

Real time data monitoring: integrated data for monitoring heat-health emergencies

Dr Kieran Moore MD CCFP (EM) FCFP MPH MSc FRCPC
Associate Medical Officer of Health
Associate Professor of Emergency Medicine, Queen's University
KFLA Public Health

Objectives

- Review PHIMS and ACES functionality
- Address data elements that enhance situational awareness
- Describe how the system may help health system decision making

Rationale for PHIMS

- Initially designed for the senior management team for Situational awareness and decision support to integrate data
- PAST: Disparate data, no synoptic view → integrated dashboard with data fusion
- PAST: Weak analytics → real-time data w/ tabulations, reporting, statistical graphics, and geovisualizations

PHIMS Authentication

KFL&A
PublicHealth ♦♦

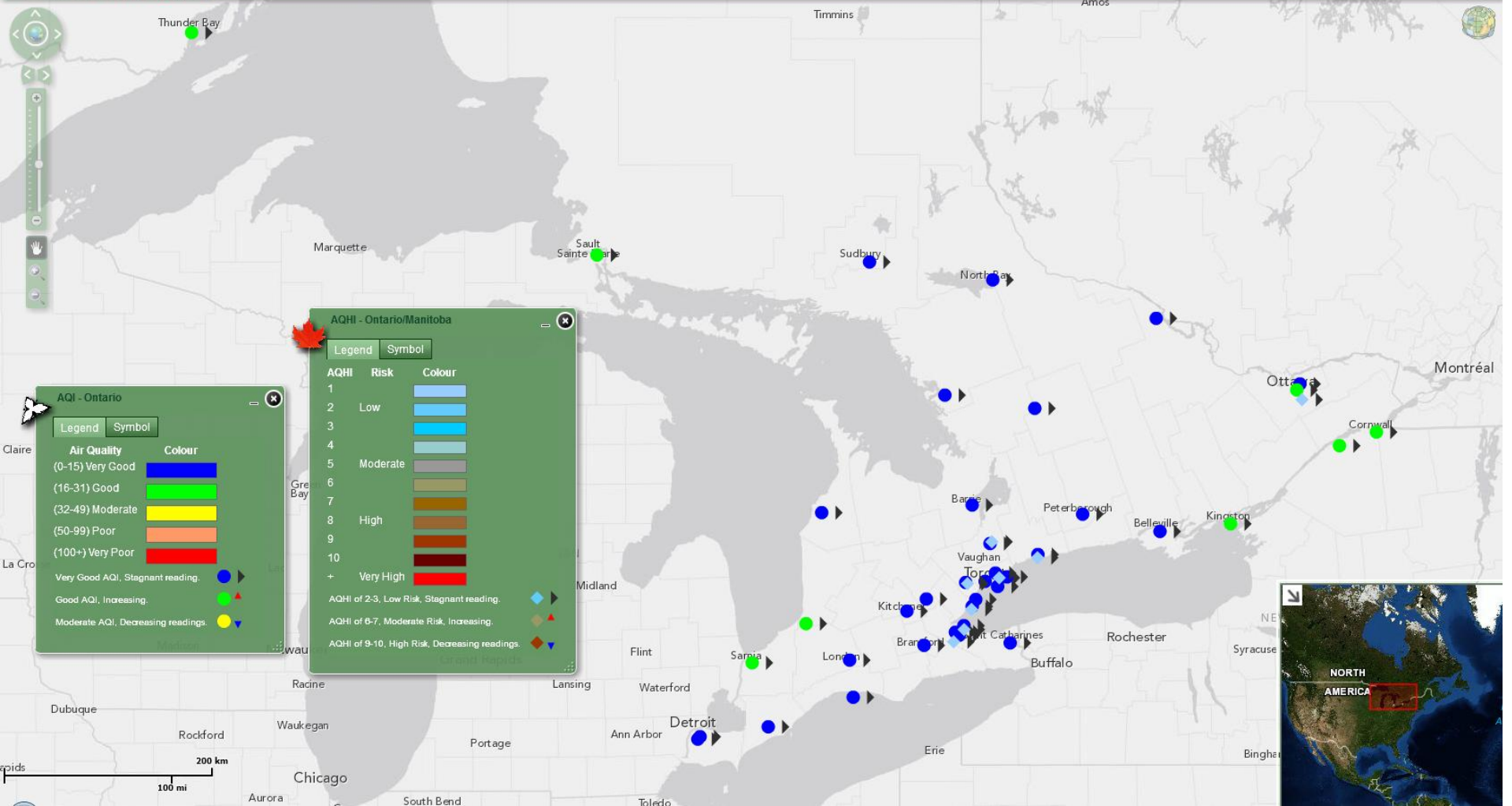
UserID

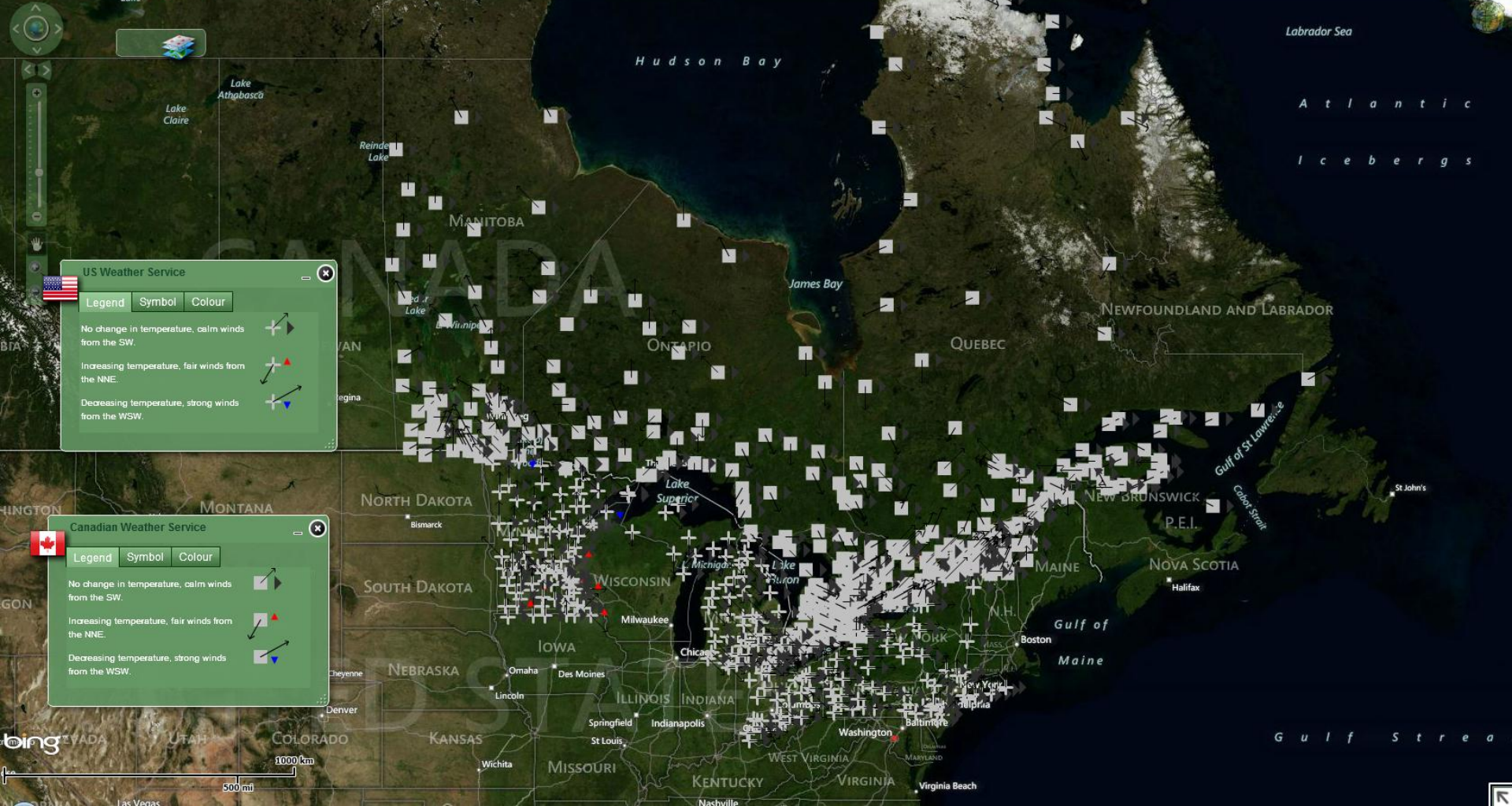
Password

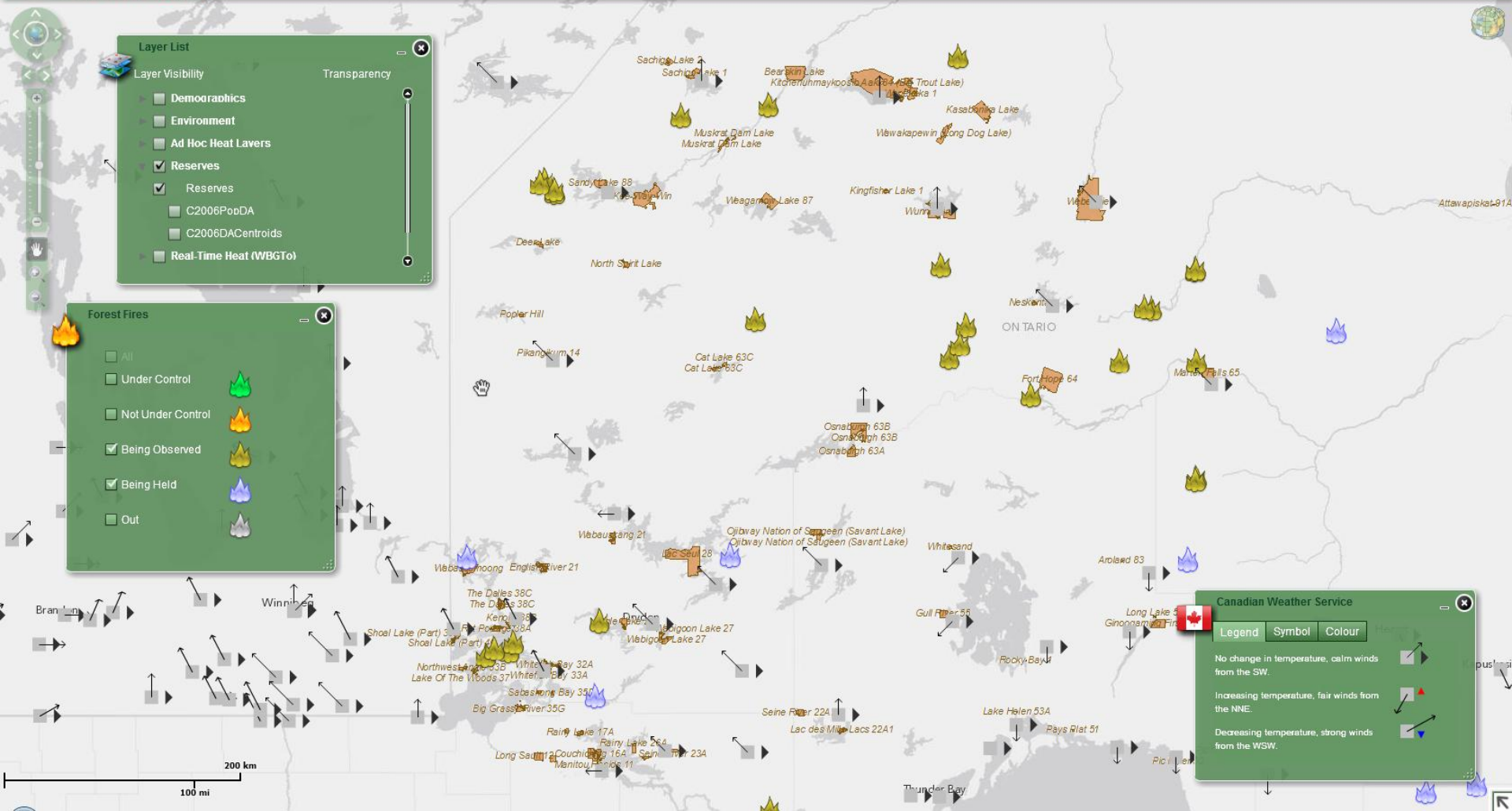
Login

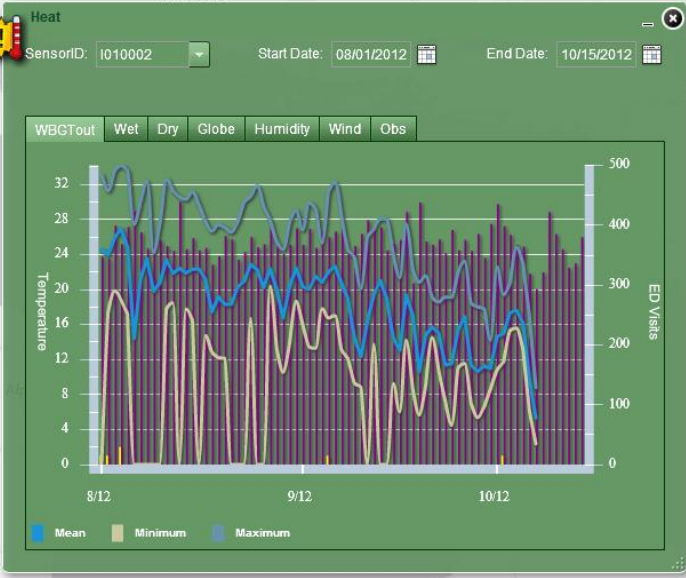
phims.kflaphi.ca

PASSWORD: qphi





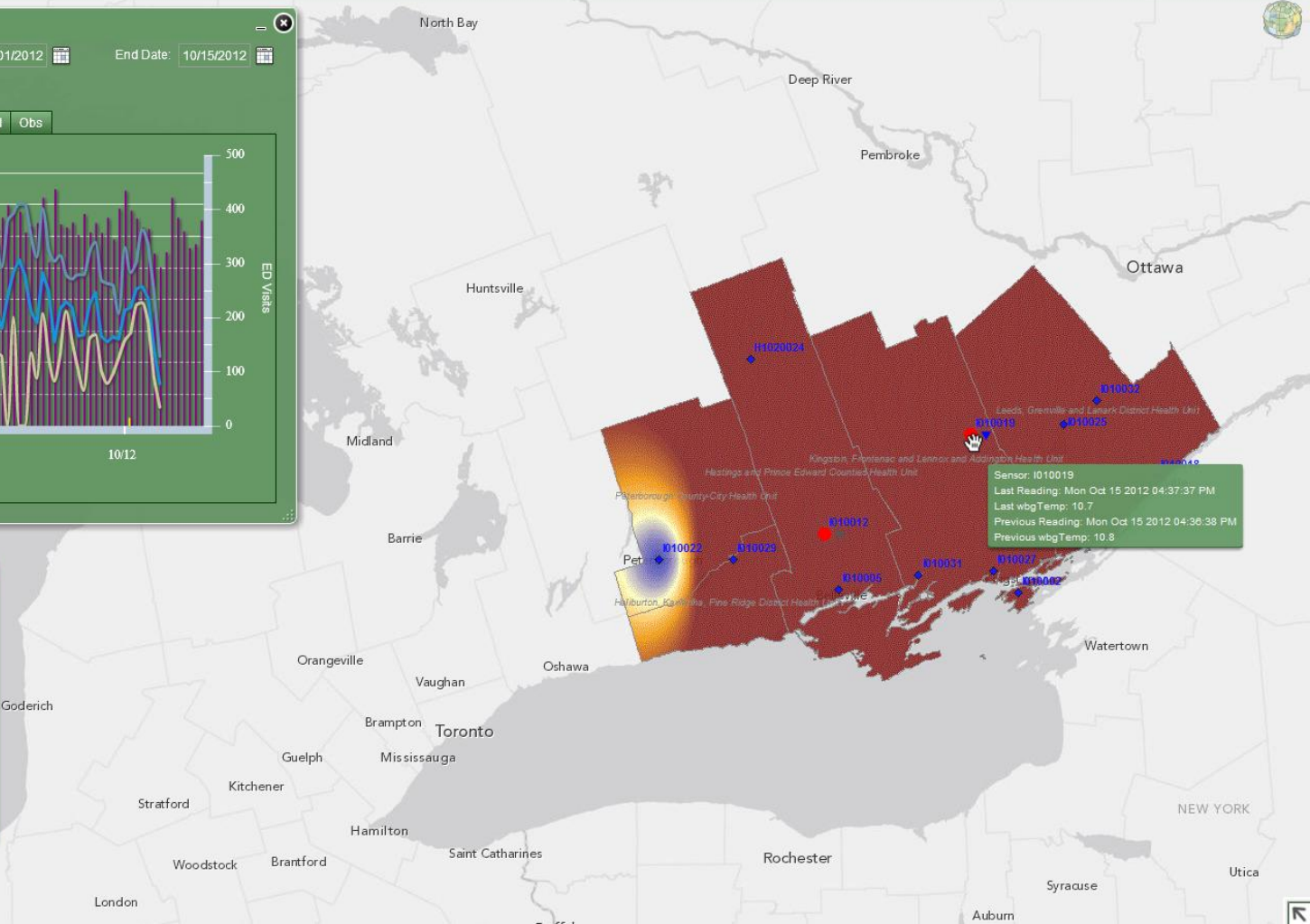


