

A scenic landscape featuring snow-capped mountains, a valley with a river, and a reflection in a lake. The mountains are rugged and covered in patches of snow, with a clear blue sky above. The valley below is lush with green grass and a winding river. The entire scene is reflected in a calm body of water in the foreground, creating a mirror image of the landscape.

2024 Water Supply Outlook (05/15/24)

Approximate date	Purpose of Meeting
End of January	Review reservoir carryover and initial projection of water supply, tentatively categorize water-year type
End of February	Review reservoir carryover and initial projection of water supply, tentatively categorize water-year type, set March wet and normal year streamflow targets, modify MEF timing (if applicable) to match anticipated snowmelt runoff
End of March	Refine projection of water supply, tentatively categorize water-year type, and set April wet and normal streamflow targets, modify MEF timing (if applicable) to match anticipated snowmelt runoff
Mid-April	Refine projection of water supply, categorize water-year type, update wet and normal streamflow targets for the month, set initial RDAs based on water year type, modify MEF timing (if applicable) to match anticipated snowmelt runoff
Early May	Refine projection of water supply, update water-year type (if applicable), set wet and normal streamflow targets for the month, review initial RDAs based on water year type, taking into account any changes in water year type, modify MEF timing (if applicable) to match anticipated snowmelt runoff
Mid-May	Refine projection of water supply, update water-year type, update wet and normal streamflow targets for the month, update RDAs based on any changes in water year type, modify MEF timing (if applicable) to match anticipated snowmelt runoff
Early June	Refine projection of water supply, update water-year type (if applicable), set wet and normal streamflow targets for month, quantify portion of RDAs used to date, modify MEF timing (if applicable) to match anticipated snowmelt runoff
Mid June	Finalize projection of water supply and water-year type, update wet and normal streamflow targets for month, modify RDAs based on any changes in water year type, modify MEF timing (if applicable) to match anticipated snowmelt runoff
Early July	Set wet and normal streamflow targets for the month, evaluate RDAs, quantify portion of RDAs used to date
Mid July	Update wet and normal streamflow targets for the month
Early August	Set wet and normal streamflow targets for the month, evaluate RDAs, quantify portion of RDAs used to date
Early September	Set wet and normal streamflow targets for the month, quantify portion of RDAs used to date
Early October	Discuss annual reporting and water operations for the completed irrigation season, develop long-range forecast based on climatic indicators
Early December	Finalize annual reporting of water measurement, refine long-range forecast based on climatic indicators

