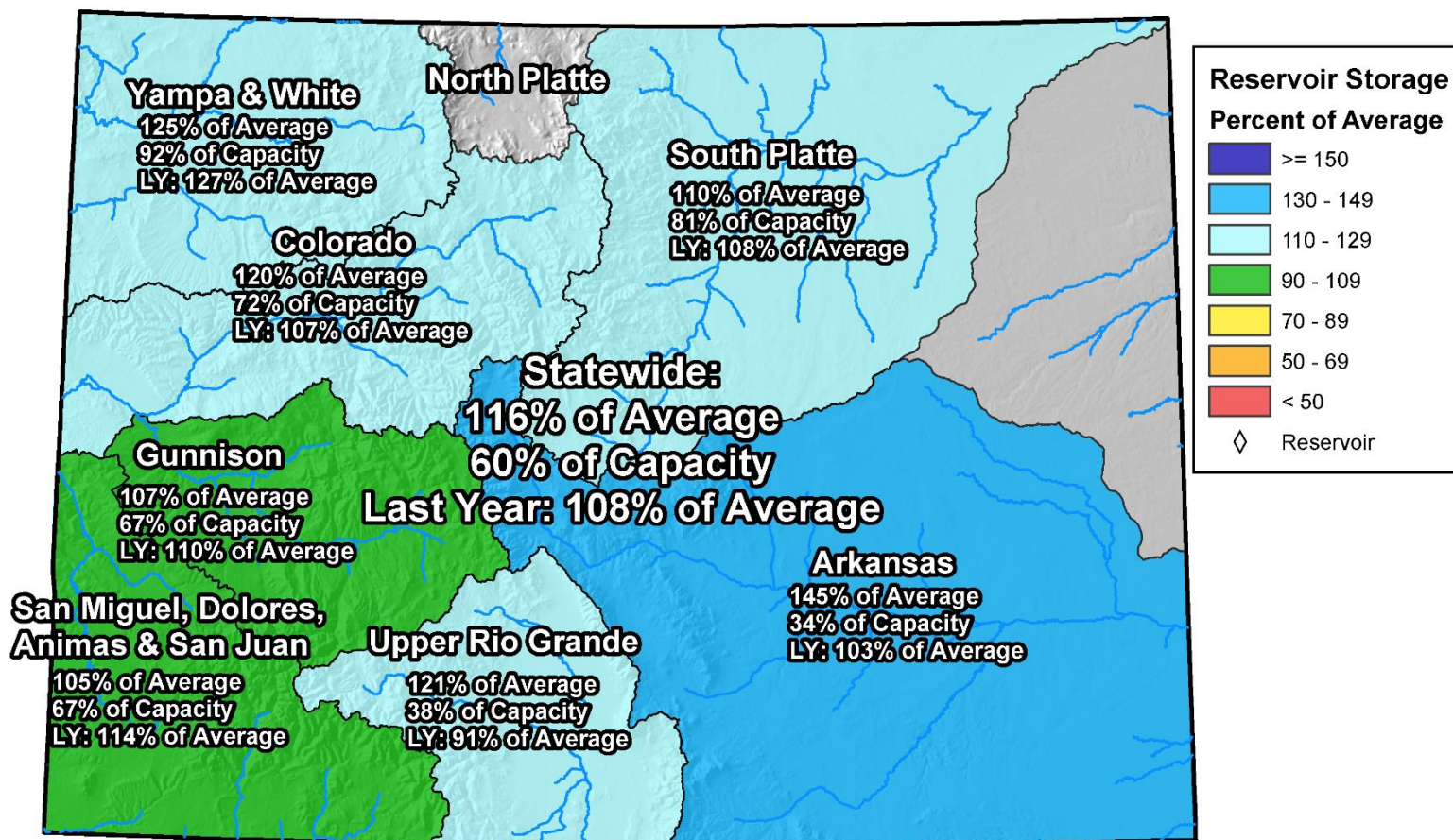
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Colorado Streamflow Forecasts Summary March 1, 2018