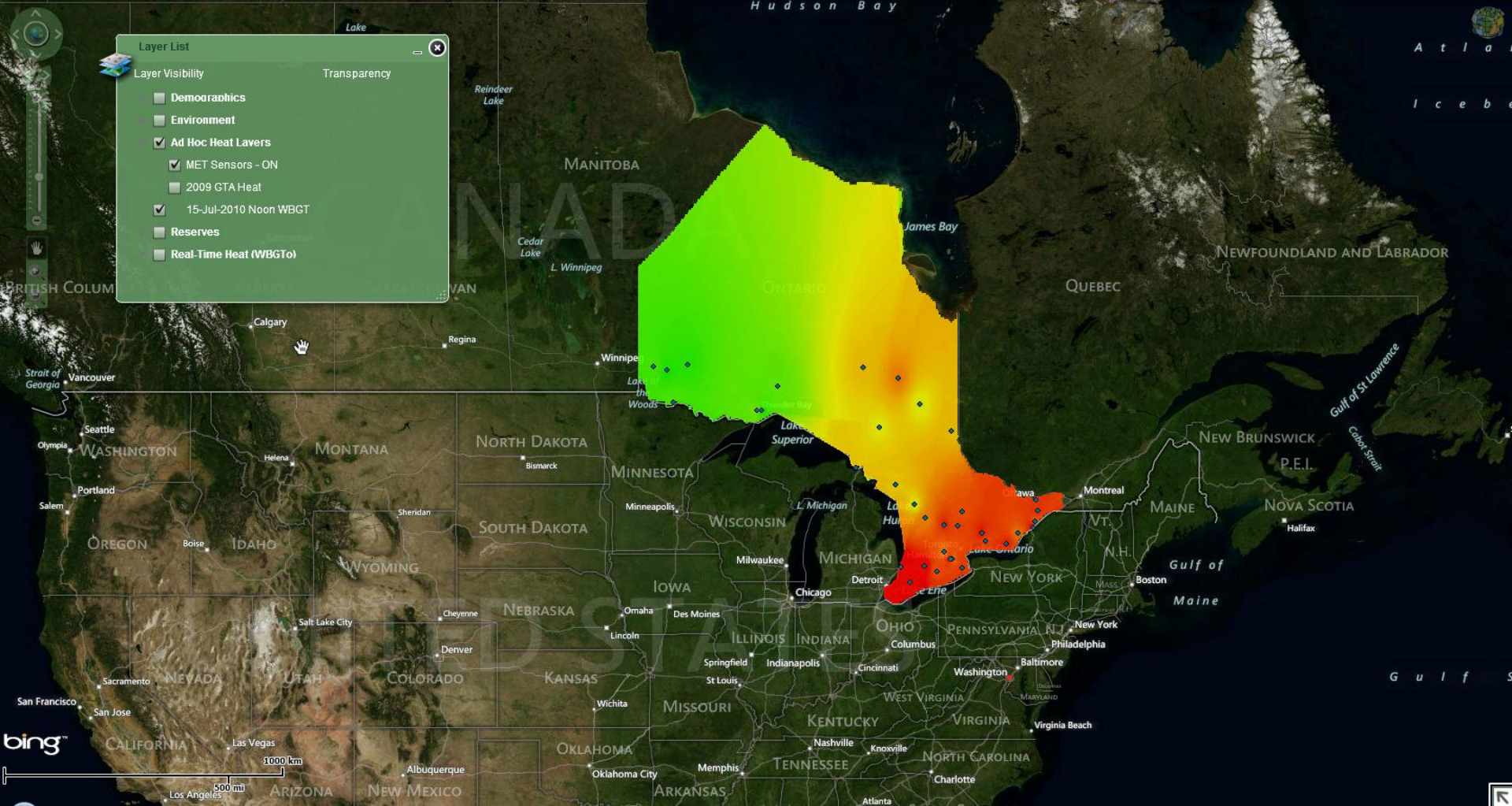


Layer List

Layer Visibility Transparency

- Demographics
- Environment
- Ad Hoc Heat Layers
- Reserves
- Real-Time Heat (WBGTo)





Public Health PHIMS
Public Health Information Management System

Cool Down Centres

- City Hall (City Of Kingston)**
Address: 216 Ontario Street, Kingston, ON K7L 2Z3, Canada
- KFL&A Public Health**
Address: 221 Portsmouth Avenue, Kingston, ON K7M 1V5
- Central Library - Kingston Frontenac Public Library**
Address: 130 Johnson Street, Kingston, ON K7L 1X8
- Queen's University**
Address: 284 Earl St., Kingston, ON
- Artillery Park Aquatic: Fitness Centre**
Address: 76 Ordnance Street, Kingston, ON

Warm Up Places

- City Hall**
216 Ontario Street, Kingston, ON K7L 2Z3, Canada (City Of Kingston)
- KFL&A Public Health**
221 Portsmouth Avenue Kingston, ON K7M 1V5 (613) 549-1232 kflapublichealth.ca
- Central Library - Kingston Frontenac Public Library**
130 Johnson Street, Kingston, ON K7L 1X8 - (613) 549-8888
- Queen's University**
Queen's Centre 284 Earl St. Kingston, ON
- Artillery Park Aquatic & Fitness Centre**

