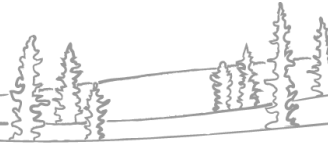




# NWT Water Monitoring Bulletin

## – Nov 7, 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) or water level and data from lake sites are presented as level. The figures in this report represent current conditions for this year, relative to historic minimum and maximum values, extreme values (10<sup>th</sup> to 90<sup>th</sup> percentiles) and 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:

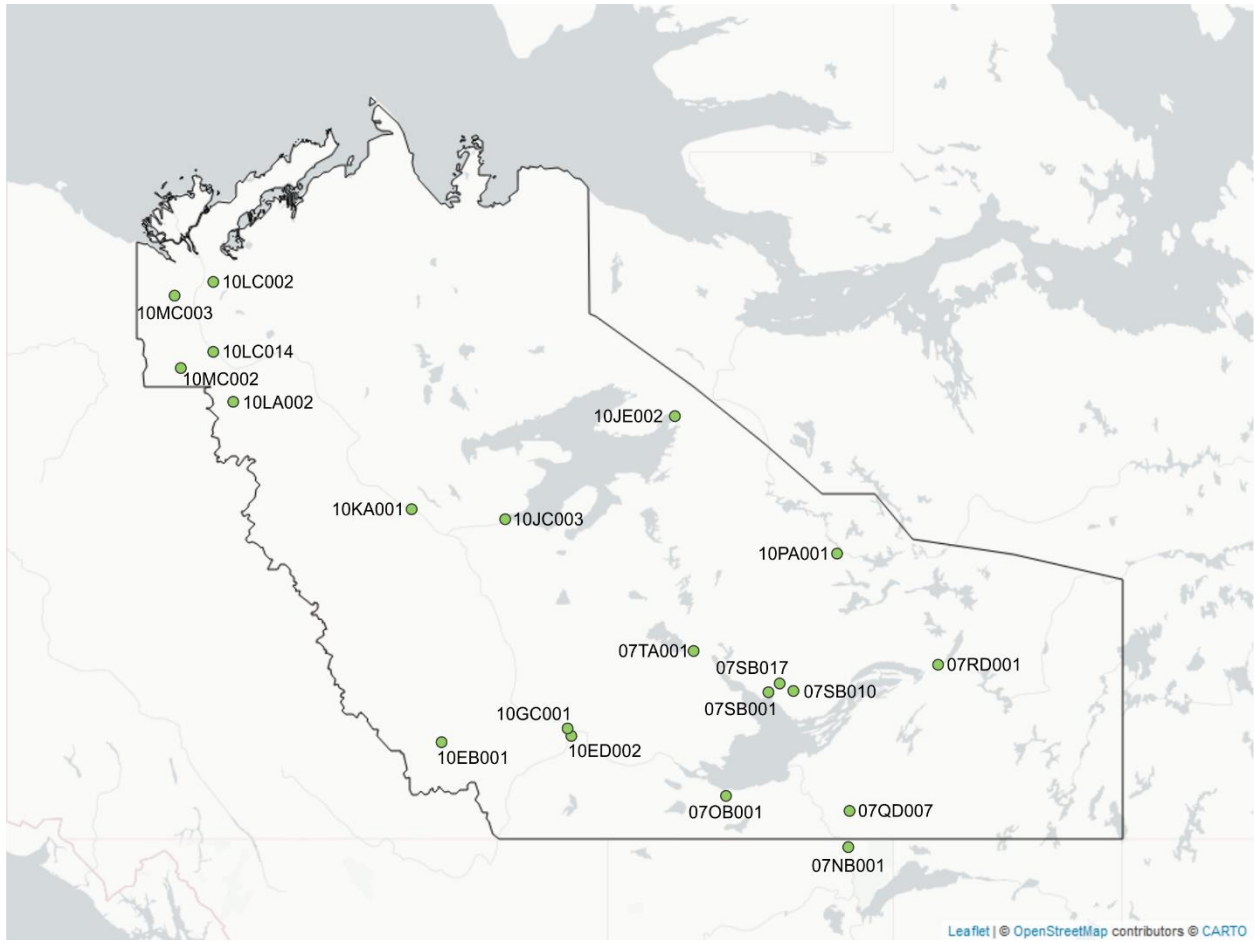
- Heading into the winter season, water levels and flow rates remain very low across most of the NWT and in many instances are similar to those recorded last year at this time.
  - Great Slave Lake remains at its lowest water level recorded for this time of year and is equivalent to the level recorded at this time last year.
  - Flow rates on the Slave River are below average for this time of year and are similar to those recorded at this time last year.
  - Flow rates on the Hay River are well below average for this time of year.
  - Flow rates on the Liard River are below average for this time of year.
  - Flow rates at most locations along the Mackenzie River are well below average for this time of year.
  - Flow rates at the outlet of Great Bear Lake are well below average for this time of year.
  - Some notable exceptions to low water levels and flow rates are in the Beaufort Delta region and lakes and rivers northeast of Great Slave Lake. Specific examples include:
    - Arctic Red River
    - Lockhart River
    - Coppermine River
- Low water levels continue to be the result of extreme drought conditions that began in the summer of 2022, and have persisted through 2023 and 2024.
- **October precipitation** across the NWT was either below average or well below average for all communities except for Yellowknife and Fort Smith, which both received approximately average precipitation.
- October temperatures across the NWT were generally above average. Fort Simpson, Yellowknife and Hay River temperatures were approximately average, Fort Smith and Norman Wells temperatures were warmer than average, and Inuvik temperatures were much warmer than average.
- Water levels on Great Slave Lake and the Mackenzie River are influenced by precipitation received in northern British Columbia, Alberta, Saskatchewan, and southern NWT.
  - Precipitation in the Mackenzie River basin in northern BC and AB has been approximately average so far this fall, with some variability between communities.
    - Located near the headwaters of the Peace River, Mackenzie, BC has received well above average precipitation in September and October.
  - As of August 25, 2024, BC Hydro started filling the Site C reservoir. The process now about 95% complete.
    - The filling of Site C is projected to have a relatively minor impact on our water levels compared to the effects of our current drought which caused water levels to drop significantly during the summer of 2023.
- Climate forecasts from Environment and Climate Change Canada for the next three months (Nov, Dec, Jan) indicate near to above normal precipitation for most of the NWT.

## Contents

Current status: .....	2
Hydrometric station map.....	5
Information on interpreting figures:.....	6
Water level and flow figures:.....	6
Climate figures:.....	6
Water level and flow data: .....	7
Slave River at Fitzgerald [07NB001] .....	7
Hay River near Hay River [07OB001] .....	7
Taltson River below Hydro Dam [07QD007] .....	8
Lockhart River at outlet of Artillery Lake [07RD001].....	8
Coppermine River below Desteffany Lake [10PA001].....	9
Great Slave Lake at Yellowknife Bay [07SB001].....	9
Great Slave Lake at Hay River [07OB002] .....	10
Cameron River below Reid Lake [07SB010] .....	10
Prosperous Lake near McMeekan Bay [07SB014].....	11
Prelude Lake near Yellowknife [07SB017].....	11
La Martre River below outlet of Lac La Martre [07TA001] .....	12
South Nahanni River above Virginia Falls [10EB001] .....	12
Liard River near the Mouth [10ED002].....	13
Mackenzie River at Fort Simpson [10GC001] .....	13
Mackenzie River at Norman Wells [10KA001] .....	14
Great Bear River at outlet of Great Bear Lake [10JC003].....	14
Great Bear Lake at Hornby Bay [10JE002].....	15
Arctic Red River near the mouth [10LA002] .....	15
Peel River above Fort McPherson [10MC002] .....	16
Mackenzie River at Arctic Red River [10LC014] .....	16
Mackenzie River (East Channel) at Inuvik [10LC002] .....	17
Mackenzie River (Peel Channel) above Aklavik [10MC003].....	17
Climate Data: .....	18
Station map: .....	18
Summary Data: .....	18
Station Map:.....	19
Summary Data: .....	19

Station Map: .....	20
Summary Data: .....	20
Fort Smith .....	21
Hay River .....	22
Yellowknife.....	23
Fort Simpson.....	24
Norman Wells .....	25
Inuvik .....	26

## Hydrometric station map



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

## Information on interpreting figures:

### Water level and flow figures:

**Note:** Additional grey bands have been added to represent the 10<sup>th</sup> and 90<sup>th</sup> percentiles.

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 darkest grey band represents the average range (calculated as the interquartile range, which is the 25<sup>th</sup> to 75<sup>th</sup> percentile), the next lightest grey bands represent a wider range of values (10<sup>th</sup> to 90<sup>th</sup> percentiles) and the lightest 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 (or below) the grey band, it means that the water level or flow from that year was the highest (or lowest) on record.

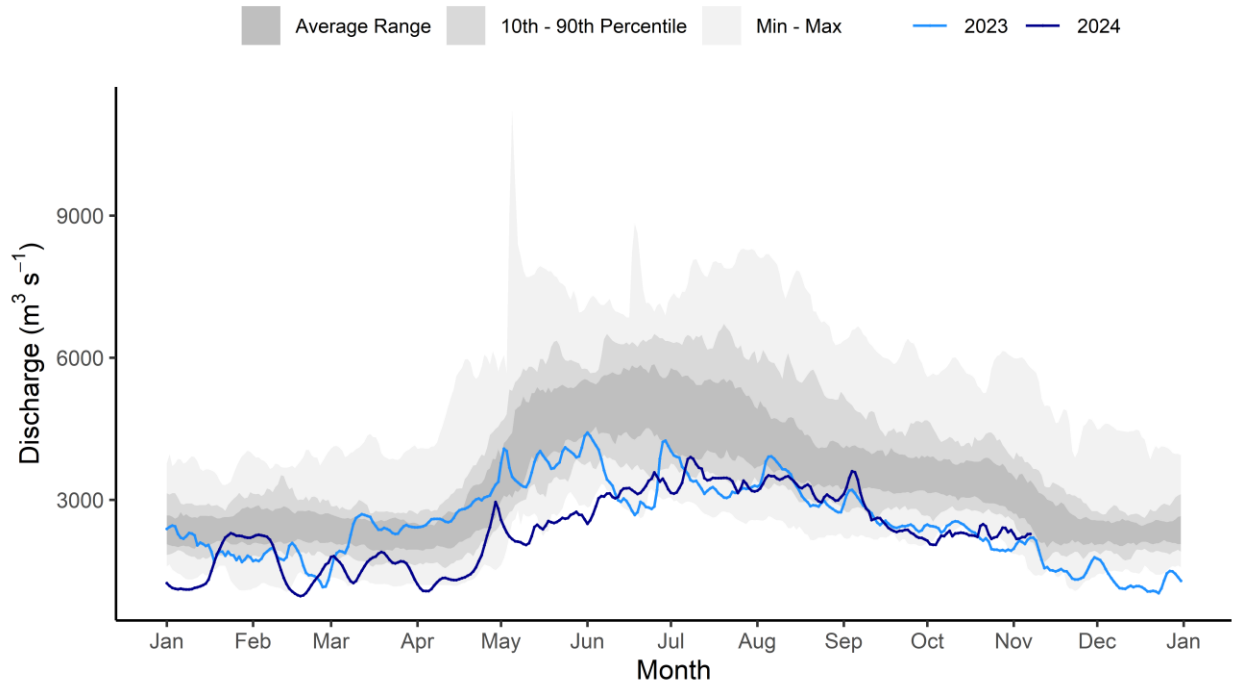
### Climate figures:

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 primarily acquired and managed by Environment and Climate Change Canada, but in some cases 2024 values have been infilled with GNWT climate station data when ECCC data are unavailable.

Water level and flow data:

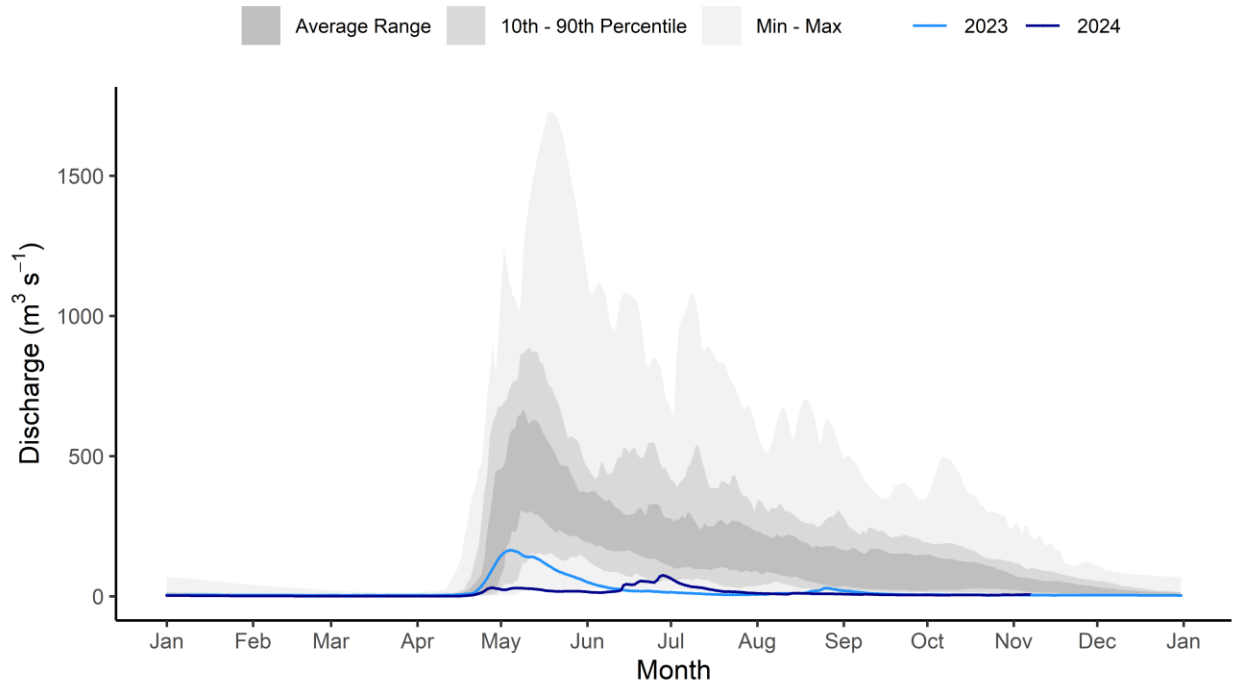
Slave River at Fitzgerald [07NB001]

