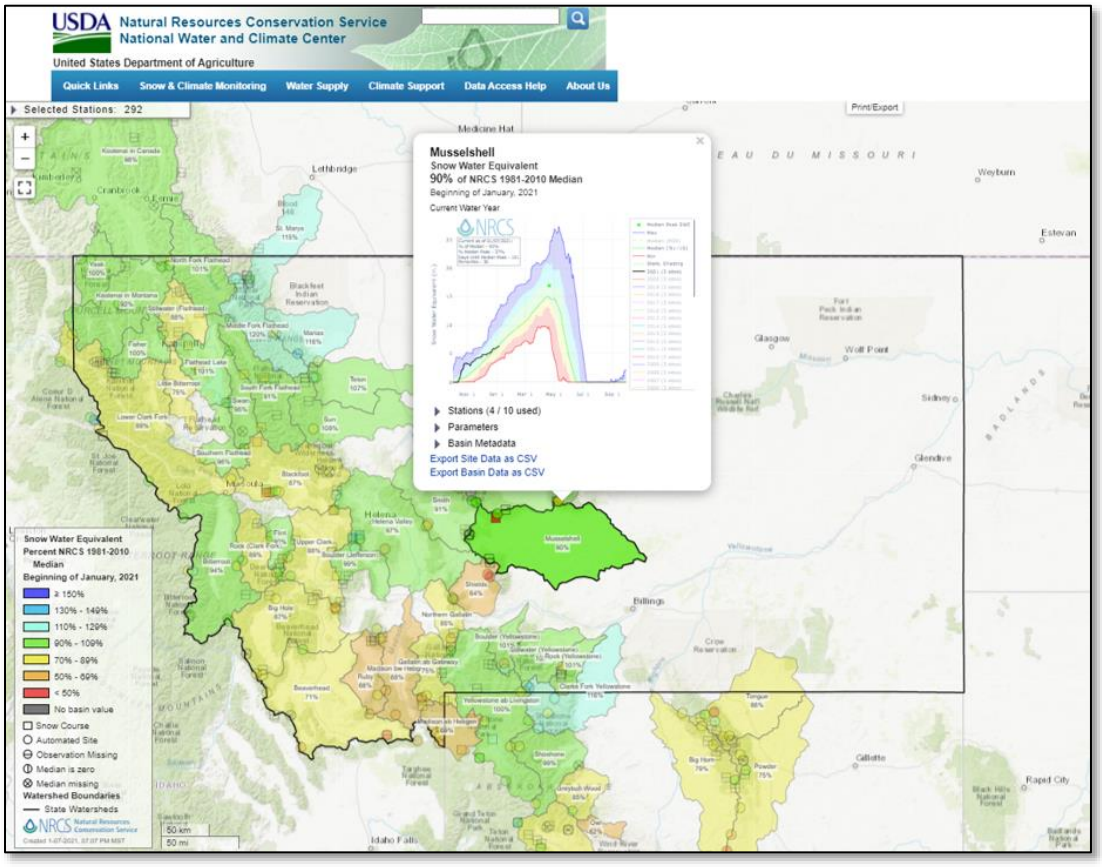
# Montana
# Water Supply Outlook Report
# January 1st, 2021




**The NRCS Montana Snow Survey Program and National Water and Climate Center (NWCC) staff have been hard at work over the last year developing new tools for our customers. Shown above is a newly developed interactive sub-basin map with monthly snowpack data presented for January 1st, 2021.**

**The freshly redesigned Montana Snow Survey webpages have been built around these new tools and the historical format of the monthly Water Supply Outlook Report; interactive content for both the statewide overview and river basin summaries is available. However, it now available for both the monthly and daily timestamps. Users can now get more information from the interactive tools by selecting multiple maps, zooming in to a basin or site of interest, and clicking on the basin or point to show current data and graphs of snow water equivalent or precipitation.**

**Readers can find more information how to access these products in the "Product Highlights" section of this document.**

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# NRCS Snow Survey – Operational News

## Technology Update

From roll charts with short-haul radios and repeaters to using gasses left behind from meteorites entering the atmosphere, NRCS Montana Snow Survey Program has always been creative in getting mountain snowpack and precipitation information to water users and managers in as close to real-time as possible. The history of how the Snow Survey program gets information from mountain SNOTEL sites to the public is a long one, dating back to the mid-1960s in Montana, and a new chapter has recently been added.

Beginning in the summer of 2017, the NRCS Snow Survey office covering Montana, Wyoming, and South Dakota began looking at radio telemetry alternatives to the aging Meteorburst Network used to transmit and receive SNOTEL data for the last four decades. A beta test in southwest Montana beginning in 2018 vetted a combination of cellular modems and Geostationary Operational Environmental Satellite (GOES) radios. The new forms of telemetry proved to be robust, reliable, and, unlike the Meteorburst system, offered multiple modes of data retrieval. After the successful test, the network-wide upgrade plan was implemented during the 2019 and 2020 field seasons.

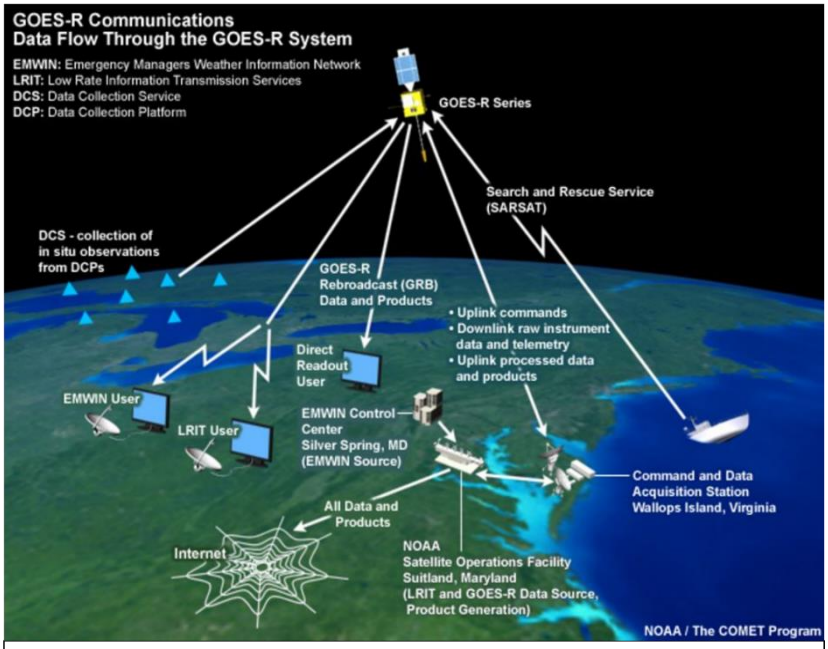
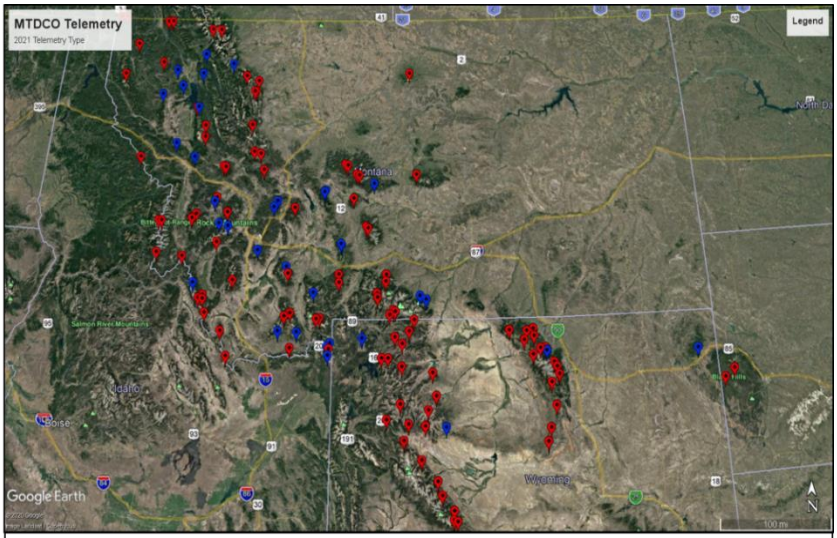


Diagram of the GOES Satellite Telemetry System

As of September 2020, the NRCS Montana Snow Survey Program has upgraded the telemetry at all 134 SNOTEL sites and 5 SNOLITE sites in Montana, Wyoming, and South Dakota. These telemetry upgrades also provided an opportunity to enable future measurement capabilities of SNOTEL sites by installing new dataloggers, improving programming and wiring, and upgrading and adding new sensors to SNOTEL sites for testing. The NRCS Snow Survey Program is confident that these SNOTEL upgrades will greatly benefit customers by providing more reliable data while adding additional flexibility for measuring different hydrometeorological parameters in the future.



2021 Telemetry Types: **Red** = GOES, **Blue** = Cell

The NRCS Montana Snow Survey Program staff worked hard to get these upgrades done for water users across the region over the last three years. The staff's dedication, innovation, and adaptability were key to completing these extensive and important upgrades.

## New SNOTEL Site

The Slag-a-melt Lake Snow Course, which has a history of manual snow surveys dating back to 1968, is a high elevation snowpack measurement location in the northern Beaverhead Range useful for forecasting the Big Hole River in southwest Montana. Traditionally accessed via helicopter, this snow course had intermittent measurements due to weather, budget uncertainty, and difficulty of access during the winter months. In September of 2020, the automated SNOTEL site was installed after multiple failed attempts due to weather (storms and snow) and fire (smoke and helicopter availability).

Slag-A-Melt Lakes Snowcourse: Established 1968

The hourly and daily data from Slagamelt Lakes SNOTEL is now is available to the public in near real-time. This site fills in a critical gap in the network of snow measurements and will provide important mountain snowpack and precipitation data to irrigators, water managers and recreationists.