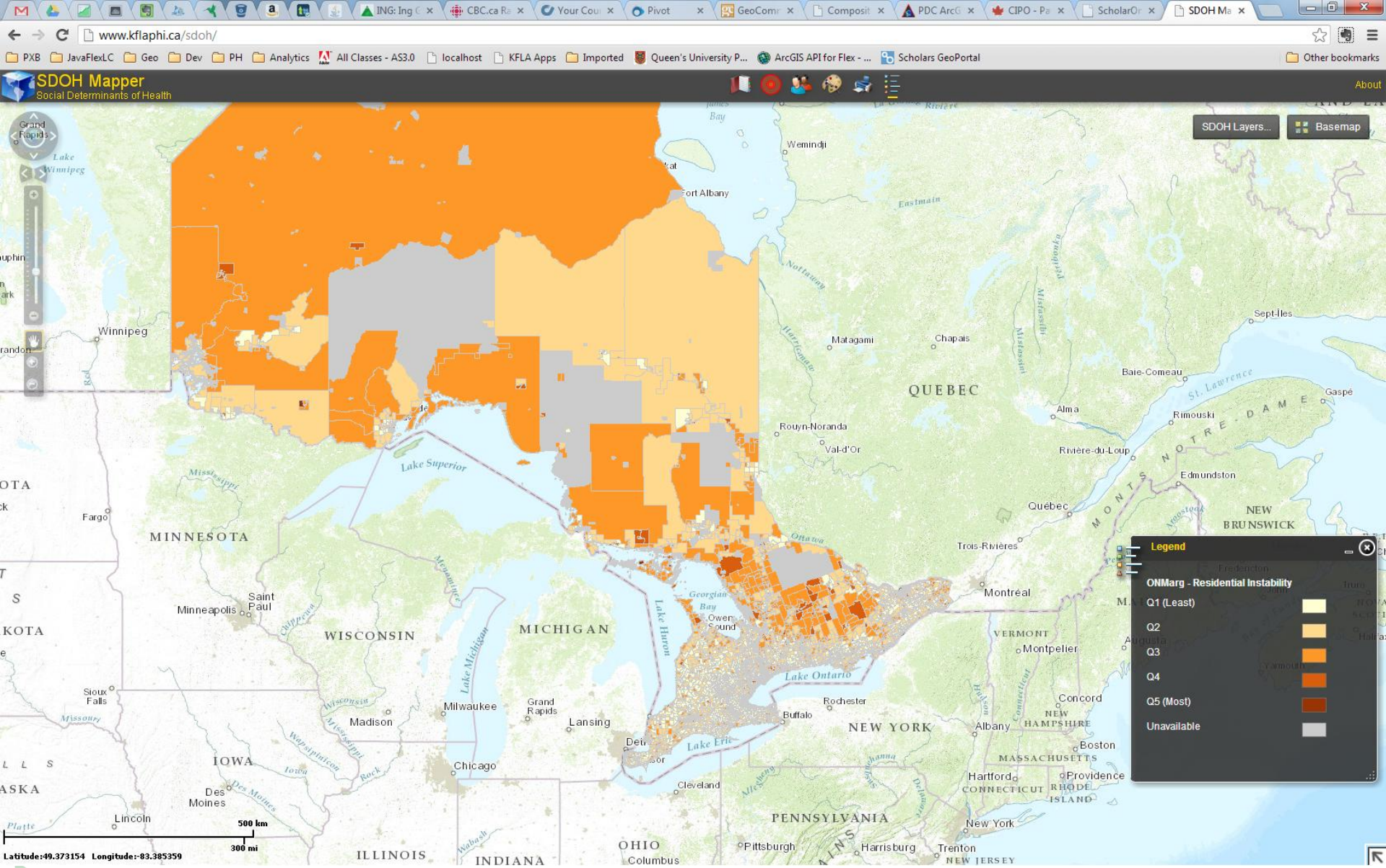
Tap Into Kingston

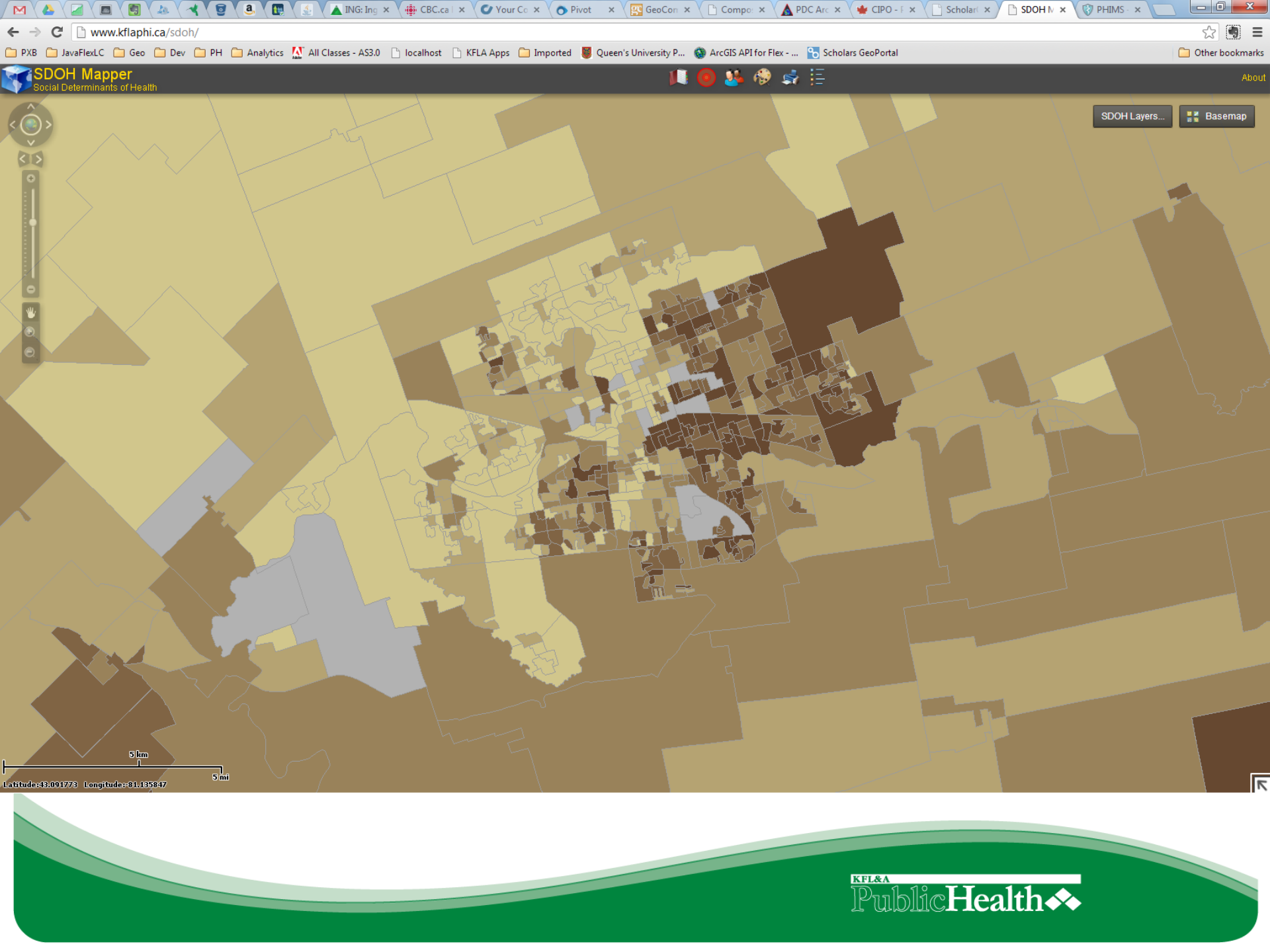
- KFL&A Public Health 221 Portsmouth Ave
- St Lawrence College 100 Portsmouth Ave
- Lake Ontario Park King Street West
- Artillery Park 76 Ordnance Street
- City Hall 216 Ontario Street
- Invista Centre 1350 Gardiners Road

Invista Centre 1350 Gardiners Road
1350 Gardiners Road Kingston, ON K7P 0E5, Canada (613) 544-4442 (City of Kingst)

