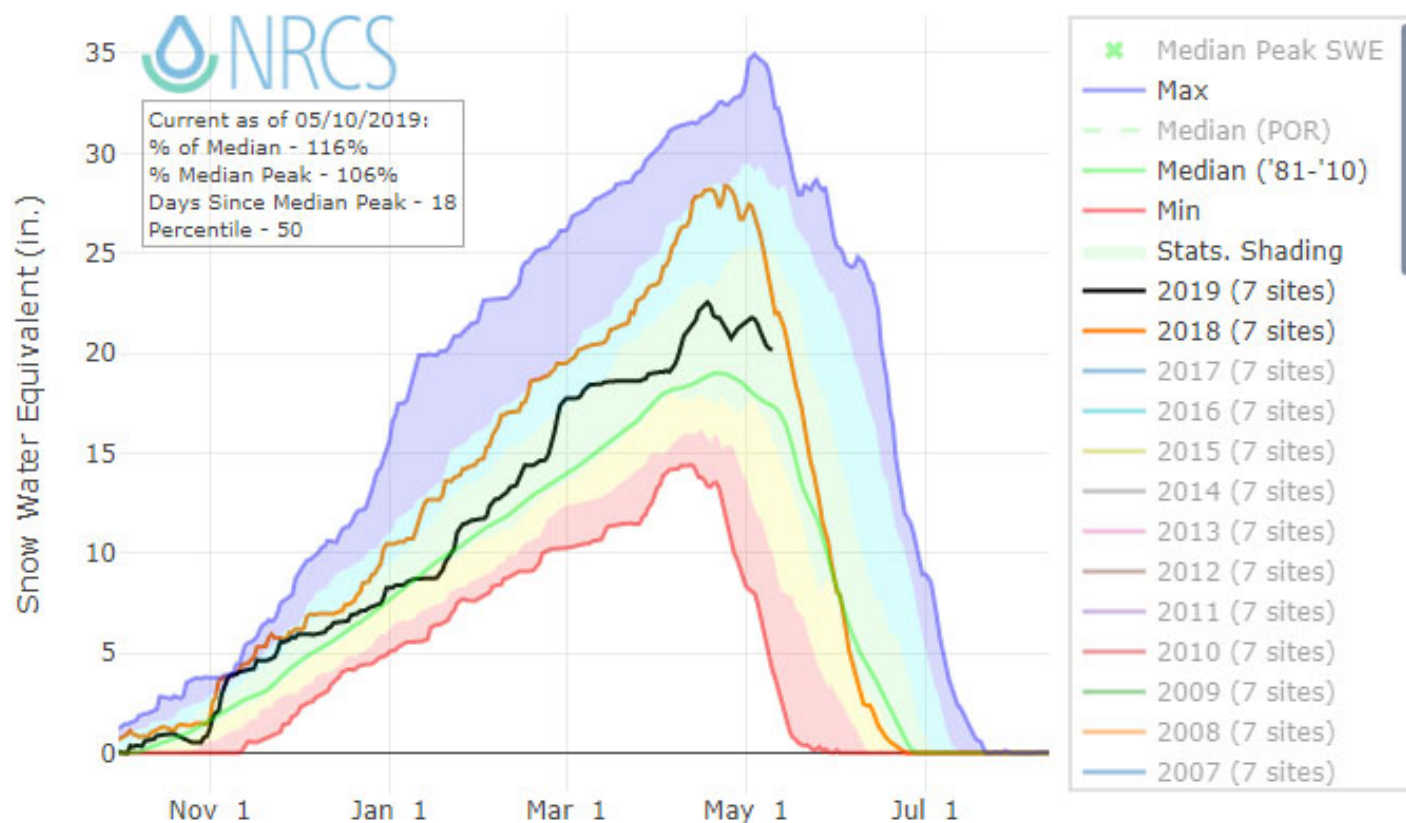


Gallatin County Water Supply Outlook

May 2019

Snowpack Data

Gallatin River Basin



SNOWPACK SUMMARY:

*Data is current as of May 10

Snowpack is currently at or above normal snowpack throughout the Gallatin River Basin. As of May 10, Snow water equivalent is currently 20.2 inches. This time last year snow water equivalent was 23.1 inches.