Slagamelt Lakes SNOTEL Site. Installed September 2020

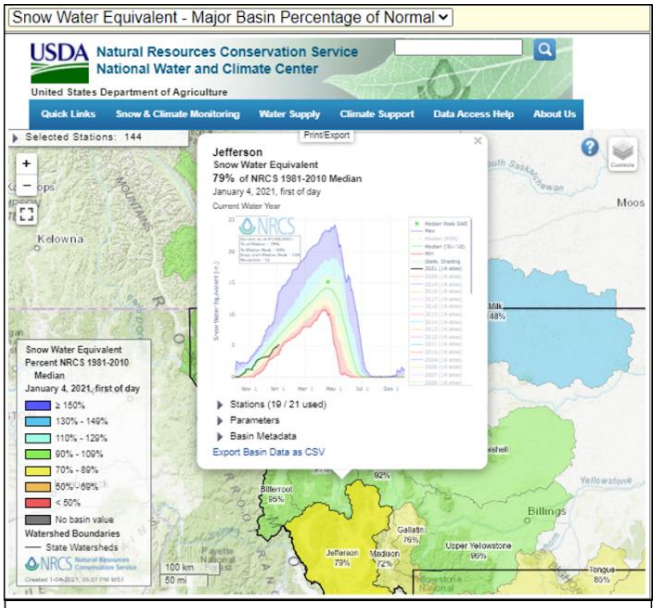
# NRCS Snow Survey – Product Highlights

Each month, a new tool, product, or web page available for water resource planning will be featured in the "Product Highlights" section of the monthly publication.

## New Web Pages, Tools and Water Supply Report

The NRCS Montana Snow Survey staff has developed several new tools for water users, many of which were released on January 1, 2021. The Montana Snow Survey Homepage has been redesigned to make data easier to access via a host of interactive products. The functionality of the interactive SNOTEL map has been improved. New sub-basins and analytical tools have been added so that water users can better zoom in on their area or river basin of interest.

Change can be difficult. After 30 years of very little change, the new product formats will be different. However, with change comes opportunity. The new web pages will allow the user to get much more information when compared to a static monthly report. A streamlined monthly narrative of weather and climate, snowpack, precipitation, reservoir storage, and streamflow forecasts statewide will continue**,** but the monthly summary will no longer include the individual river basin narratives.

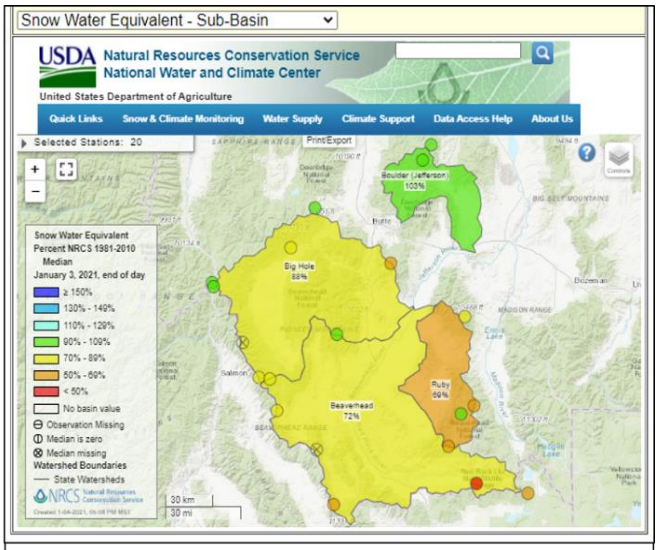



Screenshot of a section of the new Monthly Statewide Overview web page. Users can select multiple maps, scroll, zoom, hover or click on basins or individual sites of interest to get plots, data tables and more.

**This is because Interactive web pages have been created for both the river basins (example) and a Monthly Statewide Summary.** As the data comes in throughout the first business week of each month, these pages will automatically update with the most recent information. Data is finalized by the fifth business day of each month.

While first of month data remains the most comprehensive overview of current conditions due to the inclusion of parameters that are only reported monthly (snow course data, valley precipitation data, reservoir data, and streamflow forecasts), the daily data provides excellent guidance between the dates when the monthly data is available. As the automated network has grown, so has the ability to use daily SNOTEL data as a reasonable approximation of the current conditions in mountain locations.

Water users are encouraged to look at the new Daily Statewide Conditions web page and new individual river basin web pages (example), which provide additional analytical tools, graphs, and maps using daily SNOTEL data. These tools can help the water user understand how mountain snowpack and precipitation are evolving during the month and what to expect when the monthly data is finalized.




Screenshot of a section of the new Jefferson River Basin Daily Summary web page. Users can select multiple maps, view storm totals and interact with basin plots for basin-wide snow water equivalent, mountain precipitation and air temperature.

The Montana Snow Survey Homepage is the place to start to get a feel for the new layout and provides direct access to an interactive at-a-glance map of current mountain snowpack, snow depth, and precipitation. The new navigation bar allows easy and quick access to both the new and familiar products and tools. The table at the end of this document includes links to the latest monthly products and web pages; once readers have read this report, they are encouraged to explore them as they have been designed to supplement this report and provide additional information.

To continue delivering the products customers rely on for water management decisions and personal purposes, NRCS Montana Snow Survey is asking for feedback. Please send an email with your response to the updates, good or bad. The feedback will help to improve these products.

## Monthly Weather: Weather and Climate

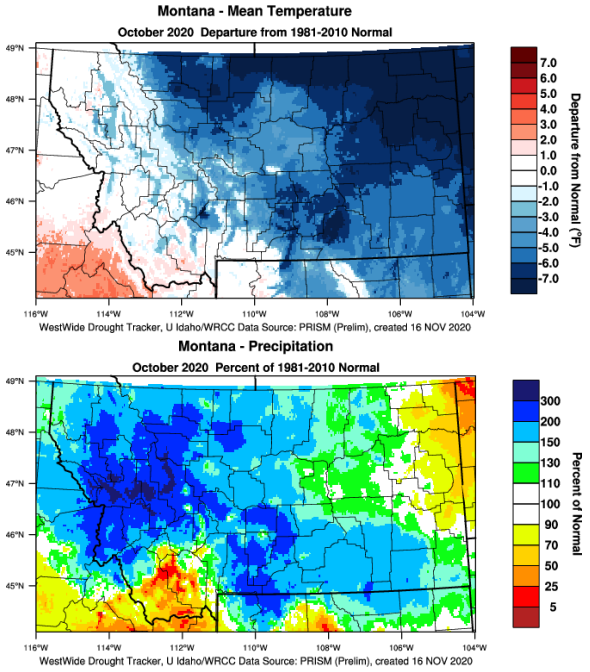
Entering the 2021 Water Year on October 1st, there was a great deal of excitement about the possible "La Nina" winter forecasted for the fall and winter seasons. Some wondered what this would mean for Montana's winter air temperatures, but most were concerned about one of our most precious resources, the snowpack.

October started on the warm end, with many mountain locations reporting well above average daily temperatures through the first week; however, this would quickly give way to a prolonged cold and wet period, which would persist through the last week of the month. During that time, favorable west-northwest flow would drop the temperatures to near-record low at mountain SNOTEL sites across the state for daily average temperature for October 25th. Most river basins in the state would receive above-normal snowfall for the month, except the Beaverhead, Ruby, and Madison River basins, which were largely missed by the storms. Snowpack seemed off to a strong start in the other river basins on November 1st, with most reporting well above normal early season snowpack.

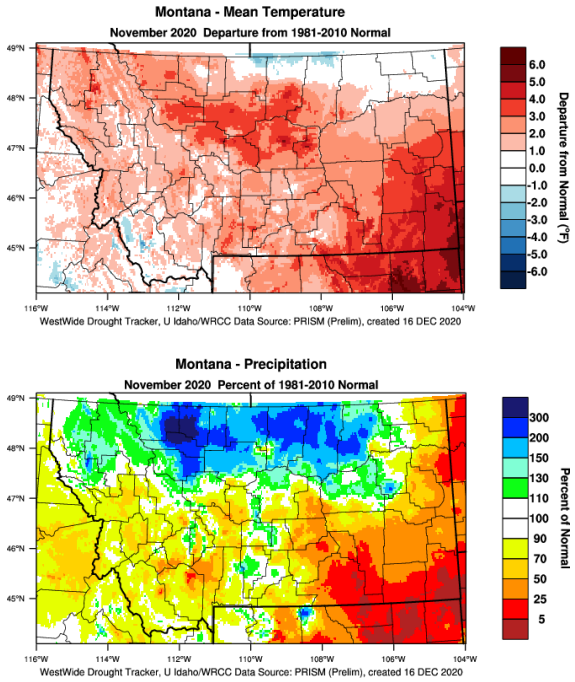
When it seemed the elevated chances of cold and wet were proving true for the looming winter, the atmospheric patterns would make a significant change between the last week of October and the first week of November. Warmer air from the Pacific spilled into the state during the first week of November, accompanied by high pressure. Fortunately, this pattern would break down during the second and third weeks of the month, with westerly flow yielding precipitation in the state's northern and western regions.

Unfortunately, this pattern would not last, and the final week of November began a month-long dry spell for many mountain locations. The northern half of the state would report a second month of above-average precipitation during November. In contrast, the state's southern and eastern halves would report below average to well below average precipitation. The monthly average air temperature was reported as slightly above average for most western Montana but well above normal in some areas of eastern Montana.

**October 2020 – Temperature and Precipitation**

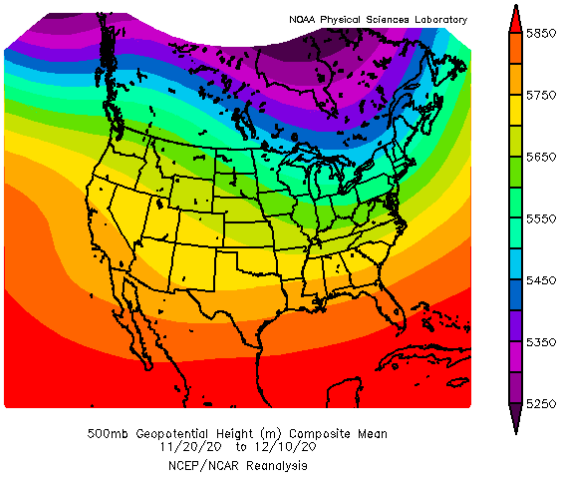



**November 2020 - Temperature and Precipitation**



Ending the month of November, many river basins would continue to have a snowpack that was near to above normal for December 1st, but the river basins in southwest Montana would remain high and dry. The added precipitation during the month was enough for the southwest river basins to make some marginal gains; however, it was not enough to make up for the lack of October and November storms.