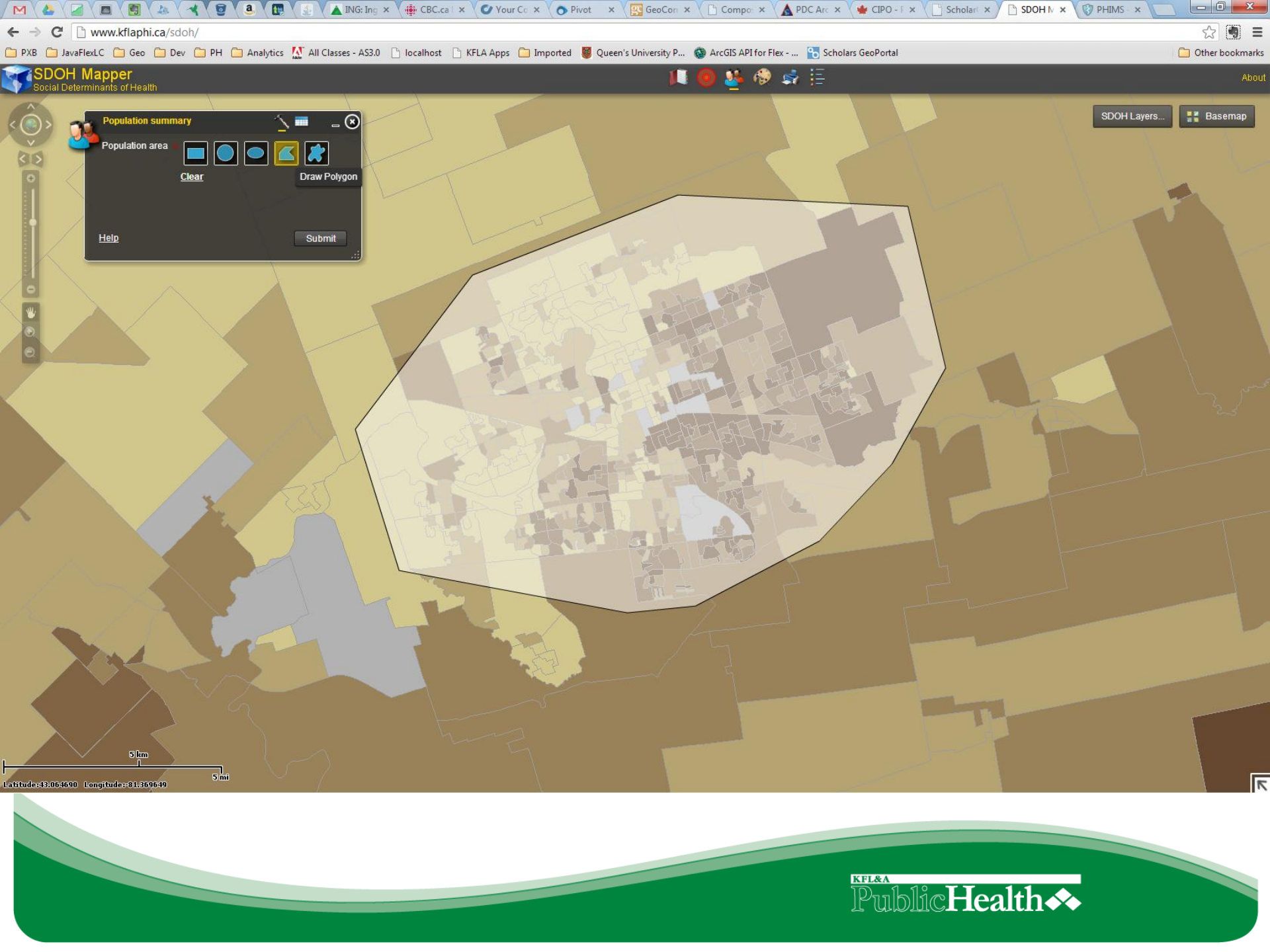


Social Determinants of
Health (SDOH) Mapper
<http://www.kflaphi.ca/sdoh>



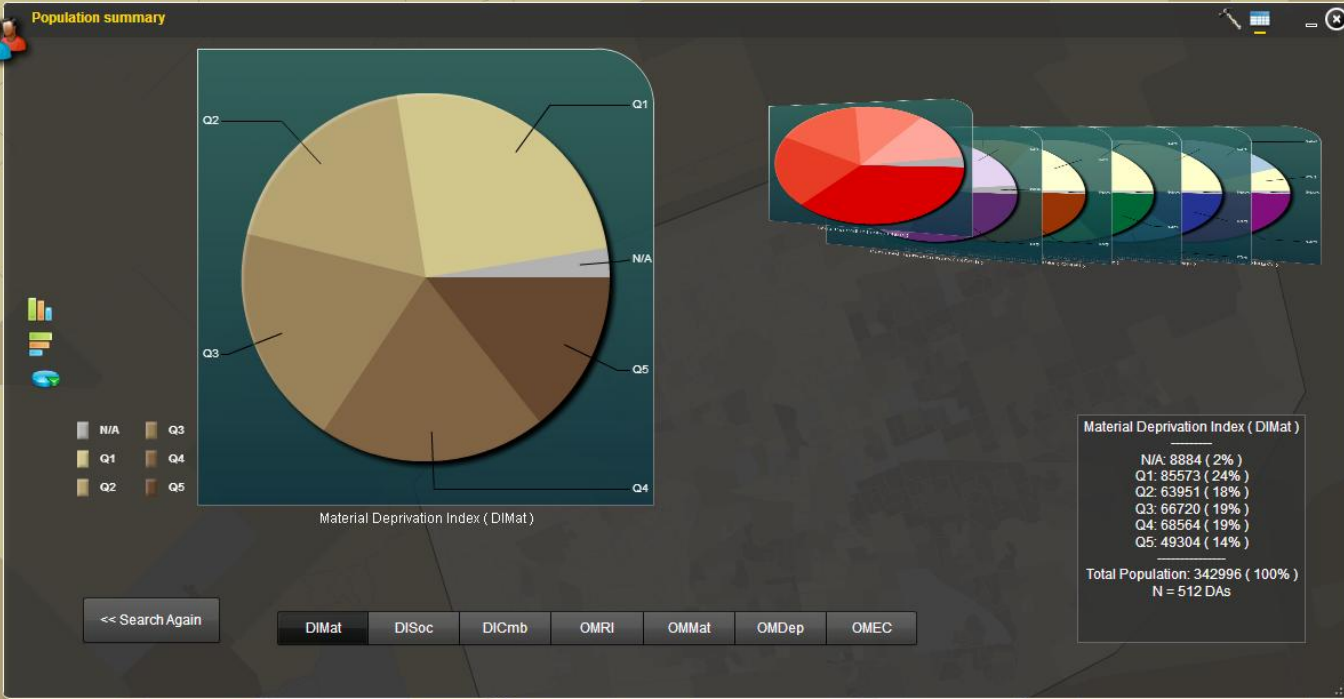


5 km
5 mi
Latitude: 43.091773 Longitude: -81.135847





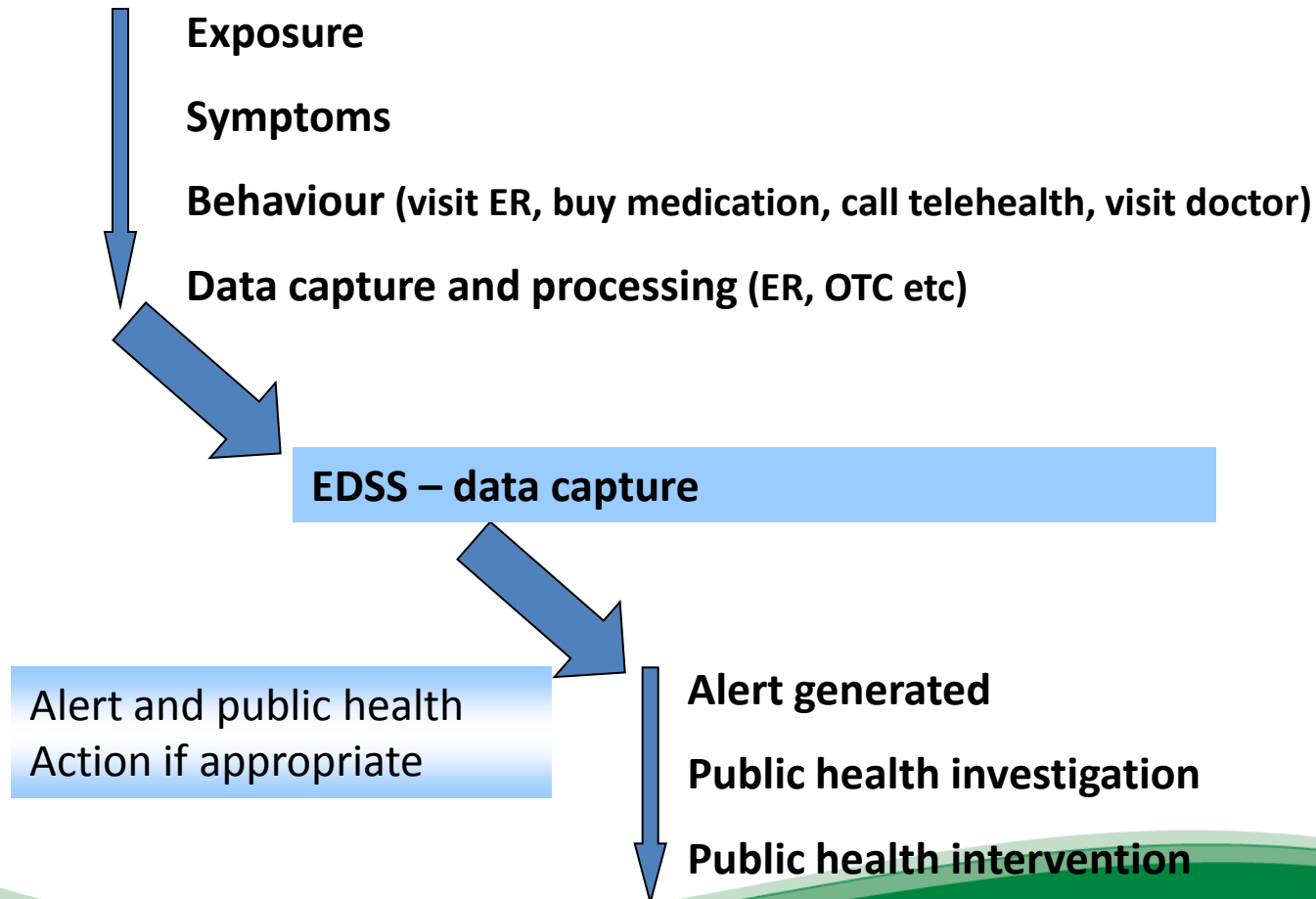
5 km
5 mi
Latitude: 43.015759 Longitude: -81.499082



5 km
5 mi
Latitude: 43.001700 Longitude: -81.499082

ACES

Timelines of Detection



Data Collected

- Collect real-time anonymous data from...
 - ***Emergency Department*** visits
 - Date and Time of Visit
 - Hospital
 - Age
 - Sex