Appendix

3.5 Timeline

6-10 Day Outlook – Issued May 14, 2024



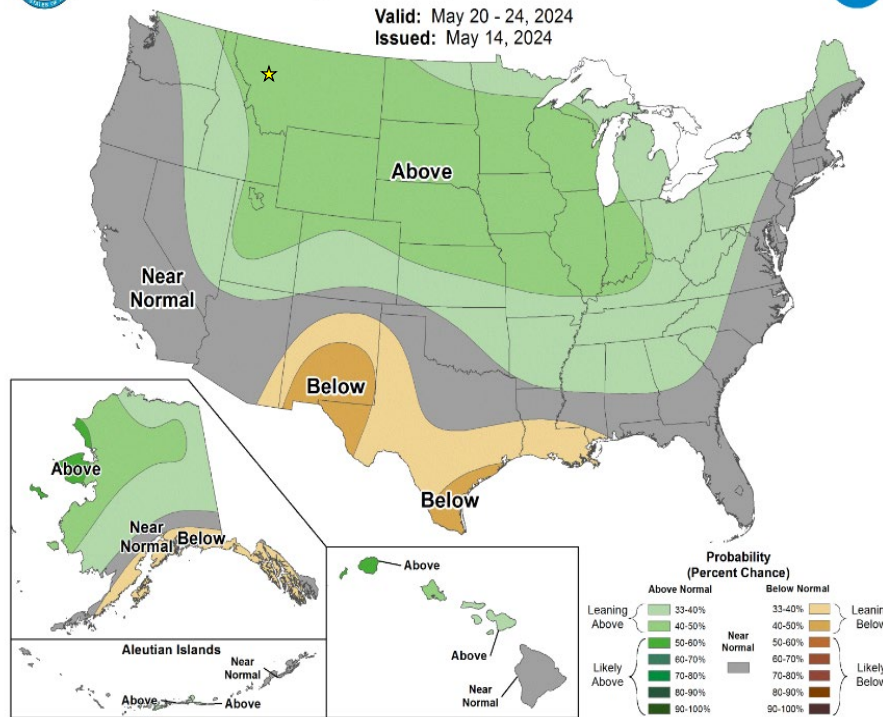
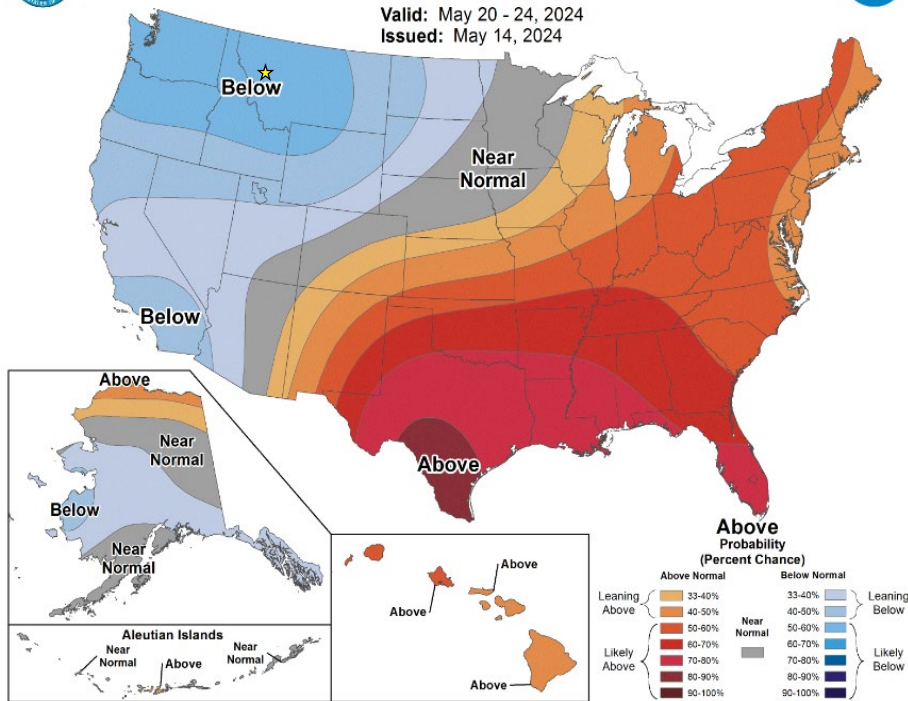
