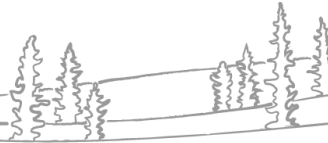




# NWT Water Monitoring Bulletin

## – February 06, 2024



NWT Water Monitoring Bulletins are posted monthly. These bulletins are intended to provide an update of water flow and level data at select NWT Hydrometric Network gauge stations across the Northwest Territories.

Where available, data from river sites are presented as flow (discharge) and data from lake sites are presented as level. When flow data are unavailable, data from river sites are presented as level. The figures in this report represent current conditions for this year, relative to historic minimum and maximum values, as well as the average range, which is calculated as the interquartile range.

The NWT Hydrometric Network is a partnership between ECC and Environment and Climate Change Canada (ECCC) and is operated by the Water Survey of Canada (ECCC). Both historic and real-time data for all stations are available at [https://wateroffice.ec.gc.ca/index\\_e.html](https://wateroffice.ec.gc.ca/index_e.html). All 2023 and 2024 data are considered provisional and may contain values that are later corrected.

Any questions regarding information contained in this Bulletin can be directed to [NWTWaters@gov.nt.ca](mailto:NWTWaters@gov.nt.ca).

## Current status:

- Water levels across most of the NWT remain very low.
  - These dry conditions began during the summer and fall of 2022 and have persisted through the end of last year (2023) largely due to hot and dry conditions in northern Alberta and British Columbia, and the southern NWT over the past two summers.
  - The Slave River was below average over the summer and remained that way through fall and into winter.
  - Great Slave Lake remains at the lowest water level ever recorded for this time of year.
  - Water levels on Great Slave Lake have been increasing recently as combined inflows from the Slave River (sourced in part from outputs from the W.A.C. Bennett Dam in British Columbia) and other smaller rivers exceed outflows to the Mackenzie River.
  
- In the month of January, snowfall amounts - which are presented here as snow water equivalent (SWE)<sup>1</sup> - across the territory ranged between average and below average.
  
- Accumulated SWE for the entire winter up to now has been below average in Hay River and Fort Simpson, about average in Fort Smith, Yellowknife and Norman Wells, and above average in Inuvik.
  - The SWE data presented here are accumulated values from Environment and Climate Change Canada gauges at airports. The GNWT's Department of Environment and Climate Change will conduct end-of-season snow surveys near the end of March to get a better understanding of SWE across the NWT.
  
- Water levels on Great Slave Lake and the Mackenzie River this coming spring/summer will be impacted by snowpack volumes and spring rainfall amounts in northern Alberta and British Columbia.
  - SWE data from these locations show that the snowpack is well below average so far this winter

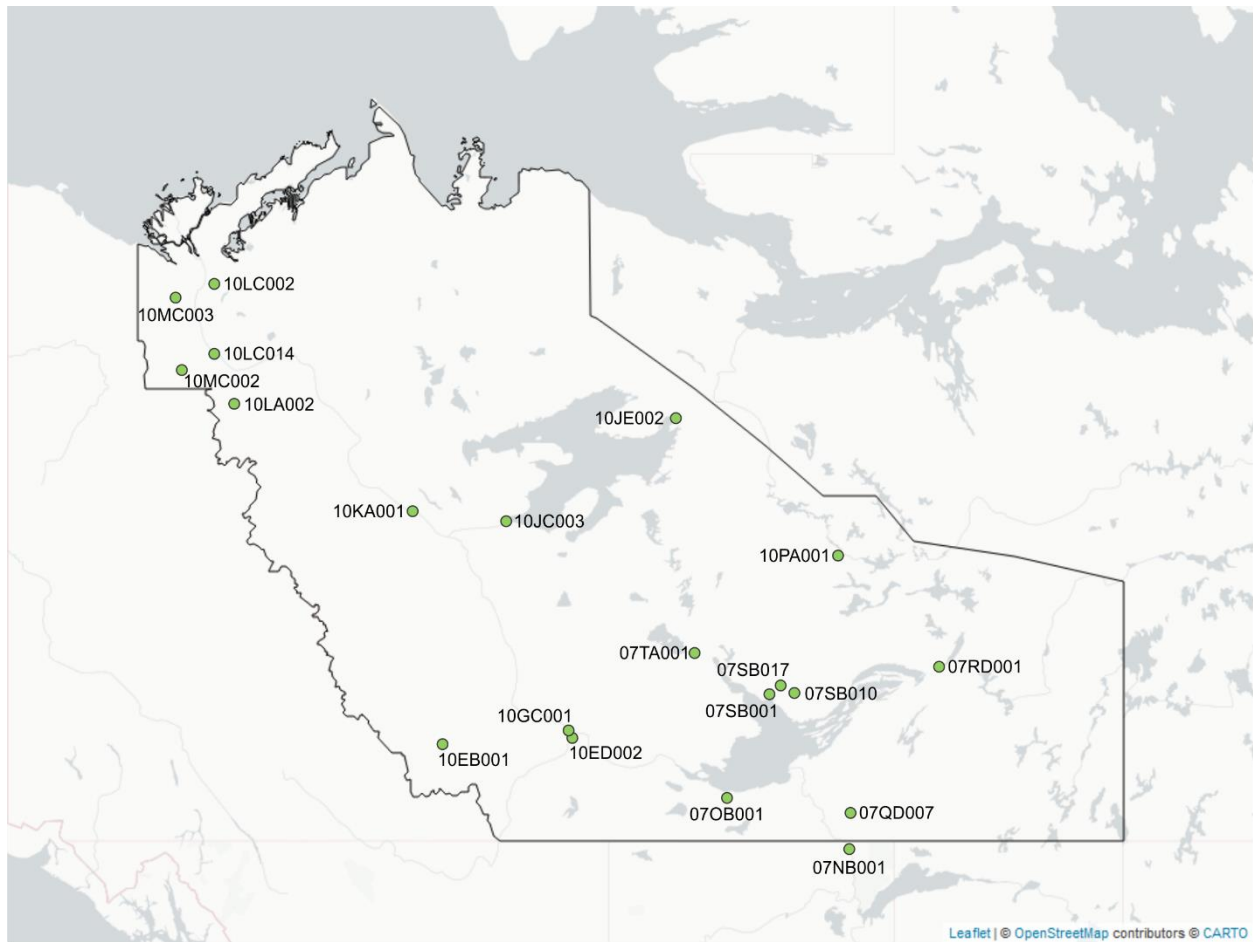
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<sup>1</sup> Snow water equivalent (SWE) is the amount of water that remains when snow is melted. The accumulated amount of SWE over a winter provides a strong indication of how much water will be available to flow to rivers and lakes in the spring. SWE values account for the density of the snowpack and are therefore not the same as snow depth values. For example, heavy and wet snow has a higher SWE than light and fluffy snow.

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## Hydrometric station map



*Above* – A map of the hydrometric stations included in this report.

## Information on interpreting figures:

### Water level and flow figures:

The light blue line shows water levels/flows from last year (2023), while the dark blue line shows current water levels/flows from 2024. The dark grey band represents the average range (calculated as the interquartile range), while the light grey bands represent the highest and lowest levels or flows on record. If the dark blue line is within the dark grey band, current conditions can be assumed to be normal.

**Note:** The grey bands are calculated for data prior to 2023. If the line from 2023 or 2024 is above (below) the grey band, it means that the water level or flow from that year was the highest (lowest) on record.

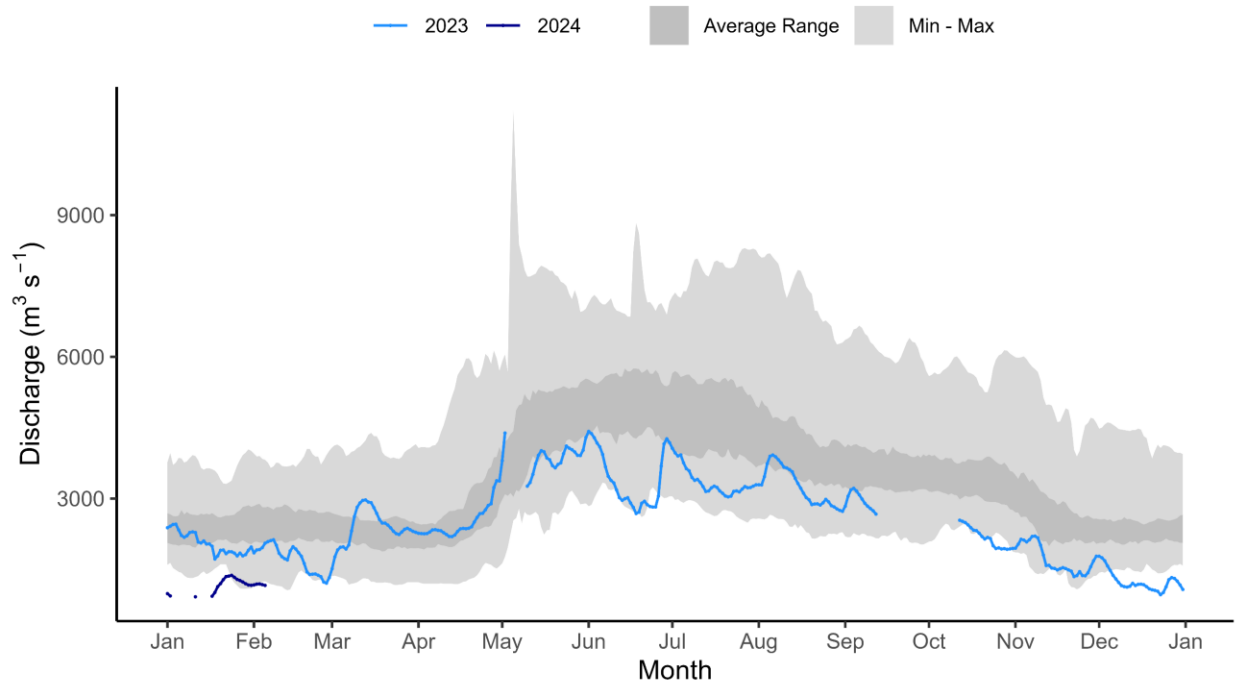
### Climate figures:

Monthly air temperature and precipitation data are displayed for six communities in the NWT (Fort Smith, Hay River, Yellowknife, Fort Simpson, Norman Wells, and Inuvik) and presented as box and whisker plots. The box in each plot represents the average range (calculated as the interquartile range) for each month, and the whiskers are the vertical black lines that represent the extreme values (10<sup>th</sup> to 90<sup>th</sup> percentiles). Each grey dot is the value from a previous year, beginning in 1950. The red or blue dots represent the values for the current year. These data are acquired and managed by Environment and Climate Change Canada.

Water level and flow data:

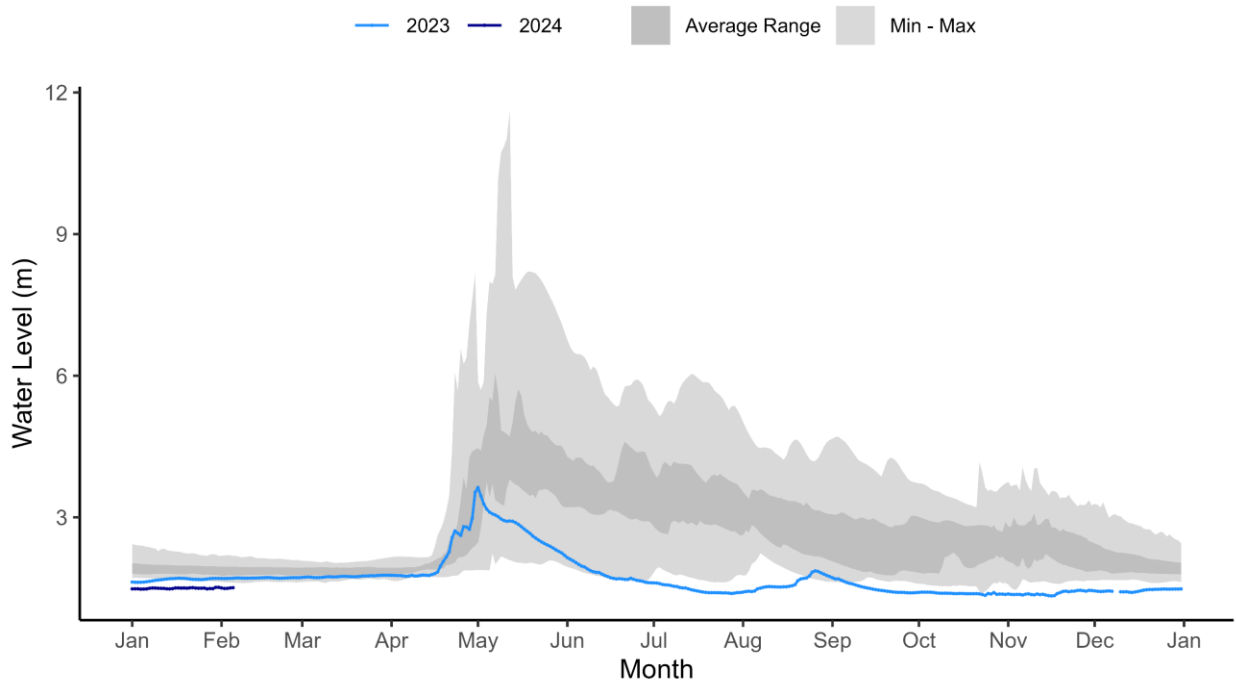
Slave River at Fitzgerald [07NB001]