 - Postal Code (5 digits)
 - Chief Complaint
 - CTAS Triage Score
 - ***Admissions*** to hospital



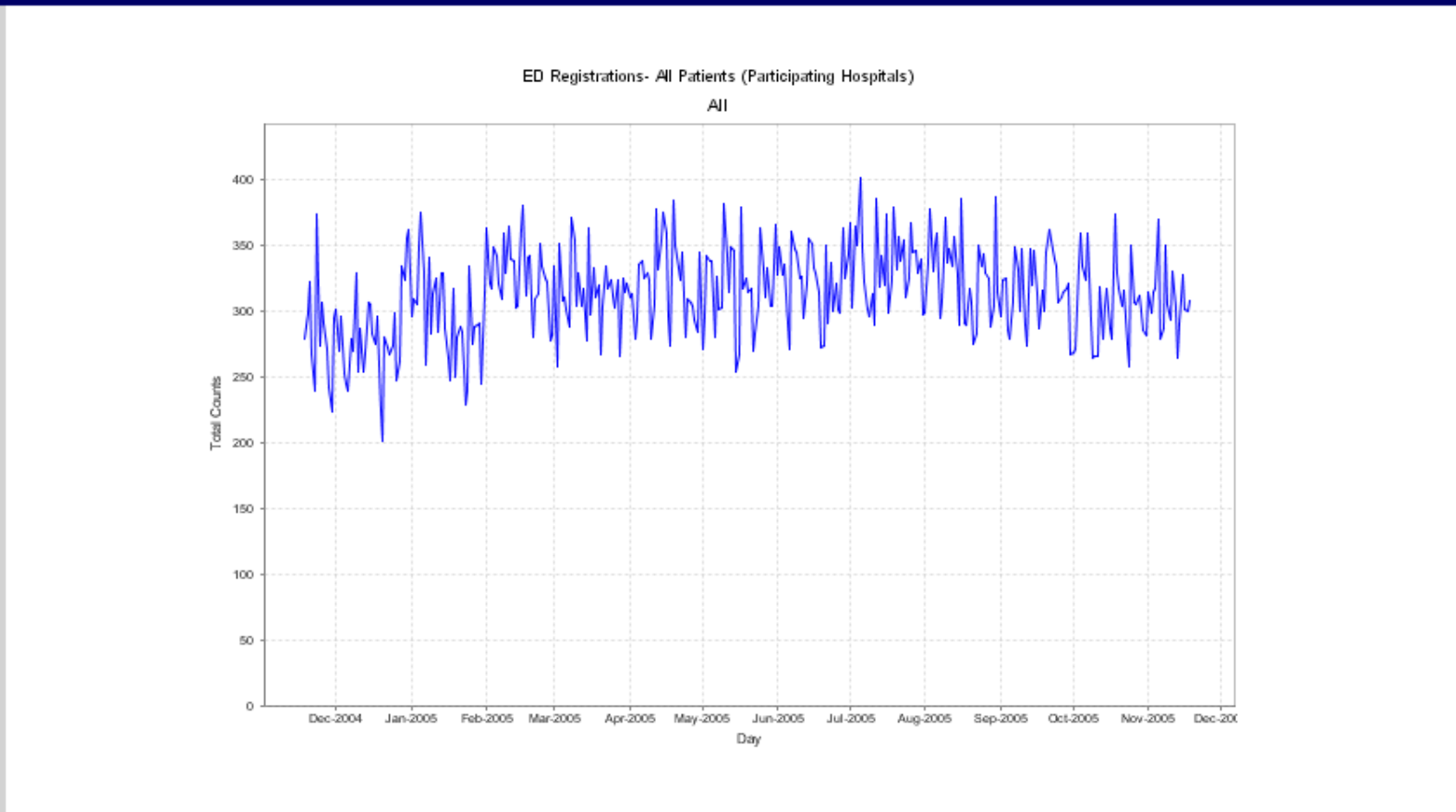
Data Type

ED Registrations

- All Visits
- Botulinic
- Constitutional
- Gastrointestinal
- Hemorrhagic
- Neurological
- Rash
- Respiratory

Admissions

- All Admissions
- Emergency Admissions
- Elective Admissions



Period: Gender: Health Unit: Postal Code: Normalize
 Start: Age: Hospital: Wavelet
 End: Min. Age: Max. Age: Lab Data



Address <https://www.quesst.ca/rods2/2.0/authenticate.jsp?sessionId=110814donmccg>

