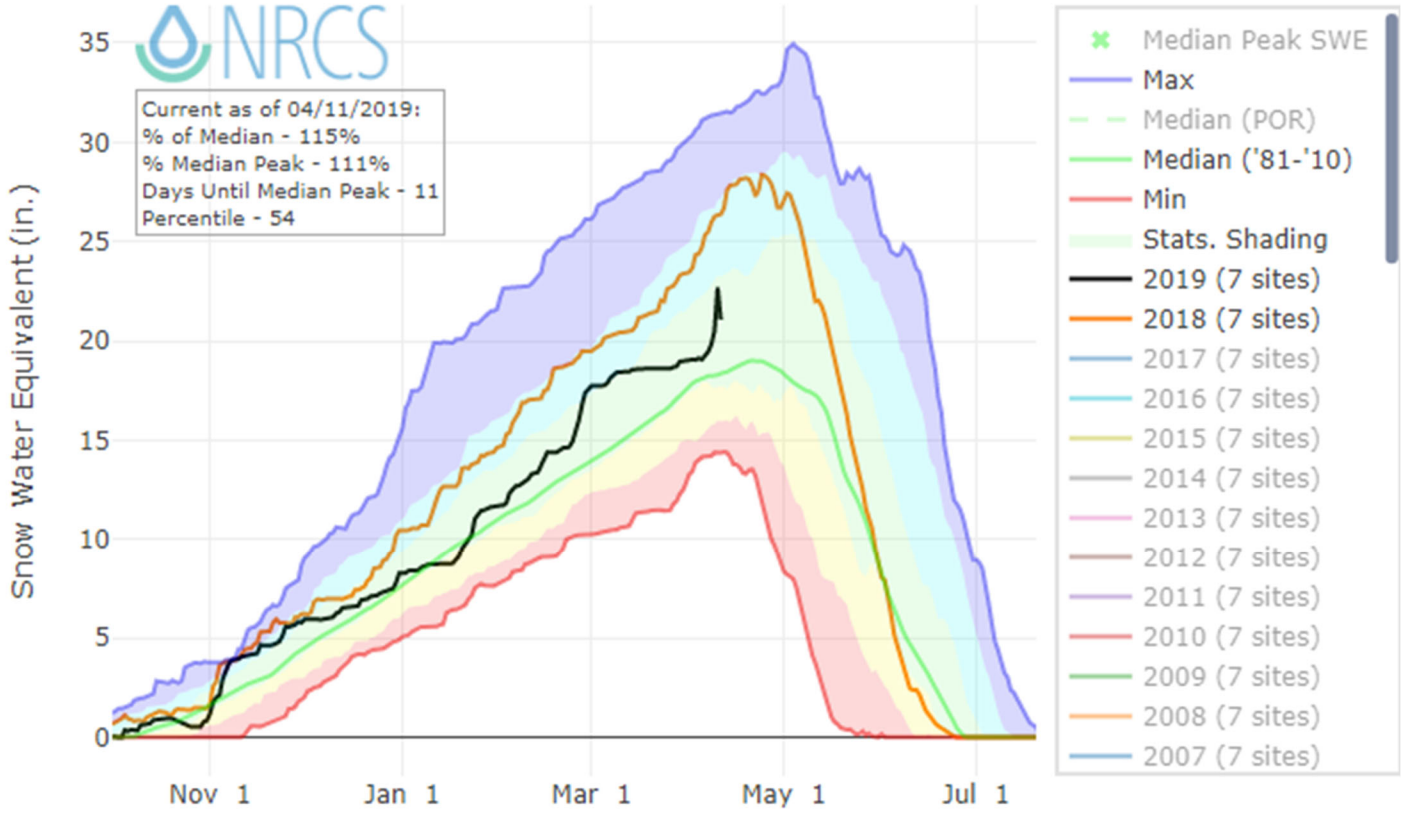
# Gallatin County Water Supply Outlook
## April 2019

## Snowpack Data

### Gallatin River Basin




## SNOWPACK SUMMARY:

*Data is current as of April 11

Snowpack is currently at or above normal snowpack throughout the Gallatin River Basin. In April 2018, the Gallatin River Basin was also at or above normal Snowpack.

