

# Geographic Information System

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## 01 Basics of GIS

GIS + Softwares  
Data Types

## 02 What does GIS let us do?

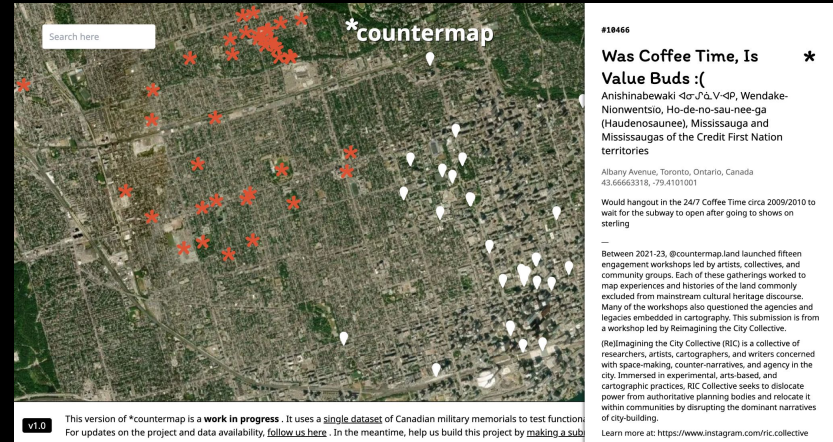
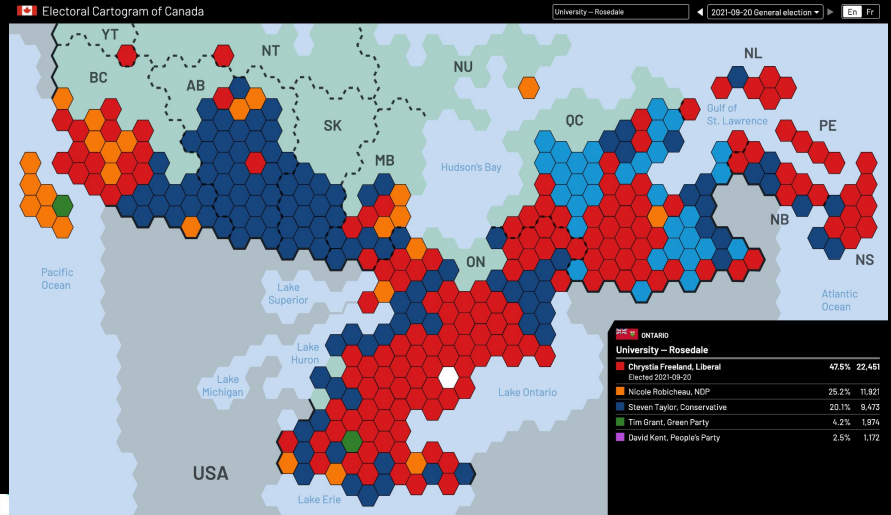
Play around with historical  
maps

## 03 Mapbox Tutorial

Building Mapbox  
Open Data Toronto  
Making a Map

# 01

## *Basics of GIS*

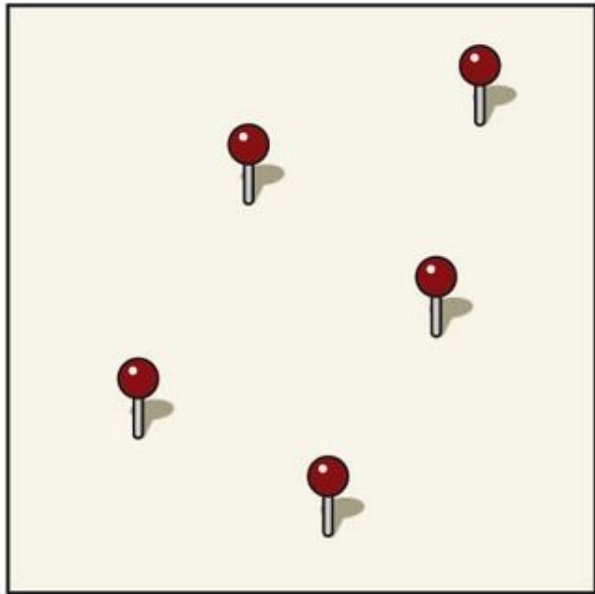
[illegible]

*a spatial database that  
facilitates the storage and  
retrieval of data that define  
the spatial boundaries, lines  
or points of the entities*

