
Alberta Rivers

Website and Mobile Application

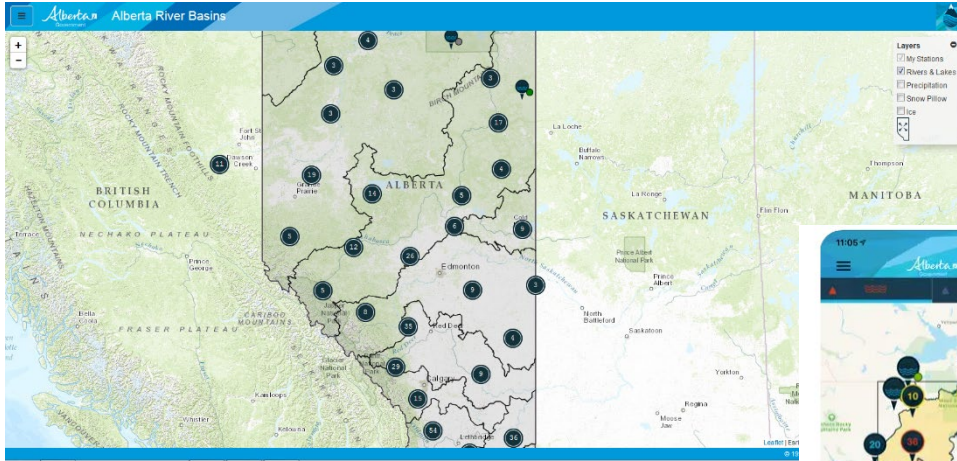
David Watson, River Forecast Engineer
Alberta Environment and Parks
September 28, 2021



River Forecast Team - Mandate

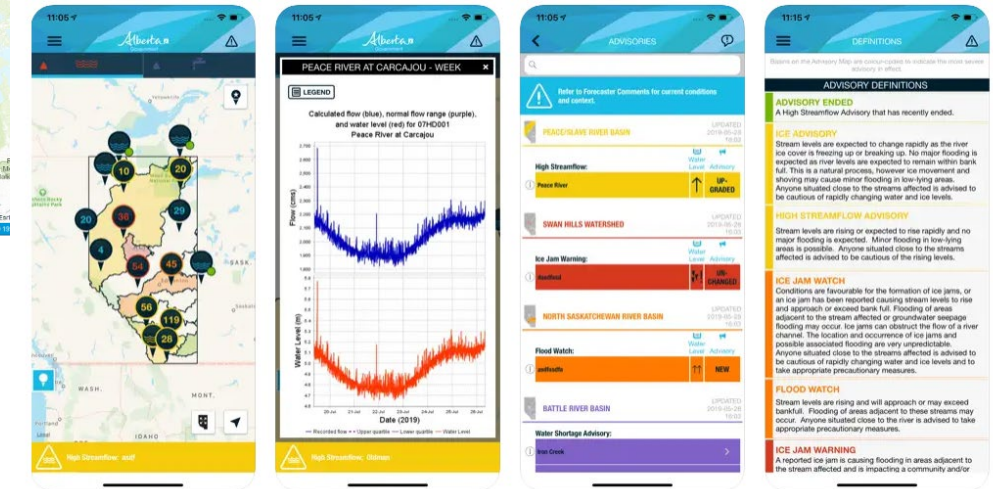
- To provide Albertan's with information related to current and future river or river ice conditions to enable Albertan's to make decisions related to water supply and emergency response planning.
 - Real-time flow and river conditions forecasting and support to partners
 - (public, provincial, municipal emergency managers, Industry, etc..)
 - Near real-time data quality management, assist in prioritizing field maintenance of monitoring network
 - Daily Natural Flow Forecasting
 - Water Supply

