

Post Creek Water Supply Forecast

May 1, 2023

Snowpack Conditions

Click figures to link to plots

Streamflow and Reservoir Conditions

Weather Outlook

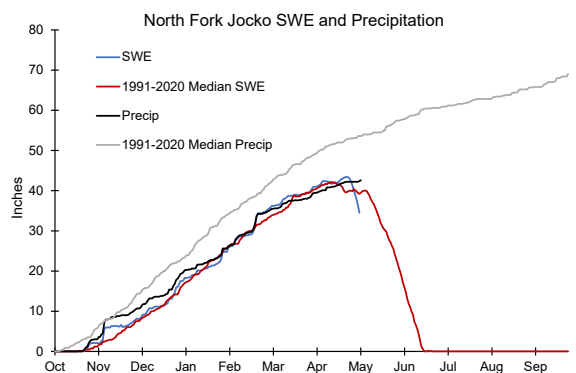


Figure 1. North Fork Jocko (Elev. at 6330 ft) SWE and precipitation.

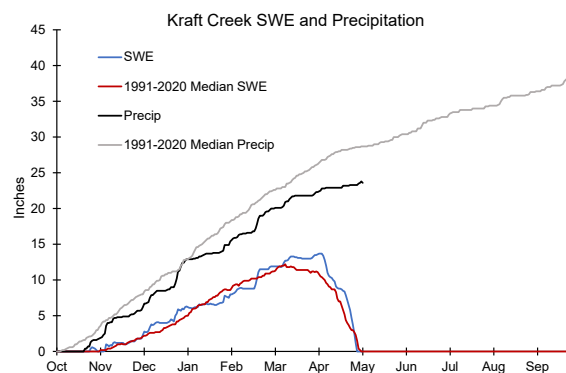


Figure 2. Kraft Creek (Elev. at 4750 ft) SWE and precipitation.

– Snowpack conditions (Snow Water Equivalent or SWE) at the Natural Resource Conservation Service (NRCS) [North Fork Jocko and Kraft Creek SNOTEL](#) sites are **trending below normal** as of May 1. **North Fork Jocko is 88% of the median** (Figure 1) and **Kraft Creek is at 0% of the median** (Figure 2), as it has melted completely at this site. Melt appears to be accelerating at a more rapid than normal rate this year due to recent warm temperatures. The May through July runoff (how much and when) will likely depend heavily on what temperatures do for the next 3-4 weeks.

– The Confederated Salish and Kootenai (CSKT) Water Resources Program operates a real-time stream gage on Post Creek, [4860](#) Post Creek abv McDonald Reservoir. The gage is currently out of service, so no streamflow information is available currently.

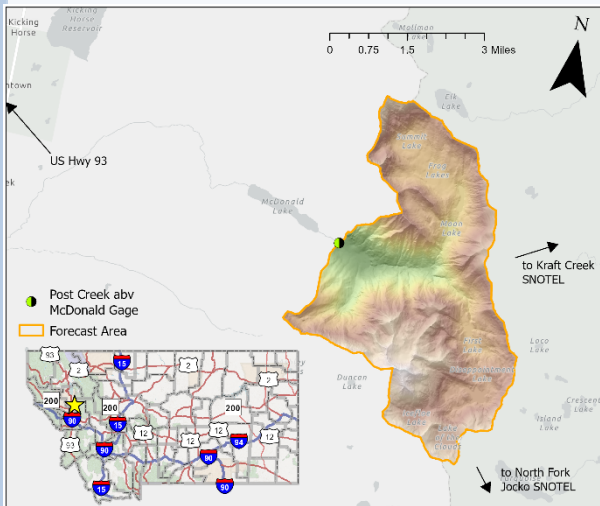
- **Active Storage in McDonald Lake is currently 3001 / 8258 acre-ft (36%)**

– The National Weather Service (NWS) **one-month outlook indicates normal precipitation and higher than normal temperatures** for Northwestern Montana. The **long-range (3 month) outlook is showing approximately normal temperatures and below average precipitation**. Current conditions in the area are wet, with the 7-day forecast showing a chance of rain showers almost every day for the next week, these percentages will likely be higher in the mountains.



Disclaimer: The DNRC snowmelt runoff forecast follows NRCS methodology using statistical best practices and professional judgment. Like any forecast it contains uncertainty. Please consider the stated error and documentation associated with each model when using the predicted flow in your decision-making process.

Forecast Area



Forecast Period is May 1 – July 31

All predicted and displayed values are calculated for this period.

