



Water Resources  
Management  
Division

Department of  
Environment &  
Conservation

# Mobile Environmental Monitoring Platform

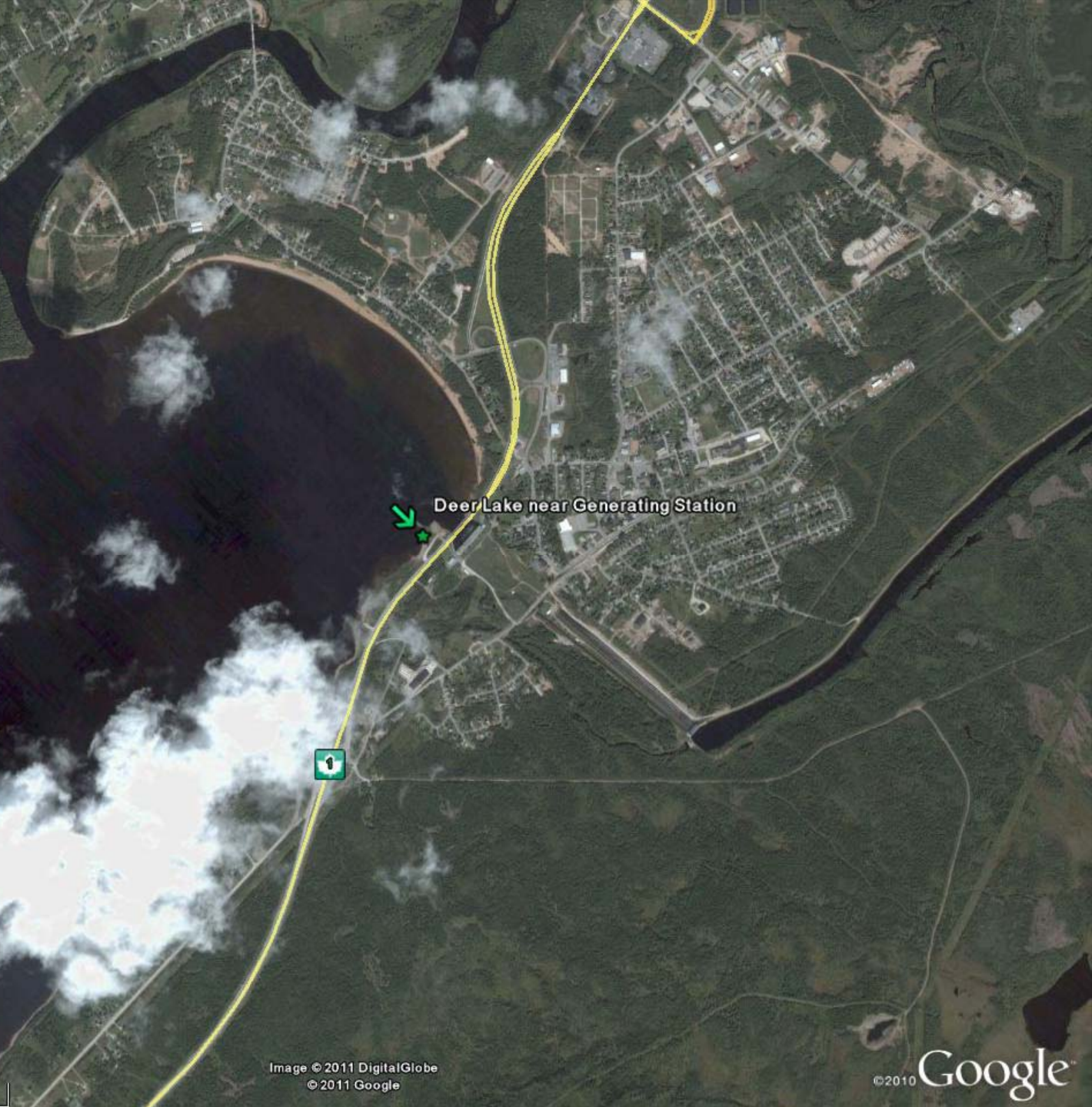


*On the road to  
environmental monitoring*

# Proactive Monitoring

- **Baseline and Long-Term**
  - (Semi-) Permanent stations
  - Environmental regulation





