

# North American WaterWatch



**WMO OMM**

World Meteorological Organization  
Organisation météorologique mondiale

**Harry F. Lins**

President, Commission for Hydrology

[Français](#)

# North America WaterWatch

## Map of real-time streamflow compared to historical streamflow for the day of year

(Choose a region and then click "GO" to view a regional map)

*(Warning: It may take several minutes to process)*

United States:  Water Res. Region:  Neighbor

Canada:  Canadian River Basins:



Explanation - Percentile classes						
	<10	10-24	25-75	76-90	>90	
Low	Much below normal	Below normal	Normal	Above normal	Much above normal	High

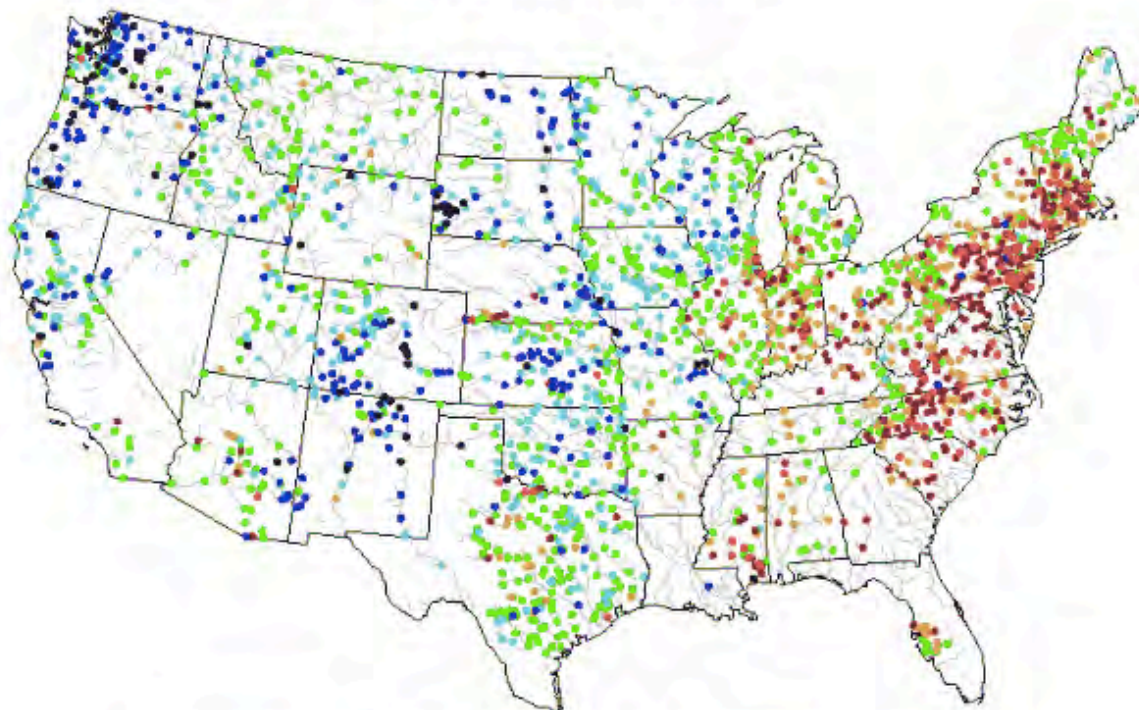
## Current Conditions for Virginia: Streamflow -- 238 site(s) found








