Water Resources Branch

Yukon Hydrometric Conditions Report

June 10, 2022 at 2 pm

Record-setting May 1 snowpack in many Yukon watersheds creates a high potential for flooding driven by spring snowmelt in Yukon communities. Critical during the snowmelt period are snowpack conditions, weather conditions, and water levels and flows in lakes and rivers.

The Government of Yukon partners with the Government of Canada to maintain water monitoring stations at locations across the Yukon, allowing the tracking of water levels and flow rates in areas that inform potential flood risk for communities.

This report provides current conditions, outlook, and technical data.

Current status

Weather conditions

Following a period of warmer than normal weather at the end of May and early June, most regions are experiencing slightly below seasonal temperatures and unsettled weather characterized by rain showers and variable cloudiness.

Snow conditions

Considerable snowmelt has occurred over the past three weeks and the snowline has continued to rise. However, more snow than usual still exists at high elevations.

Water conditions

With the exception of the Porcupine River and the Southern Lakes, most systems are well above average (near or above the 90th percentile of water level) with multiple systems at the highest recorded water level for this date. No lake or riverside communities have set new water level records to date. Many rivers are currently rising or nearly stable, as snowmelt runoff has declined but recent rainfall inputs are keeping flows from declining.

Flood advisories and warnings

- June 10, 2022 - Flood Warning - Pelly River at Ross River
- June 9, 2022 - Flood Warning - Liard River at Upper Liard
- June 10, 2022 – Flood Watch - Yukon River at Carmacks
- June 9, 2022 - Flood Watch - Klondike River at Klondike Valley
- June 10, 2022 - High Streamflow Advisory - Yukon River at Dawson
- June 10, 2022 - High Streamflow Advisory - Stewart River at Mayo
- June 6, 2022 - High Water Advisory - Teslin Lake

Outlook

Weather forecast

Unsettled weather with rain showers is forecast through the weekend and into next week for several regions. The highest amounts are expected in southern Yukon over the Upper Yukon and Teslin basins. Temperatures are forecast to remain cool for the next five days, then return to more seasonal highs later next week.

Water level and flow outlook

Water levels on all major rivers and lakes are expected to continue rising over the next week. A short term increase in the rate of rise is expected on most rivers in response to the rainfall. Please see related advisories for more detail on specific watersheds.

Contact

For water level and flow conditions: Water Resources Branch: waterlevels@yukon.ca
For flood response: Yukon Emergency Measures Organization: 867-667-5220 or EMO.yukon@yukon.ca

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Summary of water level conditions in communities

Water level data is pulled from historical and real-time hydrometric data published by Water Survey of Canada.

Community	Station name (number)	Current level (m)	Current level (masl*)	24 hr change (cm)	72 hr change (cm)	Current return period	Advisory in effect
Carcross	Bennett Lake At Carcross (09AA004)	1.40	655.78	5.4	14.1	<2 year	
Tagish	Tagish Lake At 10 Mile Road (09AA017)	5.70	655.25	7.0	16.9	<2 year	
Marsh Lake	Marsh Lake Near Whitehorse (09AB004)	1.21	654.89	7.6	17.4	<2 year	
Whitehorse	Yukon River At Whitehorse (09AB001)	29.42	629.76	4.3	9.5	<2 year	
Lake Laberge	Lake Laberge Near Whitehorse (09AB010)	6.83	625.10	6.5	14.4	<2 year	
Teslin	Teslin Lake At Teslin (09AE002)	7.59	684.64	20.6	47.0	2 to 5 year	High Water Advisory
Carmacks	Nordenskiold River Below Rowlinson Creek (09AH004)	3.64	552.59	-3.1	-7.1	NA	
Carmacks	Yukon River At Carmacks (09AH001)	5.22	520.90	6.4	22.8	5 to 10 year	Flood Watch
Ross River	Pelly River At Ross River (09BC002)	3.81	693.41	-0.6	-1.3	5 to 10 year	Flood Warning
Pelly Crossing	Pelly River At Pelly Crossing (09BC001)	5.44	463.78	6.7	20.4	10 to 20 year	
Mayo	Stewart River Near Mayo (09DC006)	8.06	487.38	6.2	10.5	2 to 5 year	High Streamflow Advisory
Dawson	Klondike River Above Bonanza Creek (09EA003)	2.34	321.72	-10.7	-13.4	<2 year	Flood Watch
Dawson	Yukon River At Dawson (09EB001)	5.86	317.78	23.4	45.1	10 to 20 year	High Streamflow Advisory
Old Crow	Porcupine River Below Old Crow River (09FD003)	10.82	241.23	-22.8	-59.8	<2 year	
Upper Liard	Liard River At Upper Crossing (10AA001)	6.99	609.42	1.1	14.0	10 to 20 year	Flood Warning

*masl = metres above sea level

Notes:

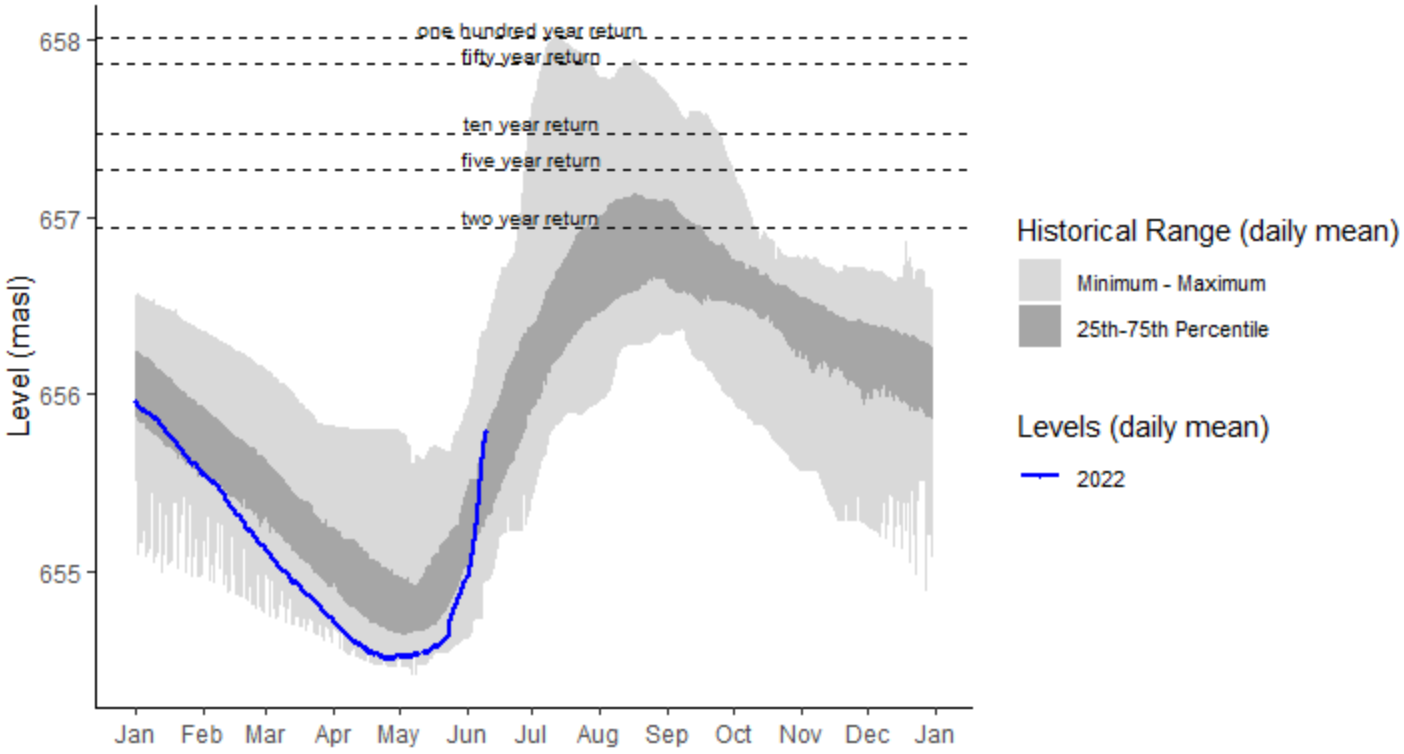
Current water levels are presented relative to the local datum (column 3) and relative to either the Canadian Geodetic Vertical Datum 2013 (CGVD2013) or to the Canadian Geodetic Vertical datum of 1928 (CGVD28) (column 4). The local datum is an arbitrary datum used at each hydrometric station and reported by the Water

Survey of Canada at wateroffice.ec.gc.ca. Local datum values can be compared at one station across years but not across stations, while CGVD2013/CGVD28 elevations can be compared across stations with caution. Note that significant differences may exist between CGVD2013 and CGVD28. Datum information is provided in a table of station information at the end of this document.

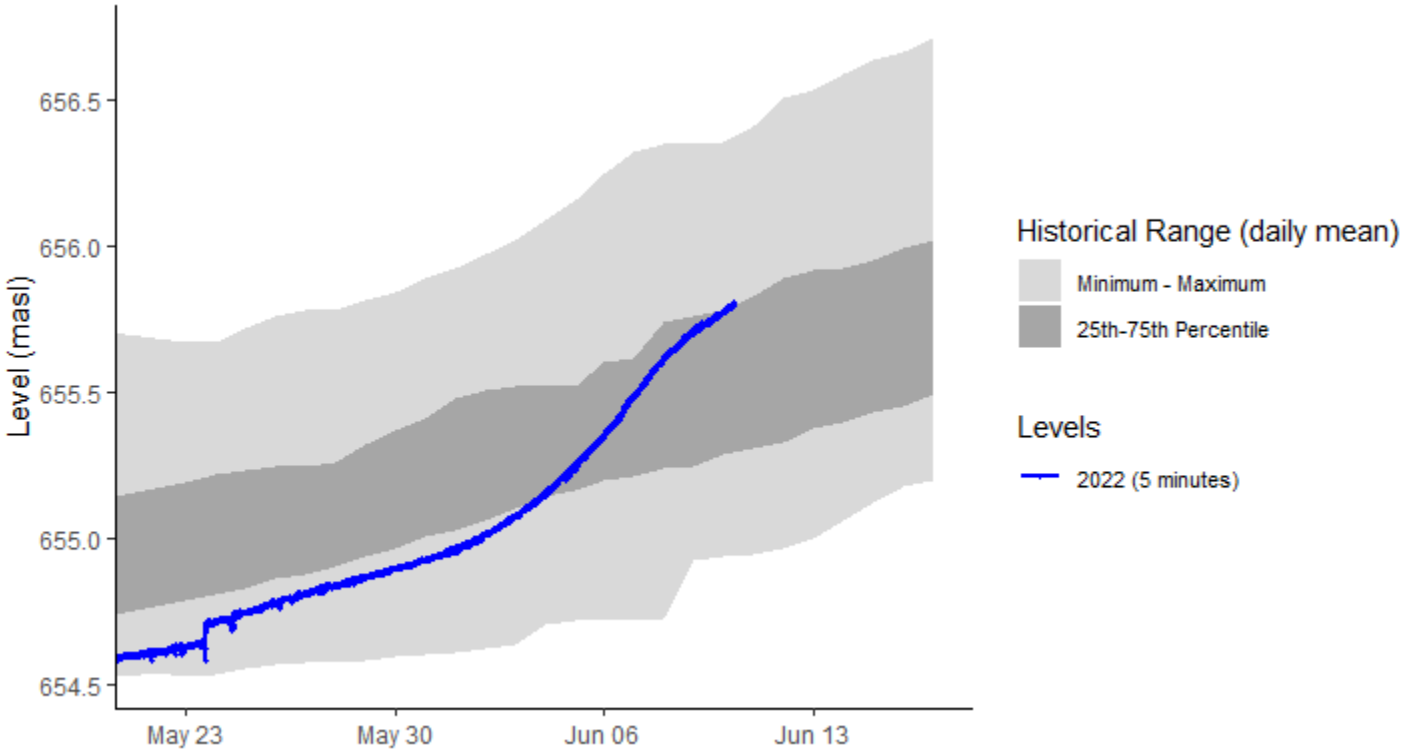
Return periods representing two, 10, 100, and 200 year levels are reported here (column 6) and plotted in the graphs below. A given return period refers to the expected frequency at which a specific flow or level will occur based on statistical analysis of historical records. For example, a 20-year return is expected to be met or exceeded once every 20 years or to have a 5% chance of being exceeded every year.