**Mean 500mb flow for the November 20th to December 10th, 2020 period. Warm westerly flow dominated the period, with cold artic air shifted towards the eastern United States.**

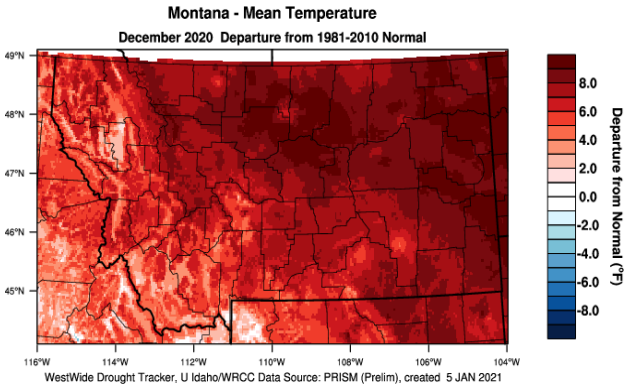


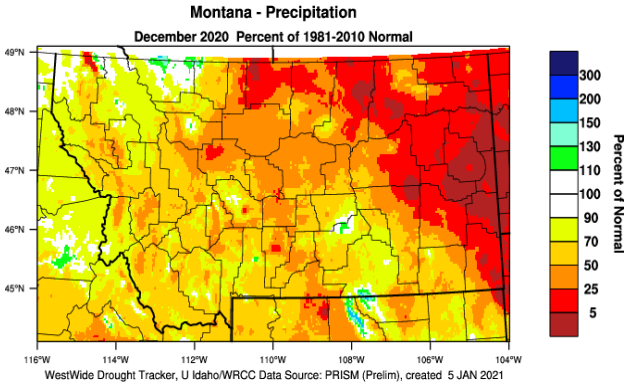

Between November 20th and December 10th, the state would remain under westerly flow, with the cold air from the north shifted towards the east coast of the United States. During this time, high pressure dominated the circulation patterns, and slightly to well above average temperatures were recorded at many mountain SNOTEL sites.

During the latter half of December, the weather patterns would again shift, ending the month-long "snow drought" at mountain locations, with intermittent storms trickling in and building the mountain snowpack. However, the lack of snowfall during this time, especially in the valleys and at lower elevations in the mountains, would cause the basin snowpack percentages to decline from where they were on December 1st.

Overall, precipitation for December would be reported as well below average for most locations in Montana, with some areas experiencing the driest December on record. Some eastern Montana locations along the North Dakota border would experience well below-average precipitation for the second month in a row.

**December 2020 – Temperature and Precipitation**




Mountain SNOTEL sites were not exempt from the dryness; a few in the southern half of the state were either the driest or second driest on record for the month. The one region of exception is a few mountain locations along the Canadian border in northern Montana, where the tail end of an "atmospheric river" event before the holidays yielded 2 to 4" of precipitation.

Monthly average air temperatures for December were well above average across the state. Several SNOTEL sites set or matched high daily average temperatures for December 9th and December 21st.

Luckily, there is still a lot of winter left for snowpack and precipitation totals to improve. More detailed information on the current snowpack across the state and forecasted weather for the coming months can be found in the "Snowpack" and "Looking Ahead" sections of this report.

## Snowpack – Overview

Snowpack totals for January 1st vary widely across the state of Montana. Although snow began to accumulate in mountain locations in October this year, and mid-month storms in November storms helped build upon this, many mountain locations across the state experienced a prolonged period from late November until mid-December where little snow accumulated.

Due to favorable storm patterns, a few regions in the north-central and northwestern areas of Montana have a snowpack that is near to above normal for this date, boosted by early-season October snowfall and the moist westerly and northwest flow that occurred during October, November, and December. Some river basins in the northwest received December moisture from the tail end of an "atmospheric river" event during the third week of the month, which yielded rain at high elevations in Oregon and Washington, but snowfall in northwest Montana River basins. The Sun, Teton, Marias, and Middle Fork of the Flathead River basins all benefitted from October and November storms and received enough snowfall during December to keep totals above normal on January 1st.

Elsewhere in the state, snowpack ranges from near to slightly below normal in many west-central, central, and south-central river basins to well below normal in southwest river basins (Beaverhead, Ruby, Madison, Upper Gallatin, and Shields River basins). In these areas, the early season October storms didn't yield the totals experienced in the northern half of the state, and November precipitation was also below average. The prolonged period without snow from late November into mid-December caused the basin snowpack totals to decline to well below normal, although late December storms did yield slight improvement.

The January 1st snowpack report is an early season update on current conditions and is more of a progress report than a report card. At this point in the year, 35 to 45 percent of the annual peak snowpack has typically accumulated. While it bears mentioning that totals are low in some basins, you don't have to look far back to find a year where snowpack made major changes by February or March 1st. Last year there was a major turnaround after January 1st when snowpack looked similarly bleak in river basins along the Idaho border and southwest Montana. With La Nina's chances of persisting through the January through March period being greater than 95%, and a 65% chance that it continues through the March through May period, there is still plenty of time for the potentially above-normal precipitation and below-normal temperatures to come through.

## Reservoirs - Overview

Most reservoirs are above average for storage on January 1st, with only three reservoirs in the state reporting below to well below average contents. Gibson Reservoir (Sun River) and Willow Creek Reservoir (Jefferson) are slightly below average for this date, while Fresno Reservoir is well below average. Due to the blowout on the St. Mary Canal last May, demand on Fresno Reservoir was increased due to the inability to divert water through the 29-mile St. Mary Canal structure this runoff season. Fortunately, the needed repairs were completed on the two drops in the canal before winter arrived, ensuring water users along the Hi-Line will have access to diverted water this coming irrigation season.

# Data Table – Basin-Wide Values

| 1/1/2021 | Snow Water Equivalent | Precipitation | | Reservoir Storage | |
|---|---|---|---|---|---|
| | *% Normal* | *Monthly % Avg* | *Water Year % Avg* | *% Average* | *% Capacity* |
| **Columbia River Basin** | | | | | |
| Kootnenai in Montana | 94 | 89 | 109 | 110 | 65 |
| Flathead in Montana | 98 | 85 | 118 | 117 | 82 |
| Upper Clark Fork | 89 | 65 | 101 | 109 | 72 |
| Bitterroot | 94 | 83 | 113 | 144 | 34 |
| Lower Clark Fork | 89 | 69 | 96 | 99 | 94 |
| **Missouri River Basin** | | | | | |
| Jefferson | 79 | 62 | 83 | 109 | 47 |
| Madison | 69 | 53 | 76 | 108 | 80 |
| Gallatin | 76 | 63 | 86 | 108 | 54 |
| Helena Valley | 97 | 47 | 109 | 96 | 76 |
| Smith-Judith-Musselshell | 87 | 50 | 89 | 164 | 80 |
| Sun-Teton-Marias | 113 | 65 | 134 | 109 | 57 |
| St. Mary | 115 | 93 | 119 | 205 | 57 |
| Milk | 155 | 47 | 126 | 81 | 32 |
| **Yellowstone River Basin** | | | | | |
| Upper Yellowstone | 96 | 58 | 110 | 119 | 60 |
| Bighorn | 83 | 61 | 80 | 106 | 70 |
| Tongue | 86 | 85 | 102 | 148 | 49 |
| Powder | 75 | 72 | 79 | | |

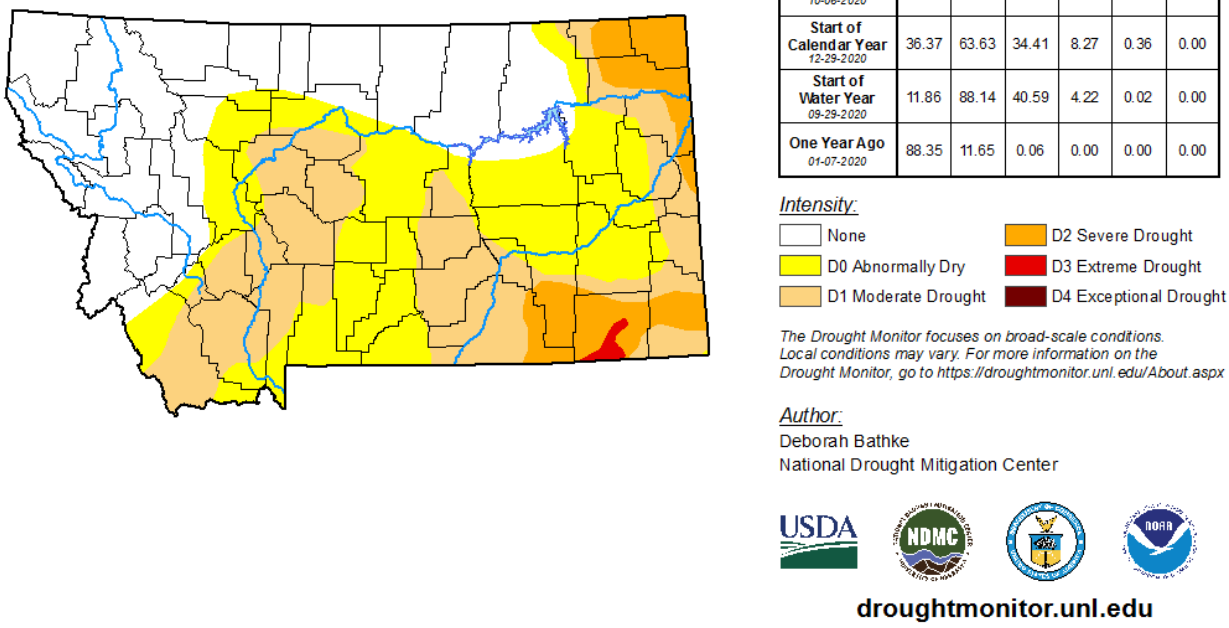
| Color Scale | <50% | 51 to 70% | 71 to 90% | 91% to 110% | >110% |
|---|---|---|---|---|---|

- **To view the current monthly Basin Data Report report**, with individual data points used to generate the table above, please visit the Monthly Statewide Overview webpage and visit the "NRCS Basin Reports" section.