The May NRCS Water Supply Outlook Report for the Gallatin River Basin states "The Gallatin Valley was unusually wet. The seasonal melt has begun at low and mid elevations, but deeper higher elevation snowpack monitoring sites in the Gallatin and Madison Ranges have not turned the corner yet and continued to gain snow water through the end of the month. This is not uncommon at these sites as normal seasonal peaks occur at these sites during the first week of May. Before beginning to melt, this year's seasonal peaks at SNOTEL sites were above normal at low and mid-elevation sites. High elevation sites have not peaked yet, and the forecasted cool and wet weather may cause future peaks in May. Which all leads to this, snowpack for this date is above normal at all monitoring sites within the basin for May 1st. As you might expect, streamflow forecasts issued for the May 1st – July 31st period indicate near to slightly above average flows this spring and summer. However, that comes with the always present spring caveat. May and June precipitation are two of the biggest months with regards to annual precipitation in the Gallatin River basin, and should that fall-through, volumetric streamflows would be expected to be below forecasted levels."

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	July 2018	4	2.7	53	5.1
	July 2019	34	13.4	263	

Hyalite Region (Gallatin Gateway)

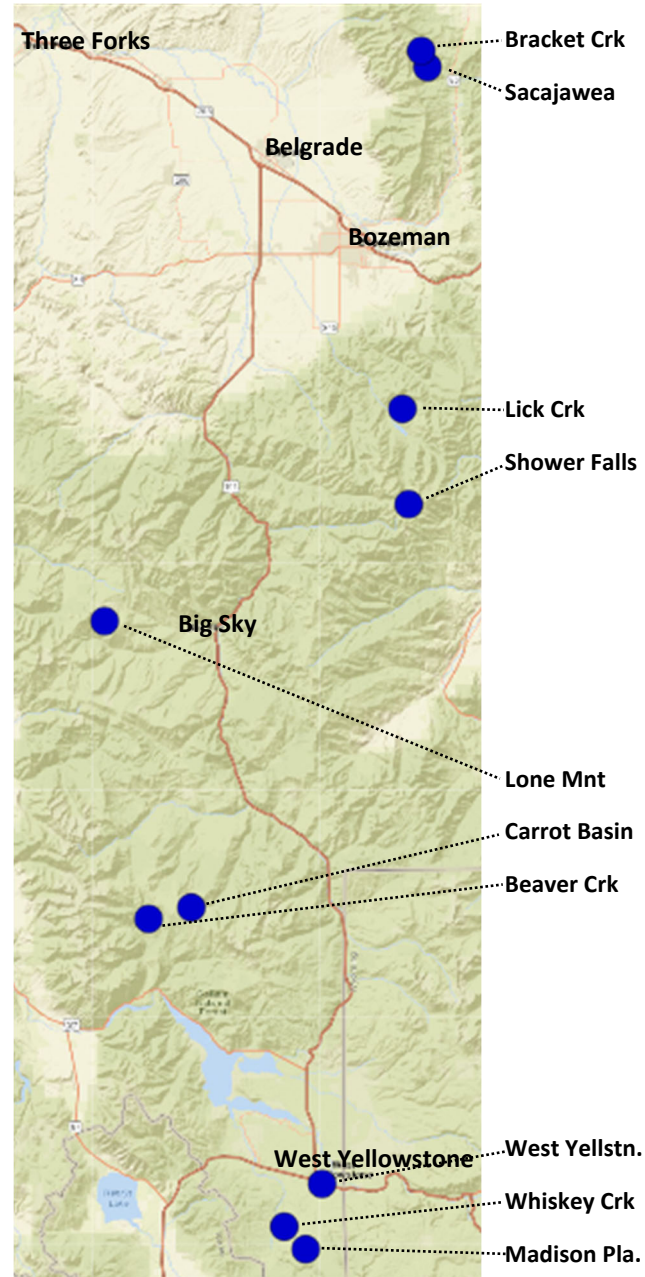
Station Name	Date	Snow Depth	SWE (in)	SWE % Normal	Normal SWE 1971-2000 (in)
Shower Falls	July 2018	0	0	0	2.4
	July 2019	7	1.1	46	

Lee Metcalf Wilderness Region (Big Sky)