### PROVISIONAL DATA SUBJECT TO REVISION

Station Number	Station name	Date/Time	Gage height, feet	Dis-charge, ft <sup>3</sup> /s
<b>■ ATLANTIC COASTAL BAYS</b>				
<a href="#">01484746</a>	CHINCOTEAGUE BAY INLET AT CHINCOTEAGUE, VA	09/18 16:00 EDT	--	--
<a href="#">0204291317</a>	THALIA CREEK AT ROUTE 58 AT THALIA, VA	09/18 15:18 EDT	--	--
<a href="#">0204293125</a>	LONDON BRIDGE CREEK AT RT 58 AT VIRGINIA BEACH, VA	09/18 15:48 EDT	--	--
<a href="#">0204295505</a>	LITTLE NECK CREEK AT PINWOOD RD AT VA BEACH, VA	09/18 15:48 EDT	--	--
<a href="#">0204297575</a>	LAKE RUDEE NEAR BELLS ROAD AT VIRGINIA BEACH, VA	09/18 15:48 EDT	--	--
<a href="#">365423076051300</a>	LYNNHAVEN RIV OFF VISTA CIR NR VIRGINIA BEACH, VA	09/18 15:48 EDT	--	--
<b>■ CHESAPEAKE BAY DRAINAGE - EASTERN SHORE</b>				
<a href="#">01484812</a>	NASSAWADOX CREEK AB CHURCH CRK NR SILVER BEACH, VA	09/18 15:36 EDT	--	--
<a href="#">01484938</a>	STARLING CREEK AT PORT OF SAXIS AT SAXIS, VA	09/18 15:42 EDT	--	--
<b>■ POTOMAC RIVER BASIN</b>				
<a href="#">01613900</a>	HOGUE CREEK NEAR HAYFIELD, VA	09/18 15:30 EDT	0.75	1.22
<a href="#">01615000</a>	OPEQUON CREEK NEAR BERRYVILLE, VA	09/18 15:45 EDT	4.15	16.1
<a href="#">01616100</a>	DRY MARSH RUN NEAR BERRYVILLE, VA	09/18 15:15 EDT	1.42	8.85
<a href="#">01616500</a>	OPEQUON CREEK NEAR MARTINSBURG, WV	09/18 16:00 EDT	2.14	111
<a href="#">01620500</a>	NORTH RIVER NEAR STOKESVILLE, VA	09/18 16:00 EDT	1.37	0.83
<a href="#">01621050</a>	MUDDY CREEK AT MOUNT CLINTON, VA	09/18 15:45 EDT	2.53	2.41
<a href="#">01622000</a>	NORTH RIVER NEAR BURKETOWN, VA	09/18 15:45 EDT	1.83	88.4
<a href="#">01625000</a>	MIDDLE RIVER NEAR GROTTOS, VA	09/18 15:15 EDT	3.26	93.9
<a href="#">01626000</a>	SOUTH RIVER NEAR WAYNESBORO, VA	09/18 15:15 EDT	2.39	32.0
<a href="#">01626850</a>	SOUTH RIVER NEAR DOOMS, VA	09/18 15:45 EDT	2.29	58.6
<a href="#">01627500</a>	SOUTH RIVER AT HARRISTON, VA	09/18 15:45 EDT	2.12	66.1
<a href="#">01628500</a>	S F SHENANDOAH RIVER NEAR LYNNWOOD, VA	09/18 15:45 EDT	2.30	254
<a href="#">01629500</a>	S F SHENANDOAH RIVER NEAR LURAY, VA	09/18 15:45 EDT	2.06	494
<a href="#">01631000</a>	S F SHENANDOAH RIVER AT FRONT ROYAL, VA	09/18 15:15 EDT	1.13	371
<a href="#">01632000</a>	N F SHENANDOAH RIVER AT COOTES STORE, VA	09/18 15:15 EDT	2.04	2.45
<a href="#">01632082</a>	LINVILLE CREEK AT BROADWAY, VA	09/18 15:45 EDT	1.12	5.79
<a href="#">01632900</a>	SMITH CREEK NEAR NEW MARKET, VA	09/18 15:45 EDT	1.23	20.3
<a href="#">01633000</a>	N F SHENANDOAH RIVER AT MOUNT JACKSON, VA	09/18 15:45 EDT	2.22	29.5
<a href="#">01634000</a>	N F SHENANDOAH RIVER NEAR STRASBURG, VA	09/18 15:45 EDT	1.66	84.3
<a href="#">01634500</a>	CEDAR CREEK NEAR WINCHESTER, VA	09/18 15:45 EDT	1.63	7.15
<a href="#">01635500</a>	PASSAGE CREEK NEAR BUCKTON, VA	09/18 15:45 EDT	2.93	4.66
<a href="#">01636316</a>	SPOUT RUN AT RT 621 NEAR MILLWOOD, VA	09/18 16:00 EDT	1.74	14.9
<a href="#">01636690</a>	PINEY RUN NEAR LOVETTSVILLE, VA	09/18 15:15 EDT	0.87	4.00
<a href="#">01638350</a>	S F CATOCTIN CREEK AT RT 698 NEAR WATERFORD, VA	09/18 15:15 EDT	1.43	4.24
<a href="#">01638420</a>	N F CATOCTIN CREEK AT RT 681 NEAR WATERFORD, VA	09/18 15:15 EDT	1.92	5.09
<a href="#">01638480</a>	CATOCTIN CREEK AT TAYLORSTOWN, VA	09/18 15:30 EDT	3.02	23.8
<a href="#">01643590</a>	LIMESTONE BRANCH NEAR LEESBURG, VA	09/18 15:50 EDT	0.66	2.71
<a href="#">01643700</a>	GOOSE CREEK NEAR MIDDLEBURG, VA	09/18 15:45 EDT	2.43	23.2
<a href="#">01643805</a>	N F GOOSE CREEK AT RT 729 NEAR LINCOLN, VA	09/18 15:15 EDT	1.93	16.8
<a href="#">01643880</a>	BEAVERDAM CREEK AT RT 734 NEAR MOUNTVILLE, VA	09/18 15:45 EDT	1.45	9.09

