ECCC Workshop on Flow Forecasting

Feb 20-21, 2019

Brent Newton

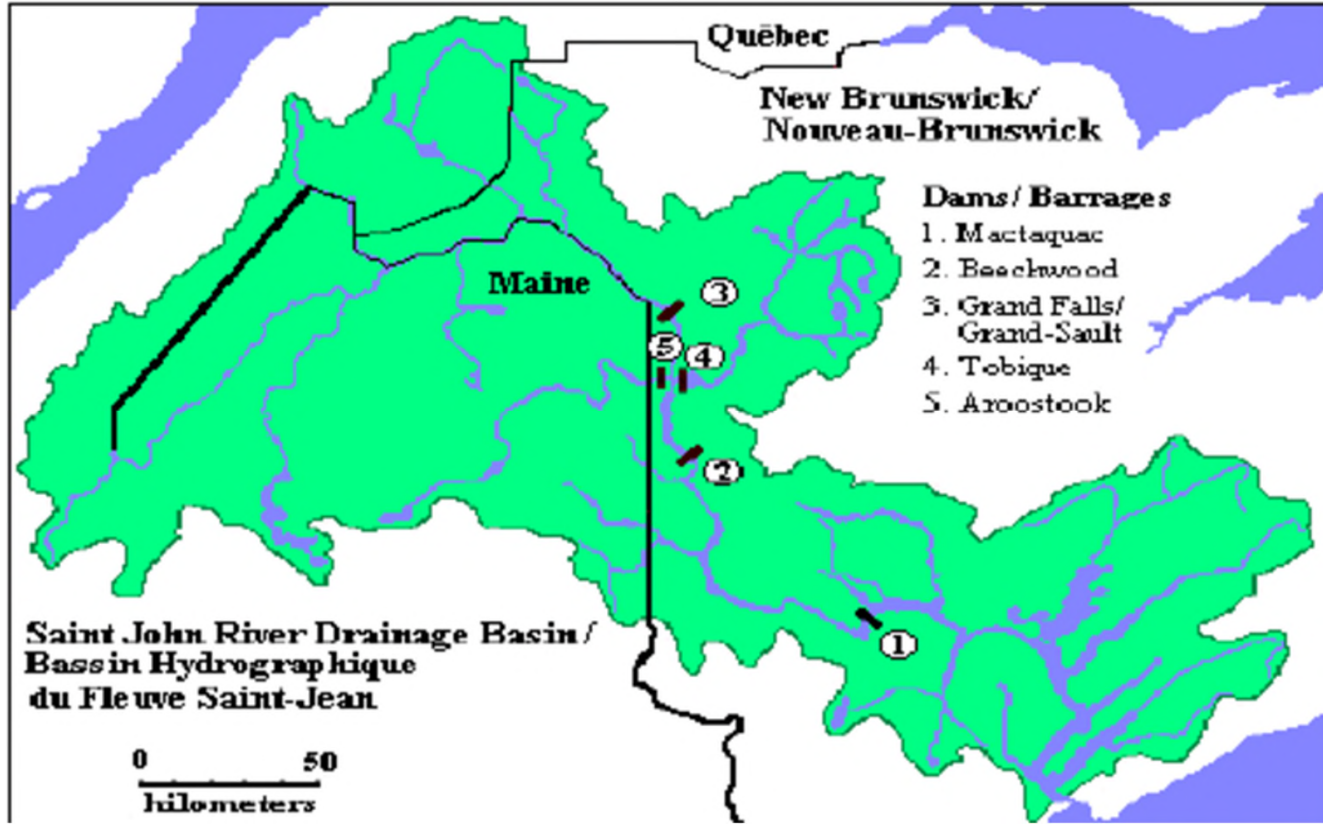
Flood/Flow Forecasting Engineer - NB





New Nouveau Brunswick

Saint John River Basin



- NB Began Forecasting in 1973
- International, Interprovincial
- Approx. 55,000 sq. km
- Flood prone below Mactaquac
  - Low slope to the river
  - Narrow constriction/high tides backs up water
  - Lakes and over land storage fills up and releases upon recession causing extended flood duration

New Nouveau Brunswick

Partners

- Many partners to get all the data necessary for our operation
  - Environment and Climate Change Canada
  - US Geological Survey
  - National Weather Service
  - Québec Ministère du développement durable, de l'environnement et de la lutte contre les changements climatiques
  - Various watershed groups
  - NB Power
  - Other provincial departments
- International Collaboration with forecasters from North East River Forecast Center (1 of 13 in US near Boston)

River Watch Program

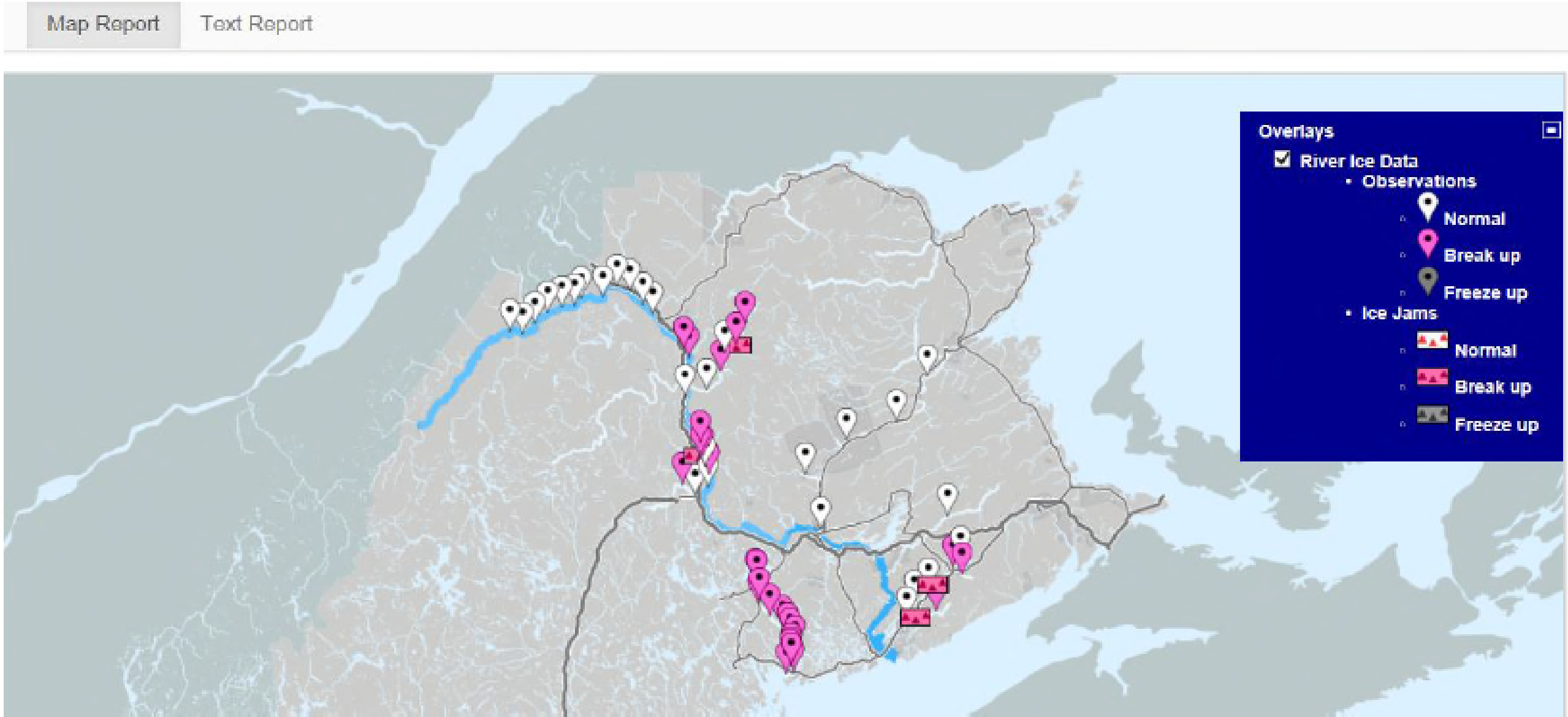
- What is it? A collaborative effort to evaluate River conditions within the province to inform emergency response