Station Name	Date	Snow Depth	SWE (in)	SWE % Normal	Normal SWE 1971-2000 (in)
Lone Mountain	July 2018	20	9.5	81	11.8
	July 2019	35	15.7	133	
Carrot Basin	July 2018	40	18	74	4.5
	July 2019	54	24.8	102	
Beaver Creek	July 2018	12	4.8	56	8.6
	July 2019	19	6.5	76	

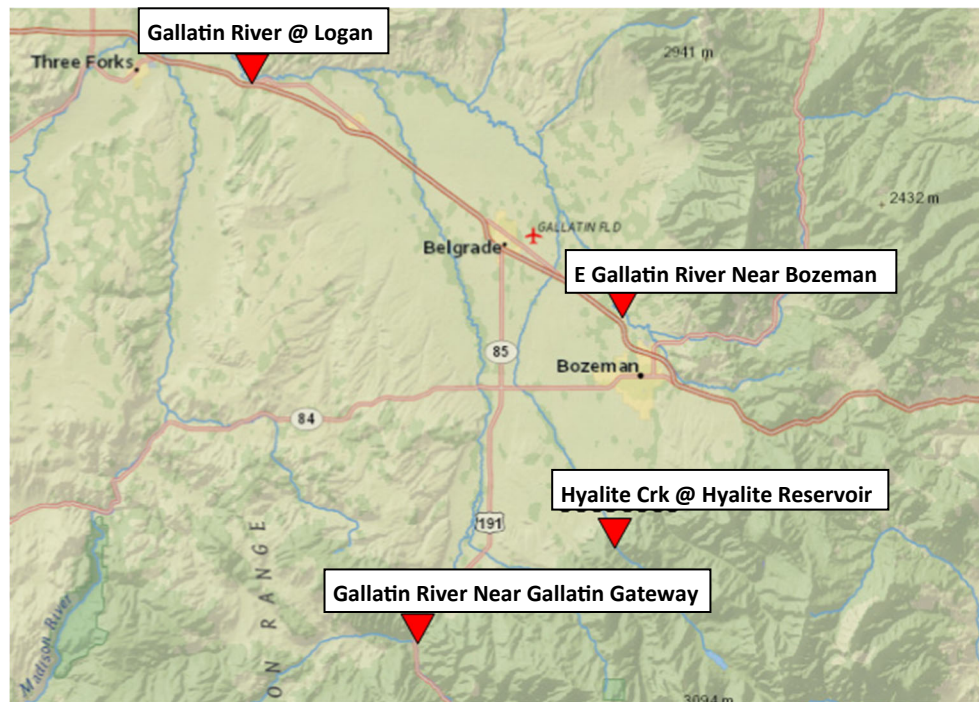
West Yellowstone Region

Station Name	Date	Snow Depth	SWE (in)	SWE % Normal	Normal SWE 1971-2000 (in)
Whiskey Creek	July 2018	0	0	0	1.2
	July 2019	4	1.5	125	
Madison Plateau	July 2018	18	7.9	88	9.0
	July 2019	33	15.4	171	



Streamflow Data

Gallatin River Watershed



May 1 Gallatin Watershed Streamflow

Station Name	2019 Discharge (cfs)	% Normal	Normal Dis- charge (cfs)	2018 Discharge (cfs)	Period Of Record (Yrs)
Gall At Logan	1820	138	1320	3400	102
E Gall near Bozeman	490	155	317	1330	4
Hyalite Cr	48.4	74	65	65.2	67
Near Gallatin Gate- way	828	99	840	1380	88

