



Visualization Tools and Issues

Carl Gutwin and Ehsan Sotoodeh
Computer Science, University of Saskatchewan



UNIVERSITY OF
SASKATCHEWAN
Global Institute for
Water Security
www.usask.ca/water



gwf.usask.ca/impc



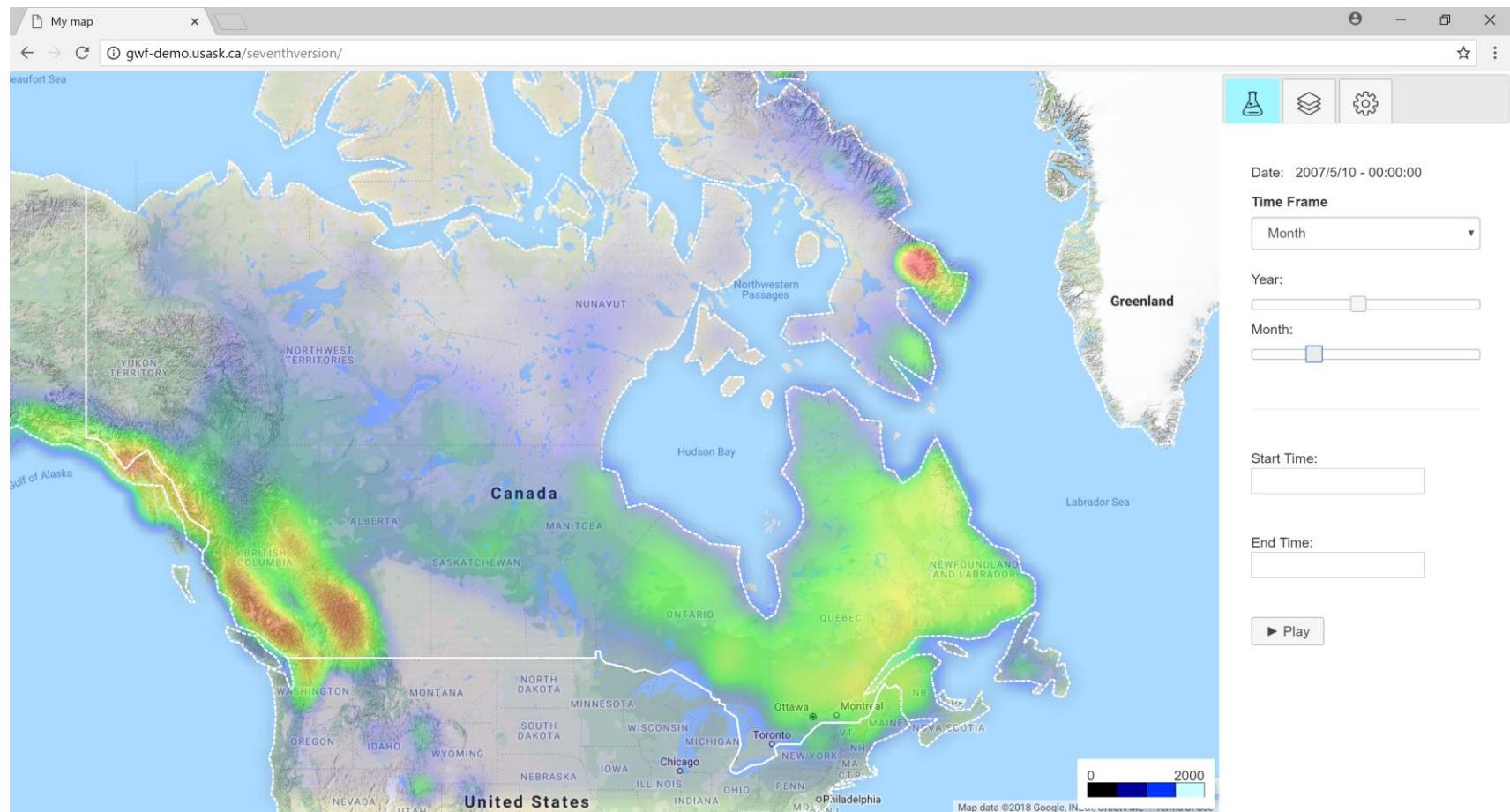
Outline

- The present: IMPC geovisualization system
- The future 1: self-serve geovisualization for IMPC
- The future 2: collaboration over geovisualizations
- The future 3: simplified modeling interfaces
- The future 4: decision support tools