SLAVE RIVER AT FITZGERALD (ALBERTA) (07NB001)



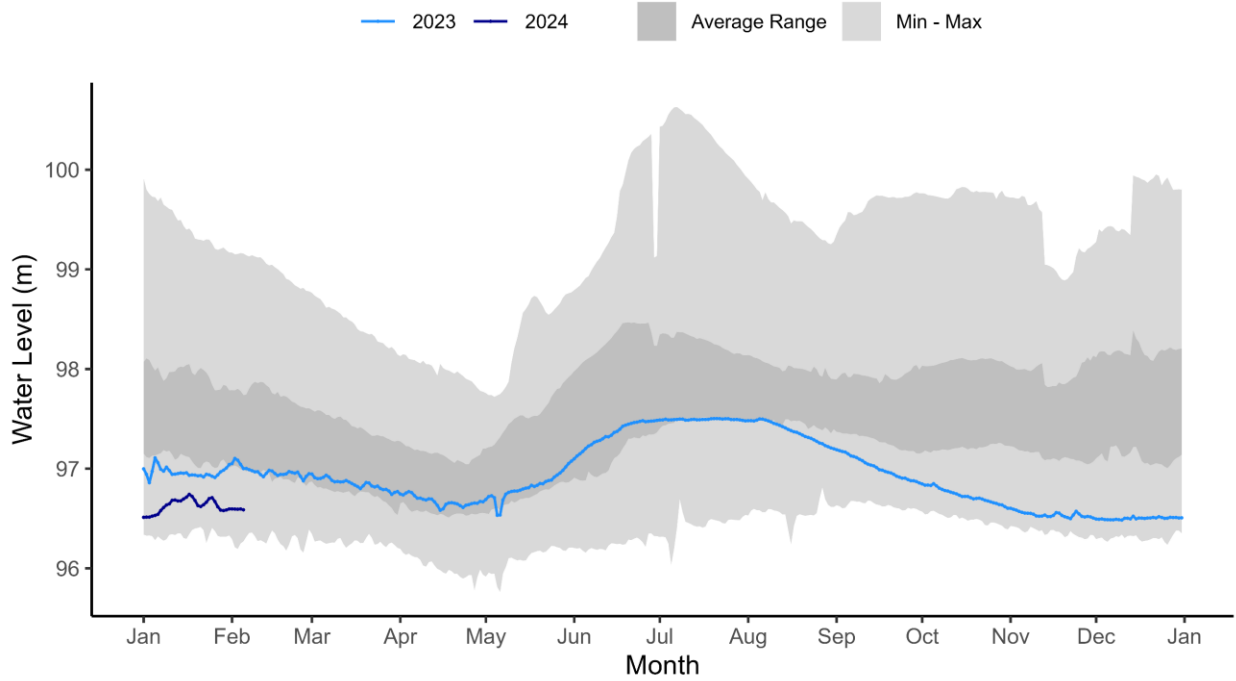
Hay River near Hay River [07OB001]

HAY RIVER NEAR HAY RIVER (07OB001)



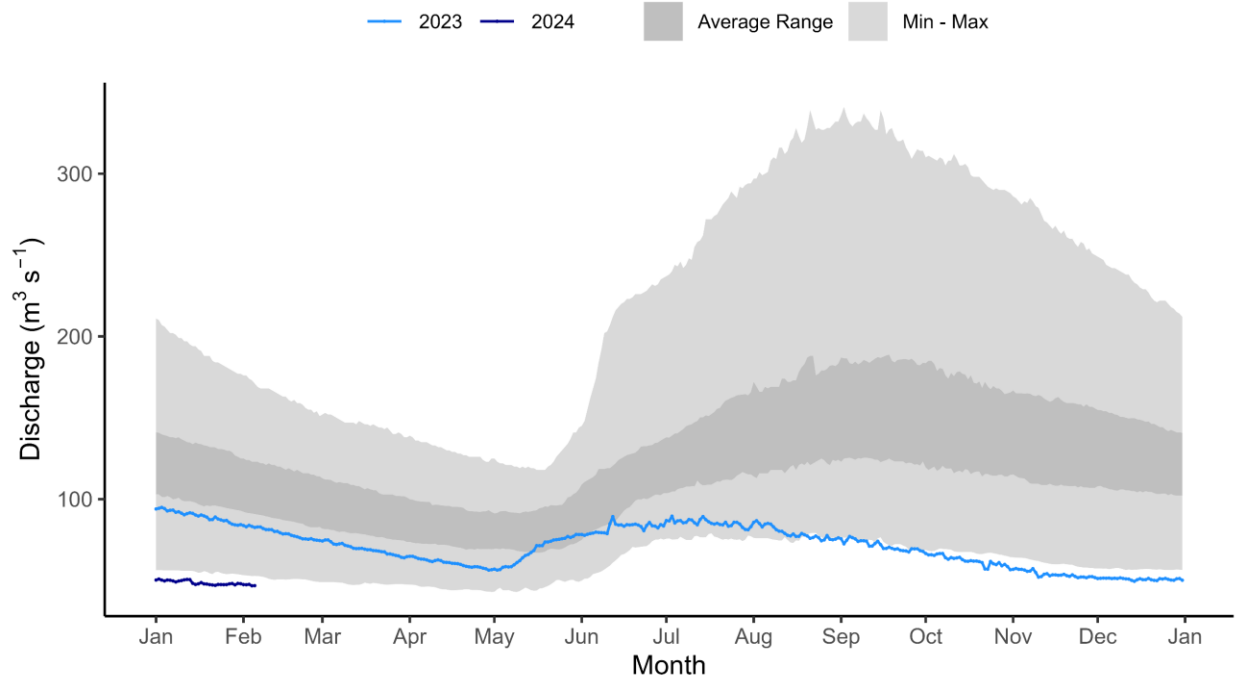
Taltson River below Hydro Dam [07QD007]

TALTSON RIVER BELOW HYDRO DAM (07QD007)



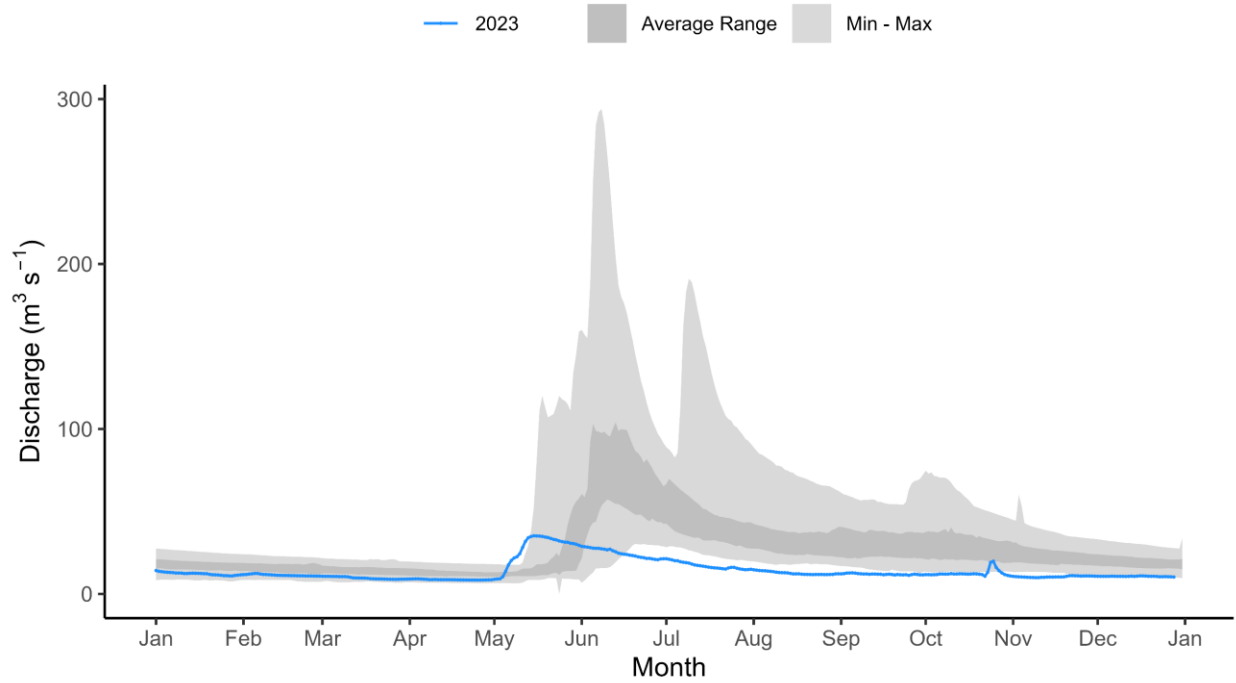
Lockhart River at outlet of Artillery Lake [07RD001]

LOCKHART RIVER AT OUTLET OF ARTILLERY LAKE (07RD001)



Coppermine River below Desteffany Lake [10PA001]

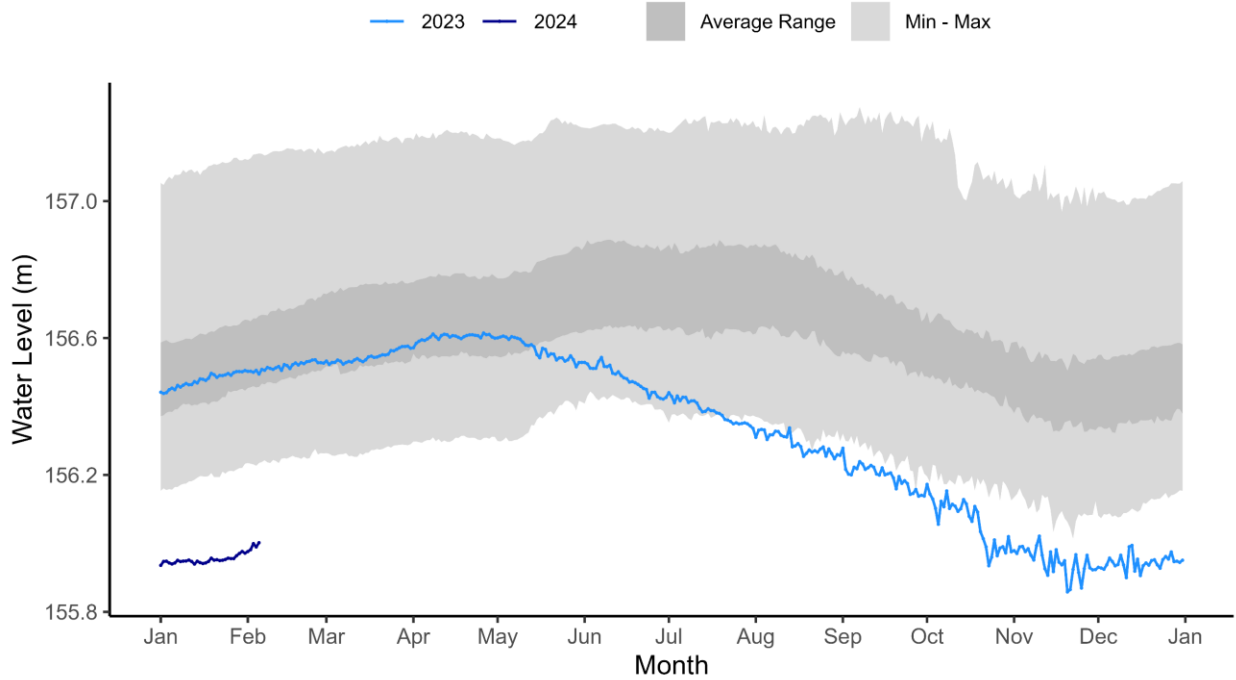
COPPERMINE RIVER BELOW DESTEFFANY LAKE (10PA001)



**Note:** Current data are not available for 10PA001.

Great Slave Lake at Yellowknife Bay [07SB001]