SLAVE RIVER AT FITZGERALD (ALBERTA) (07NB001)



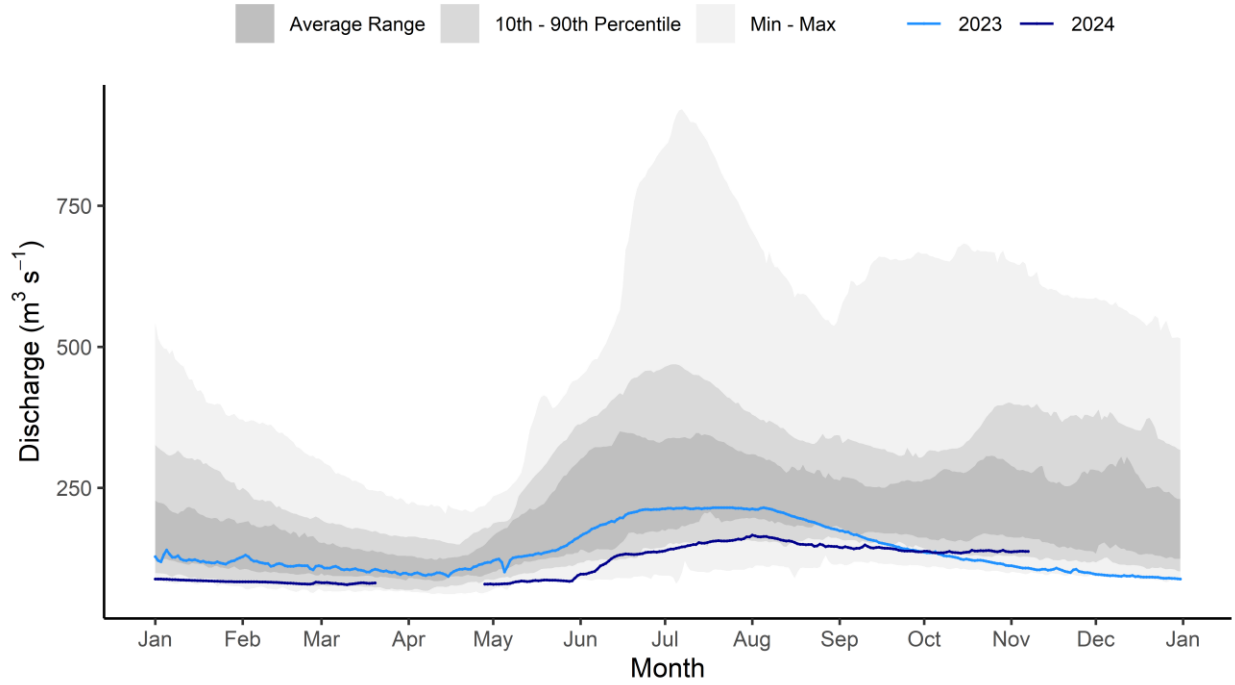
Hay River near Hay River [07OB001]

HAY RIVER NEAR HAY RIVER (07OB001)



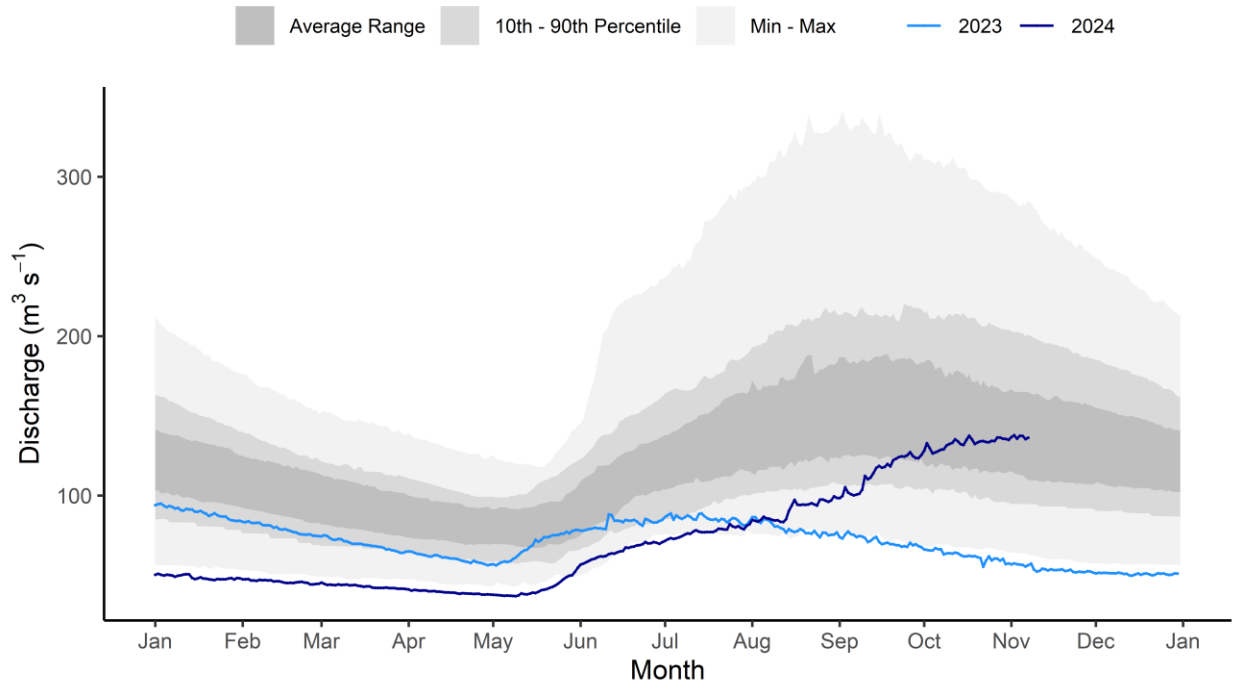
Taltson River below Hydro Dam [07QD007]

TALTSON RIVER BELOW HYDRO DAM (07QD007)



Lockhart River at outlet of Artillery Lake [07RD001]

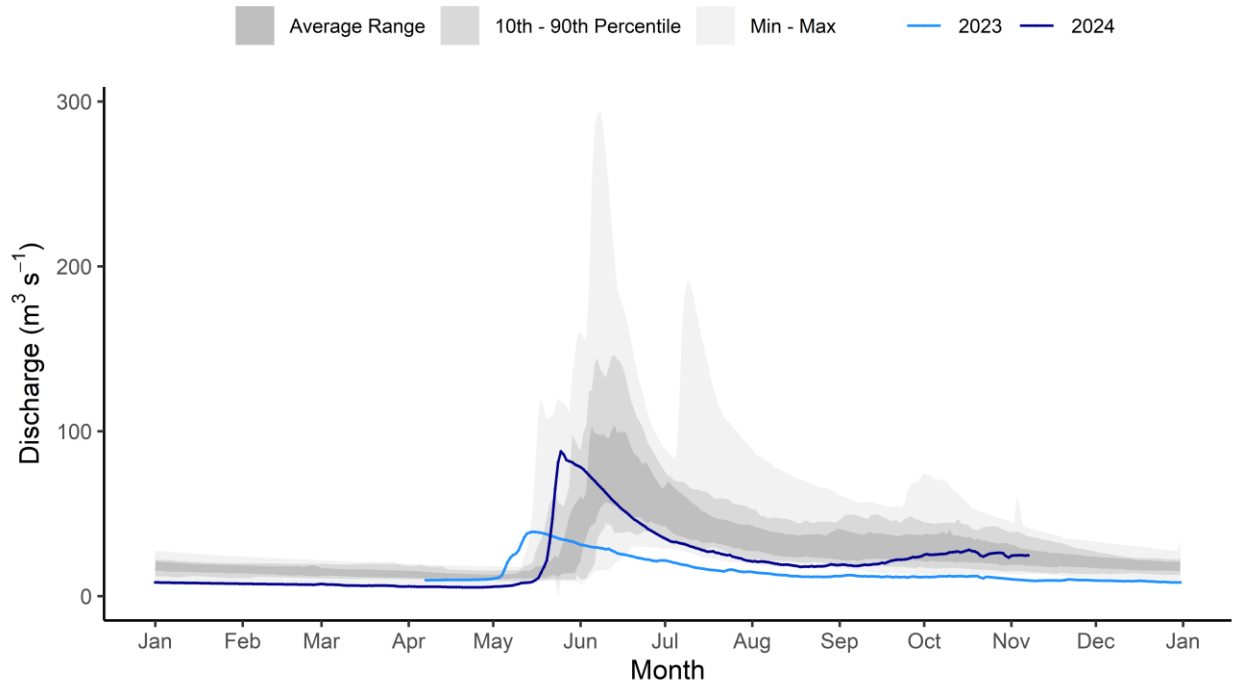
LOCKHART RIVER AT OUTLET OF ARTILLERY LAKE (07RD001)





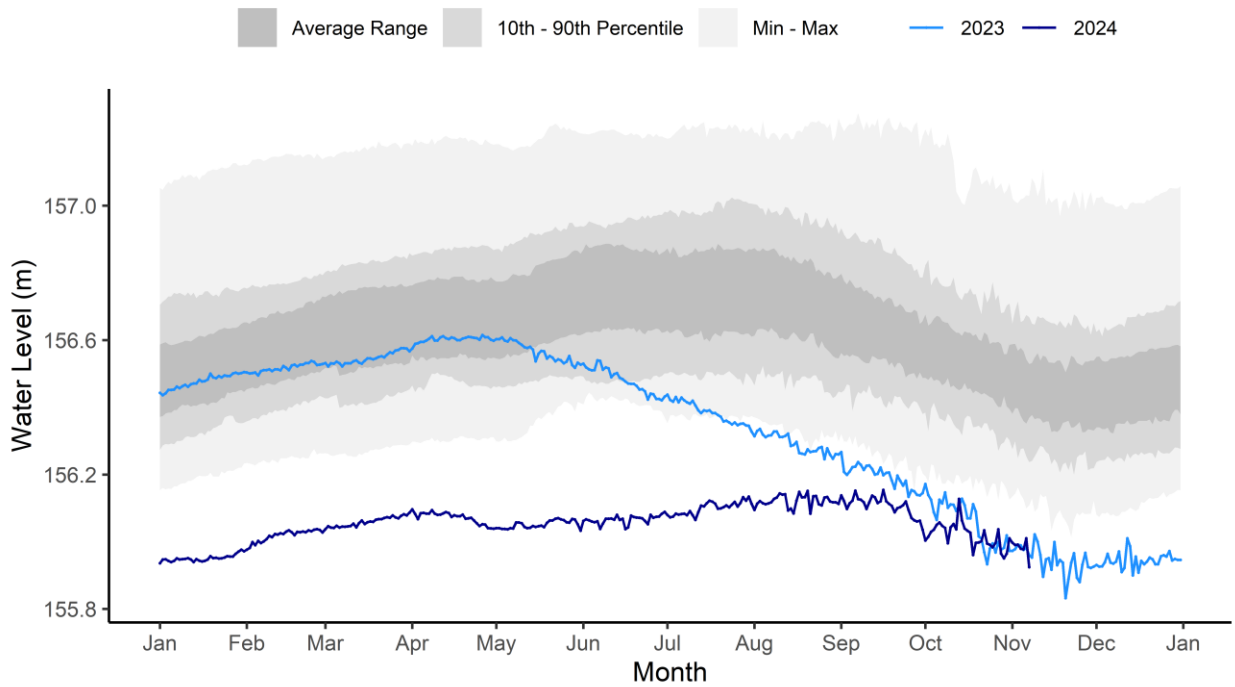
### Coppermine River below Desteffany Lake [10PA001]

#### COPPERMINE RIVER BELOW DESTEFFANY LAKE (10PA001)



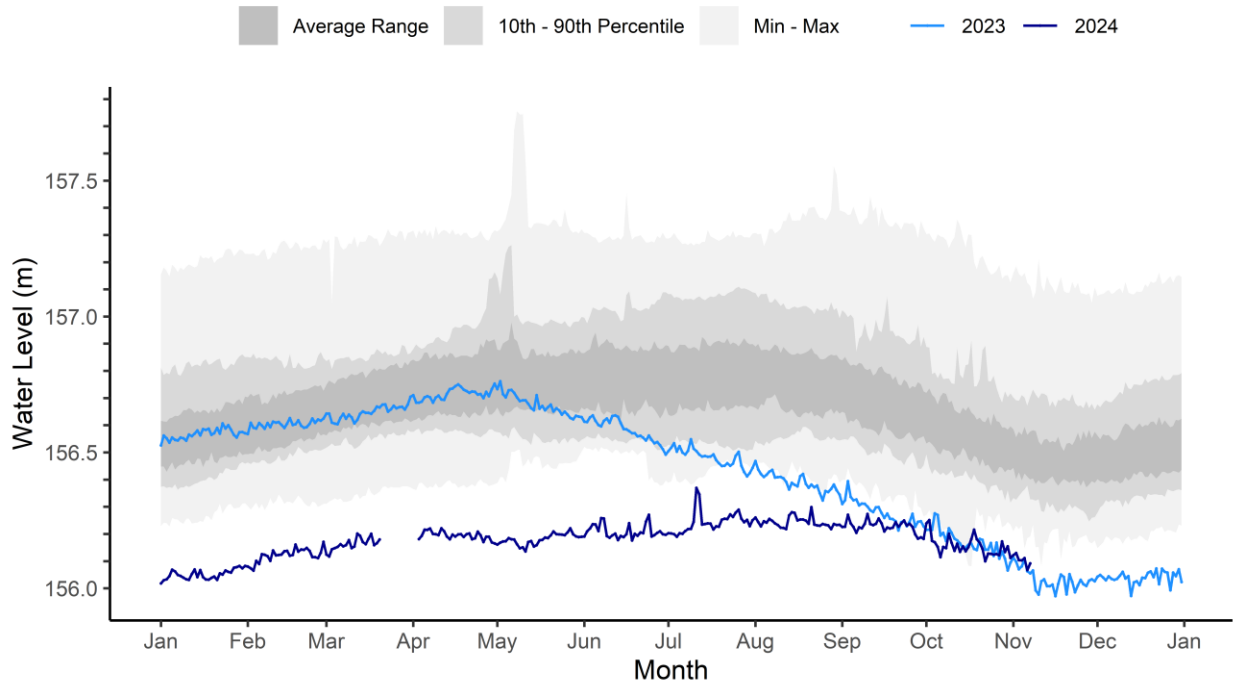
### Great Slave Lake at Yellowknife Bay [07SB001]