6-10 Day Temperature Outlook

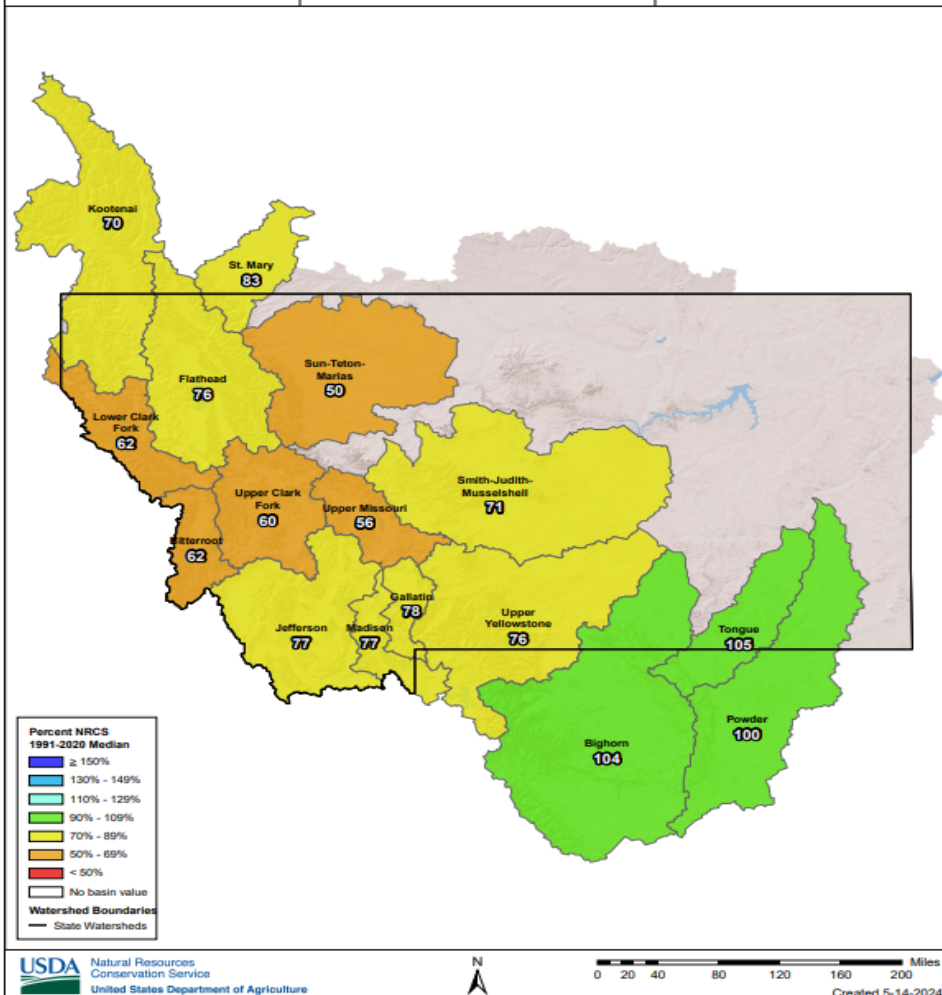
Valid: May 20 - 24, 2024
Issued: May 14, 2024