## Map of real-time streamflow compared to historical streamflow for the day of the year (United States)

Monday August 09, 1999 11:04 PM CT

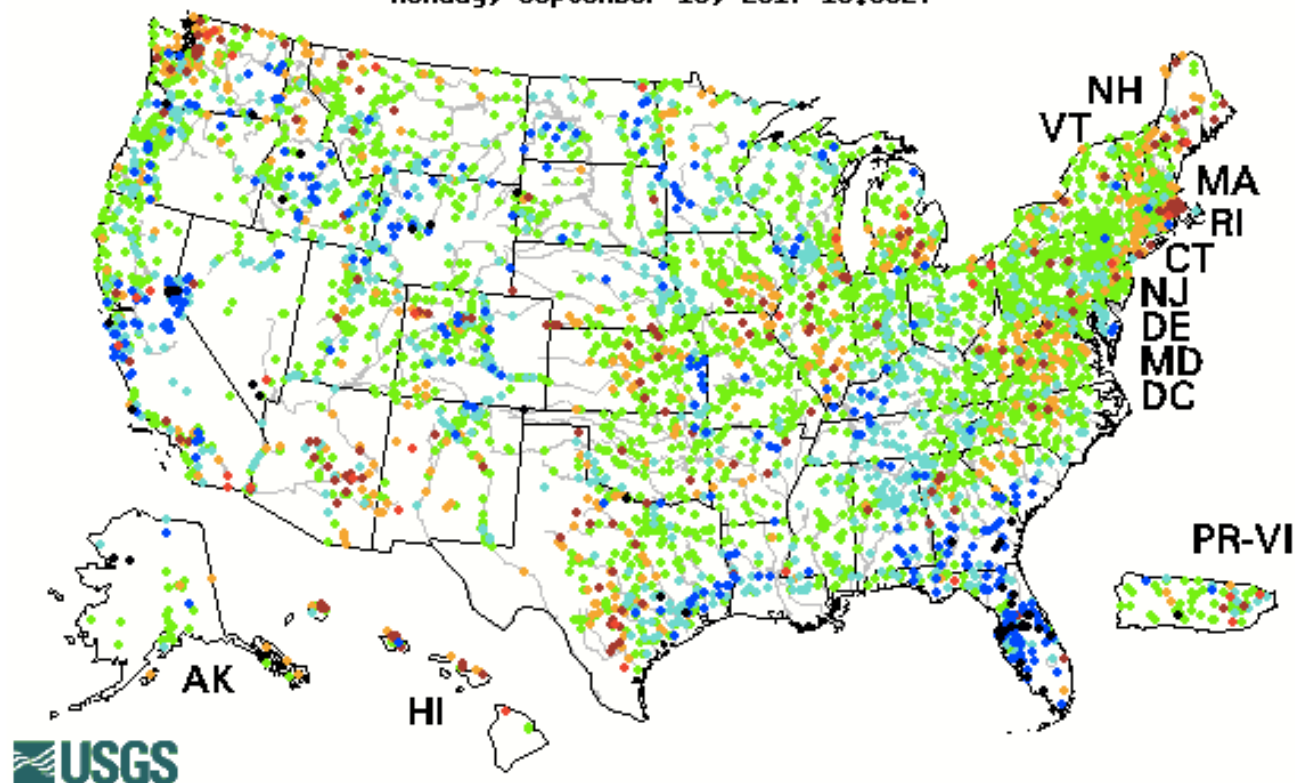








Explanation - Percentile classes						
						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

The data used to produce this map are **provisional** and have not been reviewed or edited. They may be subject to significant change.

## Map of real-time streamflow compared to historical streamflow for the day of the year (United States)

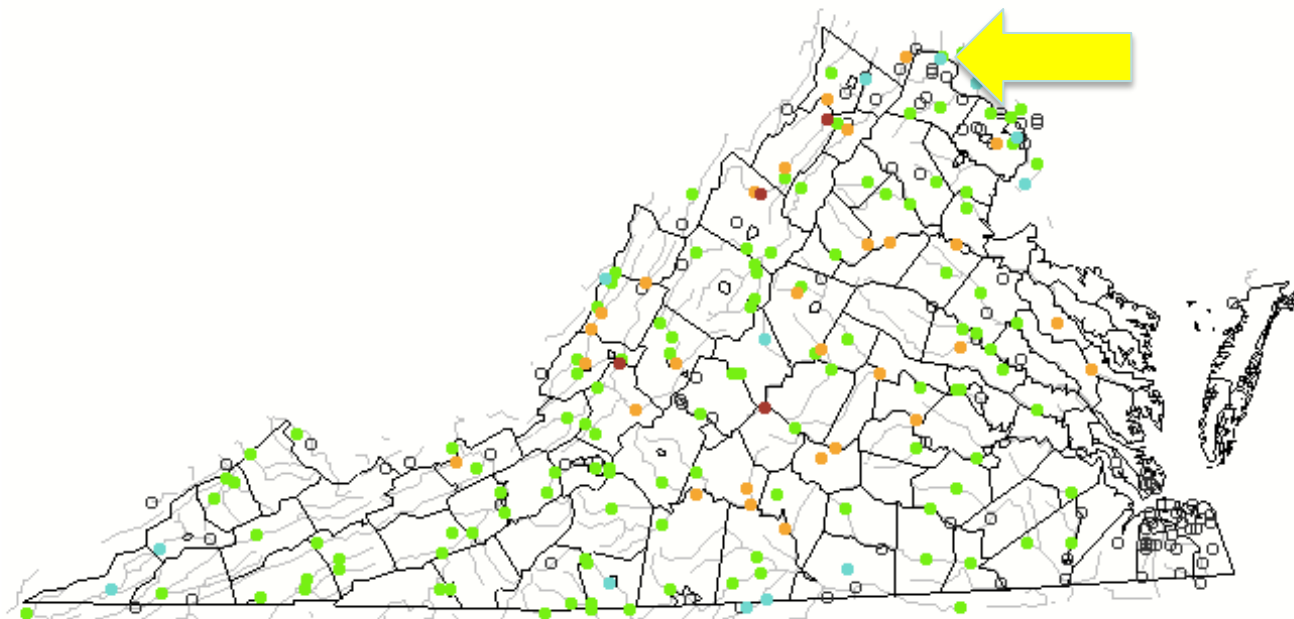
Monday, September 18, 2017 16:30ET









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Monday, September 18, 2017 16:30ET