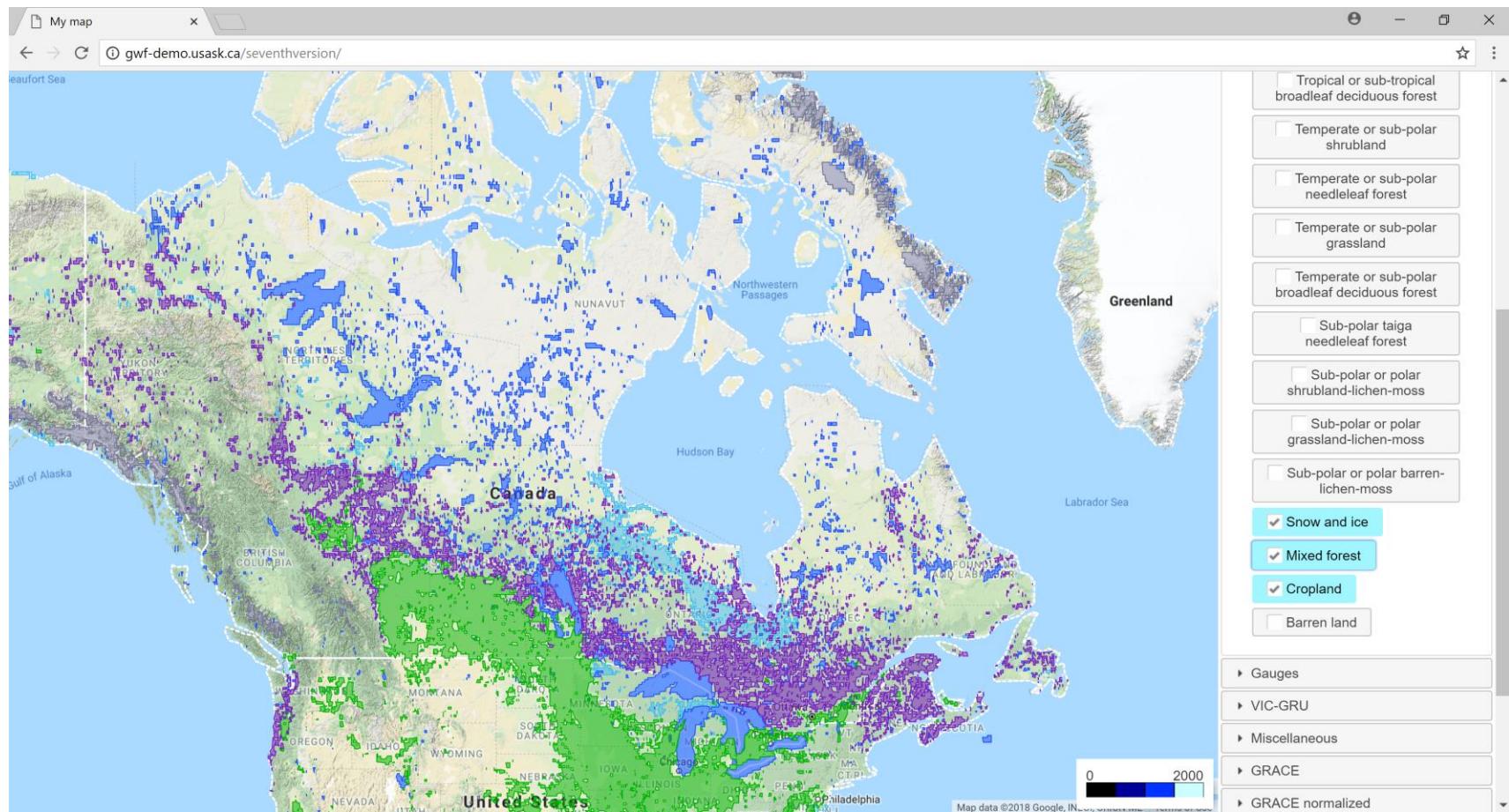




The Present: IMPC Geovisualization



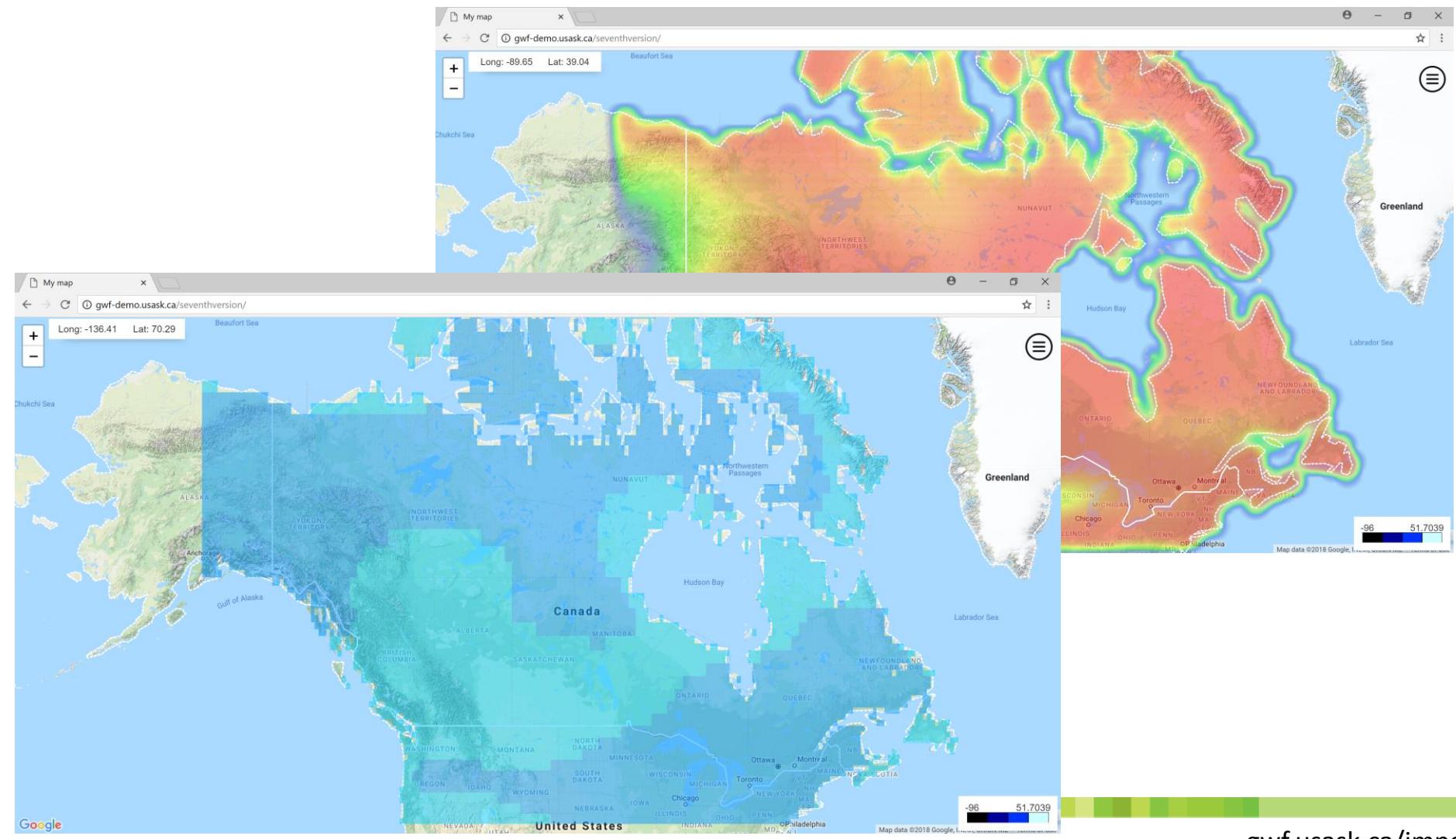
Maps and Layers





Different Layers

Datasets and visualization styles



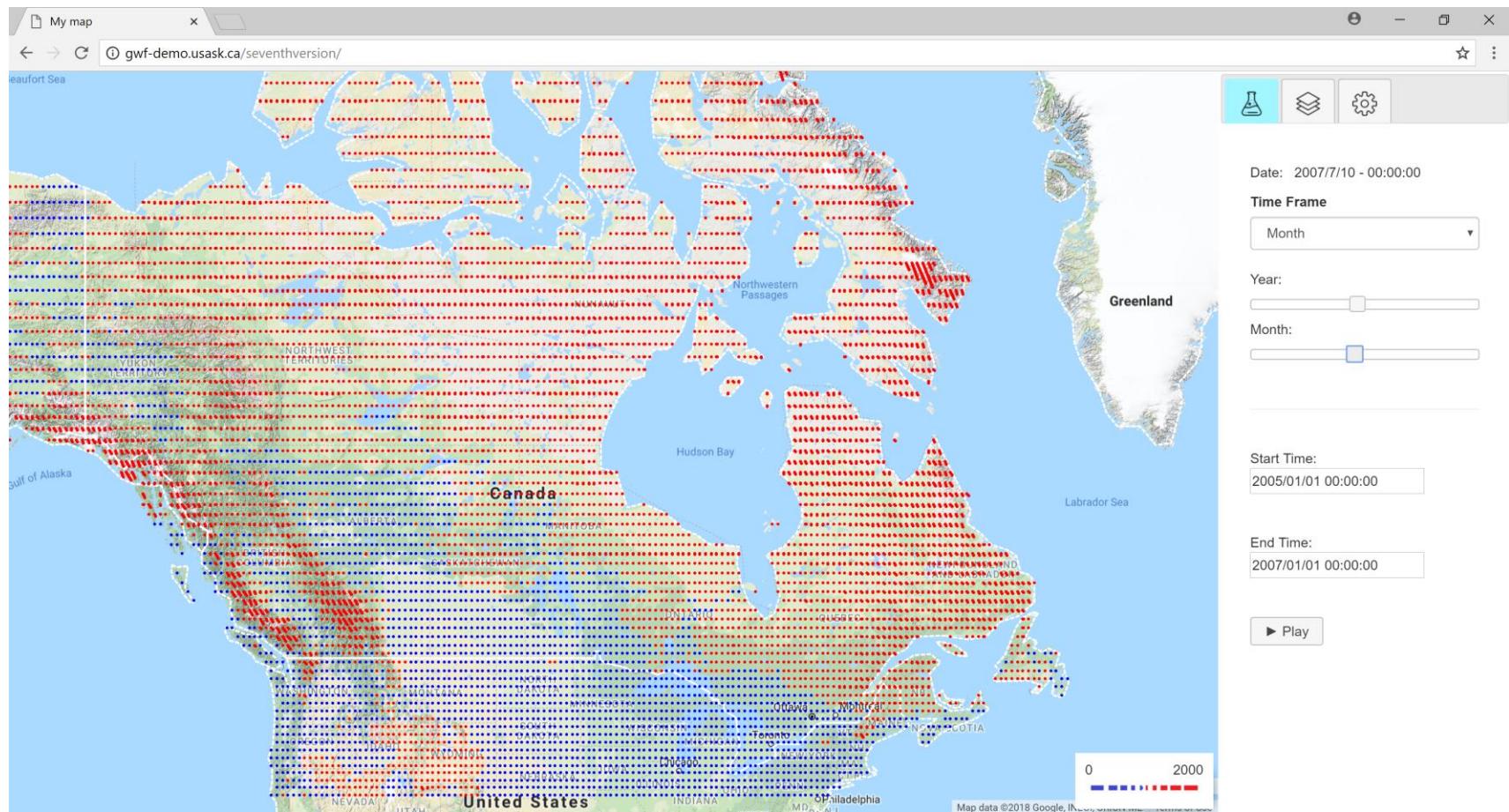