On a normal year, **31,418 acre-feet** of water flows by the Post Cr abv McDonald gage from May 1 – July 31 (based on the median of the total annual flow from 1991 to 2022, excluding years with no data). **Approximately 22,460 acre-feet (or 71%) of this flow is from snowmelt** built up at high elevations during the winter and spring. The remainder of flow is from rain events between May 1 and July 31. The normal rainfall in the forecast area during this period is 8.7 inches but can vary considerably. **The median rainfall (8.7 in) produces about 6,682 acre-feet of runoff** based on DNRC rainfall runoff model estimates.

Runoff Forecast

The May 1 water supply forecast predicts an **above normal volume of 25,433 acre-feet** (Figure 3) of water from snowmelt, or 113% of normal. ****This is the estimated flow only from snowmelt****. Current information indicates that the 2023 flow from accumulated snowpack is predicted to be like conditions observed in 1999 and 2006. Based on the uncertainty of the prediction, there is a **90% chance snowmelt runoff will exceed 21,969 acre-feet (98% of normal)** and a **10% chance snowmelt runoff will exceed 30,707 acre-feet (137% of normal)**.

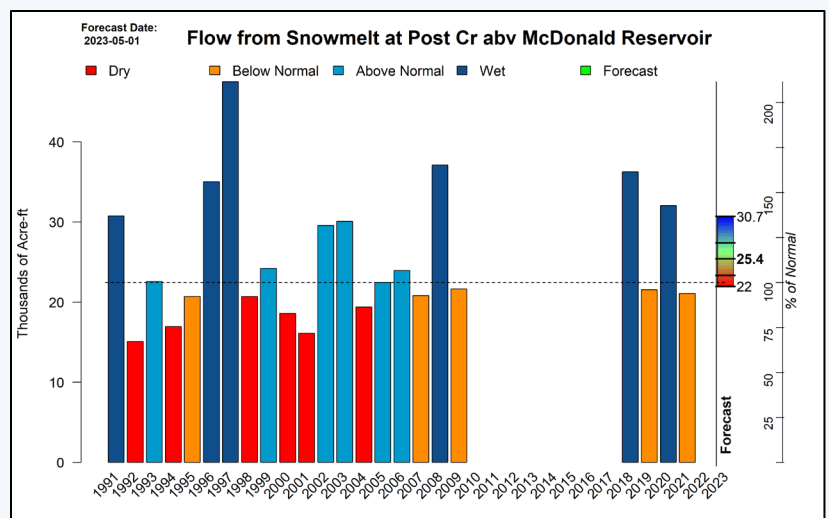


Figure 3. Historical snowmelt runoff and 2023 prediction.

If there is a normal amount (8.7 inches) of rain from May 1 – July 31, the total runoff is predicted to be 32,115 acre-feet. This is 697 acre-feet more than normal. Any excess rain (more than 8.7 inches) could increase the volume substantially (Figure 4). If it rains 13.7 or more inches during the forecast period, 2023 could be more like 2018 or 2020. The **effects of excess rain are visualized in Figure 4** as inches above normal.

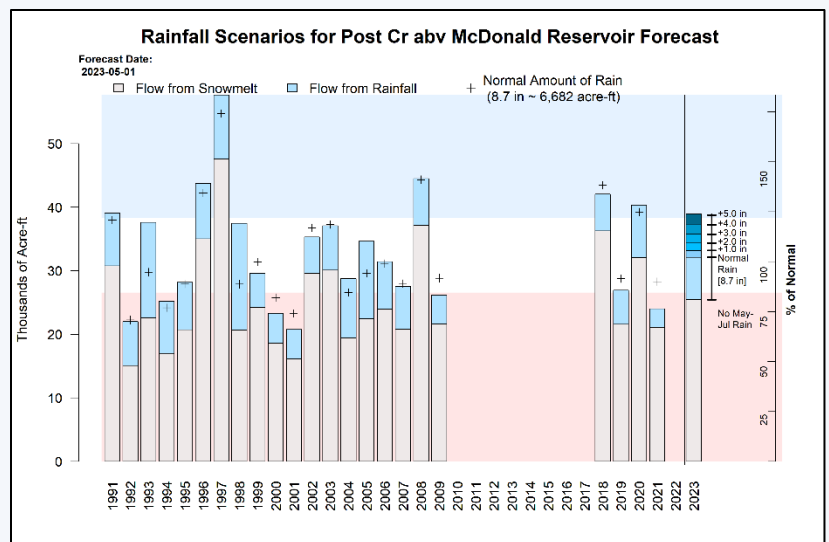


Figure 4. Proportion of flow from snowmelt vs. rain and the effects of May 1 – July 31 rain on predicted flow.



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