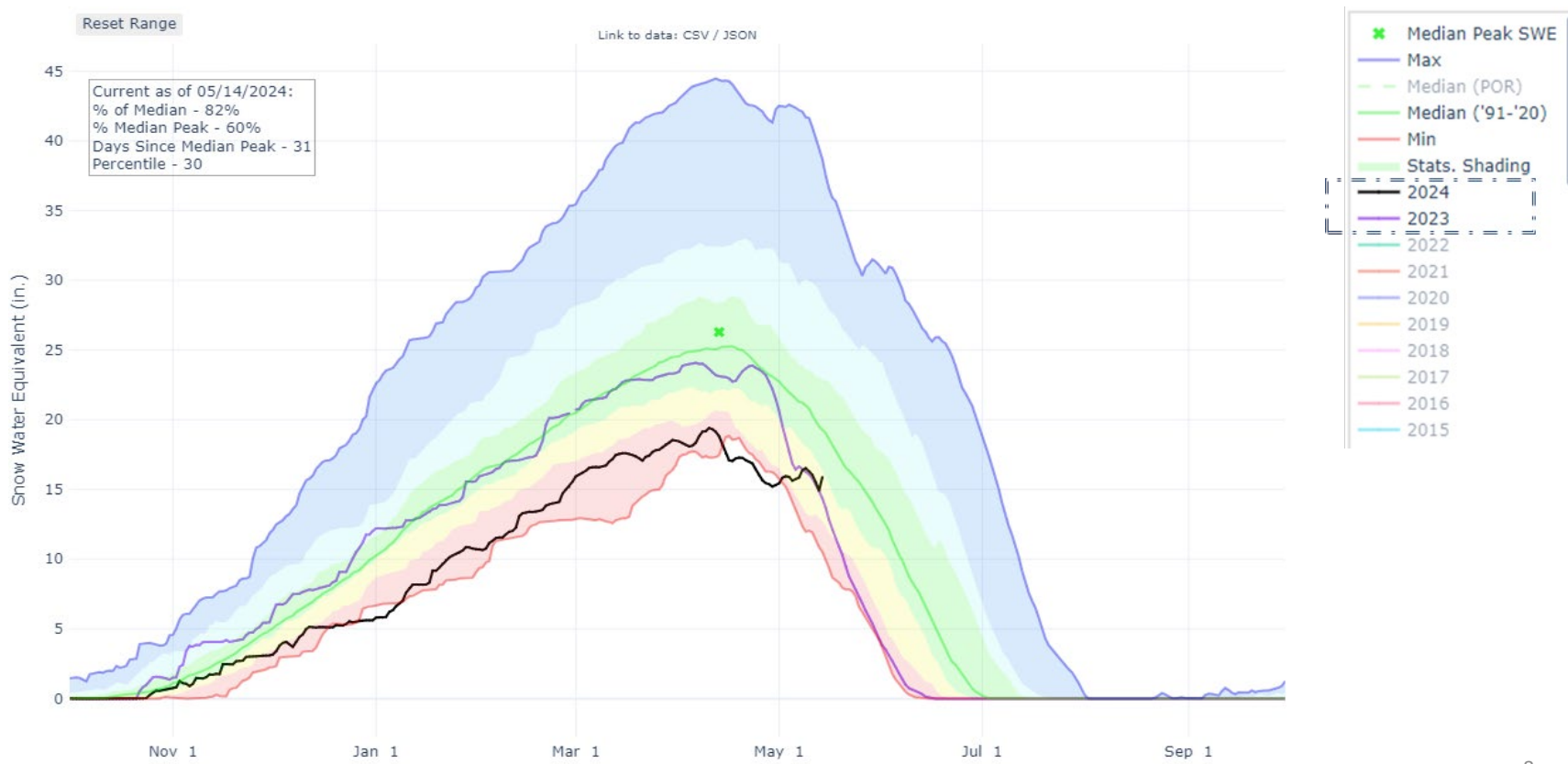
6-10 Day Precipitation Outlook

Valid: May 20 - 24, 2024
Issued: May 14, 2024