Website: http://www2.gnb.ca/content/gnb/en/news/public_alerts/river_watch.html

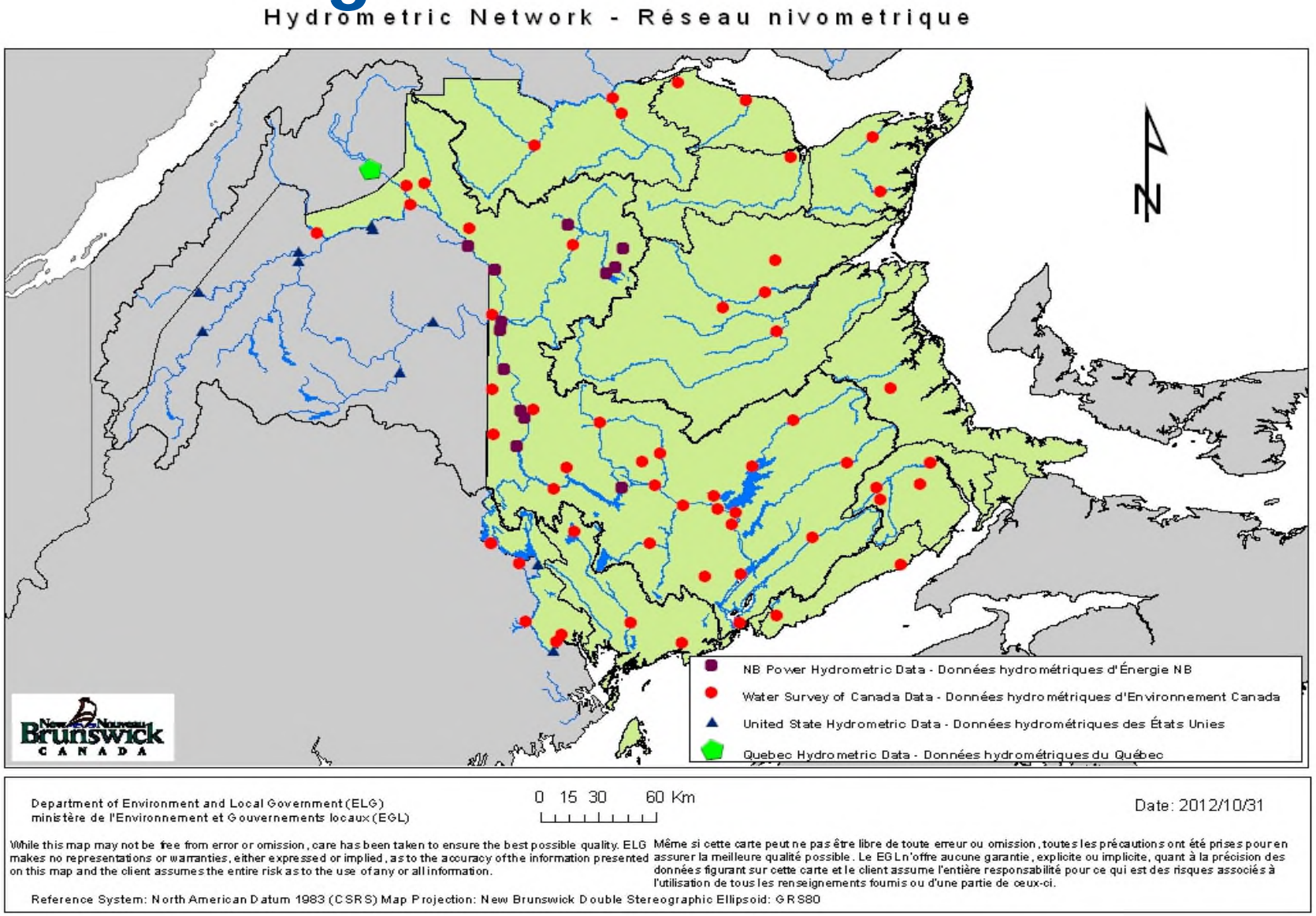
- Program Launch (Mid March)
- Duration (March to May)
- Information on Flow/Water Level forecasts, ice observations and snow surveys
- Weather Briefings
- Program Integration with ECCC and Hurricane Forecasting – June to December

New Nouveau Brunswick

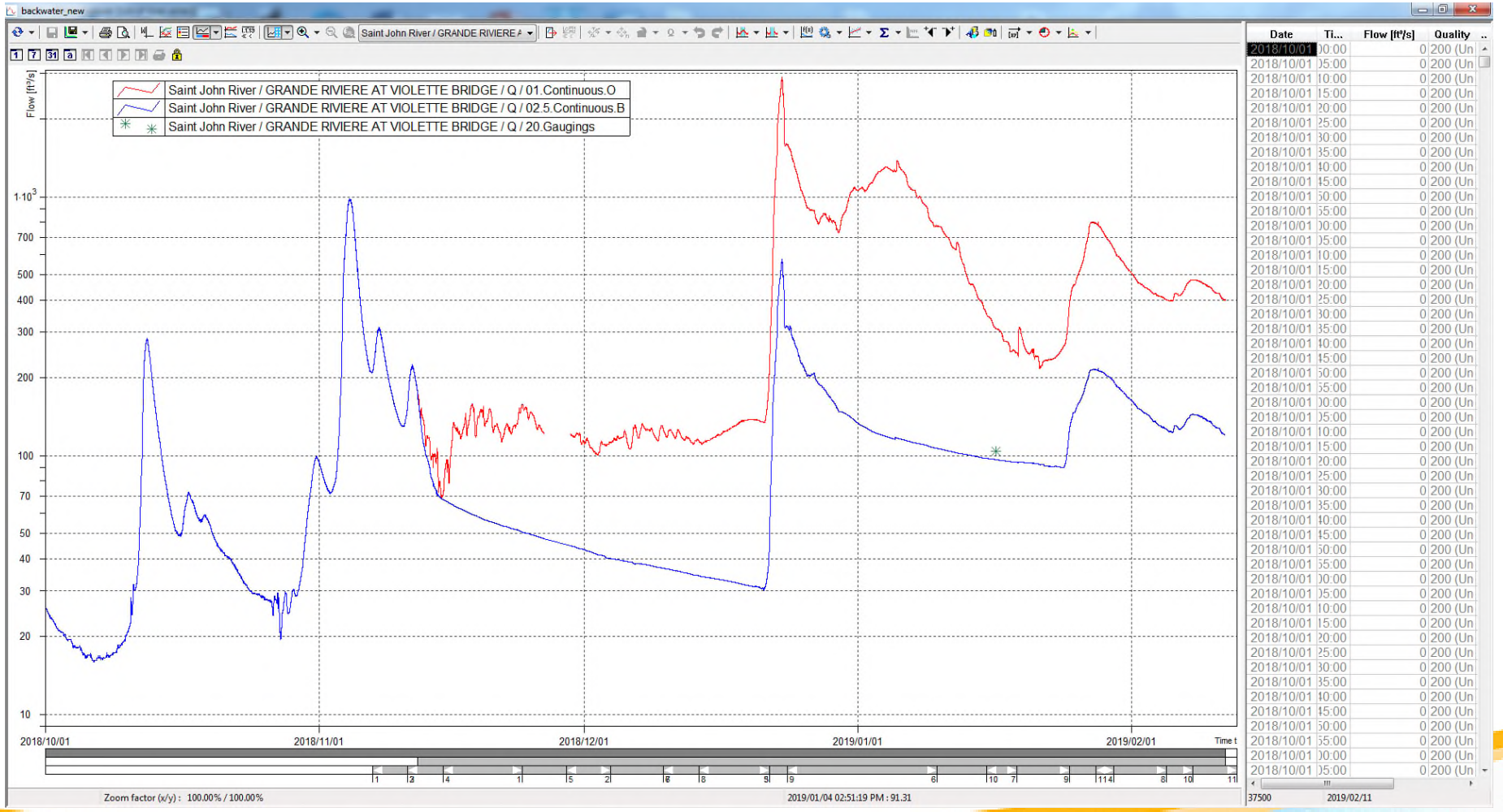
River Ice Observation and Reporting System



Key Monitoring Networks



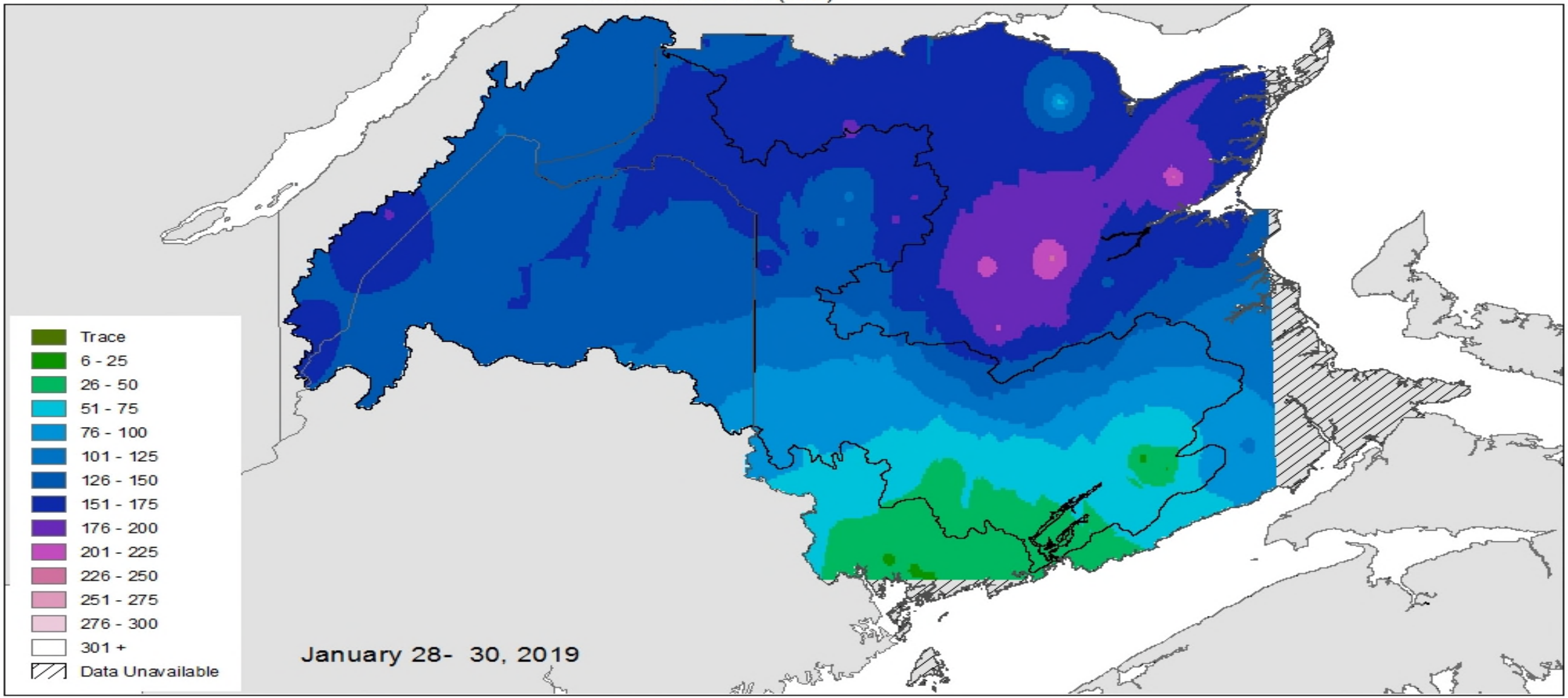
WISKI



New Nouveau Brunswick

Snow Water Equivilant

Observed Values (mm)