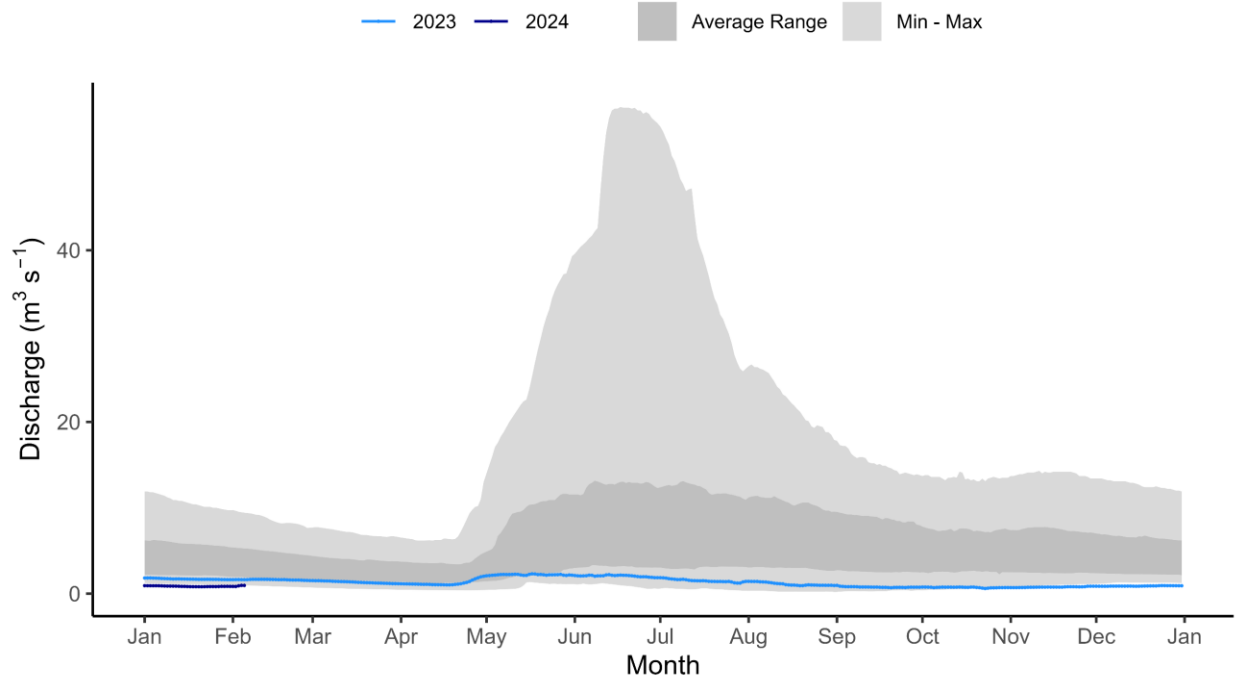
GREAT SLAVE LAKE AT YELLOWKNIFE BAY (07SB001)





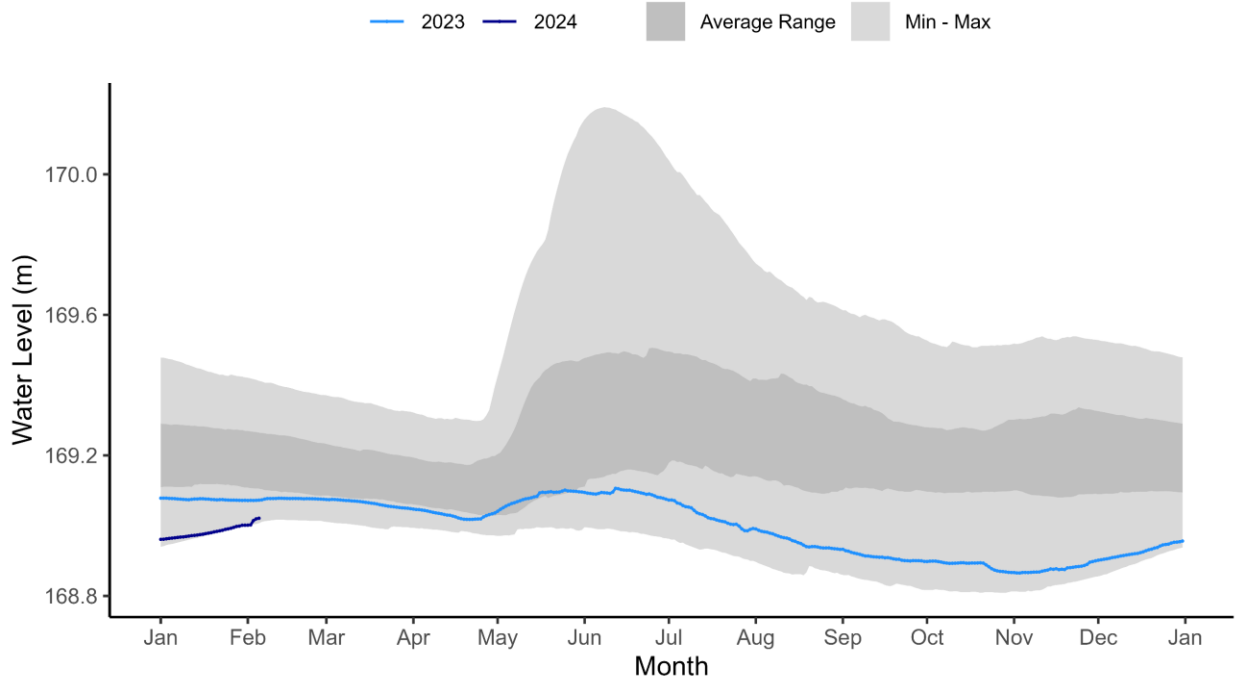
Cameron River below Reid Lake [07SB010]

CAMERON RIVER BELOW REID LAKE (07SB010)



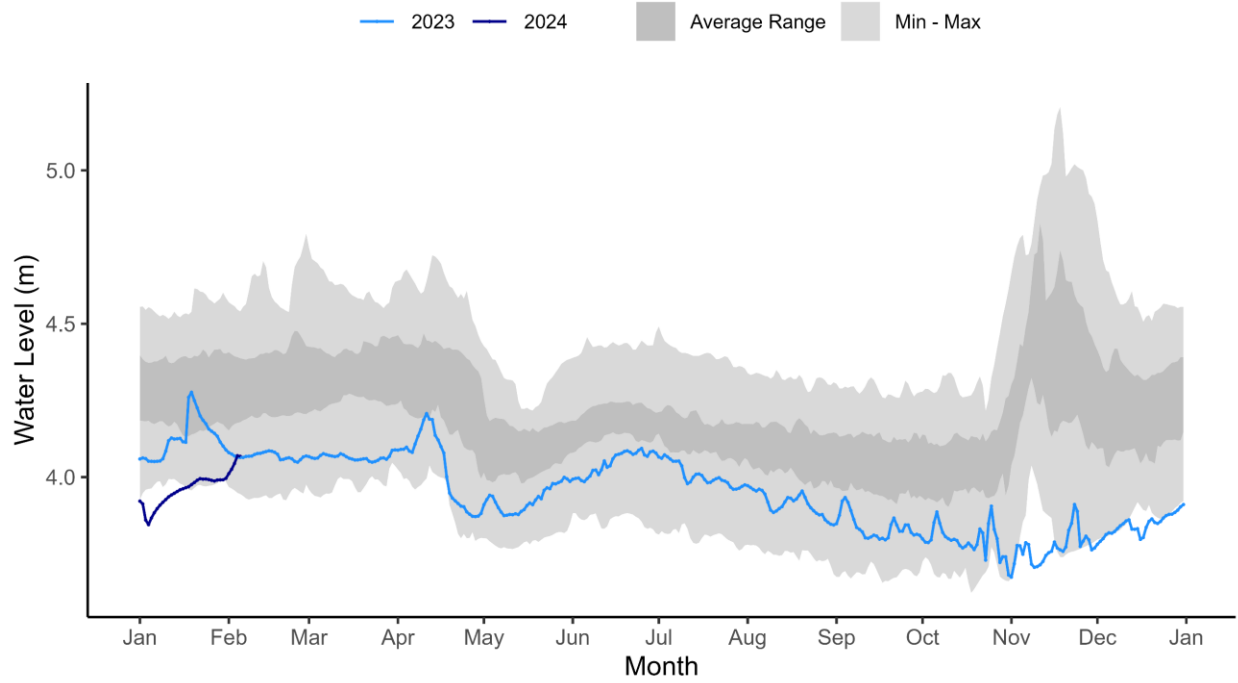
Prelude Lake near Yellowknife [07SB017]

PRELUDE LAKE NEAR YELLOWKNIFE (07SB017)



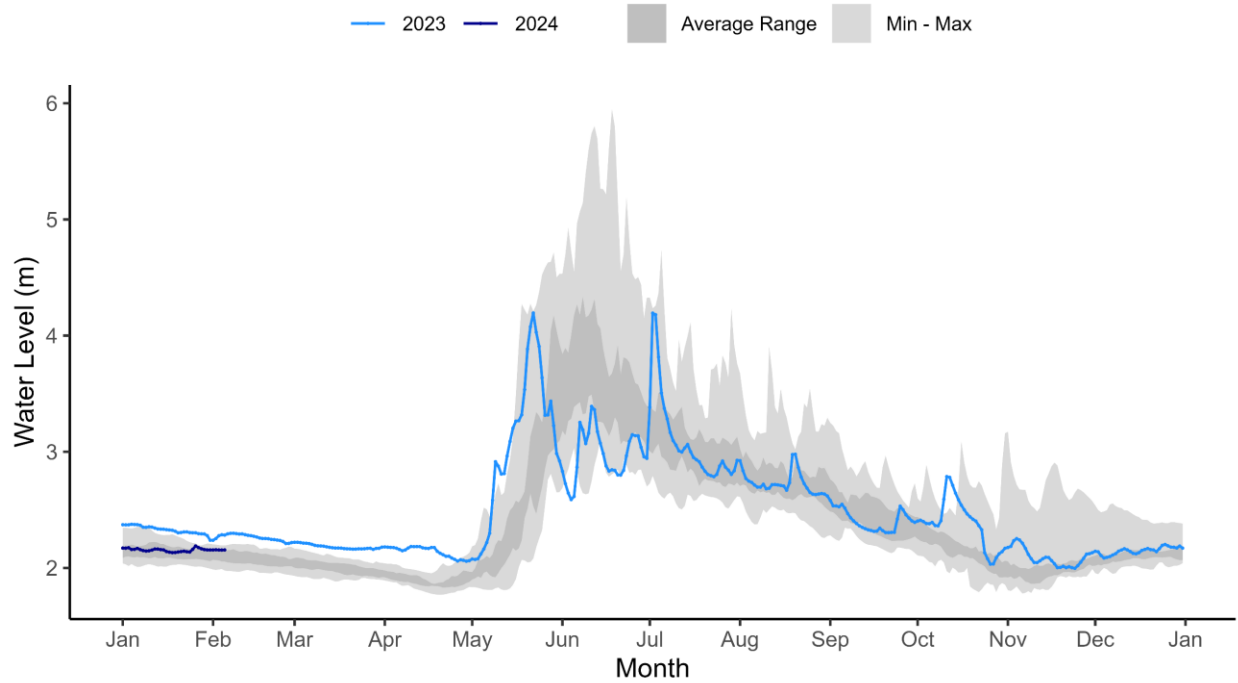
La Martre River below outlet of Lac La Martre [07TA001]

LA MARTRE RIVER BELOW OUTLET OF LAC LA MARTRE (07TA001)



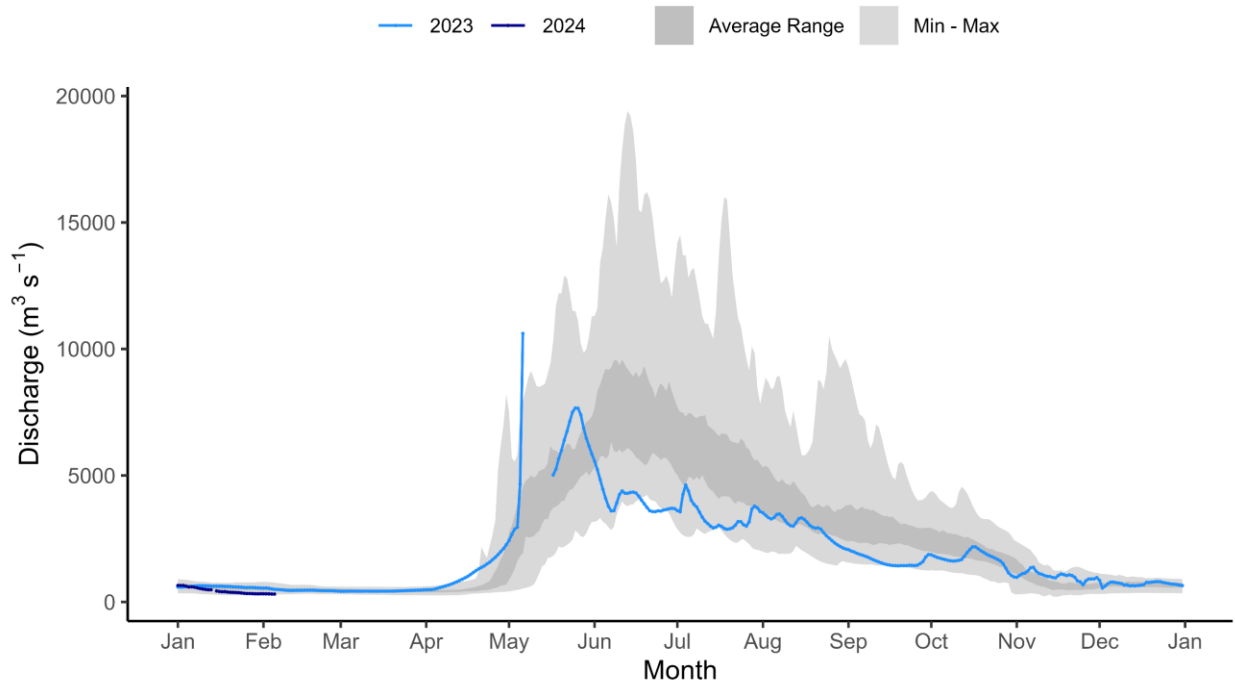
South Nahanni River above Virginia Falls [10EB001]