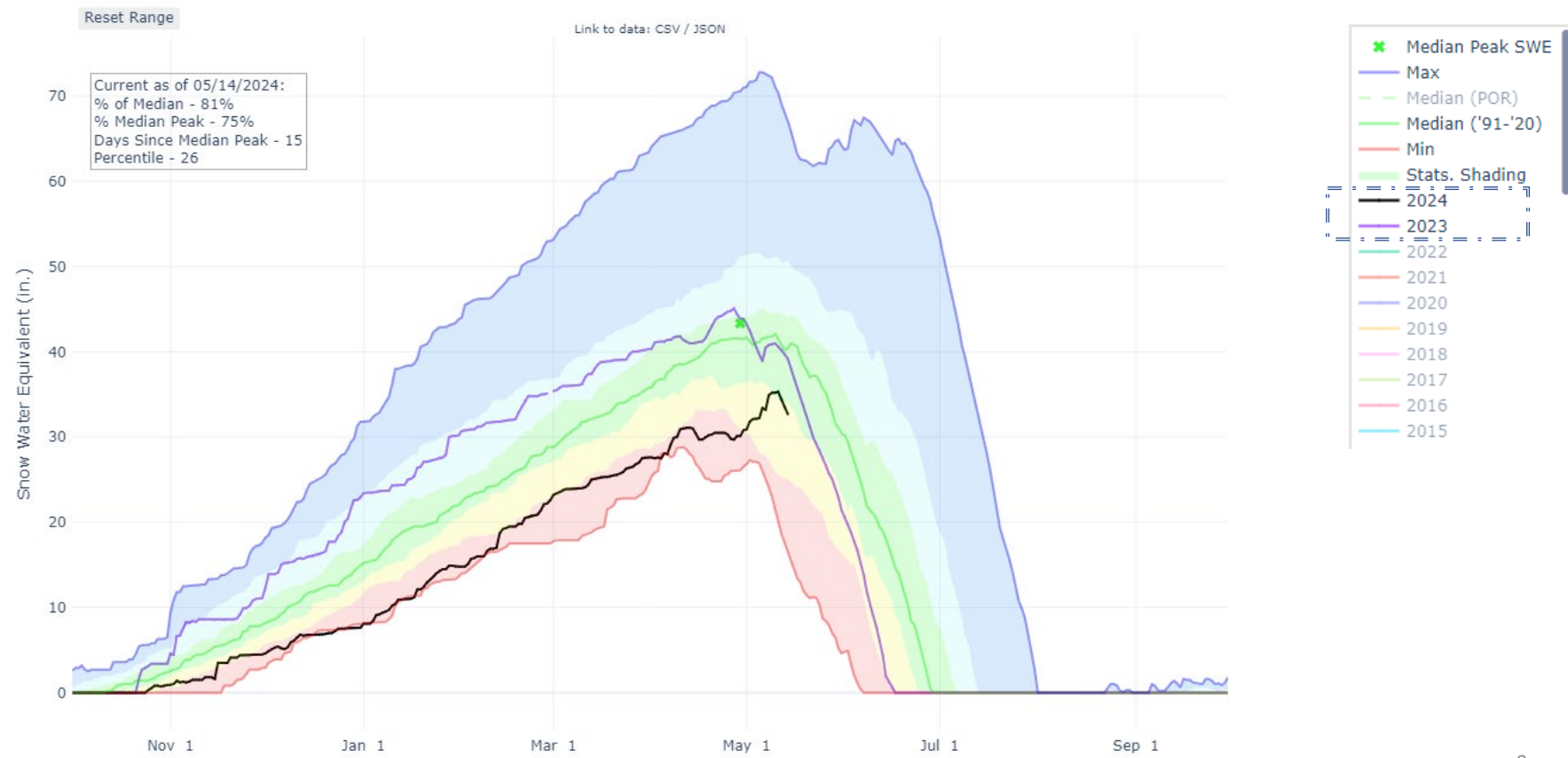




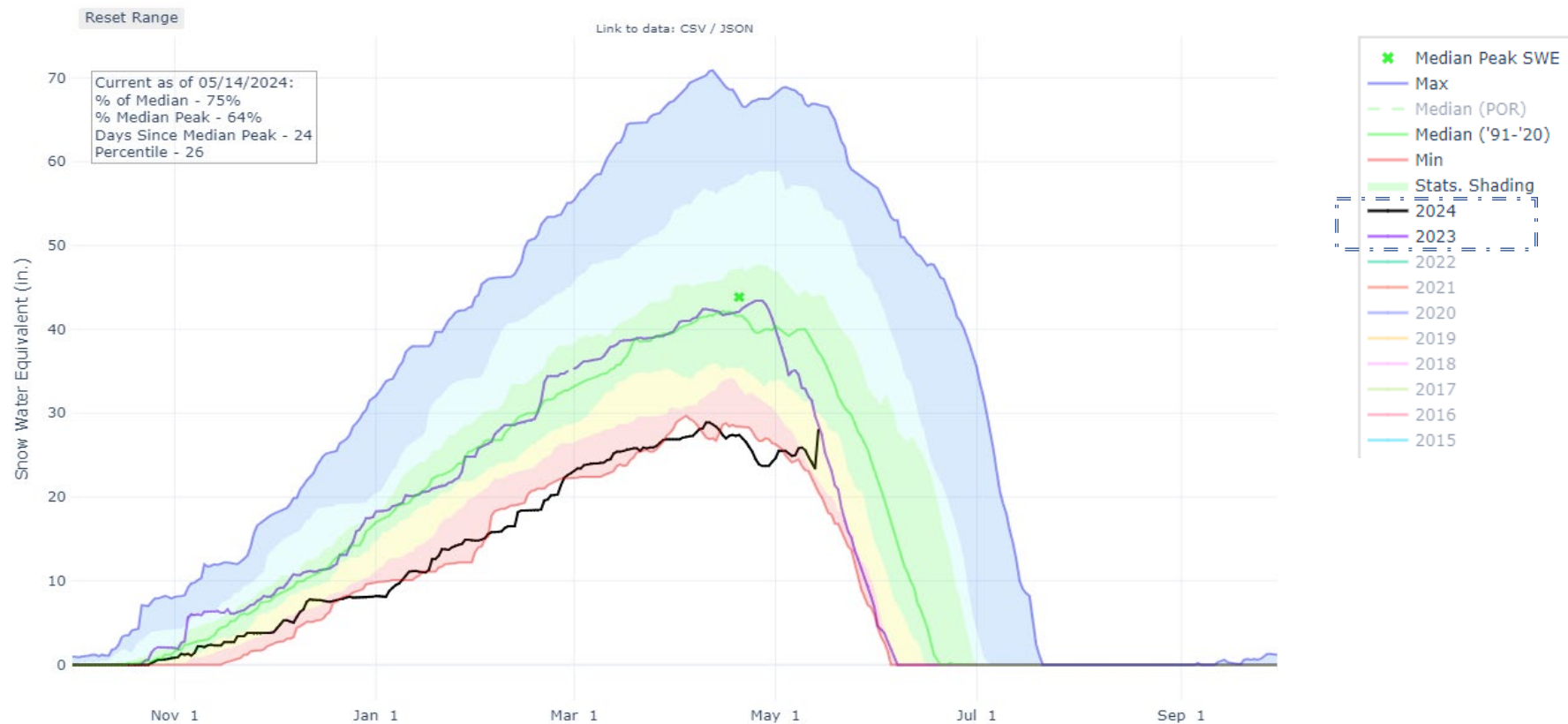
AWS Plot | SNOW WATER EQUIVALENT PROJECTION IN FLATHEAD