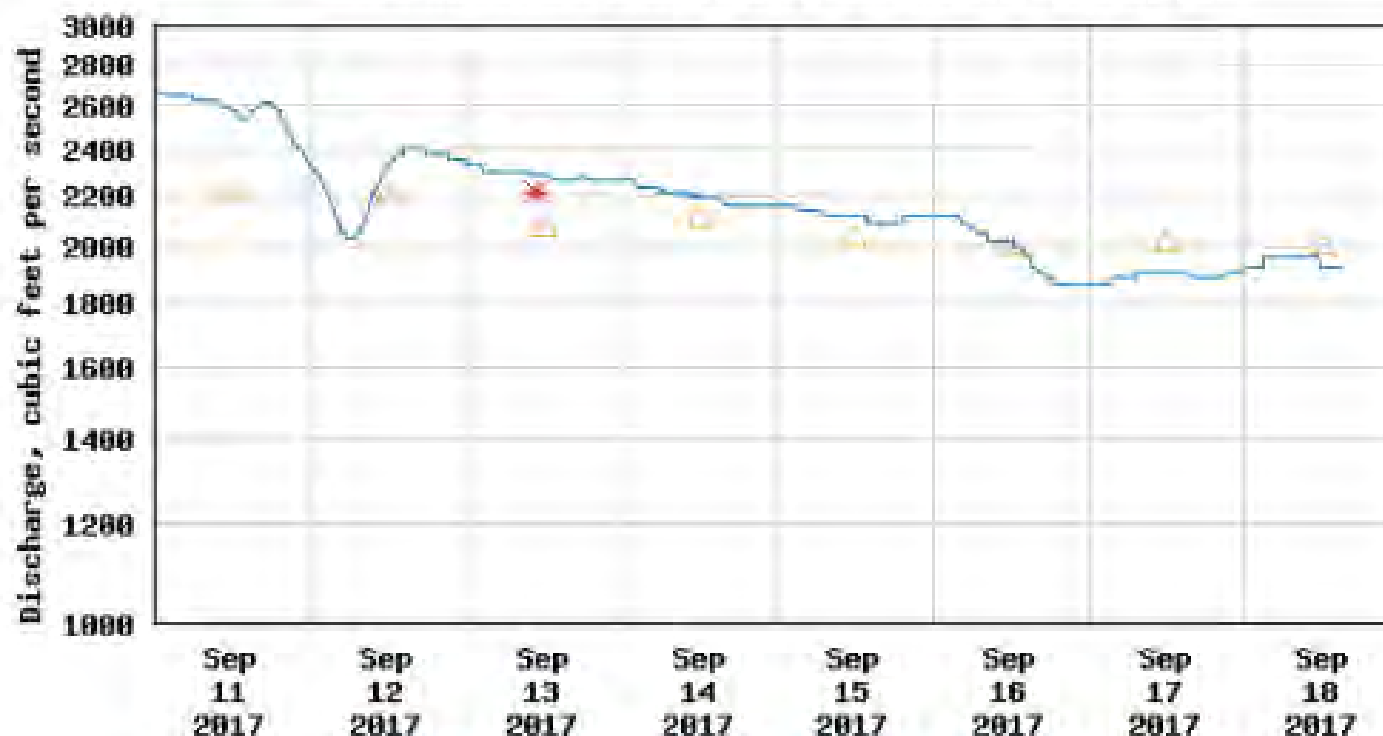


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## Discharge, cubic feet per second

Most recent instantaneous value: 1930 09-18-2017 14:45 EST

USGS 01638500 POTOMAC RIVER AT POINT OF ROCKS, MD



----- Provisional Data Subject to Revision -----

-  Median daily statistic (122 years)
-  Measured discharge
-  Discharge

# What's needed to make the WaterWatch Map?

- Latitude and longitude of the gauging station
- Near real-time stage and/or discharge data
- Historical file of daily mean values





# WaterWatch

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[Flood](#)

[Drought](#)

[Past Flow/Runoff](#)

[Animation](#)

[Toolkit](#)

[Annual Summaries](#)

[Additional Information](#)

[About WaterWatch](#)

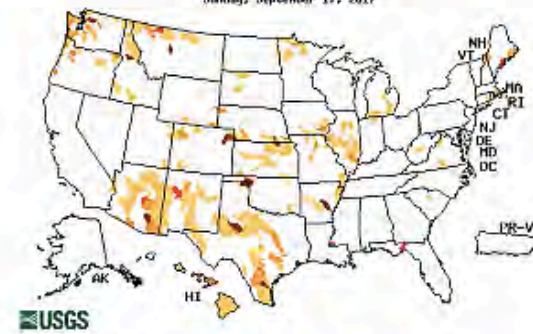
## Current Streamflow

Monday, September 10, 2017 15:30ET



## Drought

Sunday, September 17, 2017



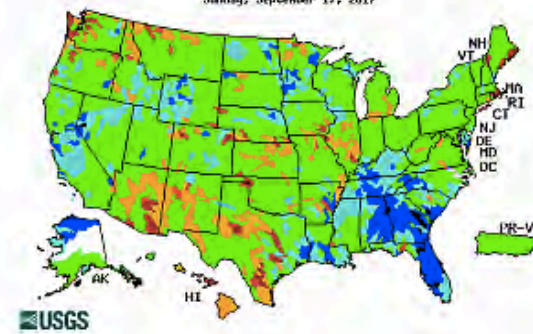
## Flood

Monday, September 10, 2017 15:30ET



## Past Flow/Runoff

Sunday, September 17, 2017



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




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Canada:  Canadian River Basins:  Go:



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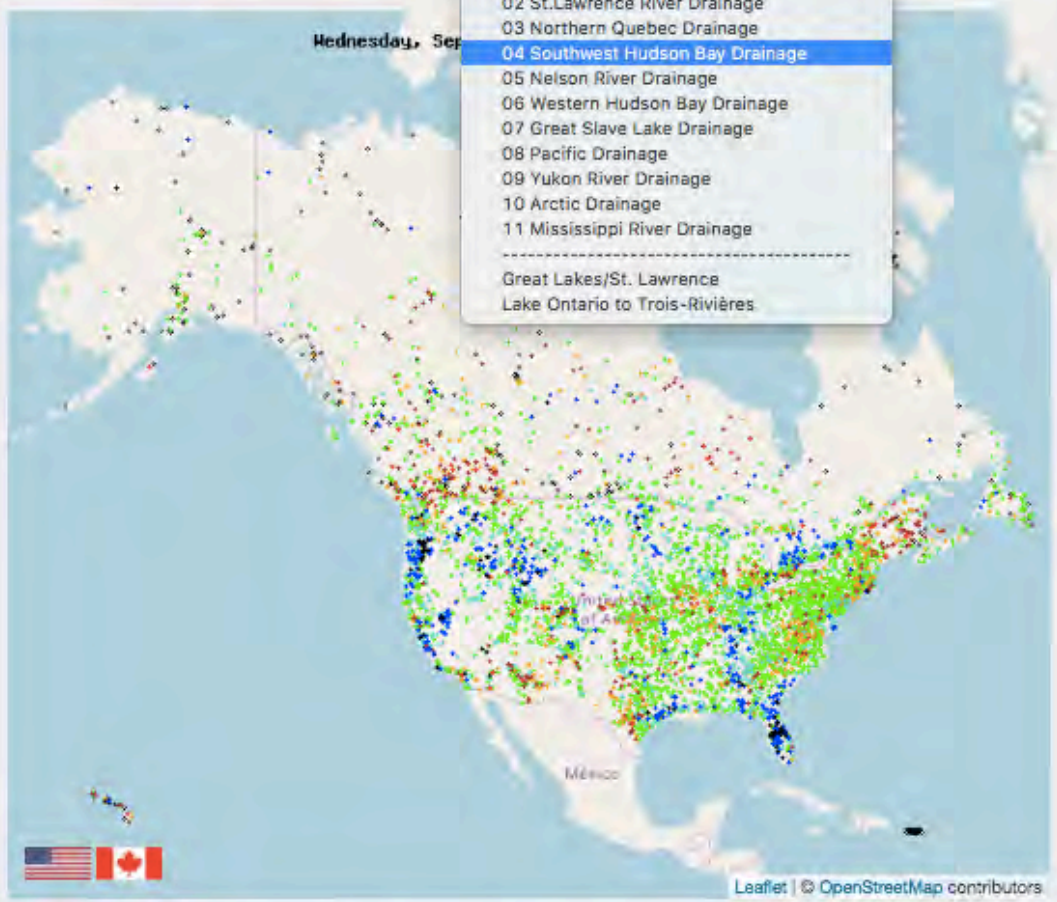
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(Choose a region and then click "Go")  
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United States:  Water Resources

Canada:

- Choose a Canadian river basin
- Canadian River Basins
  - 01 Maritime Provinces Drainage
  - 02 St. Lawrence River Drainage
  - 03 Northern Quebec Drainage
  - 04 Southwest Hudson Bay Drainage
  - 05 Nelson River Drainage
  - 06 Western Hudson Bay Drainage
  - 07 Great Slave Lake Drainage
  - 08 Pacific Drainage
  - 09 Yukon River Drainage
  - 10 Arctic Drainage
  - 11 Mississippi River Drainage
- 
- Great Lakes/St. Lawrence  
 Lake Ontario to Trois-Rivières