- **To view reports for previous months**, please visit the Basin Data Reports webpage and select the daily, or monthly, report of interest.

# Drought

The most recent National Drought Monitor map, released on January 5th, 2021, shows large swaths of D0 and D1 across southwestern, central, and eastern Montana, areas of D2 along the North and South Dakota borders, and one area of D3 in southeastern Montana along the Wyoming border. The current designations along the eastern and southeastern border are a result of the paltry June, August, September, November, and December precipitation totals.




As of December 23rd, 2020, numerous primary and contiguous counties in eastern Montana fall within Secretarial Drought Designations. A map of these designations for Crop Year 2020 can provide information on whether your county meets assistance requirements.

If you would like more information about current drought conditions or require assistance due to drought, the links below can help you gather information and assist you in getting in touch with the appropriate agencies.

**Drought Links:**

- USDA Drought Portal (News and Impacts)
- Farm Services Agency News – Montana (Information on Programs and Deadlines)
- Farm Services Agency – National (Disaster Assistance Programs)
- List of Available Disaster Emergency Services (Drought/Fire)
- Montana Department of Natural Resources and Conservation (Drought Management)

# Streamflow Summary

Since streamflow forecasts are issued beginning on March 1st for all points across Montana, this section will be used this month to summarize the observed flows from last year, how our forecasts verified against the observed values, and provide some insight into current conditions.

Last year's April through September runoff was near to above average for many locations in Montana. Due to abundant mountain snowpack, overall streamflow volumes were well above average in the Upper Clark Fork, Bitterroot, and portions of the Flathead River basins. Only a few locations across the state in the Powder, Tongue, and Beaverhead River basins experienced below-average volumes. There was a lack of late winter and early spring precipitation (April 1st – June 30th) for locations in Wyoming in the Powder and Tongue River basins, which plays a critical role in the overall volumes in those rivers, and reduced overall volumes for the year.

Traditionally, this report has not covered the verification of our previous year's forecasts. However, our staff feels it's essential for our water users to understand both what occurred and how we did at predicting it.

Here's how our models performed last year:

Streamflow forecasts issued by the NRCS are given as a range of outcomes for each streamflow point. A range of values is given for each point/gauge from the 10% exceedance (likely to occur 10% of the time) to the 90% exceedance (likely to occur 90% of the time) levels. While the 50% exceedance forecast is often referred to as "the forecast," it's important to remember that what the 50% exceedance truly represents is the median of the forecasted range of outcomes.

The links below will show the user the forecast errors for the 2020 Water Year. Each month's first link compares the 50% exceedance level as a percent of the observed flow. Positive percentages indicate that the 50% exceedance value was higher than the observed flow, while negative percentages indicate that the 50% exceedance forecast was lower than the observed flow.

For each month, a second link shows which exceedance category the observed flows landed in, or if the forecasted range did not encompass what occurred. A value falling in the 10% exceedance for a point indicates that the experienced volumes were towards the high end of the forecasted range. Conversely, a value falling in the 90% exceedance indicates that it was towards the lower end of the forecasted range.

Here is a helpful guide to interpreting NRCS streamflow forecasts.

March 1st, 2020

- 50% Exceedance forecasts issued on March 1st of last year for the April 1st through September 30th period
- Here's which exceedance category the observed flows landed in for the March 1st forecast

April 1st, 2020

- 50% Exceedance forecasts issued on April 1st of last year for the April 1st through September 30th period
- Here's which exceedance category the observed flows landed in for the April 1st forecasts.

May 1st, 2020

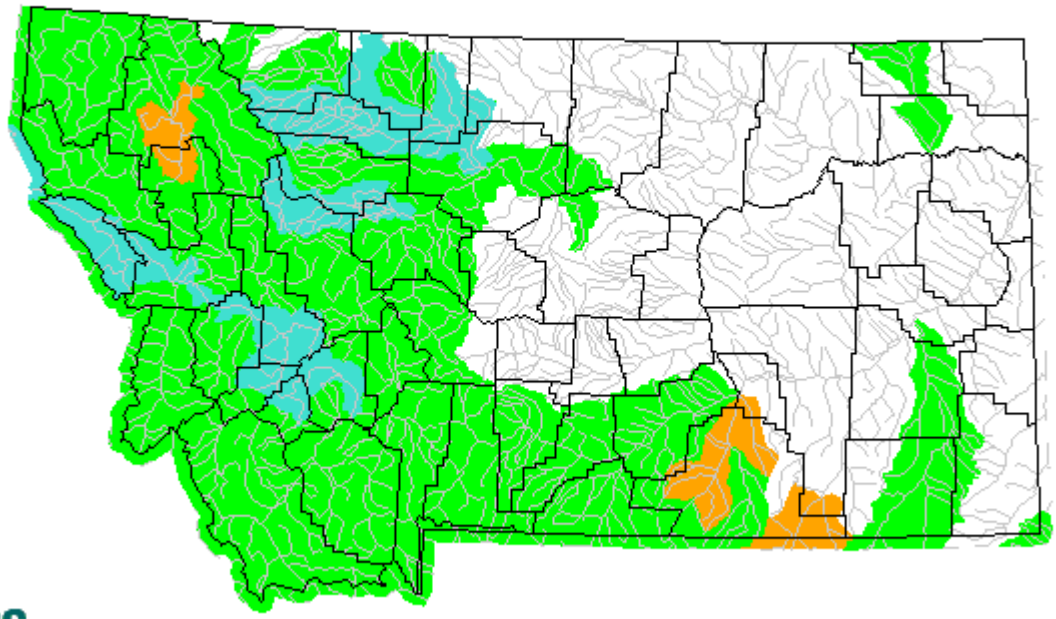
- 50% Exceedance forecasts issued on May 1st of last year for the May 1st through September 30th period
- Here's which exceedance category the observed flows landed in for the May 1st forecasts.

June 1st, 2020

- 50% Exceedance forecasts issued on June 1st of last year for the June 1st through September 30th period
- Here's which exceedance category the observed flows landed in for the June 1st forecasts.

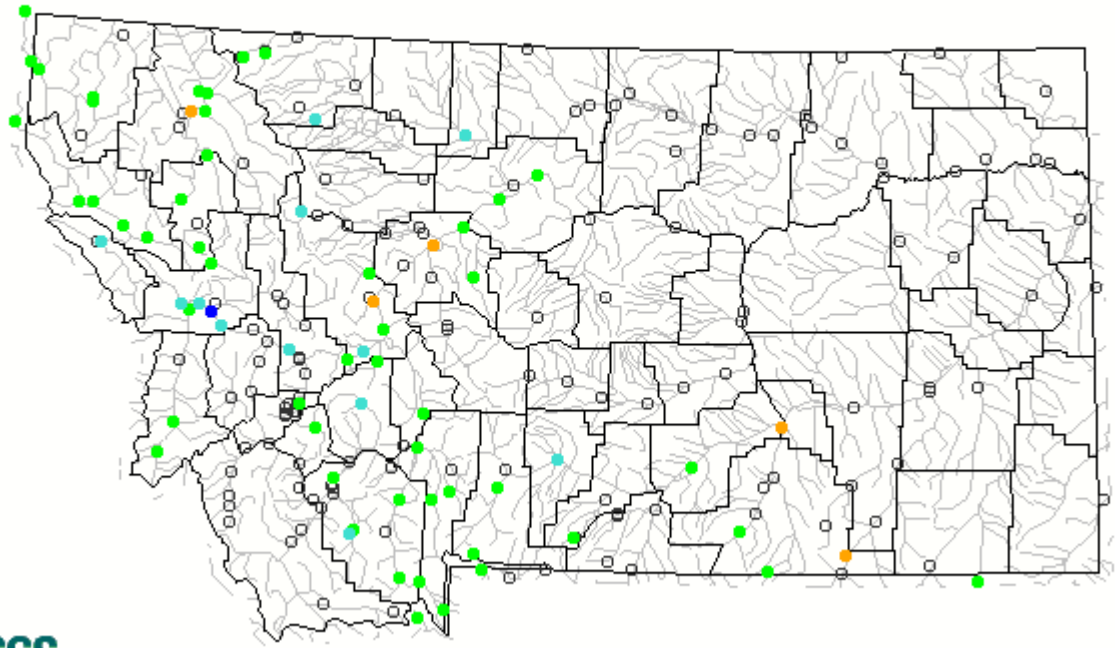
## Current Streamflows

Thursday, January 07, 2021



USGS

Thursday, January 07, 2021



USGS

| Explanation - Percentile classes | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| Low | <10 | 10-24 | 25-75 | 76-90 | >90 | High | No Data |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | | |

## Streamflow Forecast Charts

In 2019, a decision was made to discontinue Montana's forecasts for January and February based on the long lead time before the snowpack reaches peak accumulation and runoff begins. Due to the uncertainty inherent in these long lead time forecasts, the skill for early forecasts was very low, meaning there could be significant error (high or low) with the issued forecasts when compared to the observed flows for spring and summer.

However, we understand that there are non-traditional needs and some who are willing to accept these forecasts' low skill. If the discontinuation of these forecasts has impacted your operations, please let us know. We would embrace a discussion on how we can suit your needs and potentially issue limited point forecasts in the future.

Volumetric streamflow forecasts are produced for Montana rivers and streams between March and June for the spring and summer periods. Forecasts are typically available for use in online tools by the fifth business day of these months. The monthly reports between March and June will include the forecasts in the section below.