#### GREAT SLAVE LAKE AT YELLOWKNIFE BAY (07SB001)



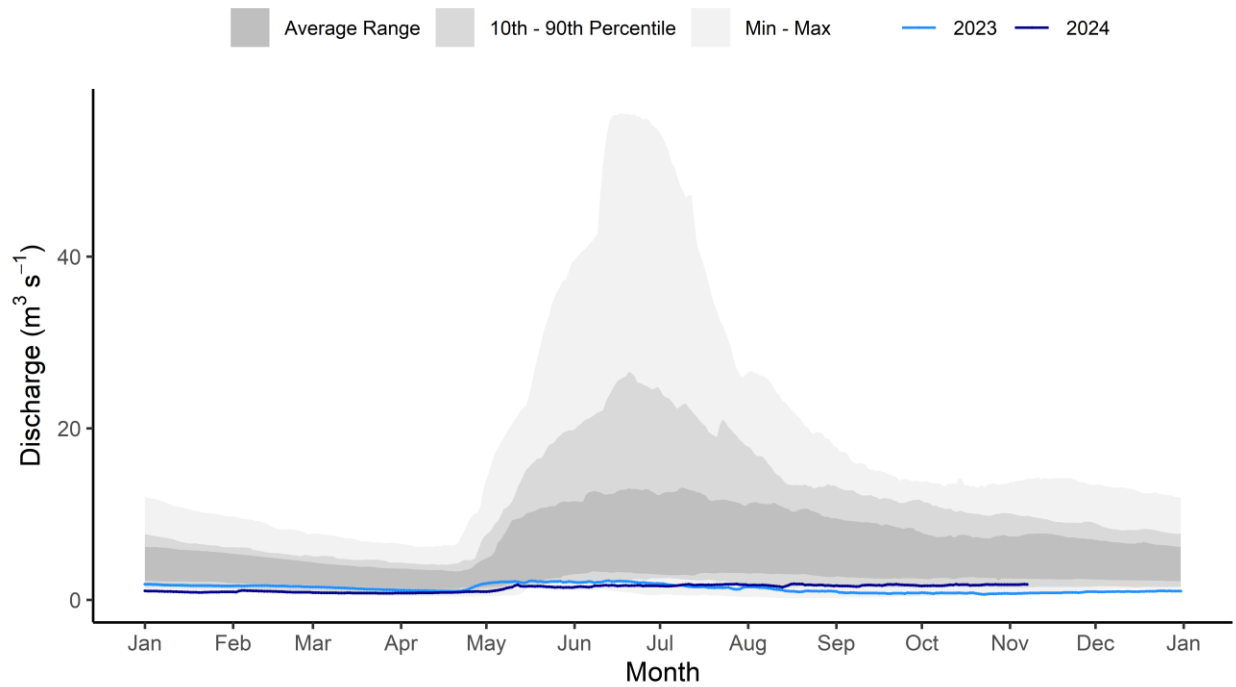
### Great Slave Lake at Hay River [07OB002]

#### GREAT SLAVE LAKE AT HAY RIVER (07OB002)



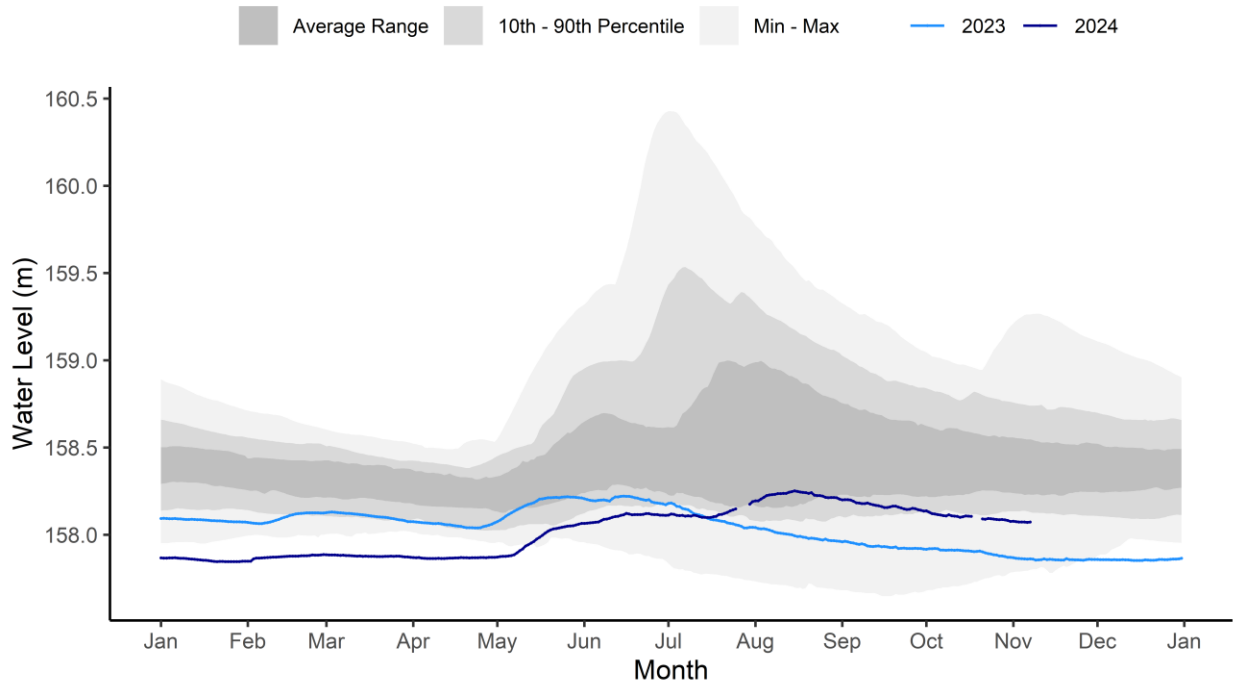
### Cameron River below Reid Lake [07SB010]

#### CAMERON RIVER BELOW REID LAKE (07SB010)



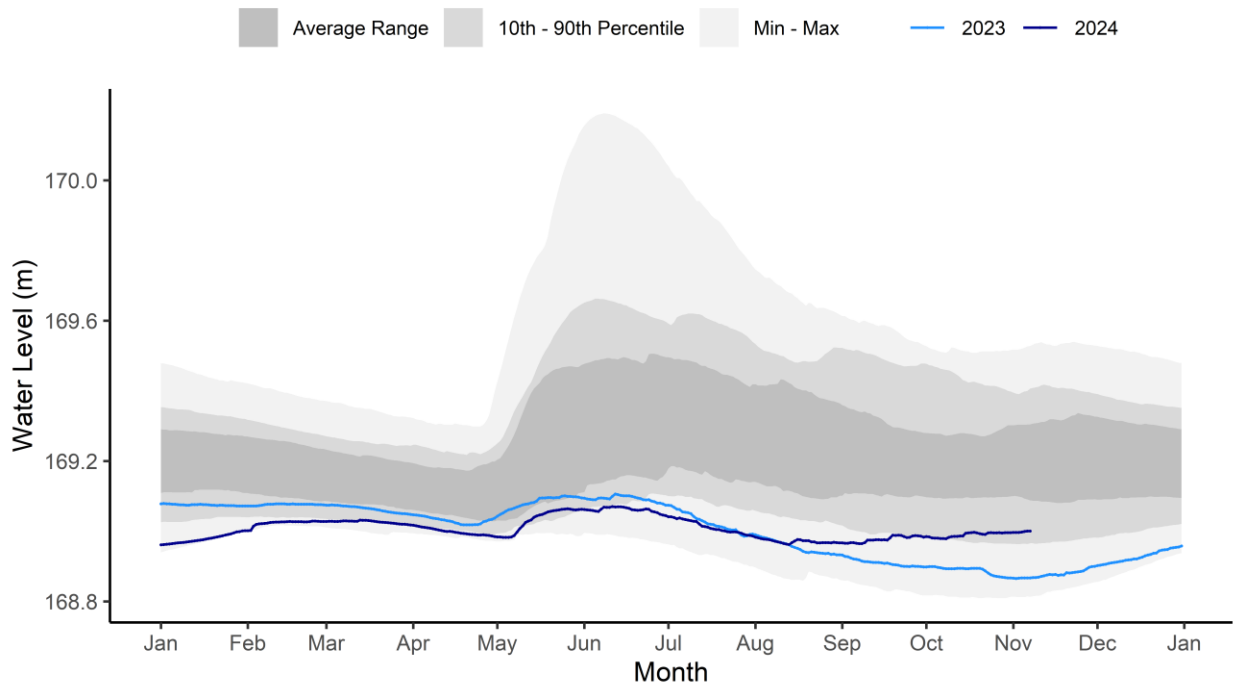
### Prosperous Lake near McMeekan Bay [07SB014]

#### PROSPEROUS LAKE NEAR MCMEEKAN BAY (07SB014)



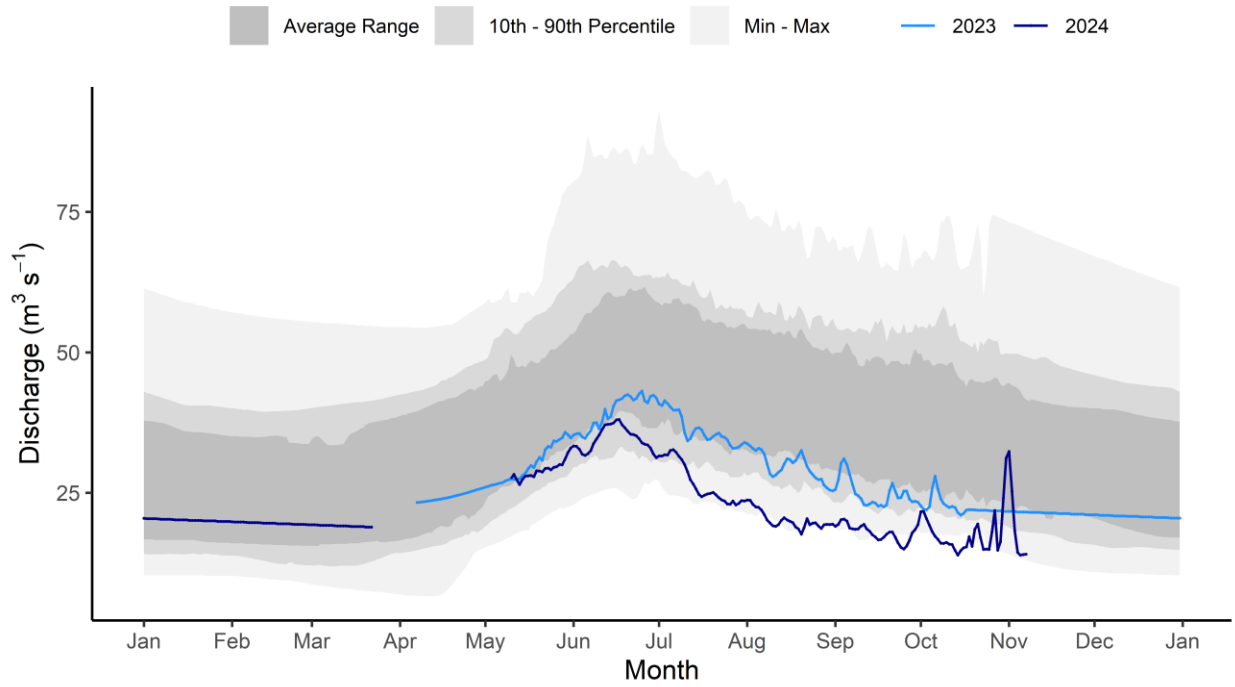
### Prelude Lake near Yellowknife [07SB017]

#### PRELUDE LAKE NEAR YELLOWKNIFE (07SB017)



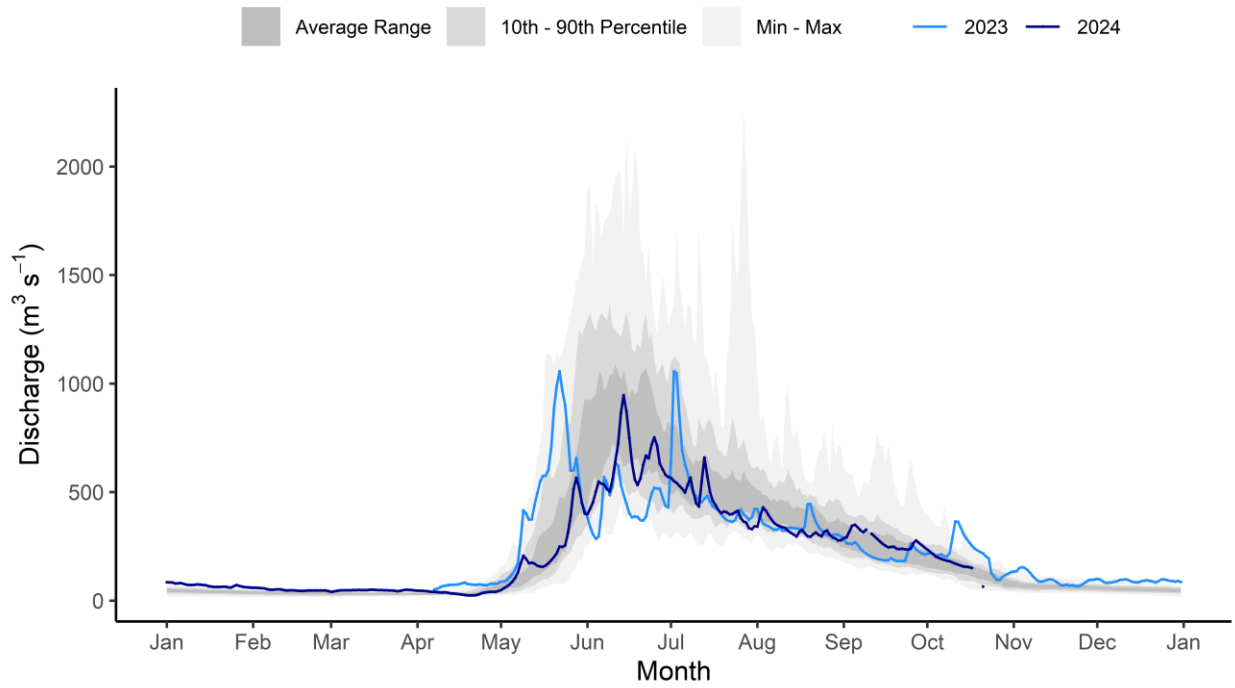
La Martre River below outlet of Lac La Martre [07TA001]