Main Tools to meet our mandate

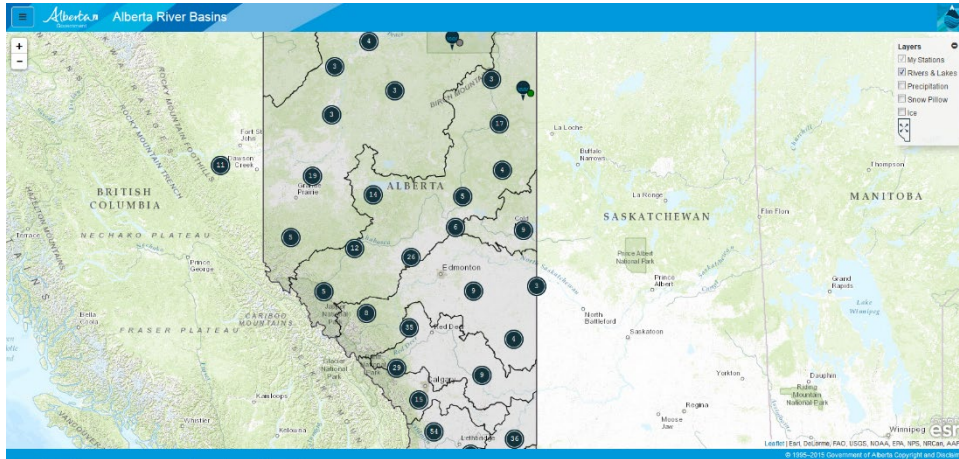


<https://rivers.alberta.ca>

iOS and Android Applications



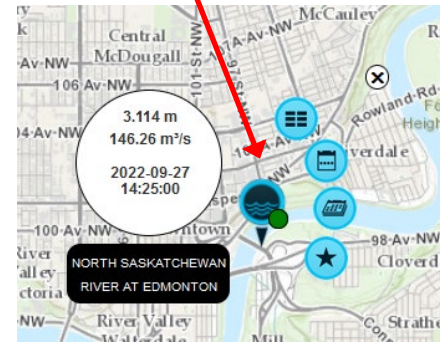
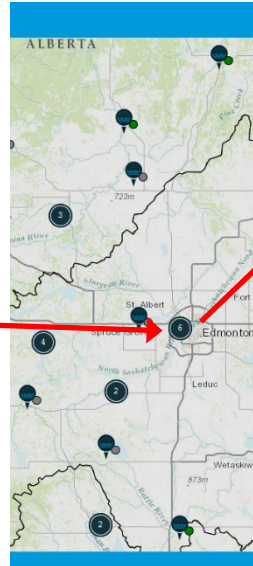
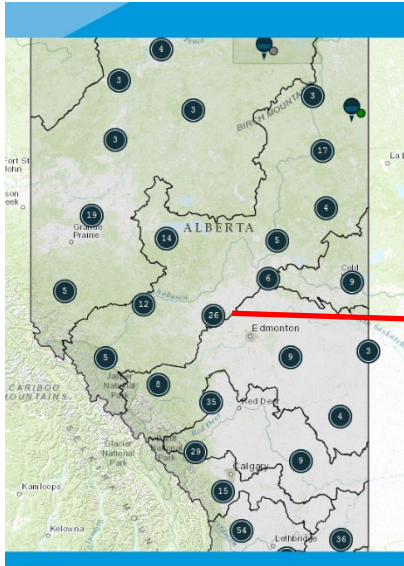
Website and App Functionality



<https://rivers.alberta.ca>

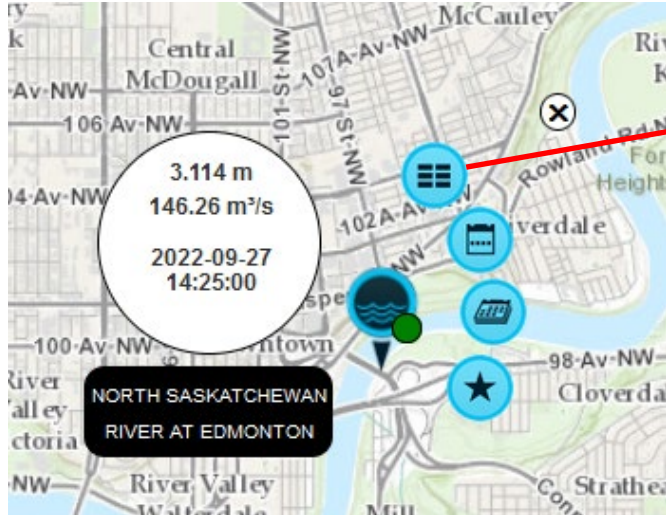
- Website and App have similar functionality
- Station types can be turned on/off as layers
- Station pins are clustered until zoomed in
- Cluster numbers indicate the number of stations in the area

Viewing Station Data



- Click, wheel or pinch to zoom in on clusters and see individual stations
- Hover over stations to see the station name and WSC number
- Click on the Station to see the 'Icon Spray' for more information

Station Data - Table



North Saskatchewan River at Edmonton | Table Data

Timestamp	Level (m)	Flow (m ³ /s)
2022-09-27 14:25:00	3.114	146.26
2022-09-27 14:20:00	3.114	146.26
2022-09-27 14:15:00	3.112	145.90
2022-09-27 14:10:00	3.113	146.08
2022-09-27 14:05:00	3.113	146.08
2022-09-27 14:00:00	3.112	145.90
2022-09-27 13:55:00	3.112	145.90
2022-09-27 13:50:00	3.109	145.36
2022-09-27 13:45:00	3.108	145.18
2022-09-27 13:40:00	3.108	145.18
2022-09-27 13:35:00	3.108	145.18
2022-09-27 13:30:00	3.106	144.81
2022-09-27 13:25:00	3.106	144.81
2022-09-27 13:20:00	3.104	144.45
2022-09-27 13:15:00	3.102	144.09
2022-09-27 13:10:00	3.102	144.09
2022-09-27 13:05:00	3.101	143.91
2022-09-27 13:00:00	3.099	143.55
2022-09-27 12:55:00	3.099	143.55
2022-09-27 12:50:00	3.098	143.37
2022-09-27 12:45:00	3.098	143.37
2022-09-27 12:40:00	3.096	143.01
2022-09-27 12:35:00	3.093	142.47
2022-09-27 12:30:00	3.092	142.29
2022-09-27 12:25:00	3.094	142.44

Legend Disclaimer Download Print Close

- Table of Measurements (Flow and Gauge Height for flow stations)
- Can View past 5 days of data