The April NRCS Water Supply Outlook Report for the Gallatin River Basin states "After a record-setting February blanketed the basin and left one the deepest valley snowpacks on record at the beginning of March, almost every SNOTEL site in the Gallatin River drainage experienced its lowest March precipitation on record, sparing Lick Creek, which was 2nd to lowest on record. Coming off a bumper February with 209% of average mountain precipitation, the month of March yielded just 40% of average. April is normally the icing on the cake for high-elevation SNOTEL sites, which typically build snowpack through the month and peak in late April. For now, streamflow forecasts issued on April 1st for the April 1st – July 31st period indicate slightly above average seasonal volumes in the rivers and streams in the basin. The next month will fill in the details on whether the higher elevations reach their normal peaks before spring runoff begins."

Review next page for detailed station data.

# Snowpack Data

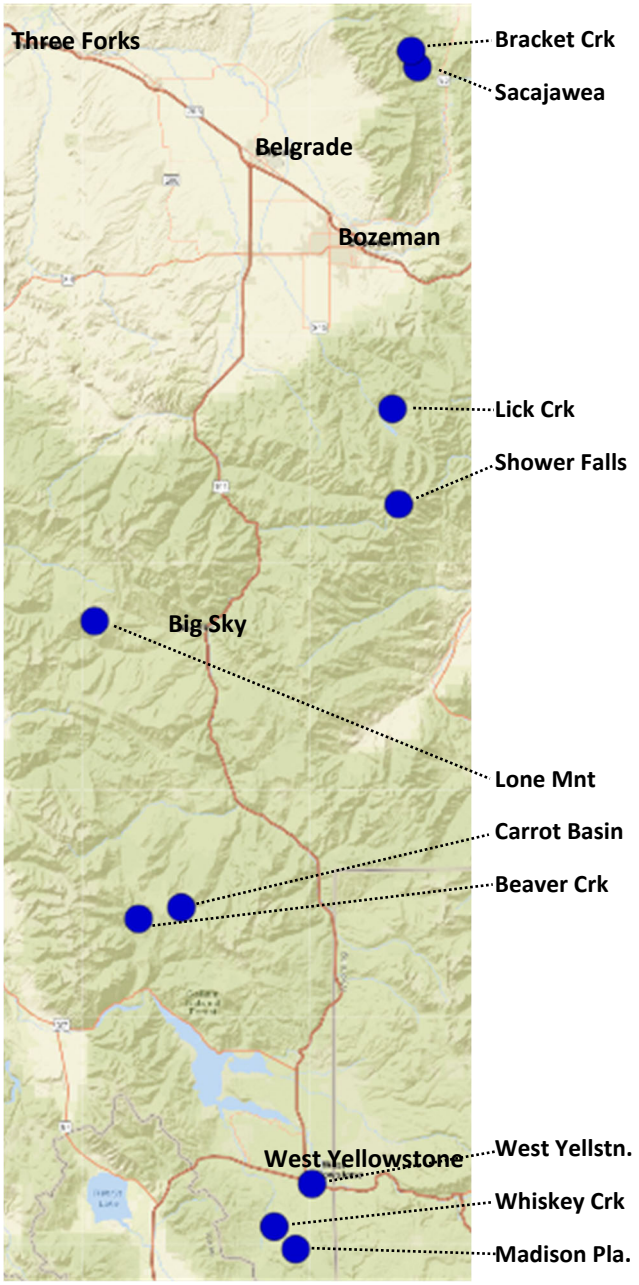
## Gallatin River Basin

| Gallatin Valley Region (Bozeman-Belgrade-Four Corners) | | | | | |
|---|---|---|---|---|---|
| *Station Name* | *Date* | *Snow Depth* | *SWE (in)* | *SWE % Normal* | *Normal SWE 1971-2000 (in)* |
| Brackett Creek | Apr 2018 | 82 | 30.3 | 141 | 21.5 |
| | Apr 2019 | 63 | 22.8 | 106 | |
| Sacajawea | Apr 2018 | 56 | 19.4 | 131 | 14.8 |
| | Apr 2019 | 44 | 16 | 108 | |

| Hyalite Region (Gallatin Gateway) | | | | | |
|---|---|---|---|---|---|
| *Station Name* | *Date* | *Snow Depth* | *SWE (in)* | *SWE % Normal* | *Normal SWE 1971-2000 (in)* |
| Lick Creek | Apr 2018 | 38 | 12.2 | 94 | 13 |
| | Apr 2019 | 35 | 10 | 77 | |
| Shower Falls | Apr 2018 | 84 | 27.6 | 122 | 22.7 |
| | Apr 2019 | 67 | 20.9 | 92 | |