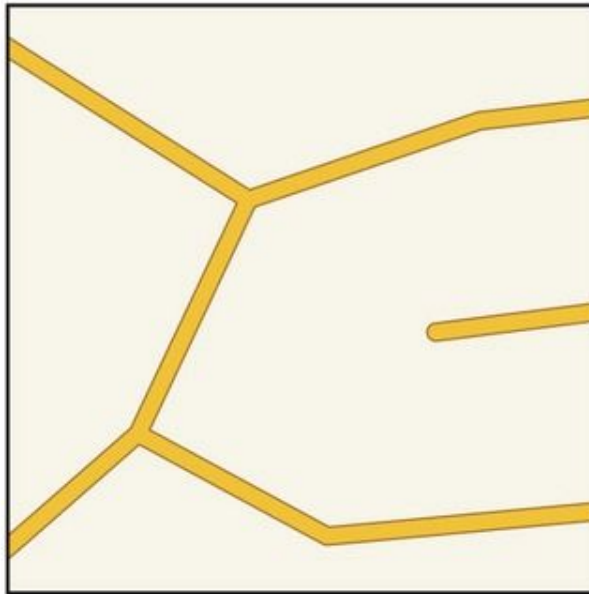
# QGIS



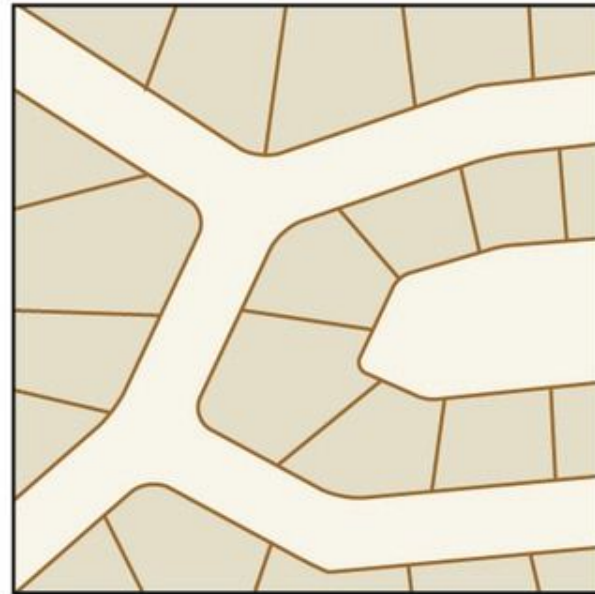
# ArcGIS



**Points**



**Lines**



**Polygons**

**Figure 5.2**  
*Introduction to Geospatial Technologies, Second Edition*  
© 2014 W. H. Freeman and Company



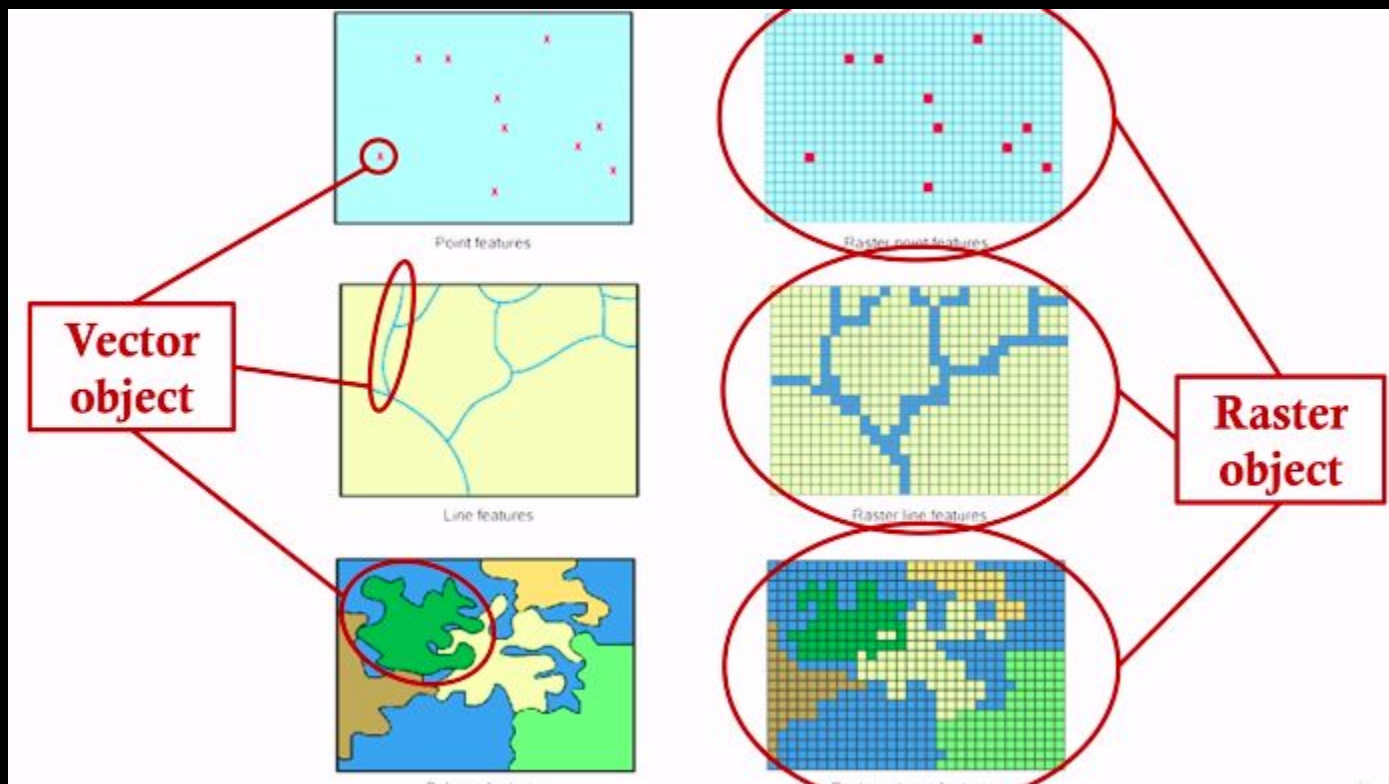
*Name a  
point,  
line, and  
polygon  
on this  
map*