Station Data - Download

North Saskatchewan River at Edmonton | Table Data

Timestamp	Level (m)	Flow (m ³ /s)
2022-09-27 14:25:00	3.114	146.26
2022-09-27 14:20:00	3.114	146.26
2022-09-27 14:15:00	3.112	145.90
2022-09-27 14:10:00	3.113	146.08
2022-09-27 14:05:00	3.113	146.08
2022-09-27 14:00:00	3.112	145.90
2022-09-27 13:55:00	3.112	145.90
2022-09-27 13:50:00	3.109	145.36
2022-09-27 13:45:00	3.108	145.18
2022-09-27 13:40:00	3.108	145.18
2022-09-27 13:35:00	3.108	145.18
2022-09-27 13:30:00	3.106	144.81
2022-09-27 13:25:00	3.106	144.81
2022-09-27 13:20:00	3.104	144.45
2022-09-27 13:15:00	3.102	144.09
2022-09-27 13:10:00	3.102	144.09
2022-09-27 13:05:00	3.101	143.91
2022-09-27 13:00:00	3.099	143.55
2022-09-27 12:55:00	3.099	143.55
2022-09-27 12:50:00	3.098	143.37
2022-09-27 12:45:00	3.098	143.37
2022-09-27 12:40:00	3.096	143.01
2022-09-27 12:35:00	3.093	142.47
2022-09-27 12:30:00	3.092	142.29

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Download Disclaimer

Data provided through this web app is provisional and preliminary in nature. Data is automatically generated by remote equipment that may not be under control of the Government of Alberta. This data has not been reviewed or edited for accuracy and may be subject to significant change when reviewed or corrected. Please exercise caution and carefully consider the provisional nature of the information provided. The Government of Alberta assumes no responsibility for the accuracy or completeness of this data and any use of it is therefore, entirely at your own risk.

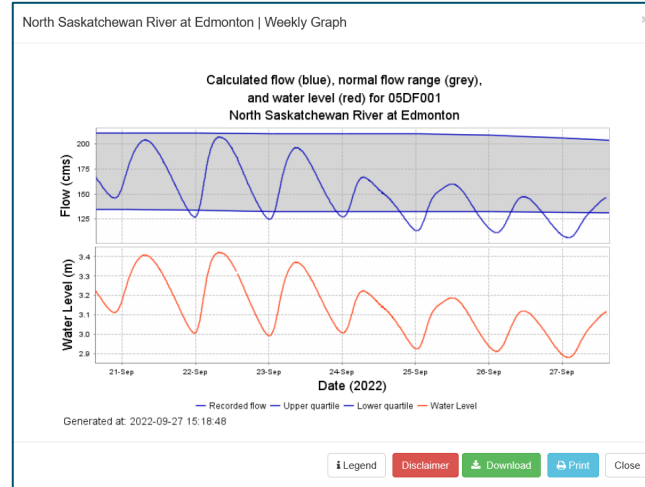
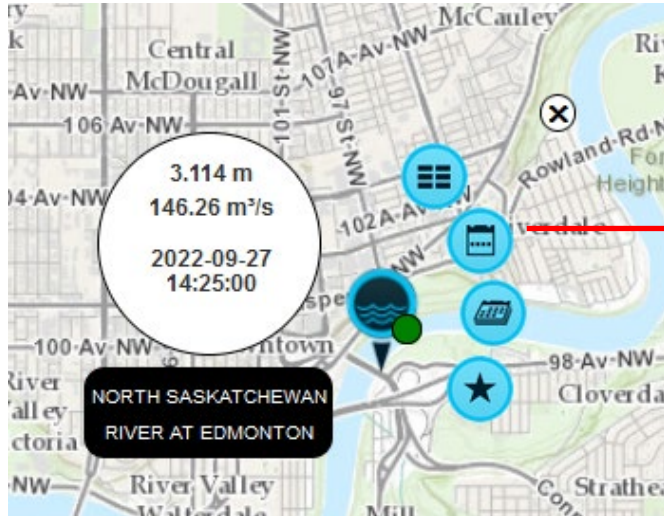
[⬇️ Period of record flow dataset \(in MST\) up to last night, in CSV](#)
[⬇️ Period of record water level dataset \(in MST\) up to last night, in CSV](#)
[⬇️ Most recent 5 days' data \(in current time\), in JSON](#)

Decline Accept Close

	A	B	C	D	E
1	Data provided through this web app				
2	is provisional and preliminary in nature.				
3	Data is automatically generated by				
4	remote equipment that may not be under				
5	control of the Government of Alberta.				
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8	significant change when reviewed				
9	or corrected. Please exercise caution				
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13	no responsibility for the accuracy				
14	or completeness of this data and				
15	any use of it is therefore entirely				
16	at your own risk.				
17					
18	Station ID	05DF001			
19	Station name	North Saskatchewan River at Edmonton			
20	NewLeaf ID	RNSASEDM			
21	GOWN ID	null			
22	Parameter name	Q			
23	Timeseries name	Cmd.Merged-NRT.Public			
24	Date	Time	Value(m ³ /s)		
25	2/10/1998	14:00:00	121		
26	3/6/1998	8:30:00	189		
27	7/2/1998	12:00:00	1378		
28	3/24/1999	8:10:00	117		
29	4/2/1999	5:00:00	126.2163		
30	4/2/1999	11:00:00	126.221		
31	7/24/1999	5:00:00	667.8871		
32	7/24/1999	11:00:00	667.8962		
33	7/24/1999	17:00:00	667.9053		
34	7/24/1999	23:00:00	667.9144		
35	7/26/1999	5:00:00	667.96		
36	7/26/1999	11:00:00	667.9691		
37	7/26/1999	17:00:00	667.9782		
38	7/26/1999	19:00:00	667.9812		