Bennett Lake At Carcross (station 09AA004)

Level

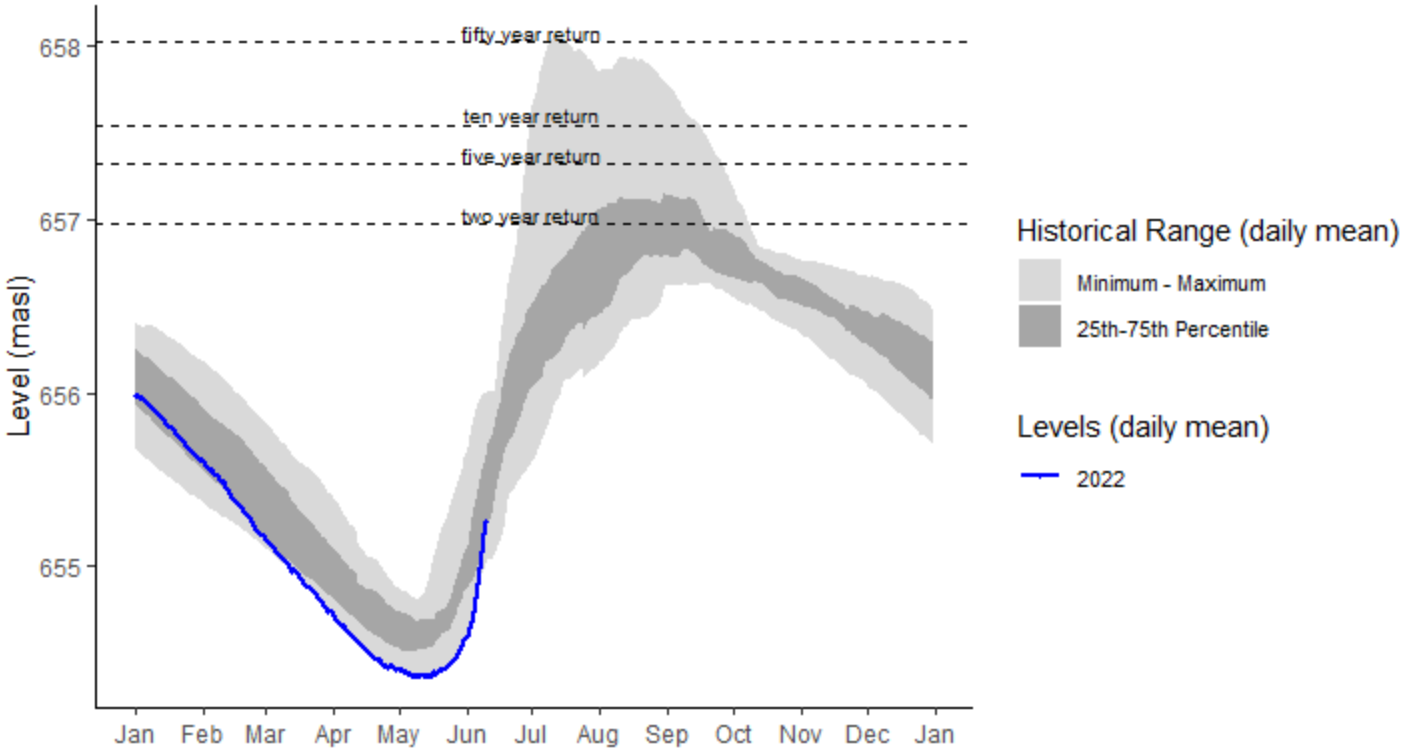


Level (last 20 days)



Tagish Lake At 10 Mile Road (station 09AA017)

Level



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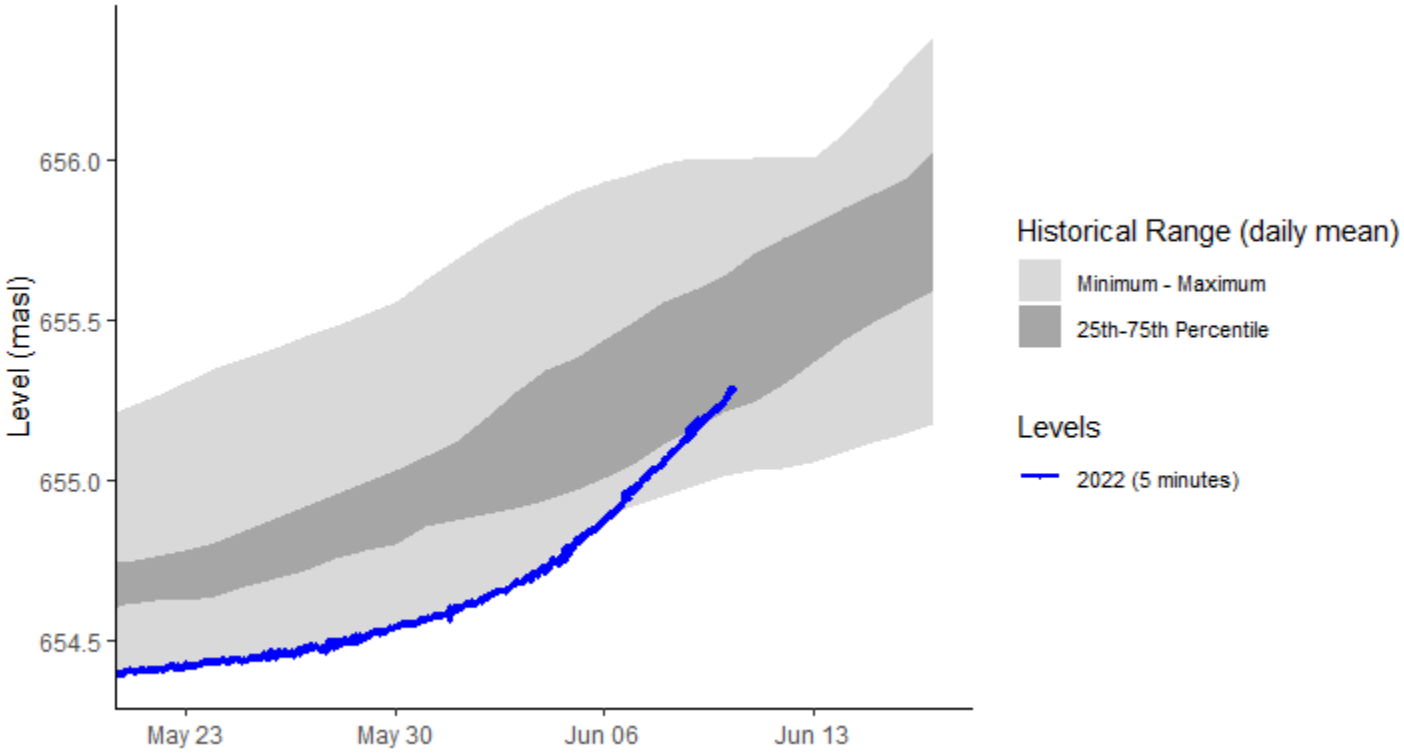
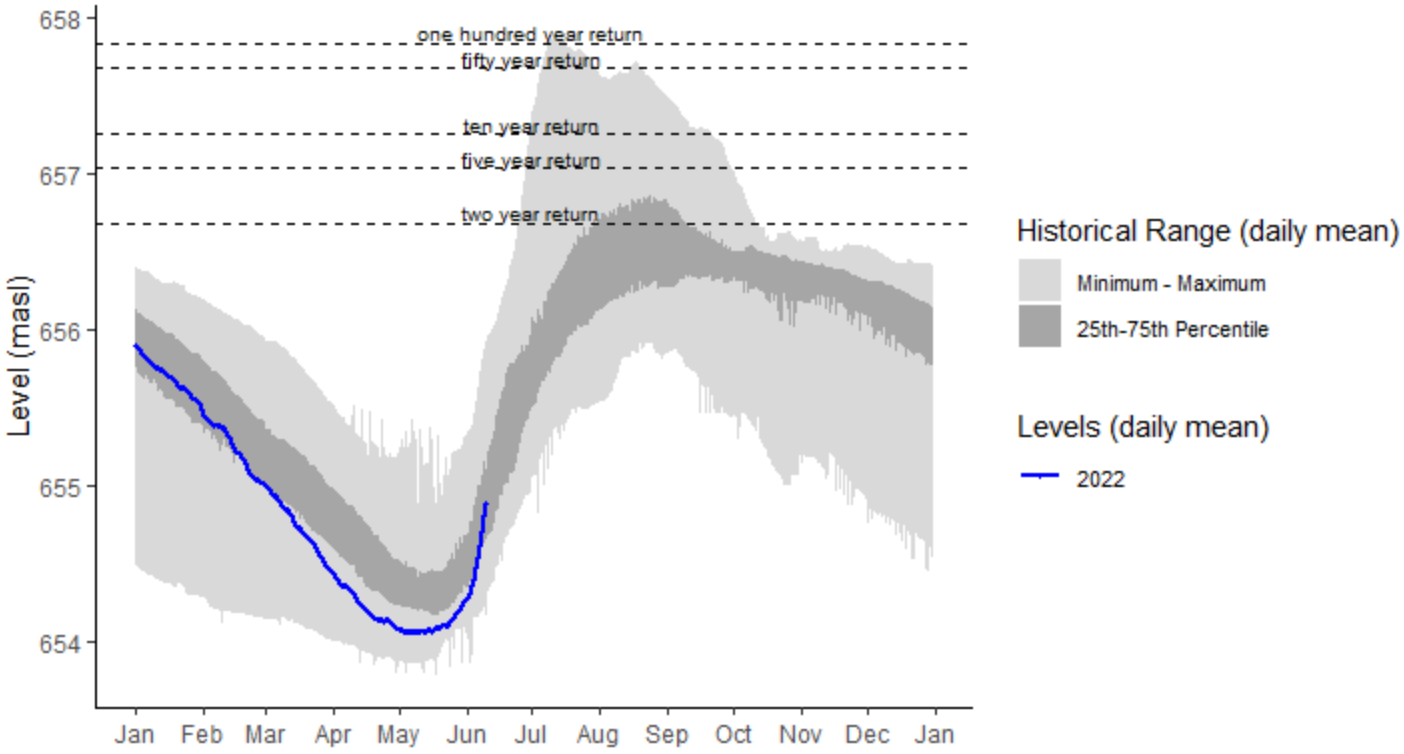


Marsh Lake Near Whitehorse (station 09AB004)

Level



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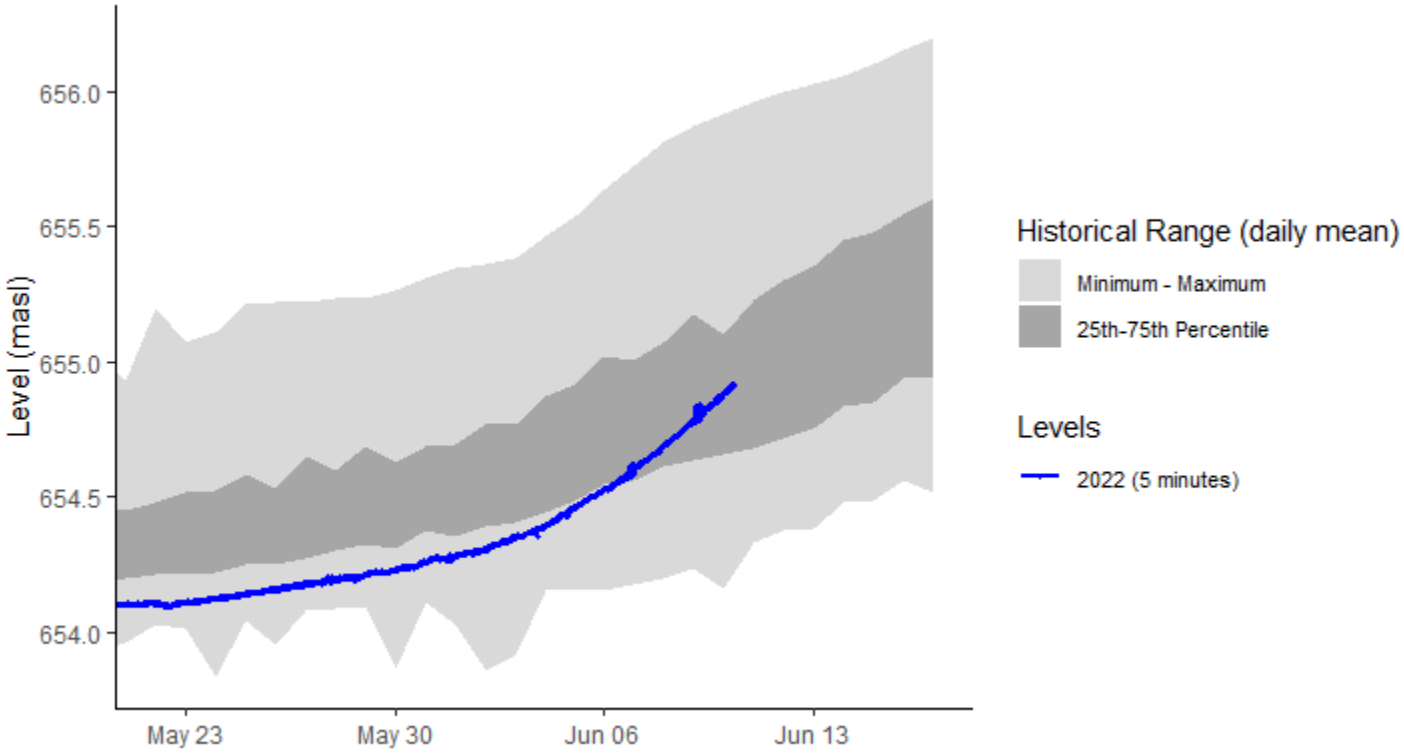
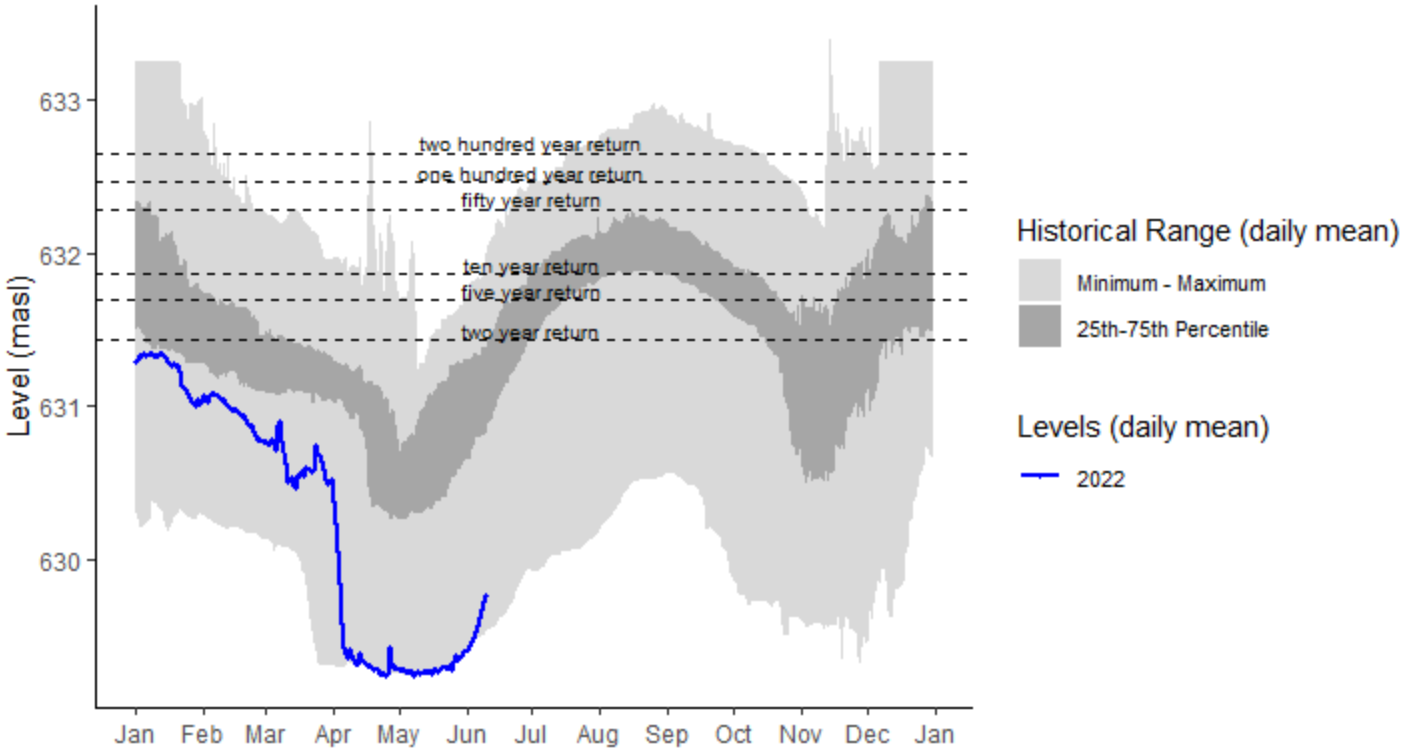