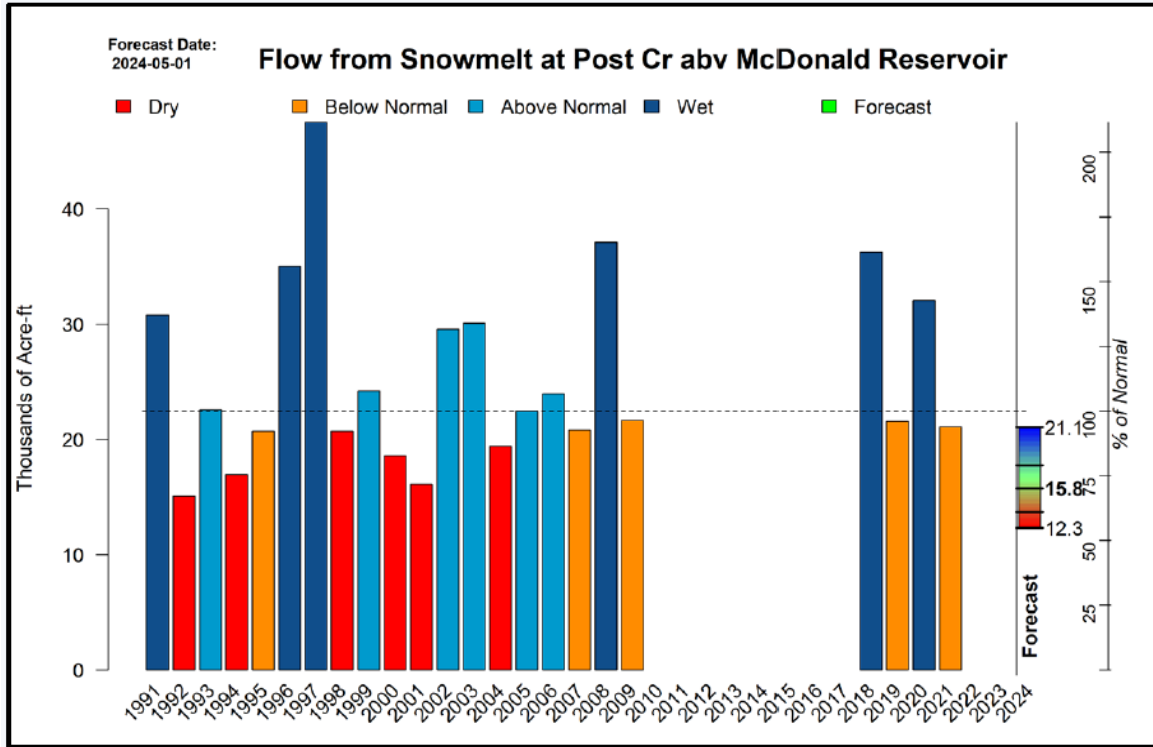
AWS Plot | MOSS PEAK, MT (646) SNOW WATER EQUIVALENT



AWS Plot | NORTH FORK JOCKO, MT (667) SNOW WATER EQUIVALENT



Forecasting – DNRC Post Creek Forecast



“ The May 1 water supply forecast predicts a **below normal volume of 15,776 acre-feet** (Figure 3) of water from snowmelt, or 68% of normal. **If there is a normal amount (12.8 inches) of rain from May 1 – July 31, the total runoff is predicted to be 22,458 acre-feet. This is 10,834 acre-feet less than normal. ”**

-Post Creek Water Supply Forecast, May 1, 2024 - DNRC

Figure 3: Historical snowmelt runoff and 2024 prediction.

NRCS Within-Month Forecast Refinement

Hi Brian,

Here are the forecasts with today's data. There is a 6-10% increase in the forecasts at the 50% exceedance level since the start of the month. The forecasts are for the full May-July period since our system isn't currently set up to only forecast the future period for partial months. I also included a line for the full Apr-Jul forecast, which is a combination of the current May-Jul forecast and the observed April streamflow data. Please let me know if you have any questions or if you would like additional updates.

Forecast	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	Pct Median	30% (KAF)	10% (KAF)	30-yr Med (KAF)
Mill Ck ab Bassoo ck nr Niarada	May-Jul	1.2	1.6	2.0	63	2.5	3.2	3.2
	Apr-Jul	1.7	2.2	2.6	55	3.1	3.7	4.7
Hellroaring Creek ab Reservoir nr Polson	May-Jul	2.4	2.7	3.0	83	3.3	3.8	3.6
	Apr-Jul	3.1	3.4	3.7	90	4	4.4	4.1
South Crow Ck nr Ronan	May-Jul	6.3	7.3	8.1	84	8.9	10.5	9.7
	Apr-Jul	7.3	8.3	9.1	91	9.9	11.5	10
Mission Ck nr St. Ignatius	May-Jul	19.1	21	22.3	89	24.0	26.8	25
	Apr-Jul	21.1	23	24.3	93	26	28.9	26
SF Jocko R nr Arlee	May-Jul	17.5	20.5	22.8	69	25.5	29.8	33
	Apr-Jul	21.8	24.8	27.1	77	29.7	34.1	35