1535 m

Image © 2011 DigitalGlobe  
© 2011 Google

© 2010 Google

# Proactive Monitoring

- Meteorological Service of Canada
  - Weather and Climate

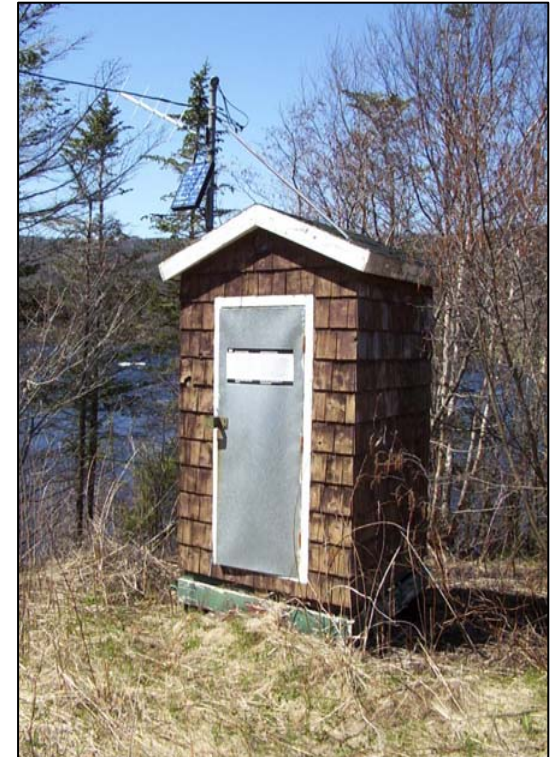


Water Resources  
Management  
Division

Department of  
Environment &  
Conservation

# Proactive Monitoring

- Water Survey of Canada
  - Hydrology



# Proactive Monitoring

- Government of Newfoundland-owned Water Quality Stations
  - Minipi River, Leary's Brook, Waterford River