SOUTH NAHANNI RIVER ABOVE VIRGINIA FALLS (10EB001)



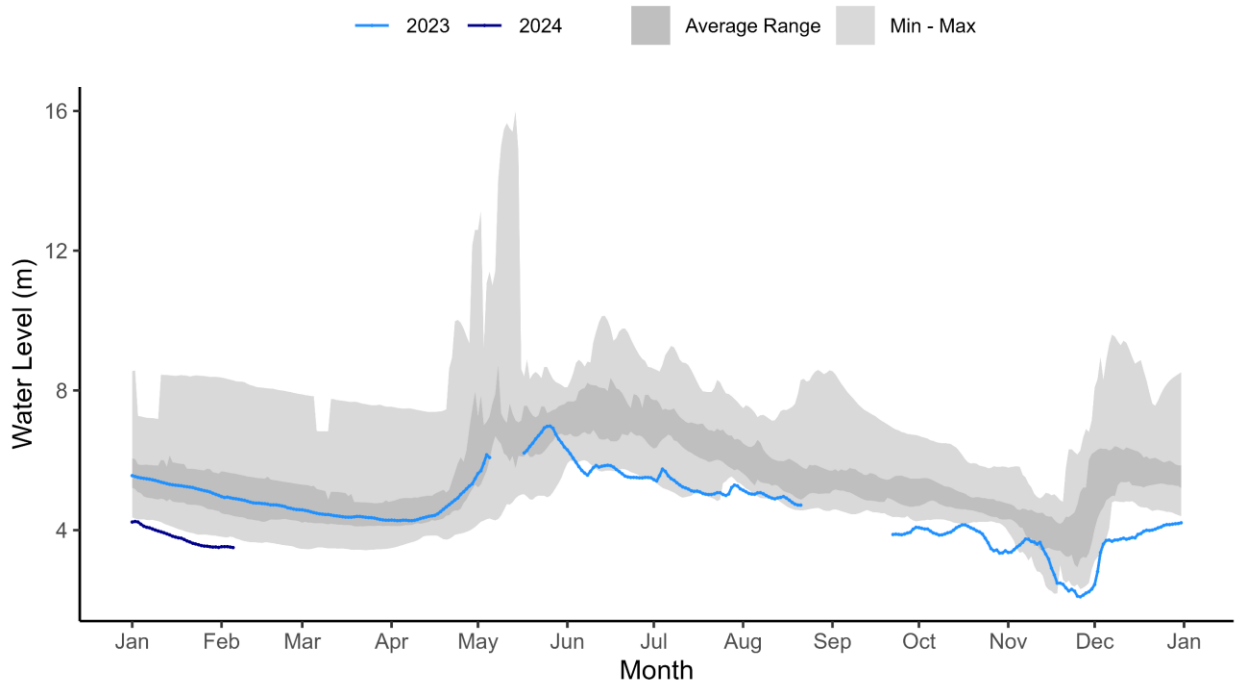
Liard River near the Mouth [10ED002]

LIARD RIVER NEAR THE MOUTH (10ED002)

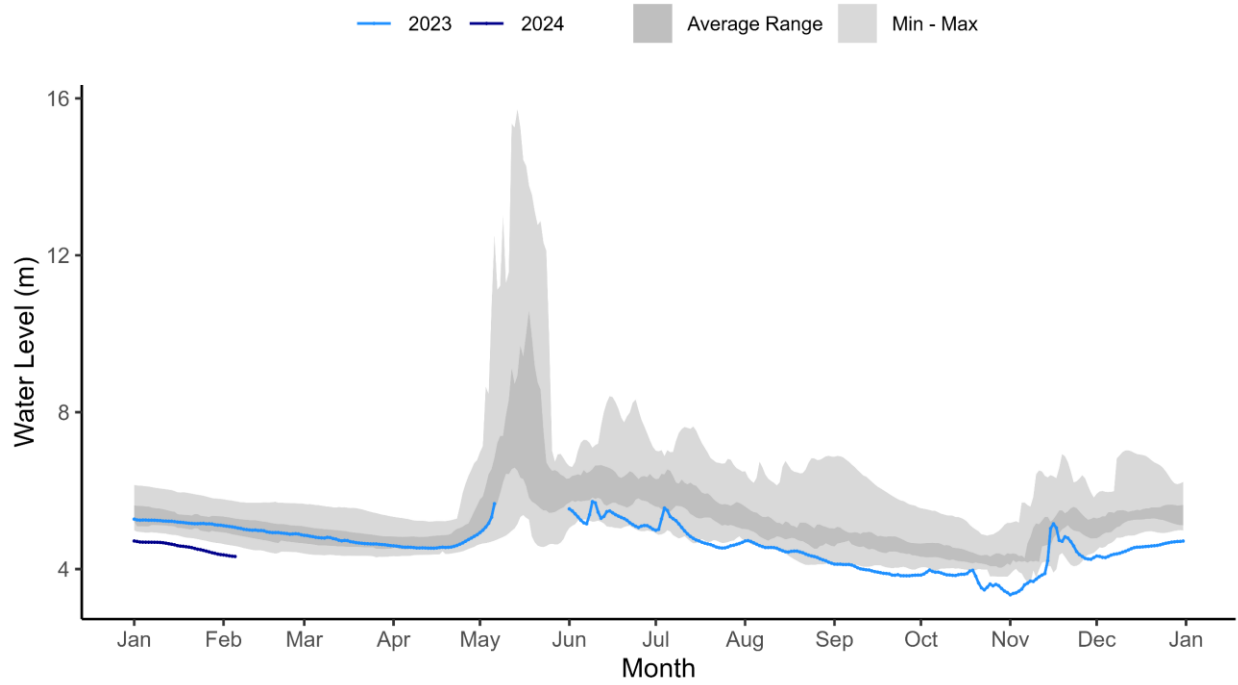


Mackenzie River at Fort Simpson [10GC001]

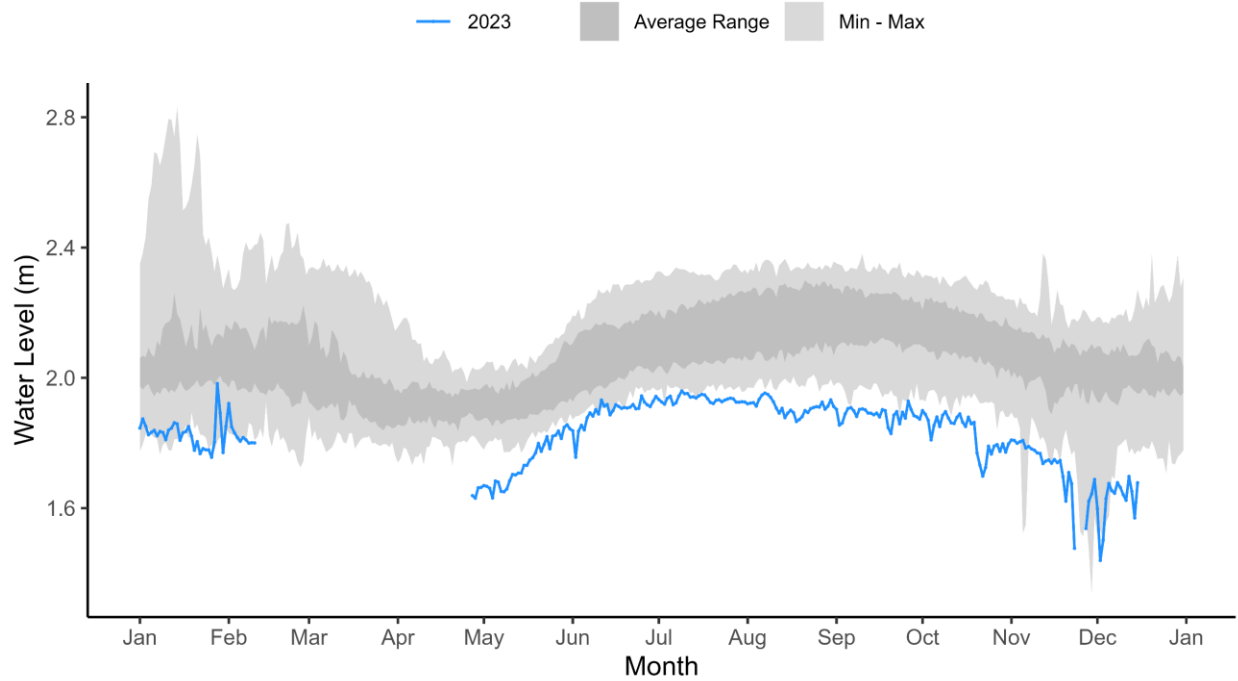
MACKENZIE RIVER AT FORT SIMPSON (10GC001)



Mackenzie River at Norman Wells [10KA001]  
MACKENZIE RIVER AT NORMAN WELLS (10KA001)

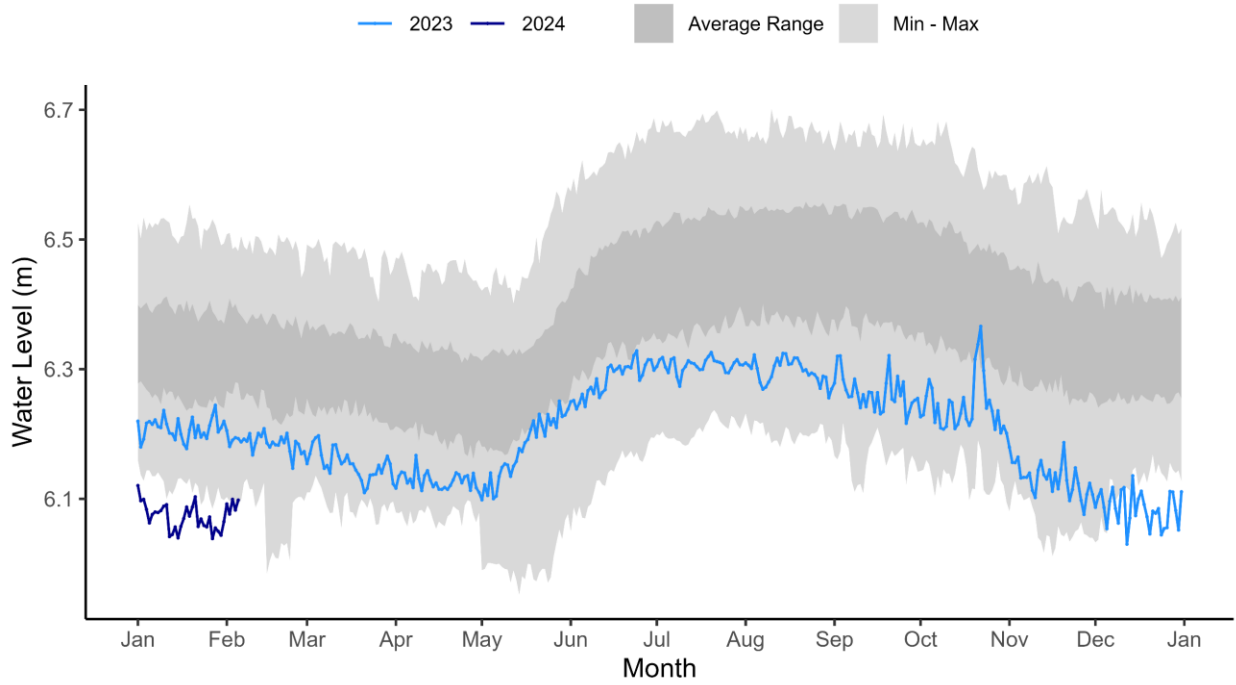


Great Bear River at outlet of Great Bear Lake [10JC003]  
GREAT BEAR RIVER AT OUTLET OF GREAT BEAR LAKE (10JC003)