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# How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

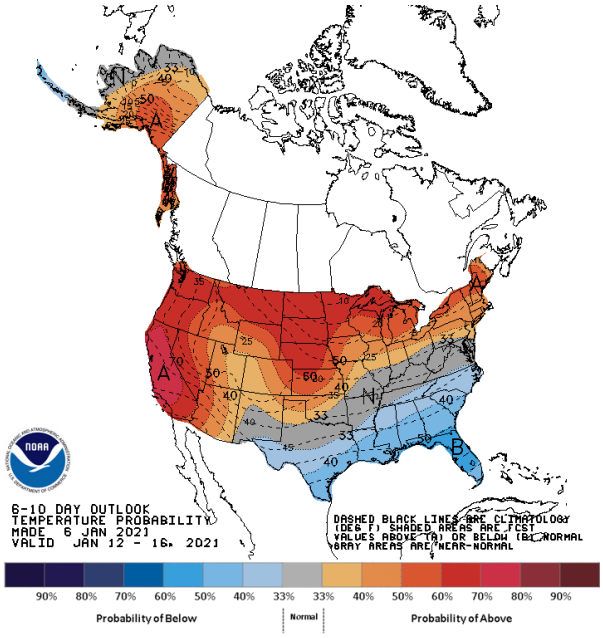
Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

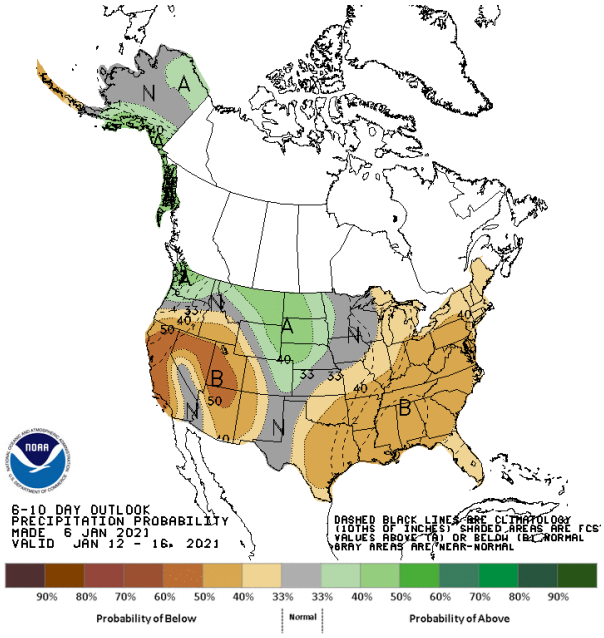
Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

# Looking Ahead

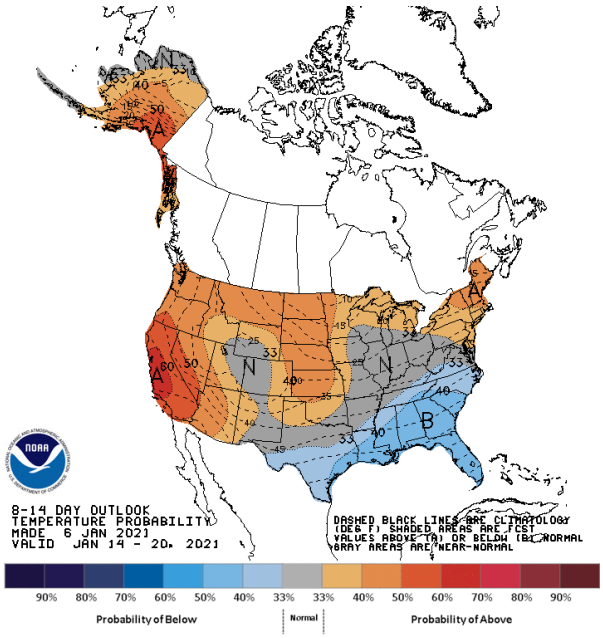
Long-range forecasts issued by [NOAA's Climate Prediction Center] do not look favorable for returning to more seasonal temperatures during the next month. All forecasts issued through the next 30-day period indicate elevated chances of above-normal temperatures (maps on left). On a brighter note, they also indicate elevated chances of precipitation over much of Montana during the next two weeks (maps on right). Long-range forecasts for the next three months, last updated on Dec. 17th, indicate a more typical La Nina weather pattern. However, updates in January based on current circulation patterns could revise this for February through April.

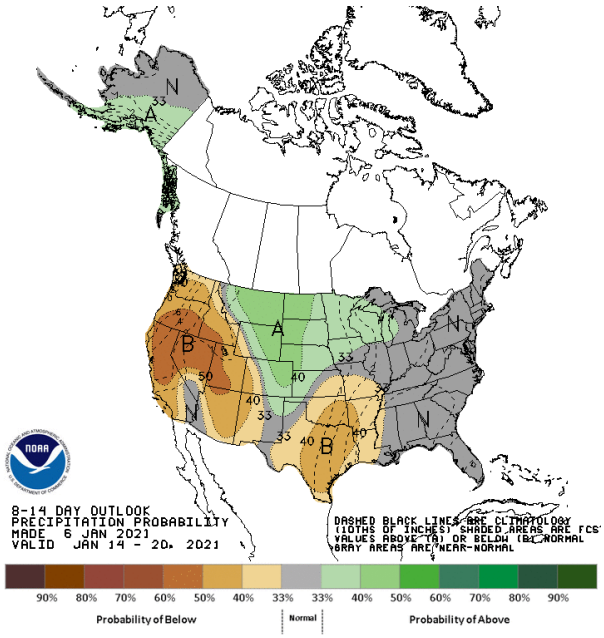
## 6 to 10 Day Outlook (published Jan 6, 2021)



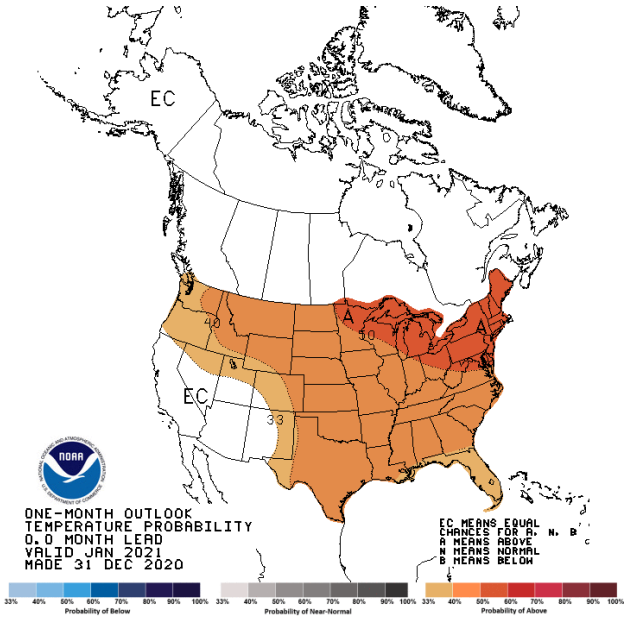



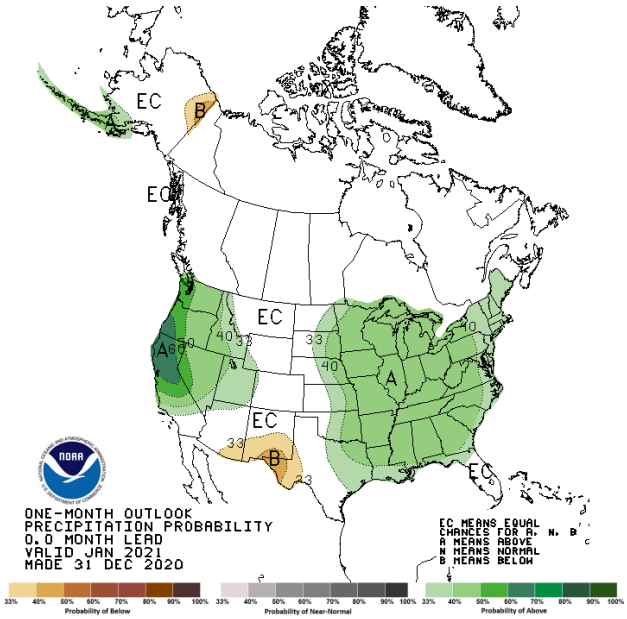

## 8 to 14 Day Outlook (published Jan 6, 2021)



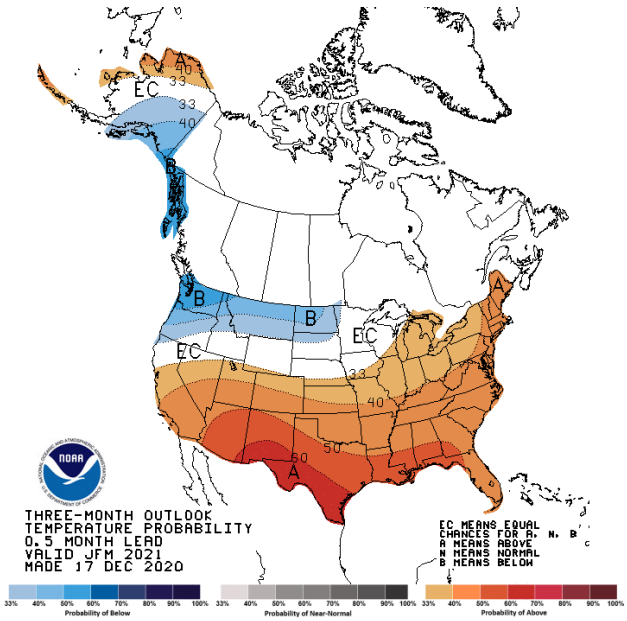



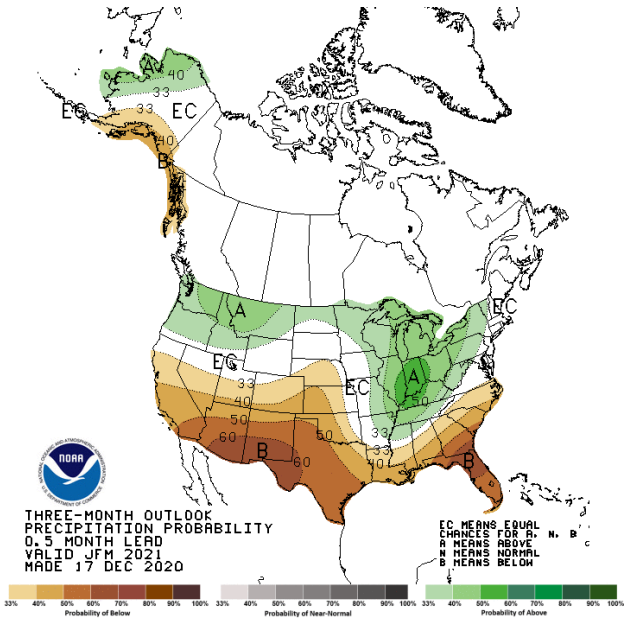
## 30 Day Outlook (published Dec 31, 2020)