STREAMFLOW SUMMARY

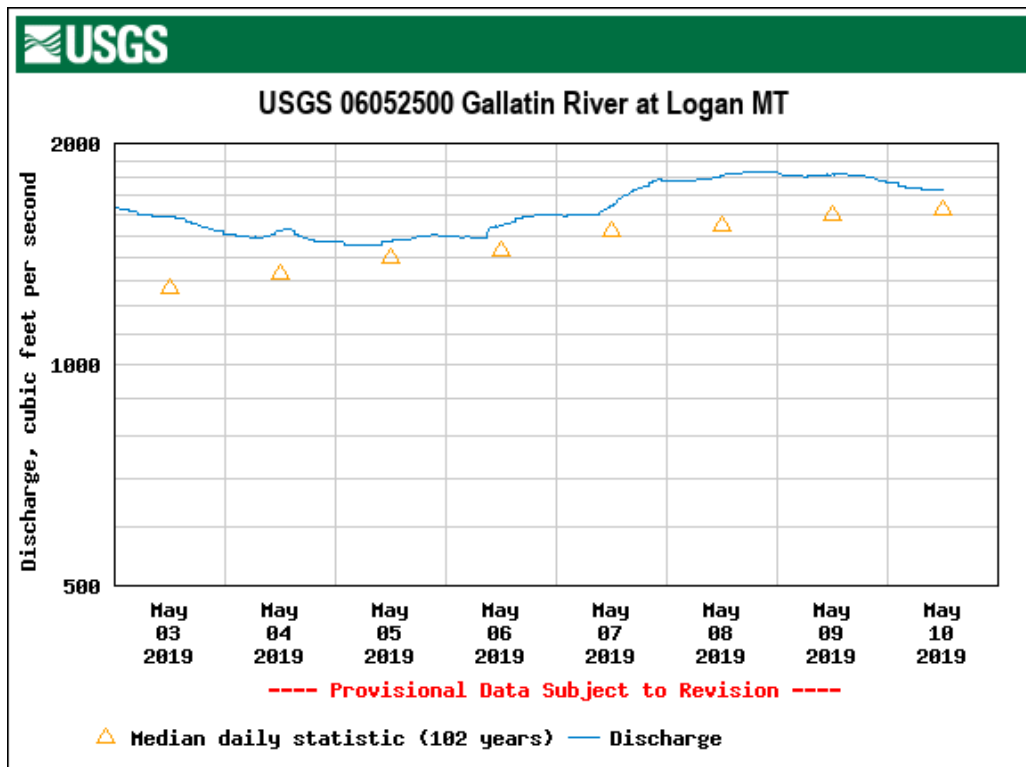
*Data current as of April 11

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.

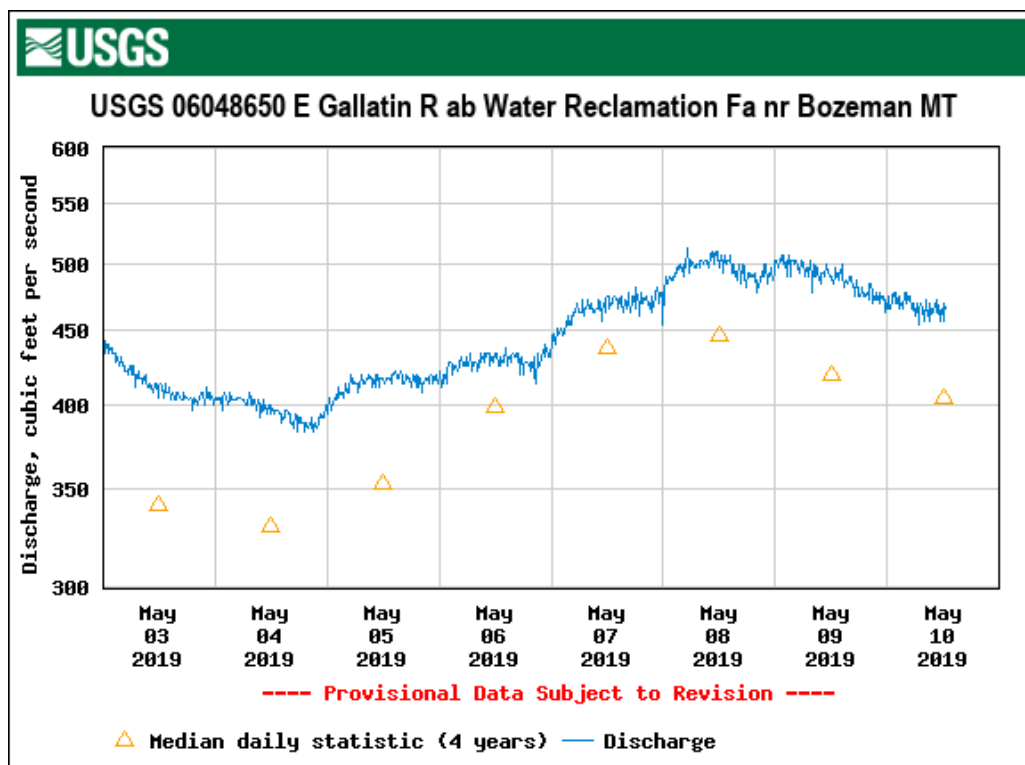
Review next page for detailed station information