Three type of Visualization





Animations of data over time



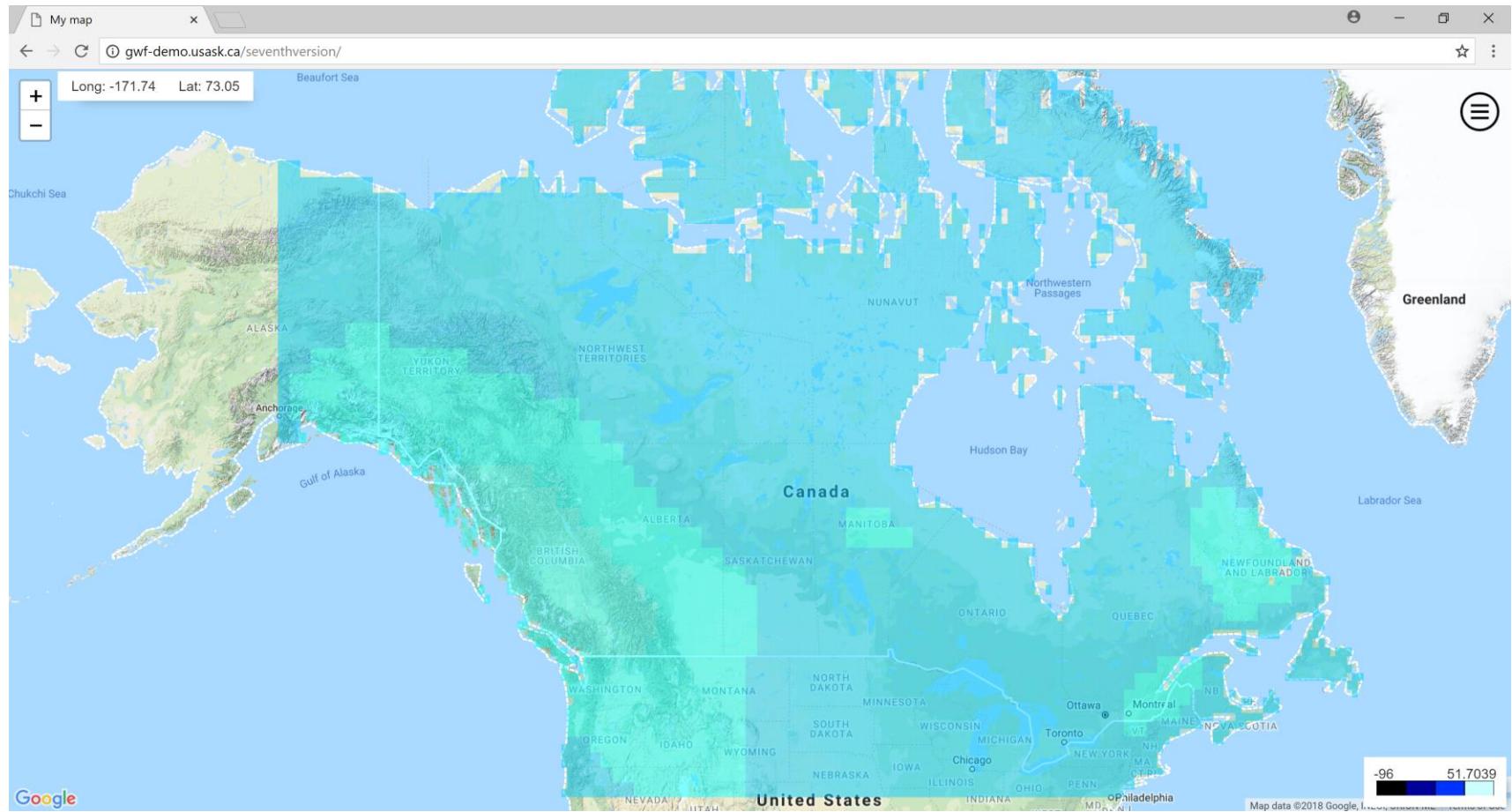


Animation

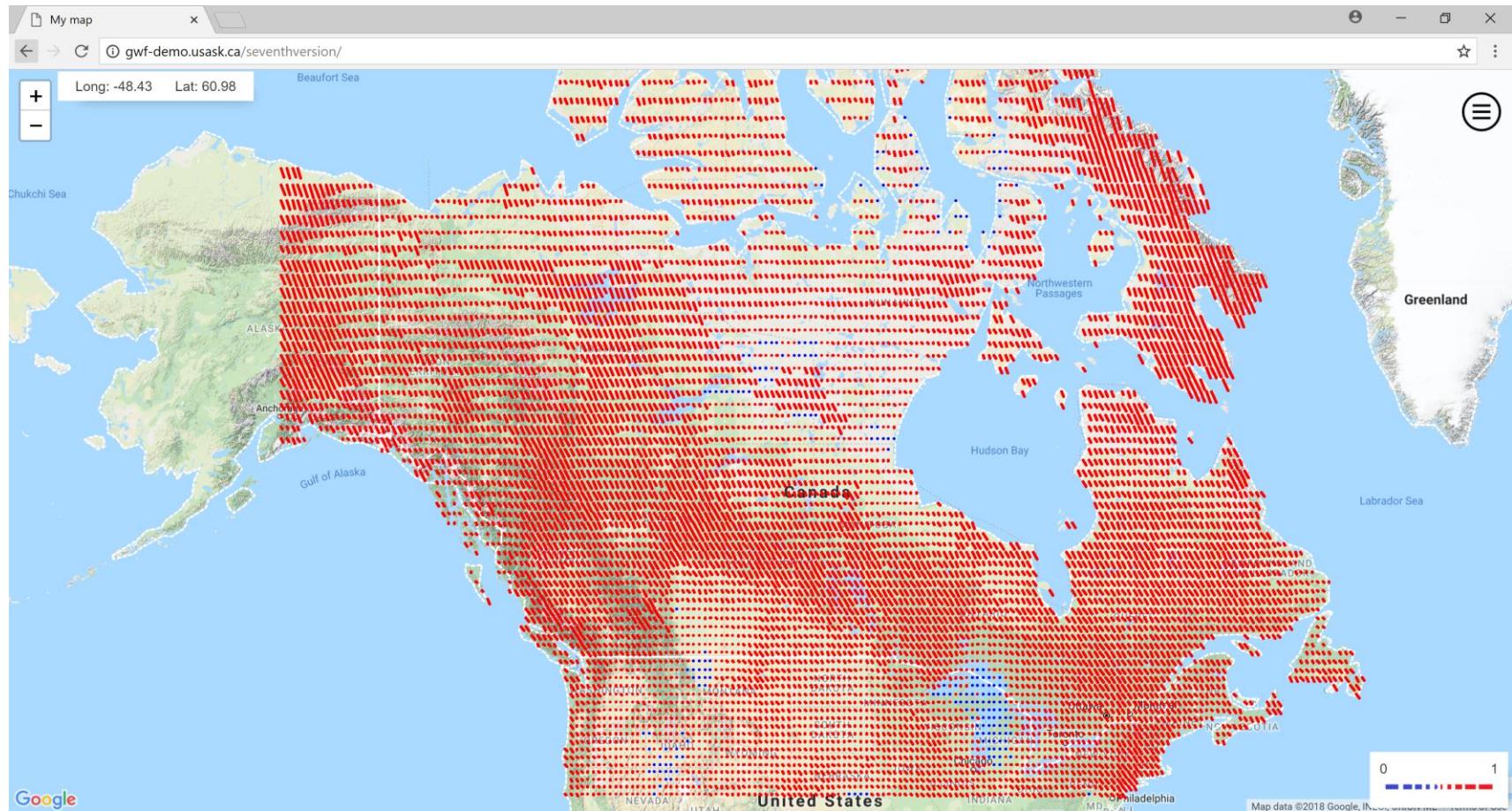




Multiple datasets

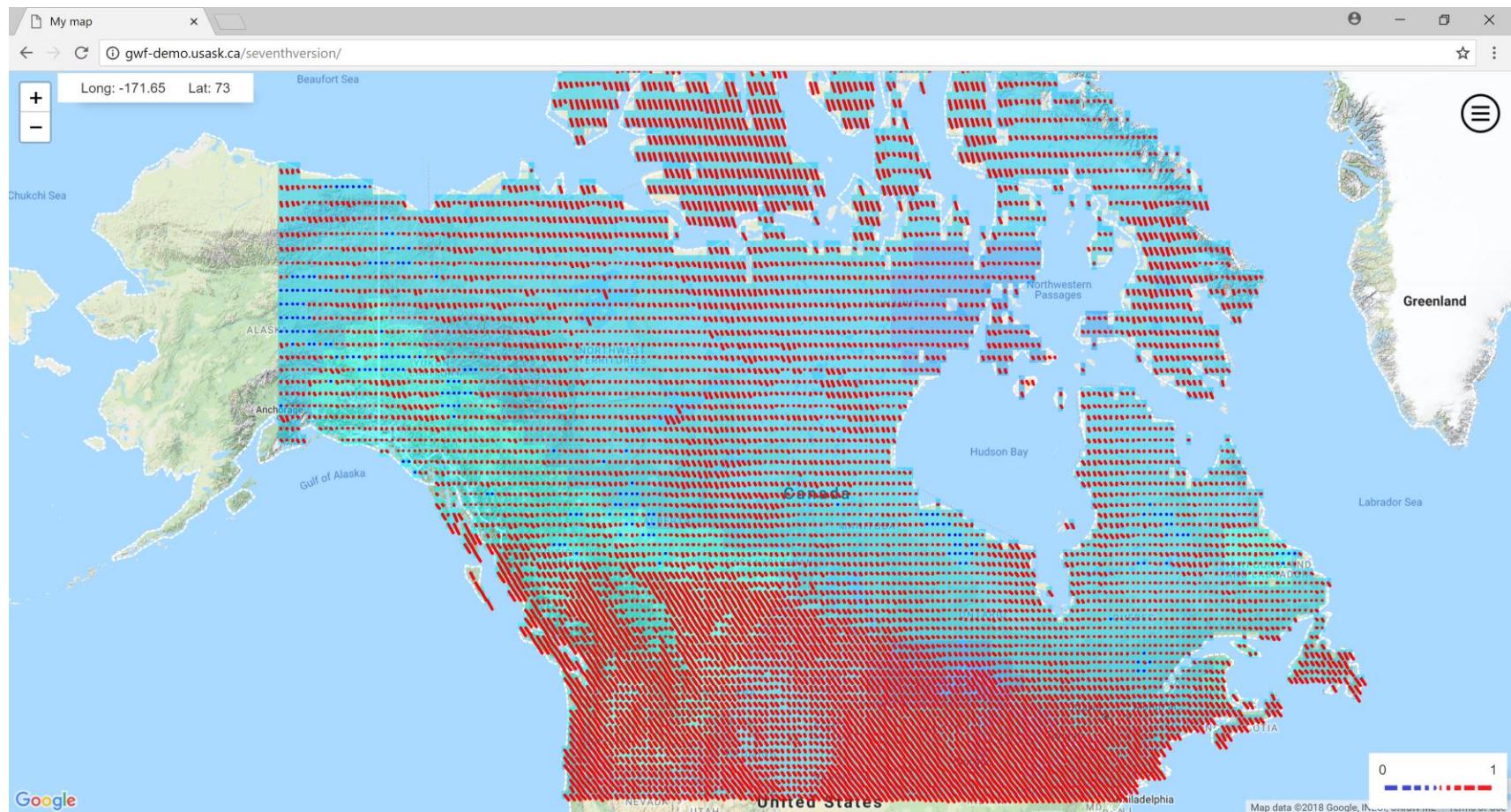