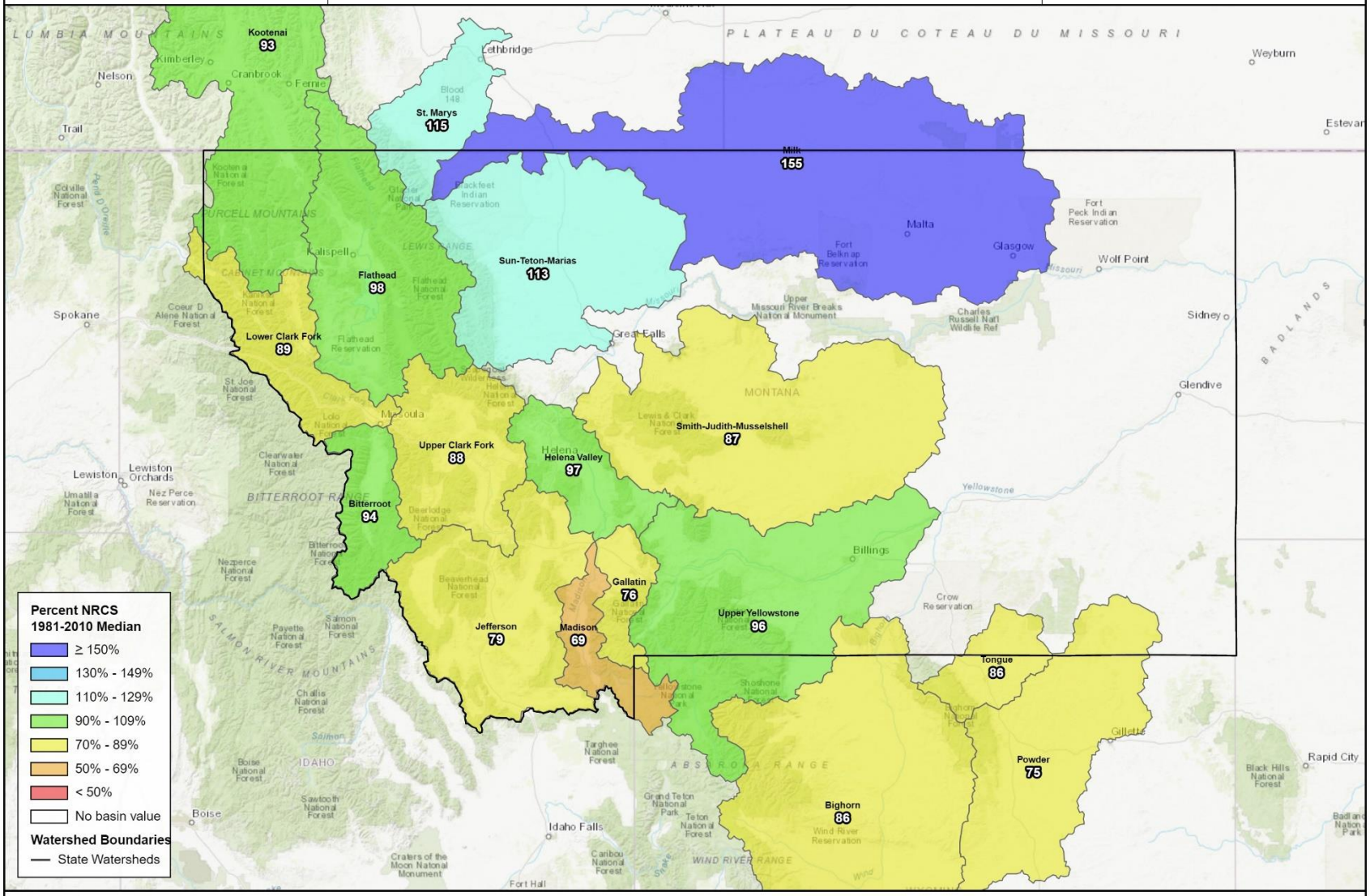

## Three Month Outlook (published Dec 17, 2020)



Monthly Maps

| Snow Water Equivalent | Percent NRCS 1981-2010 Median | January 1st, 2021 |
|---|---|---|



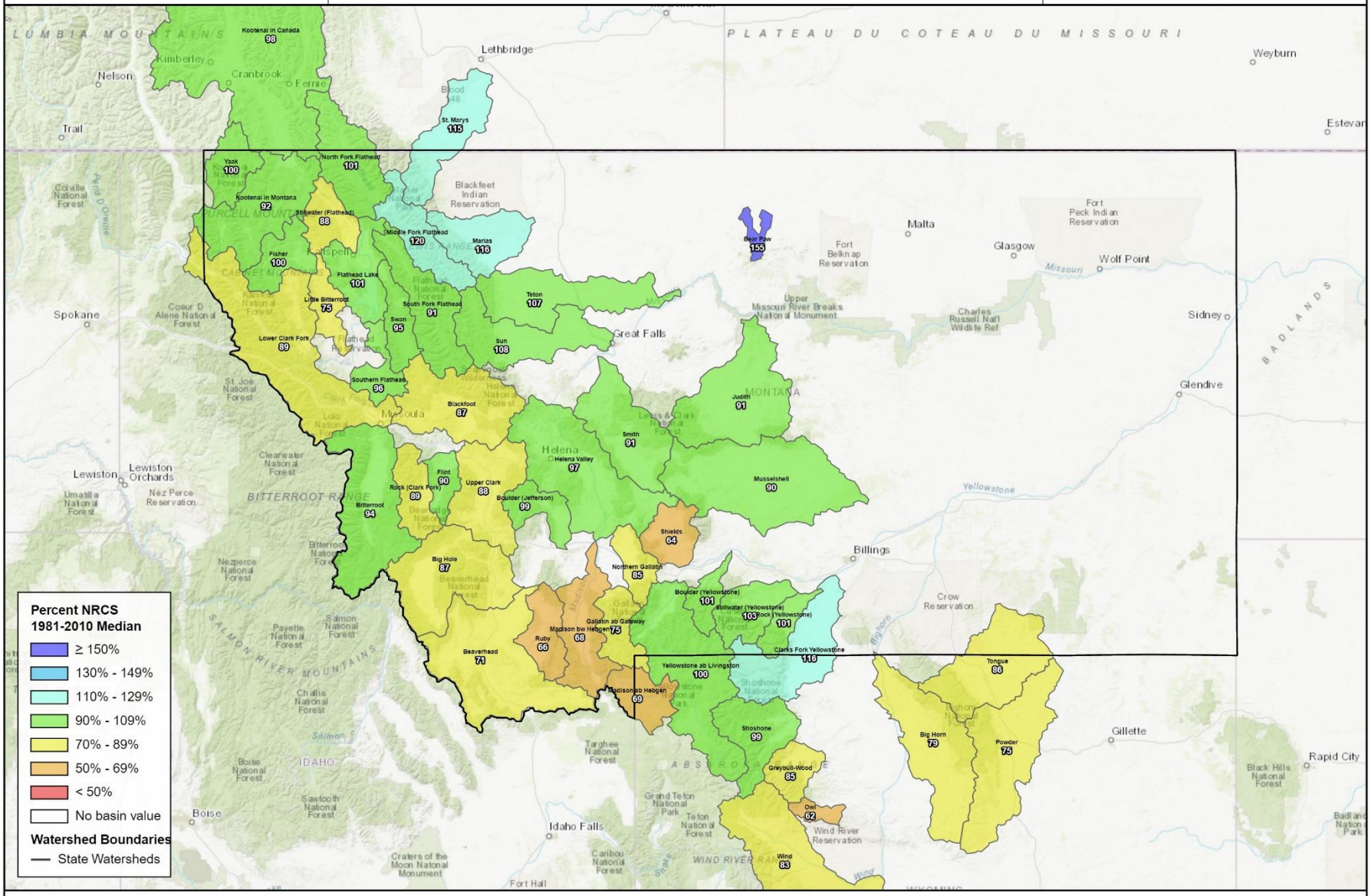

USDA Natural Resources Conservation Service
United States Department of Agriculture

N

0 20 40 80 120 160 200 Miles

Created 1-07-2021

| Snow Water Equivalent | Percent NRCS 1981-2010 Median | January 1st, 2021 |
|---|---|---|