Streamflow Data

Gallatin River Watershed



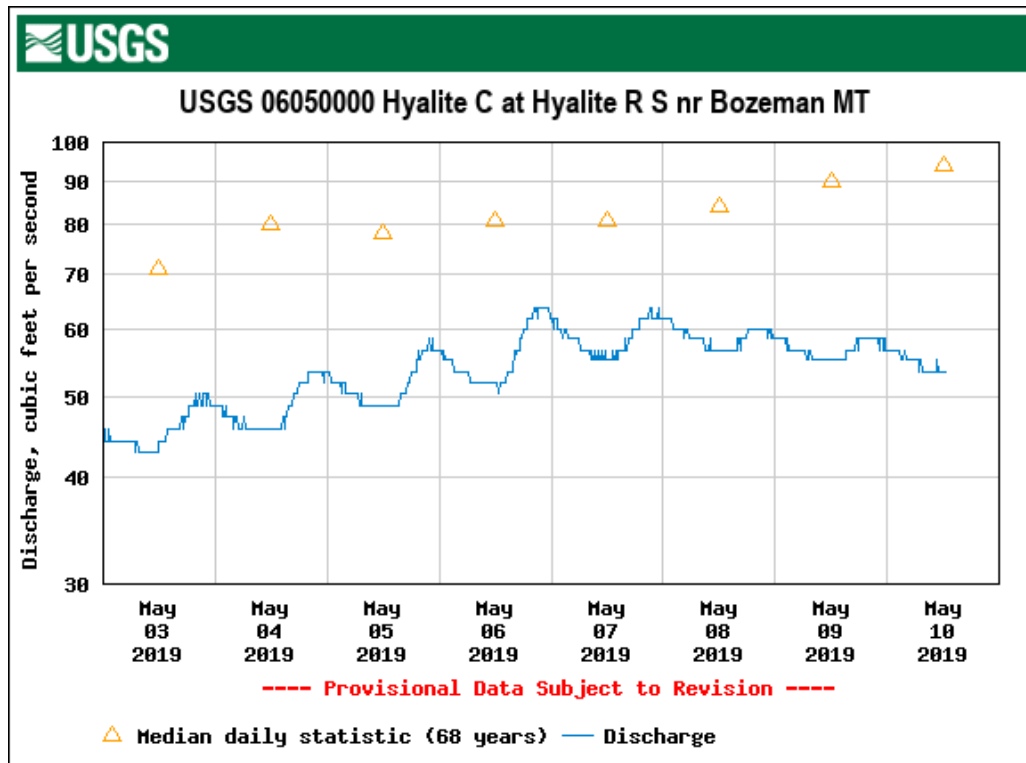
May 10, 11:00:00—Discharge is classified as normal (1730 cfs | 108% normal)



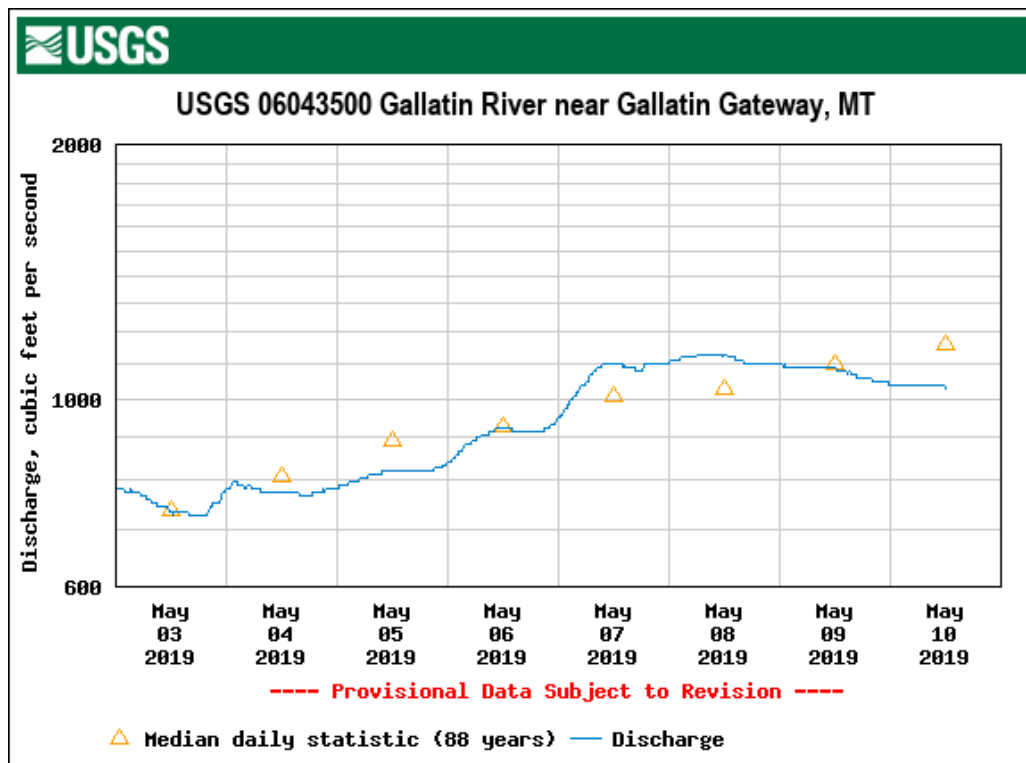
May 10, 11:00:00—Discharge is classified as not-ranked (463 cfs | 130% normal)