Best,
Lexi

Observed (Measured) April Flows

Calculated as Mean Daily
Discharges converted
to Acre Feet Volumes

3521 South Crow		0600 Hellroaring		USGS S. Fork Jocko		3121 Mill Creek		USGS Mission Creek	
Date	Mean Q (cfs)	Date	Mean Q (cfs)	Date	Mean Q (cfs)	Date	Mean Q (cfs)	Date	Mean Q (cfs)
4/1/2024	8.4	4/1/2024	9.7	4/1/2024	18.7	4/1/2024	3.7	4/1/2024	14.6
4/2/2024	8.4	4/2/2024	9.9	4/2/2024	20.5	4/2/2024	3.8	4/2/2024	14.8
4/3/2024	9.0	4/3/2024	11.1	4/3/2024	27.2	4/3/2024	4.5	4/3/2024	18.7
4/4/2024	13.3	4/4/2024	11.7	4/4/2024	37.3	4/4/2024	5.6	4/4/2024	26
4/5/2024	15.9	4/5/2024	13.3	4/5/2024	48	4/5/2024	7.5	4/5/2024	32.3
4/6/2024	15.7	4/6/2024	13.1	4/6/2024	49.5	4/6/2024	8.3	4/6/2024	33.4
4/7/2024	14.0	4/7/2024	12.0	4/7/2024	46.6	4/7/2024	7.4	4/7/2024	33.1
4/8/2024	13.0	4/8/2024	10.7	4/8/2024	43.1	4/8/2024	6.9	4/8/2024	29.7
4/9/2024	12.6	4/9/2024	9.8	4/9/2024	43.3	4/9/2024	6.7	4/9/2024	27.1
4/10/2024	12.6	4/10/2024	9.0	4/10/2024	44.5	4/10/2024	6.8	4/10/2024	25.6
4/11/2024	12.8	4/11/2024	9.2	4/11/2024	47.5	4/11/2024	6.8	4/11/2024	24.4
4/12/2024	13.7	4/12/2024	9.8	4/12/2024	54.3	4/12/2024	7.0	4/12/2024	25.2
4/13/2024	18.4	4/13/2024	11.9	4/13/2024	71.7	4/13/2024	7.7	4/13/2024	32
4/14/2024	26.1	4/14/2024	15.2	4/14/2024	103	4/14/2024	8.9	4/14/2024	47
4/15/2024	31.6	4/15/2024	16.9	4/15/2024	139	4/15/2024	11.3	4/15/2024	61
4/16/2024	26.2	4/16/2024	16.5	4/16/2024	135	4/16/2024	14.6	4/16/2024	62.1
4/17/2024	22.8	4/17/2024	14.4	4/17/2024	111	4/17/2024	16.5	4/17/2024	55.7
4/18/2024	22.1	4/18/2024	12.4	4/18/2024	94.6	4/18/2024	15.8	4/18/2024	48.8
4/19/2024	20.0	4/19/2024	11.1	4/19/2024	85.5	4/19/2024	14.4	4/19/2024	42.1
4/20/2024	17.7	4/20/2024	9.9	4/20/2024	79.6	4/20/2024	13.5	4/20/2024	36.6
4/21/2024	16.4	4/21/2024	9.5	4/21/2024	76.9	4/21/2024	12.4	4/21/2024	33.7
4/22/2024	15.1	4/22/2024	9.0	4/22/2024	73.5	4/22/2024	11.2	4/22/2024	31.5
4/23/2024	14.4	4/23/2024	8.7	4/23/2024	73	4/23/2024	10.3	4/23/2024	29.6
4/24/2024	14.6	4/24/2024	8.7	4/24/2024	77.3	4/24/2024	9.5	4/24/2024	29.3
4/25/2024	16.1	4/25/2024	9.0	4/25/2024	85.7	4/25/2024	9.0	4/25/2024	33.1
4/26/2024	16.5	4/26/2024	9.2	4/26/2024	88.7	4/26/2024	9.6	4/26/2024	36.4
4/27/2024	16.7	4/27/2024	10.0	4/27/2024	93.7	4/27/2024	10.2	4/27/2024	38.5
4/28/2024	17.7	4/28/2024	10.8	4/28/2024	103	4/28/2024	11.2	4/28/2024	40.5
4/29/2024	17.1	4/29/2024	10.3	4/29/2024	98.3	4/29/2024	12.3	4/29/2024	38.6
4/30/2024	16.4	4/30/2024	9.9	4/30/2024	93.1	4/30/2024	13.5	4/30/2024	36.9
Acre Feet	983	Acre Feet	661	Acre Feet	4292	Acre Feet	569	Acre Feet	2060