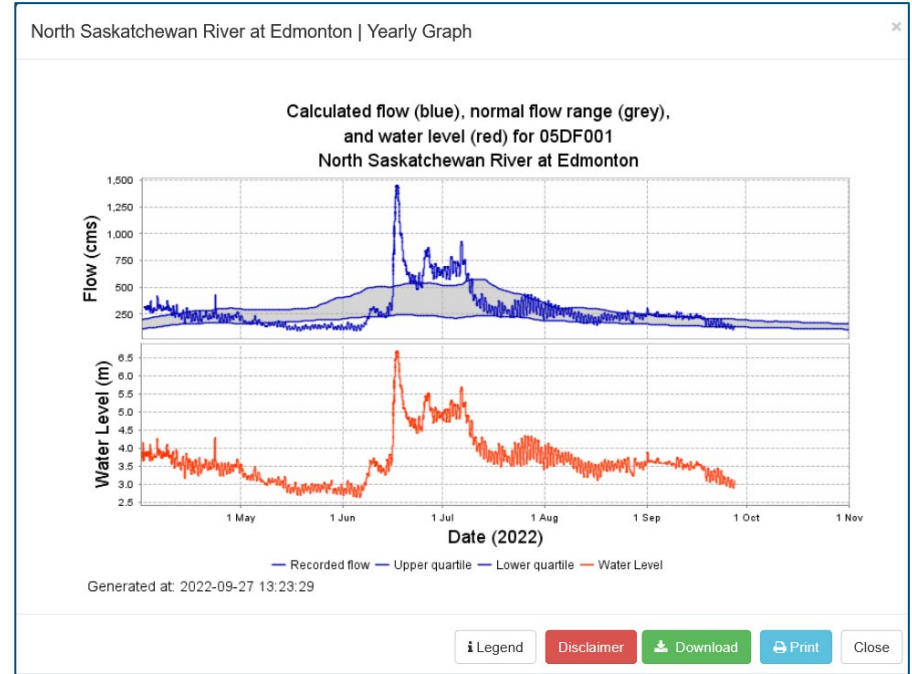
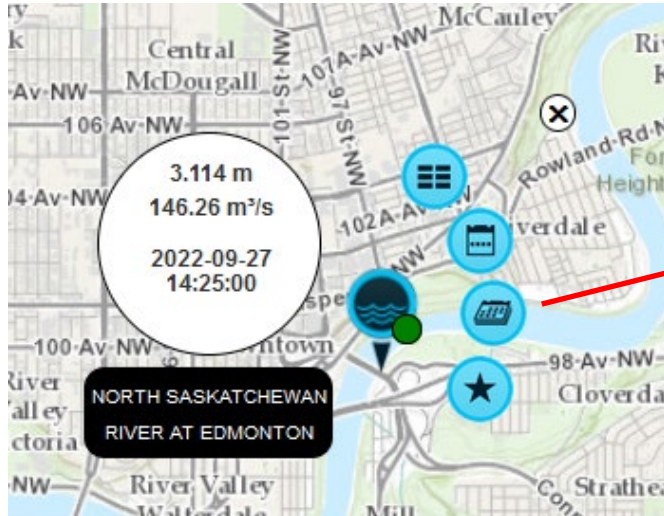
- Data can be downloaded for any station from the Data Table
- Disclaimer must be accepted to access the download links

Station Data – Weekly Graph



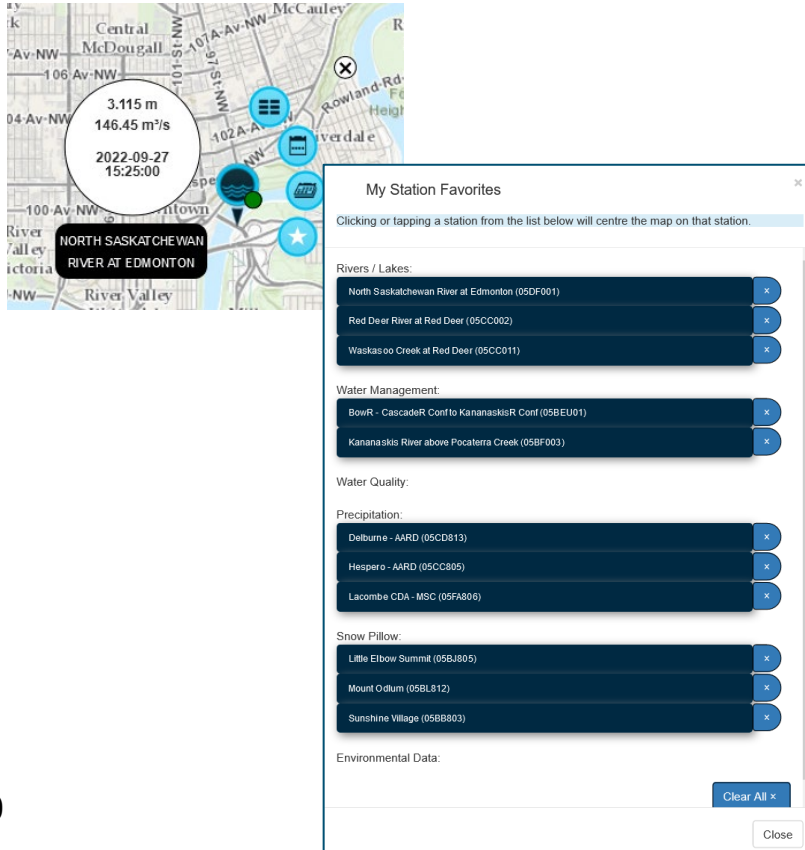
- Last 7 days of data
- Flow data has a historical normal period, based on 25th and 75th percentiles on a 30 year normalized period