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



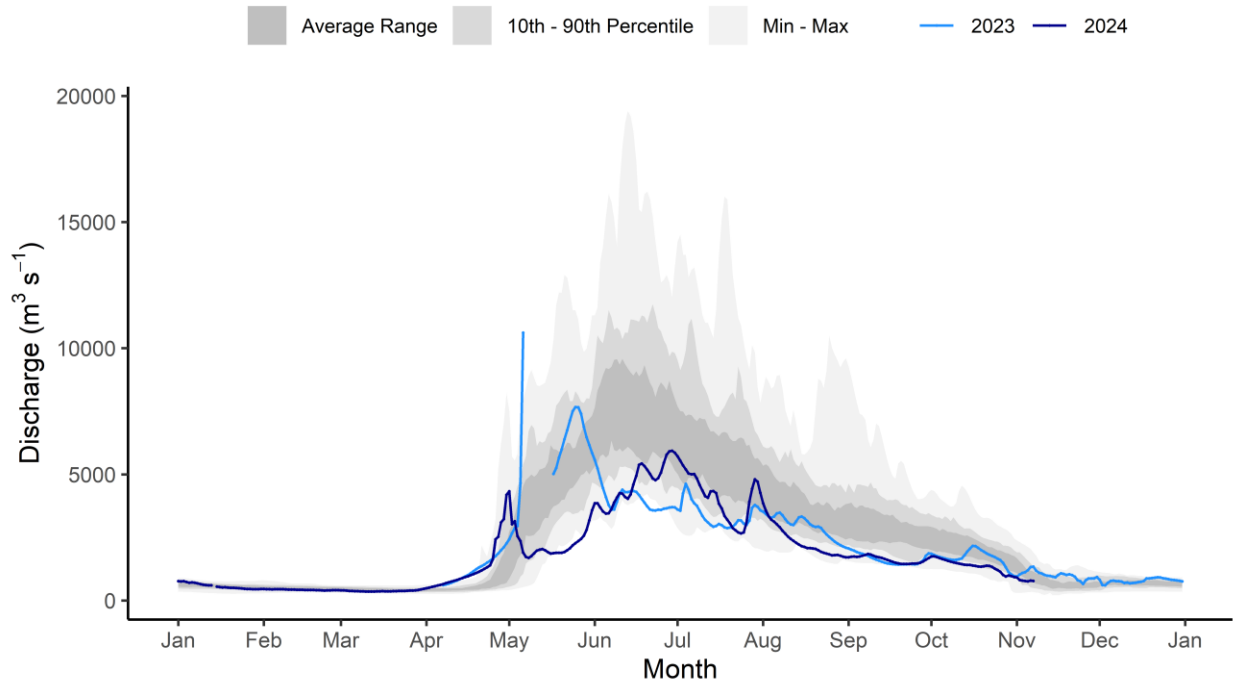
South Nahanni River above Virginia Falls [10EB001]

SOUTH NAHANNI RIVER ABOVE VIRGINIA FALLS (10EB001)



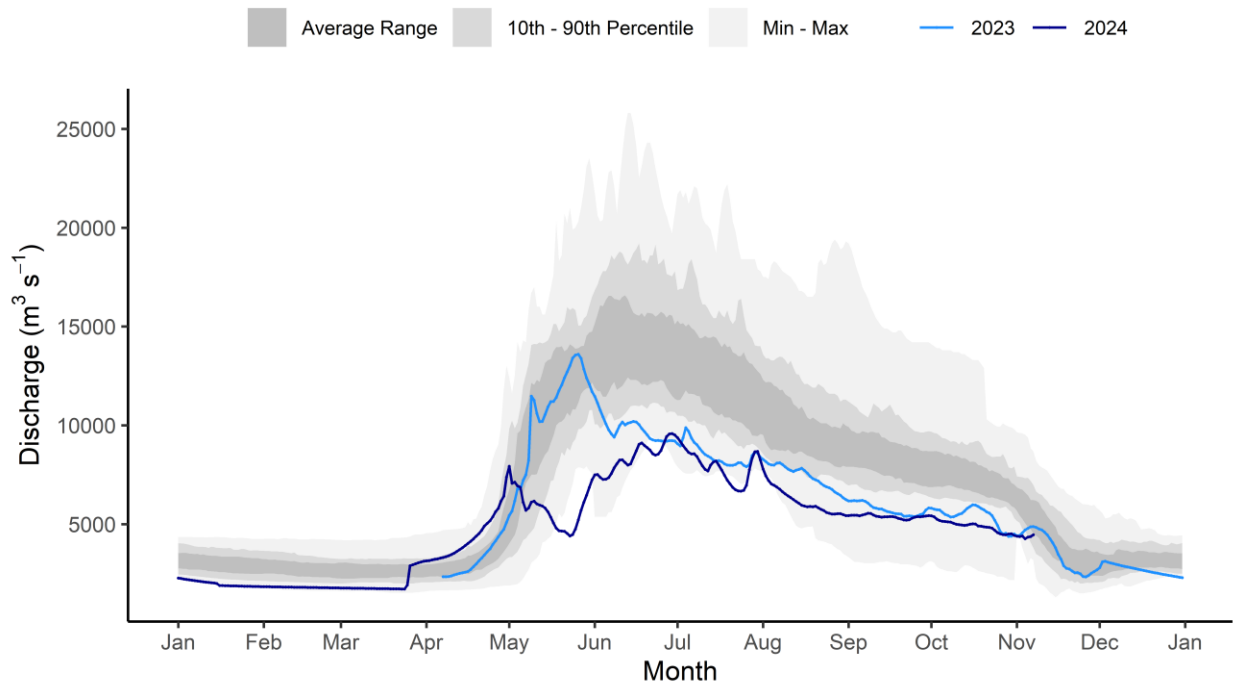
Liard River near the Mouth [10ED002]

LIARD RIVER NEAR THE MOUTH (10ED002)



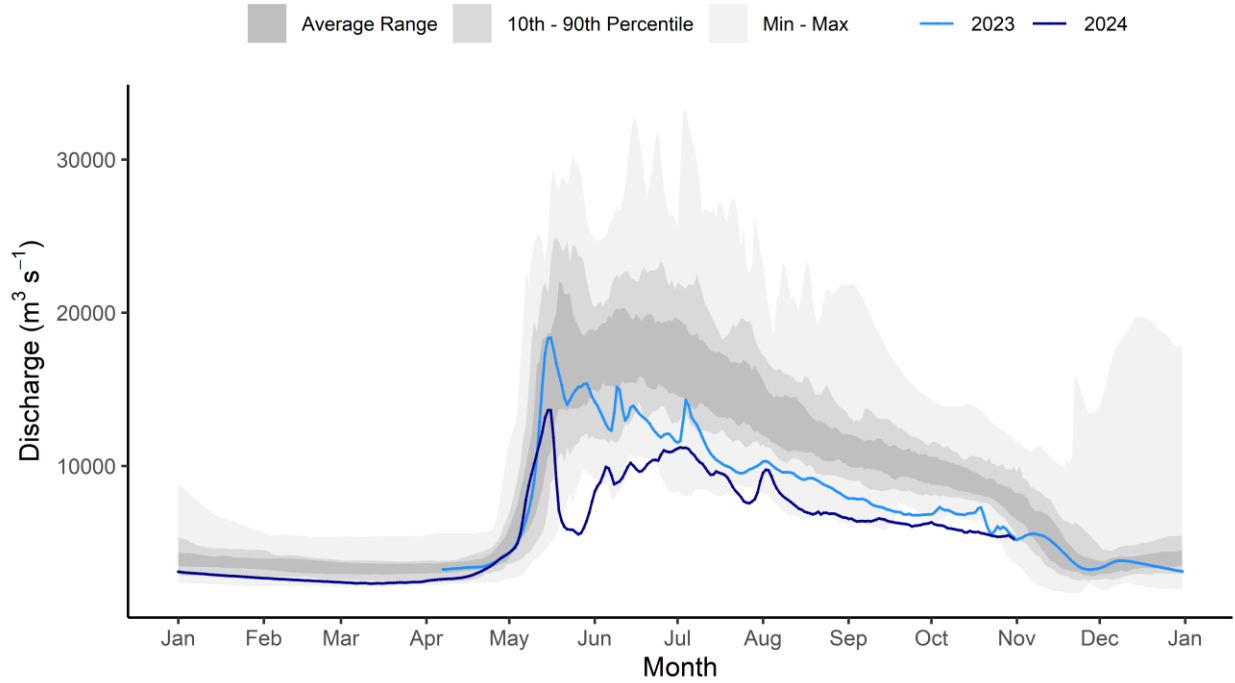
Mackenzie River at Fort Simpson [10GC001]

MACKENZIE RIVER AT FORT SIMPSON (10GC001)



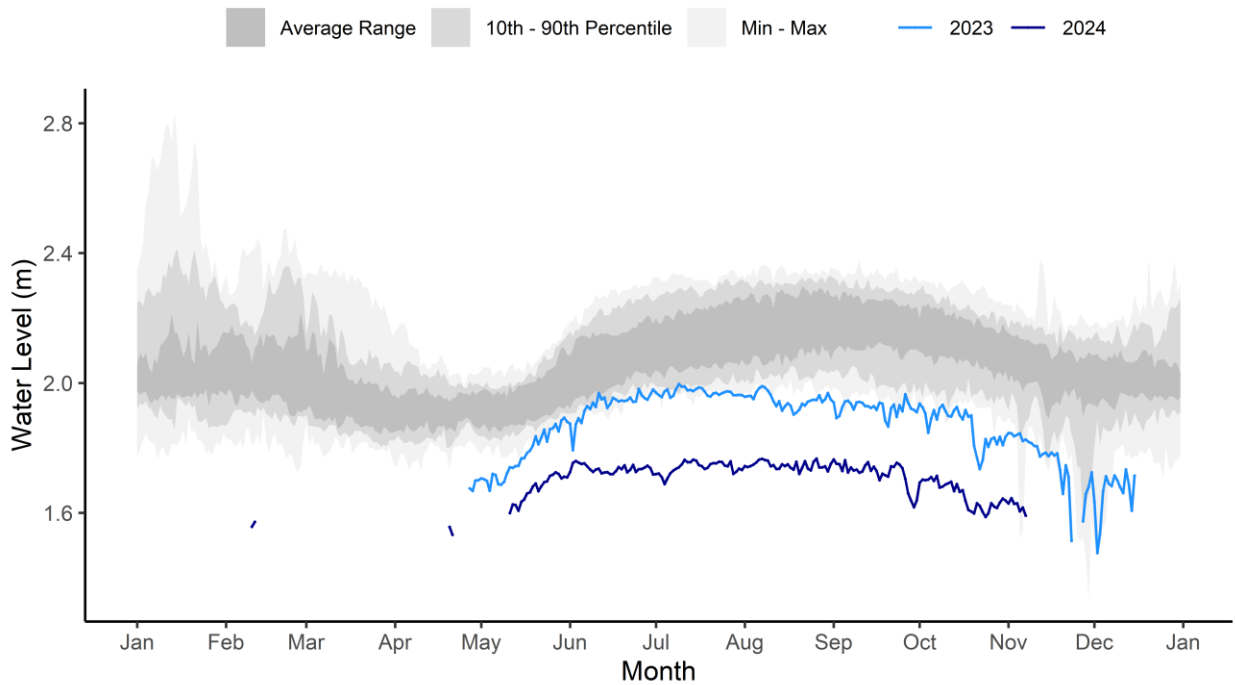
Mackenzie River at Norman Wells [10KA001]

MACKENZIE RIVER AT NORMAN WELLS (10KA001)



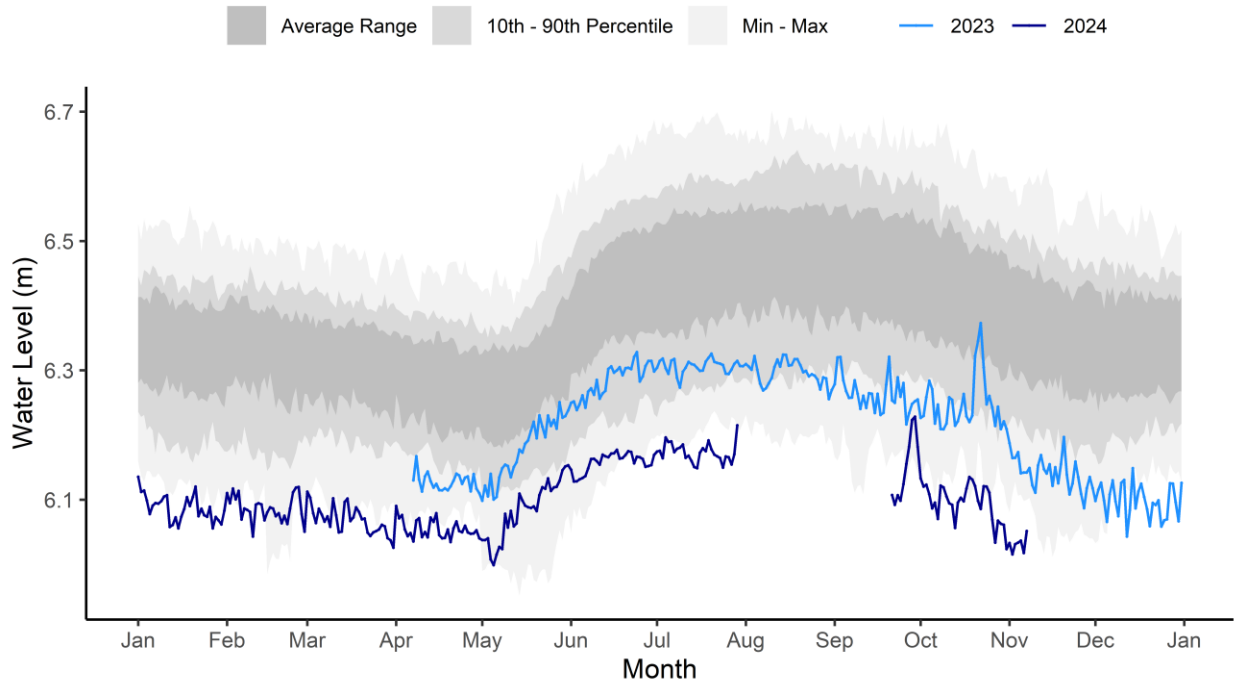
Great Bear River at outlet of Great Bear Lake [10JC003]

GREAT BEAR RIVER AT OUTLET OF GREAT BEAR LAKE (10JC003)