Multiple datasets





Multiple datasets

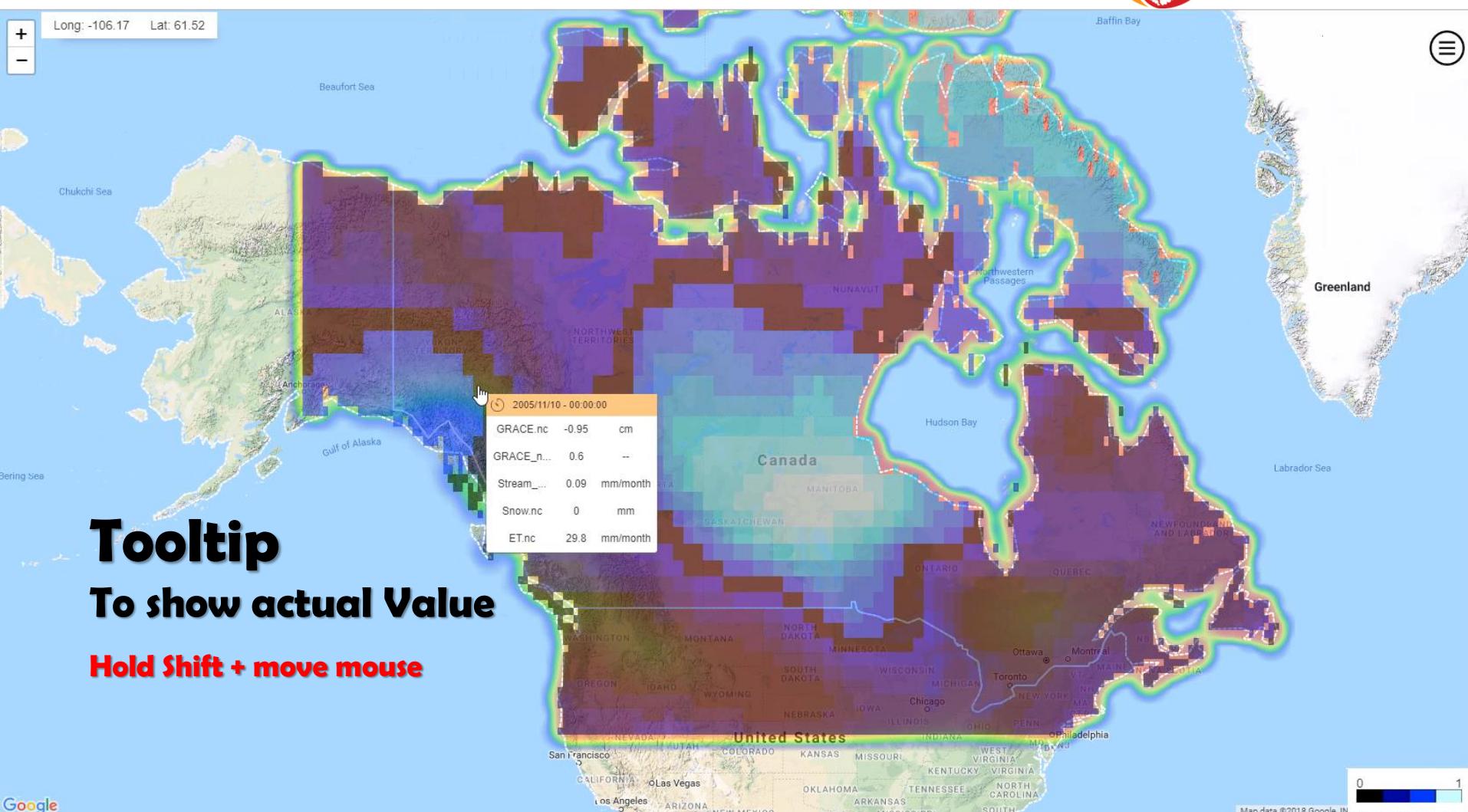




Drilling down into the data

- Inspecting the actual data
- Virtual sensors: comparisons
- Virtual gauges: ranges