Environment and Local Government (ELG)
Environnement et Gouvernements locaux (EGL)

0 20 40 80 120 160 Kilometers

Date: 2019/02/06

While this map may not be free from error or omission, care has been taken to ensure the best possible quality. ENV makes no representations or warranties, either expressed or implied, as to the accuracy of the information presented on this map and the client assumes the entire risk as to the use of any or all information.

Même si cette carte peut ne pas être libre de toute erreur ou omission, toutes les précautions ont été prises pour en assurer la meilleure qualité possible. Le ENV n'offre aucune garantie, explicite ou implicite, quant à la précision des données figurant sur cette carte et le client assume l'entière responsabilité pour ce qui est des risques associés à l'utilisation de tous les renseignements fournis ou d'une partie de ceux-ci.

Reference System: North American Datum 1983 (CSRS) Map Projection: New Brunswick Double Stereographic Ellipsoid: GRS80

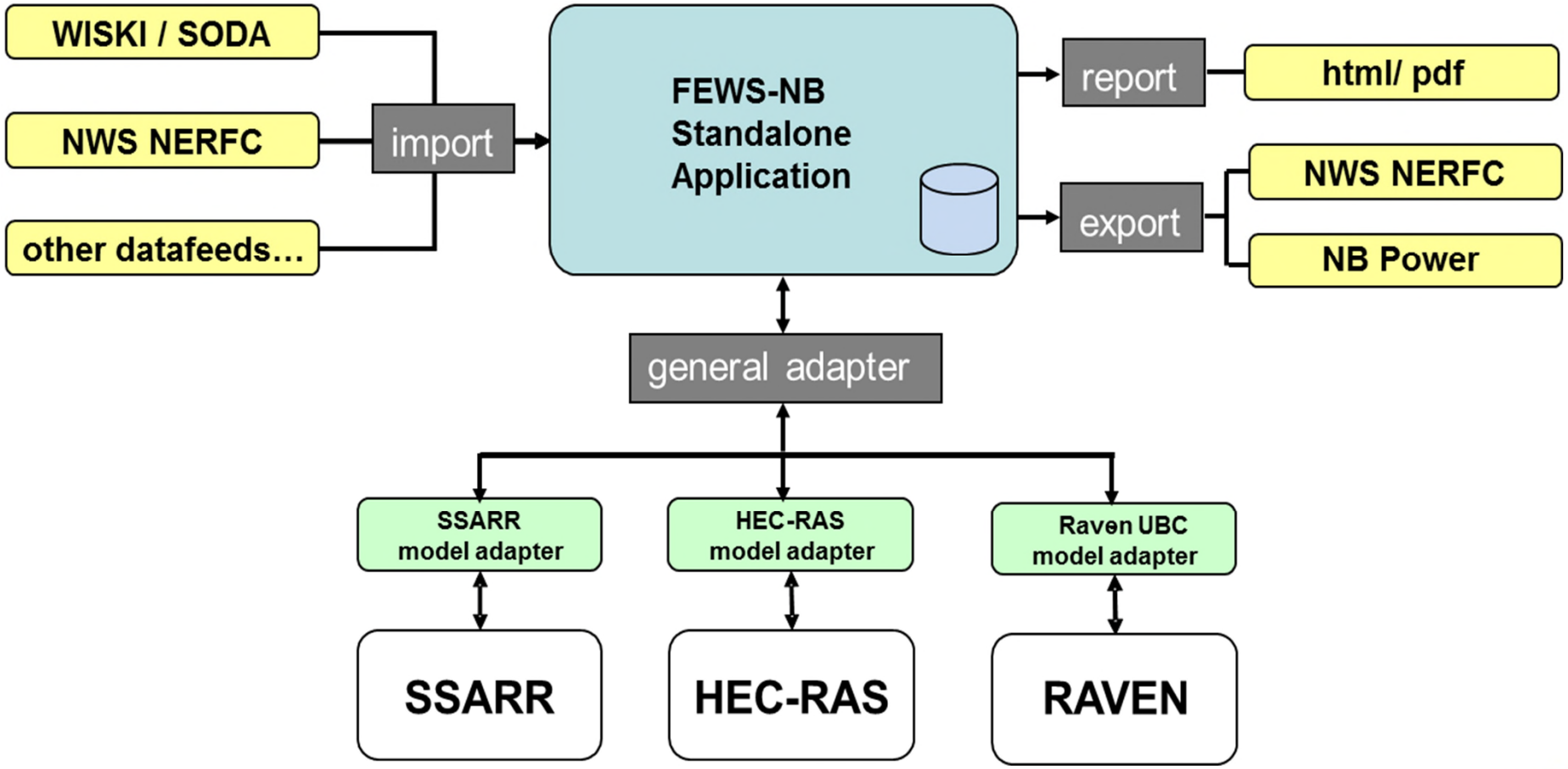
NB FEWS



NB FEWS

- forecasting platform/interface developed by Deltares
- (US, Quebec, BC Hydro & others)
- highly configurable
- data collecting (all data in one place)
- model input adjustments (data and parameters)
- more frequent forecasting
- data analysis and model calibration

NB FEWS


WISKI / SODA
NWS NERFC
other datafeeds…
import
FEWS-NB
Standalone
Application
report
html/ pdf
export
NWS NERFC
NB Power
general adapter
SSARR
model adapter
HEC-RAS
model adapter
Raven UBC
model adapter
SSARR
HEC-RAS
RAVEN

FEWS New Brunswick V1.0 (Stand alone)

File Tools Options Help

Forecasts

- Hydrology Centre
  - Import and modify external data
    - Import external data
    - Check flow
    - Check hydropower
    - Check meteo
    - Check snow
  - Run SSARR update
  - Run SSARR forecast
  - Run UBCWM (RAVEN) update
  - Run UBCWM (RAVEN) forecast
  - Run HECRAS Upper SJR update
  - Run HECRAS Upper SJR forecast
  - Run HECRAS Upper SJR Steady State
  - Run HECRAS Lower SJR update
  - Run HECRAS Lower SJR forecast
  - Reports
  - Run HECRAS_Raven Upper SJR updat
  - Run HECRAS_Raven Upper SJR forec
  - Run HECRAS_Raven Upper SJR Stead
  - Run HECRAS_Raven Lower SJR updat
  - Run HECRAS_Raven Lower SJR forec
  - Raven Reports
  - Precipitation Compare
  - NBP Power Access