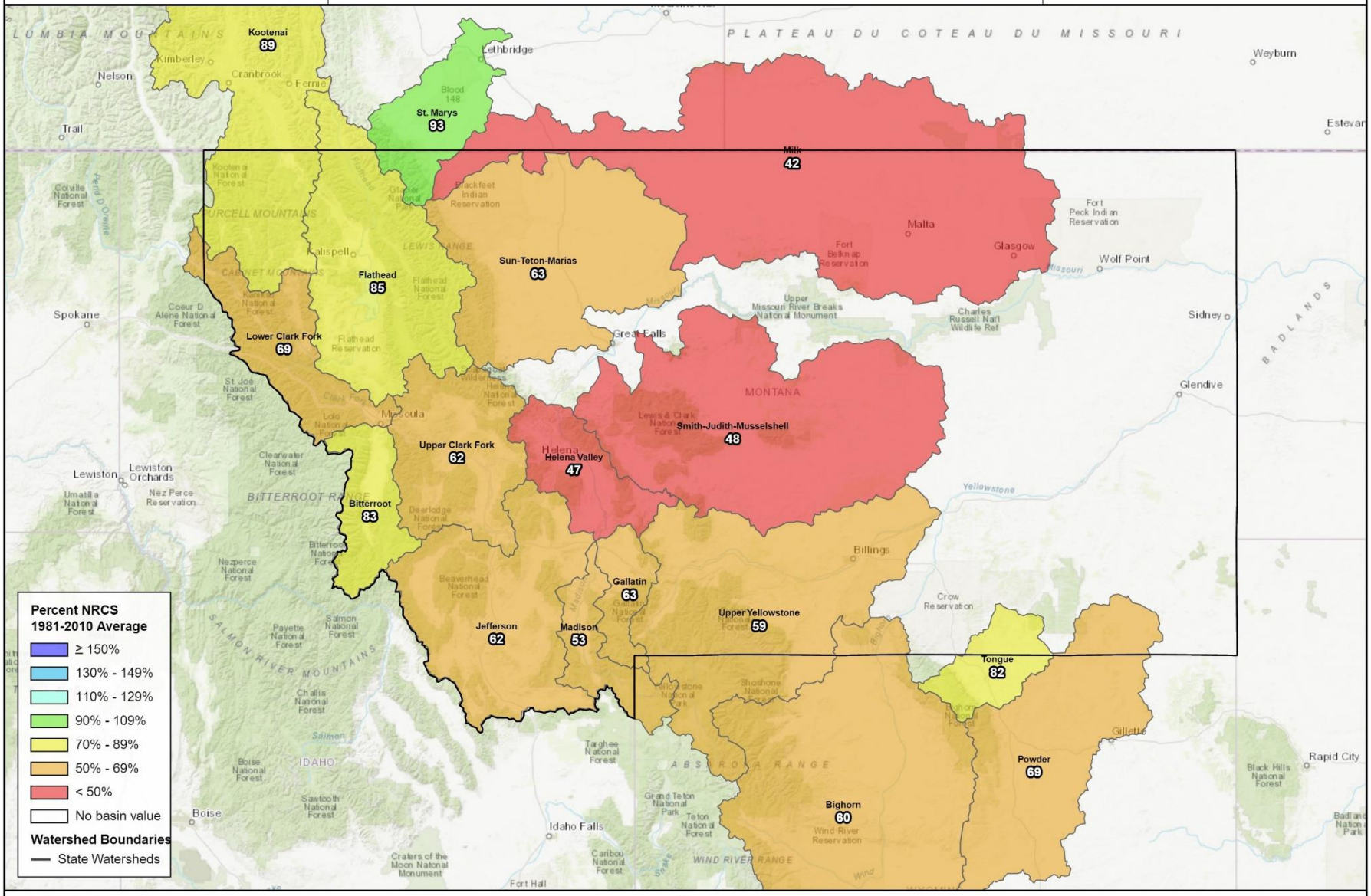

USDA Natural Resources Conservation Service
United States Department of Agriculture

N

0 20 40 80 120 160 200 Miles

Created 1-07-2021

| 1 month Precipitation | Percent NRCS 1981-2010 Average | December 1, 2020 - December 31, 2020 |
|---|---|---|

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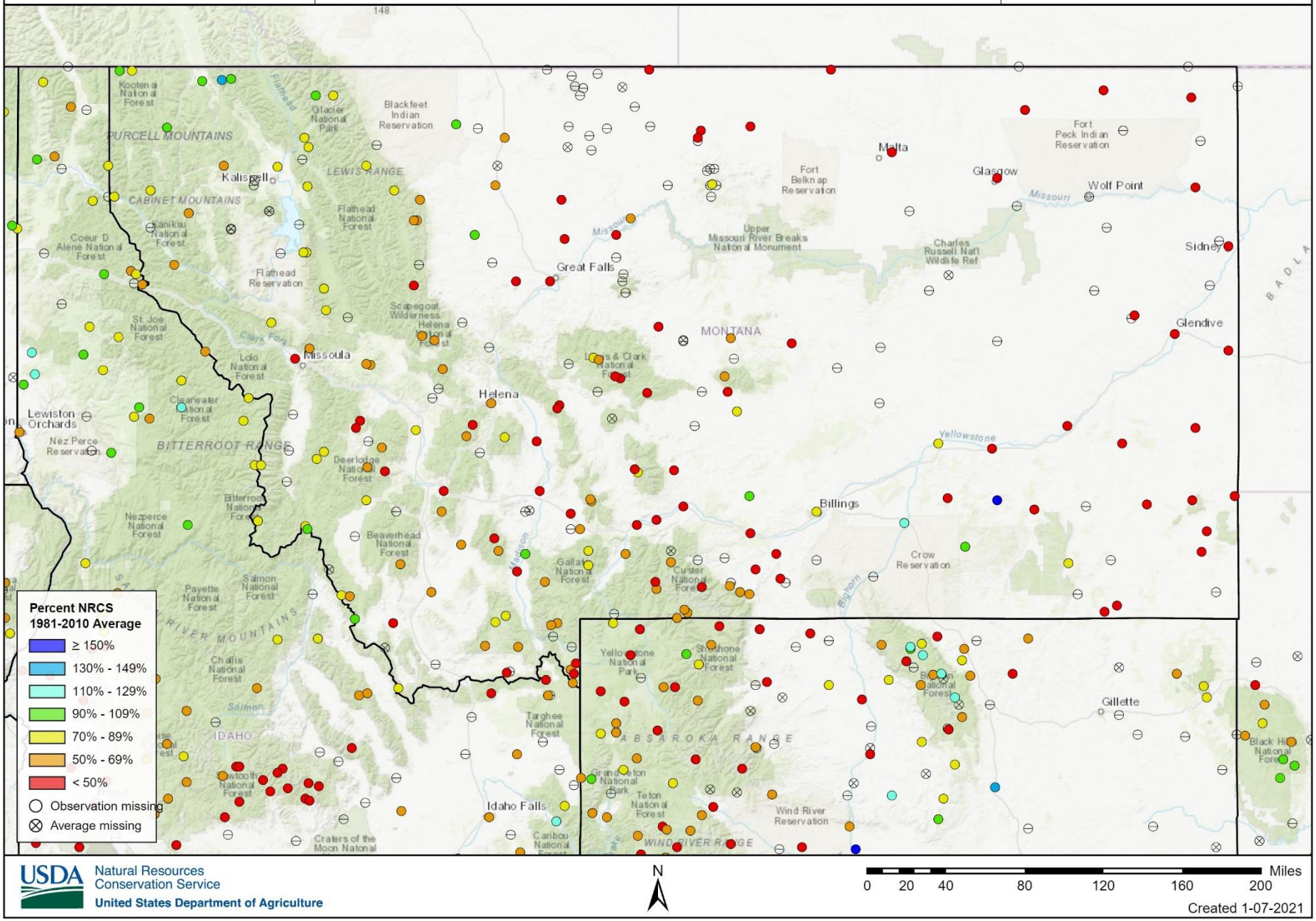
United States Department of Agriculture

N

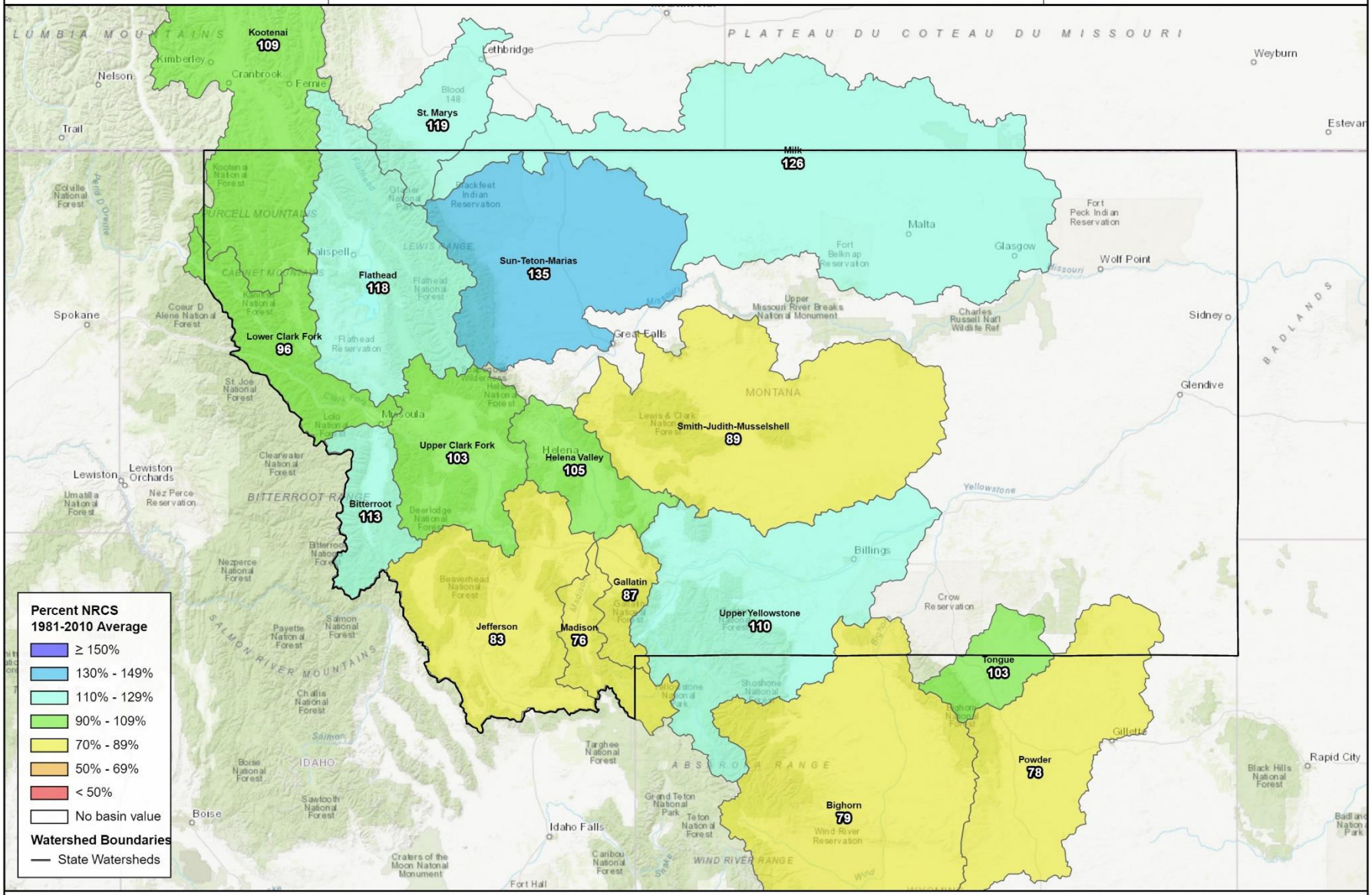
0 20 40 80 120 160 200 Miles

Created 1-07-2021

| 1 month Precipitation | Percent NRCS 1981-2010 Average | December 1, 2020 - December 31, 2020 |
|---|---|---|



| Water Year to Date Precipitation | Percent NRCS 1981-2010 Average | October 1, 2020 - December 31, 2020 |
|---|---|---|