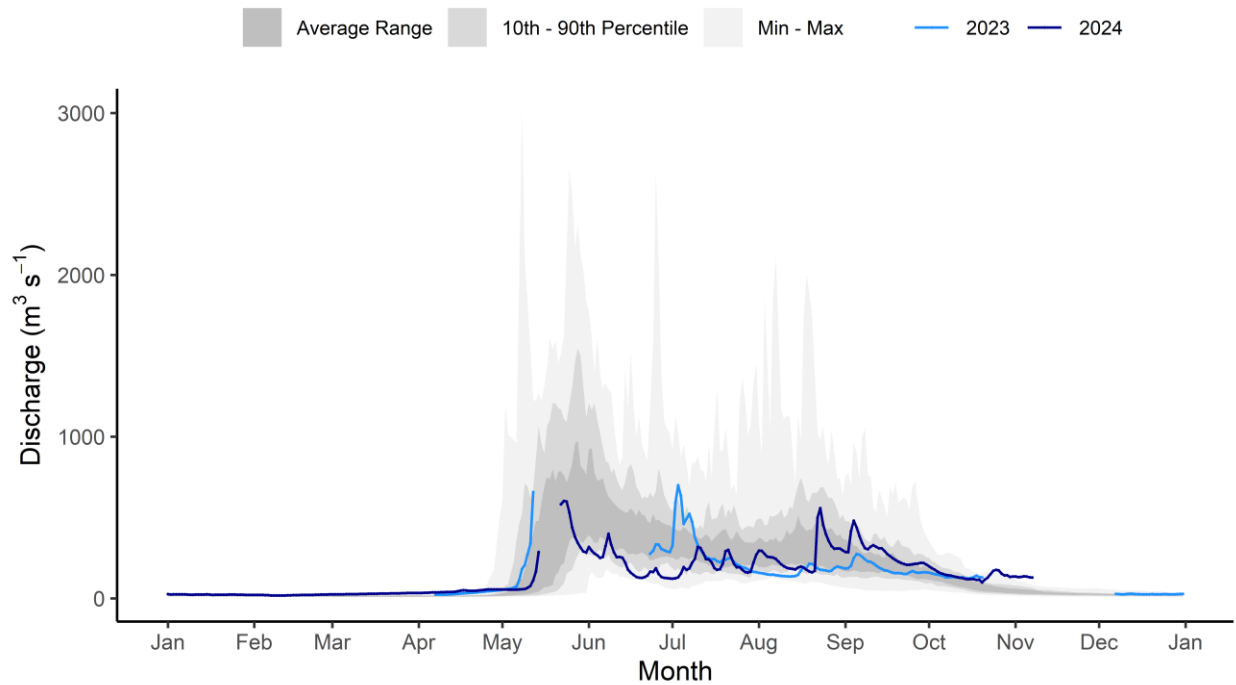
### Great Bear Lake at Hornby Bay [10JE002]

#### GREAT BEAR LAKE AT HORNBY BAY (10JE002)



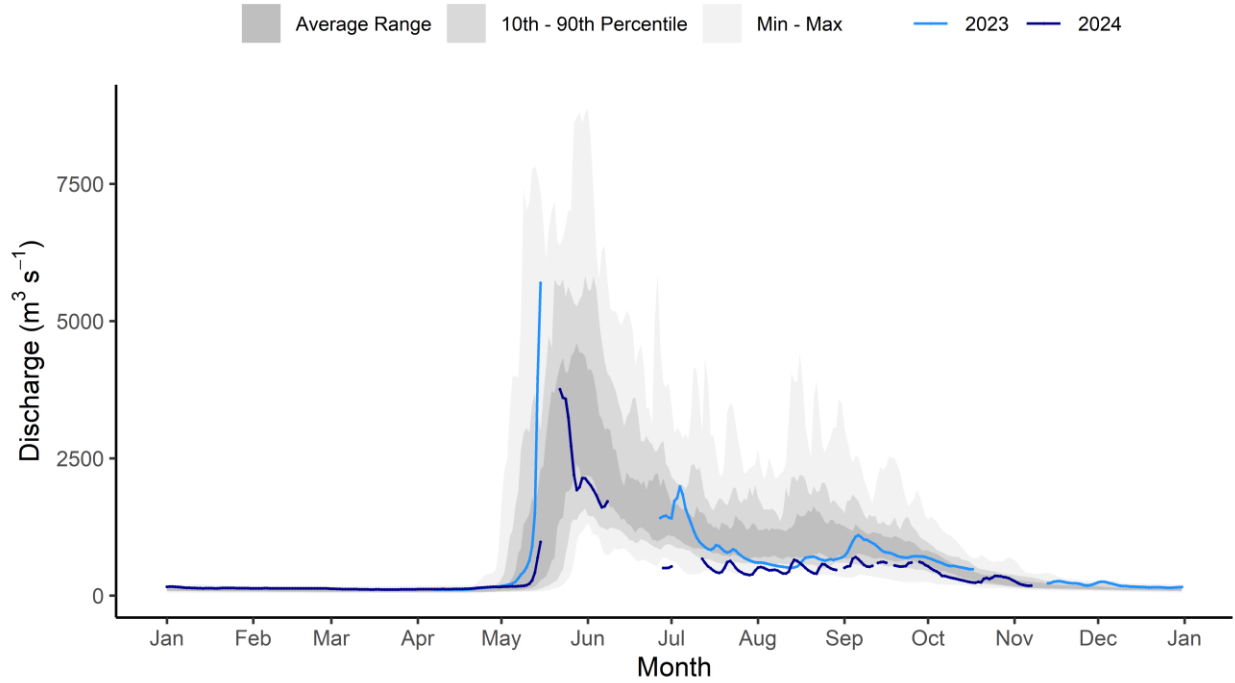
### Arctic Red River near the mouth [10LA002]

#### ARCTIC RED RIVER NEAR THE MOUTH (10LA002)



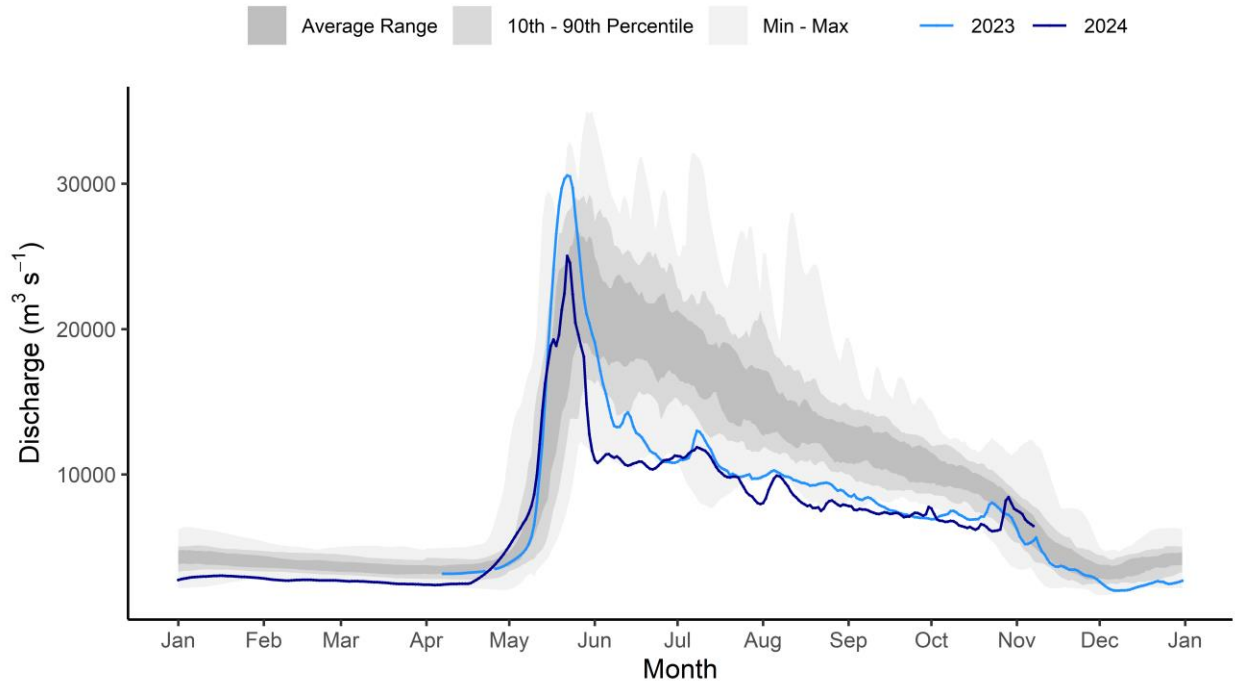
Peel River above Fort McPherson [10MC002]

PEEL RIVER ABOVE FORT MCPHERSON (10MC002)



Mackenzie River at Arctic Red River [10LC014]

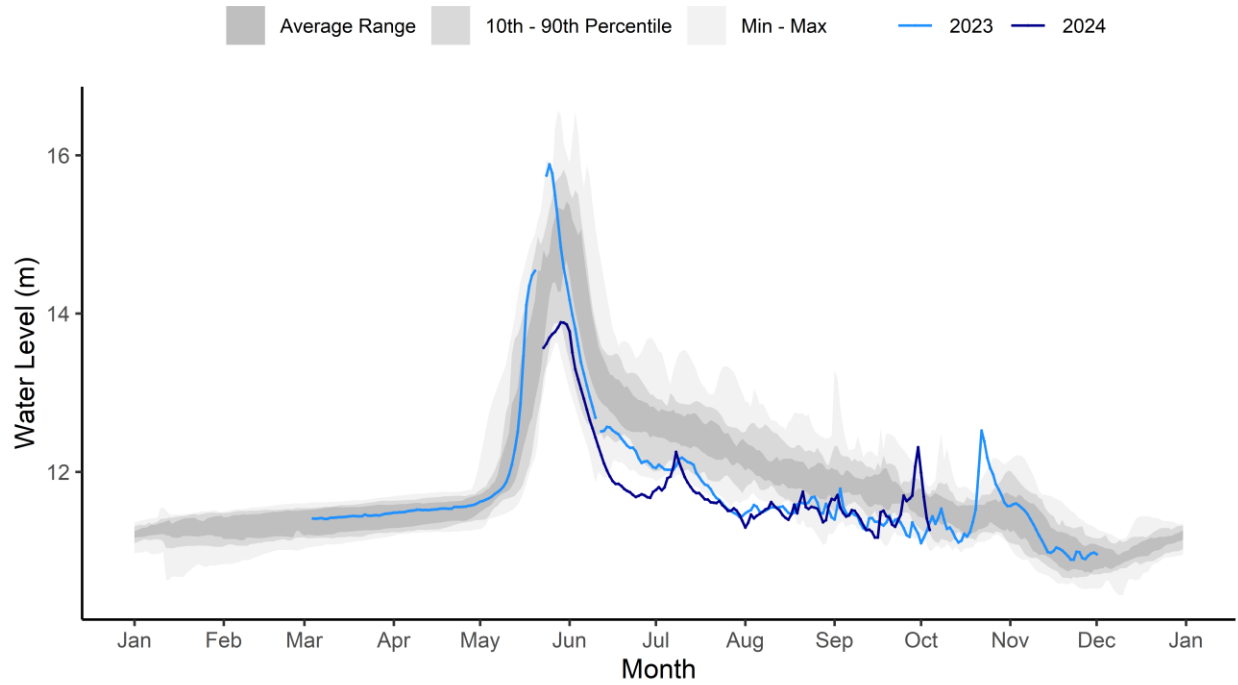
MACKENZIE RIVER AT ARCTIC RED RIVER (10LC014)





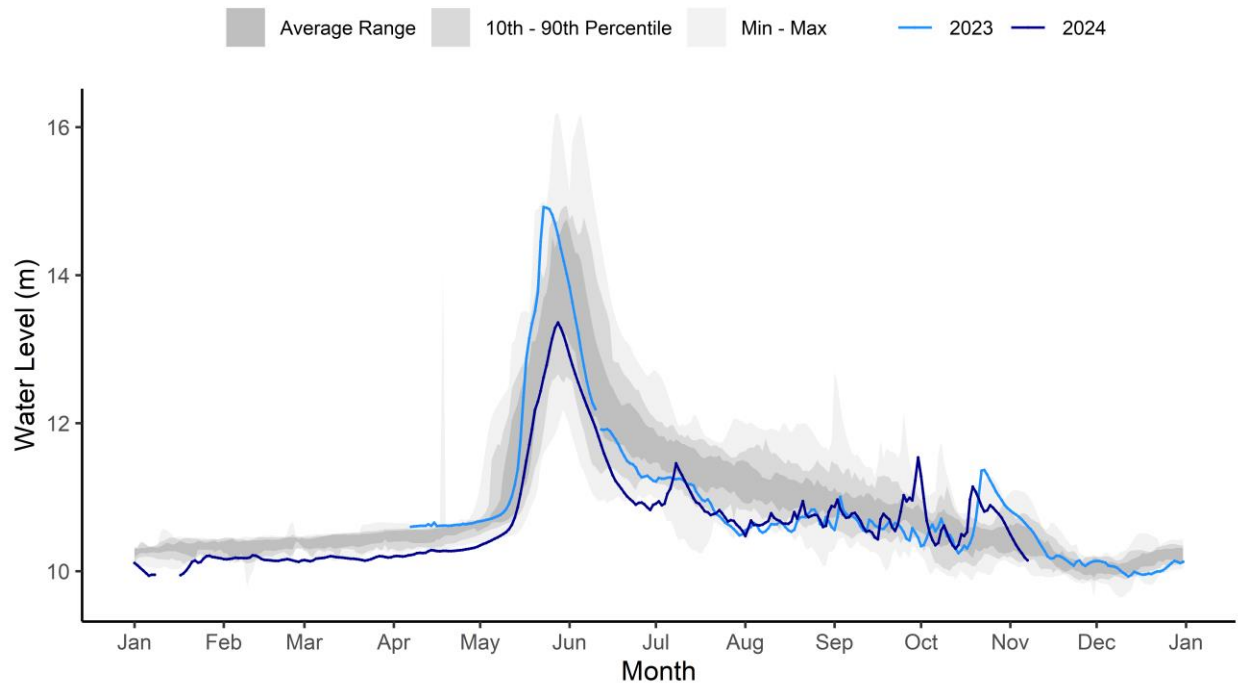
### Mackenzie River (East Channel) at Inuvik [10LC002]