Table 1: UPDATED 05.14.2024 Water Year and NRCS Streamflow Forecast

Table 1: UPDATED 05.14.2024 Water Year and NRCS Streamflow Forecast								
	May 5/14/24 NRCS Forecast - (May thru July 2024 + April Measured Flows)					Site-Specific Water Year Thresholds		
Geographic Area	Gage Site	70%	50%	30%	% Median	Dry Year	Normal Year	Wet Year
Jocko	South Fork Jocko near Arlee	24,790	27,090	29,790	77%	<24,000	24,000 - 36,000	>36,000
Mission	Mission Creek near St. Ignatius	23,060	24,360	26,060	93%	<21,100	21,100 - 29,000	>29,000
	South Crow Creek near Ronan	8,280	9,080	9,880	91%	<7,700	7,700 - 11,800	>11,800
	Hellroaring Creek	3,360	3,660	3,960	89%	<3,350	3,350-4,750	>4,750
Little Bitterroot	Mill Creek above Bassoo Creek near Niarada	2,170	2,570	3,070	55%	<2,200	2,200 - 4,900	>4,900
		Wet						
		Normal						*all values are in acre feet
		Dry						

APRIL 1 Forecast (Observed April Flows + May-July Forecast)					
Geographic Area	Gage Site	70%	50%	30%	% Median
Jocko	South Fork Jocko near Arlee	22,000	25,000	29,000	71%
Mission	Mission Creek near St. Ignatius	23,000	25,000	27,000	96%
	South Crow Creek near Ronan	8,600	9,300	10,500	93%
	Hellroaring Creek	3,200	3,500	4,000	85%
Little Bitterroot	Mill Creek above Bassoo Creek near Niarada	2,100	2,600	3,100	55%

MAY 1 Forecast (Observed April Flows + May-July Forecast)					
Geographic Area	Gage Site	70%	50%	30%	% Median
Jocko	South Fork Jocko near Arlee	22,230	24,130	27,330	69%
Mission	Mission Creek near St. Ignatius	19,930	22,030	25,030	85%
	South Crow Creek near Ronan	7,180	8,580	9,080	86%
	Hellroaring Creek	3,160	3,360	3,660	82%
Little Bitterroot	Mill Creek above Bassoo Creek near Niarada	2,020	2,290	2,670	49%

MAY 14 Forecast (Observed April Flows + May-July Forecast)					
Geographic Area	Gage Site	70%	50%	30%	% Median
Jocko	South Fork Jocko near Arlee	24,790	27,090	29,790	77%
Mission	Mission Creek near St. Ignatius	23,060	24,360	26,060	93%
	South Crow Creek near Ronan	8,280	9,080	9,880	91%
	Hellroaring Creek	3,360	3,660	3,960	89%
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Site-Specific Water Year Thresholds		
Dry Year	Normal Year	Wet Year
<24,000	24,000 - 36,000	>36,000
<21,100	21,100 - 29,000	>29,000
<7,700	7,700 - 11,800	>11,800
<3,350	3,350-4,750	>4,750
<2,200	2,200 - 4,900	>4,900

2024 Water Supply Outlook Summary (05/15/24)

° Flathead Basin-Wide (76% Median) indicates below average snowpack conditions as of 5/14/24.

°Outlooks favor below average temperature and above average precipitation in the 6-10 day & 8-14 day forecasts.

°May-July streamflow forecasts, combined with observed April flows, indicate streamflow volumes that fit within the dry end of the normal-year category (50% exceedance probability) for all forecast locations. These values indicate improvements over the May 1 forecasts, though not at significant levels.

Table 1: UPDATED 05.14.2024 Water Year and NRCS Streamflow Forecast											
Geographic Area	Gage Site	May 5/14/24 NRCS Forecast - (May thru July 2024 + April Measured Flows)				Site-Specific Water Year Thresholds					
		70%	50%	30%	% Median	Dry Year	Normal Year	Wet Year			
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		<table border="1"> <tr><td>Wet</td></tr> <tr><td>Normal</td></tr> <tr><td>Dry</td></tr> </table>				Wet	Normal	Dry	*all values are in acre feet		
Wet											
Normal											
Dry											