Yukon River At Whitehorse (station 09AB001)

Level



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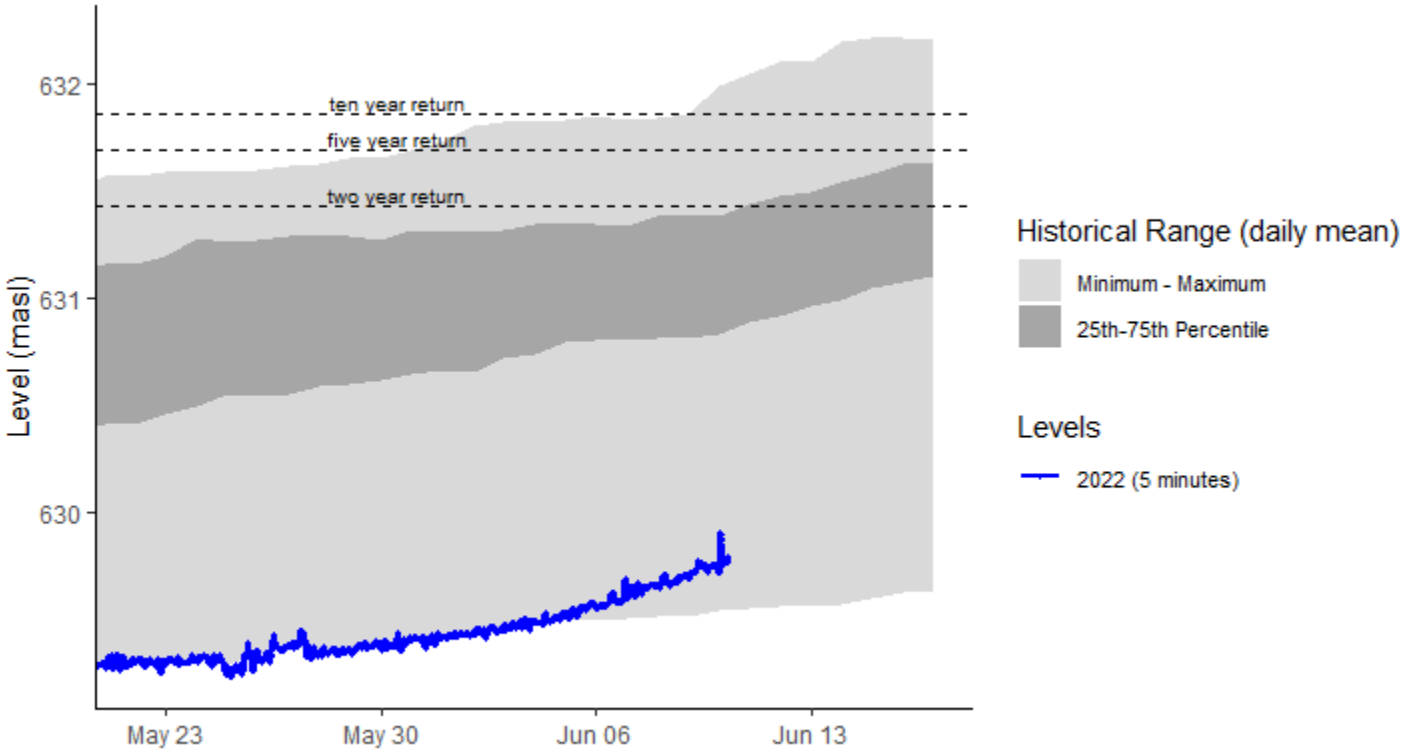
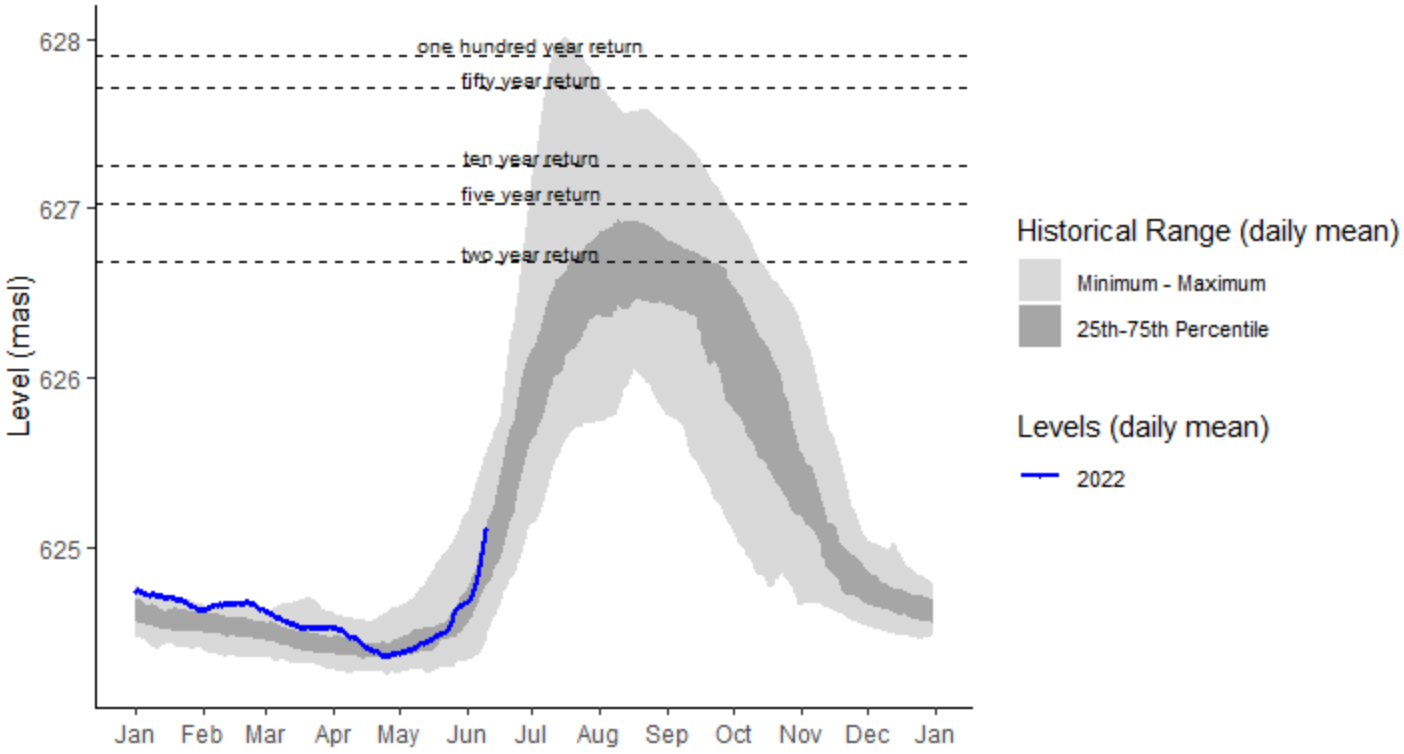


Lake Laberge Near Whitehorse (station 09AB010)

Level



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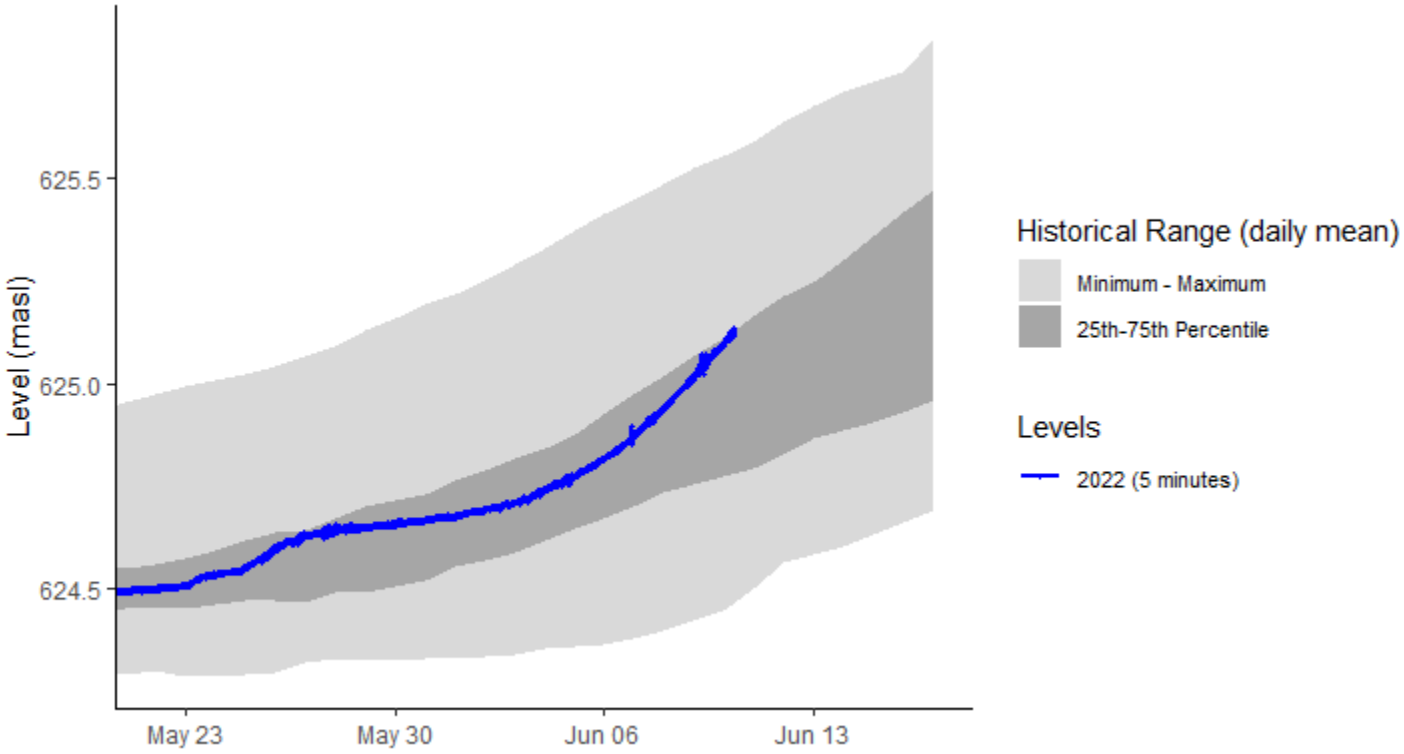
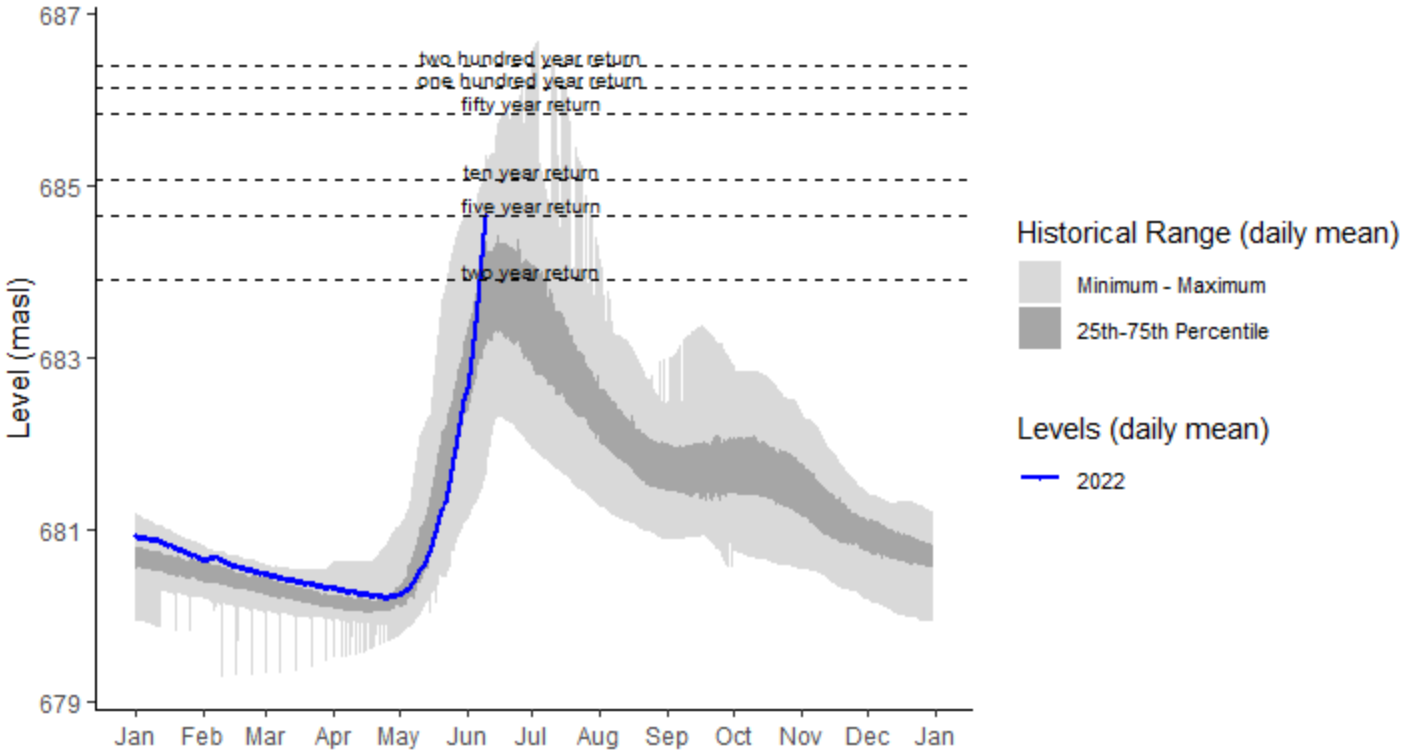