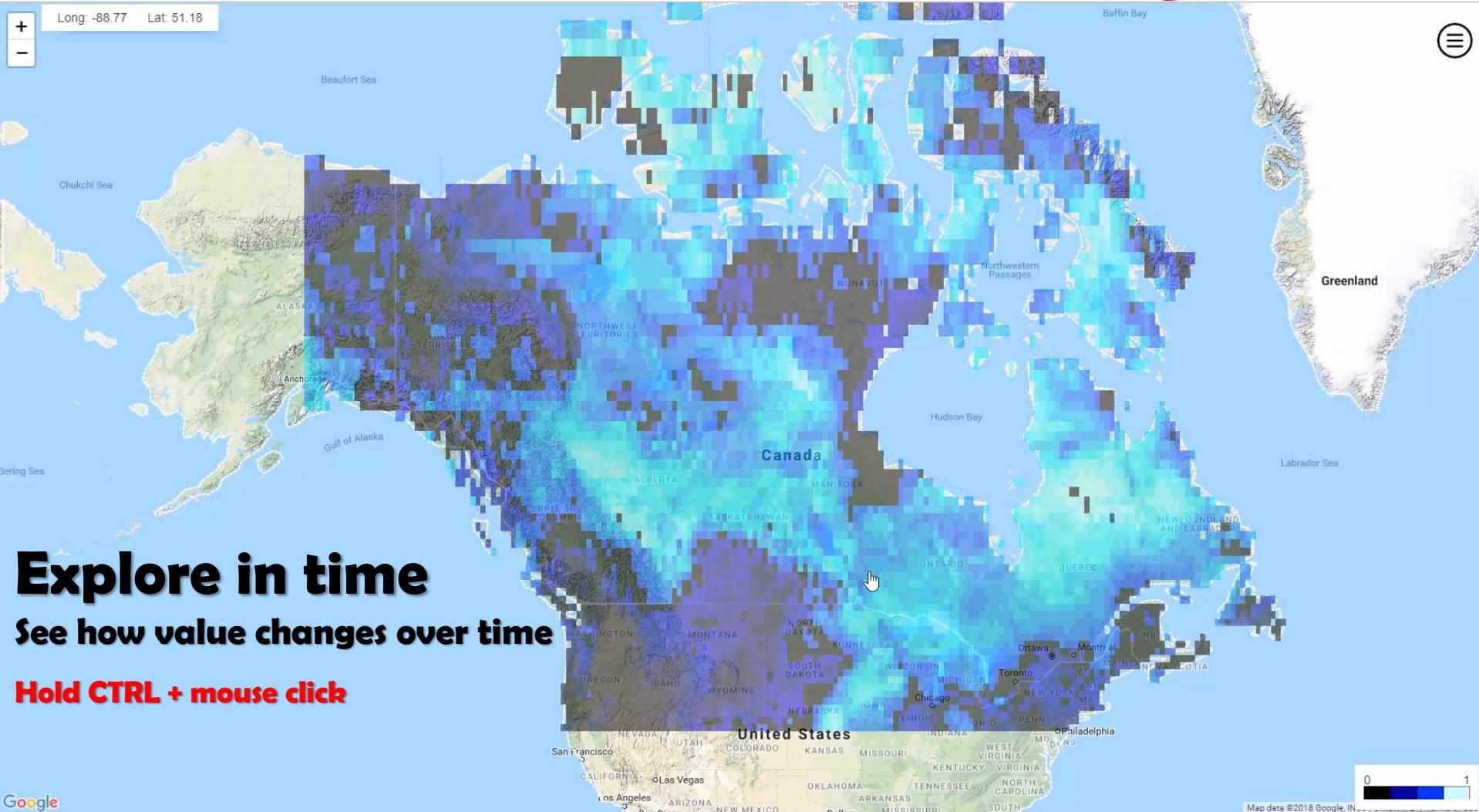


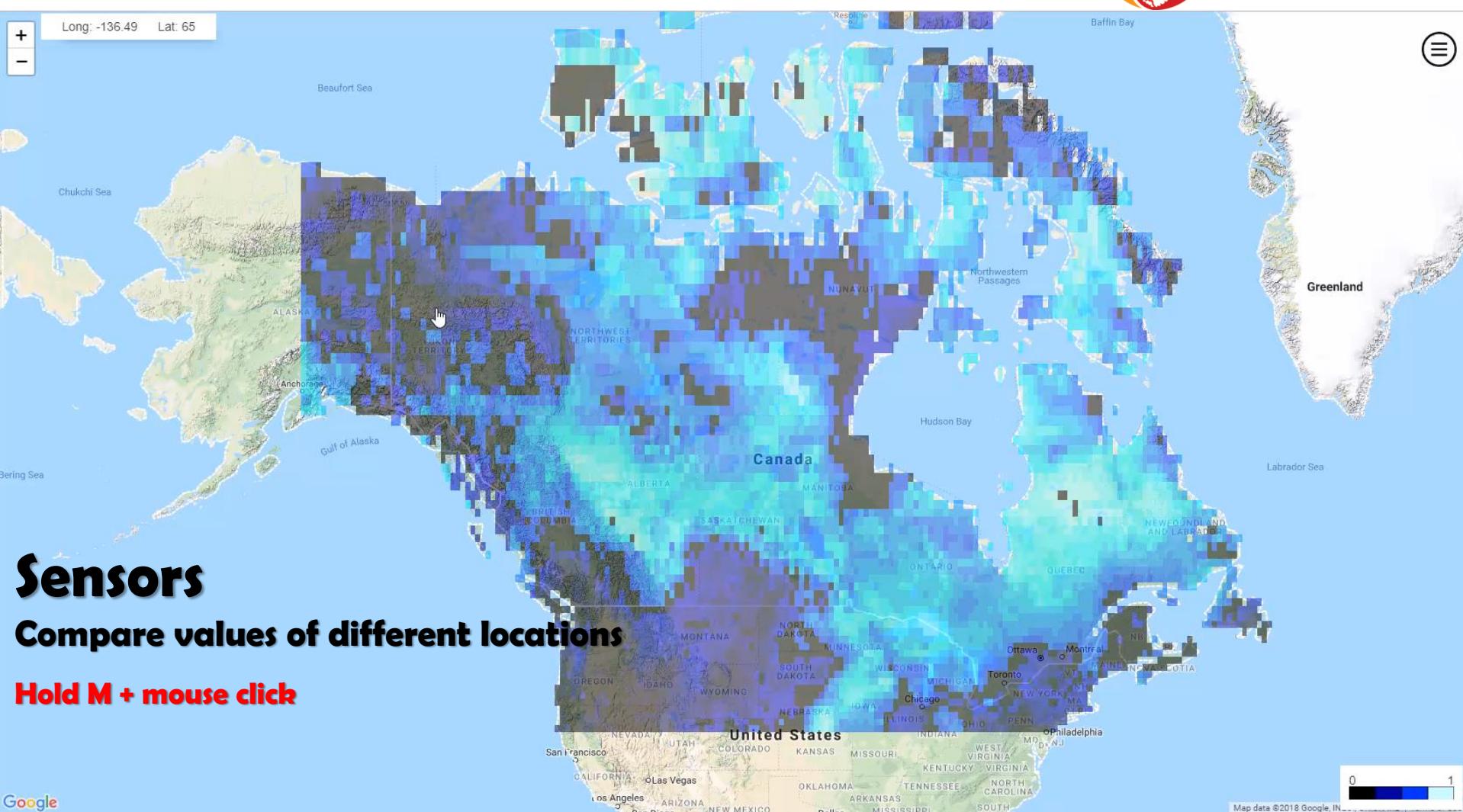
**Tooltip
To show actual Value**

Hold Shift + move mouse



Long: -88.77 Lat: 51.18

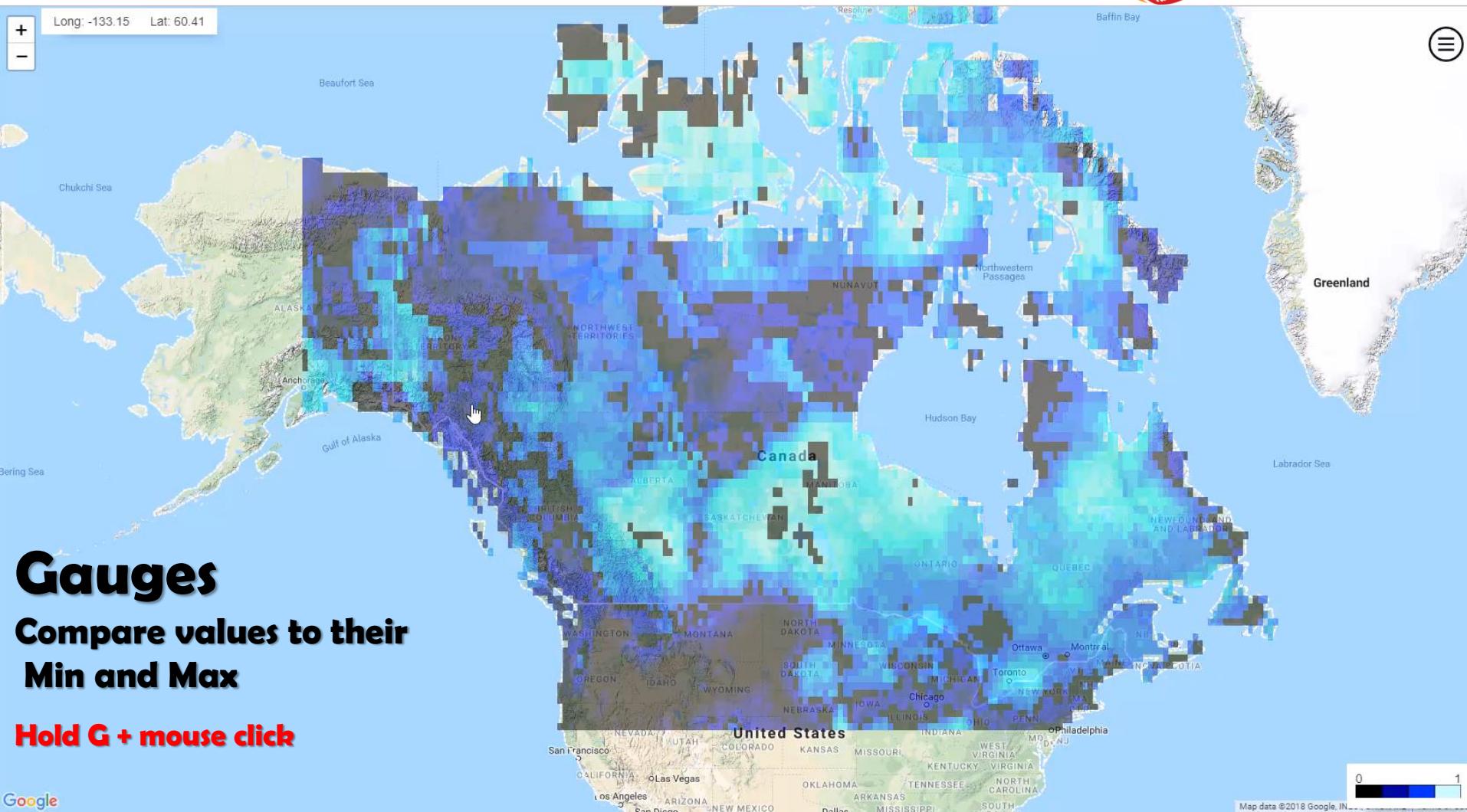




Sensors

Compare values of different locations

Hold M + mouse click

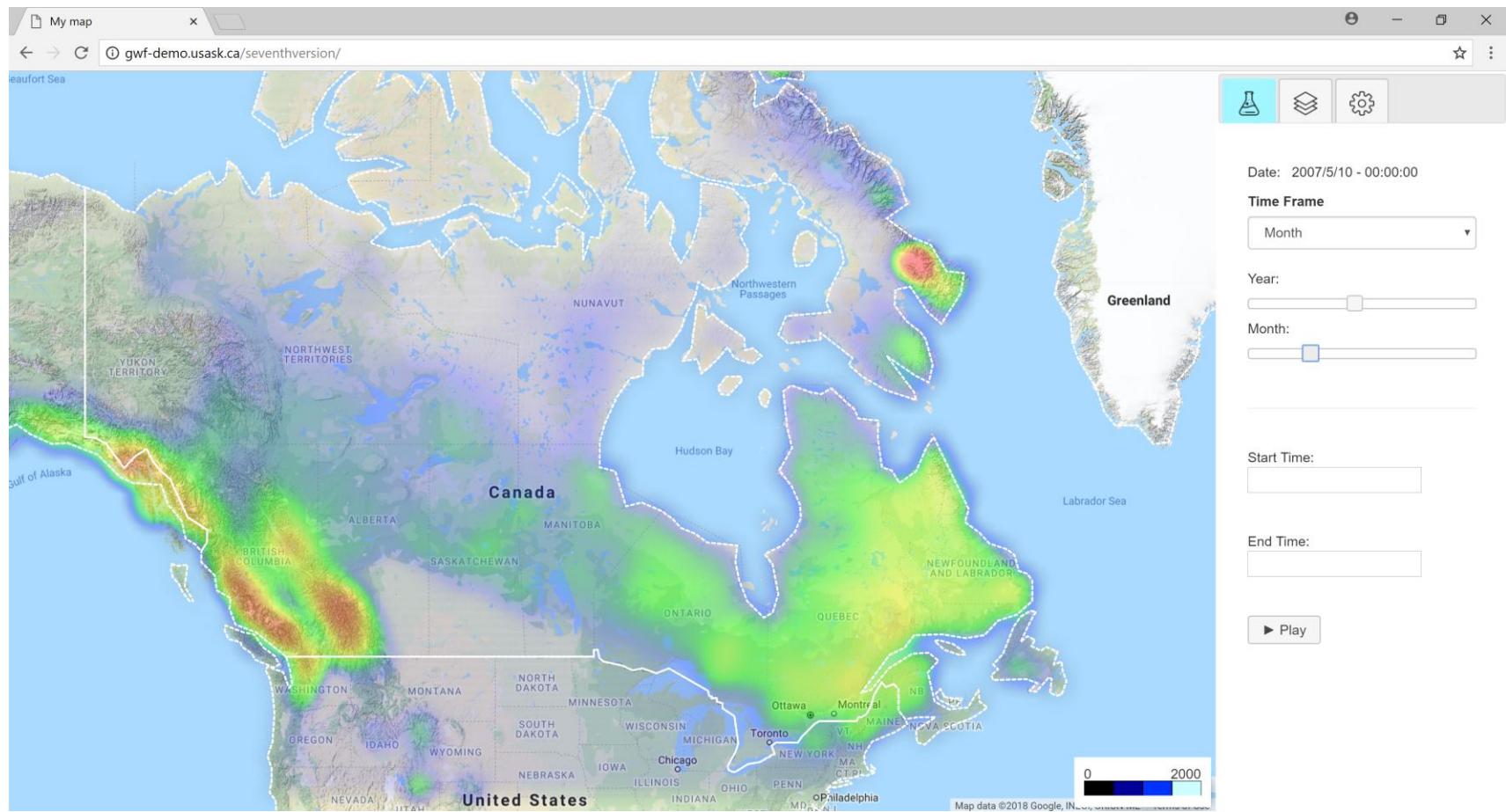


Gauges
Compare values to their
Min and Max

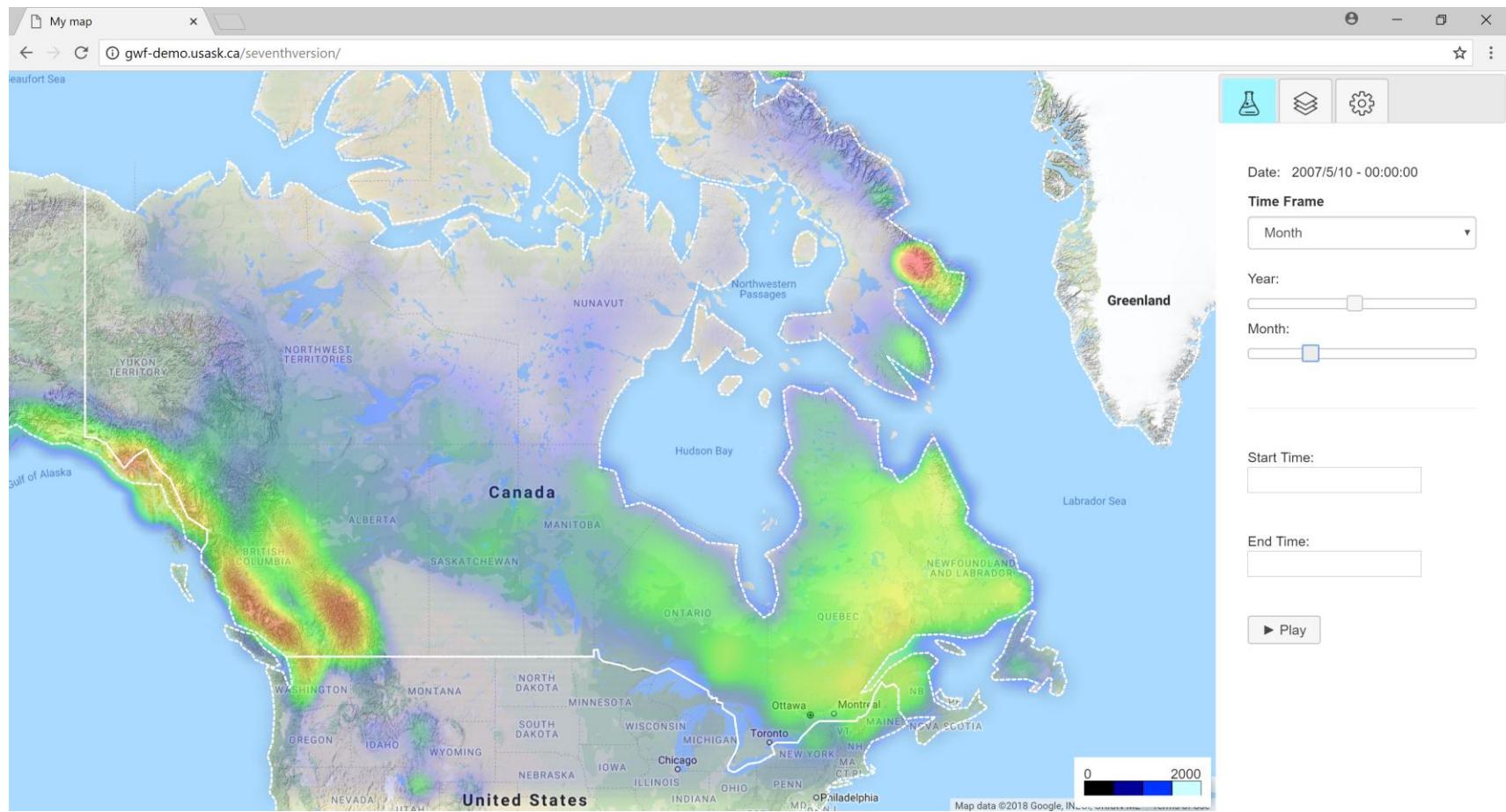
Hold G + mouse click



Future 1: Self-Serve Geovisualization