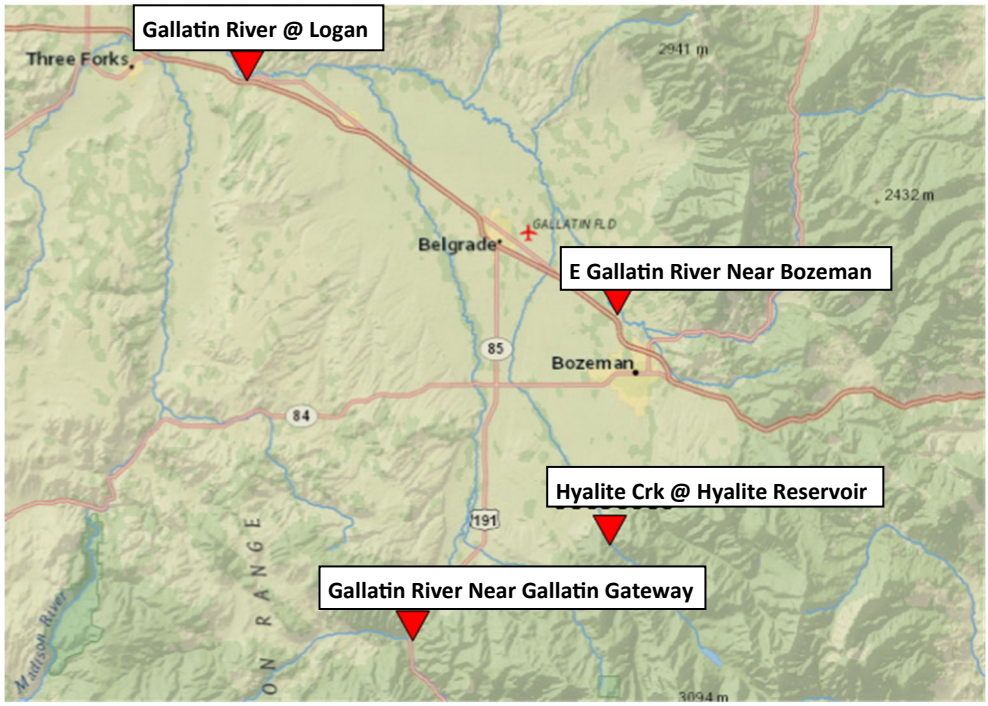
| Lee Metcalf Wilderness Region (Big Sky) | | | | | |
|---|---|---|---|---|---|
| *Station Name* | *Date* | *Snow Depth* | *SWE (in)* | *SWE % Normal* | *Normal SWE 1971-2000 (in)* |
| Lone Mountain | Apr 2018 | 72 | 24.9 | 133 | 18.7 |
| | Apr 2019 | 58 | 19.1 | 102 | |
| Carrot Basin | Apr 2018 | 95 | 30.3 | 108 | 28.1 |
| | Apr 2019 | 81 | 26.4 | 94 | |
| Beaver Creek | Apr 2018 | 65 | 19.5 | 107 | 18.2 |
| | Apr 2019 | 61 | 18.2 | 100 | |

| West Yellowstone Region | | | | | |
|---|---|---|---|---|---|
| *Station Name* | *Date* | *Snow Depth* | *SWE (in)* | *SWE % Normal* | *Normal SWE 1971-2000 (in)* |
| West Yellowstone | Apr 2018 | 40 | 13.6 | 106 | 12.8 |
| | Apr 2019 | 38 | 13.4 | 105 | |
| Whiskey Creek | Apr 2018 | 52 | 16.3 | 94 | 17.4 |
| | Apr 2019 | 55 | 18.9 | 109 | |
| Madison Plateau | Apr 2018 | 77 | 26.4 | 104 | 25.5 |
| | Apr 2019 | 75 | 26.5 | 104 | |



# Streamflow Data

Gallatin River Watershed




| April 1 Gallatin Watershed Streamflow | | | | | |
|---|---|---|---|---|---|
| Station Name | 2019 Discharge (cfs) | % Normal | Normal Discharge (cfs) | 2018 Discharge (cfs) | Period Of Record (Yrs) |
| Gall At Logan | 1400 | 159 | 880 | 959 | 102 |
| E Gall near Bozeman | 126 | 72 | 174 | 149 | 4 |
| Hyalite Cr | 22.5 | 98 | 23 | 22.2 | 67 |
| Near Gallatin Gateway | 389 | 111 | 349 | 334 | 88 |