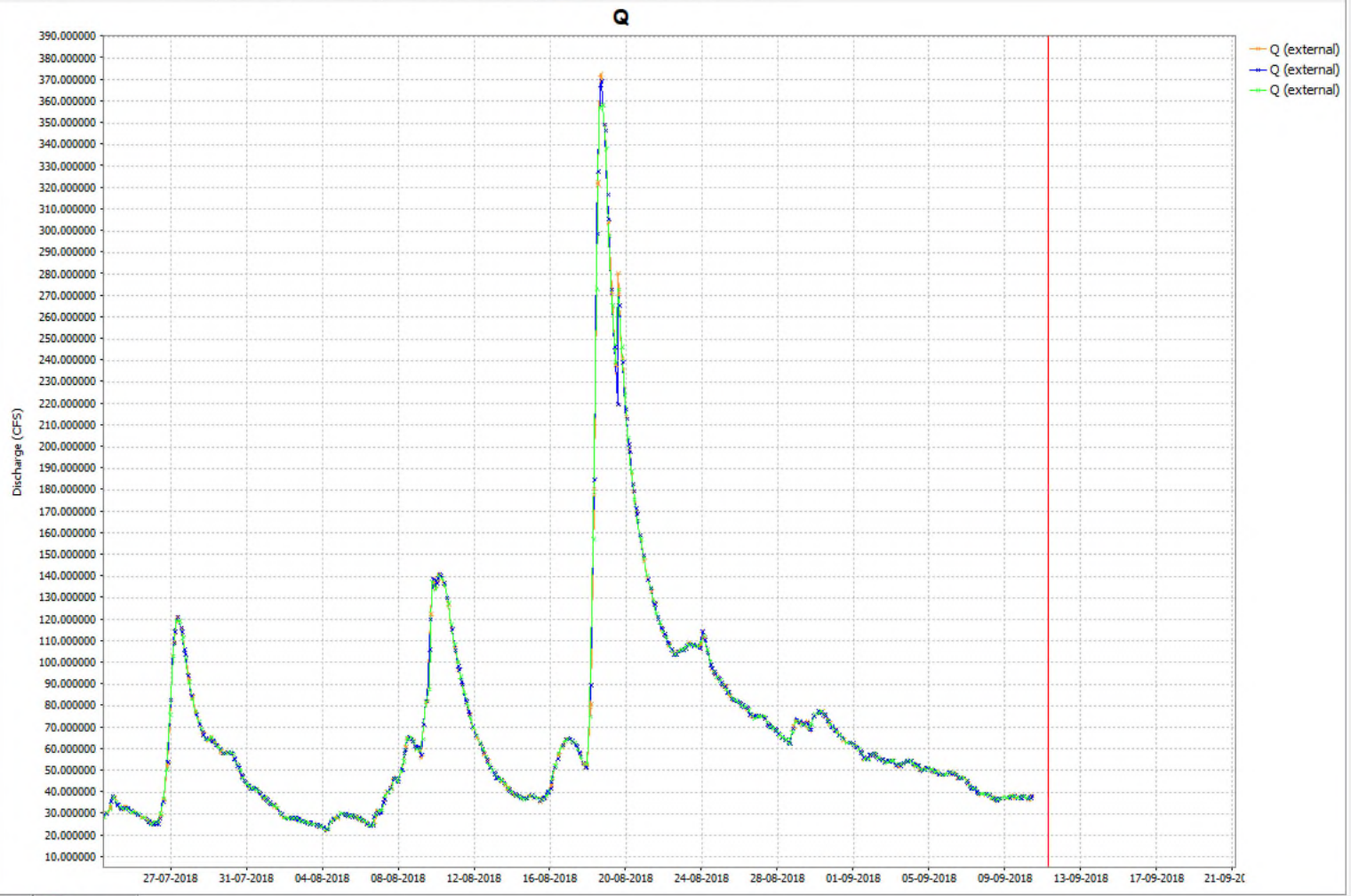
Warm state selection

Time zero: 11-09-2018 08:00:00

Forecast length:

edit run options

GMT-4	A Q (CFS) BIG PRESQUE ISI 01AJ004 (external)	B Q (CFS) BIG PRESQUE IS 01AJ004 (external)
23-07-2018 10:10	28.60488	
23-07-2018 10:15	28.60488	
23-07-2018 10:20	28.60488	
23-07-2018 10:25	28.60488	
23-07-2018 10:30	28.60488	
23-07-2018 10:35	28.60488	
23-07-2018 10:40	28.60488	
23-07-2018 10:45	28.60488	
23-07-2018 10:50	28.60488	
23-07-2018 10:55	28.60488	
23-07-2018 11:00	28.60488	28.6048
23-07-2018 11:05	28.60488	
23-07-2018 11:10	28.60488	
23-07-2018 11:15	28.60488	
23-07-2018 11:20	28.60488	
23-07-2018 11:25	28.60488	
23-07-2018 11:30	29.311172	
23-07-2018 11:35	29.311172	
23-07-2018 11:40	29.311172	
23-07-2018 11:45	29.311172	
23-07-2018 11:50	29.311172	
23-07-2018 11:55	29.311172	
23-07-2018 12:00	29.311172	29.31117
23-07-2018 12:05	29.311172	
23-07-2018 12:10	29.311172	
23-07-2018 12:15	29.311172	
23-07-2018 12:20	29.311172	
23-07-2018 12:25	29.311172	
23-07-2018 12:30	29.311172	
23-07-2018 12:35	29.311172	
23-07-2018 12:40	29.311172	
23-07-2018 12:45	29.311172	
23-07-2018 12:50	29.66432	
23-07-2018 12:55	29.66432	
23-07-2018 13:00	29.66432	29.6643
23-07-2018 13:05	29.66432	
23-07-2018 13:10	29.66432	
23-07-2018 13:15	29.66432	
23-07-2018 13:20	29.66432	



Map Plots Manual Forecast Modifiers Data Editor

Plot Overview

Logs

11-09-2018 08:10:41 INFO - TimeSeriesIndex.CompactFinished: 43 seconds, removed rows 0/200822, removed time series 0/13133, removed groups 0/21034, removed ids 0/1056, removed qualifier set ids 0/0, removed id sequences 0/15686, released memory 0 B/12 MB
11-09-2018 08:10:38 INFO - Reading 200822 time series row ids from database finished in 41 seconds
11-09-2018 08:09:57 INFO - Compact time series cache files
11-09-2018 08:09:52 INFO - Application.Startup.Finished: The application finished starting up. (8.6s)
11-09-2018 08:09:52 INFO - Gui.Initialized: Graphical user interface initialized.

6 : Logs 7 : Forecaster Notes

Newton, Brent (ELG/EGL) | Current system time: 11-09-2018 08:00 (GMT-4) | 14:52:48 GMT | 11:52:48 ADT | Stand alone | 0.0 MB/s | 82 MB

FEWS New Brunswick V1.0 (Stand alone)

File Tools Options Help

Forecasts

Check meteo
- BEECHWOOD
- PARLEE BROOK
- BARRAGE MORIN
- NOTRE-DAME-DU-ROSAIR
- NOTRE-DAME-DU-LAC
- SAINT-PHILEMON-2
- TEMISCOUATA (SAINT-HC
- TRINITE-DES-MONTS
- ST. PAMPHILE
- ST. CAMILE
- ST LUCIE
- RIVIERE BLUE
- STE ROSE
- AUCLAIR
- QUEBEC A
- ST. CLEMENT
- ST BRUNO KAM
- AMQUI
- LA POCATIERE
- MONT-JOLI A
- NEW CARLISLE 1
- RIVIERE-DU-LOUP
- BAS CARAQUET
- BATHURST A
- BERTRAND
- BON ACCORD
- BUCTOUCHE CDA CS
- CHARLO AUTO
- DOAKTOWN
- MIRAMICHI RCS
- EDMUNDSTON
- EDMUNDSTON
- FREDERICTON A
- FREDERICTON CDA CS
- FUNDY PARK (ALMA) CS
- GAGETOWN AWOS A
- GRAND MANAN SAR CS

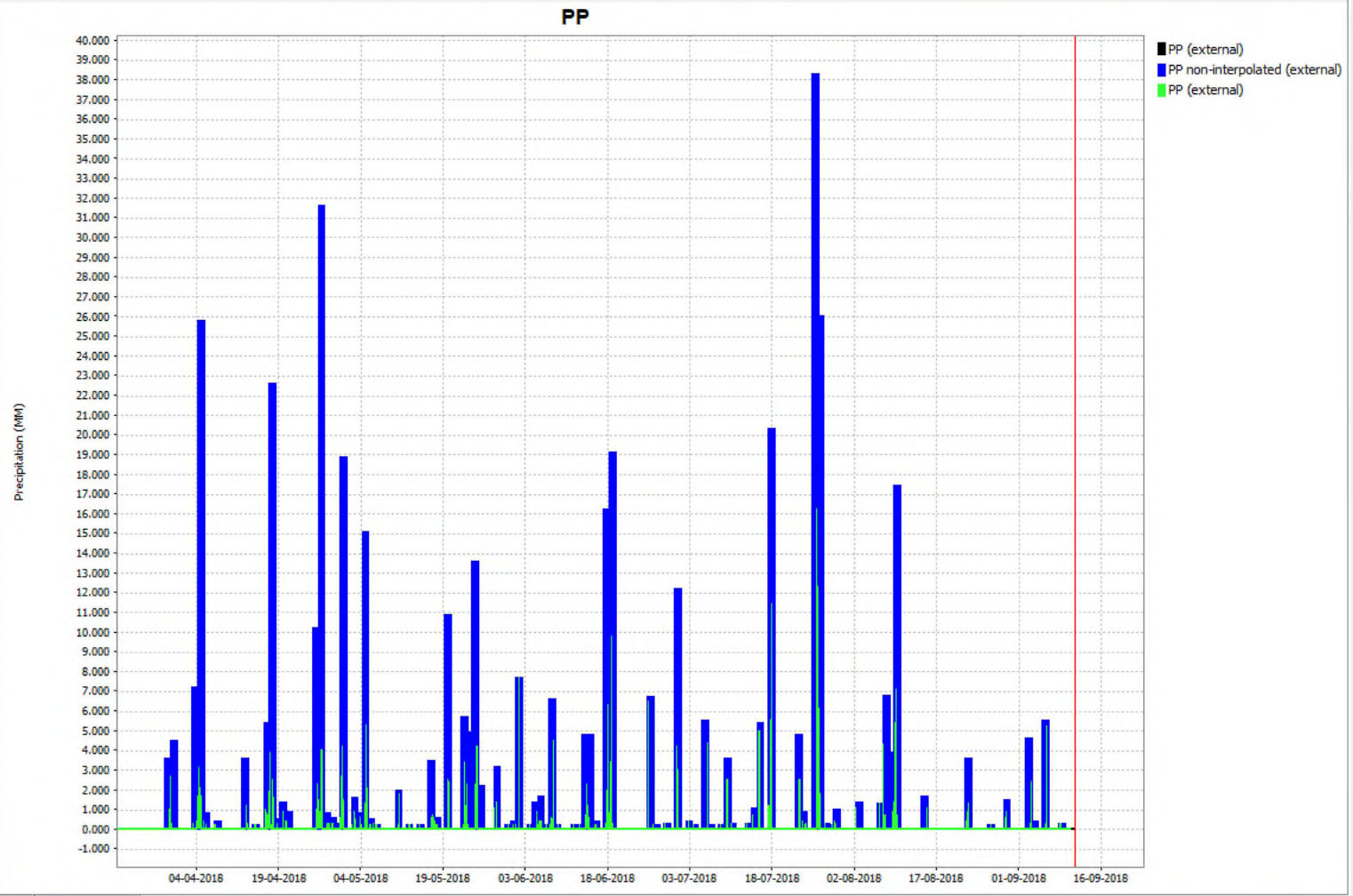
Warm state selection

Time zero: 11-09-2018 08:00:00

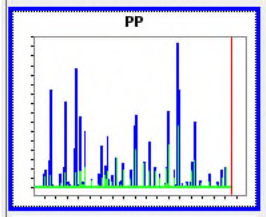
Forecast length:

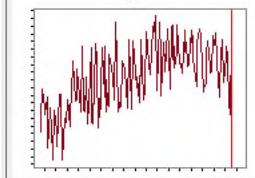
edit run options

GMT-4	B	C
	P (MM) non-interpolated AUCLAIR 7058220 external)	PP (MM) AUCLAIR 7058220 (external)
20-03-2018 12:00		0.000
20-03-2018 13:00		0.000
20-03-2018 14:00		0.000
20-03-2018 15:00		0.000
20-03-2018 16:00		0.000
20-03-2018 17:00		0.000
20-03-2018 18:00		0.000
20-03-2018 19:00		0.000
20-03-2018 20:00		0.000
20-03-2018 21:00		0.000
20-03-2018 22:00		0.000
20-03-2018 23:00		0.000
21-03-2018 00:00		0.000
21-03-2018 01:00		0.000
21-03-2018 02:00		0.000
21-03-2018 03:00		0.000
21-03-2018 04:00		0.000
21-03-2018 05:00		0.000
21-03-2018 06:00		0.000
21-03-2018 07:00	0.000	0.000
21-03-2018 08:00		0.000
21-03-2018 09:00		0.000
21-03-2018 10:00		0.000
21-03-2018 11:00		0.000
21-03-2018 12:00		0.000
21-03-2018 13:00		0.000
21-03-2018 14:00		0.000
21-03-2018 15:00		0.000
21-03-2018 16:00		0.000
21-03-2018 17:00		0.000
21-03-2018 18:00		0.000
21-03-2018 19:00		0.000
21-03-2018 20:00		0.000
21-03-2018 21:00		0.000
21-03-2018 22:00		0.000
21-03-2018 23:00		0.000
22-03-2018 00:00		0.000



Plot Overview





Map | Plots | Manual Forecast | Modifiers | Data Editor

Logs

11-09-2018 08:10:41 INFO - TimeSeriesIndex.CompactFinished: 43 seconds, removed rows 0/200822, removed time series 0/13133, removed groups 0/21034, removed ids 0/1056, removed qualifier set ids 0/0, removed id sequences 0/15686, released memory 0 B/12 MB
11-09-2018 08:10:38 INFO - Reading 200822 time series row ids from database finished in 41 seconds
11-09-2018 08:09:57 INFO - Compact time series cache files
11-09-2018 08:09:52 INFO - Application.Startup.Finished: The application finished starting up. (8.6s)
11-09-2018 08:09:52 INFO - Gui.Initialized: Graphical user interface initialized.

6 : Logs | 7 : Forecaster Notes

Newton, Brent (ELG/EGL) | Current system time: 11-09-2018 08:00 (GMT-4) | 16:28:58 GMT | 13:28:58 ADT | Stand alone | 0.0 MB/s | 95 MB

FEWS New Brunswick V1.0 (Stand alone)

File Tools Options Help

Forecasts

- Hydrology Centre
  - Import and modify external data
    - Import external data
    - Check flow
    - Check hydropower
    - Check meteo
    - Check snow
  - Run SSARR update
    - SSARR flow
      - Nine Mile (BSN 1)
      - Dickey Basin * (BSN 2)
      - Dickey (Summing Point)
      - Allagash Gauge (BSN 3)
      - St. Francis Gauge (BSN 4)
      - Fish River Gauge (BSN 5)
      - Fort Kent Local * (BSN 6)
      - Fort Kent Gauge (Summing
      - Baker Brook (BSN 7)
      - Madawaska River St. Rose
      - Iroquois (BSN 11)
      - Green River (BSN 12)
      - Grand River (BSN 14)
      - Little River * (BSN 16)
      - Grand Falls Gauge (Summi
      - Salmon River (BSN 17)
      - Masardis (BSN 18)
      - Machais * (BSN 19)
      - Washburn Basin * (BSN 20
      - Washburn (Summing Point
      - Tinker Basin * (BSN 21)
      - Tinker Gauge (Summing Po
      - Limestone * (BSN 22)
      - Riley Brook (BSN 23)
      - Riley Brook (Summing Poin
      - Plaster Rock Basin * (BSN
      - Plaster Rock (Summing Poi
      - Tobique Narrow Local (BSN
      - Tobique Narrows (Summing

Warm state selection

Time zero: 10-09-2018 07:00:00

Forecast length:

edit run options

- Observed Meteo
  - Precipitation (Inverse Distance)
    - Precipitation (EC NWP)
    - Precipitation 3hr (Inverse Distance)
    - Precipitation 24hr (Inverse Distance)
    - Precipitation (24 hr Observations)
    - Precipitation (1 hr Observations)
    - Precipitation (Radar Estimates)
    - Precipitation (Radar Catchment Averages)
  - Temperature (Inverse Distance)
  - Snow (Inverse Distance)
- Catchment Averaged Meteo Observed
- Catchment Averaged Hydrographs Observed
- Precipitation Bias

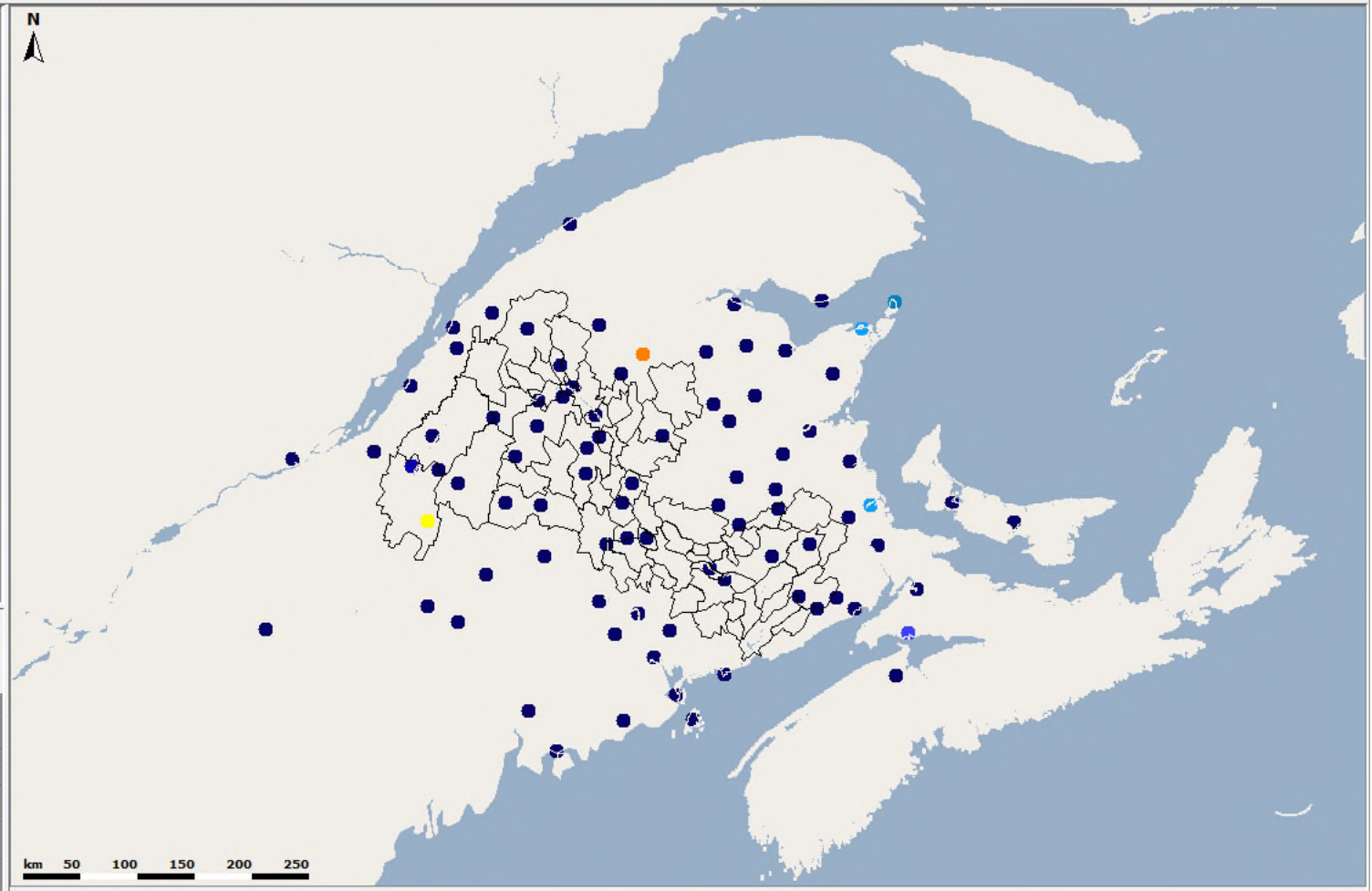
Moving Accumulation

1 day

Ignore Missings

>= 0
>= 0.125
>= 0.25
>= 0.5
>= 1
>= 2
>= 4
>= 8
>= 16
>= 32
>= 64

05-09-2018 07:00:00 GMT-4



Map | Plots | Manual Forecast | Modifiers | Data Editor | Spatial Display

Plot Overview

Logs

11-09-2018 08:10:41 INFO - TimeSeriesIndex.CompactFinished: 43 seconds, removed rows 0/200822, removed time series 0/13133, removed groups 0/21034, removed ids 0/1056, removed qualifier set ids 0/0, removed id sequences 0/15686, released memory 0 B/12 MB
11-09-2018 08:10:38 INFO - Reading 200822 time series row ids from database finished in 41 seconds
11-09-2018 08:09:57 INFO - Compact time series cache files
11-09-2018 08:09:52 INFO - Application.Startup.Finished: The application finished starting up. (8.6s)
11-09-2018 08:09:52 INFO - Gui.Initialized: Graphical user interface initialized.