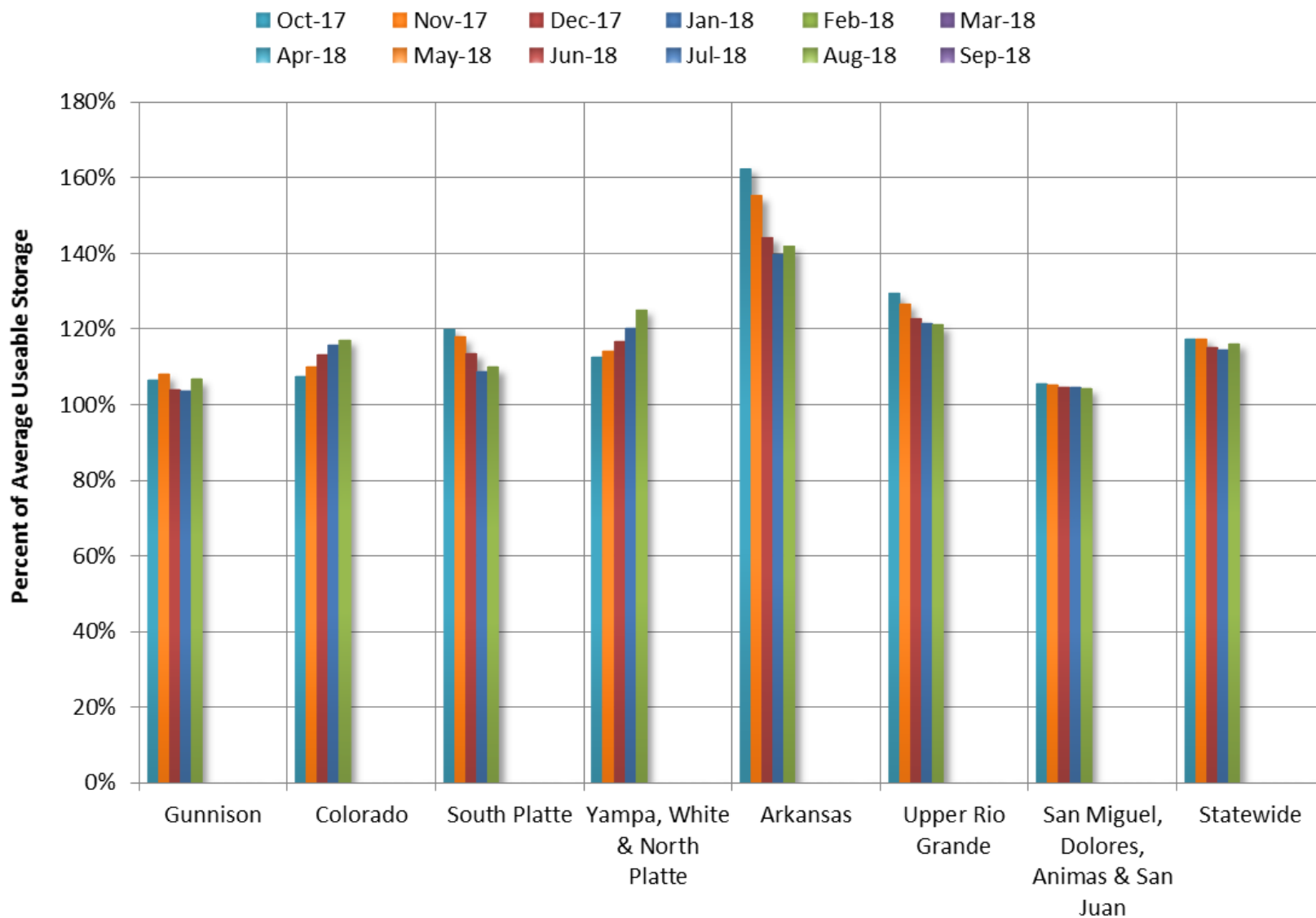
Colorado Monthly Reservoir Storage Summary

