

The Muskoka GeoHub

Search and Visualize GIS Data, Maps and Applications

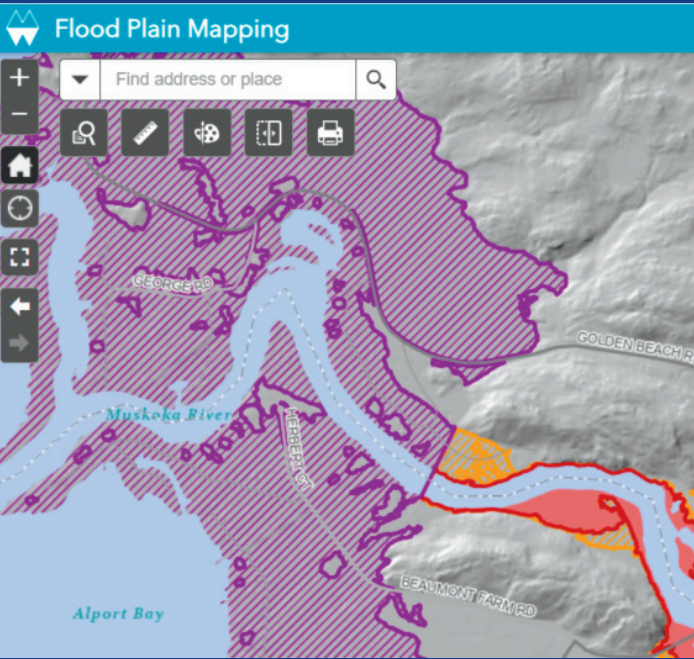
Search Data, Maps and A...

Explore the

Muskoka GeoHub today!

- Floodplain maps
- LiDAR data
- Historically flooded roadways
- Real-time water levels
- Interactive historic aerial flood footage
- LiDAR Discovery StoryMap
- And more!

www.map.muskoka.on.ca



Did you know?

Spring Freshet: When the season changes from winter to spring, the snowpack starts to melt and flows into lake and river systems. This melting snow and ice combined with spring rain and a still frozen ground can cause flooding. The spring freshet can last from March to May.

LiDAR is a remote-sensing method that uses a laser to bounce light on objects, then tracks (in nano-seconds) how long the light takes to return back to the sensor. This creates a 3D model. This technology is used to map floodplains, and is also used for self driving cars.

The **Muskoka GeoHub** has a number of applications! Floodplain mapping, zoning, public works information, trails explorer, shoreline videos, water sampling, development applications, and more!

The first phase of the Floodplain Mapping Project launched in 2018, where **1,509 square kilometers** of LiDAR mapping was captured, and **1,404 kilometers** of shoreline flooding mapping was completed. The second phase of the Project was launched in 2021, where over **910 square kilometers** is being mapped.

Have a question or comment about the Floodplain Mapping Project?

Contact us

705-645-2100

Follow MuskokaGIS on Twitter!



@MuskokaGIS

MUSKOKA'S FLOODPLAIN MAPPING PROJECT



What are floodplains and why is the District mapping them?

A floodplain is a generally flat or low-lying area of land next to a water body. These areas are not typically under water, but, during spring freshet conditions, they may experience flooding. Mapping these areas tell us where flooding is likely to occur.

While the spring freshet is a natural process, due to flooding in Muskoka in the last decade, the District undertook the first phase of the multi-year Floodplain Mapping Project in 2018 to better identify areas at risk of seasonal flooding. The goal is to have more information to assist with emergency management plans.

Floodplain mapping is also essential for land-use planning to ensure future development is not permitted in flood zones. Development in these areas can result in property damage if flooding or erosion occurs and, in extreme cases, could result in loss of life.

The District of Muskoka has also initiated a suite of projects relating to flooding under the Integrated Watershed Management Initiative, which includes mapping more flood plains.

BE FLOOD READY!

Visit www.muskoka.on.ca/flooding to download the

Flood Prevention and Recovery Guide

Be Aware - Flooding has become the most frequent and costly natural disaster in Canada.

Know Your Risk - Have you experienced flooding in the past? Are you in a floodplain? Does your insurance policy include flood coverage?

Minimize Your Risk - Take proactive measures to minimize your risk of a flood.

Make A Plan - An emergency plan will prepare your family on what to do during an emergency, and how you will find each other.

Prepare and Emergency Kit - Can you keep yourself and your family safe for 72 hours after an emergency? Build a kit for the essentials.



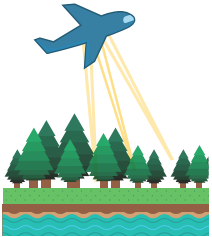
How are floodplains mapped?

1 IDENTIFY AND SELECT AREAS TO MAP

Based on the Hazard Identification and Risk Assessment Tool, and historically flooded roadways.



2 GATHER DATA



Topography of the land surface is gathered using LiDAR (Light Detection and Ranging) technology. This remote sensing device is flown in an airplane to gather elevation information such as topography of shorelines.

Bathymetry data is also gathered using sonar technology, using sound waves to measure the depth of waterbodies.

Water levels and flow information is gathered from gauges that are monitored and recorded daily.

3 BUILD A HYDROLOGICAL MODEL

The above data is added to a computerized hydrological model to calculate where water would flow during freshet conditions or a flood event.

4 MAPPING

Information from the hydrological model is mapped using a geographic information system, showing where the floodline and floodways are in Muskoka. This is what you see on the Muskoka GeoHub at www.muskoka.on.ca/flooding.