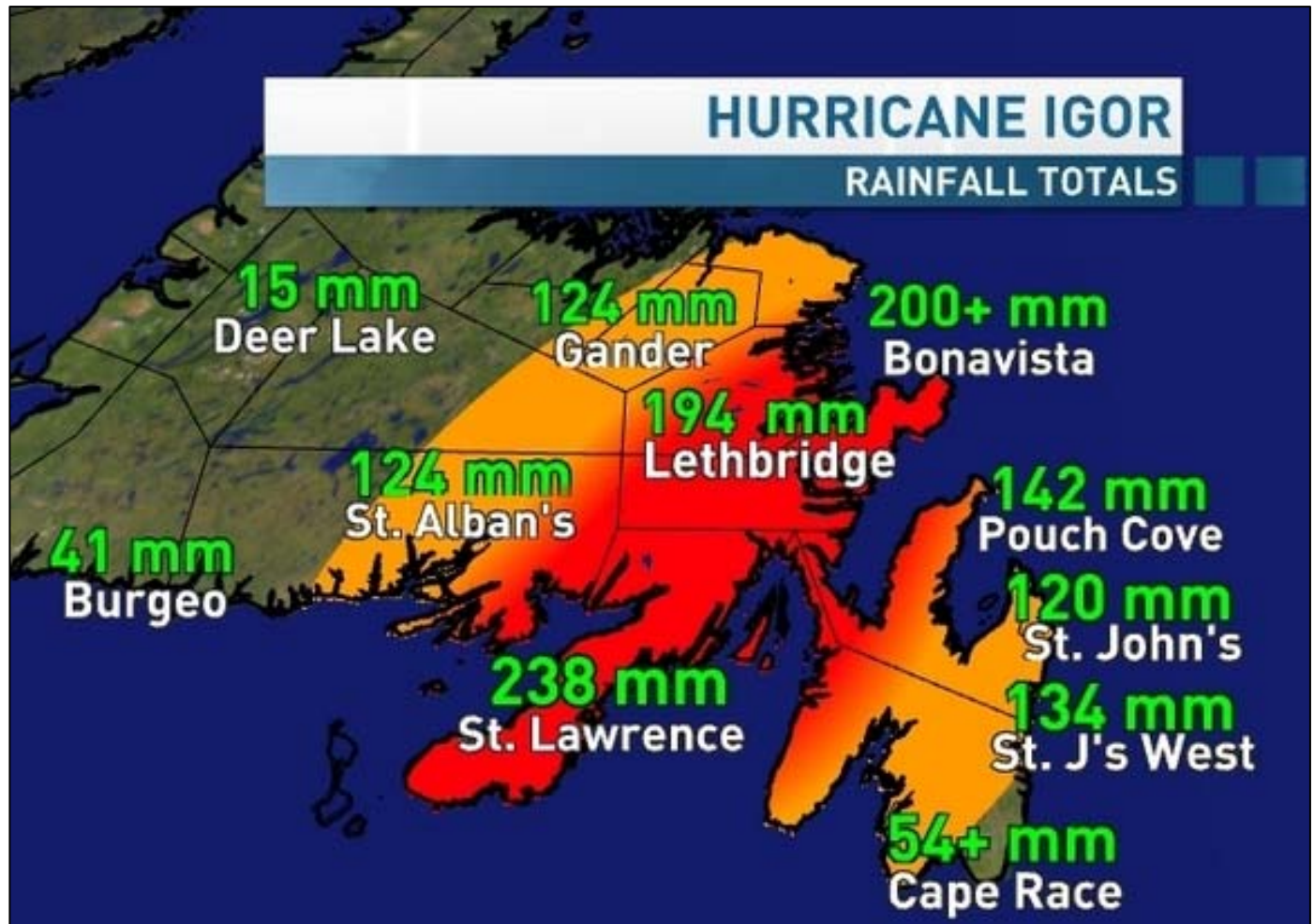


# Unforeseen Events



Water Resources  
Management  
Division

Department of  
Environment &  
Conservation



# Unforeseen Events



Water Resources  
Management  
Division

Department of  
Environment &  
Conservation





# Unforeseen Events



Water Resources  
Management  
Division

Department of  
Environment &  
Conservation



# Unforeseen Events



*“On the morning of February 15, in less than an hour,  
the water level rose 2.3 metres.”*

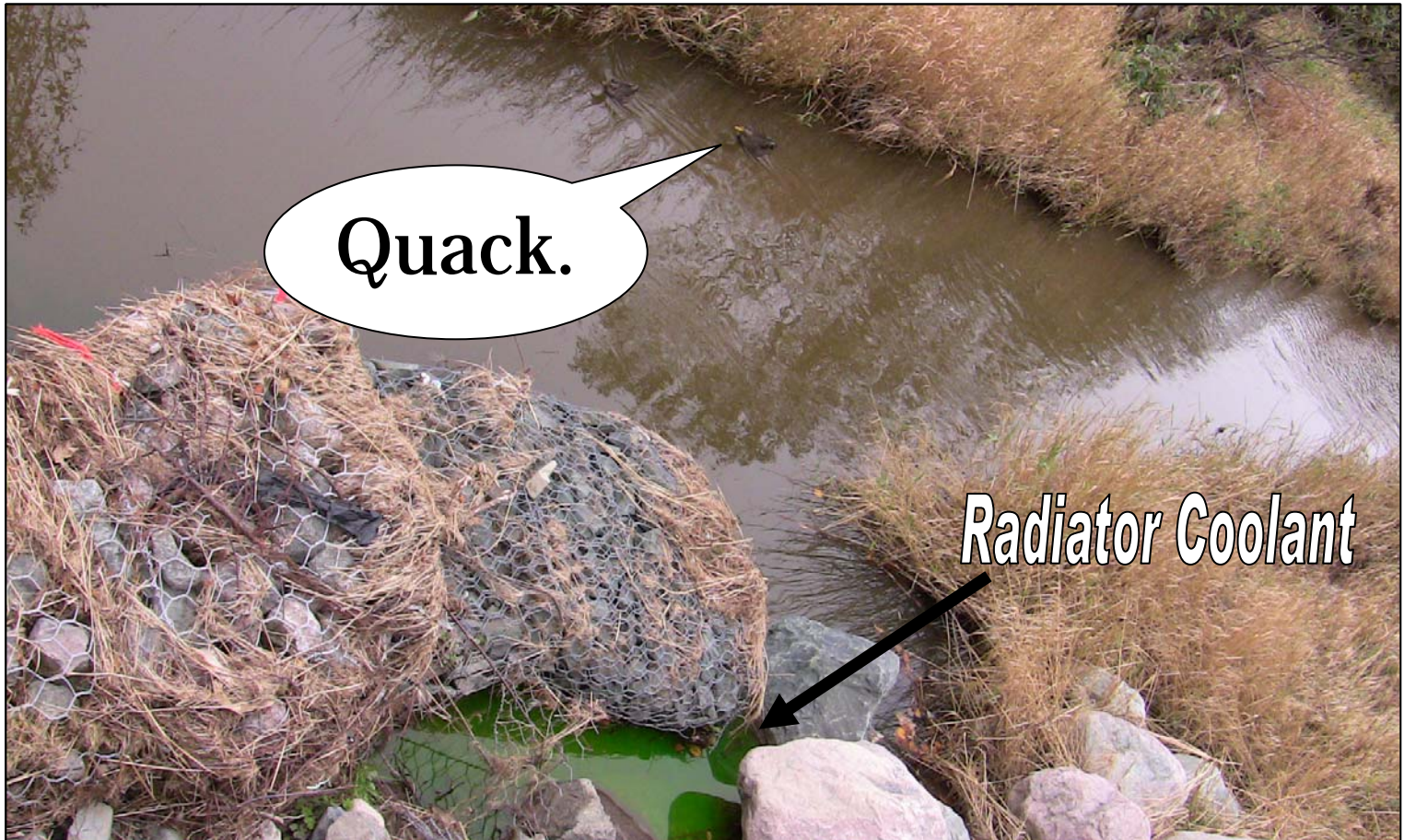
**Badger Flood 2003 Situation Report, Dep. Env & Cons**