## STREAMFLOW SUMMARY

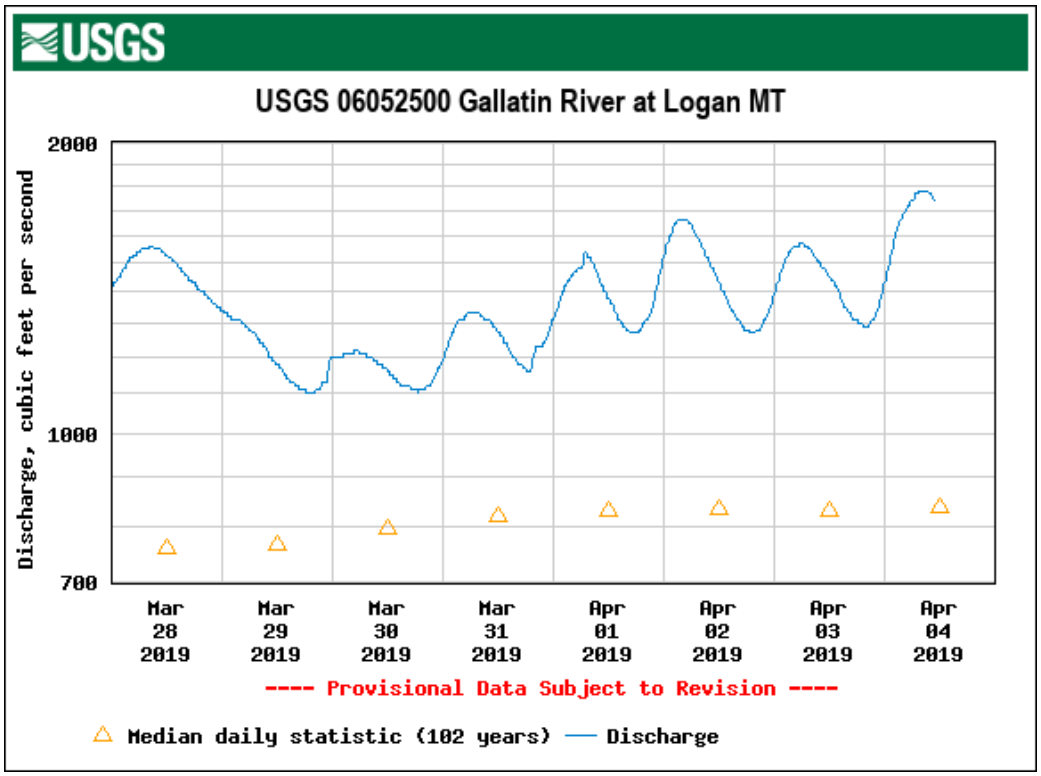
*Data current as of April 11

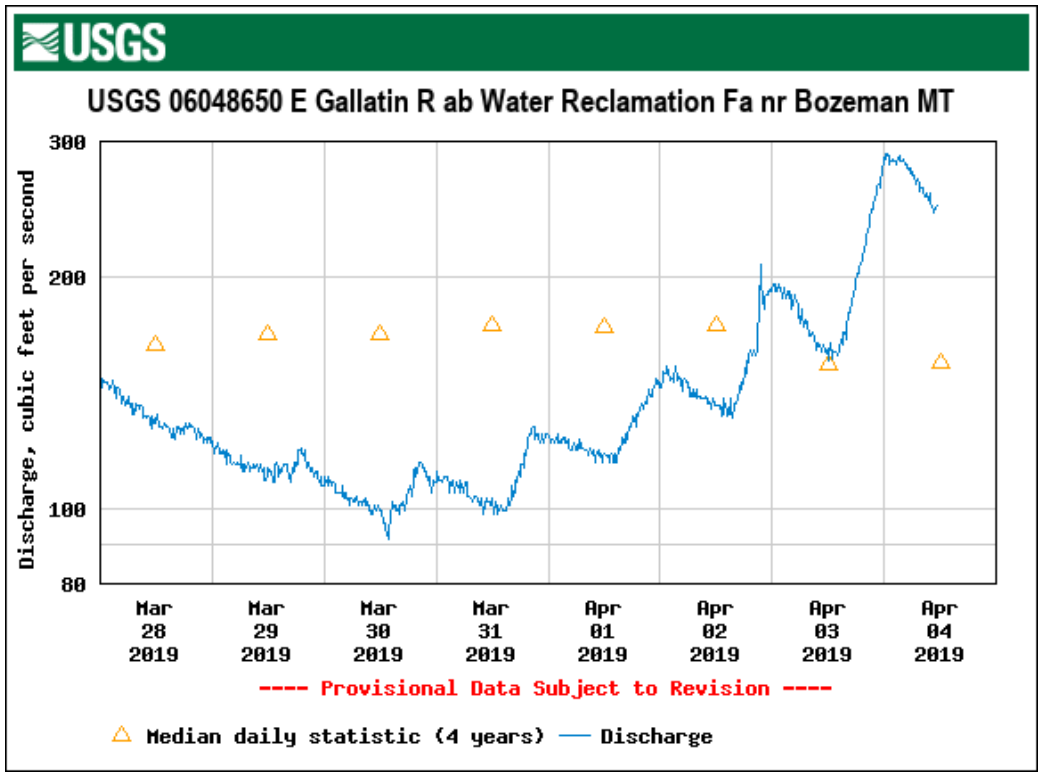
Streamflow is currently at, above, or much above normal discharge throughout the Gallatin River Watershed. This is very similar to last year's discharge during April.