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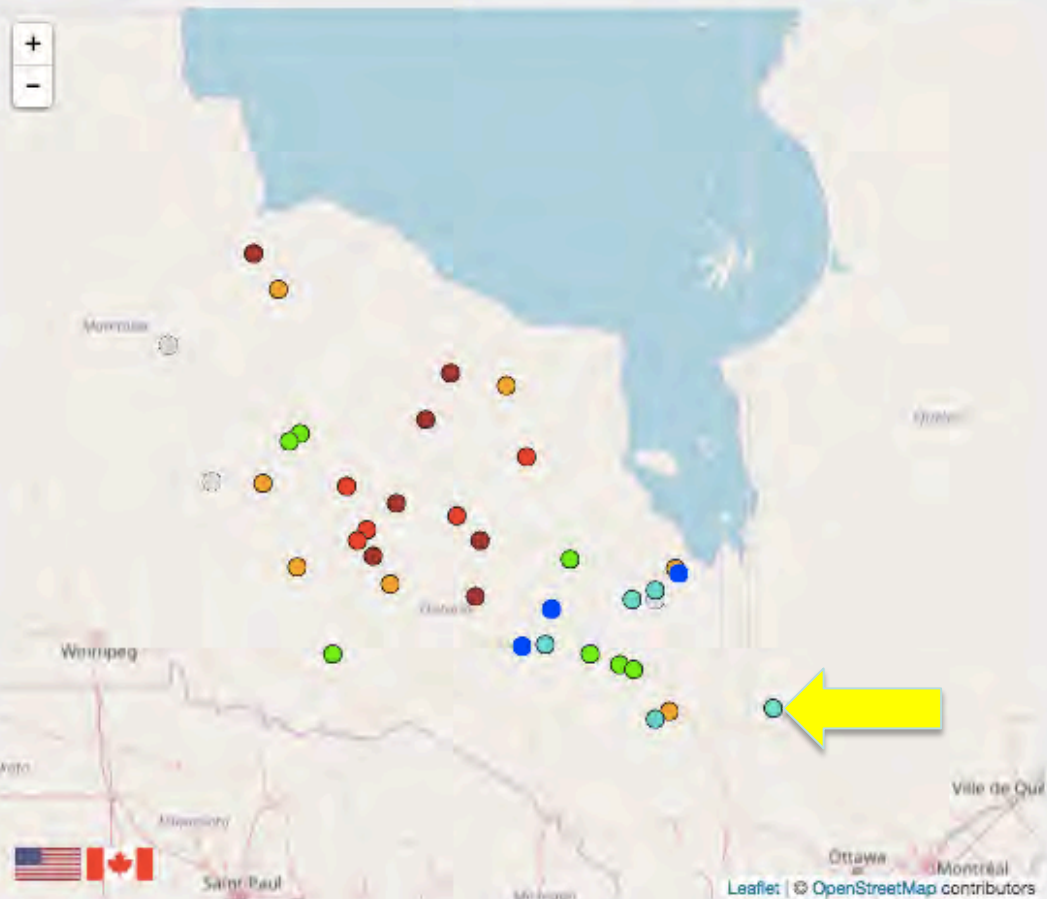
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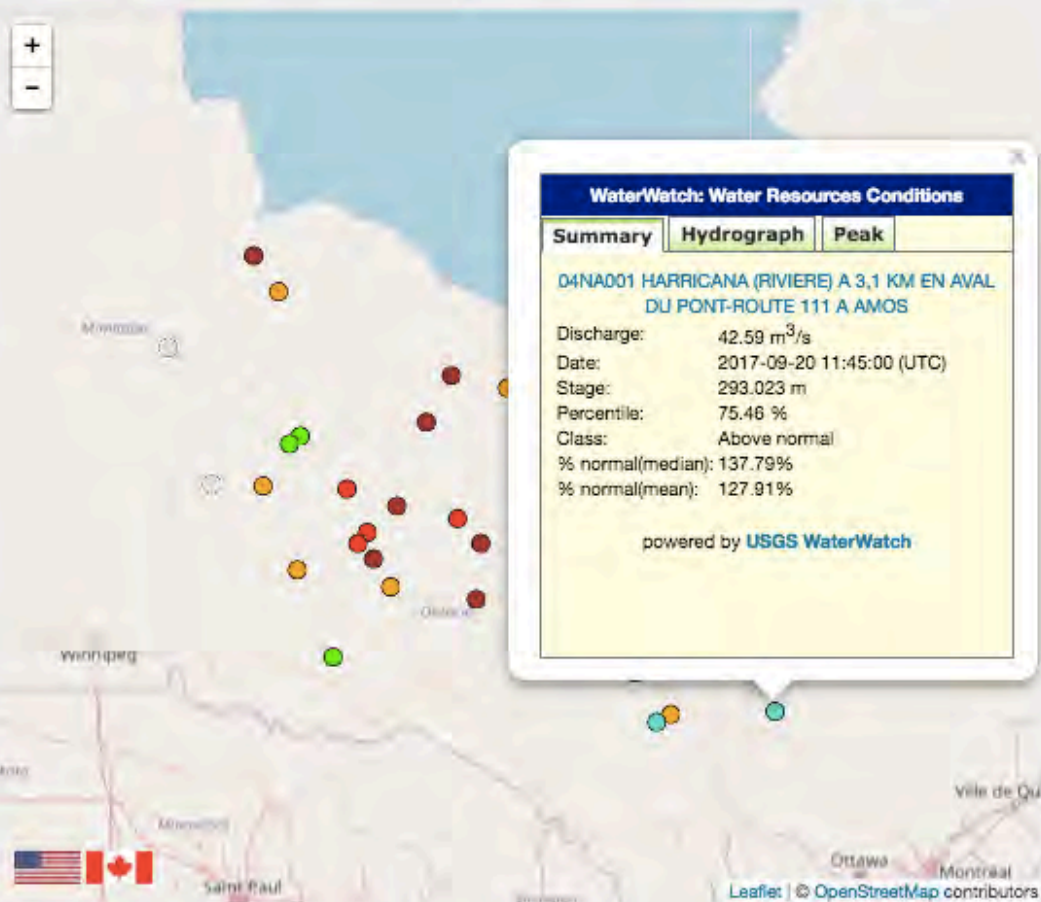
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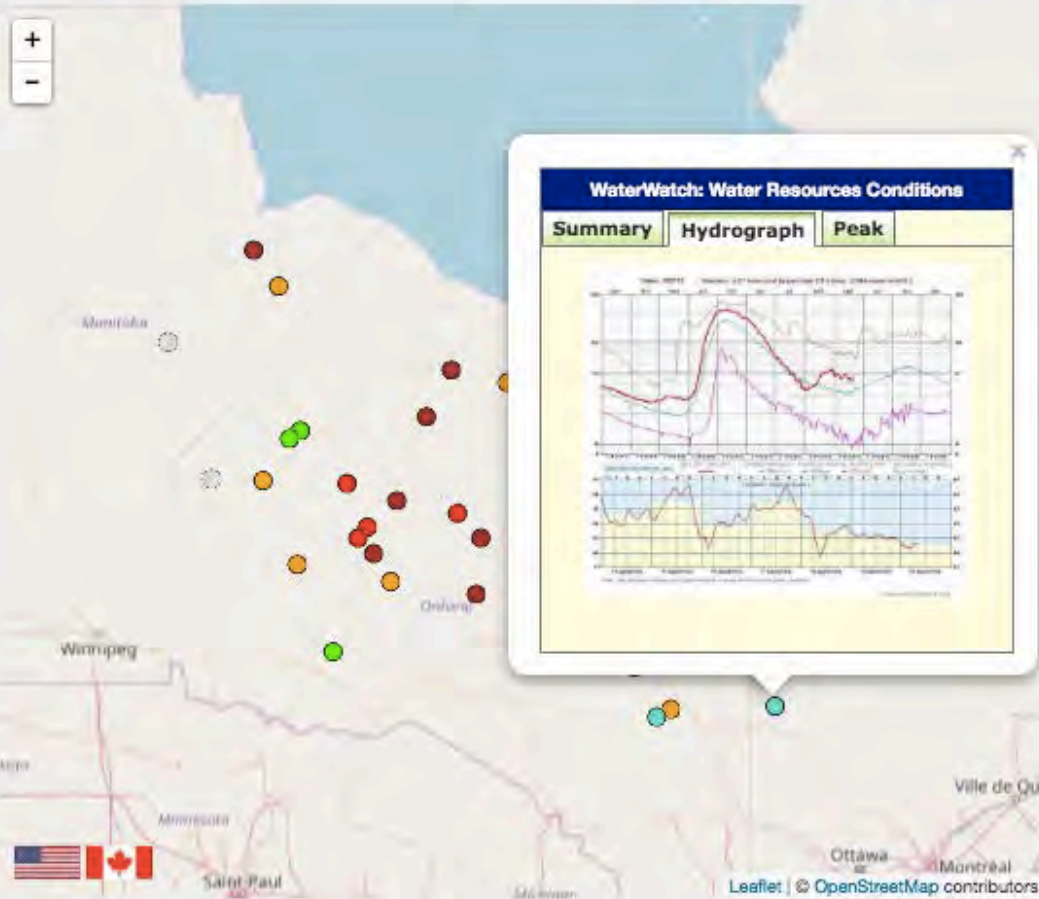