Teslin Lake At Teslin (station 09AE002)

Level



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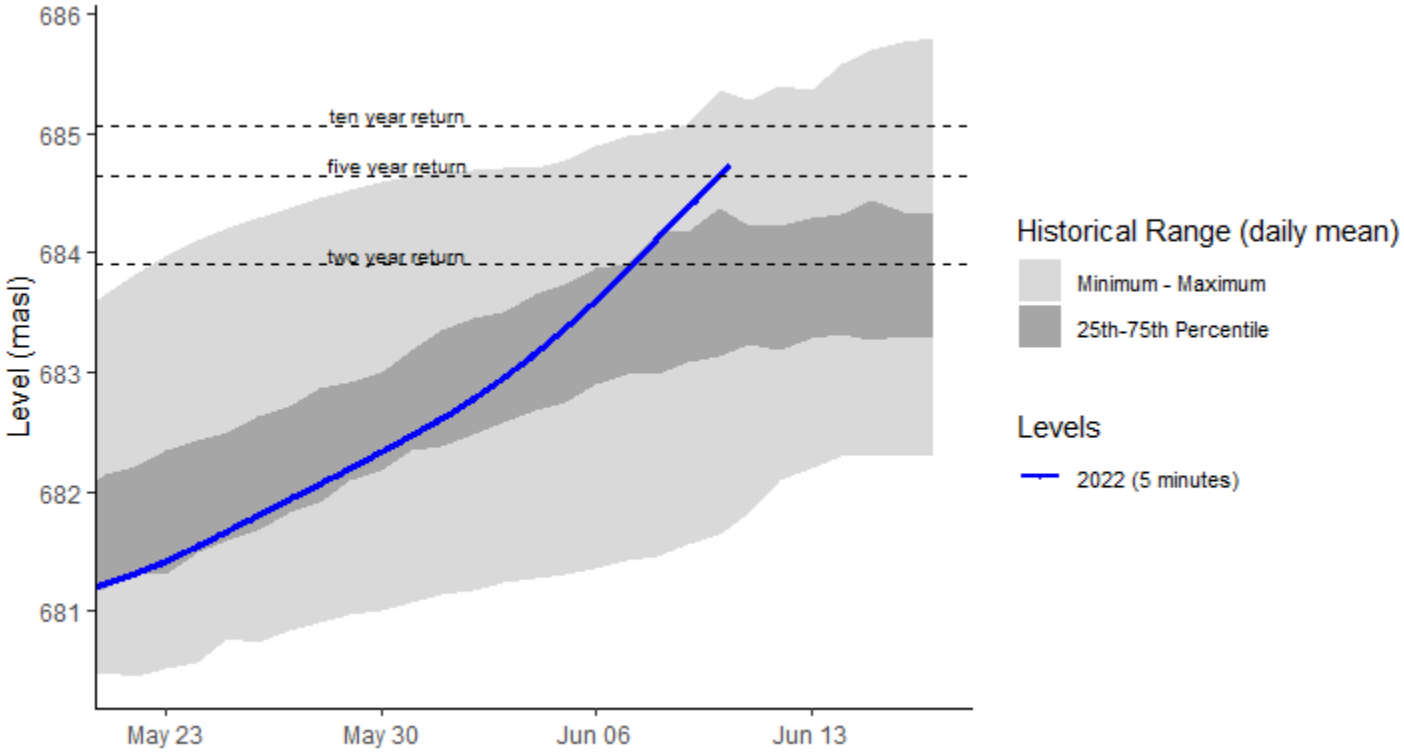
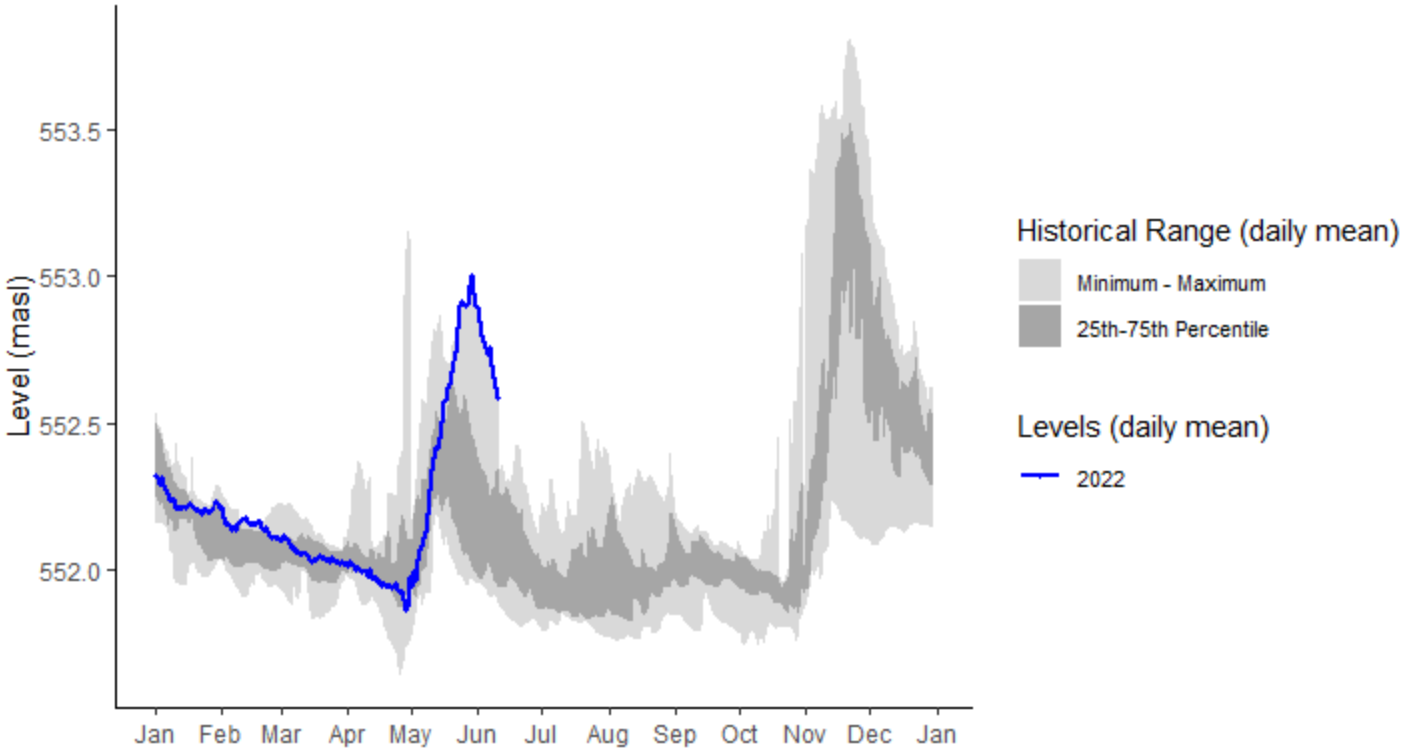


Nordenskiold River Below Rowlinson Creek (station 09AH004)

Level



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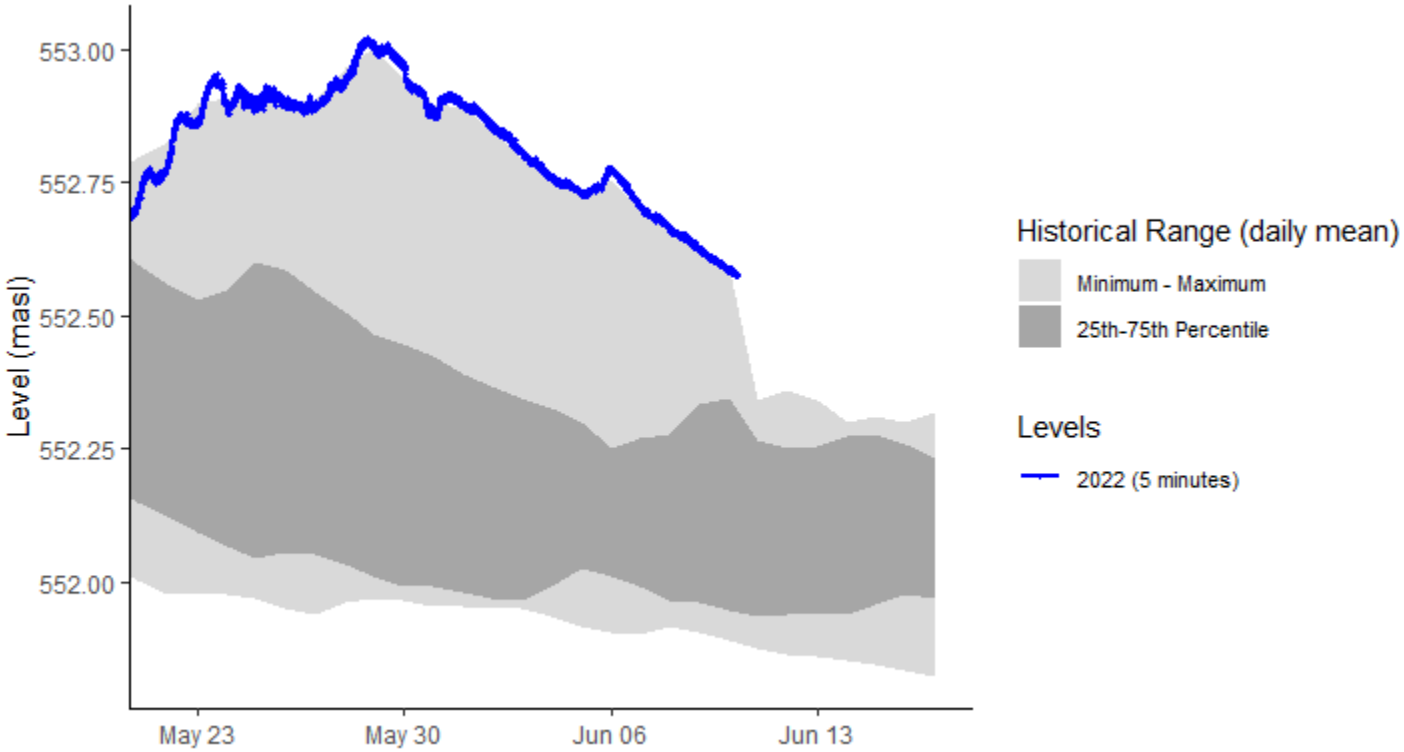
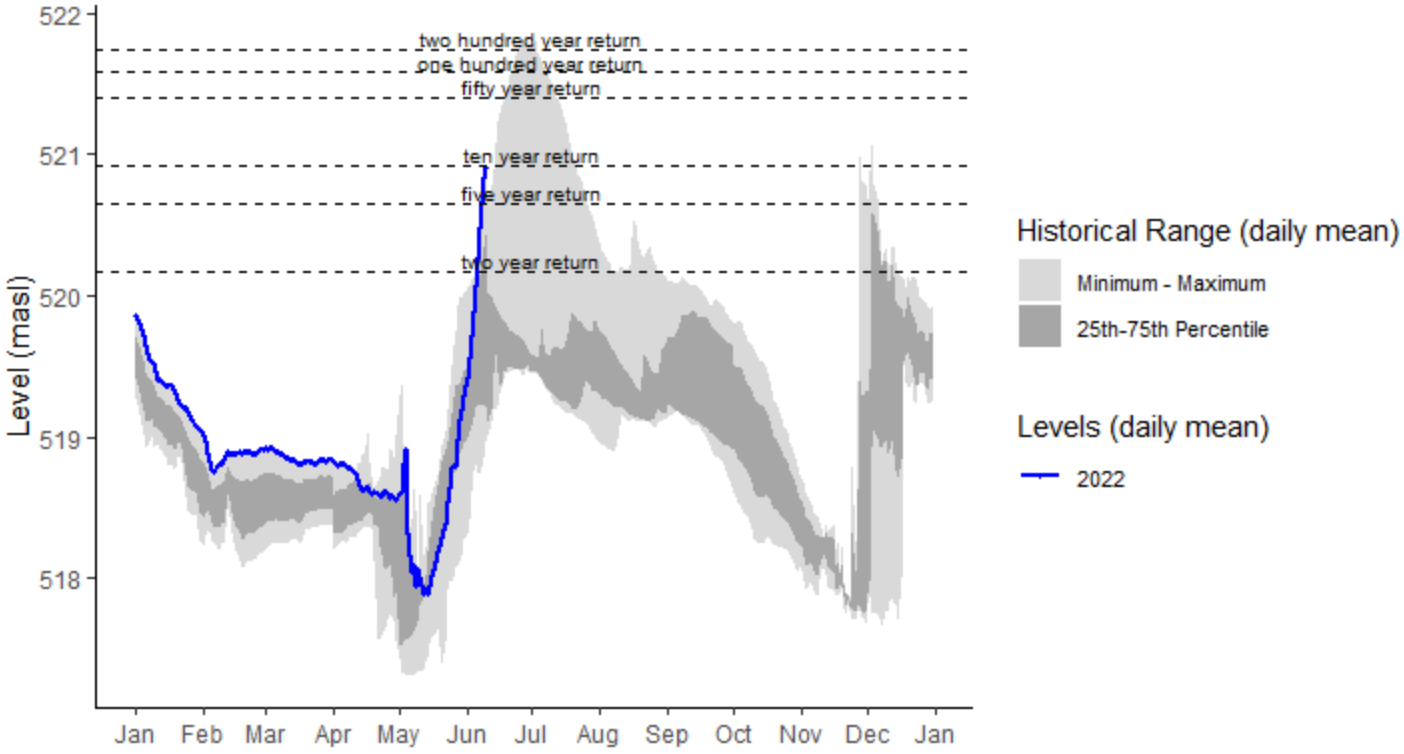