Go Links >>

RODS SouthEast

- Main
- Epiplot
- Mapplot
- Options
- Help
- Contact
- Logout

Copyright 2003
RODS Laboratory
University of Pittsburgh

Data Type

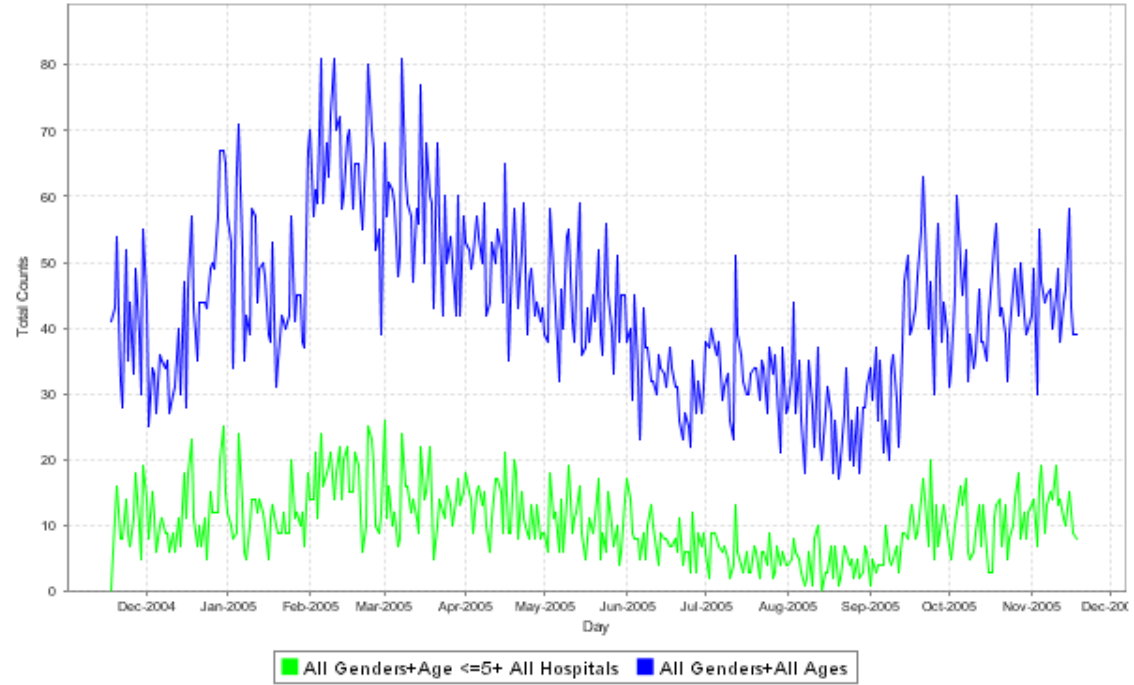
ED Registrations

- All Visits
- Botulinic
- Constitutional
- Gastrointestinal
- Hemorrhagic
- Neurological
- Rash
- Respiratory

Admissions

- All Admissions
- Emergency Admissions
- Elective Admissions

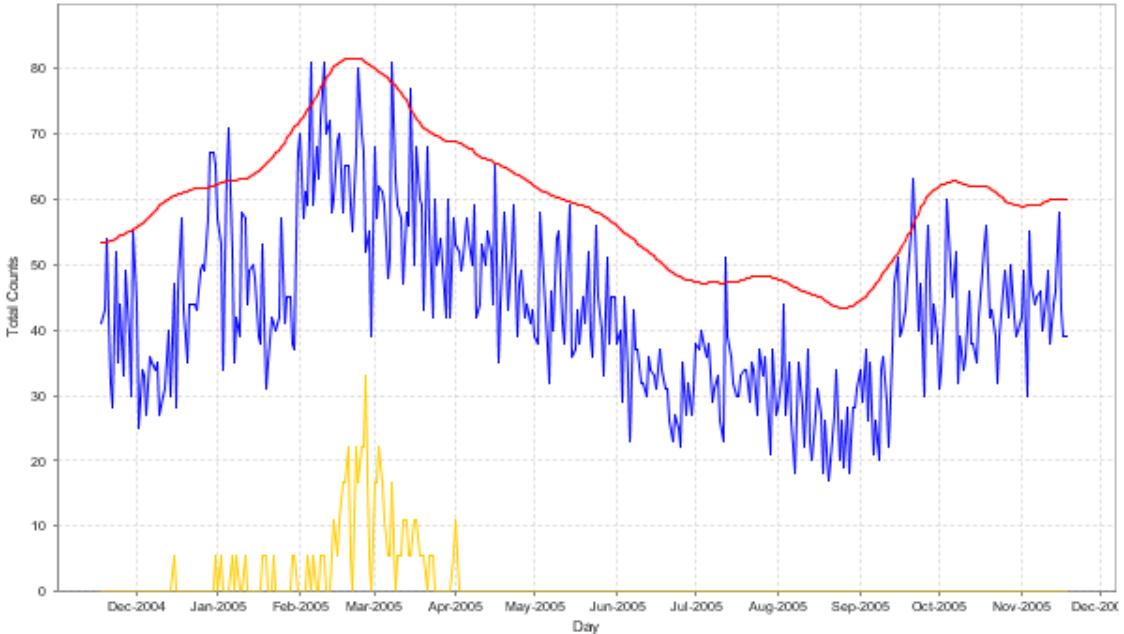
ED Registrations- All Patients (Participating Hospitals)
Respiratory



Period: <input type="text" value="Last Year"/>	Gender: <input type="text" value="All"/>	Health Unit: <input type="text" value="All"/>	Postal Code: <input type="text" value="All"/>	<input type="checkbox"/> Normalize	<input type="button" value="Create Epiplots"/>
Start: <input type="text" value="Nov"/> <input type="text" value="19"/> <input type="text" value="2004"/>	Age: <input type="text" value="Custom Range"/>	Hospital: <input type="text" value="All"/>	<input type="text" value="K8T"/>	<input type="checkbox"/> Wavelet	<input type="button" value="Get Alerts"/>
End: <input type="text" value="Nov"/> <input type="text" value="18"/> <input type="text" value="2005"/>	Min. Age: <input type="text" value="0"/> Max. Age: <input type="text" value="5"/>		<input type="text" value="K8V"/>	<input type="checkbox"/> Lab Data	<input type="button" value="Get Cases"/>

- Data Type
- ED Registrations
 - All Visits
 - Botulinic
 - Constitutional
 - Gastrointestinal
 - Hemorrhagic
 - Neurological
 - Rash
 - Respiratory
 - Admissions
 - All Admissions
 - Emergency Admissions
 - Elective Admissions

ED Registrations- All Patients (Participating Hospitals)
Respiratory

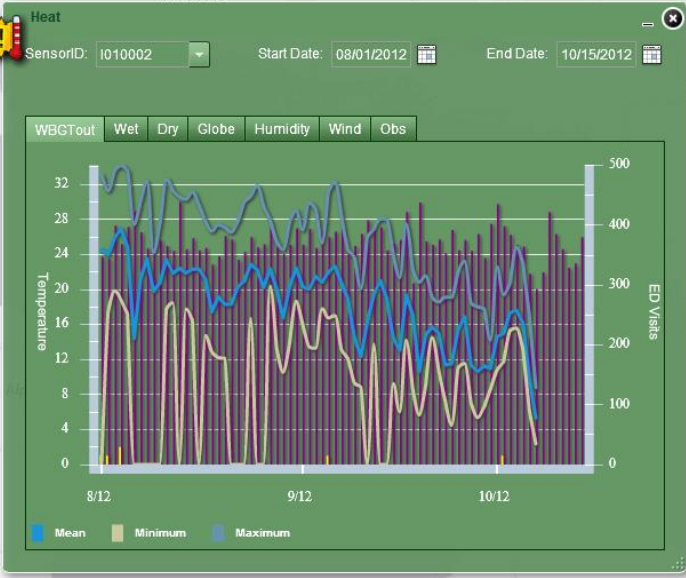


■ All Genders+All Ages+ All Hospitals ■ Threshold ■ Lab Results

Period: Gender: Health Unit: Postal Code: Normalize
 Start: Age: Hospital: Wavelet
 End: Min. Age: Max. Age: Lab Data