Streamflow Data

Gallatin River Watershed



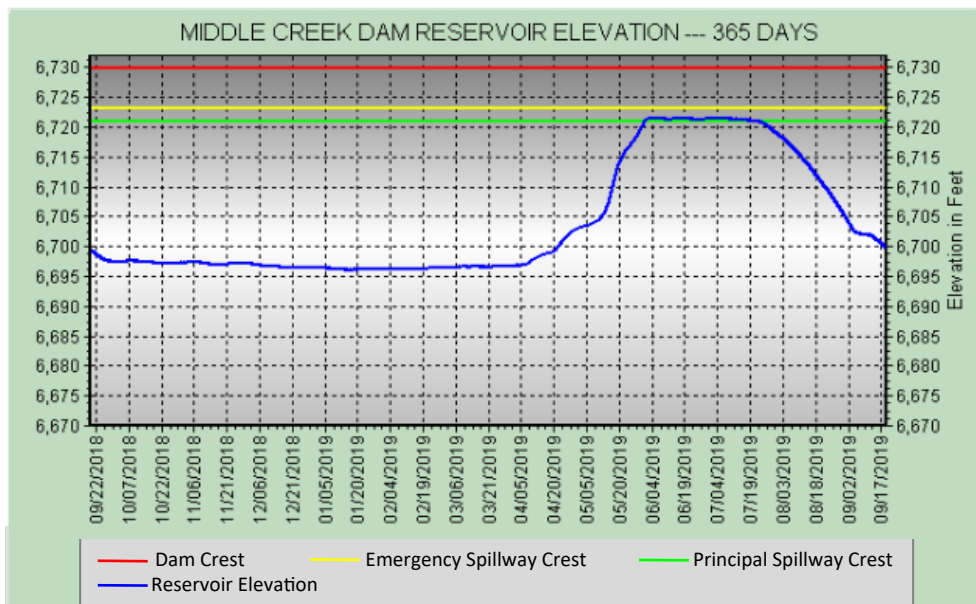
May 10, 11:00:00—Discharge is classified as below normal (53.5 cfs | 59% normal)



May 10, 11:00:00—Discharge is classified as Normal (1040 cfs | 89% normal)

Reservoir Data

Middle Creek Dam (Hyalite)



TIME OF LAST READING 9/19/19 10:00 AM

RESERVOIR ELEVATION 6,700 FT

RESERVOIR VOLUME 5,884 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

EAST FORK OF HYALITE ABOVE RESERVOIR

WEST FORK OF HYALITE ABOVE RESERVOIR

MIDDLE CREEK BELOW RESERVOIR

TIME OF LAST READING

9/19/19 9:15:00 AM

9/19/19 9:15:00 AM

9/19/19 8:45:00 AM

STAGE (FT)

1.2 FT

1.2 FT

1.1 FT

DISCHARGE (CFS)

7.9 CFS

12.5 CFS

57 CFS

****PROVISIONAL DATA SUBJECT TO REVISION****

AGRIMET STATION SUMMARY:

-
- For more information on the AgriMet station visit [this site](#).