# Unforeseen Events



Water Resources  
Management  
Division

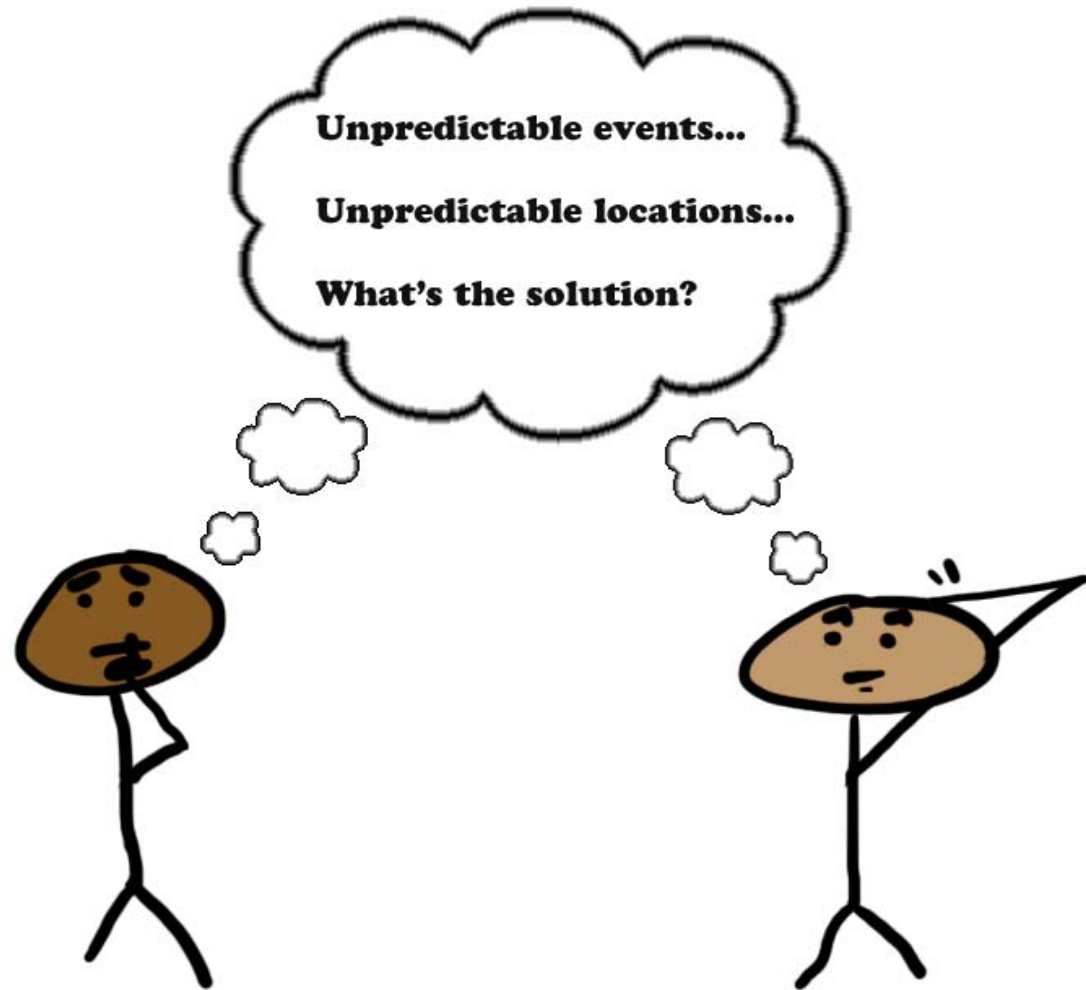
Department of  
Environment &  
Conservation



Photos: The Telegram



# Necessity the Mother of Innovation



# The solution?

- Put wheels on a standard water monitoring station
  - add a few bells and whistles...