Station Data – Yearly Graph



– Full year of data or April to November, depending on the station

Viewing Stations - MyStations



- Clicking /Tapping the star will add the station to your MyStations

Website:

- MyStations persist when station types are turned off. To quickly navigate to your MyStations on the map, turn off all layers
- Also available from the menu

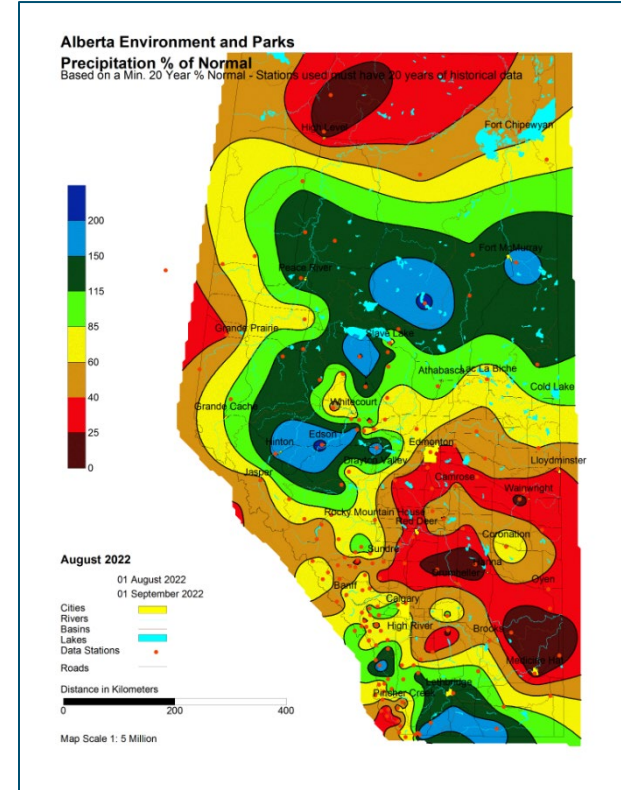
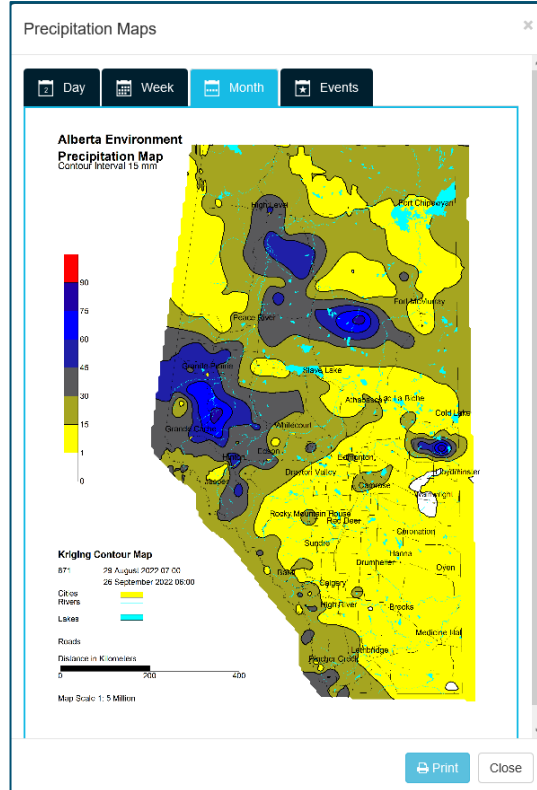
Mobile Applications:

- MyStations exist as their own layer, can be turned off/on like other stations
- Also available from the menu

Menu – Precipitation Maps

Menu

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Menu – Water Supply Outlook

Water Supply Outlook for Alberta August 2022

August 2022 / Overview

Updated: August 4, 2022

Mountain runoff forecasts (natural volumes for March to September 2022)

Mik River basin

- Much below average to average for the March to September 2022 period
- Much below average to above average for **August to September**
- **March-July recorded volumes** are much below average to average

Oldman River basin

- Average to above average for the March to September 2022 period
- Average to above average for **August to September**
- **March-July recorded volumes** are average

Bow River basin

- Below average to above average for the March to September 2022 period
- Below average to average for **August to September**
- **March-July recorded volumes** are average to above average

Red Deer River basin

- Below average to above average for the March to September 2022 period
- Below average for **August to September**
- **March-July recorded volumes** are below average to average

North Saskatchewan River basin

- Below average to above average for the March to September 2022 period
- Much below average to below average for **August to September**
- **March-July recorded volumes** are below average to above average

The Mountain Runoff Forecast is a seasonal decision-making tool and is not intended to guide day-to-day operations. The forecasts are statistical regressions between predictors and estimated monthly natural streamflow at select locations for the period from March to September. The natural flow volumes used in these regressions are the official historical natural flow volumes calculated by AEP's regional hydrologists. These calculations account for reservoir operations, precipitation/evaporation at the reservoirs, and all documented withdrawals and diversions. The suite of predictors includes snow courses surveyed near the first of the month, snow pillow values on the first of the month, accumulated winter precipitation at stations located throughout the forecast basin and fall flow volumes for the 30-year normal period from 1981 to 2009.