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

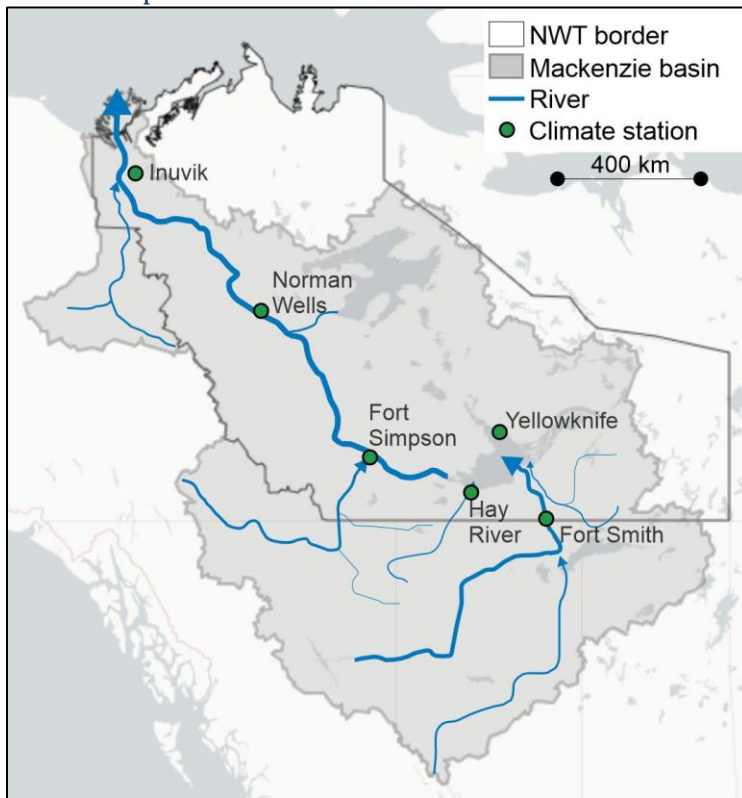


### Mackenzie River (Peel Channel) above Aklavik [10MC003]

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



Climate Data:  
Station map:

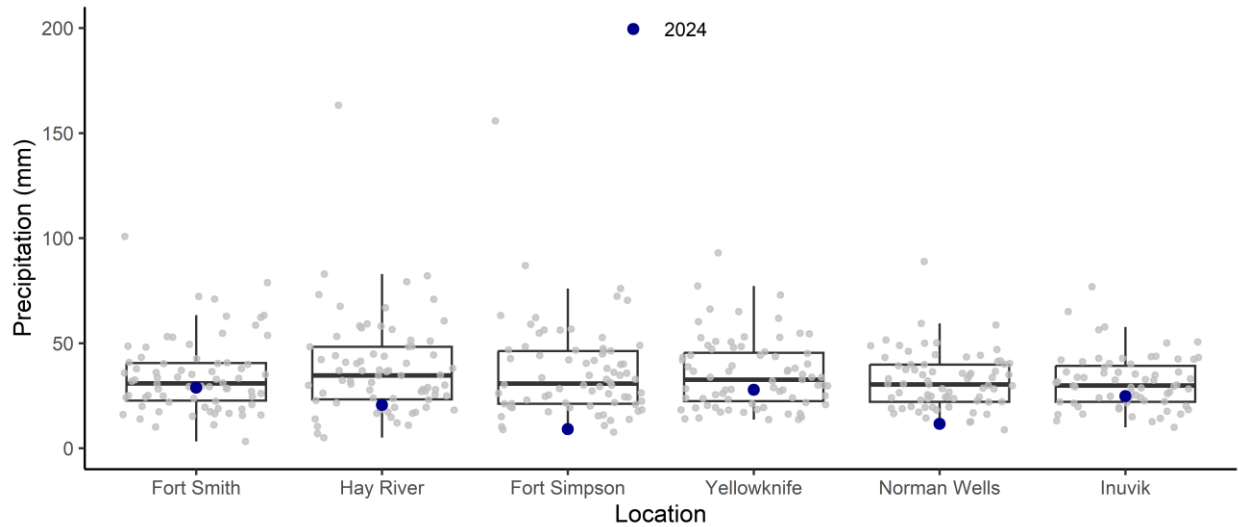


Map of the climate stations used to generate the cumulative precipitation plot below.

Summary Data:

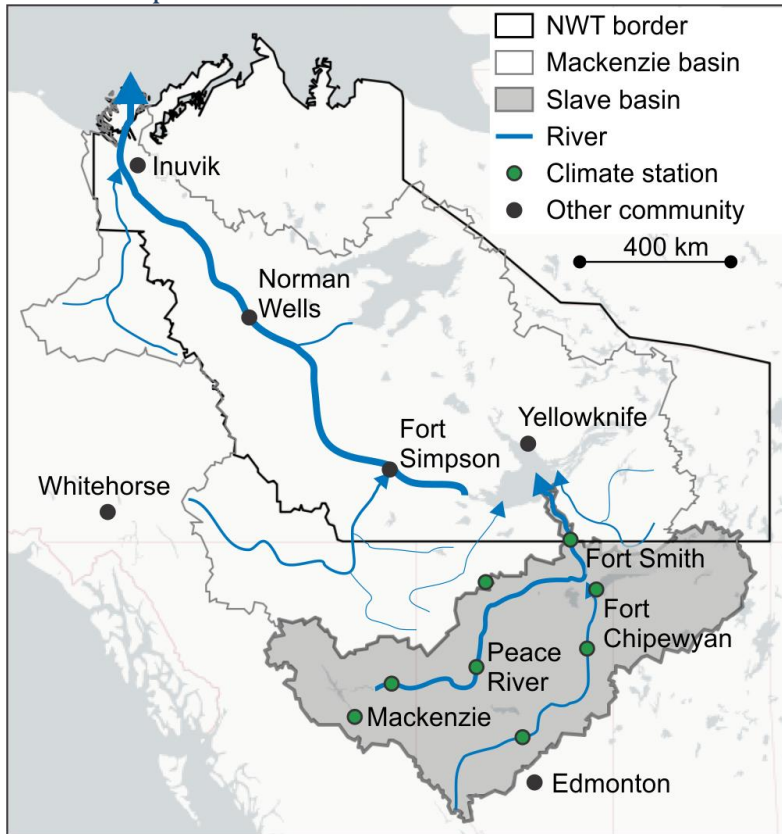
Total Precipitation for NWT communities

Oct. 1<sup>st</sup> to Nov. 7<sup>th</sup>



Precipitation in this figure shows the combined amount of rain and snow water equivalent (i.e., amount of water that results from when a snowpack is melted) that has fallen in select communities across the NWT. This figure shows precipitation from the start of October until November 7<sup>th</sup>. The blue dot is the current year, and the grey dots are all previous years from 1950 to present.

Station Map:

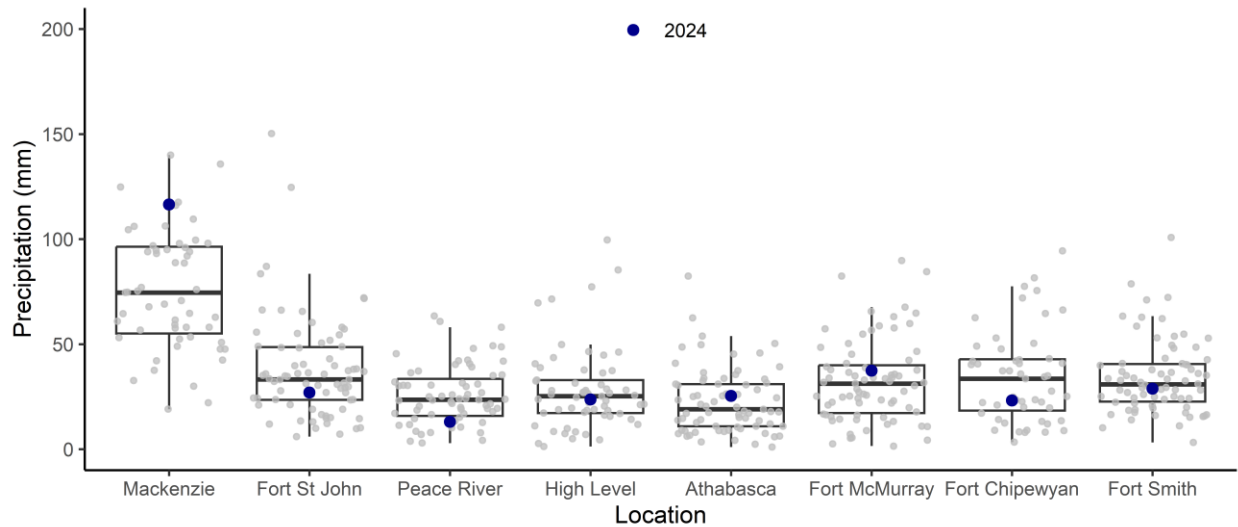


Map of the climate stations used to generate the cumulative precipitation plot below.

Summary Data:

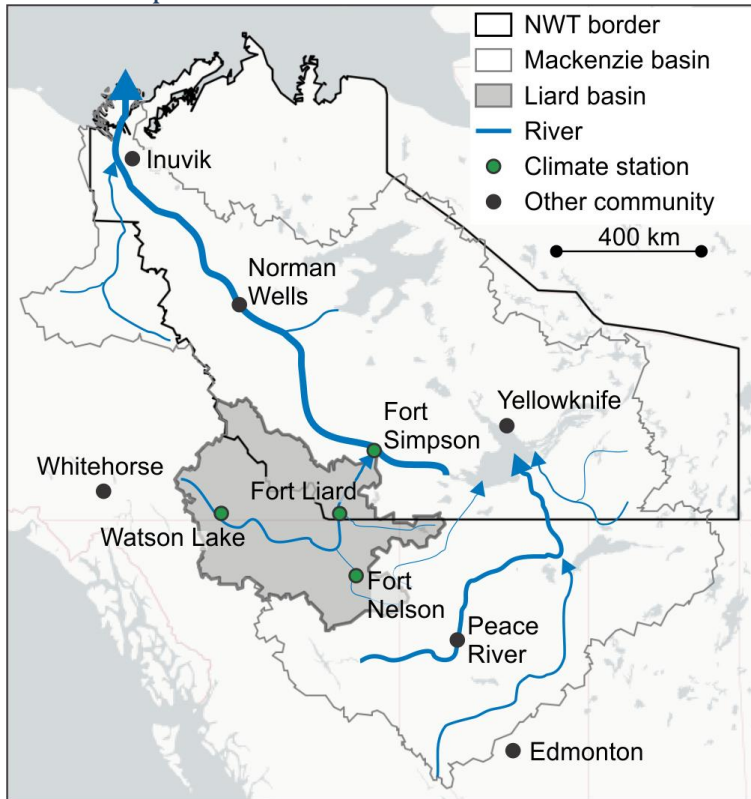
Total Precipitation for BC/AB/NWT communities in the Slave River Basin

Oct. 1<sup>st</sup> to Nov. 7<sup>th</sup>



Precipitation in this figure shows the combined amount of rain and snow water equivalent (i.e., amount of water that results from when a snowpack is melted) that has fallen in select communities in British Columbia, Alberta and Northwest Territories within the Slave River basin. This figure shows precipitation from the start of October until November 7<sup>th</sup>. The blue dot is the current year, and the grey dots are all previous years from 1950 to present.

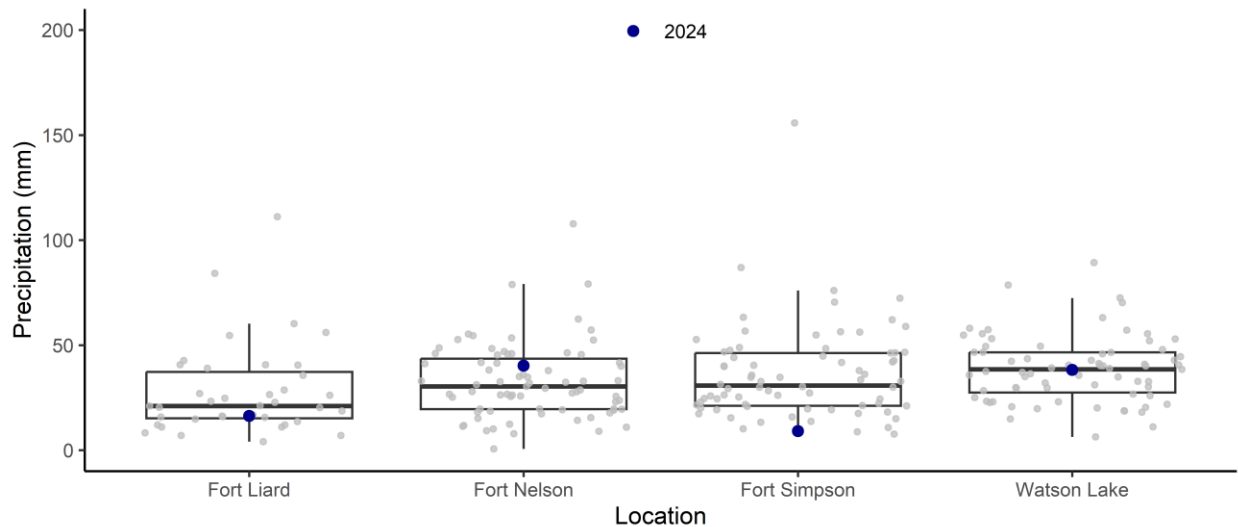
Station Map:



Summary Data:

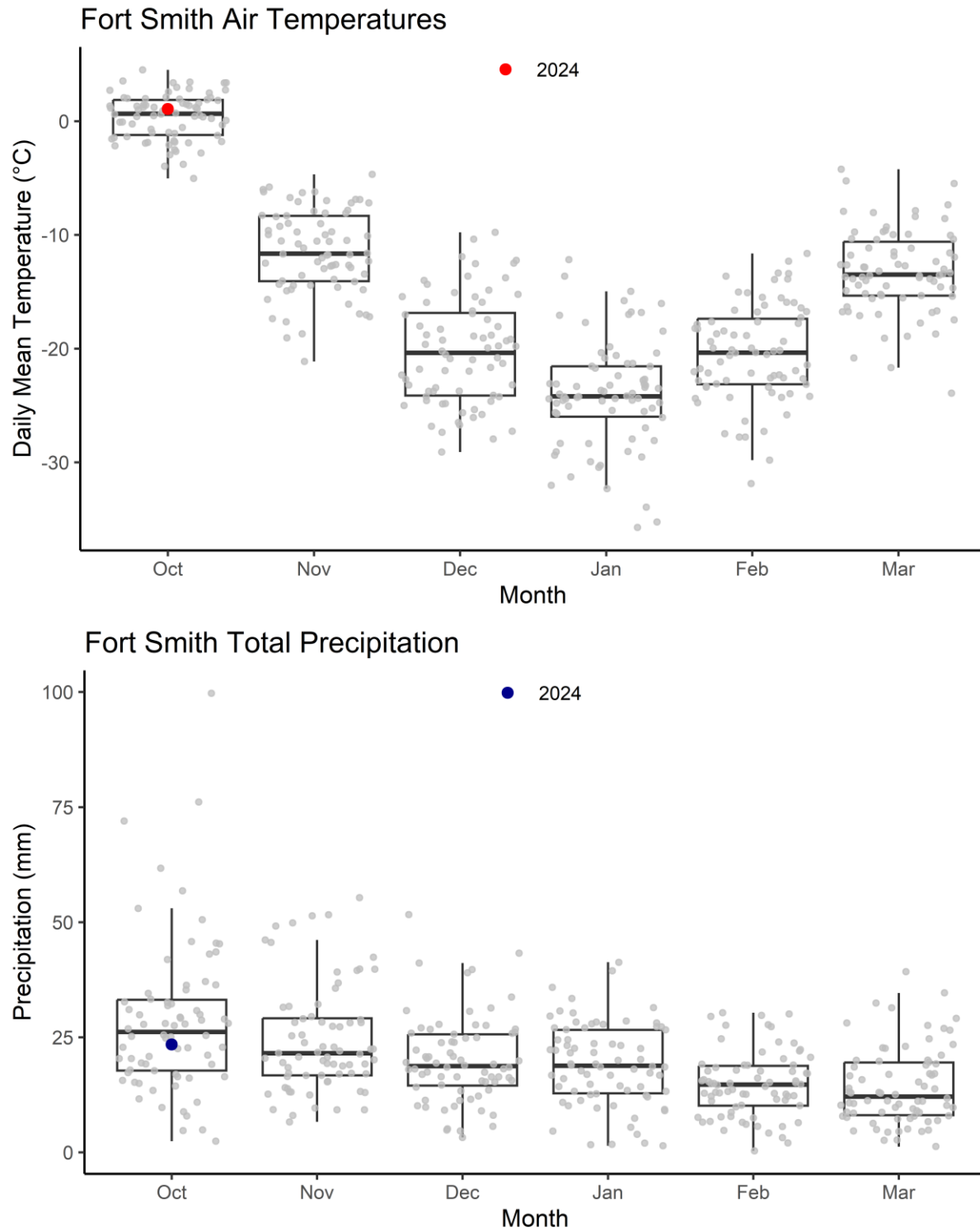
Total Precipitation for BC/NWT communities in the Liard River Basin

Oct. 1<sup>st</sup> to Nov. 7<sup>th</sup>



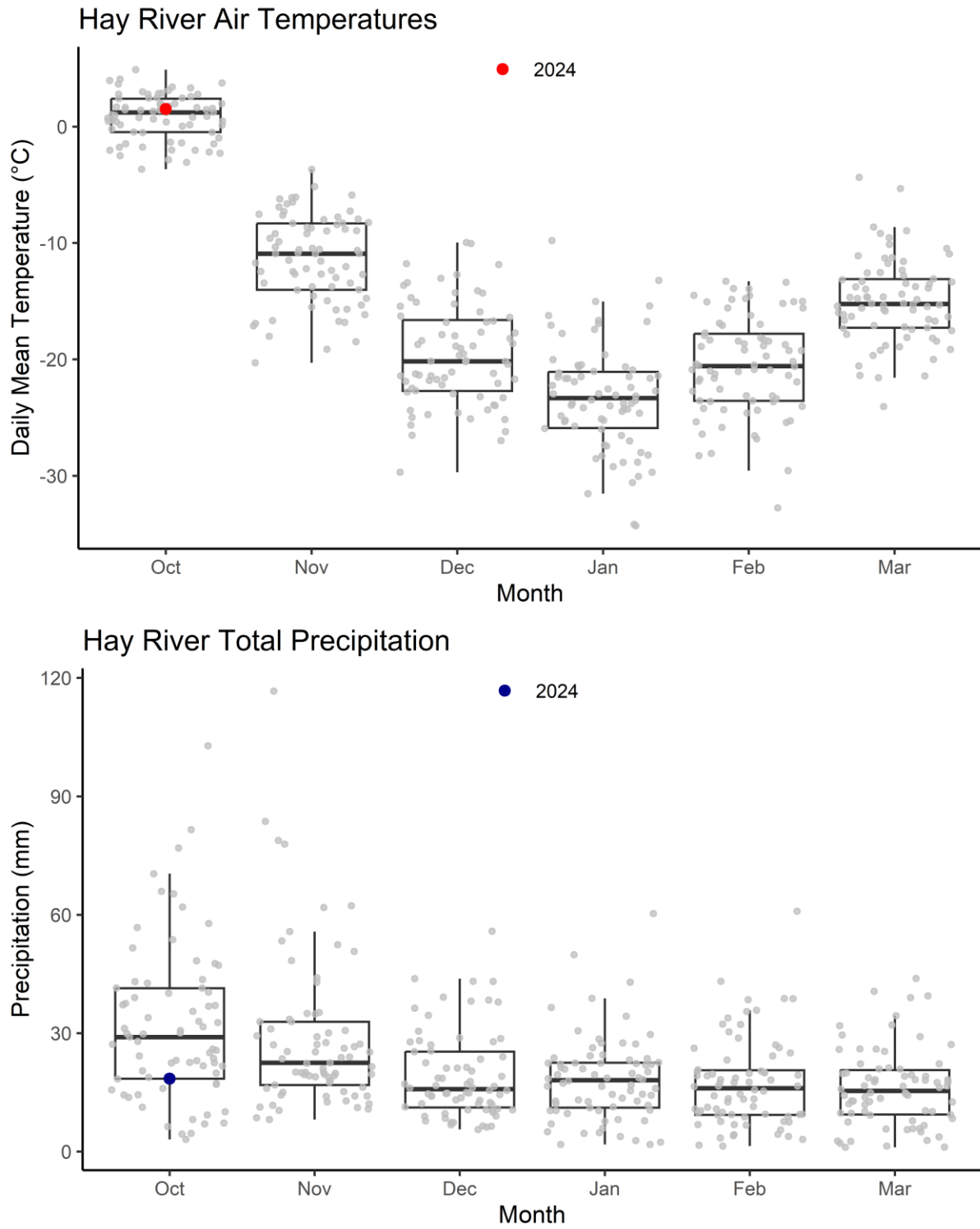
Precipitation in this figure shows the combined amount of rain and snow water equivalent (i.e., amount of water that results from when a snowpack is melted) that has fallen in select communities in British Columbia and Northwest Territories within the Liard River basin. This figure shows precipitation from the start of October until November 7<sup>th</sup>. The blue dot is the current year, and the grey dots are all previous years from 1950 to present.

Fort Smith



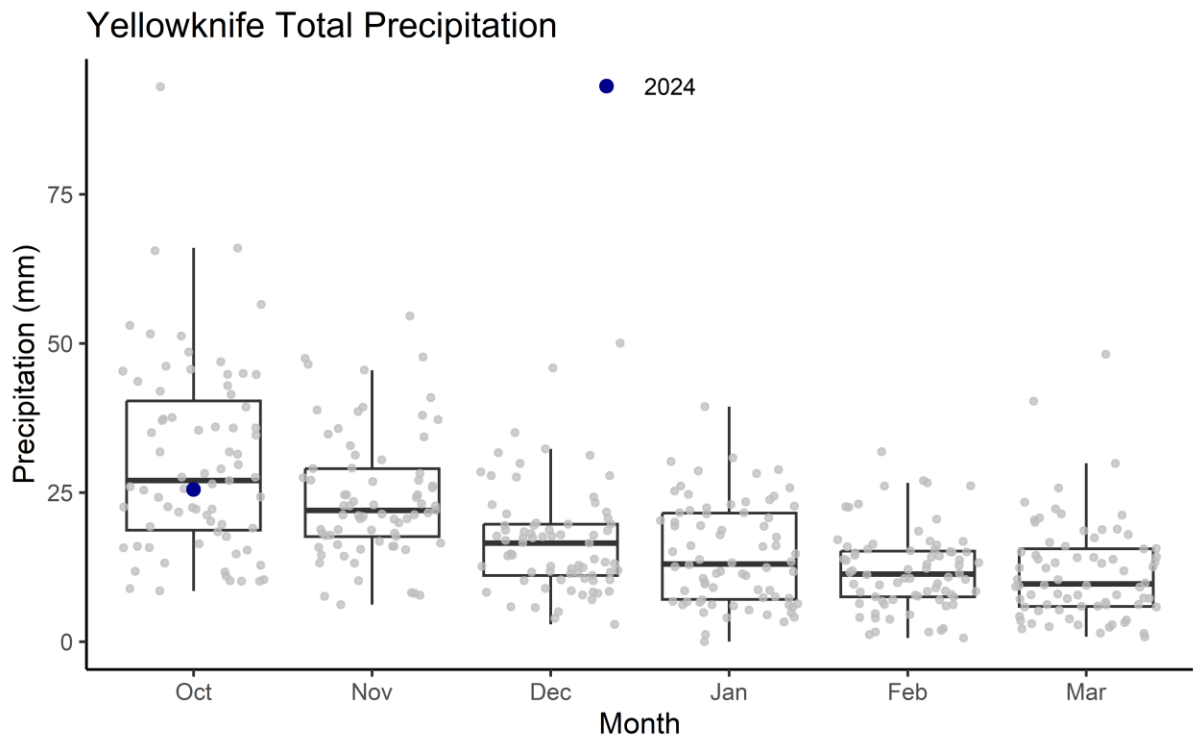
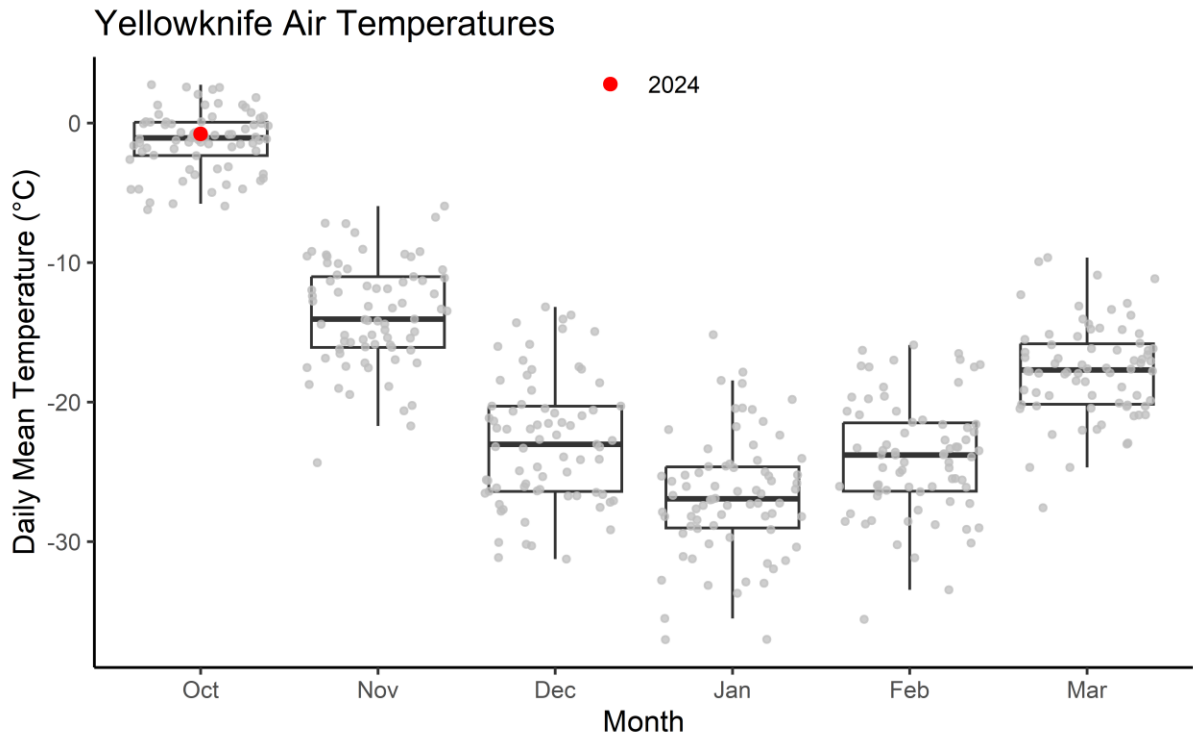
This figure shows mean monthly air temperature and total monthly precipitation for 2024.

Hay River



This figure shows mean monthly air temperature and total monthly precipitation for 2024.