# MEMP

- Mobile Environmental Monitoring Platform (MEMP)
  - Built for *rapid response*



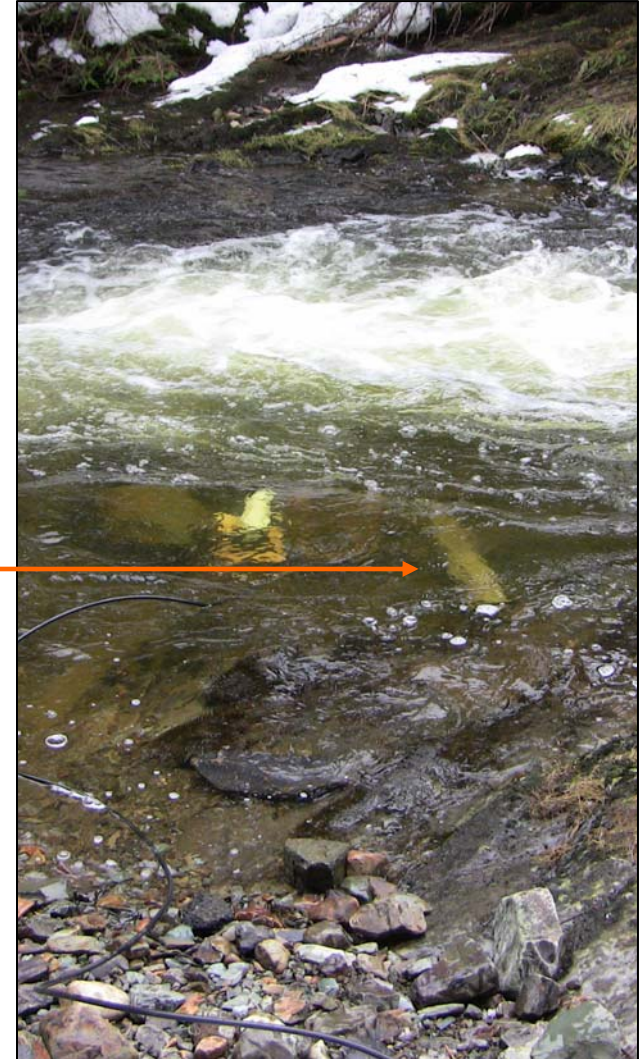
# MEMP: Capabilities

- Weather:
  - Wind Speed
  - Wind Direction
  - Temperature
  - Humidity
  - Precipitation



# MEMP: Capabilities

- **Water Quality:**
  - Temperature
  - pH
  - Conductivity
  - TDS
  - Dissolved Oxygen (% & mg/l)
  - Turbidity (NTU)





# MEMP: Capabilities

- Hydrology
  - Stage level
  - Flow (with help from our friends at WSC!)



Water Resources  
Management  
Division

Department of  
Environment &  
Conservation



# MEMP: Capabilities

- Autosamplers:
  - Triggered by a specified environmental variable
    - Analyze a sample for pesticide runoff (precip)
    - Analyze for acid/alkaline chemicals (pH)