Yukon River At Carmacks (station 09AH001)

Level



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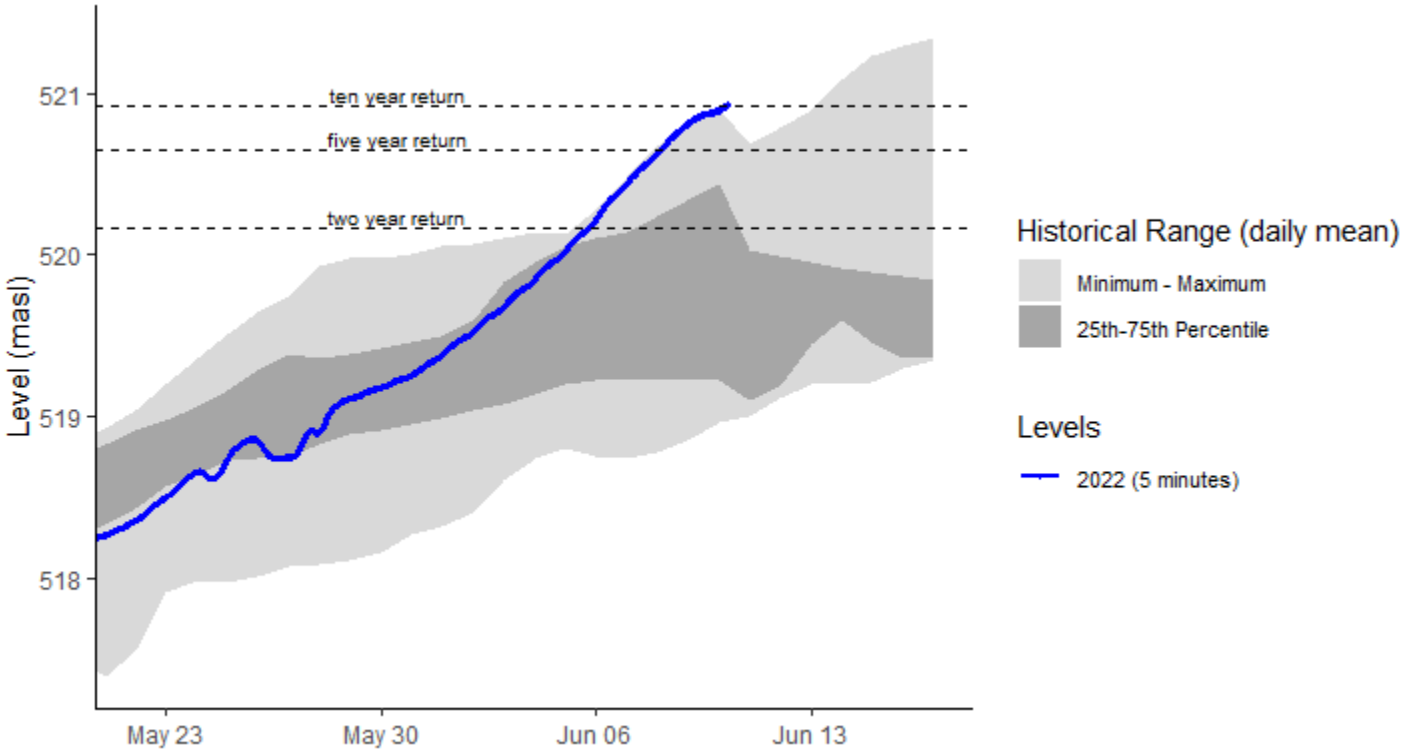
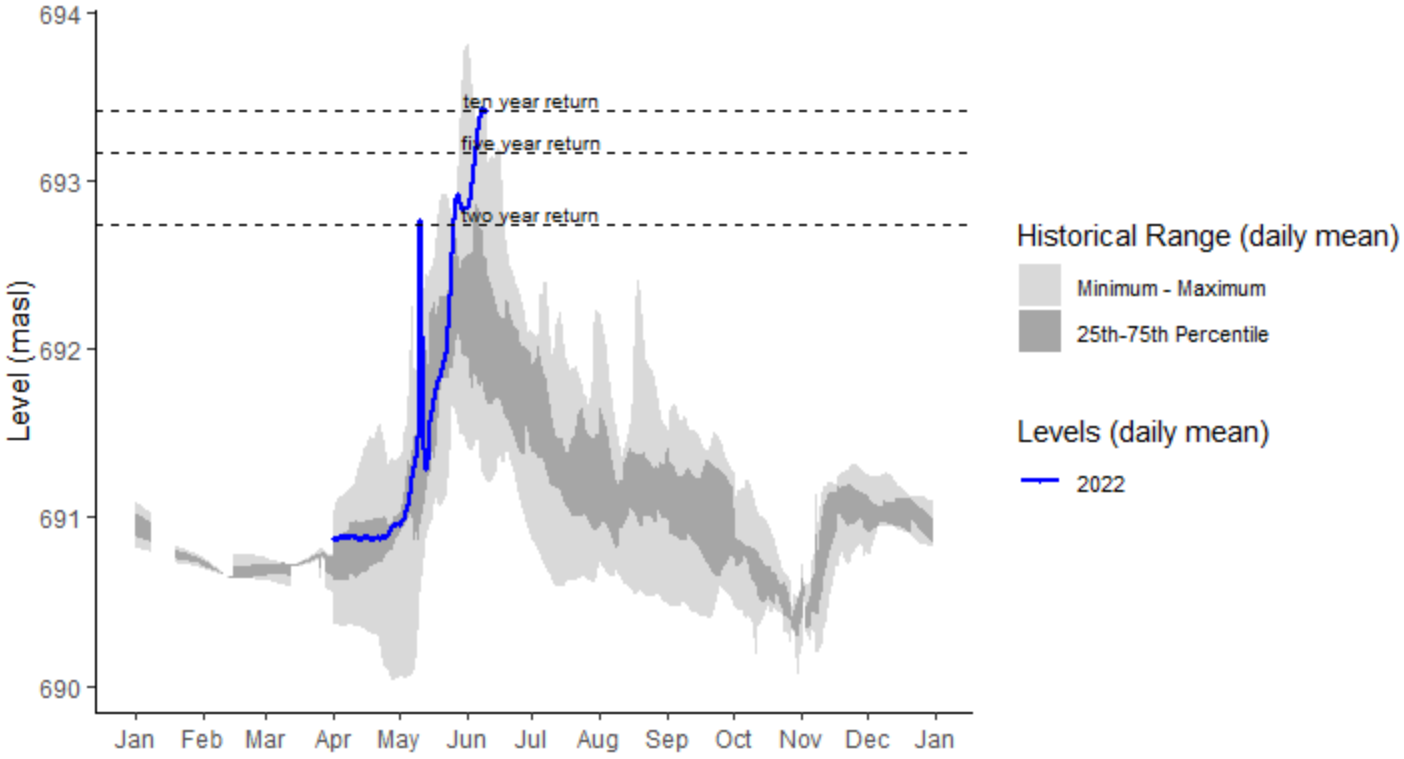


Pelly River At Ross River (station 09BC002)

Level



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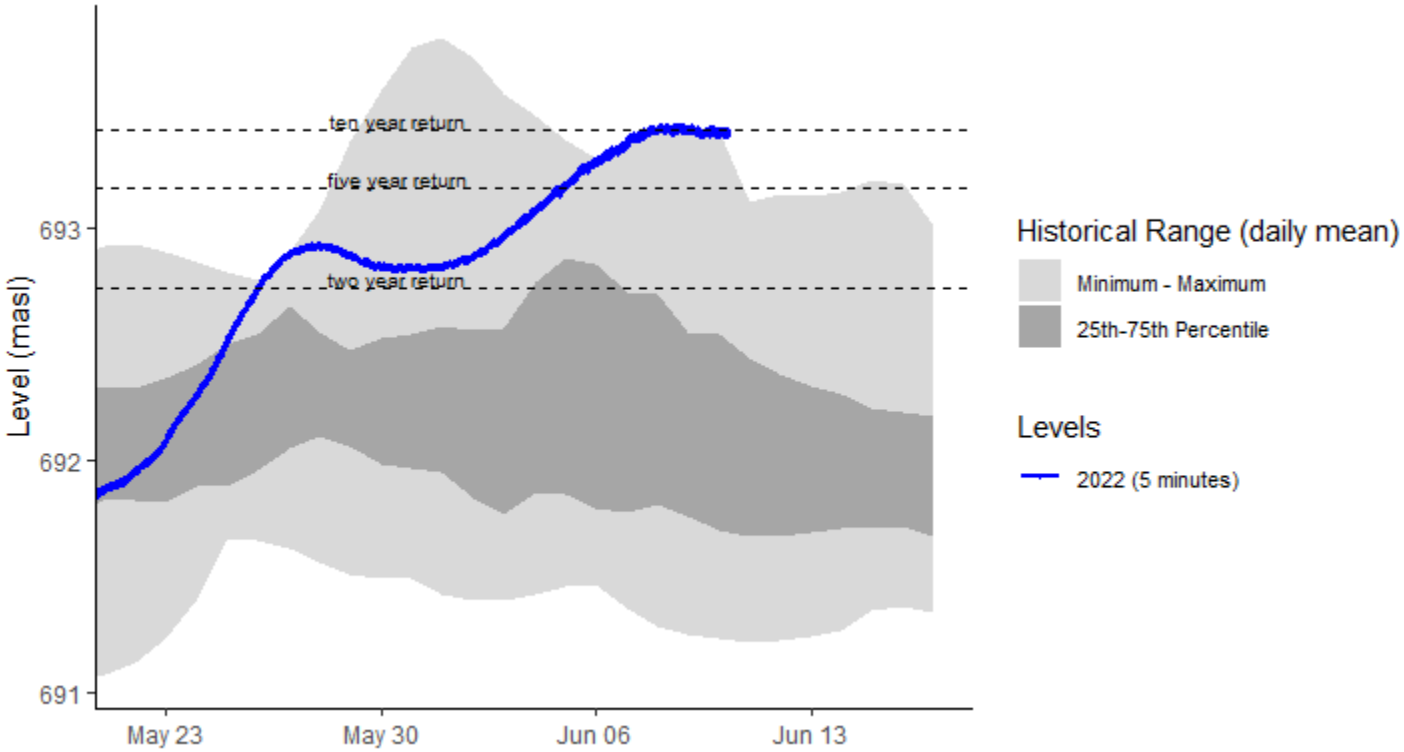
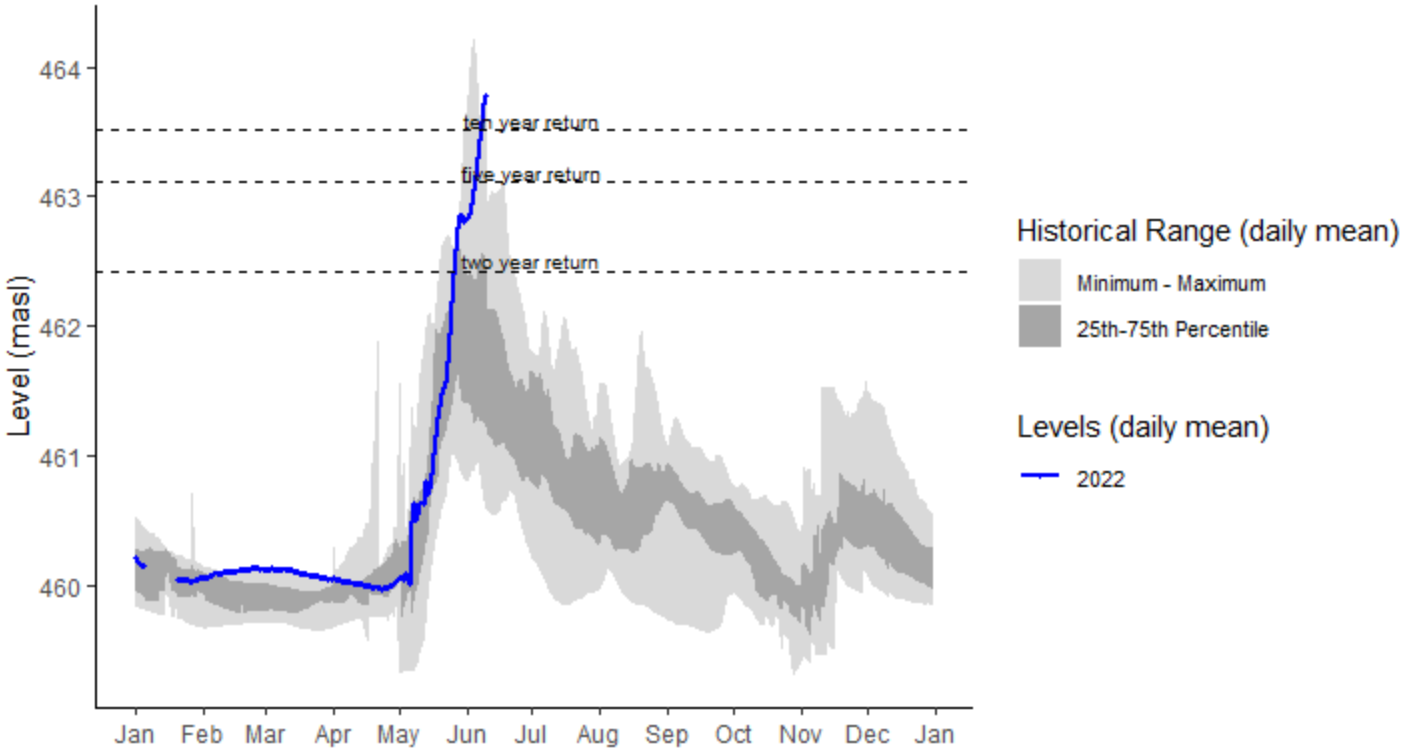