Midland Tornado

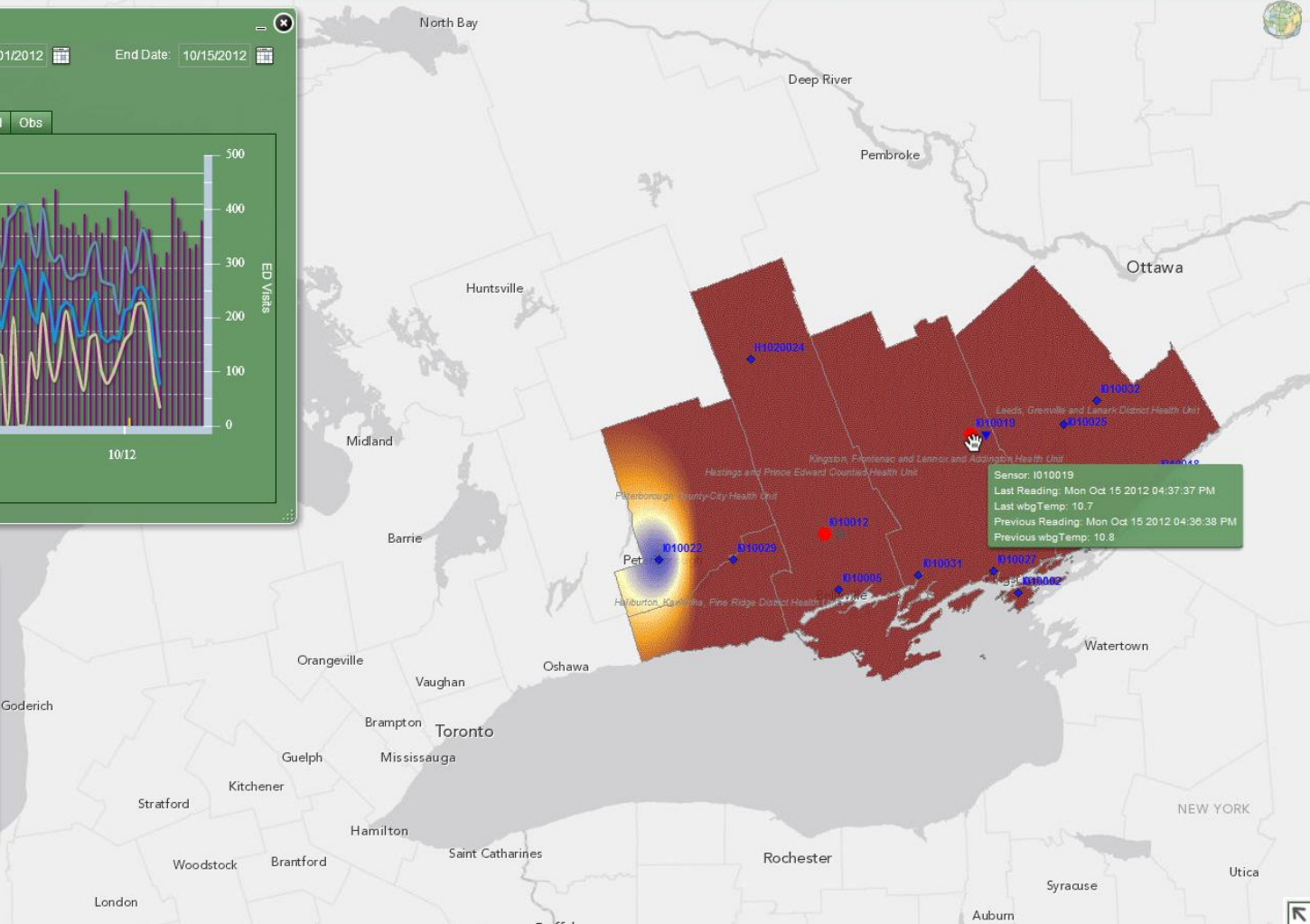




Layer List

Layer Visibility Transparency

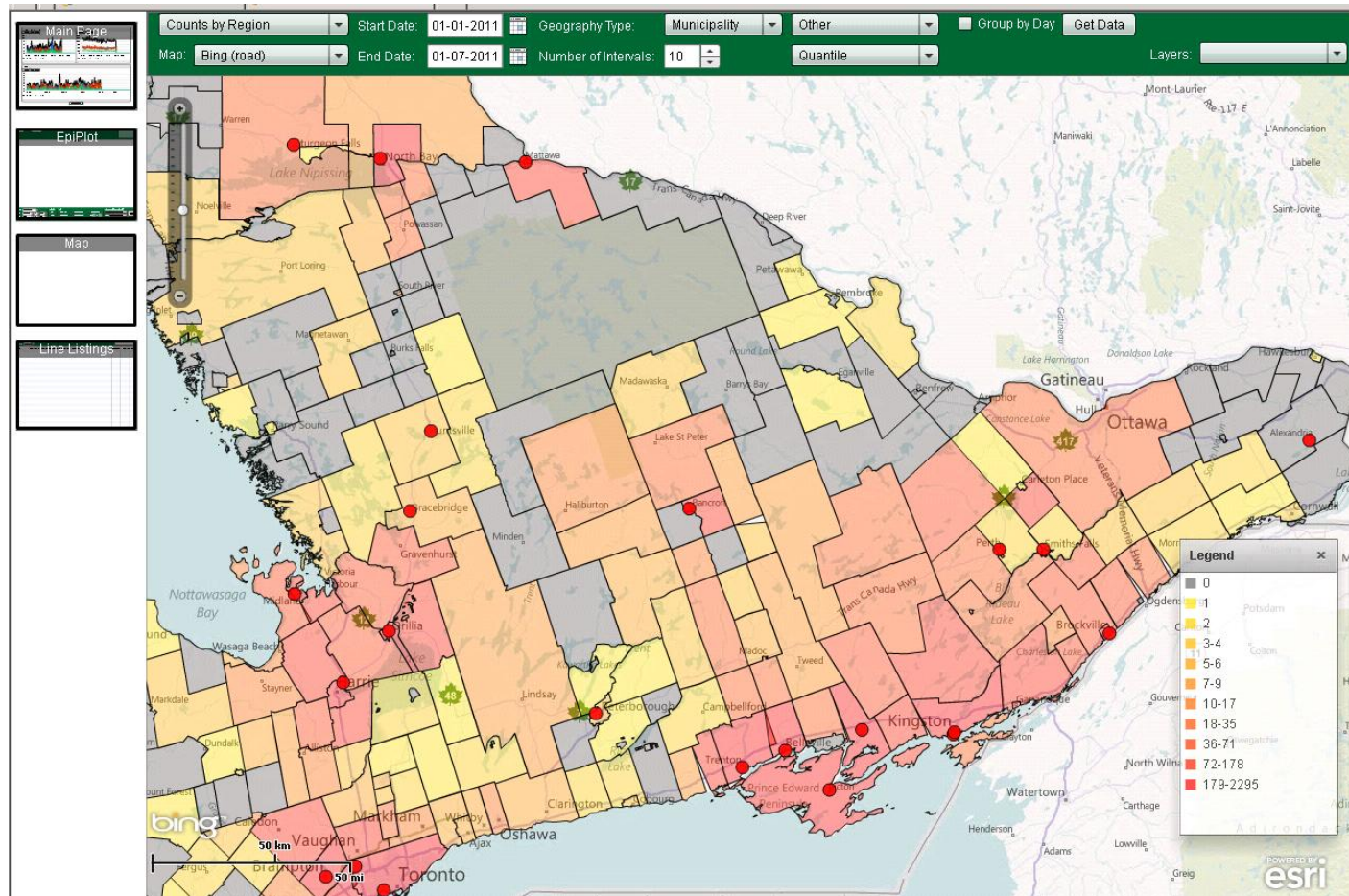
- Demographics
- Environment
- Ad Hoc Heat Layers
- Reserves
- Real-Time Heat (WBGT)



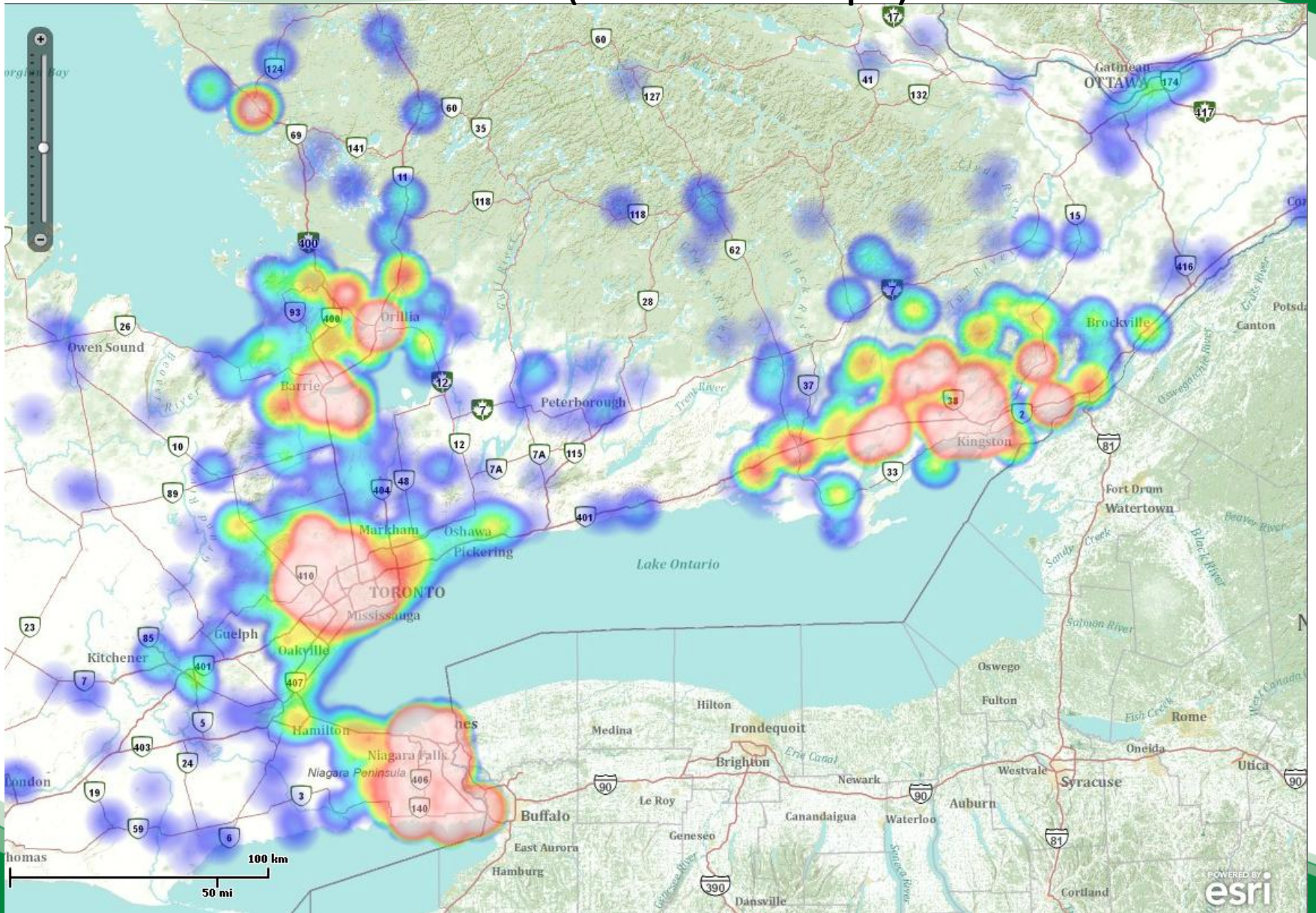
Sensor: I010019
Last Reading: Mon Oct 15 2012 04:37:37 PM
Last wbgTemp: 10.7
Previous Reading: Mon Oct 15 2012 04:36:38 PM
Previous wbgTemp: 10.8