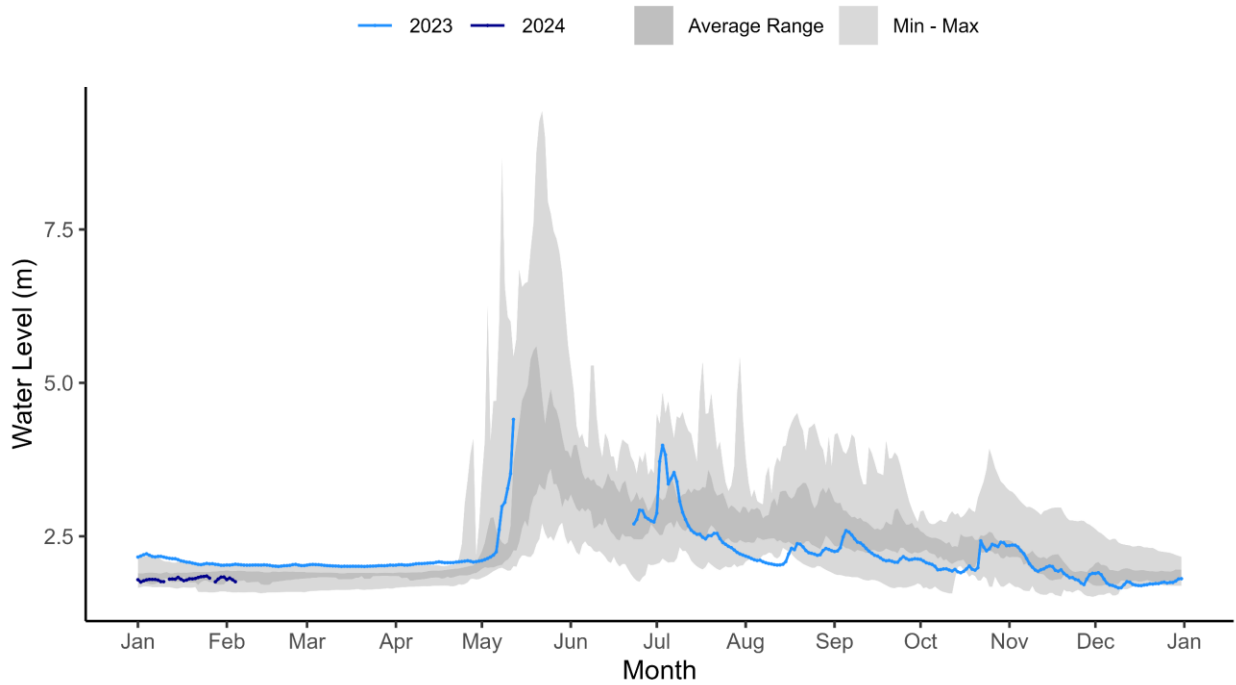


**Note:** Current data are not available for 10JC003.

Great Bear Lake at Hornby Bay [10JE002]  
GREAT BEAR LAKE AT HORNBY BAY (10JE002)

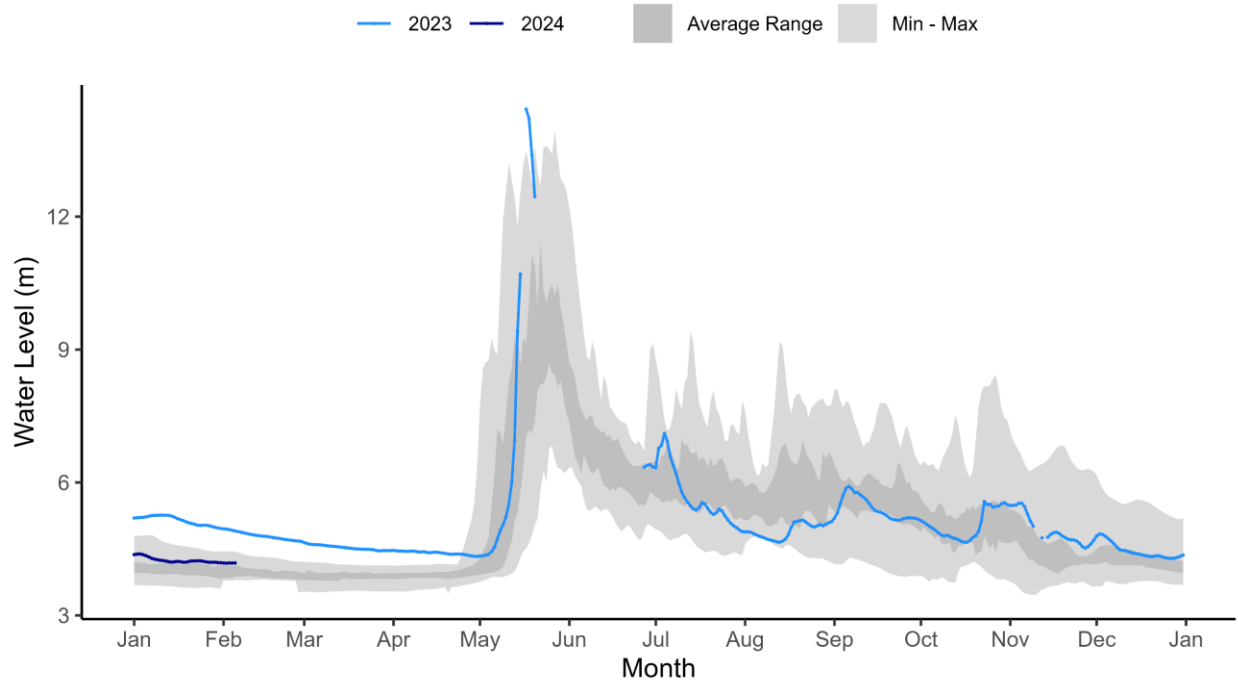


Arctic Red River near the mouth [10LA002]  
ARCTIC RED RIVER NEAR THE MOUTH (10LA002)



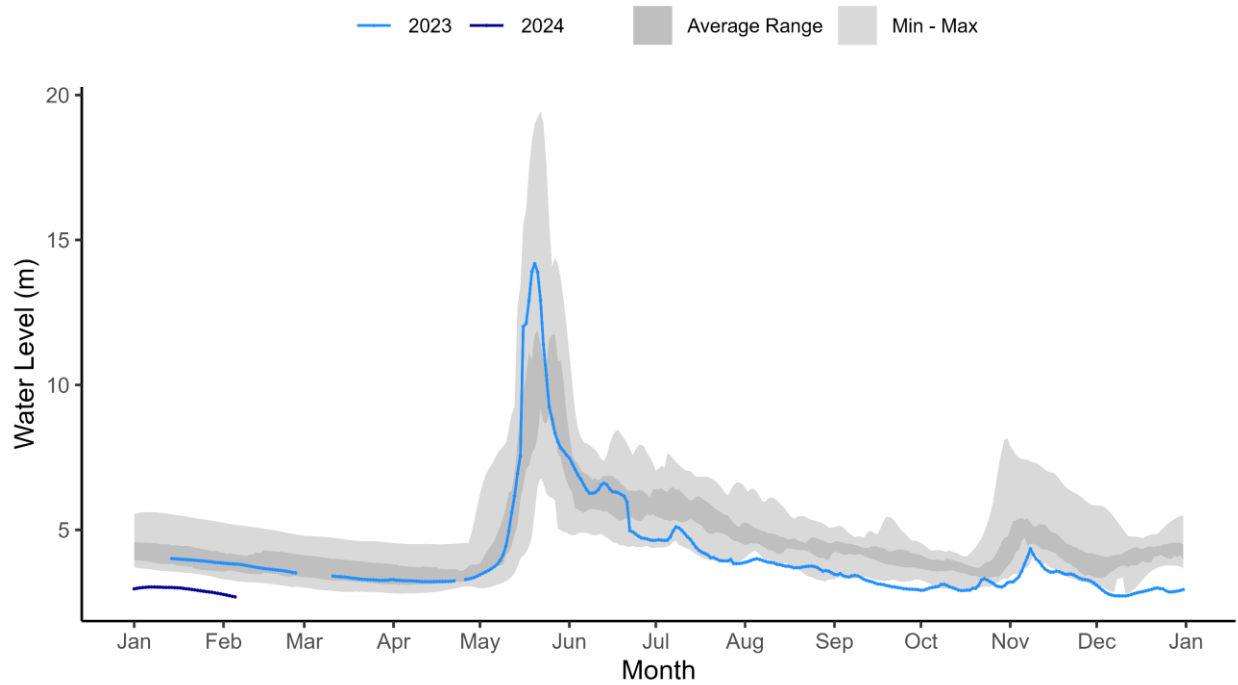
Peel River above Fort McPherson [10MC002]

PEEL RIVER ABOVE FORT MCPHERSON (10MC002)



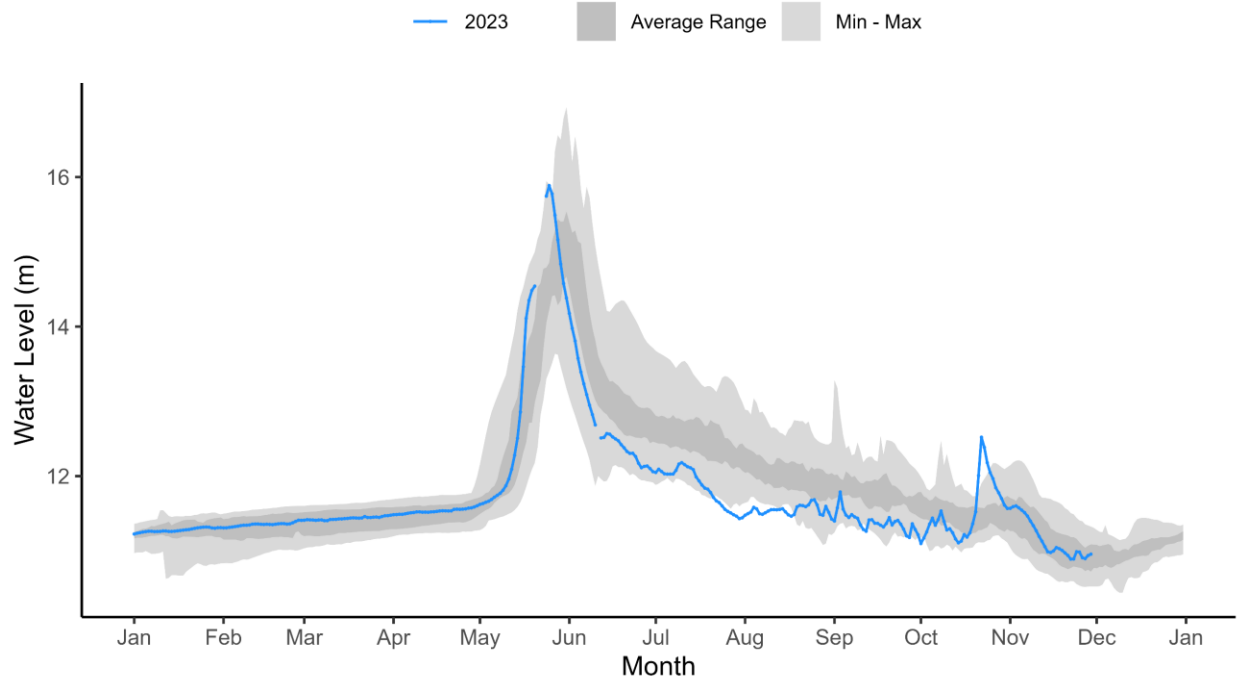
Mackenzie River at Arctic Red River [10LC014]

MACKENZIE RIVER AT ARCTIC RED RIVER (10LC014)



Mackenzie River (East Channel) at Inuvik [10LC002]

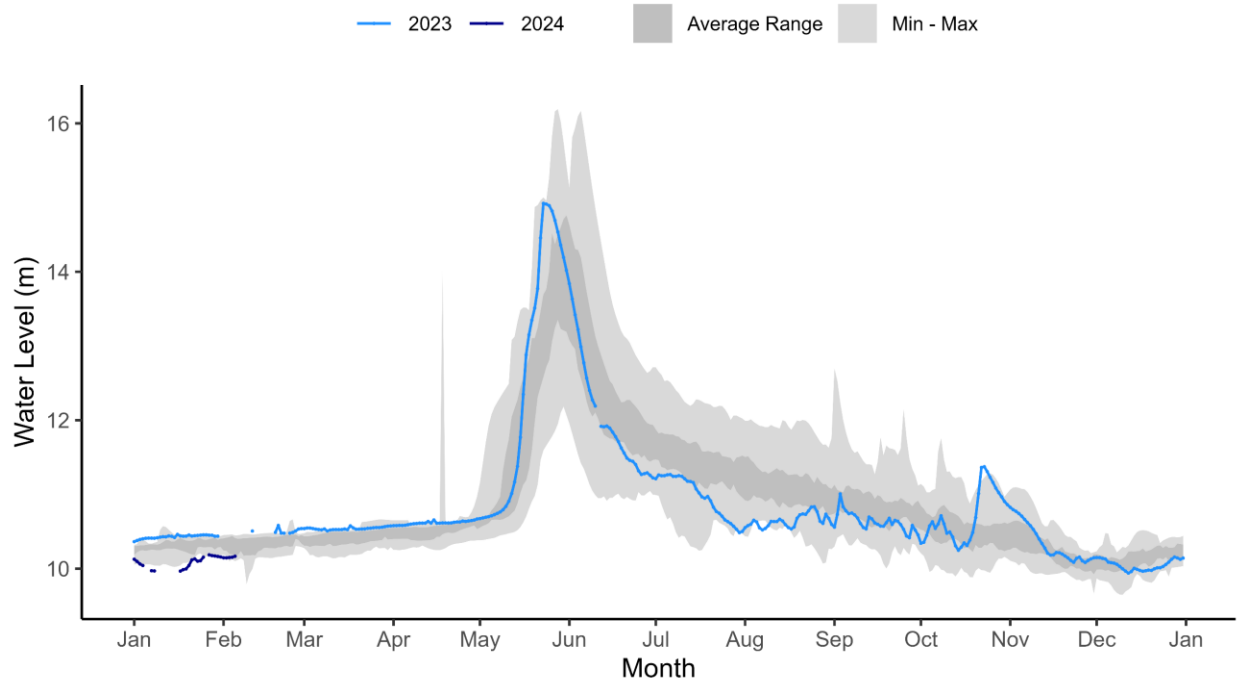
MACKENZIE RIVER (EAST CHANNEL) AT INUVIK (10LC002)