Climate Data

Gallatin County



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

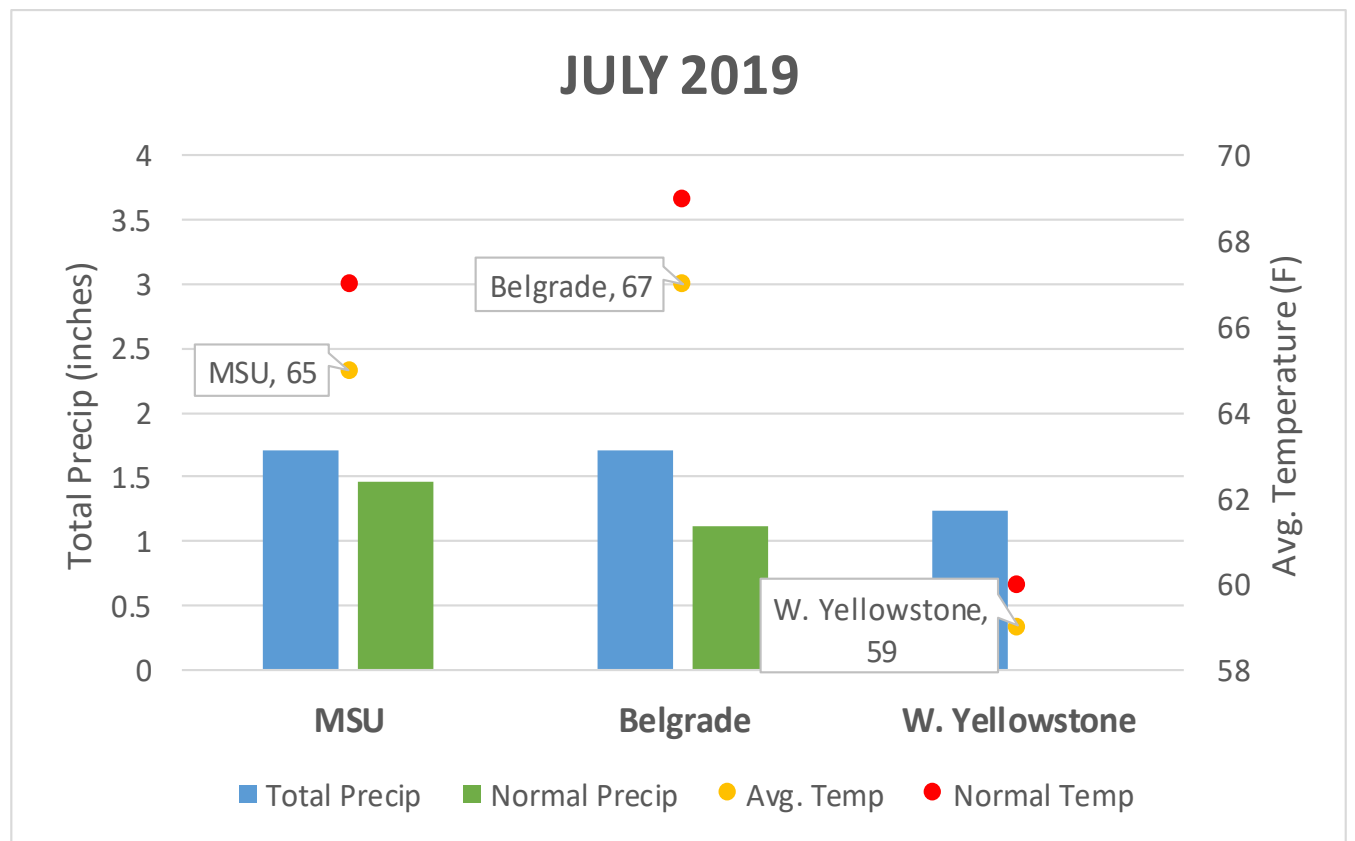
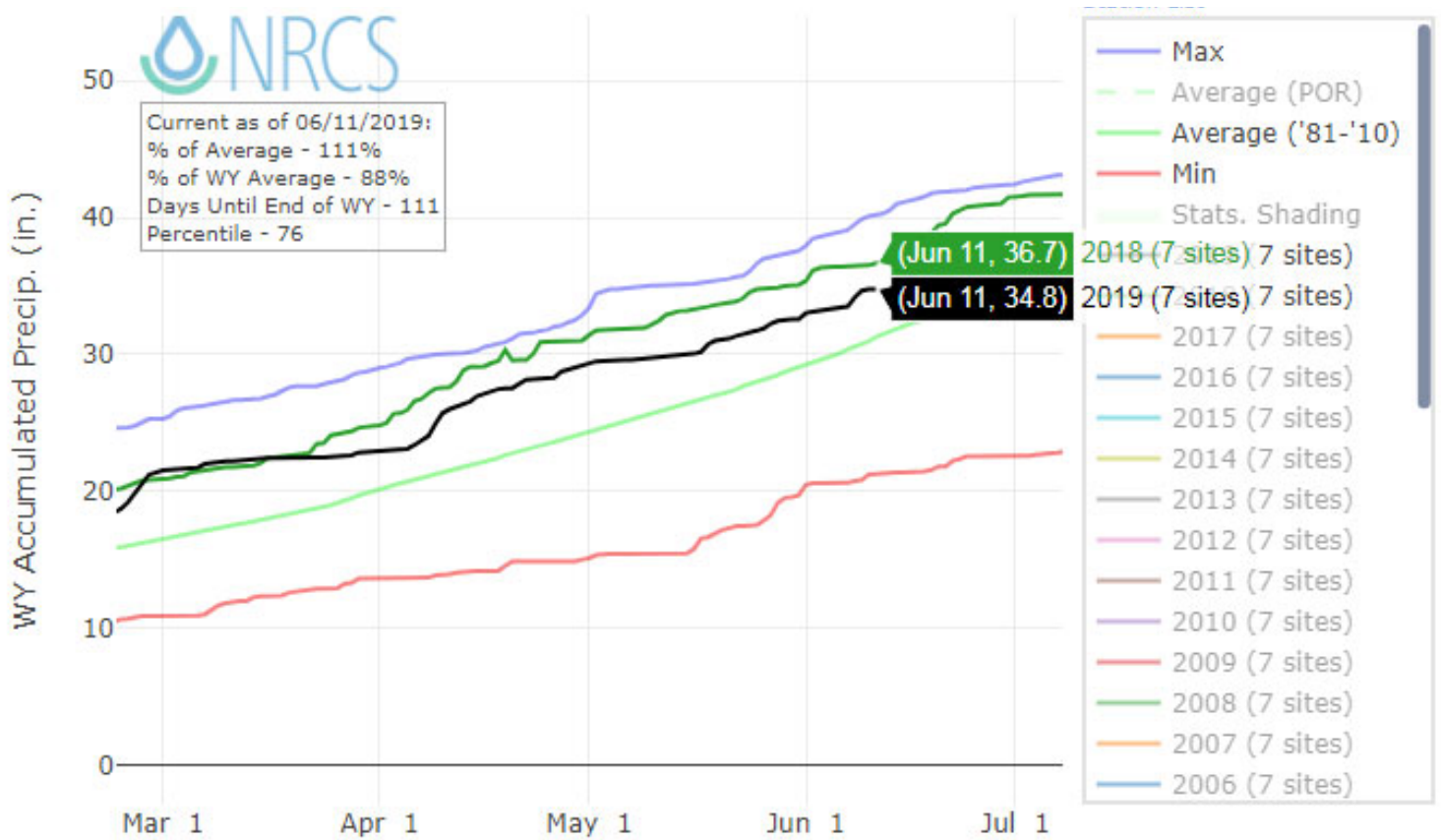
▼ The Bozeman AgriMet station is located approximately 4 miles west of Bozeman, Montana.

Estimated Crop Water Use - April 11, 2019					
Crop	Start Date	Average ET	Sum ET	Cover Date	Term Date
<i>Reference ET rate</i>	<i>April 1</i>	<i>0.05</i>	<i>0.70</i>	<i>June 1</i>	<i>Oct 5</i>
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	67°	NA%
8" - Shallow rooting	47°	33%
20" - deep rooting	45°	13%



oil Probe Depth (in)	Soil Temp (°F)	Soil Water Content (%)
4" - Surface	69°	30%
8" - Shallow rooting	60°	29%
20 " deep rooting	57°	13%

Soil Probe Depth (in)	Soil Temp (°F)	Soil Water Content (%)
4" - Surface	61°	15%
8" - Shallow rooting	64°	18%
20" - deep rooting	60°	12%