

Adapting to Climate Change: Coastal Flooding

Port Elgin



Figure 1:
Location of Port Elgin

The Area

With a population of 418 (2011 Census), Port Elgin is located near the Nova Scotia border at the mouth of the Gaspereau River where it empties into Baie Verte and the Northumberland Strait.

Originally founded by the Acadians in 1690, the area was renamed Port Elgin in 1847 in honour of Lord Elgin. The largest employer in the village is Atlantic Windows, which employs 200 persons year-round. The second largest employer is Westford Nursing Home, which has about 30 full and part-time staff and provides permanent care for 29 persons as well as one relief-care bed.

Climate Change and Community Vulnerability

On January 2, 2010, the village experienced coastal flooding as a result of a storm surge from a nor'easter. The storm lifted cottages off their foundations and led to considerable damage to homes, forcing the declaration of a state of emergency in the village and surrounding area. The damage incurred by this storm is thought to be approximately \$900,000.

A second coastal flooding event occurred on December 21, 2010, when another storm surge from a nor'easter flooded sections of the village and surrounding area.

Local Climate Change Addressing Adaptation Needs

The storm surges of 2010 heightened local concern for coastal stability in the area. Because of its proximity to warm salt water, the Port Elgin area is home to numerous cottagers during the summer months. As many of these cottages have been built close to the shoreline over the years, owners have noticed their lots receding, even disappearing, as a result of storm surges and erosion.

With the help of the Tantramar Planning District Commission and Mount Allison University, LiDAR data was collected and a digital elevation model was



Flood and ice damage after winter storm surge, 2010.

T. Murphy

Adapting to Climate Change: Coastal Flooding Port Elgin, New Brunswick

created. Using this information, scenarios for the area of Port Elgin and were mapped. These maps can then be used to help identify property and infrastructure at risk.

Using the digital elevation model, it was concluded that using the base year 2000, a 1 in 10 year storm event would affect 109 pieces of land and 17 primary buildings. Using the base year 2100, a 1 in 10 year storm event would affect 198 pieces of land and 68 primary buildings.

Next Steps and Opportunities

The data and mapping produced will be used to guide planners who will work with the Village Council to establish policy and regulations relating to the vulnerable areas in and around the village. The municipality will gain valuable insight into infrastructure maintenance, placement of infrastructure or upgrades to current infrastructure. Municipal decision makers have gained an understanding of the effects of climate change and the need for long-term planning to adapt to storm surge, sea level rise and coastal instability. The results produced in the Port Elgin area will help provincial departments with major infrastructure decisions.

For More Information

Village of Port Elgin

41 East Main Street
Port Elgin NB E4M 2X8
Tel: (506) 538-2120
prtelgin@nbnet.nb.ca

Climate Change Secretariat

New Brunswick Department of Environment
and Local Government
P.O Box 6000, Fredericton, NB E3B 5H1
Tel: (506) 457-4844
env-info@gnb.ca

October 2012

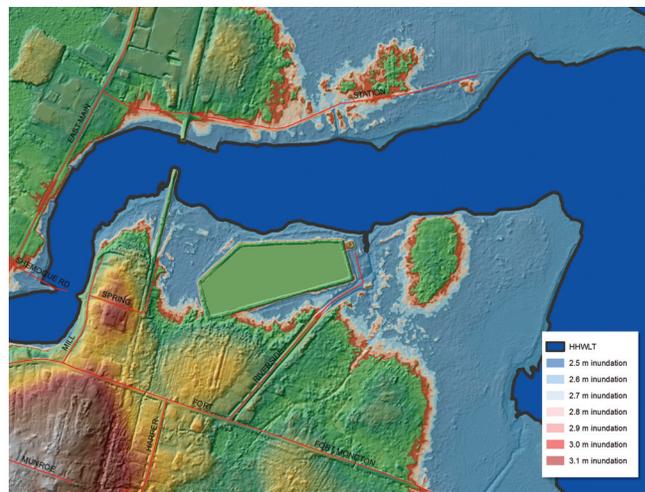


Figure 2: Sea-level rise scenario for Port Elgin.

R. McLean, DOELG



Solutions d'adaptation aux changements
climatiques pour l'Atlantique
Atlantic Climate Adaptation Solutions Association



Natural Resources
Canada
Ressources naturelles
Canada