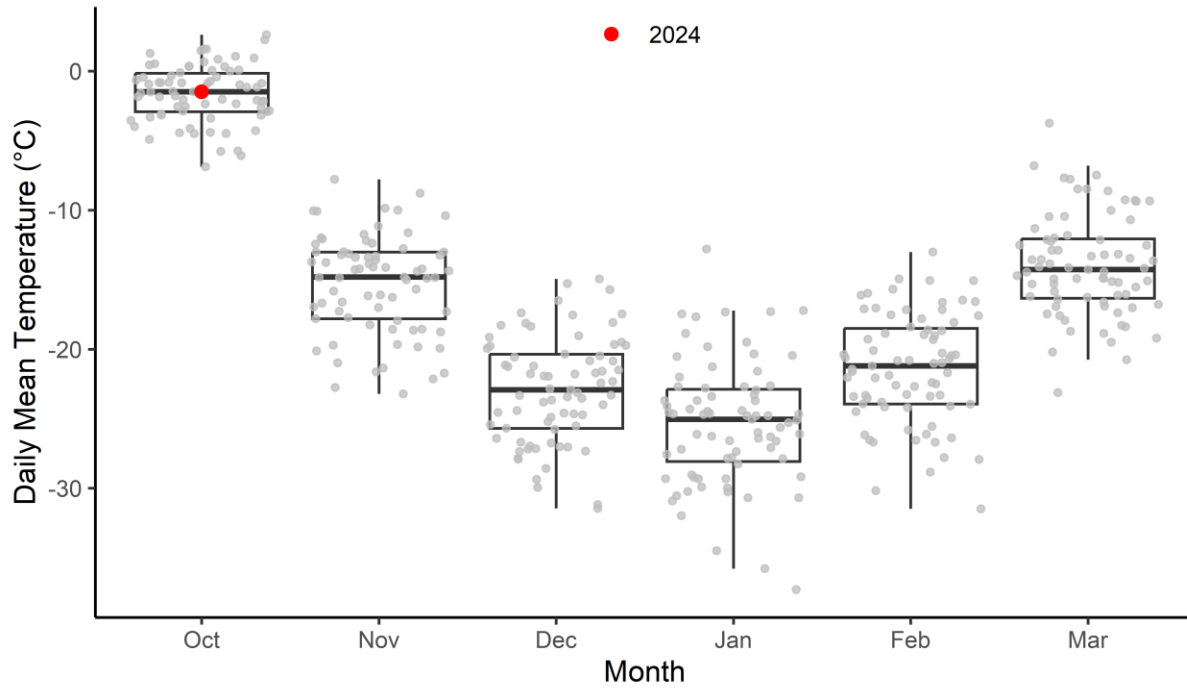
Yellowknife



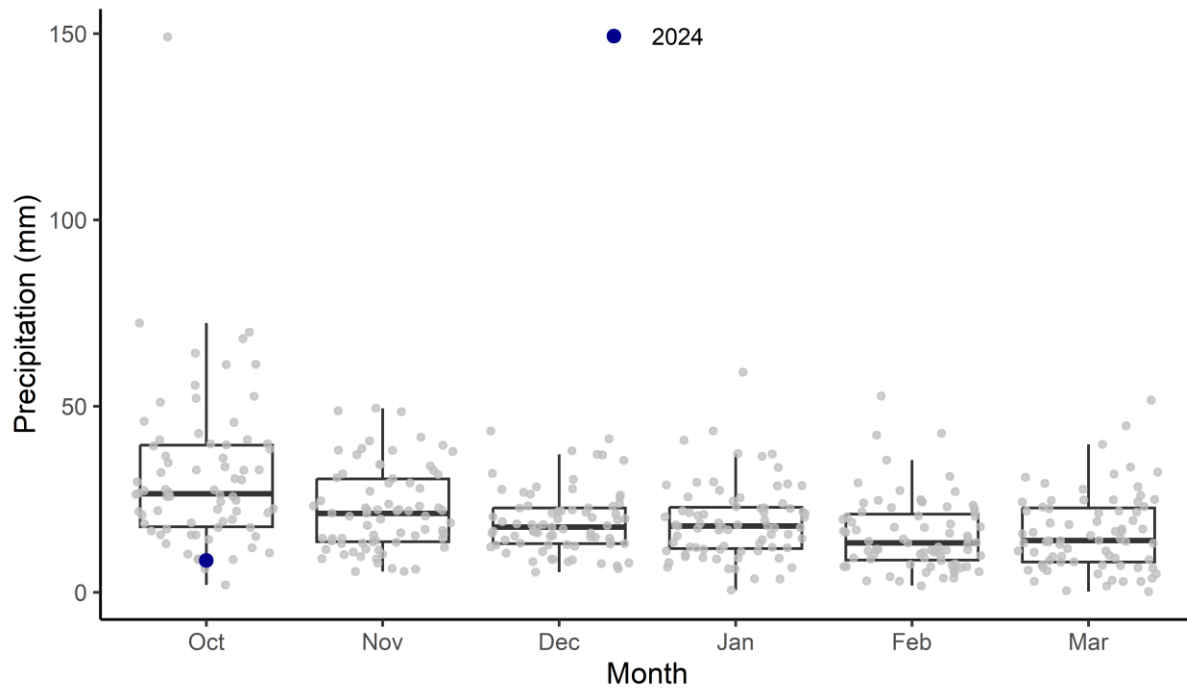
This figure shows mean monthly air temperature and total monthly precipitation for 2024.

Fort Simpson

Fort Simpson Air Temperatures



Fort Simpson Total Precipitation

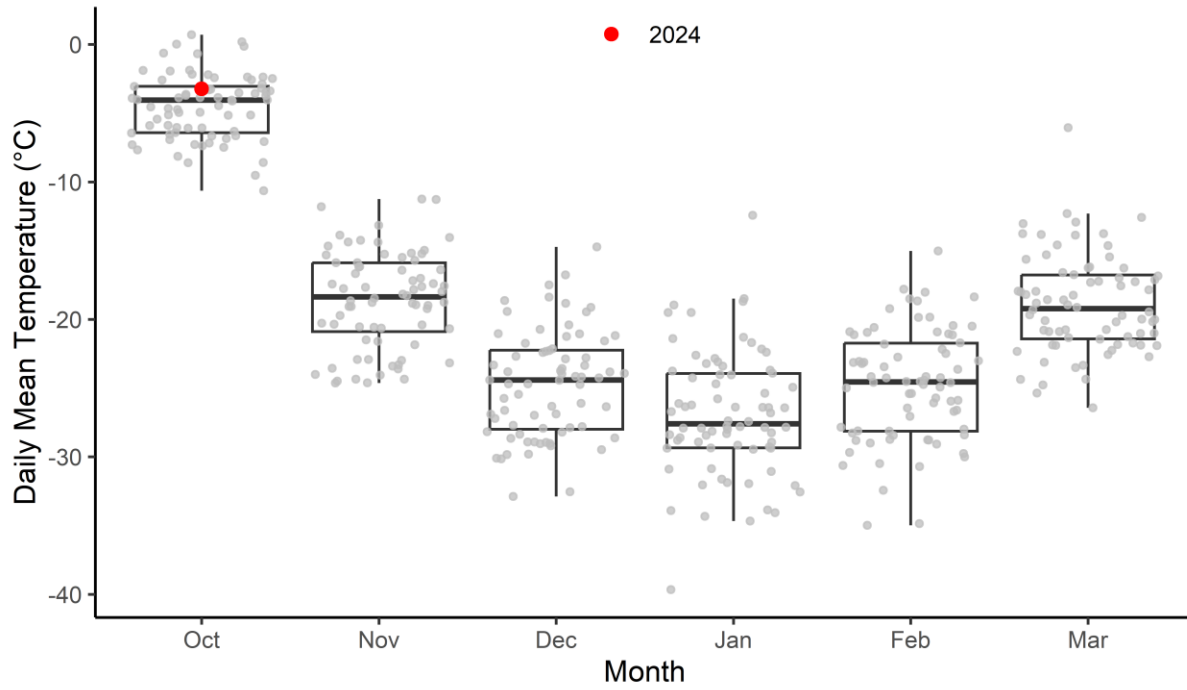


This figure shows mean monthly air temperature and total monthly precipitation for 2024.

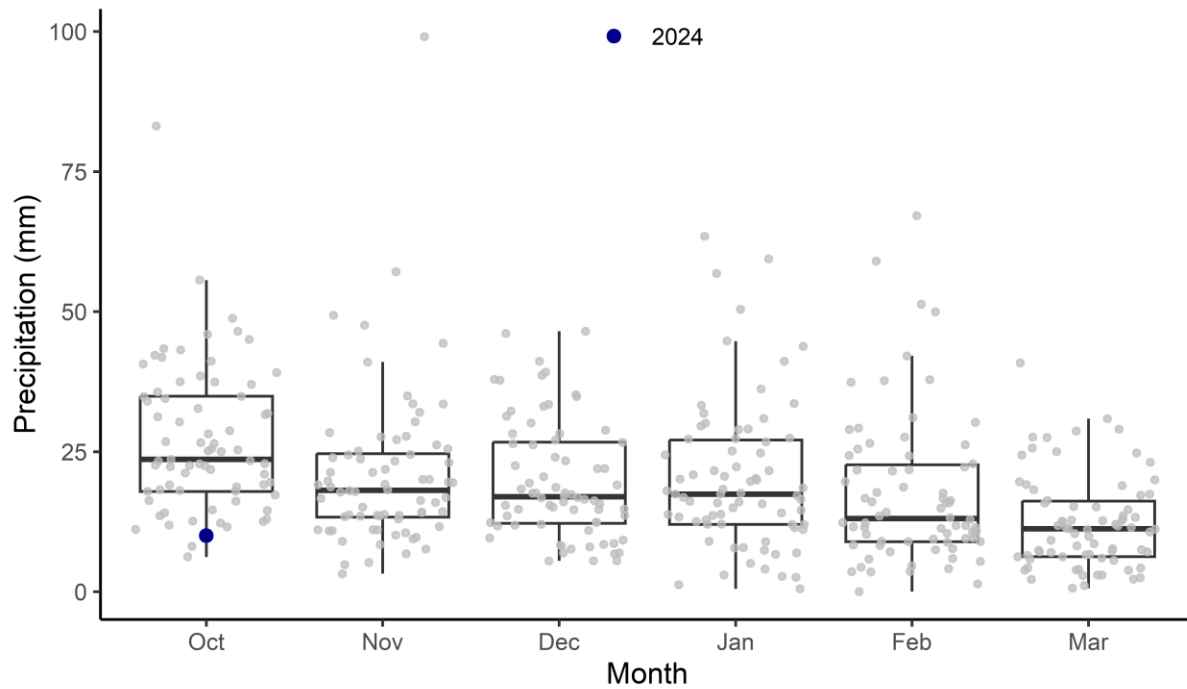


Norman Wells

Norman Wells Air Temperatures



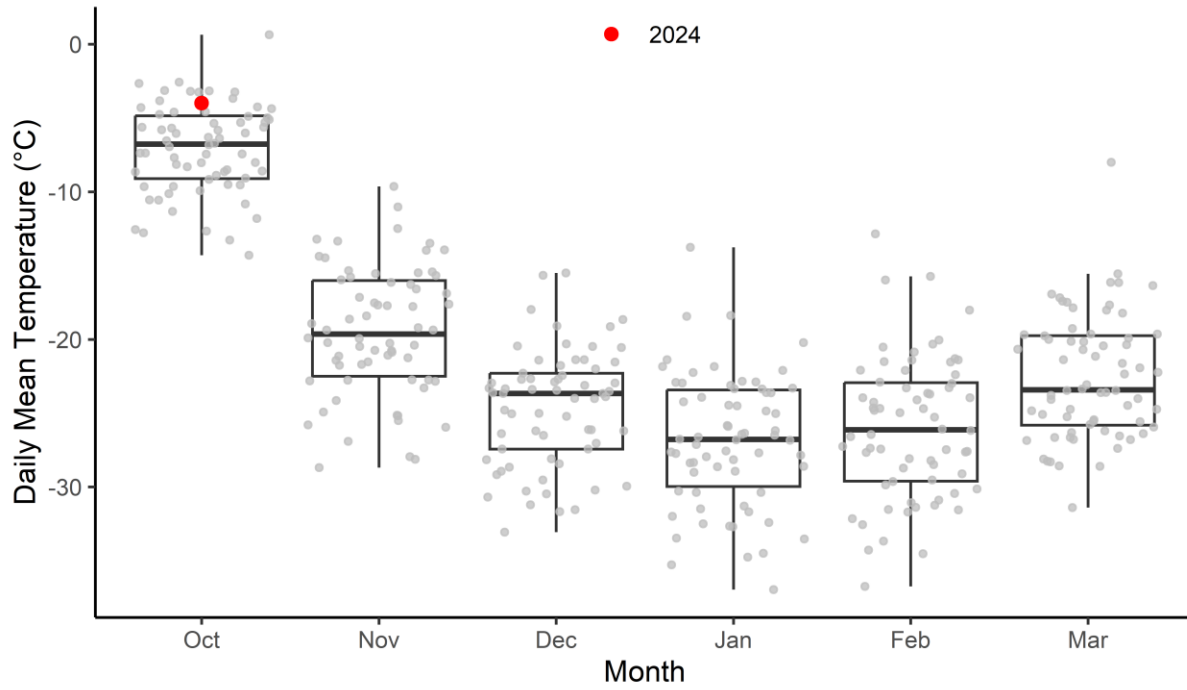
Norman Wells Total Precipitation



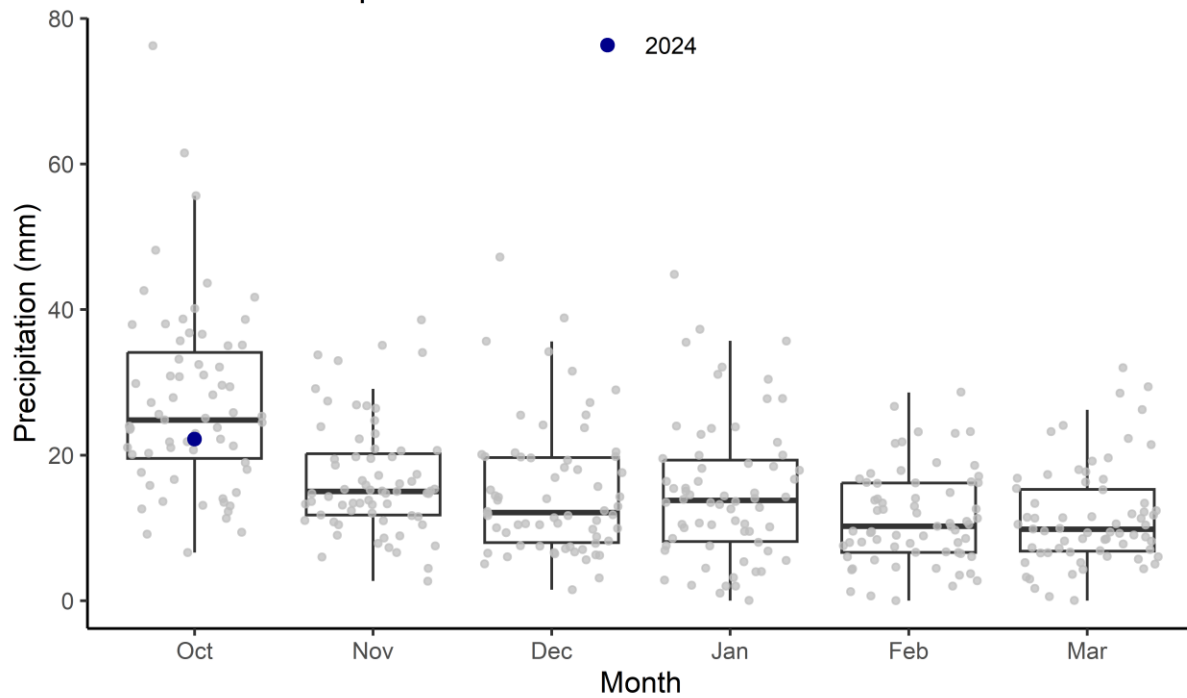
This figure shows mean monthly air temperature and total monthly precipitation for 2024.

Inuvik

### Inuvik Air Temperatures



### Inuvik Total Precipitation



This figure shows mean monthly air temperature and total monthly precipitation for 2024.