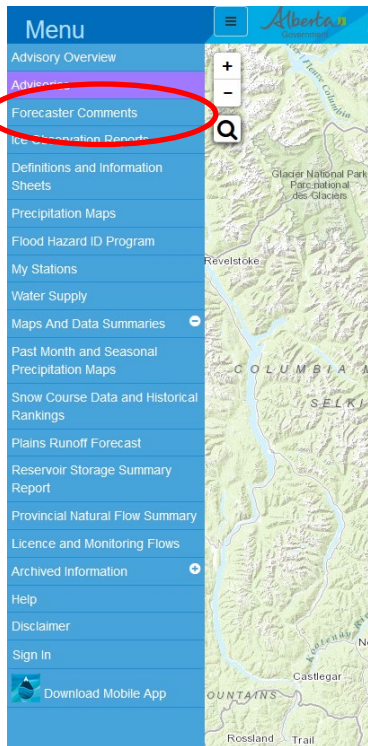
Precipitation can have a major impact on water supply between now and the end of September. The forecasts above assume that precipitation over the remainder of the winter period and through the summer will be normal. The range of possible precipitation scenarios is large however, and as a result, probable range forecasts and a minimal precipitation forecast of natural runoff volume are

Mountain snowpack

[Snow accumulations measured in the mountains as of March 1, 2022:](#)

- **Oldman River basin:** average to above average, ranging from 97% at Westcastle to 127% at Lee Creek "Q" (5 sites surveyed - Akamina 2 - still not enough data at this station to calculate statistical information). Gardiner Creek was not measured.
- **Bow River basin:** much above average, ranging from 128% at Wilkinson Summit Bush to 168% at Mist Creek (19 sites surveyed). Mount Odium and Tent Ridge were not measured.
- **Red Deer basin:** much above average, 139% at McConnell Creek and 141% at Gable Mountain (2 sites surveyed).
- **North Saskatchewan basin:** average, ranging from 94% at Brown Creek to 99% at Limestone Ridge. Outlier of much above average at Nigei Creek (133%). (4 sites surveyed).
- **Athabasca River basin:** above average to much above average, ranging from 113% at Hinton to 166% at Sunwapta Falls (3 sites surveyed).
- Upper Peace River basin in British Columbia: as indicated in [British Columbia's Snow Survey and Water Supply Bulletin](#)

River Forecast Information



Forecaster Comments

Weather River Flood

Issued at: 2022-09-26 12:19 PM

Past Precipitation

No significant precipitation occurred since Friday, September 23.

Future Precipitation

No widespread precipitation is in forecast until Thursday, September 29.

Alberta Environment and Parks is in close contact with weather forecasting agencies, including Alberta Agriculture and Forestry and Environment Canada. Detailed weather forecasts and current weather information are available from:

Alberta Agriculture and Forestry:
<https://wildfire.alberta.ca/wildfire-status/fire-weather/forecasts-observations/default.aspx>

Environment Canada and Climate Change:
https://weather.gc.ca/forecast/canada/index_e.html?id=AB

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Forecaster Comments

Weather River Flood

Issued at: 2022-09-26 12:19 PM

River conditions across the province will continue to be monitored and advisories will be issued as required. The next update to Forecaster's Comments will be published on or before Friday, September 30th.

General River Conditions

- Hay River Basin: Water levels are generally normal
- Peace River Basin: Water levels are generally normal
- Athabasca River Basin: Water levels are generally normal
- Beaver River Basin: Water levels are generally normal
- North Saskatchewan River Basin: Water levels are generally normal to above normal
- Battle River Basin: Water levels are generally normal to above normal
- Red Deer River Basin: Water levels are generally below normal
- Bow River Basin: Water levels are generally normal to below normal
- Oldman River Basin: Water levels are generally normal
- South Saskatchewan River Basin: Water levels are generally normal to below normal
- Milk River Basin: Water levels are generally normal