Review next page for detailed station information

# Streamflow Data

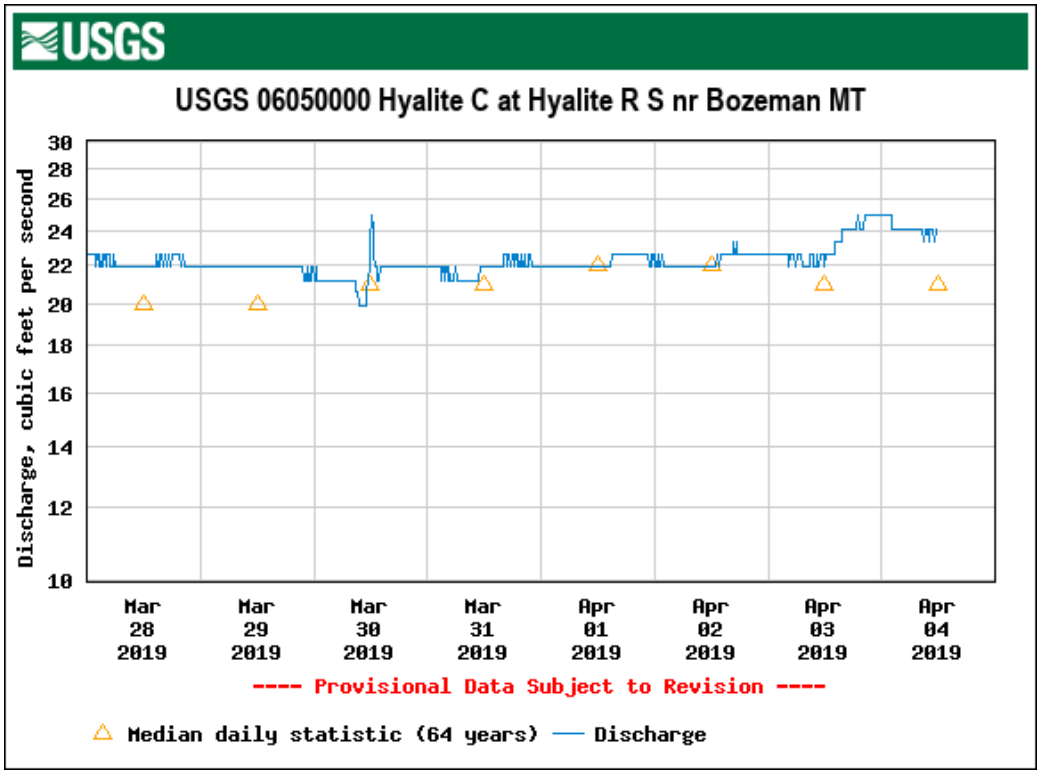
## Gallatin River Watershed

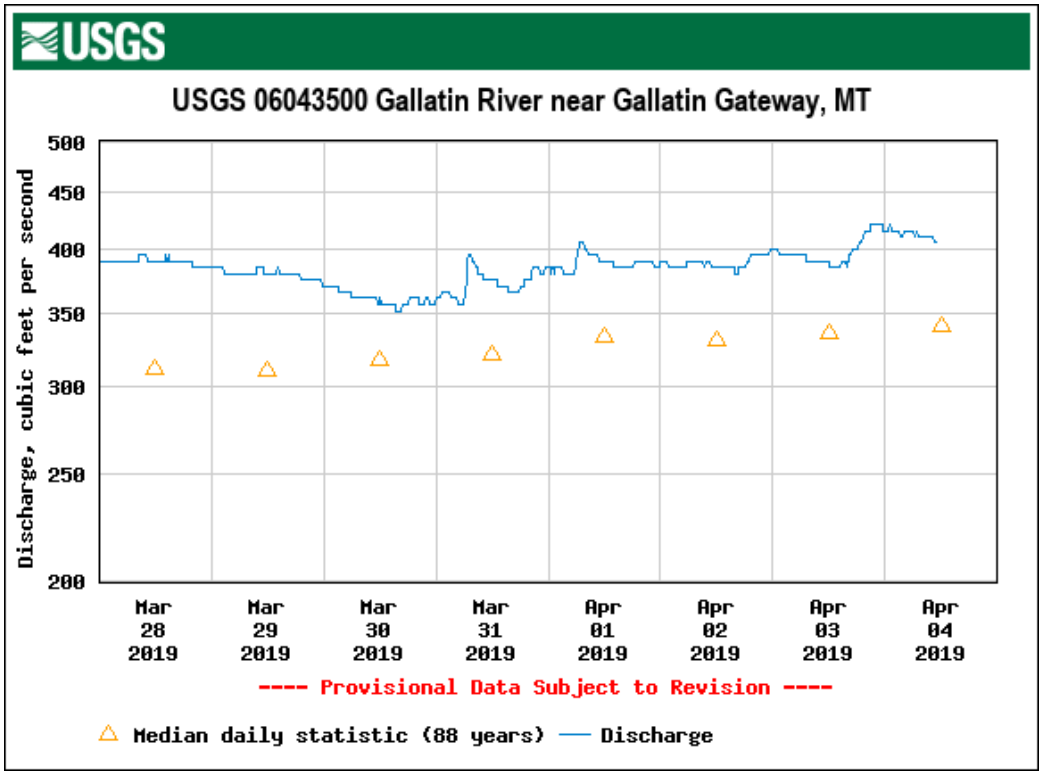


# Streamflow Data

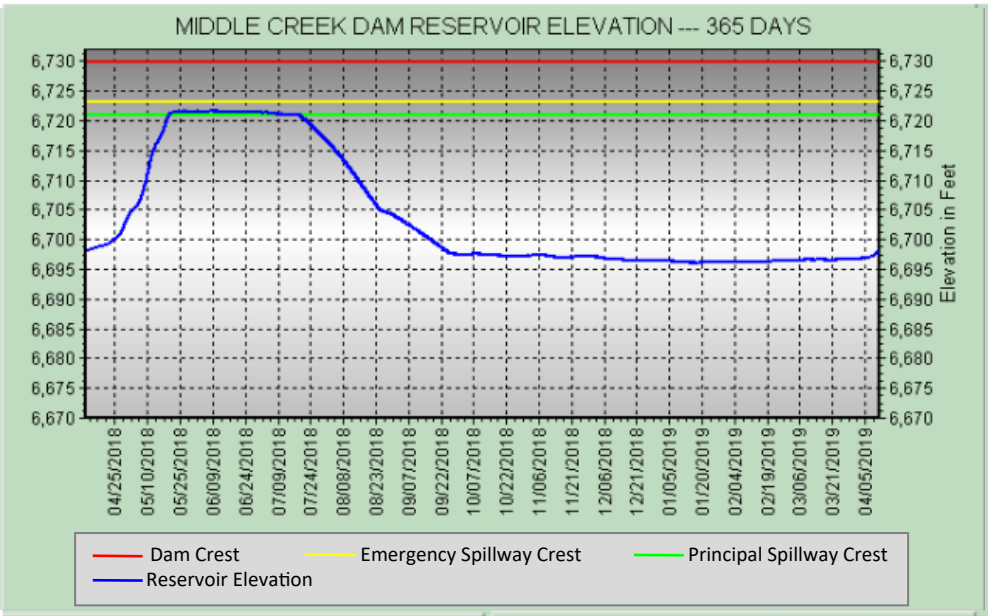
## Gallatin River Watershed

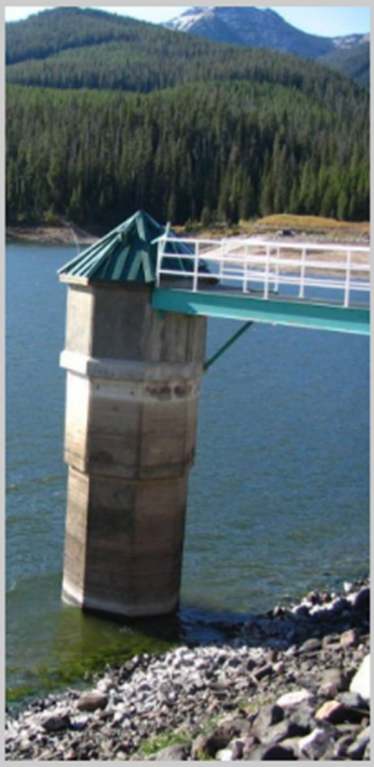


# Reservoir Data

## Middle Creek Dam (Hyalite)



| | |
|---|---|
| TIME OF LAST READING | 4/11/19 1:00 PM |
| RESERVOIR ELEVATION | 6,696.1 FT |
| RESERVOIR VOLUME | 5,622 AF |

| REFERENCE INFORMATION | FT (MSL) | AC-FT |
|---|---|---|
| DAM CREST | 6730 | 12,790 |
| EMERGENCY SPILLWAY CREST | 6723 | 10,707 |
| PRINCIPAL SPILLWAY CREST | 6721 | 10,184 |
| LOWEST USEABLE ELEVATION | 6637 | 0 |

| STATION LOCATION | TIME OF LAST READING | STAGE (FT) | DISCHARGE (CFS) |
|---|---|---|---|