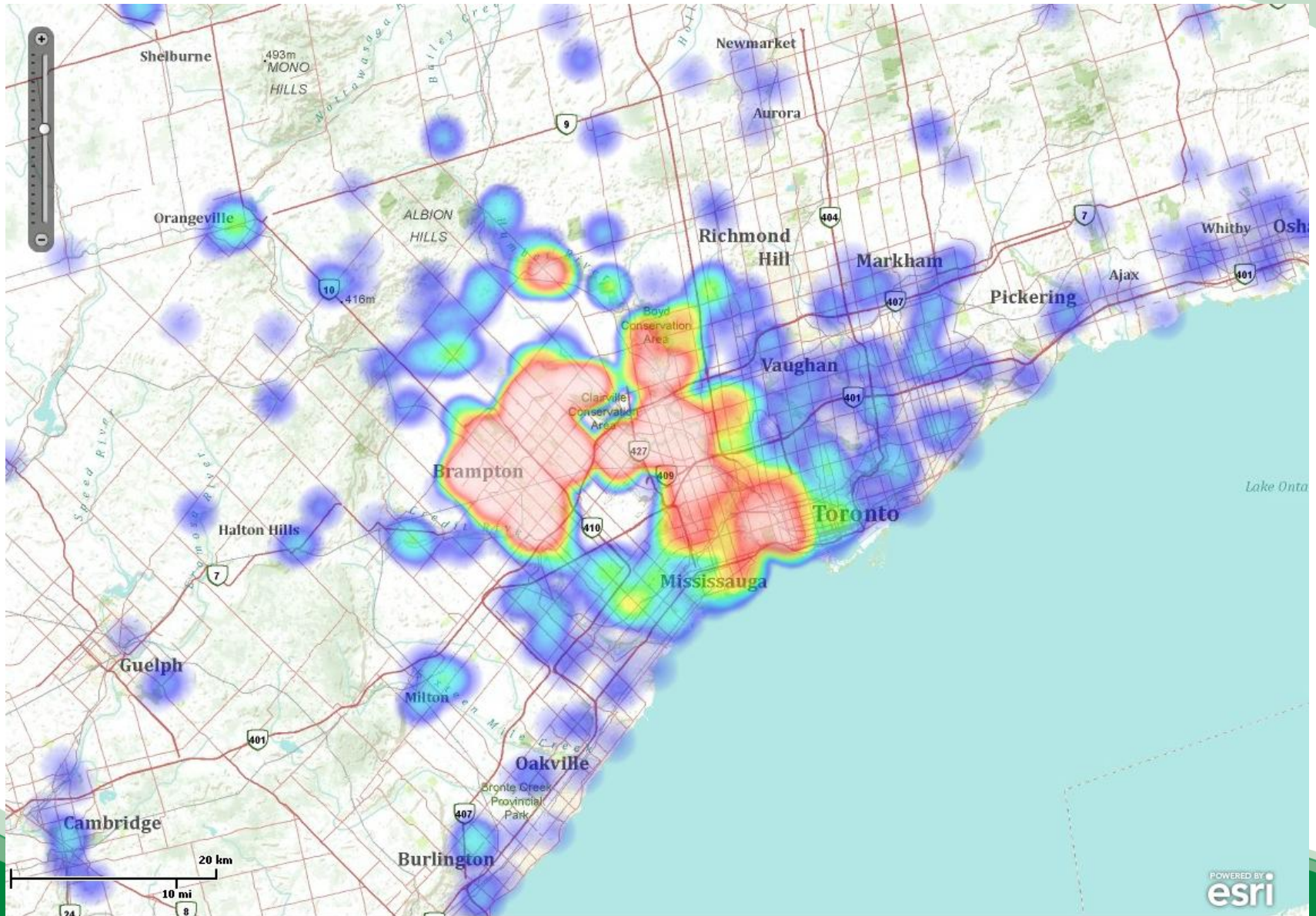
ACES (RT Choropleth for Multiple Geographies)



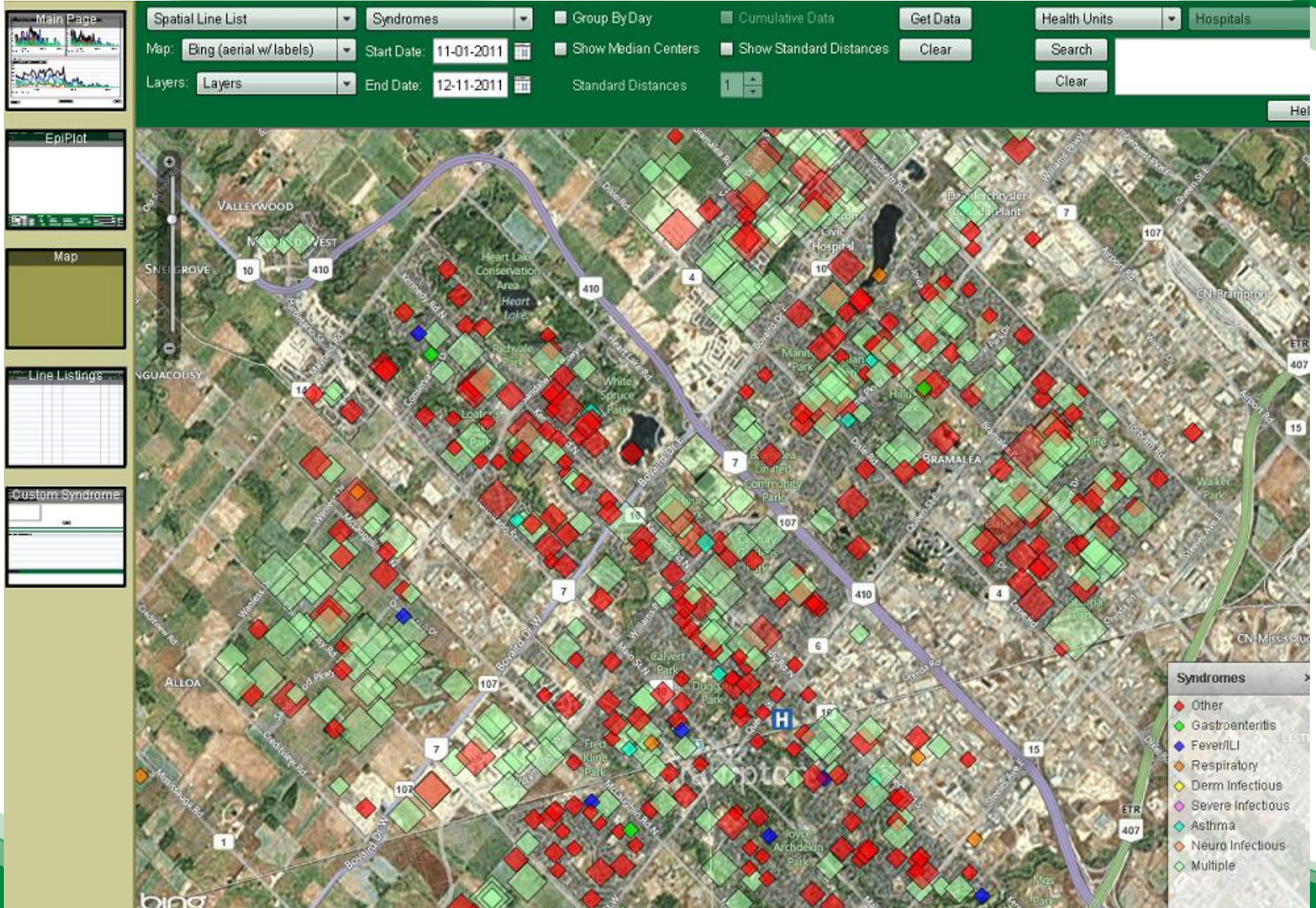
ACES (RT Heat Maps)



ACES (RT Multi-Resolution Heat Maps)



ACES Cluster Detection (Resolve to Case Data)



Objectives

- Review PHIMS and ACES functionality
- Address data elements that enhance situational awareness
- Describe how the system may help health system decision making