6 : Logs | 7 : Forecaster Notes

Newton, Brent (ELG/EGL) | Current system time: 10-09-2018 07:00 (GMT-4) | 16:31:51 GMT | 13:31:51 ADT | Stand alone | -74.360 , 50.100 | 0.0 MB/s | 144 MB

FEWS New Brunswick V1.0 (Stand alone)

File Tools Options Help

Forecasts

- Hydrology Centre
  - Import and modify external data
    - Import external data
    - Check flow
    - Check hydropower
    - Check meteo
    - Check snow
  - Run SSARR update
    - SSARR flow
      - Nine Mile (BSN 1)
      - Dickey Basin * (BSN 2)
      - Dickey (Summing Point)
      - Allagash Gauge (BSN 3)
      - St. Francis Gauge (BSN 4)
      - Fish River Gauge (BSN 5)
      - Fort Kent Local * (BSN 6)
      - Fort Kent Gauge (Summing
      - Baker Brook (BSN 7)
      - Madawaska River St. Rose
      - Iroquois (BSN 11)
      - Green River (BSN 12)
      - Grand River (BSN 14)
      - Little River * (BSN 16)
      - Grand Falls Gauge (Summi
      - Salmon River (BSN 17)
      - Masardis (BSN 18)
      - Machais * (BSN 19)
      - Washburn Basin * (BSN 20
      - Washburn (Summing Point
      - Tinker Basin * (BSN 21)
      - Tinker Gauge (Summing Po
      - Limestone * (BSN 22)
      - Riley Brook (BSN 23)
      - Riley Brook (Summing Poin
      - Plaster Rock Basin * (BSN
      - Plaster Rock (Summing Poi
      - Tobique Narrow Local (BSN
      - Tobique Narrows (Summing

Warm state selection

Time zero: 10-09-2018 07:00:00

Forecast length:

edit run options

- Observed Meteo
  - Precipitation (Inverse Distance)
    - Precipitation (EC NWP)
    - Precipitation 3hr (Inverse Distance)
    - Precipitation 24hr (Inverse Distance)
    - Precipitation (24 hr Observations)
    - Precipitation (1 hr Observations)
    - Precipitation (Radar Estimates)
    - Precipitation (Radar Catchment Averages)
  - Temperature (Inverse Distance)
  - Snow (Inverse Distance)
- Catchment Averaged Meteo Observed
- Catchment Averaged Hydrographs Observed
- Precipitation Bias

Moving Accumulation

1 day

Ignore Missings

>= 0
>= 0.125
>= 0.25
>= 0.5
>= 1
>= 2
>= 4
>= 8
>= 16
>= 32
>= 64

05-09-2018 07:00:00 GMT-4

N

km 50 100 150 200 250

Map | Plots | Manual Forecast | Modifiers | Data Editor | Spatial Display

Plot Overview

Logs

11-09-2018 08:10:41 INFO - TimeSeriesIndex.CompactFinished: 43 seconds, removed rows 0/200822, removed time series 0/13133, removed groups 0/21034, removed ids 0/1056, removed qualifier set ids 0/0, removed id sequences 0/15686, released memory 0 B/12 MB
11-09-2018 08:10:38 INFO - Reading 200822 time series row ids from database finished in 41 seconds
11-09-2018 08:09:57 INFO - Compact time series cache files
11-09-2018 08:09:52 INFO - Application.Startup.Finished: The application finished starting up. (8.6s)
11-09-2018 08:09:52 INFO - Gui.Initialized: Graphical user interface initialized.

6 : Logs | 7 : Forecaster Notes

Newton, Brent (ELG/EGL) | Current system time: 10-09-2018 07:00 (GMT-4) | 16:31:17 GMT | 13:31:17 ADT | Stand alone | -60.018 , 47.165 | 0.0 MB/s | 134 MB

FEWS New Brunswick V1.0 (Stand alone)

File Tools Options Help

Forecasts

UBCWM flow
- All basins
- Nine Mile (BSN 1)
- Dickey Basin * (BSN 2)
- Dickey (Summing Point)
- Allagash Gauge (BSN 3)
- St. Francis Gauge (BSN 4)
- Fish River Gauge (BSN 5)
- Fort Kent Local * (BSN 6)
- Fort Kent Gauge (Summing
- Baker Brook (BSN 7)
- Madawaska River St. Rose
- Iroquois (BSN 11)
- Green River (BSN 12)
- Grand River (BSN 14)
- Little River * (BSN 16)
- Grand Falls Gauge (Summir
- Salmon River (BSN 17)
- Masardis (BSN 18)
- Machais * (BSN 19)
- Washburn Basin * (BSN 20
- Washburn (Summing Point
- Tinker Basin * (BSN 21)
- Tinker Gauge (Summing Po
- Limestone * (BSN 22)
- Riley Brook (BSN 23)
- Riley Brook (Summing Poin
- Plaster Rock Basin * (BSN
- Plaster Rock (Summing Poi
- Tobique Narrow Local (BSN
- Tobique Narrows (Summing
- Beechwood (Summing Poin
- Tracy Mills (BSN 29)
- Becaguimec (BSN 30)
- Meduxnekeag River at Bell
- Eel River (BSN 34)
- Shogomoc (BSN 35)
- Pokiok (BSN 36)
- Nackawic (BSN 38)

Warm state selection

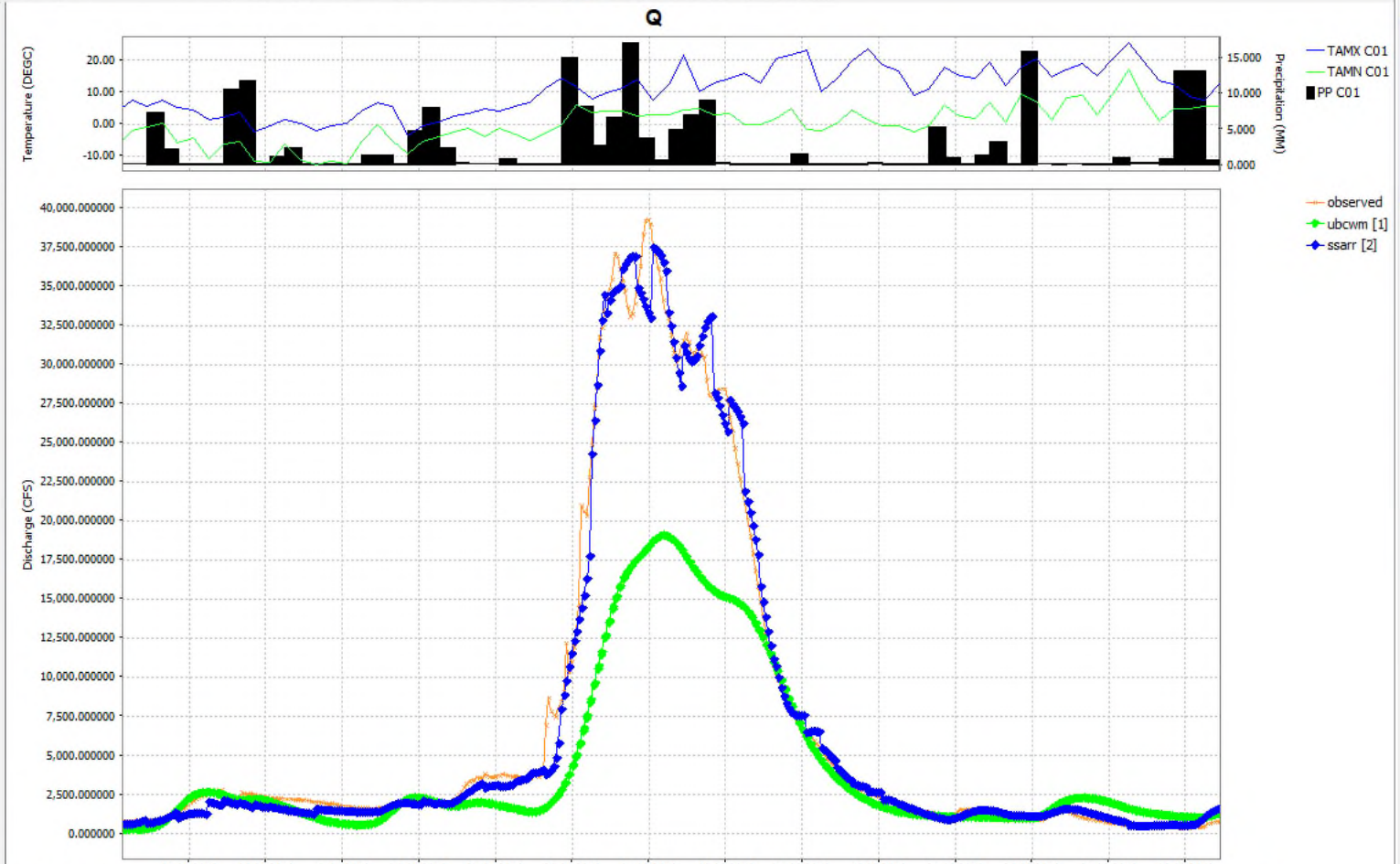
Time zero: 21-09-2018 13:00:00

Forecast length:

edit run options

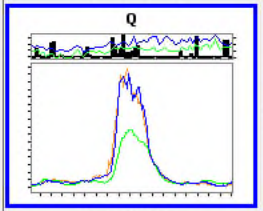
GMT-4	A	B
	PP (MM)	TAMX (DEGC)
	C01 C01	C01 C01
	PrecipitationGrid	TemperatureGri
27-03-2018 16:00		
27-03-2018 17:00		
27-03-2018 18:00		
27-03-2018 19:00		
27-03-2018 20:00		
27-03-2018 21:00		
27-03-2018 22:00		
27-03-2018 23:00		
28-03-2018 00:00		
28-03-2018 01:00		
28-03-2018 02:00		
28-03-2018 03:00		
28-03-2018 04:00		
28-03-2018 05:00		
28-03-2018 06:00		
28-03-2018 07:00	0.179	7.1
28-03-2018 08:00		
28-03-2018 09:00		
28-03-2018 10:00		
28-03-2018 11:00		
28-03-2018 12:00		
28-03-2018 13:00		
28-03-2018 14:00		
28-03-2018 15:00		
28-03-2018 16:00		
28-03-2018 17:00		
28-03-2018 18:00		
28-03-2018 19:00		
28-03-2018 20:00		
28-03-2018 21:00		
28-03-2018 22:00		
28-03-2018 23:00		
29-03-2018 00:00		
29-03-2018 01:00		
29-03-2018 02:00		
29-03-2018 03:00		
29-03-2018 04:00		

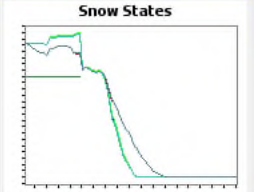
UBCWM_SaintJohnRiver_UpdateStates: [1] Run UBCW...

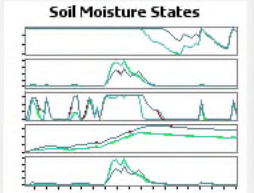


UBCWM_SaintJohnRiver_UpdateStates: [1] Run UBCWM (RAVEN) up... 10-09-2018 07:00:00 GMT-4 Current SSARR_SaintJohnRiver_UpdateStates: [2] 10-09-2018 07:00:00 GMT-4 Current

Plot Overview







Map | Plots | Manual Forecast | Modifiers | Data Editor

Logs

21-09-2018 13:27:14 INFO - Application.Startup.Finished: The application finished starting up. (54s)
21-09-2018 13:27:14 INFO - Gui.Initialized: Graphical user interface initialized.
21-09-2018 13:26:46 INFO - Session.Created: Stand-alone system
21-09-2018 13:26:35 INFO - Config.CheckFinished: Check of configuration finished.
21-09-2018 13:26:35 INFO - Configuration.Available: Configuration available in local filesystem.

6 : Logs | 7 : Forecaster Notes

Newton, Brent (ELG/EGL) | Current system time:21-09-2018 13:00 (GMT-4) | 17:30:11 GMT | 14:30:11 ADT | Stand alone | 0.0 MB/s | 91 MB

FEWS New Brunswick V1.0 (Stand alone)

File Tools Options Help

Forecasts

- Hydrology Centre
  - Import and modify external data
    - Import external data
    - Check flow
    - Check hydropower
    - Check meteo
    - Check snow
  - Run SSARR update
    - SSARR flow
    - Reservoir and ice jam flow
    - SSARR meteo
  - Run SSARR forecast
    - EC forecast
    - Off-season forecast
    - Reservoir and ice jam forecast
    - SSARR forecast
  - Run UBCWM (RAVEN) update
    - UBCWM flow
  - Run UBCWM (RAVEN) forecast
  - Run HECRAS Upper SJR update
  - Run HECRAS Upper SJR forecast
  - Run HECRAS Upper SJR Steady St
  - Run HECRAS Lower SJR update
  - Run HECRAS Lower SJR forecast
    - Forecast flow inputs
    - Forecast Tide
    - Forecast flow outputs
      - Fredericton (131094-2)
      - Maugerville (109942-4)
      - Upper Gagetown (91007-4
      - Jemseg (81086-37)
      - Gagetown (75583-65)
      - Oak Point (42224-79)
      - Indian Town (4641-207)
      - Lakeville Corner (23869-29
      - Grand Lake (8685-772)
  - Reports
  - Run HECRAS_Raven Upper SJR up
  - Run HECRAS_Raven Upper SJR fo
  - Run HECRAS_Raven Upper SJR St

Warm state selection

Time zero: 10-09-2018 07:00:00

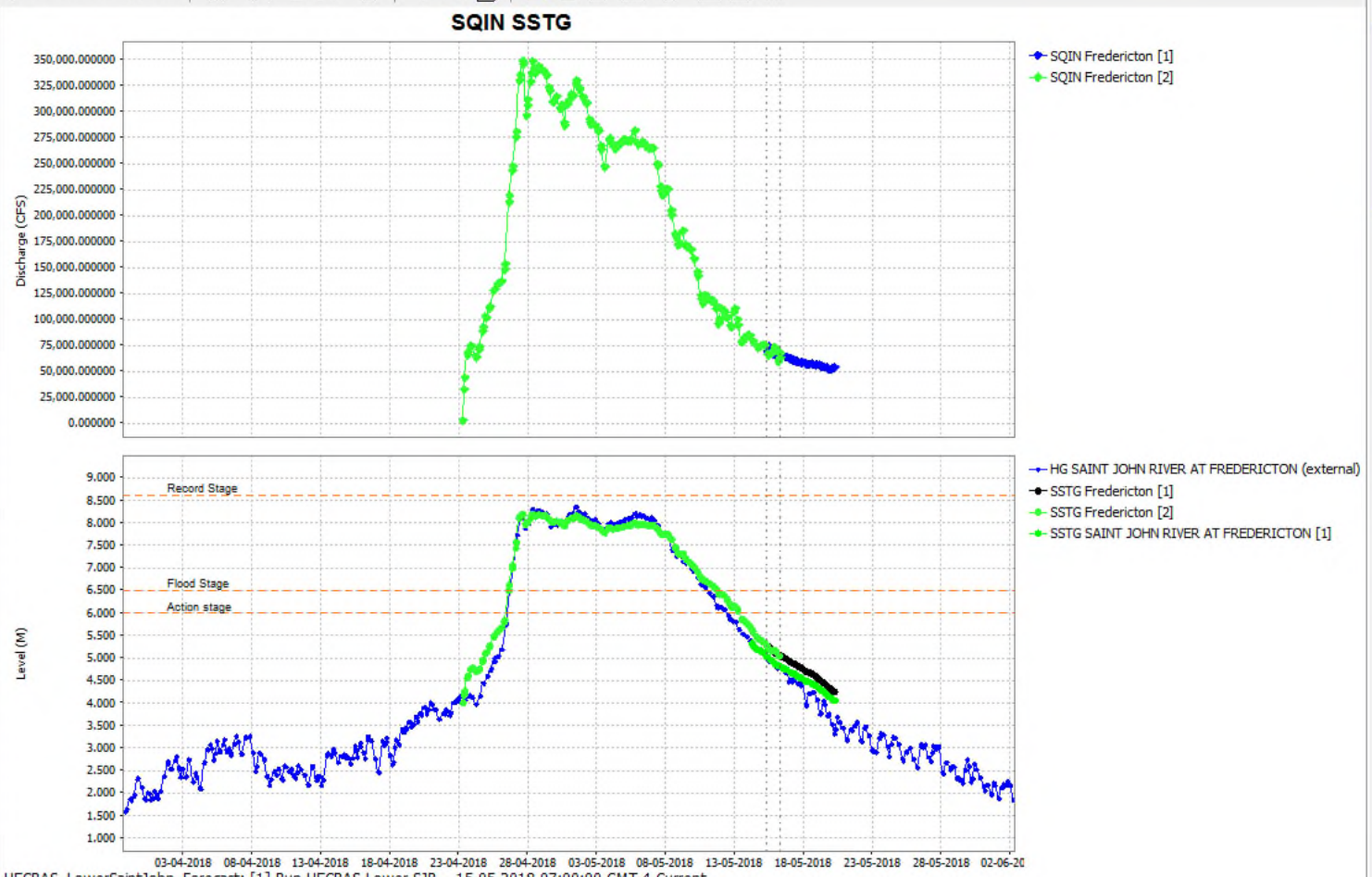
Forecast length:

edit run options

Cancel Apply

GMT-4	A	B
	SQIN (CFS)	SQIN (CFS)
	Fredericton HEC_131094-2	Fredericton HEC_131094-2
	HECRAS_LowerS	HECRAS_LowerS
	[1]	[2]
29-03-2018 15:30:00		
29-03-2018 15:35:00		
29-03-2018 15:40:00		
29-03-2018 15:45:00		
29-03-2018 15:50:00		
29-03-2018 15:55:00		
29-03-2018 15:57:23		
29-03-2018 16:00:00		
29-03-2018 16:05:00		
29-03-2018 16:10:00		
29-03-2018 16:15:00		
29-03-2018 16:20:00		
29-03-2018 16:25:00		
29-03-2018 16:30:00		
29-03-2018 16:35:00		
29-03-2018 16:40:00		
29-03-2018 16:45:00		
29-03-2018 16:50:00		
29-03-2018 16:55:00		
29-03-2018 16:57:22		
29-03-2018 17:00:00		
29-03-2018 17:05:00		
29-03-2018 17:10:00		
29-03-2018 17:15:00		
29-03-2018 17:20:00		
29-03-2018 17:25:00		
29-03-2018 17:30:00		
29-03-2018 17:35:00		
29-03-2018 17:40:00		
29-03-2018 17:45:00		
29-03-2018 17:50:00		
29-03-2018 17:55:00		
29-03-2018 17:57:22		
29-03-2018 18:00:00		
29-03-2018 18:05:00		

HECRAS_LowerSaintJohn_Forecast: [1] Run HECRAS Lower S...

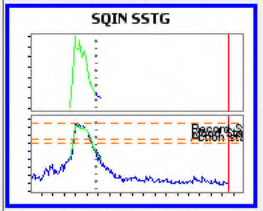


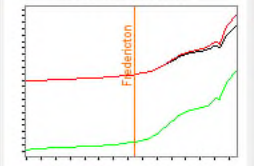
HECRAS_LowerSaintJohn_Forecast: [1] Run HECRAS Lower SJR... 15-05-2018 07:00:00 GMT-4 Current

HECRAS_LowerSaintJohn_UpdateStates: [2] Run HECRAS Lower SJR... 16-05-2018 07:00:00 GMT-4 Current

Map | Plots | Manual Forecast | Modifiers | Data Editor | Spatial Display

Plot Overview





Logs

11-09-2018 08:10:41 INFO - TimeSeriesIndex.CompactFinished: 43 seconds, removed rows 0/200822, removed time series 0/13133, removed groups 0/21034, removed ids 0/1056, removed qualifier set ids 0/0, removed id sequences 0/15686, released memory 0 B/12 MB
11-09-2018 08:10:38 INFO - Reading 200822 time series row ids from database finished in 41 seconds
11-09-2018 08:09:57 INFO - Compact time series cache files
11-09-2018 08:09:52 INFO - Application.Startup.Finished: The application finished starting up. (8.6s)
11-09-2018 08:09:52 INFO - Gui.Initialized: Graphical user interface initialized.

6 : Logs | 7 : Forecaster Notes

Newton, Brent (ELG/EGL) | Current system time: 10-09-2018 07:00 (GMT-4) | 17:04:04 GMT | 14:04:04 ADT | Stand alone | -73.998 , 48.456 | 0.0 MB/s | 190 MB

1 : Forecasts | 5 : Data Viewer | 8 : Forecaster Help | 4 : Plot Overview

Reports

Department of Environment and Local Government

New Nouveau Brunswick

ministères Environnement et Gouvernements locaux

UPPER SAINT JOHN RIVER 5-DAY FORECAST

WATER LEVELS (W/L) IN METERS AND ABOVE MEAN SEA LEVEL

The actual water levels are obtained from stations operated by Environment Canada, NB Power and US Geological Survey
** Water level based on computer model. Ice jams can cause actual water levels to vary significantly from forecast levels
Weather input are provided by Environment Canada, US National Weather Service, Quebec Environment

12-Feb-2019

LOCATION	2008 LEVEL	FLOOD LEVEL	ACTUAL	RIVER FORECAST				
			0700 hrs	0700 hrs	0700 hrs	0700 hrs	0700 hrs	0700 hrs
			23Jan	24Jan	25Jan	26Jan	27Jan	28Jan
			Wednesday	Thursday	Friday	Saturday	Sunday	Monday
CONNORS ** W/L	146.7	170.7	159.9	159.9	160.3	160.9	160.9	160.7
SAINT FRANCOIS ** W/L	160.7	160.2	153.8	153.8	154.5	155.1	155.2	155.0
CLAIR \ FORT KENT W/L	158.18	156.2	152.77	152.8	153.5	154.3	154.3	154.0
BAKER BROOK ** W/L	151.4	150.8	146.1	146.1	146.5	147.0	147.0	146.9
SAINT HILAIRE ** W/L	148.1	145.5	141.3	141.3	141.9	142.5	142.5	142.3
EDMUNDSTON W/L	143.10	140.5	136.94	137.1	137.7	138.4	138.4	138.1
IROQUOIS ** W/L	142.0	140.65	133.8	134.0	134.6	135.4	135.4	135.1
ST. BASIL ** W/L	141.3	143.9	132.1	132.4	133.2	134.0	134.0	133.7
SAINT ANNE ** W/L	138.8	138.3	129.1	130.4	130.8	131.3	131.3	131.1
ST. LEONARD ** W/L	137.3	136.0	129.76	132.4	132.6	132.9	132.9	132.7
WEATHER (MODEL INPUT)	PRECIP. (mm)		0- 13	8- 17	15- 44	2- 4	0- 0	10- 18
	TEMP. (C)		- 9/- 21	3/- 18	9/- 7	- 3/- 15	- 11/- 25	1/- 23

ISSUED @:16:18
SERIAL NO:SERIAL_XX

Note: This forecast is dependent on the development of forecast weather conditions

New Nouveau Brunswick

Reports

Department of Environment and Local Government

New Nouveau Brunswick

ministères Environnement et Gouvernements locaux

SAINT JOHN RIVER 5-DAY FORECAST

FLOWS IN CUBIC FEET PER SECOND AND WATER LEVELS (W/L) IN METERS

12-Feb-2019

The actual water levels and flows are obtained from stations operated by Environment Canada, NB Power and US Geological Survey
Weather input are provided by Environment Canada, US National Weather Service, Quebec Environment

LOCATION		FLOOD LEVEL	ACTUAL	RIVER FORECAST				
			0700 hrs	0700 hrs	0700 hrs	0700 hrs	0700 hrs	0700 hrs
			23Jan	24Jan	25Jan	26Jan	27Jan	28Jan
			Wednesday	Thursday	Friday	Saturday	Sunday	Monday
CLAIR / FORT KENT	FLOW		N/A	N/A	4,560	6,030	7,490	7,340
GRAND FALLS DISCHARGE	FLOW		N/A	N/A	8,910	10,200	12,100	12,800
AROOSTOOK	FLOW		N/A	N/A	1,930	5,110	5,730	4,400
TOBIQUE	FLOW		N/A	N/A	1,770	6,290	4,740	2,540
BEECHWOOD INFLOW	FLOW		N/A	N/A	12,800	21,500	23,100	20,400
MACTAQUAC INFLOW	FLOW		N/A	N/A	17,600	28,200	29,400	24,600
MCKINLEY	FLOW		3,323	N/A	N/A	N/A	N/A	N/A
ST. LEONARD	W/L	136.0	129.76					
PERTH ANDOVER	W/L	77.2	73.61					
SIMONDS	W/L	48.5	45.46					
HARTLAND	W/L	45.7	42.90					
WOODSTOCK	W/L	41.4	40.16					
NASHWAAK (Durham Bridge)	W/L	21.0	18.95	N/A	18.0	18.5	18.2	18.0
KENNEBECASIS (Apohaqui)	W/L	13.0	9.32	N/A	8.8	9.0	8.6	8.4
FREDERICTON	W/L	6.5	1.65	N/A	N/A	N/A	N/A	N/A
MAUGERVILLE	W/L	6.0	1.76	N/A	N/A	N/A	N/A	N/A
JEMSEG	W/L	4.3	1.57	N/A	N/A	N/A	N/A	N/A
GRAND LAKE	W/L	5.0	1.54	N/A	N/A	N/A	N/A	N/A
SHEFFIELD-LAKEVILLE CORNER	W/L	4.8	1.58	N/A	N/A	N/A	N/A	N/A
OAK POINT	W/L	4.7	1.66	N/A	N/A	N/A	N/A	N/A
QUISPAMSIS-SAINT JOHN	W/L	4.2	1.33	N/A	N/A	N/A	N/A	N/A
WEATHER (MODEL INPUT)	PRECIP. (mm) NORTH		0- 13	8- 17	15- 44	2- 4	0- 0	10- 18
	PRECIP. (mm) SOUTH		0- 0	11- 20	38- 50	0- 4	0- 0	10- 20
	TEMP. (C) NORTH		- 9/- 21	3/- 18	9/- 7	- 3/- 15	- 11/- 25	1/- 23
	TEMP. (C) SOUTH		- 8/- 19	5/ 0	9/ 9	3/- 3	- 6/- 11	2/- 1

SERIAL NO: SERIAL_XX ISSUED @: 16:18 BY HYDROLOGY CENTRE

Note: This forecast is dependent on the development of forecast weather conditions

New Nouveau Brunswick