Future 2: Collaboration Support

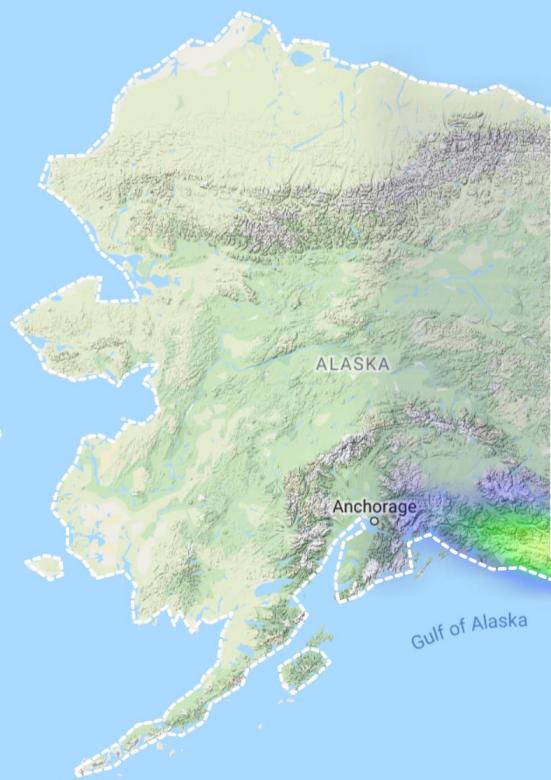


Long: -53.44 Lat: 60.68

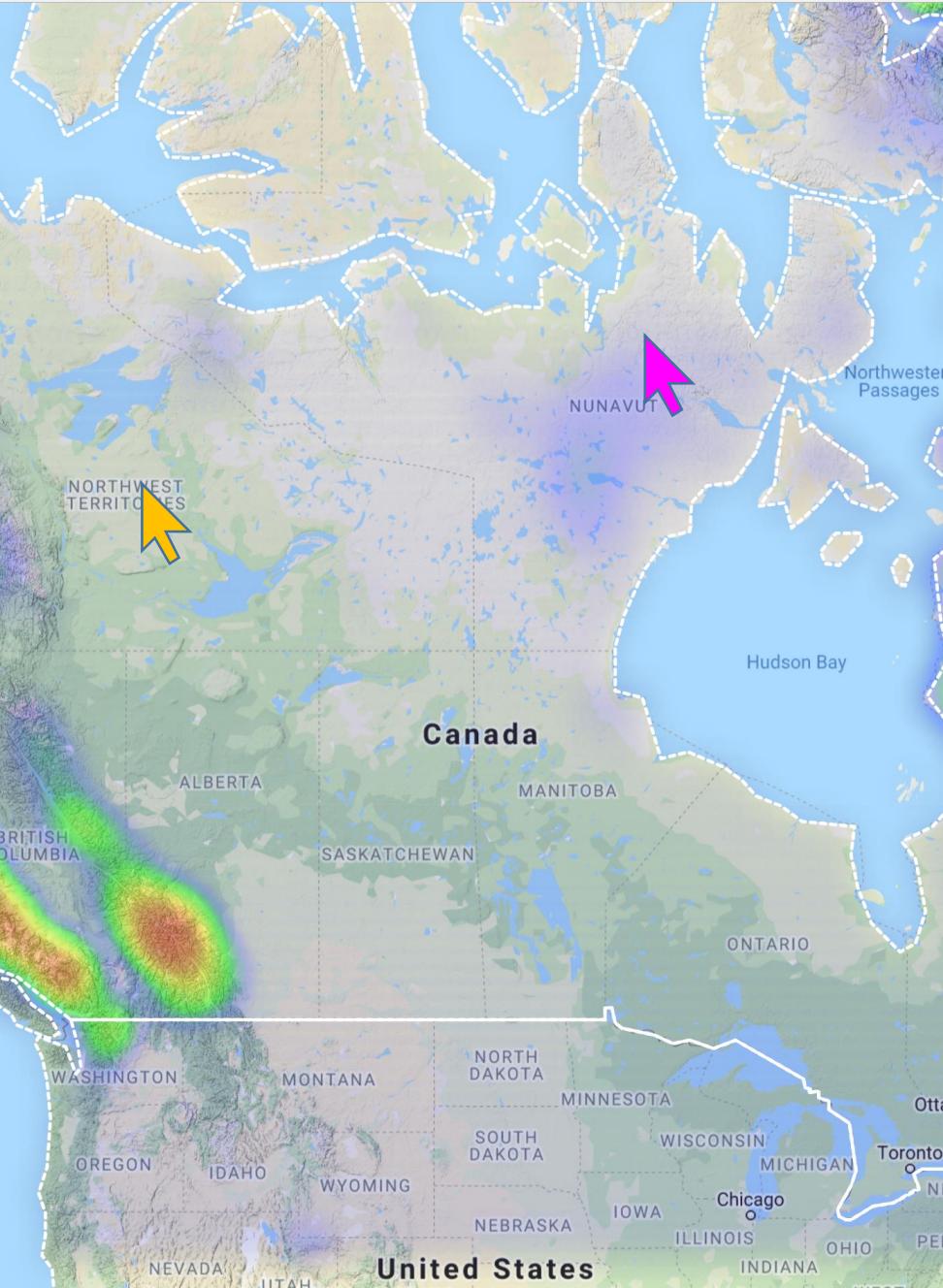
Beaufort Sea



Chukchi Sea



Gulf of Alaska



Future 3: Simpler UIs for Modeling

MODSIM - [Geum_Monthly*]

File Edit View MODSIM Window Help

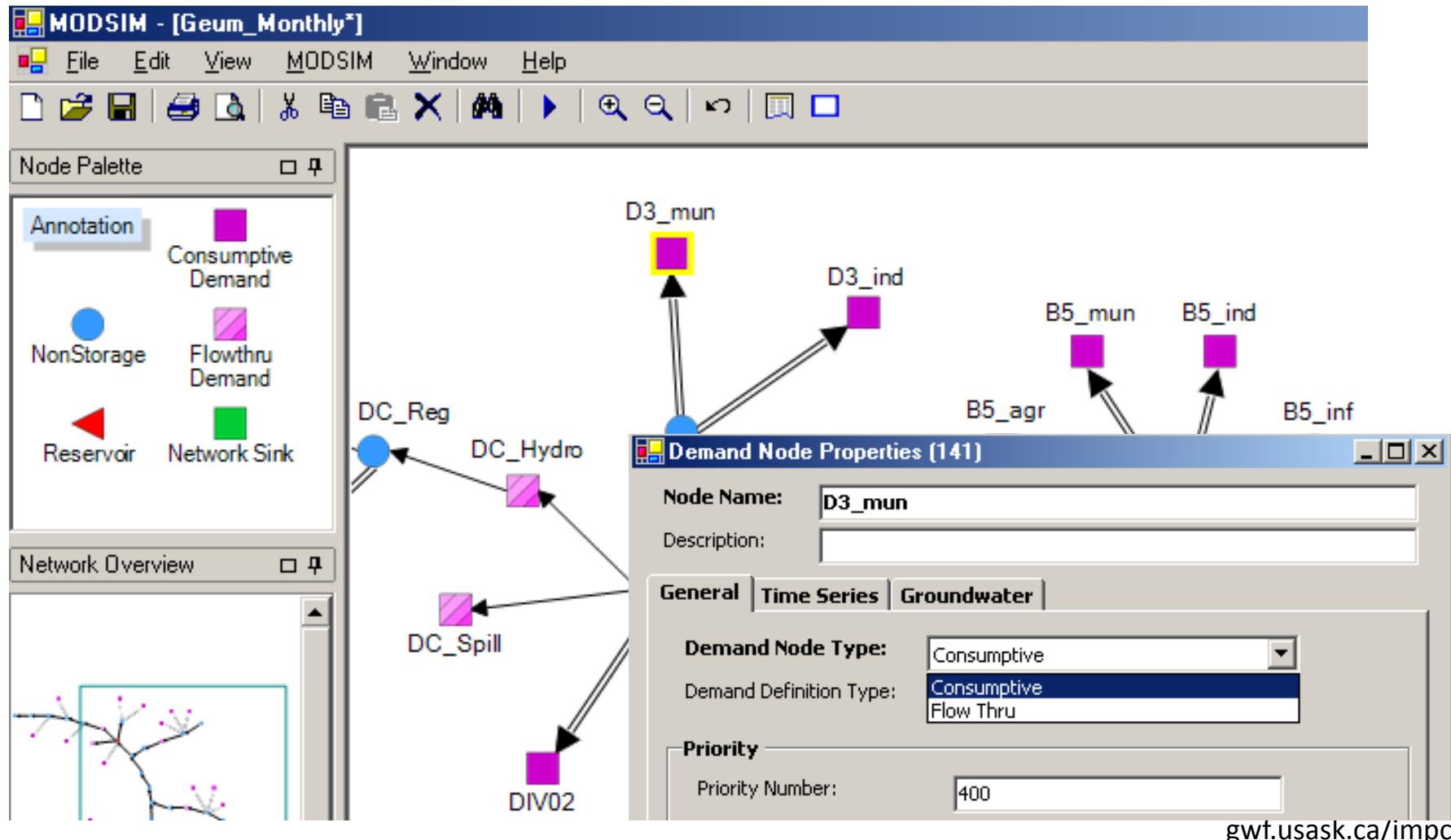
Node Palette

Annotation Consumptive Demand

NonStorage Flowthru Demand

Reservoir Network Sink

Network Overview



The diagram shows a network of nodes and connections. Nodes include D3_mun, D3_ind, B5_mun, B5_inf, B5_agr, DC_Reg, DC_Hydro, DC_Spill, and DIV02. Arrows indicate flow from DC_Reg to D3_mun, DC_Hydro to D3_mun, DC_Spill to DIV02, and B5_agr to B5_mun and B5_inf. A 'Demand Node Properties' dialog is open for node D3_mun, showing the following details:

| | |
|-------------------------|-------------|
| Node Name: | D3_mun |
| Description: | |
| General | |
| Demand Node Type: | Consumptive |
| Demand Definition Type: | Consumptive |
| Priority | |
| Priority Number: | 400 |

gwt.usask.ca/impc

Future 4: Community Decision Support





Outline

- The present: IMPC geovisualization system
- The future 1: self-serve geovisualization for IMPC
- The future 2: collaboration over geovisualizations
- The future 3: simplified modeling interfaces
- The future 4: decision support tools





Contacts & Demo Website

- Ehsan: ehs544@mail.usask.ca
- Carl: gutwin@cs.usask.ca
- gwf-demo.usask.ca
 - (until it breaks...)