Pelly River At Pelly Crossing (station 09BC001)

Level



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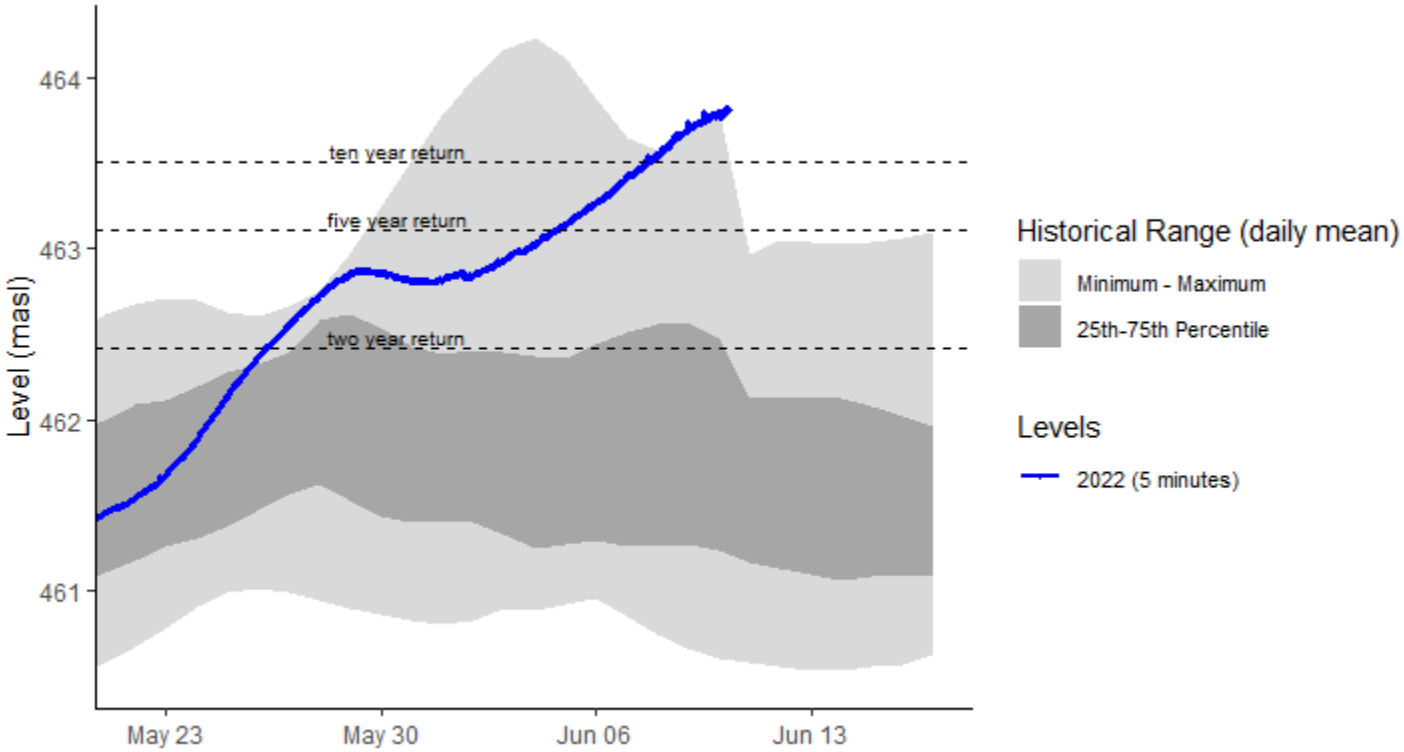
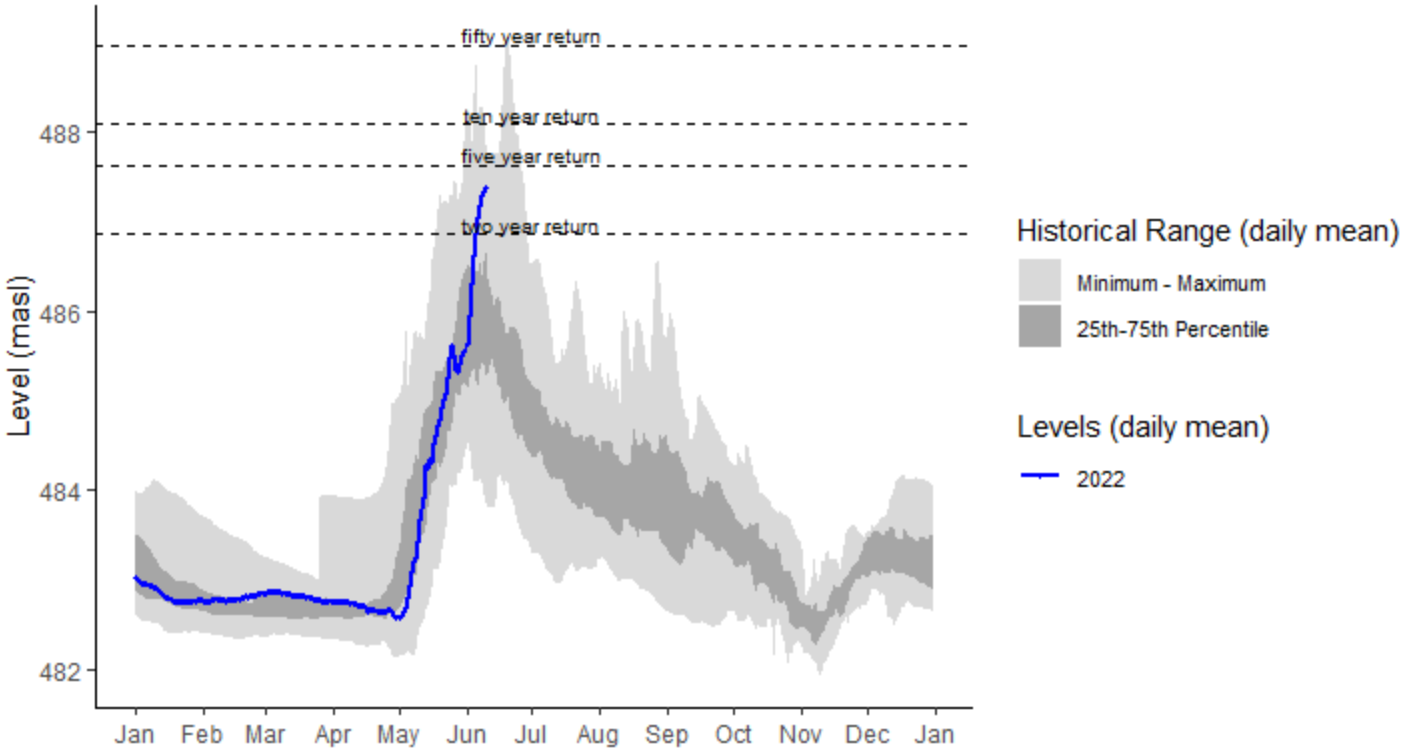


Stewart River Near Mayo (station 09DC006)

Level



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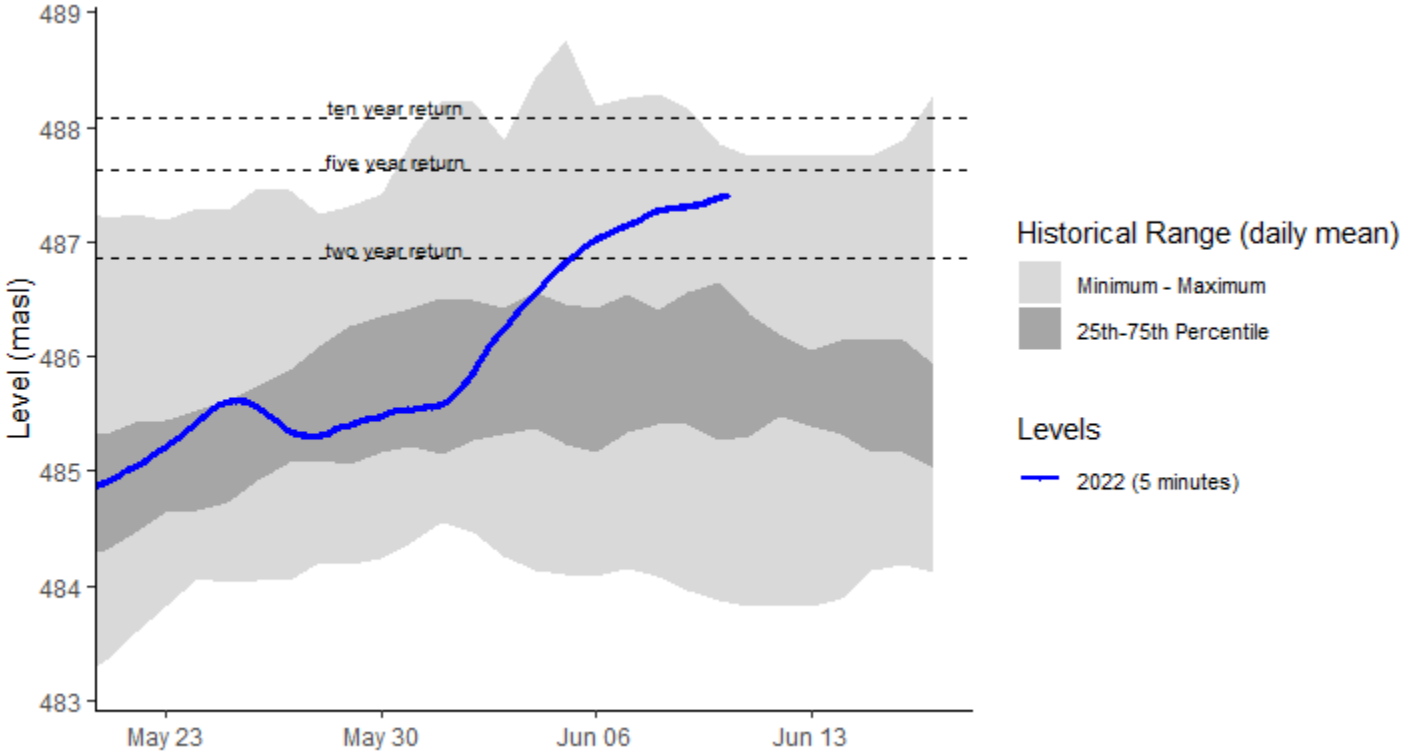
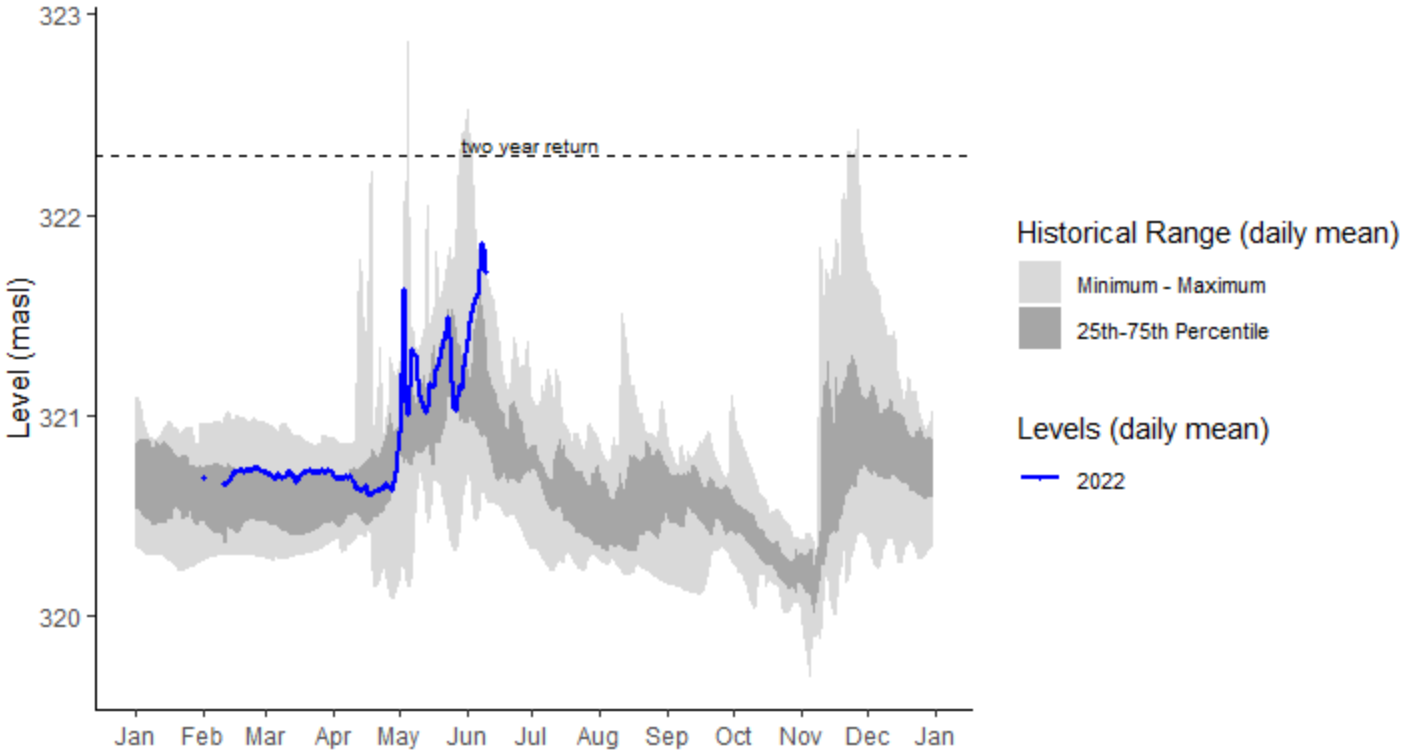