| EAST FORK OF HYALITE ABOVE RESERVOIR | 4/11/2019 15:00 PM | 1.2 FT | NOT AVAILABLE |
| WEST FORK OF HYALITE ABOVE RESERVOIR | 12/27/2018 9 15:00 PM | 1.1 FT | NOT AVAILABLE |
| MIDDLE CREEK BELOW RESERVOIR | 4/11/2019 9 11:45 AM | 3.2 FT | NOT AVAILABLE |

**PROVISIONAL DATA SUBJECT TO REVISION**

**AGRIMET STATION SUMMARY:**

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- For more information on the AgriMet station visit this site.

# Climate Data

## Gallatin County


The Bozeman AgriMet station is located approximately 4 miles west of Bozeman, Montana.

| Bozeman AgriMet Station | | |
|---|---|---|
| *Apr '19* | *% Humidity* | *Wind Speed (mph)* |
| AVG | 66 | 5 |
| MAX | 69 | 7 |
| MIN | 63 | 3 |
| *Mar '19* | *% Humidity* | *Wind Speed (mph)* |
| AVG | 68 | 11 |
| MAX | 86 | 253 |
| MIN | 50 | 1 |

| Estimated Crop Water Use - April 11, 2019 | | | | | |
|---|---|---|---|---|---|
| Crop | Start Date | Average ET | Sum ET | Cover Date | Term Date |
| *Reference ET rate* | *April 1* | *0.05* | *0.70* | *June 1* | *Oct 5* |
| Lawn | April 10 | 0.01 | 0.01 | June 1 | Sept 30 |
| Alfalfa | April 20 | - | - | June 20 | Sept 30 |
| Winter Grain | April 25 | - | - | July 5 | Aug |
| Summer Grain | May-June | - | - | July 5-15 | Aug 10-20 |
| Potatoes | June 8 | - | - | Aug 1 | Oct 5 |

**AGRIMET STATION SUMMARY:**

- 
- For more information on the AgriMet station visit this site.

| Mesonet Probe Depth (in) | Soil Temp (°F) | Volumetric Water Content (VWC) |
|---|---|---|
| 4" - Surface | 50° | 29% |
| 8" - Shallow rooting | 41° | 34% |
| 20" - deep rooting | 39° | 12% |