**Note:** Current data are not available for 10LC002.

Mackenzie River (Peel Channel) above Aklavik [10MC003]

MACKENZIE RIVER (PEEL CHANNEL) ABOVE AKLAVIK (10MC003)

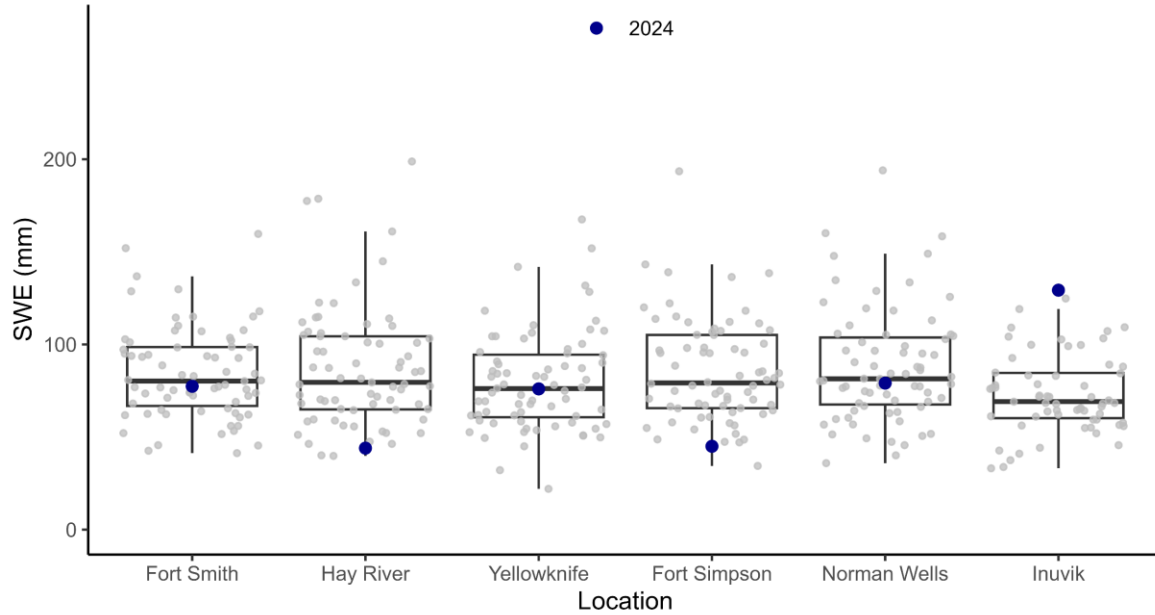


## Climate Data:

### Summary Data:

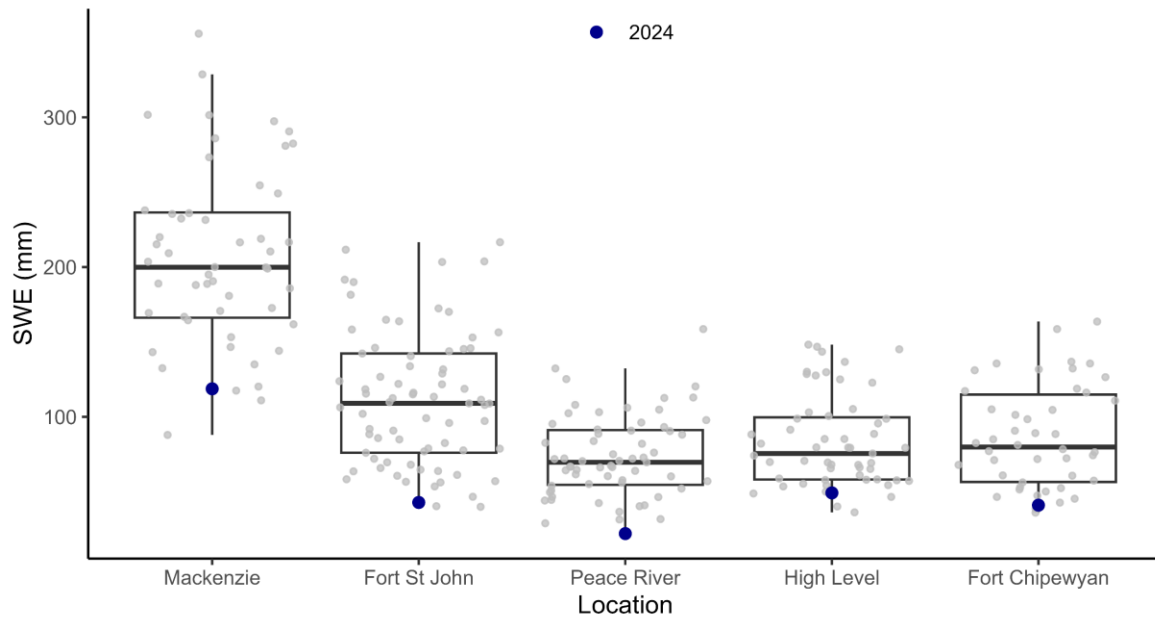
#### Total SWE for NWT Communities

Oct. 1<sup>st</sup> to Feb. 4<sup>th</sup>



#### Total SWE for BC/AB communities in Great Slave Lake basin

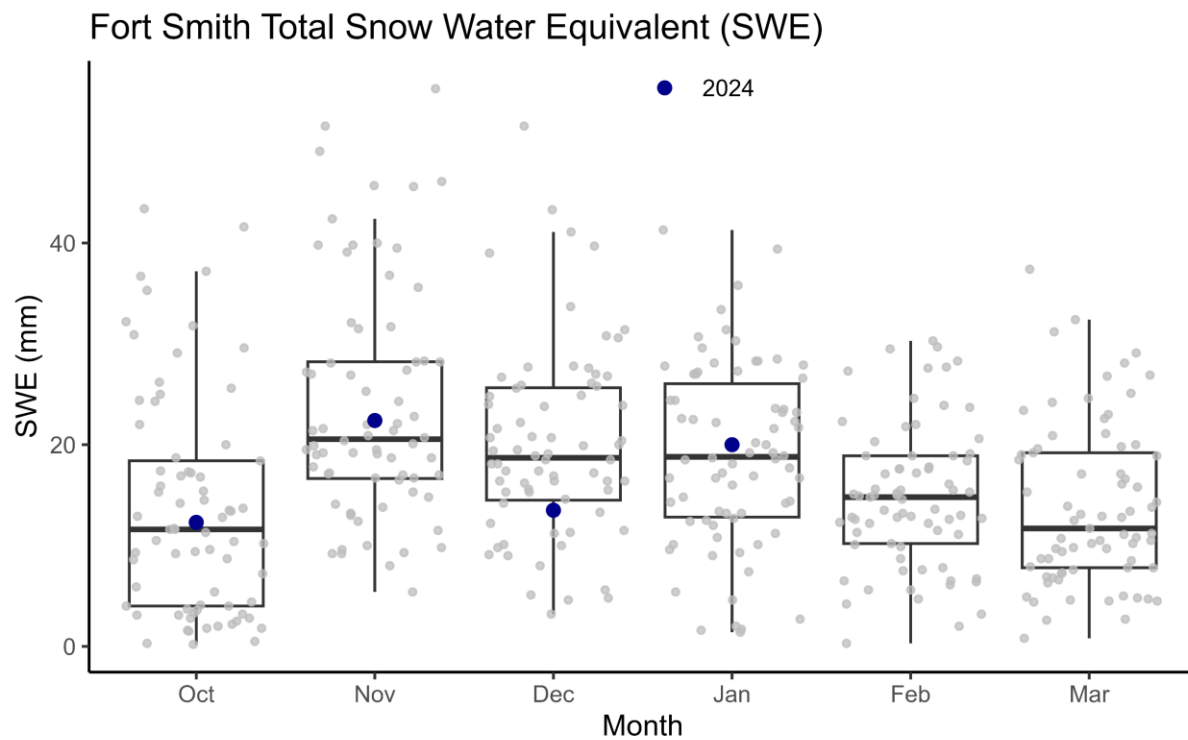
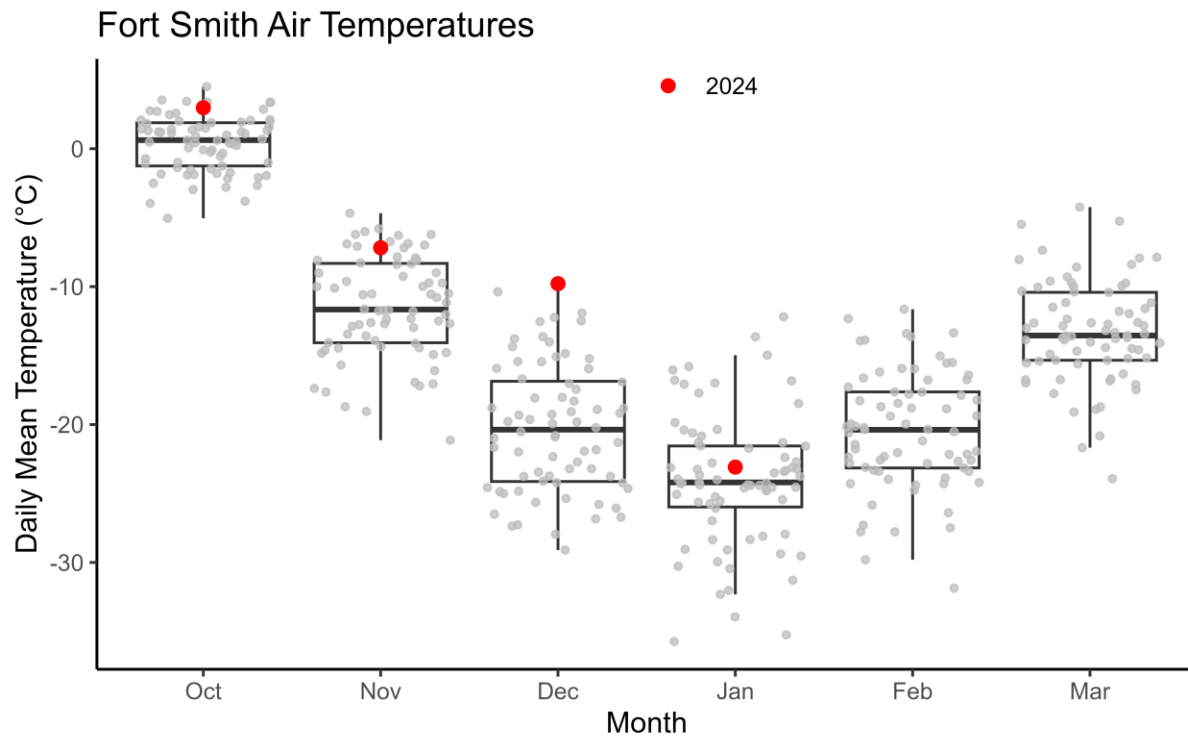
Oct. 1<sup>st</sup> to Feb. 4<sup>th</sup>



This figure shows the amount of snow water equivalent (SWE) that has fallen in select communities a) across the NWT; and b) in British Columbia and Alberta within the Great Slave Lake basin. This figure shows SWE from the start of October until Feb. 4<sup>th</sup>. The blue dot is the current year, and the grey dots are all previous years from 1950 to present.