Klondike River Above Bonanza Creek (station 09EA003)

Level



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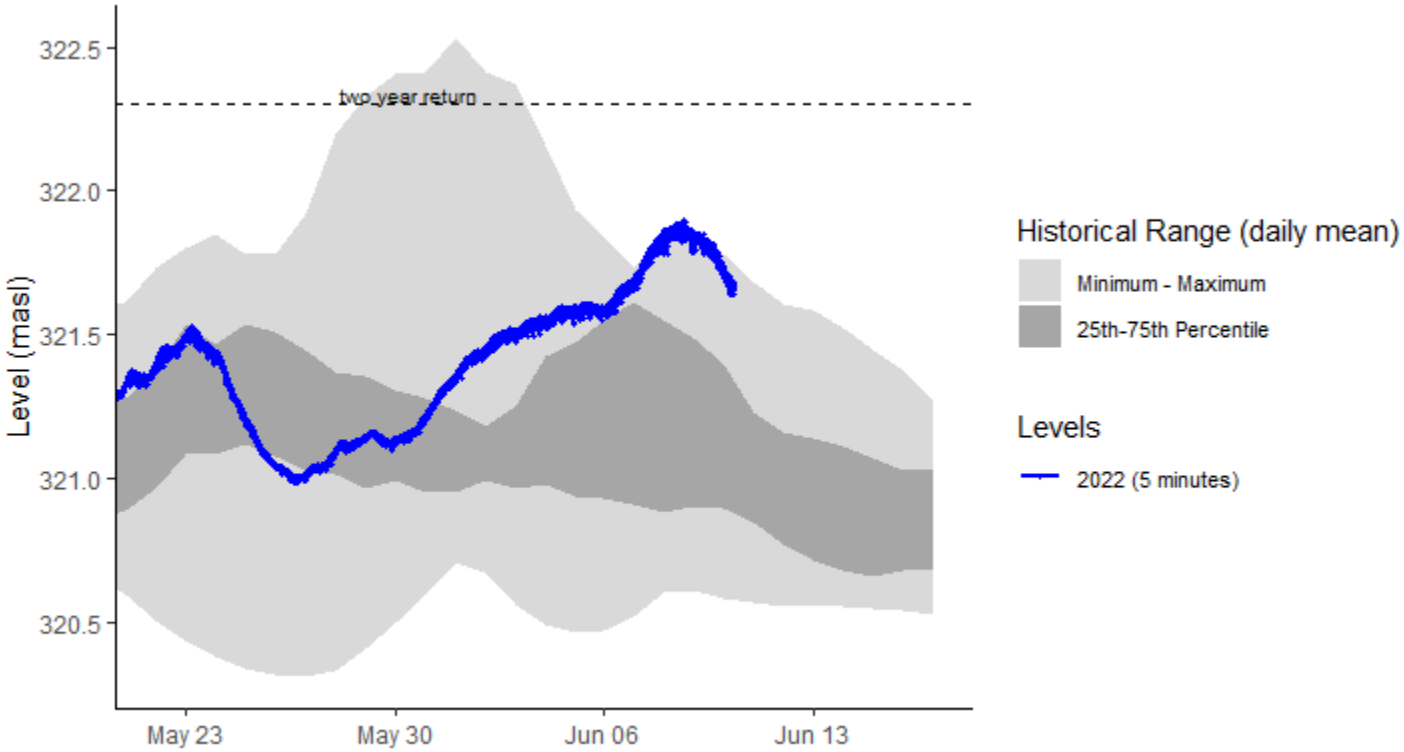
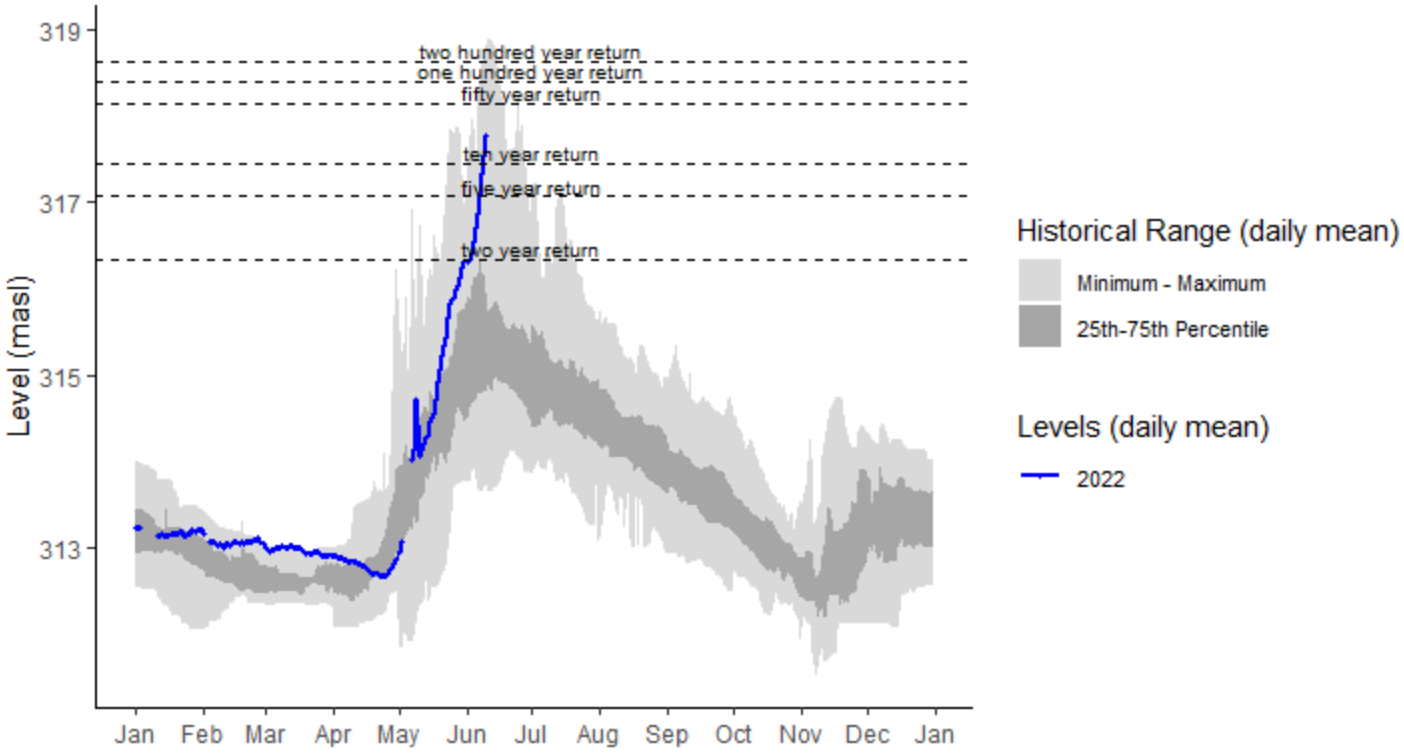


Yukon River At Dawson (station 09EB001)

Level



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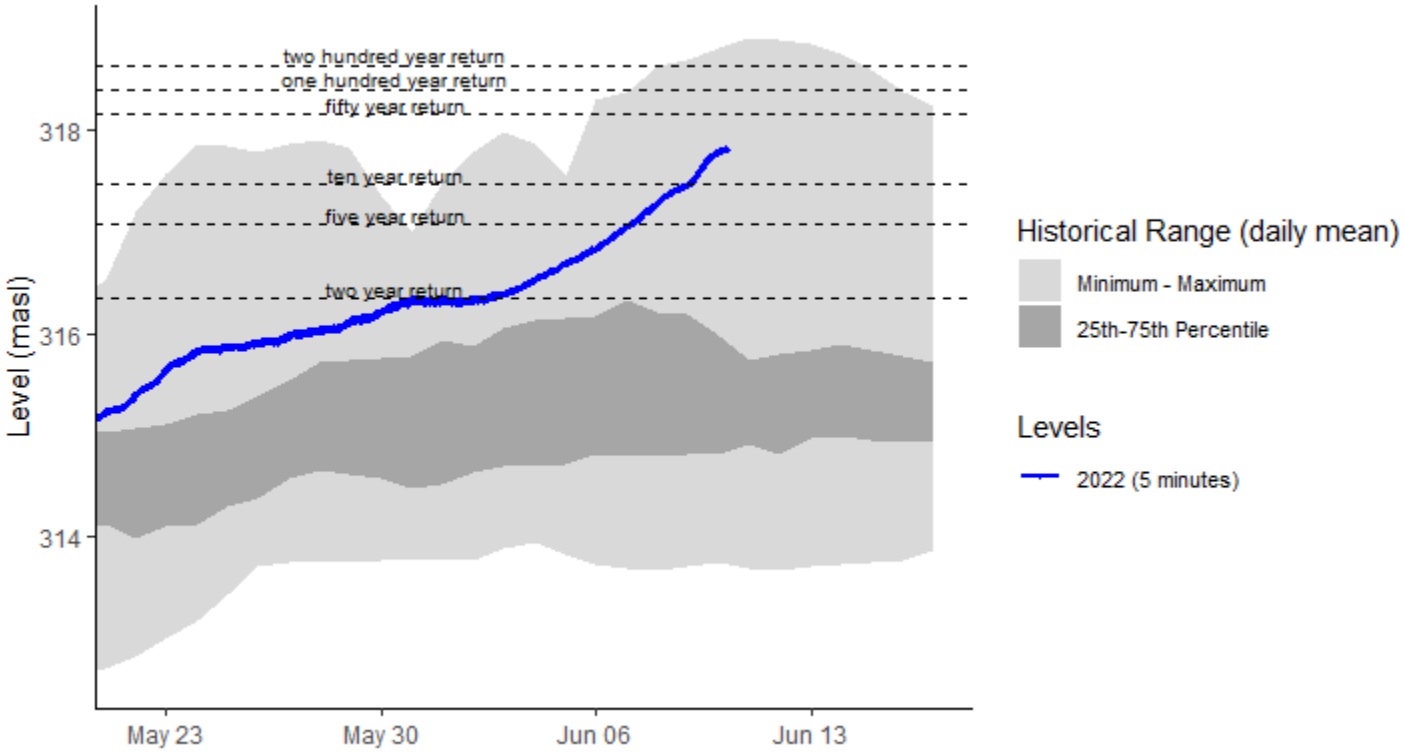
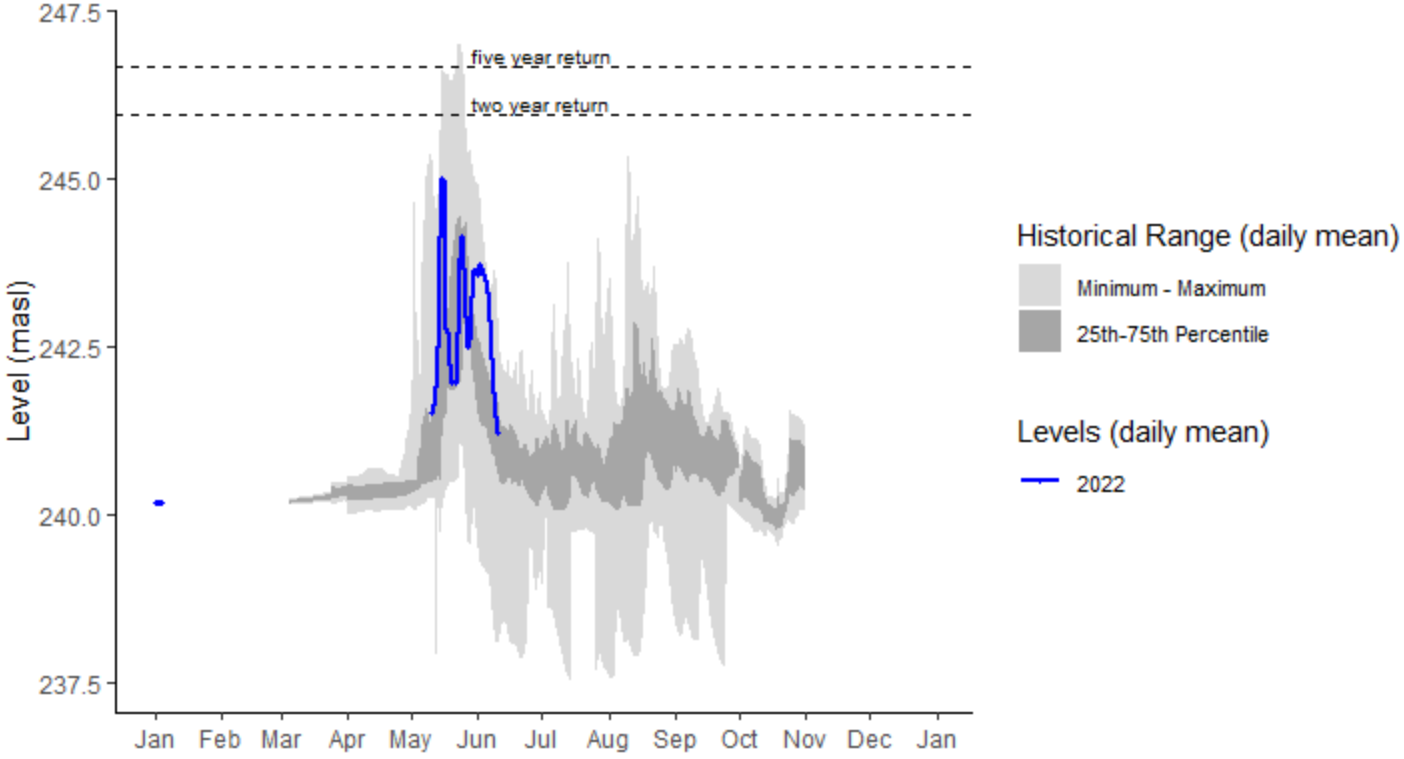


