

## Introduction

"Hello everyone! In this tutorial, I'll explain you how to download census tract boundaries for Canada. Let's get started!"

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## Step-by-Step Guide

"First, open your browser and search for '*Canada census boundary download*' on Google. Click on the first link that appears in the search results.

Once the page loads, look for the section called 'Statistical boundaries.' Here, select '*Census Tract*' from the dropdown menu.

Next, find the 'Format' bar and choose '*Shapefile*' as the format. After that, click on '*Continue*.'

A download link will appear. Simply click on it to download the shapefile. The file will be downloaded as a zip file to your computer."

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## Importing the File into QGIS

"Now let's import the file into QGIS.

1. Open your QGIS application.
2. Go to the top menu and click on '*Layer*,' then hover over '*Add Layer*' and select '*Add Vector Layer*.'
3. In the dialog box that appears, click on '*Browse*,' navigate to the folder where you saved the zip file, and select it.
4. Finally, click '*Add*.'

Your census tract boundaries will now appear on the map in QGIS."

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## Filtering for Toronto Census Tracts

"The shapefile covers census tracts for several cities and regions. To focus on Toronto:

1. Open the attribute table for the layer by right-clicking on the layer and selecting '*Open Attribute Table*.'
2. If you have a list of Toronto census tracts, click on '*Select Features by Expression*.'
3. In the 'Provider Specific Filter Expression' box, use this template:

```
DGUID in ('2021S05075350128.04', '2021S05075350363.06', ...)
```

4. Click *'Test'* to check your expression, and then click *'OK.'*

Only the census tracts for Toronto will now be selected."

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## Exporting the Filtered Data as GeoJSON

"Now let's export the filtered data:

1. Right-click on the layer and select *'Export,'* then *'Save Features As.'*
2. In the dialog box:
  - o Set the format to *GeoJSON.*
  - o Adjust the CRS (coordinate reference system) as needed.
  - o Choose a location and file name for the export.
3. Click *'OK'* to save the file.

Your Toronto census tracts are now exported as a GeoJSON file!"

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## Creating a Polygon Boundary for Your Area

"If you don't have a list of census IDs, here's an alternative:

1. Go to the website *Geojson.io.*
2. Draw a polygon that covers your area of interest.
3. Save the polygon as a GeoJSON file.

Now import the GeoJSON file into QGIS alongside the census shapefile:

1. Click on *'Layer,'* then *'Add Layer,'* and select *'Add Vector Layer.'*
2. Browse to your GeoJSON file and click *'Add.'*

The polygon for your area of interest will now appear on the map."

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## Selecting Census Tracts by Location

"To filter for your area:

1. Go to the menu and click *'Vector,'* then *'Research Tools,'* and select *'Select by Location.'*
2. In the dialog box:
  - o Set *'Select features from'* to your census shapefile.

- Tick '*Intersect*' and '*Are within*' options.
  - Under '*By comparing to features from,*' choose your GeoJSON polygon.
- 3. Click '*Run.*'

The census tracts within or overlapping your polygon will now be selected."

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### **Exporting the Filtered Data**

"To save the filtered data:

1. Right-click on the modified shapefile in the '*Layers*' section.
2. Select '*Export,*' then '*Save Selected Features As.*'
3. In the dialog box:
  - Set the file format to *GeoJSON*.
  - Adjust the CRS as needed.
  - Set the file name and location.
4. Click '*OK.*'

This will create a file with your desired census boundaries."

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### **Polishing the File in Geojson.io**

"Note that some additional census tracts may be included. To remove them:

1. Go back to *Geojson.io* and import your file.
  2. Click on any unwanted census tracts and delete them.
  3. Once you've finished, save the polished file as GeoJSON."
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