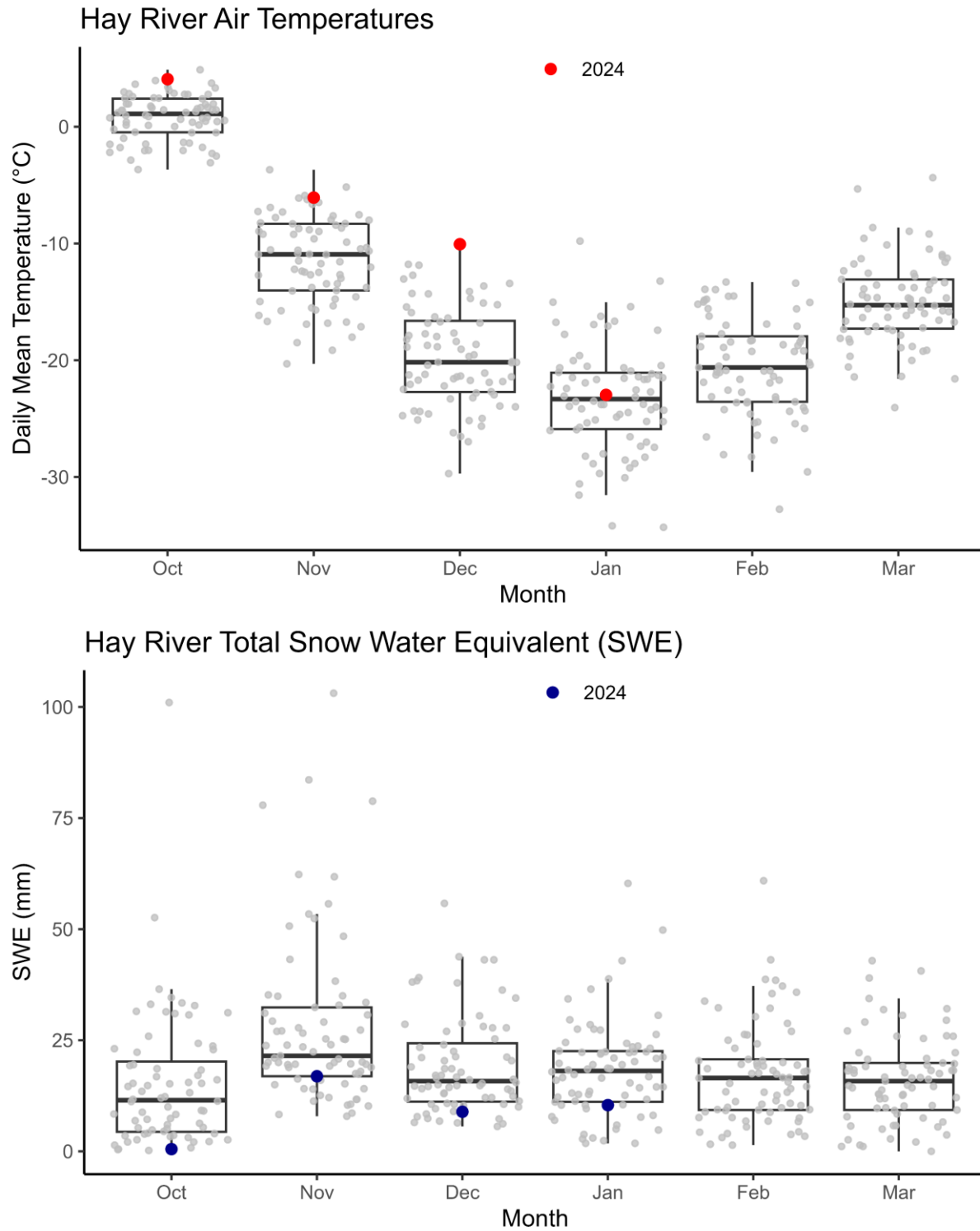


# Fort Smith



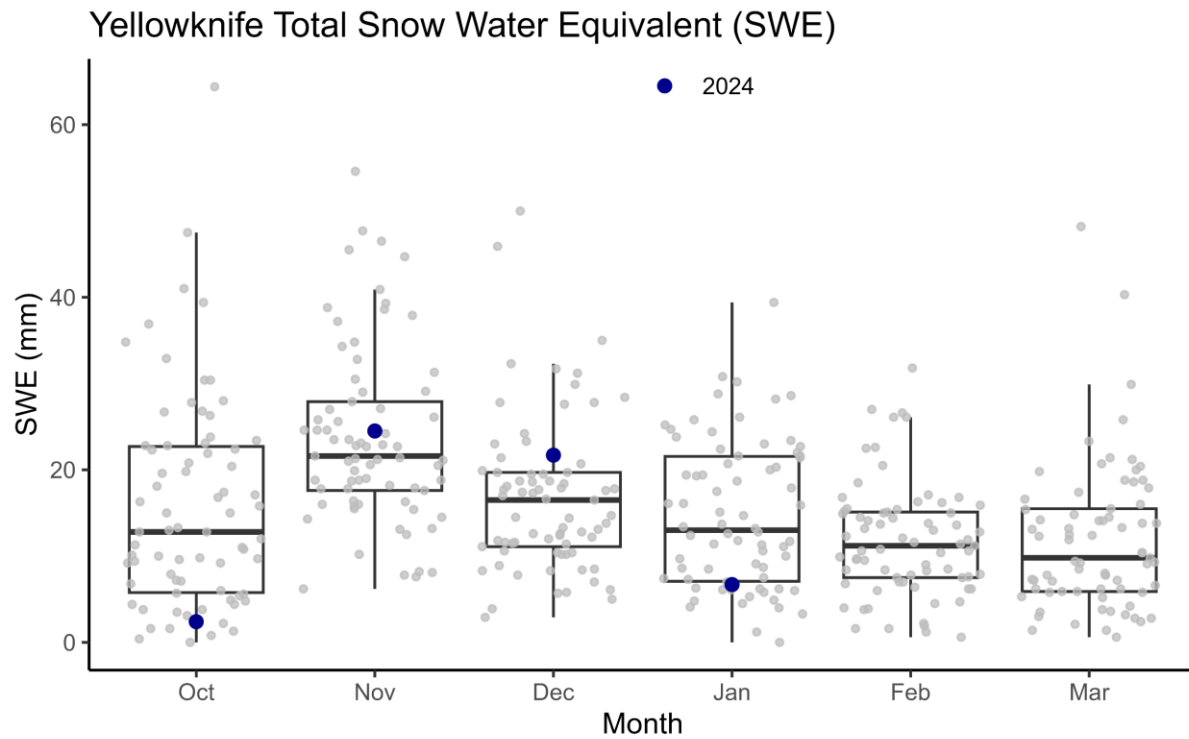
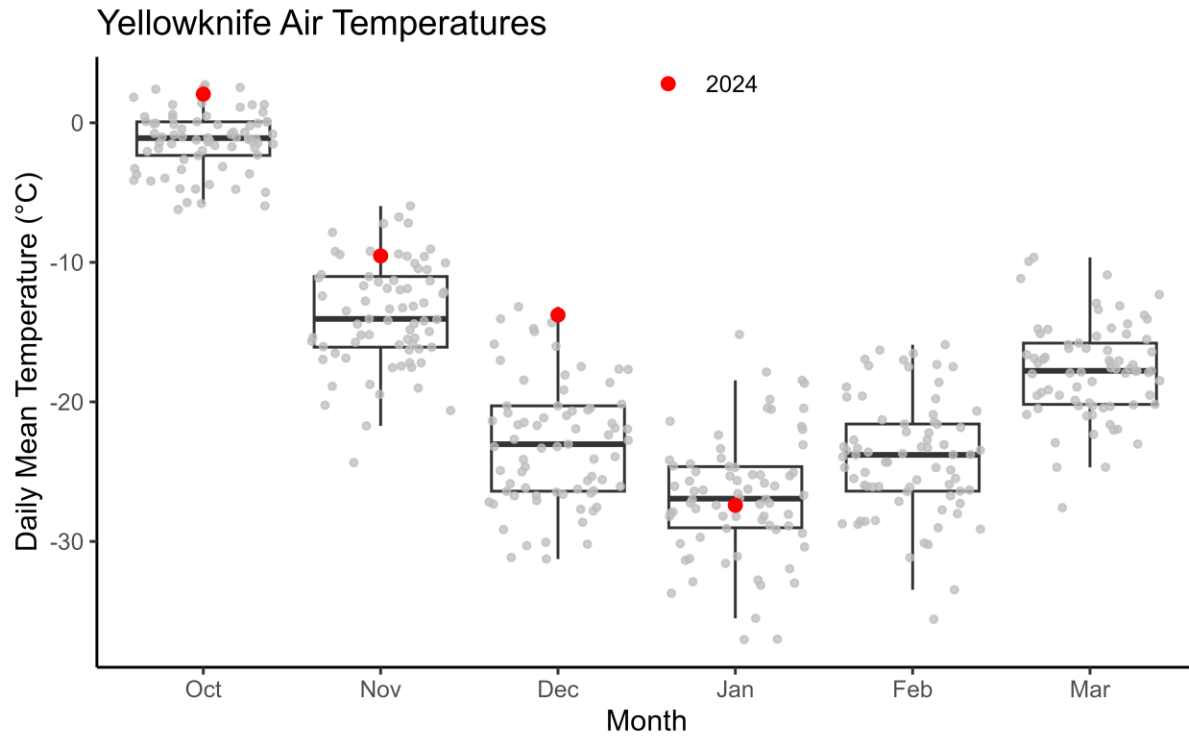
This figure shows the amount of snow water equivalent (i.e., amount of water that results when a snowpack is melted) over a winter (Oct to Mar). The year displayed as '2024' includes the last three months of 2023 (Oct, Nov, Dec) as well as the first three months of 2024 (Jan, Feb, Mar).

# Hay River



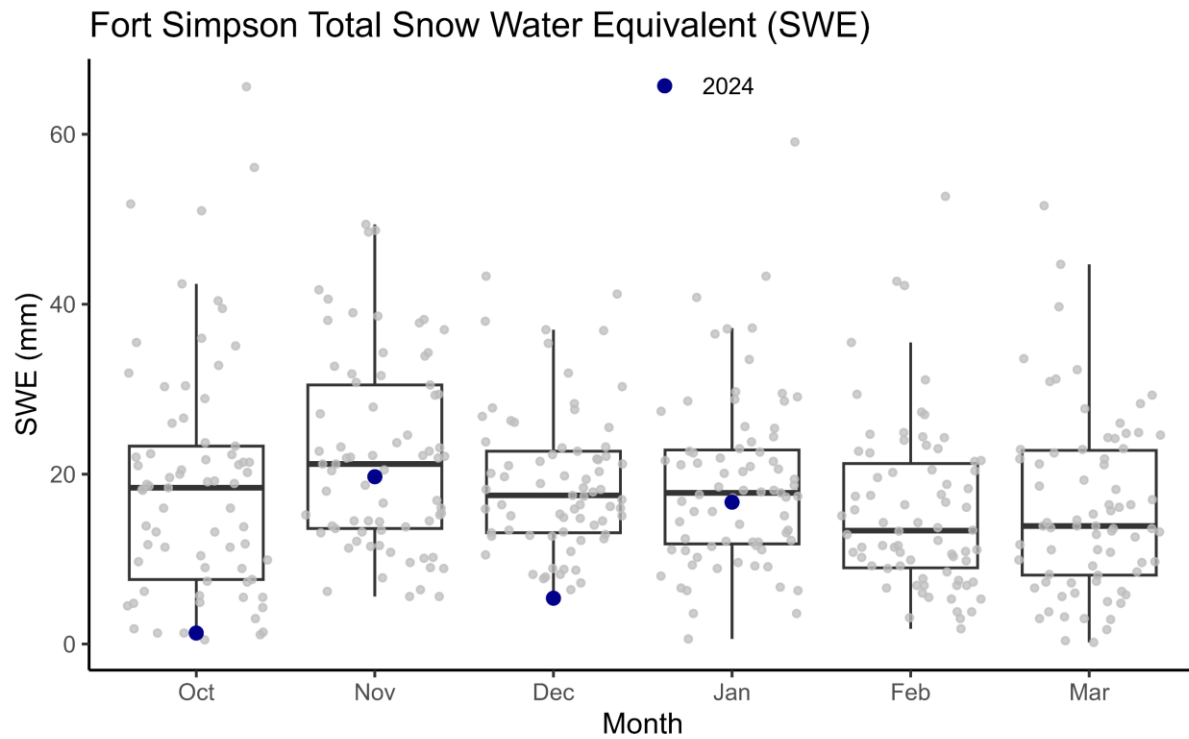
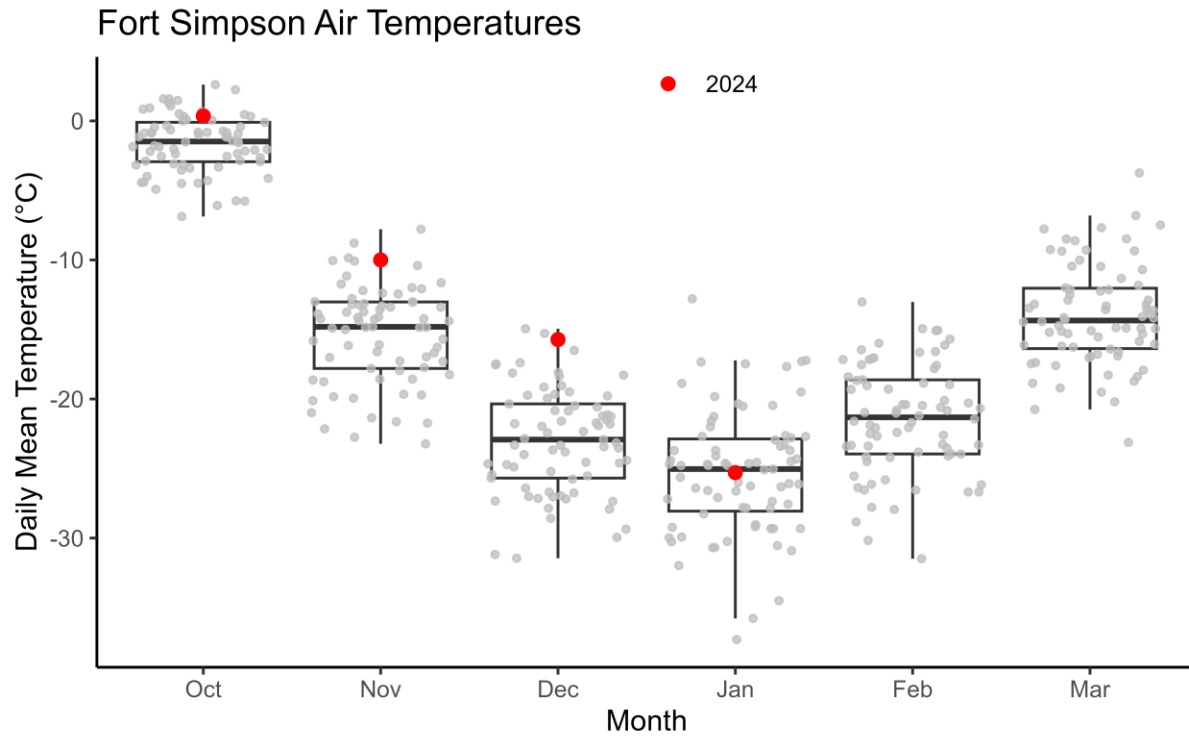
This figure shows the amount of snow water equivalent (i.e., amount of water that results when a snowpack is melted) over a winter (Oct to Mar). The year displayed as '2024' includes the last three months of 2023 (Oct, Nov, Dec) as well as the first three months of 2024 (Jan, Feb, Mar).