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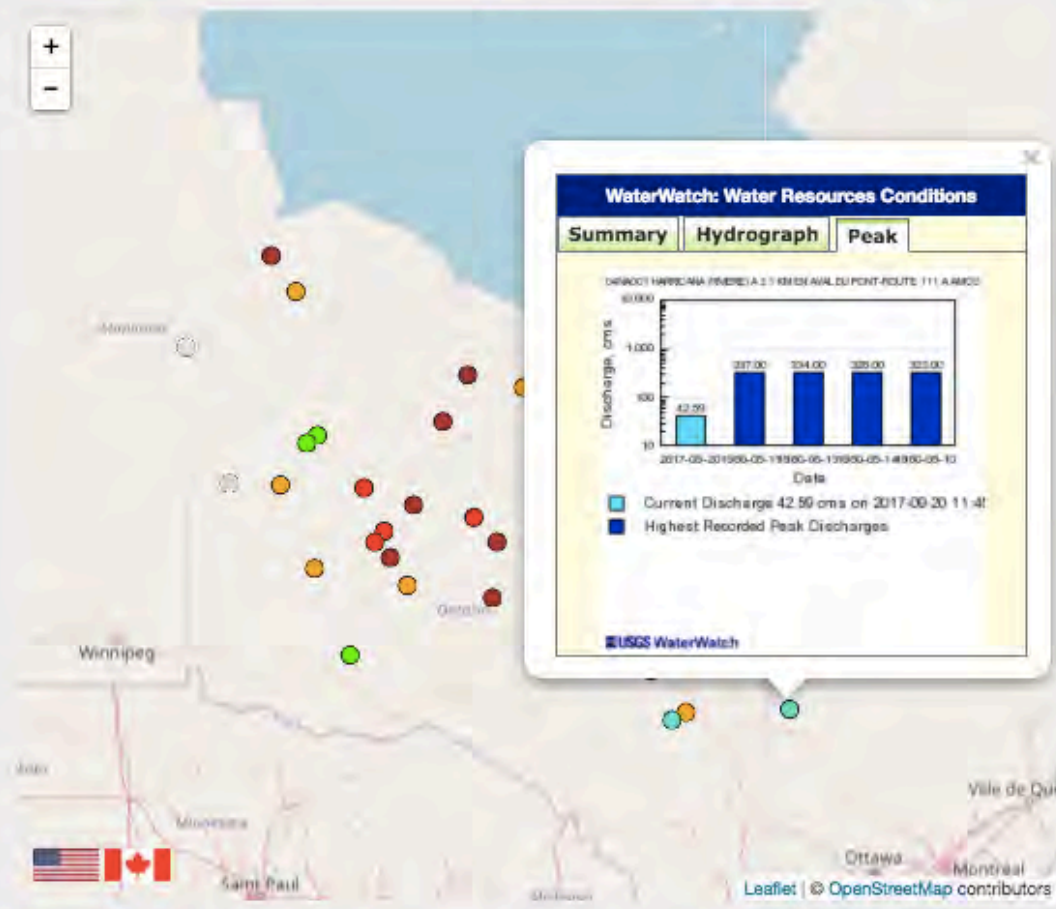
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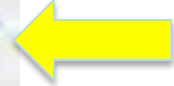
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Canada:  04 Southwest Hudson Bay Drainage