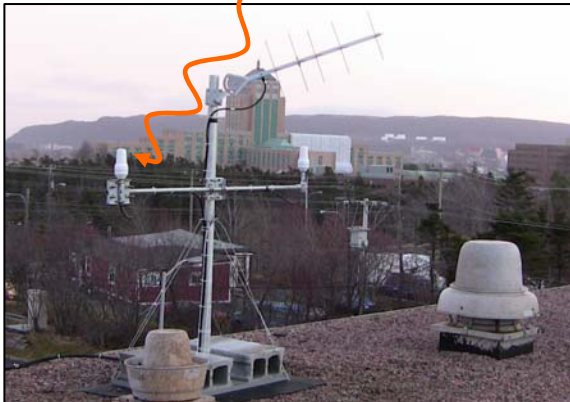


# MEMP: Capabilities



Water Resources  
Management  
Division

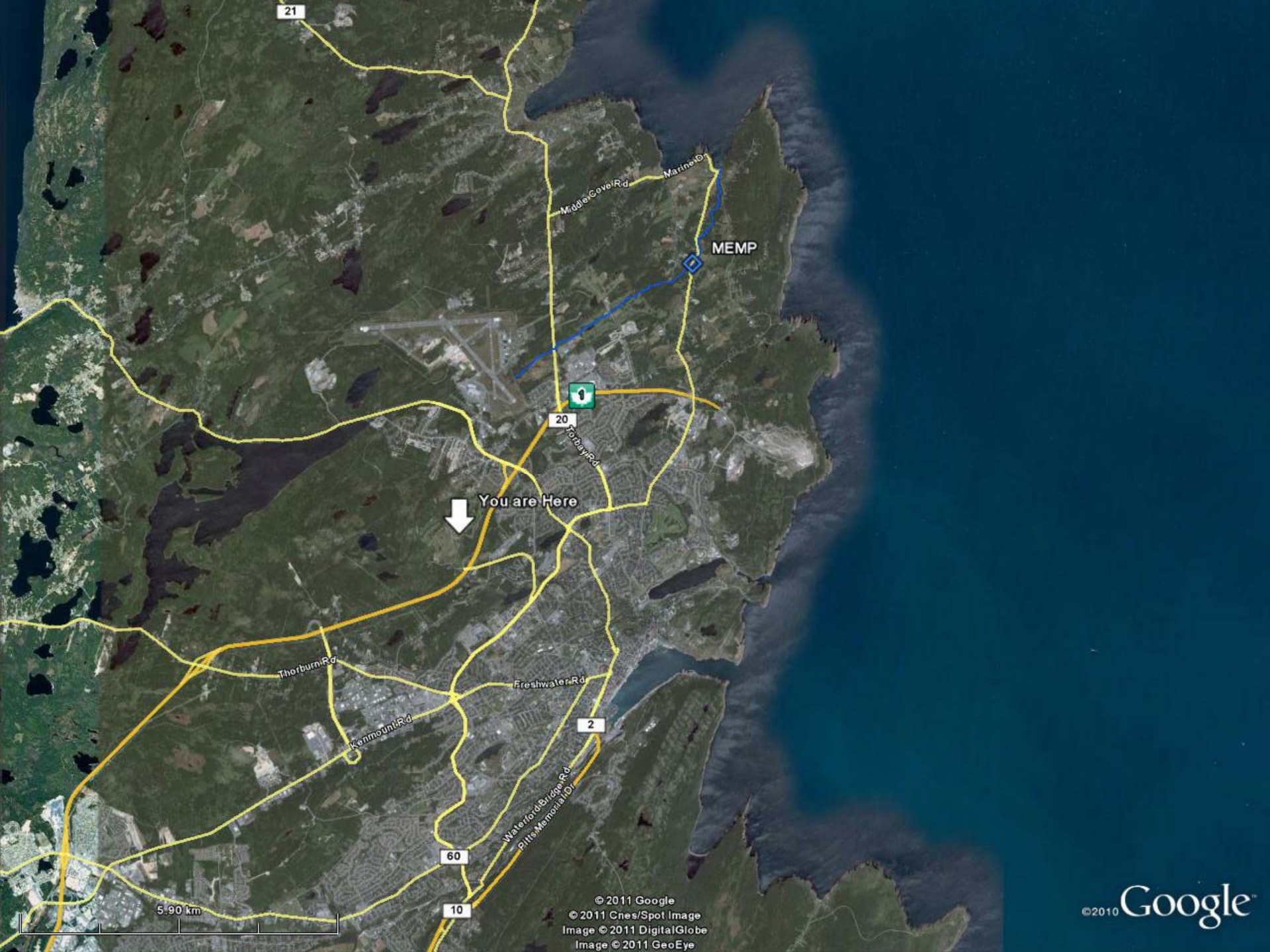
Department of  
Environment &  
Conservation



# Current Status

- Deployed in the town of Logy Bay – Middle Cove – Outer Cove
  - Monitoring water levels
  - Alleged impact of water levels due to Torbay Road North commercial development.





21

Middle Cove Rd  
Marine Dr

MEMP

20

Forsyth Rd

You are Here

Thorburn Rd

Freshwater Rd

2

Kenmount Rd

Waterford Bridge Rd  
Pitts Memorial Dr

60

10

5.90 km

© 2011 Google  
© 2011 Cnes/Spot Image  
Image © 2011 DigitalGlobe  
Image © 2011 GeoEye

© 2010 Google™

# Special Thanks:

- **Joe Pomeroy and staff**
  - Water Quality Monitoring and Surveillance
- **Howie Wills and staff**
  - Water Survey of Canada