Porcupine River Below Old Crow River (station 09FD003)

Level



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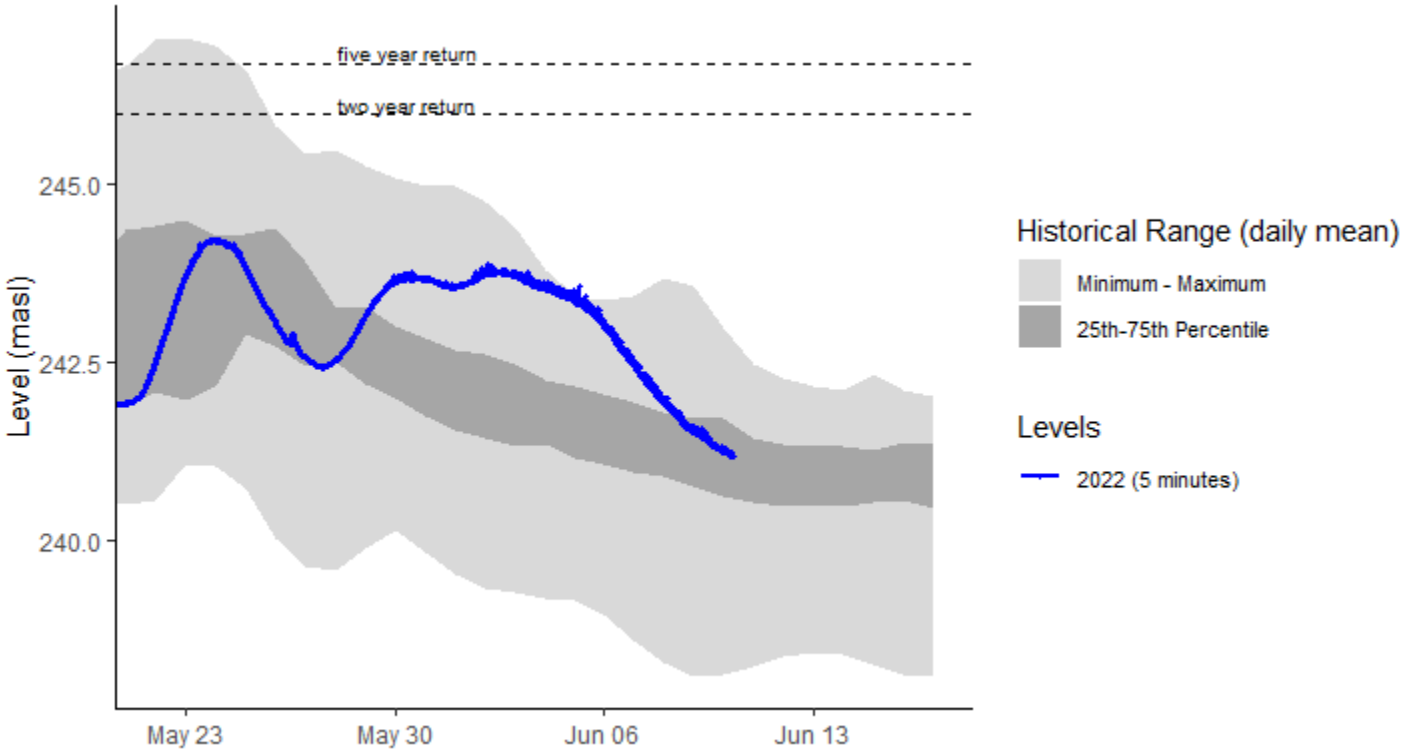
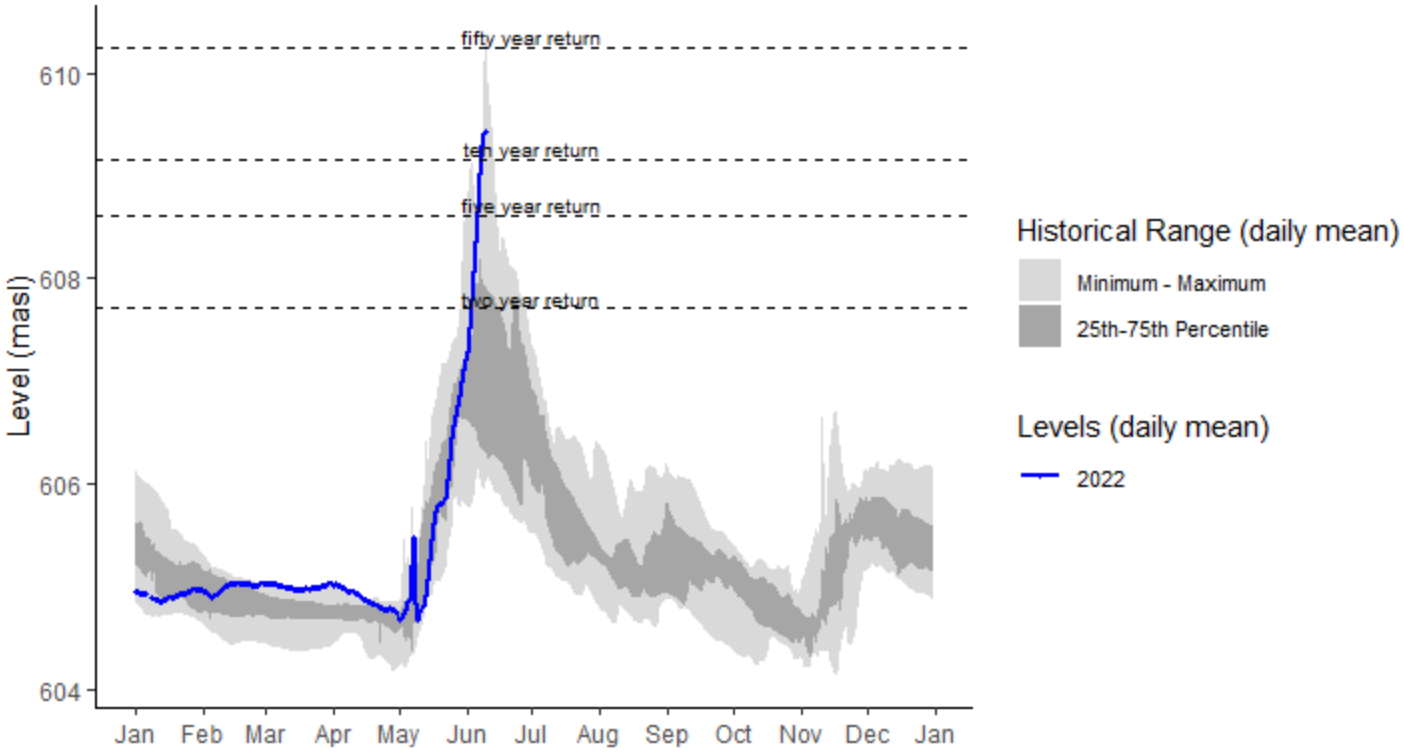


Liard River At Upper Crossing (station 10AA001)

Level



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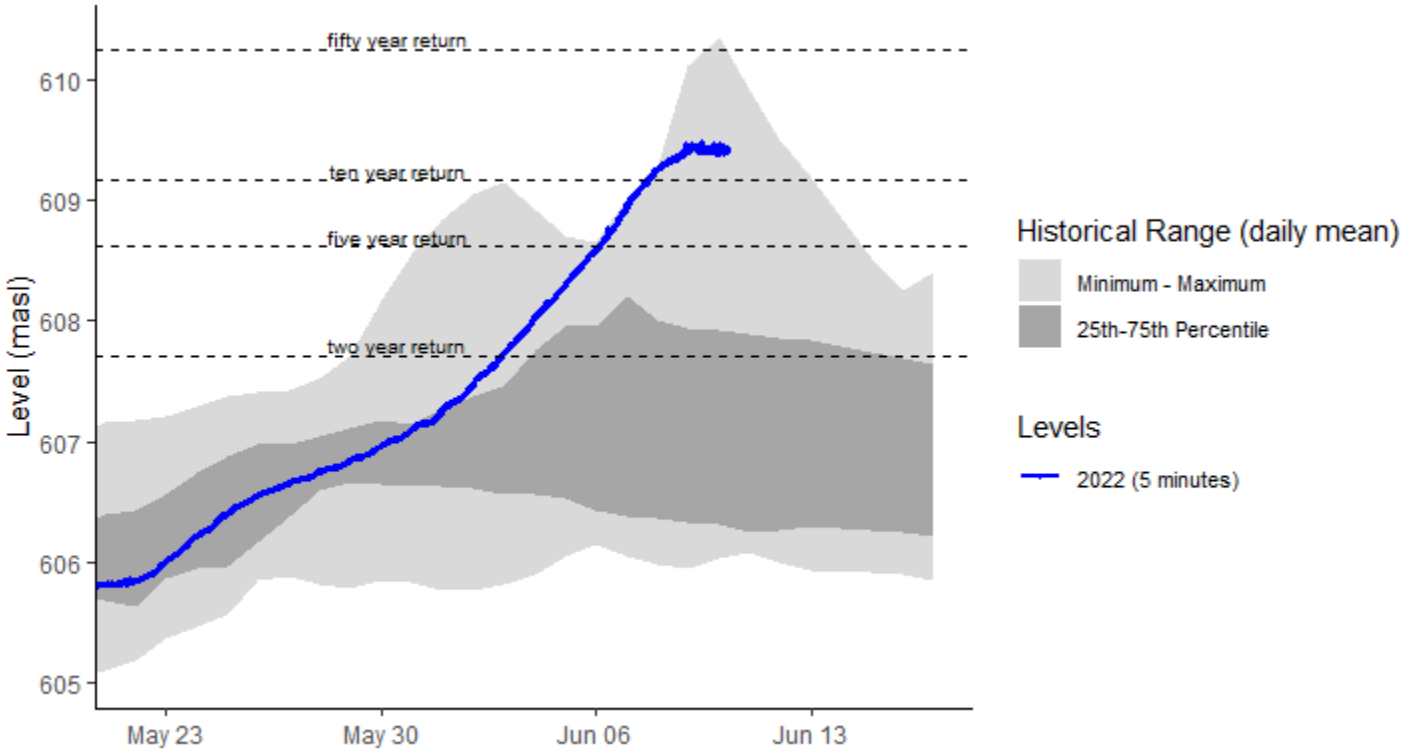

Hydrometric station information

Hydrometric stations are maintained by the Water Survey of Canada and funded in partnership with the Government of Yukon. Additional station information, including on vertical datums can be found at https://wateroffice.ec.gc.ca. To learn more about hydrometric data in general please see https://wateroffice.ec.gc.ca/contactus/faq_e.html.

These are the stations contained in this report:

Station	Start year (level)	Latitude	Longitude	Datum
Bennett Lake At Carcross (09AA004)	1947	60.16	-134.71	CGVD2013:2010 [1]
Tagish Lake At 10 Mile Road (09AA017)	1995	60.16	-134.38	CGVD2013:2010 [1]
Marsh Lake Near Whitehorse (09AB004)	1950	60.53	-134.37	CGVD2013:2010 [1]
Yukon River At Whitehorse (09AB001)	1902	60.74	-135.06	CGVD2013:2010 [1]
Lake Laberge Near Whitehorse (09AB010)	1980	61.09	-135.20	CGVD2013:2010 [1]
Teslin Lake At Teslin (09AE002)	1944	60.16	-132.71	CGVD28 (assumed) [2]
Nordenskiold River Below Rowlinson Creek (09AH004)	2011	62.05	-136.28	CGVD28 (assumed) [2]
Yukon River At Carmacks (09AH001)	2015	62.09	-136.27	CGVD28 (assumed) [2]
Pelly River At Ross River (09BC002)	1975	61.99	-132.45	CGVD2013:2010 [1]
Pelly River At Pelly Crossing (09BC001)	2011	62.83	-136.58	CGVD2013:2010 [1]
Stewart River Near Mayo (09DC006)	1980	63.59	-135.90	CGVD28 (assumed) [2]
Klondike River Above Bonanza Creek (09EA003)	2011	64.04	-139.41	CGVD2013:2010 [1]
Yukon River At Dawson (09EB001)	1944	64.07	-139.43	CGVD2013:2010 [1]
Porcupine River Below Old Crow River (09FD003)	2006	67.57	-139.83	CGVD28 (approximate) [3]
Liard River At Upper Crossing (10AA001)	2011	60.05	-128.91	CGVD2013:2010 [1]

Notes:

[1] Vertical datum in Canadian Geodetic Vertical Datum of 2013, epoch 2010 (CGVD2013:2010).

[2] Vertical datum not specified in historical records, but implementation date indicates use of (CGVD28).

[3] Derived from a digital elevation model with vertical datum in Canadian Geodetic Vertical Datum of 1928 (CGVD28); uncertainty in accordance with the Canadian Digital Elevation Model.