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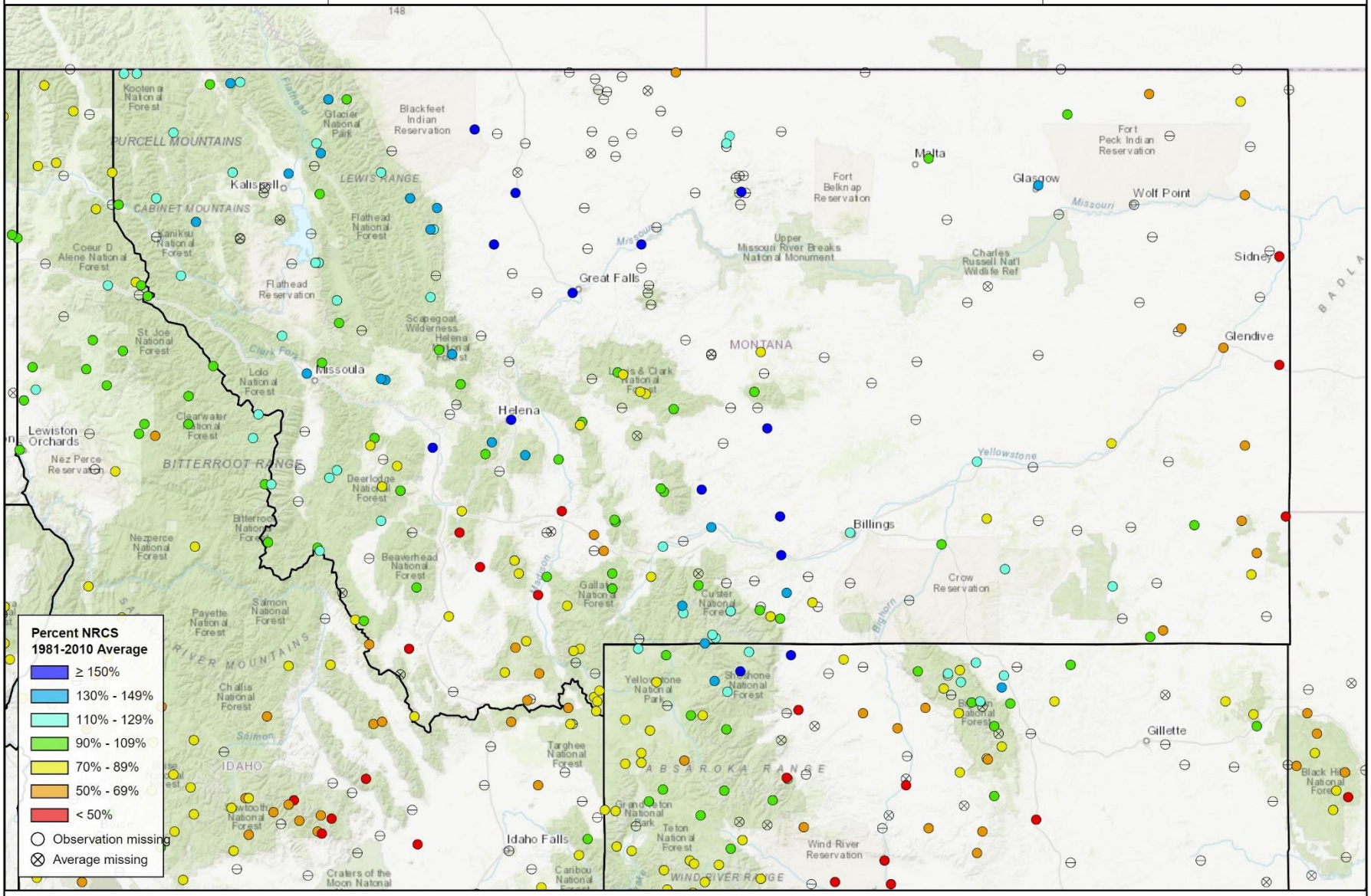
Created 1-07-2021

| Water Year to Date Precipitation | Percent NRCS 1981-2010 Average | October 1, 2020 - December 31, 2020 |
|---|---|---|

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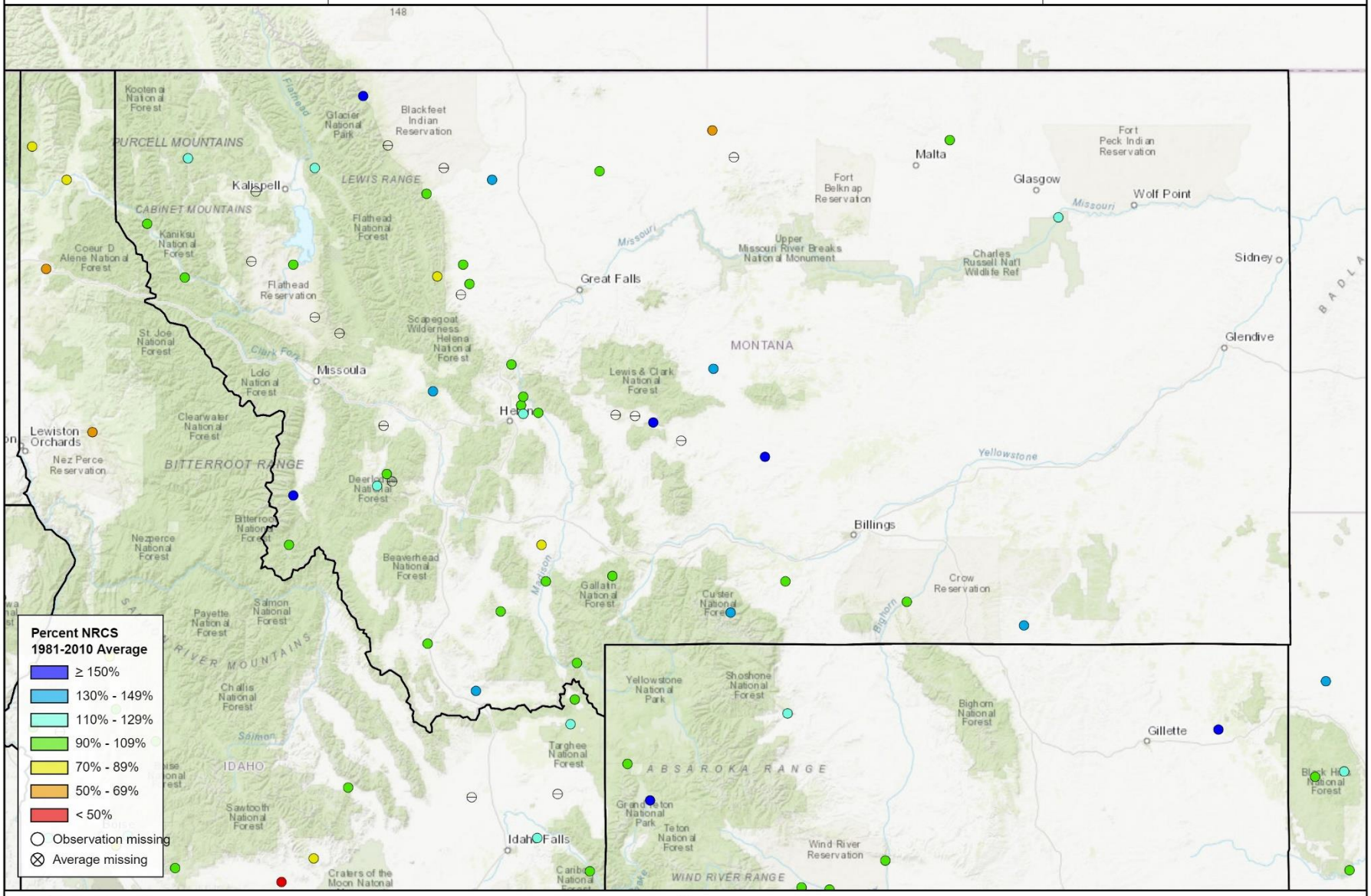
N

0 20 40 80 120 160 200 Miles

Created 1-07-2021

| Reservoir Storage | Percent NRCS 1981-2010 Average | January 1st, 2021 |
|---|---|---|



# WSOR Web Page Access

The links below will take you to web pages dedicated to the individual river basins and statewide overview for presenting the monthly data. Users are encouraged to interact with the maps presented, select different maps using the drop-down menu, and hover over or click on points or basins of interest to view data and plots.

All of the same information that was traditionally included in the legacy monthly river basin summaries is available in these pages. However, if there are sections of the river basin summaries that you miss, please send an email so that we can continue to improve these new webpages and products.

| **Monthly Data - Interactive Web Pages** | | |
|---|---|---|
| ***Monthly Data - Statewide Overview*** | | |
| **Monthly Statewide Overview** | | |
| ***Monthly Data - River Basin Summaries*** | | |
| **Columbia River Basin** | **Missouri River Basin** | **Yellowstone River Basin** |
| **Kootenai** | **Jefferson** | **U. Yellowstone** |
| **Flathead** | **Madison** | **Wyoming** |
| **Upper Clark** | **Gallatin** | |
| **Bitterroot** | **Helena Valley** | |
| **Lower Clark** | **Smith-Judith** | |
| | **Sun-Teton** | |
| | **St. Mary** | |
| | **Milk** | |

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# Montana Water Supply Outlook Report

**Natural Resources Conservation Service**