

## ERSC 2P17: Earth Science Methods

The following is an outline of some helpful steps to finding a map of your geological formation. The example used here will be *Gowganda Formation*.

### STEP 1: Determining the geographical extent of a formation

TITLE: **Geology of Ontario** – 2 vol. set; On RESERVE in Map, Data & GIS Library QE 191 G46 1991 pt.1 & pt.2  
 Online: [pt.1](#) & [pt.2](#) (note: LARGE pdfs – over 700 pages each – may take several minutes to load)

Use the index in pt. 2 to find page numbers for different geology terms and formations in Ontario. The gowganda formation is described on pg. 568. The entry on pg. 568 describes a geographical location of its extent in northern Ontario. Further observations note that this formation is part of the larger Huronian Supergroup.

**Geology of Ontario** often has maps that are sufficient for your assignment. However, the map included here does not specifically identify the gowganda formation. Therefore, we can seek other sources for an appropriate map.

### STEP 2: Scholarly article search

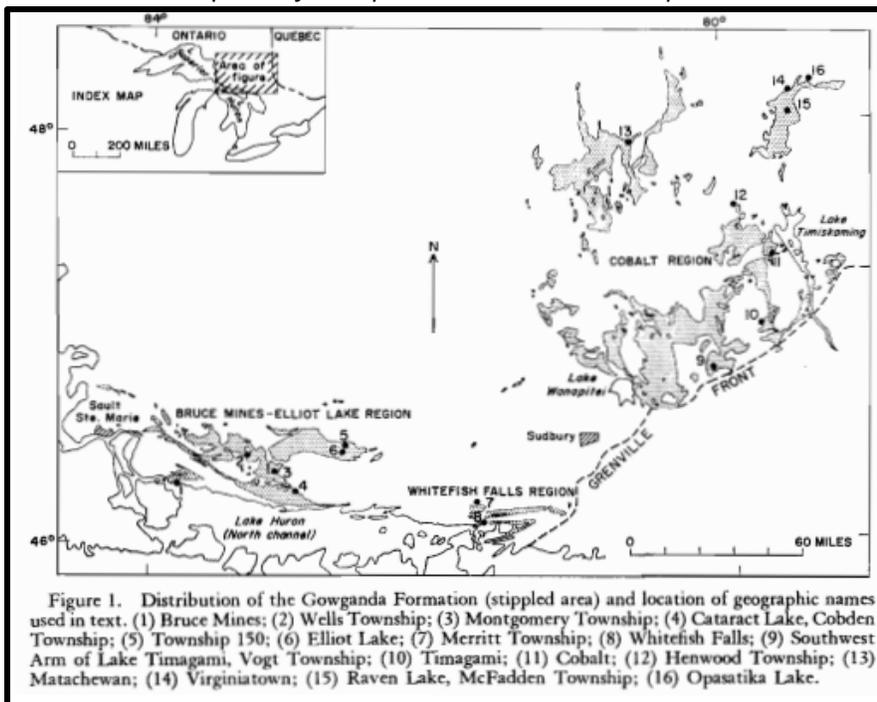
Use [Supersearch](#) (narrow to Scholarly articles in the left side bar), or Google Scholar (connect from the [Brock databases](#) listing or change Google Scholar [Settings > Library Links](#) to include Brock subscriptions in the results)

Scholarly articles will frequently include location maps of the area discussed.

Search terms = *gowganda formation* or *gowganda formation map*

Using the **Get it! @Brock** link allows full text access to articles. After browsing a few, the image below was selected.

*This is a screen capture of a map within an article. Once pasted into Word or Paint, it was cropped and resized.*



A source statement is always required:

SOURCE: Lindsey, D. A., 1969, Glacial sedimentology of the Precambrian Gowganda Formation, Ontario, Canada: GSA Bulletin, 80 (9) 1685-1702; <http://bulletin.geoscienceworld.org/content/80/9/1685>

**STEP 3: Other map sources**

Other published map sources should also be explored.

**OGSEarth** <http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth>

Provides Google Earth map overlays of geological maps published by Ontario Geological Survey.

- **Download** a map of choice and Open in Google Earth (i.e. Bedrock Geology) (Geology maps are also available in the Map, Data & GIS Library)
- Zoom to the area of study
- Click on a formation to identify
- Use the transparency tool to make the geology map “see through” or slightly transparent to view the underlying terrain.
- Use PrintScreen key and paste image into WORD.

A screen capture from Google Earth showing the gowganda formation (in brown, 21d symbol), cropped to size:



**OGS Maps:** Large scale (detailed) geology maps of Ontario are available online. Use the following procedure to use the index maps in Google Earth:

[Accessing OGS Maps using Google Earth](#)

**STEP 4: HOW TO CITE MAPS**

<http://www.brocku.ca/maplibrary/guides/How-to-Reference.pdf>

*Source:* Robertson, J.A., K.M. Siemiatkowska, D.F. Cape, 1972, McKinnon Township, Districts of Sudbury and Manitoulin. Ontario Geological Survey. Preliminary Map P.794.