Explanation - Percentile classes

Color	Percentile Class	Description
Red	<10	Much below normal
Orange	10-24	Below normal
Green	25-75	Normal
Light Blue	76-90	Above normal
Dark Blue	>90	Much above normal
Black		High



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# WaterWatch Nord Américain

## Carte des débits en temps réel comparés aux débits historiques pour le même jour de l'année

(Choisissez une région et cliquez sur "Aller" pour visionner une carte régionale)

(Attention: Ce processus peut prendre jusqu'à quelques minutes)

États-Unis:  Région Hydrologique:  Régions Voisines:

Canada:  04 Sud-ouest de la baie d'Hudson  Aller



Percentiles - Explications						
<b>Très Bas</b>	<10	10-24	25-75	76-90	>90	<b>Très Haut</b>
	Bas	Sous la normale	Normale	Au-dessus de la normale	Haut	

# WaterWatch Nord Américain

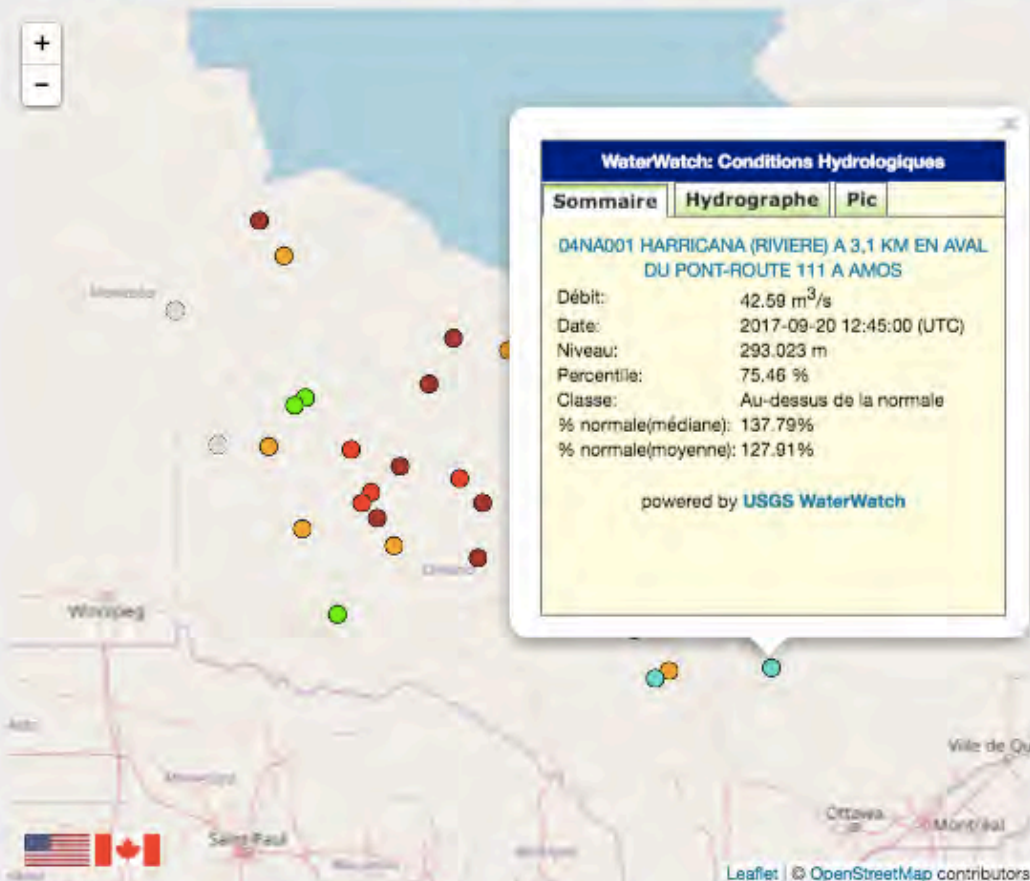
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# Key Users

- **Federal, Regional, State, and Local Government**
  - ◆ Emergency management agencies
  - ◆ Flood forecasters
  - ◆ Flood disaster planners and responders
  - ◆ Drought assessment, warning and response
  - ◆ Coastal ocean modelers (for shipping and fishing)
  - ◆ Municipal water suppliers
  - ◆ Fisheries management agencies
  - ◆ Reservoir operators
  - ◆ Wildfire management operations



# Key Users (cont'd)

- **Fed, Regional, State, and Local Gov't cont'd**
  - ◆ Land use planning agencies
  - ◆ Wildlife management agencies
  - ◆ Environmental protection organizations
  - ◆ Conservation planning and management agencies
  - ◆ Military (Navy, Corps of Engineers, Coast Guard)
  - ◆ Agriculture departments
  
- **Recreational businesses**
  - ◆ Whitewater and river guides
  - ◆ Fishing guides



# Key Users (cont'd)

## ➤ Industries

- ◆ Pulp and paper manufacturing
- ◆ Chemical manufacturing
- ◆ Power generators

## ➤ Private citizens

- ◆ Fishing
- ◆ Boating
- ◆ Land and home owners/purchasers



# Key Users (cont'd)

## ➤ Other

- ◆ Media (print, TV, and radio)
- ◆ Universities (researchers and students)
- ◆ Real estate brokers
- ◆ Insurance companies
- ◆ Consulting companies



# Challenges to creating NAWW

- Obtaining data from Canada
  - ❖ Real-time discharge, statistics, station info
  - ❖ Had to establish an FTP site for access
- Availability of hydrographs
  - ❖ No single source (3 different agencies)
  - ❖ Need separate code just to handle hydrographs
- Needed French version
- Needed to create special projection in Leaflet
- Code to obtain, process, and plot Canada data



# Challenges to expanding

- Not Technical
- Not Human Resources
- Not Cost
  - **AVAILABILITY OF DATA**
  - **COMMITMENT OF PARTNERS**





# Conclusion 1 -- Best Practice

- **Accessibility of data holdings through WHOS**
  - ❖ Cataloging services – provide index of hydrologic metadata
  - ❖ Metadata services – identification of time series
  - ❖ Data services – provide users with data

# Conclusion 2 -- Biggest Barrier

- **Willingness to partner and share data**
  - ❖ Overcoming administrative impediments
  - ❖ Demonstrating that benefits outweigh concerns
  - ❖ Ensuring sustainability of enterprise