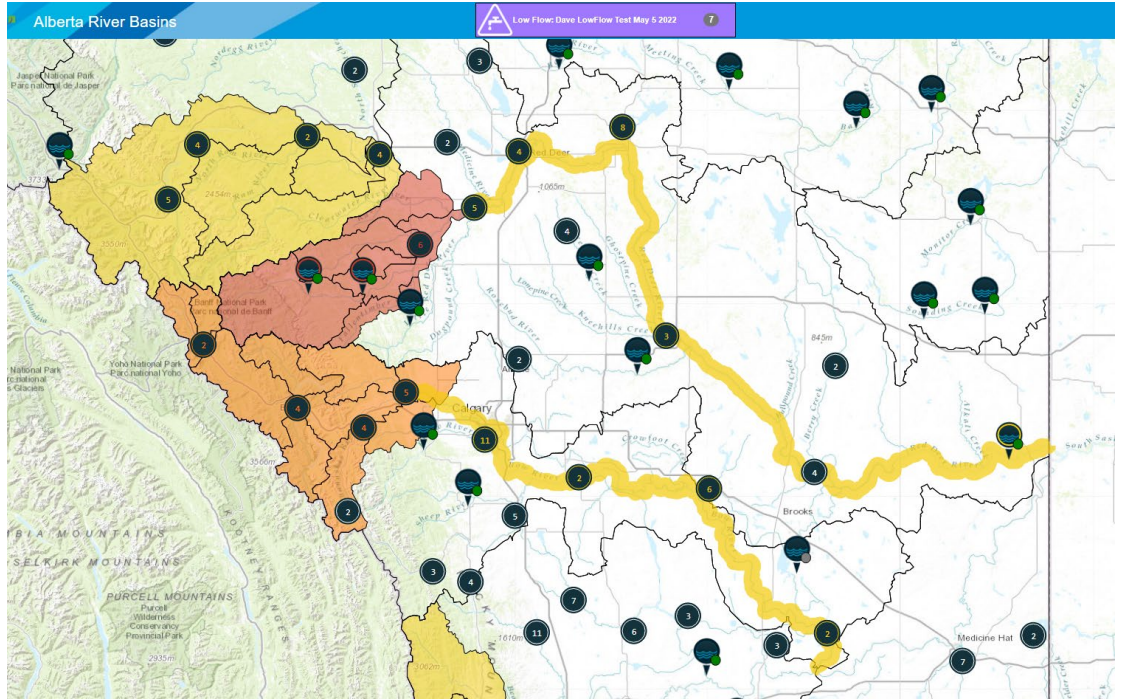
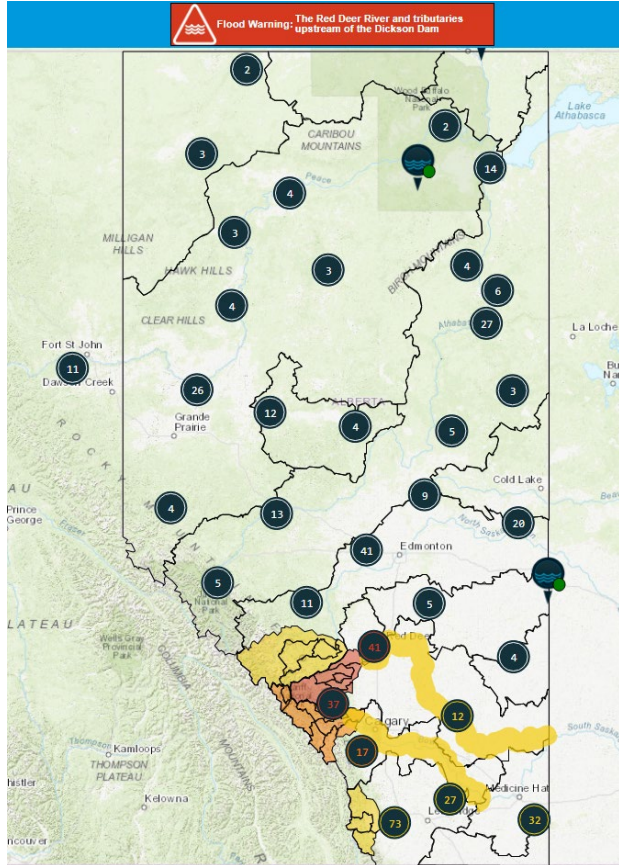
Real-time precipitation and river data are available at:
<https://rivers.alberta.ca>

All flow data posted on the AEP website is provisional and preliminary. Environment Canada's Water Survey of Canada is the official owner of this information and as such it is part of their mandate to validate the flow values and publish the finalized maximum instantaneous peak discharge and daily discharge values for all locations in Canada on their website - <http://www.ec.gc.ca/rmc-wsc/default.asp>. The validation of this data does not commence until the end of each calendar year.

Extreme caution should be taken when referring to the data posted to the AEP website - there is a disclaimer at the top of each data table outlining the need for caution. This is particularly true for large flow events when the gauge is affected by debris, damage, sediment in the river, re-alignment of the main river channel and

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River Forecast Information



River Forecast Information

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Flood Watch: The Bow River and Tributaries upstream of Bears paw Reservoir

Advisory Definition

- High Streamflow Advisory

Advisories

Forecaster Comments

**0.708 m
1.06 m³/s
2022-09-26
08:05:00**

**WAIPAROUS CREEK
NEAR THE MOUTH**

Advisory Definitions

- Flood Warning

Advisories

Forecaster Comments

Advisories

Refer to Forecaster Comments for current conditions and context.