End of February 2018



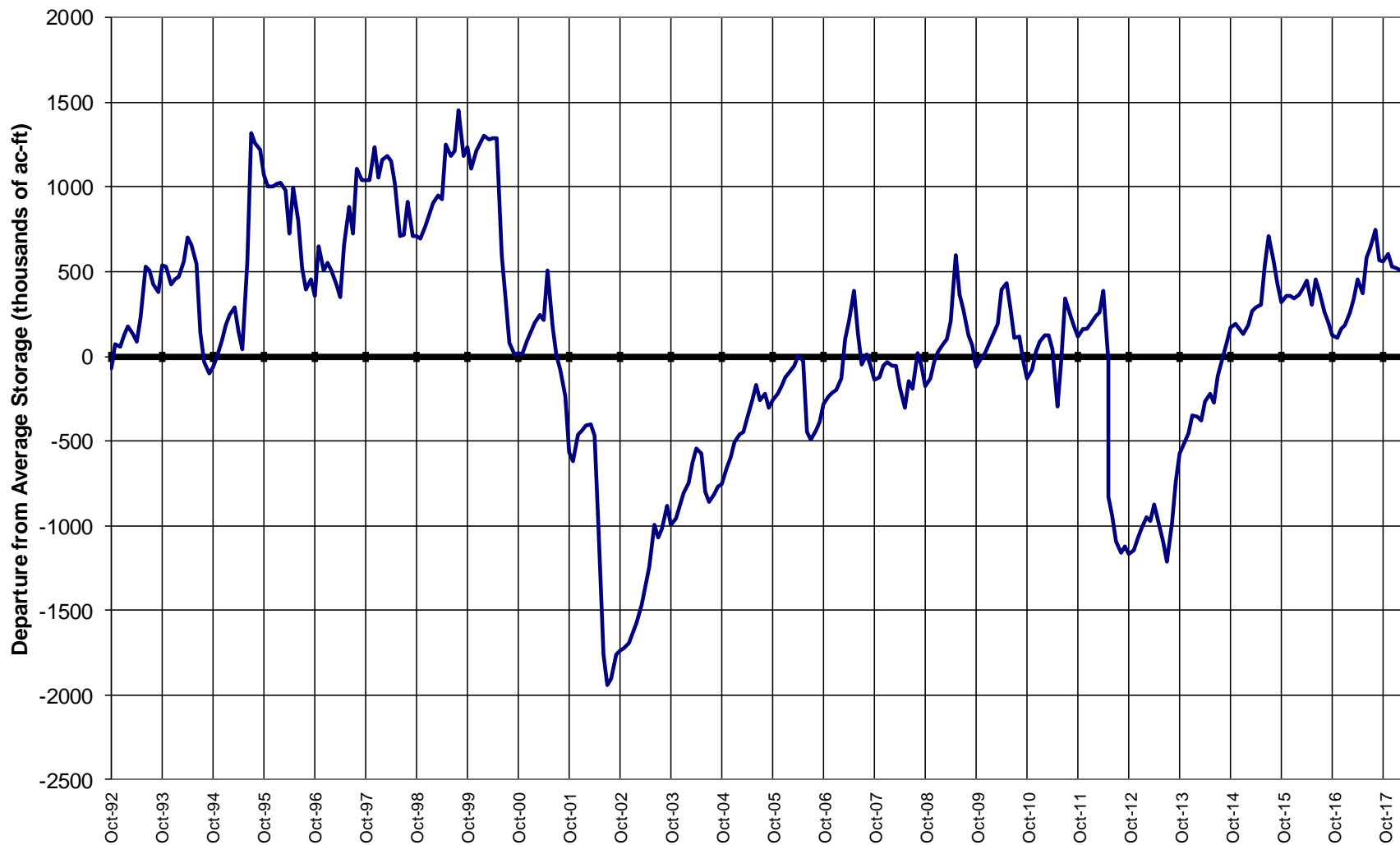
0 25 50 100 150 200 Miles

Colorado Reservoir Storage

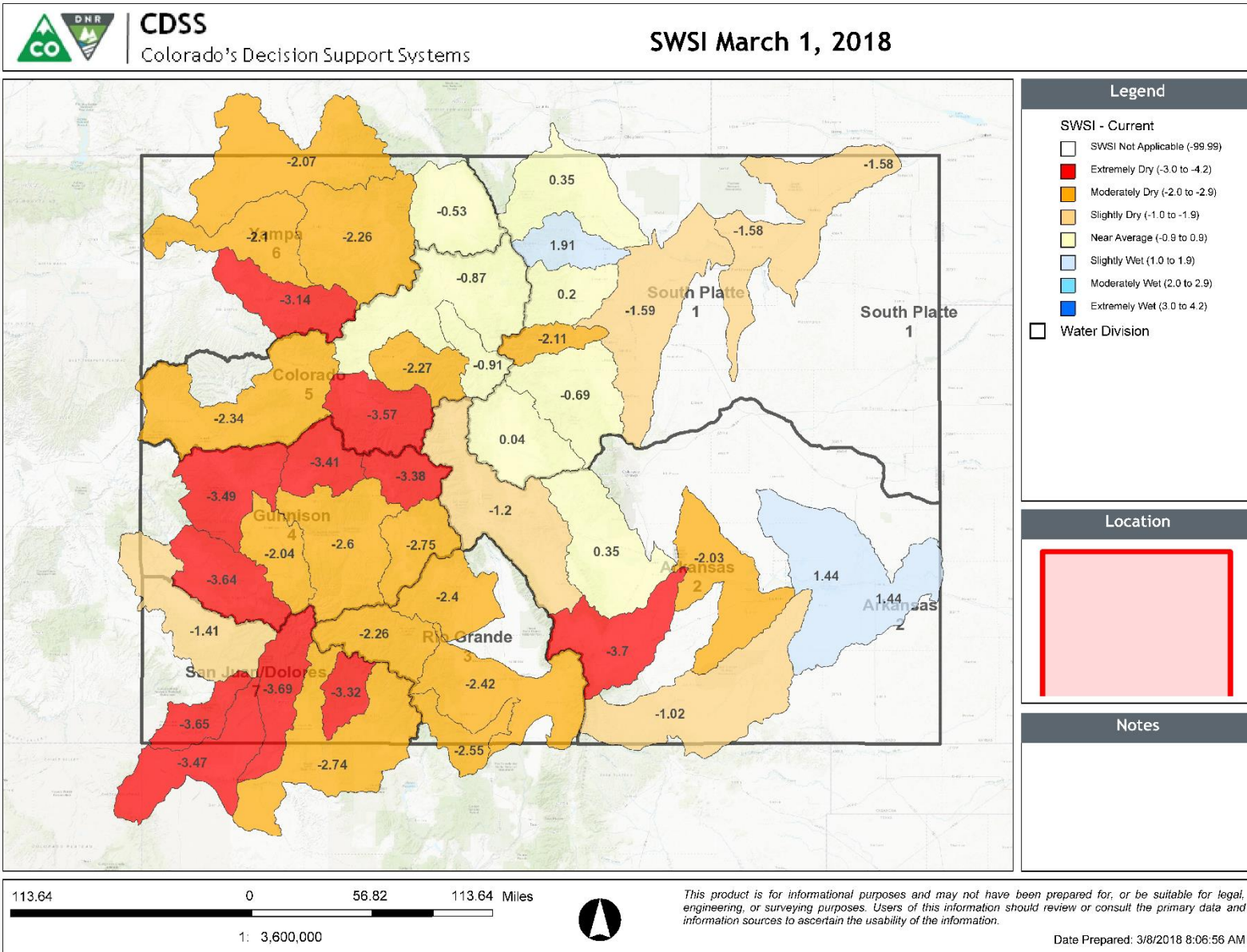


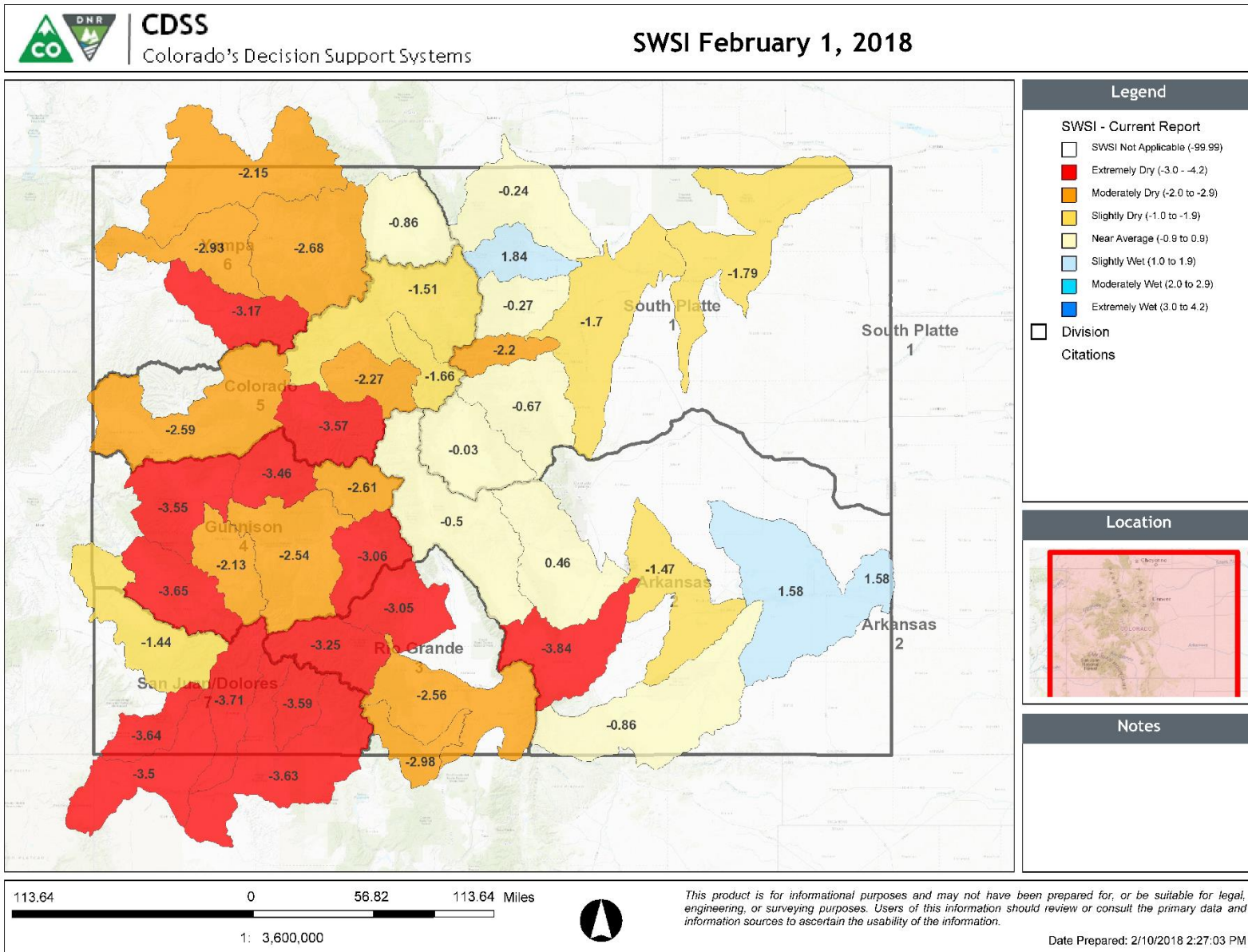


COLORADO STATEWIDE Reservoir Storage Departure from Average



March 1, 2018 SWSI





Summary

- Statewide snowpack is at a similar percent of normal as this time last month but now we are that much closer to the end of the primary snowpack accumulation season
- Streamflow forecasts still largely mirror the spatial pattern of precipitation and snow accumulation
 - All March 1st forecasts were for below normal streamflow volumes (at 50% chance of exceedance levels) and most in the southern basins are for near or less than 60% of average
- March to date precipitation has been well below average statewide and the southern basins went back to being the driest
- Reservoir storage is still above average in all major basins in the state
- As we near the end of the snowpack accumulation season only 1981 and 2002 had lower snowpacks statewide since 1980
 - The northern half of Colorado continues to have considerably more substantial snowpacks than the southern



United States Department of Agriculture

Colorado Snow Surveys

Water Availability Task Force Meeting

March 23rd, 2018

NRCS Snow Survey and Water Supply Forecasting Program

Karl Wetlaufer

Hydrologist

Asst. Snow Survey Supervisor

720-544-2853

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