Yellowknife



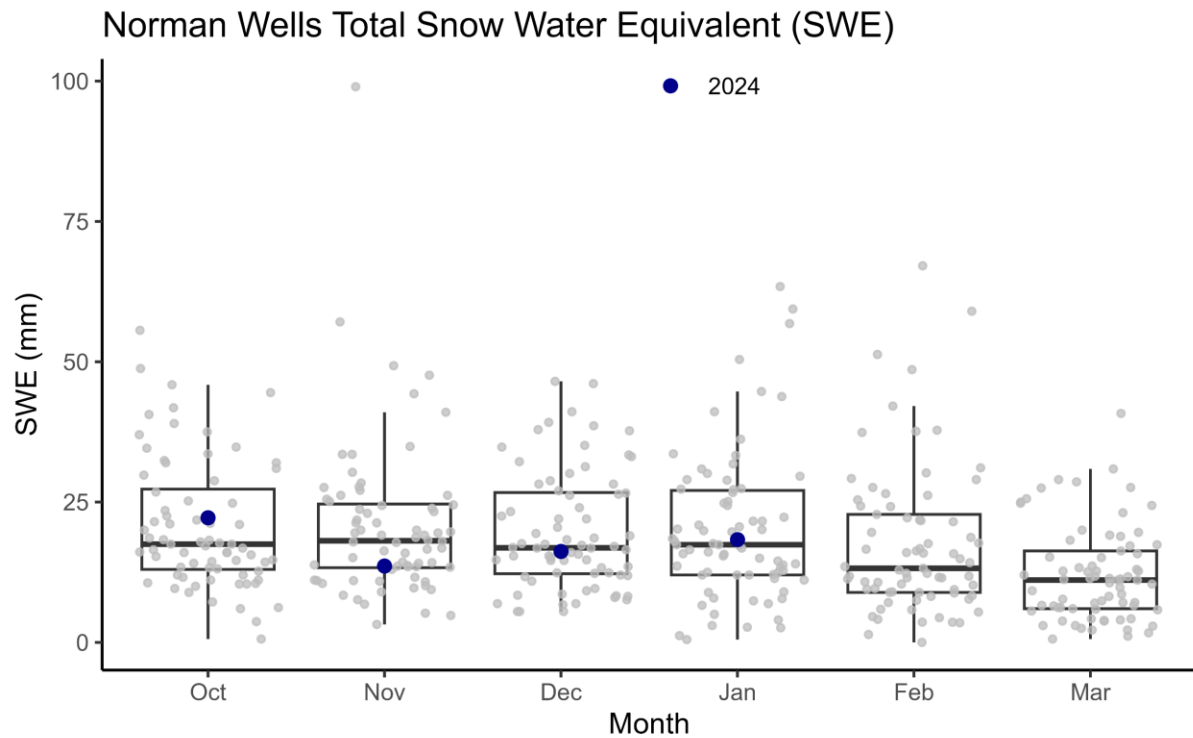
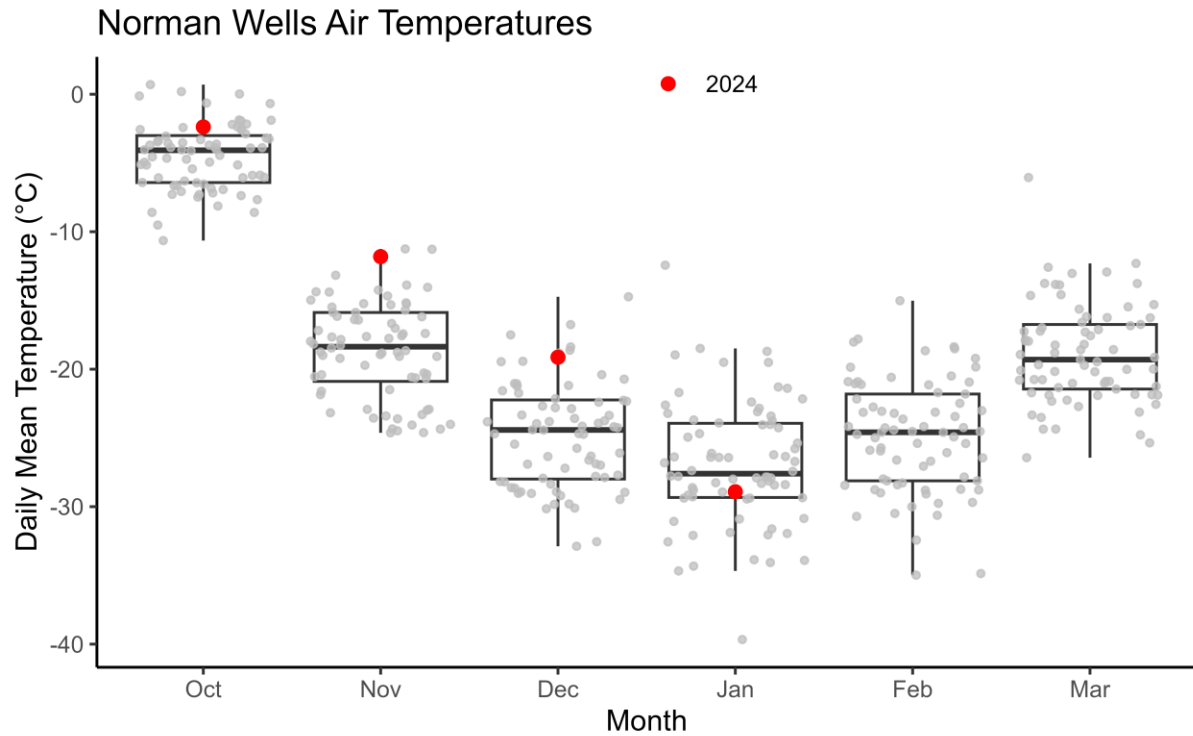
This figure shows the amount of snow water equivalent (i.e., amount of water that results when a snowpack is melted) over a winter (Oct to Mar). The year displayed as '2024' includes the last three months of 2023 (Oct, Nov, Dec) as well as the first three months of 2024 (Jan, Feb, Mar).

Fort Simpson



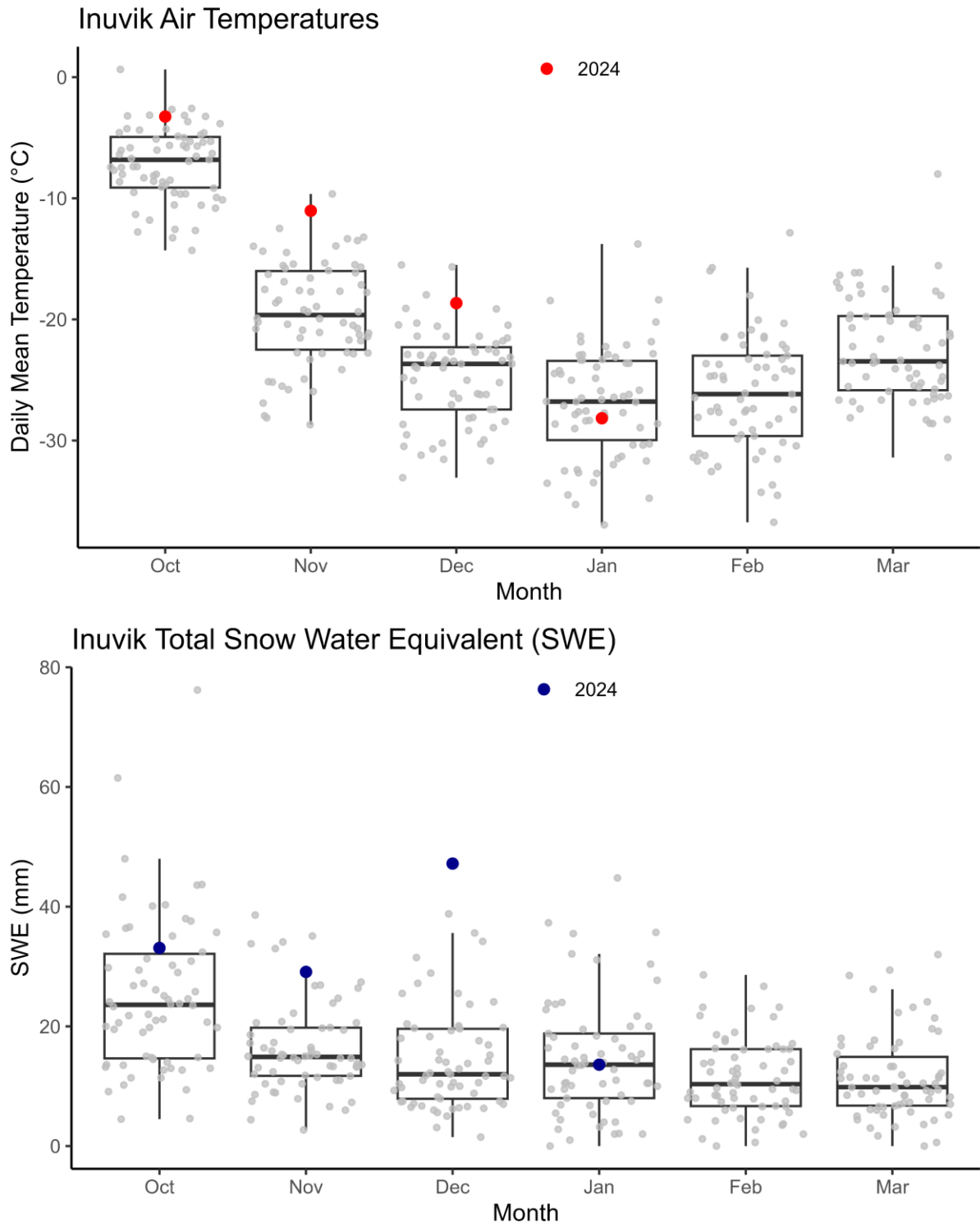
This figure shows the amount of snow water equivalent (i.e., amount of water that results when a snowpack is melted) over a winter (Oct to Mar). The year displayed as '2024' includes the last three months of 2023 (Oct, Nov, Dec) as well as the first three months of 2024 (Jan, Feb, Mar).

## Norman Wells



This figure shows the amount of snow water equivalent (i.e., amount of water that results when a snowpack is melted) over a winter (Oct to Mar). The year displayed as '2024' includes the last three months of 2023 (Oct, Nov, Dec) as well as the first three months of 2024 (Jan, Feb, Mar).

Inuvik



This figure shows the amount of snow water equivalent (i.e., amount of water that results when a snowpack is melted) over a winter (Oct to Mar). The year displayed as '2024' includes the last three months of 2023 (Oct, Nov, Dec) as well as the first three months of 2024 (Jan, Feb, Mar).