OLDMAN RIVER BASIN UPDATED 2022-09-28 9:21 AM

High Streamflow: All Rivers flowing into the Oldman Reservoir | ↑ | NEW

BOW RIVER BASIN UPDATED 2022-09-28 9:21 AM

Flood Watch: The Bow River and Tributaries upstream of Bears paw Reservoir | ↑↑ | UPGRADED

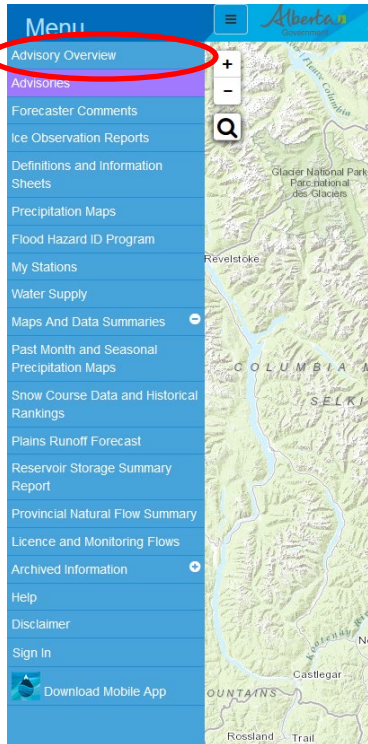
High Streamflow: The Bow River from Bears paw Reservoir to the mouth, including the City of Calgary | → | UNCHANGED

RED DEER RIVER BASIN UPDATED 2022-09-28 9:21 AM

Flood Warning:

Print Close

River Forecast Information



Advisories

Refer to Forecaster Comments for current conditions and context.

OLDMAN RIVER BASIN

UPDATED 2022-09-28 9:21 AM

High Streamflow:
All Rivers flowing into the Oldman Reservoir | ↑ | NEW

BOW RIVER BASIN

UPDATED 2022-09-28 9:21 AM

Flood Watch:
The Bow River and Tributaries upstream of Bears paw Reservoir | ↑↑ | UPGRADED

High Streamflow:
The Bow River from Bears paw Reservoir to the mouth, including the City of Calgary | → | UNCHANGED

RED DEER RIVER BASIN

UPDATED 2022-09-28 9:21 AM

Flood Warning:

Print Close

Advisory Overview

2022-09-28 9:21 AM

Precipitation

Please see Forecasters Comments for details on past and future precipitation. The River Forecast Centre will continue to be in touch with Environment and Climate Change Canada regarding the upcoming precipitation. Advisories will be updated as required.

Oldman River Basin:

Advisories:

- High Streamflow Advisory - Waterton Lake
- High Streamflow Advisory - mainstem of the Oldman River downstream of the Oldman Reservoir to the Saskatchewan River confluence
- High Streamflow Advisory - mainstem of the Waterton River downstream of the Waterton Reservoir to the Belly River confluence
- High Streamflow Advisory - mainstem of the Belly River from the Waterton River confluence to Oldman River confluence

River Impacts:

Waterton Lake - Water levels are currently rising. Advisories will remain in place until water levels fall closer to their normal range

Bow River Basin:

Advisories:

- Flood Watch - Pipestone River
- High Streamflow Advisory - Bow River upstream of Lake Louise to the South Saskatchewan River confluence,

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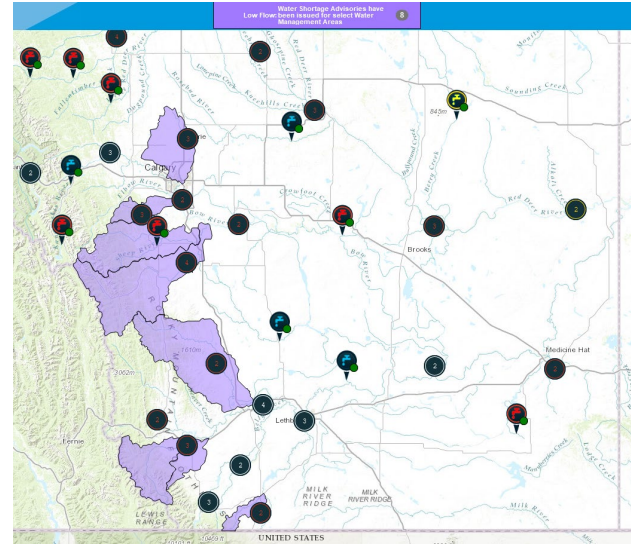
Water Shortage Information

- My Stations
- Water Management
- Precipitation
- Snow Pillow
- Ice
- Media
- Precip Radar

BowR Reach 1 - Carseland Weir to Bassano Dam | Table Data

Timestamp	Recorded flow (m ³ /s)	Natural flow (m ³ /s)	Calculated flow (m ³ /s)	IO (m ³ /s)	WCO (m ³ /s)
2022-09-28	35.790	---	35.790	40,000	44,000
2022-09-27	35.588	---	35.588	40,000	44,000
2022-09-26	44.005	---	44.005	40,000	44,000
2022-09-25	37.624	---	37.624	40,000	44,000
2022-09-24	42.049	---	42.049	40,000	44,000
2022-09-23	44.665	---	44.665	40,000	44,000
2022-09-22	46.894	---	46.894	40,000	44,000
2022-09-21	39.287	---	39.287	40,000	44,000

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Water Shortage Advisory: Willow Creek
 Advisory Created 2022-06-07 2:33 PM | Advisory Updated 2022-06-07 2:33 PM

TDL LICENCE

Low Flow Condition
 Basin is experiencing a low water supply situation. Water management actions are in place. Surface water TDL applications will be considered on a case by case basis based on the flow condition.

close

Questions?