**Vector data** is stored as a series of X, Y coordinate pairs inside the computer's memory. Vector data is used to represent points, lines and areas.

**Raster data** are stored as a grid of values. Raster data are often images taken by satellites.



*Is it raster  
data or  
vector  
data?*



*Is it raster  
data or  
vector  
data?*



*Is it raster  
data or  
vector  
data?*

FIGURE 2: Tree Cover Distribution in the City of Toronto

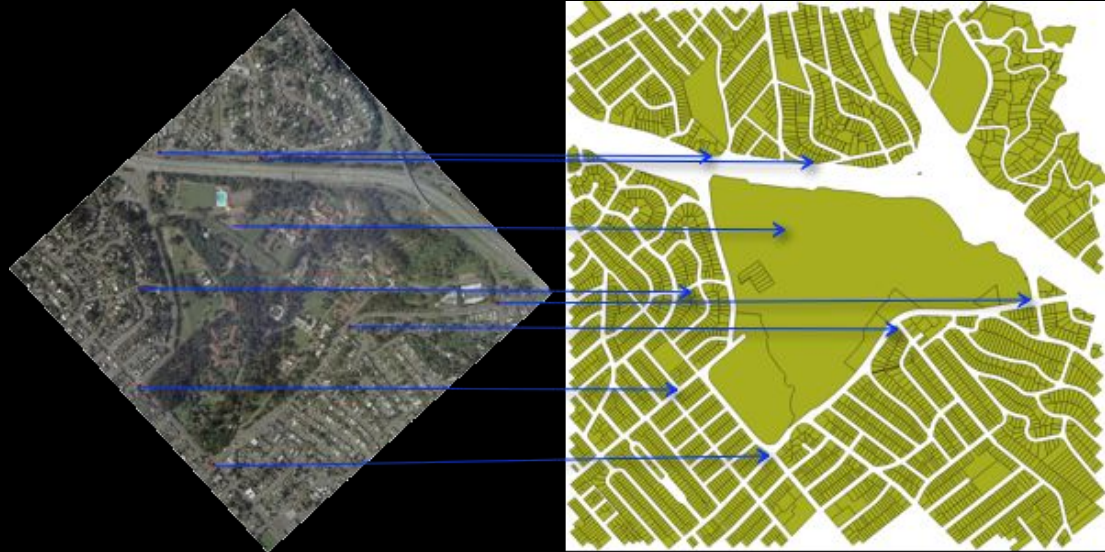


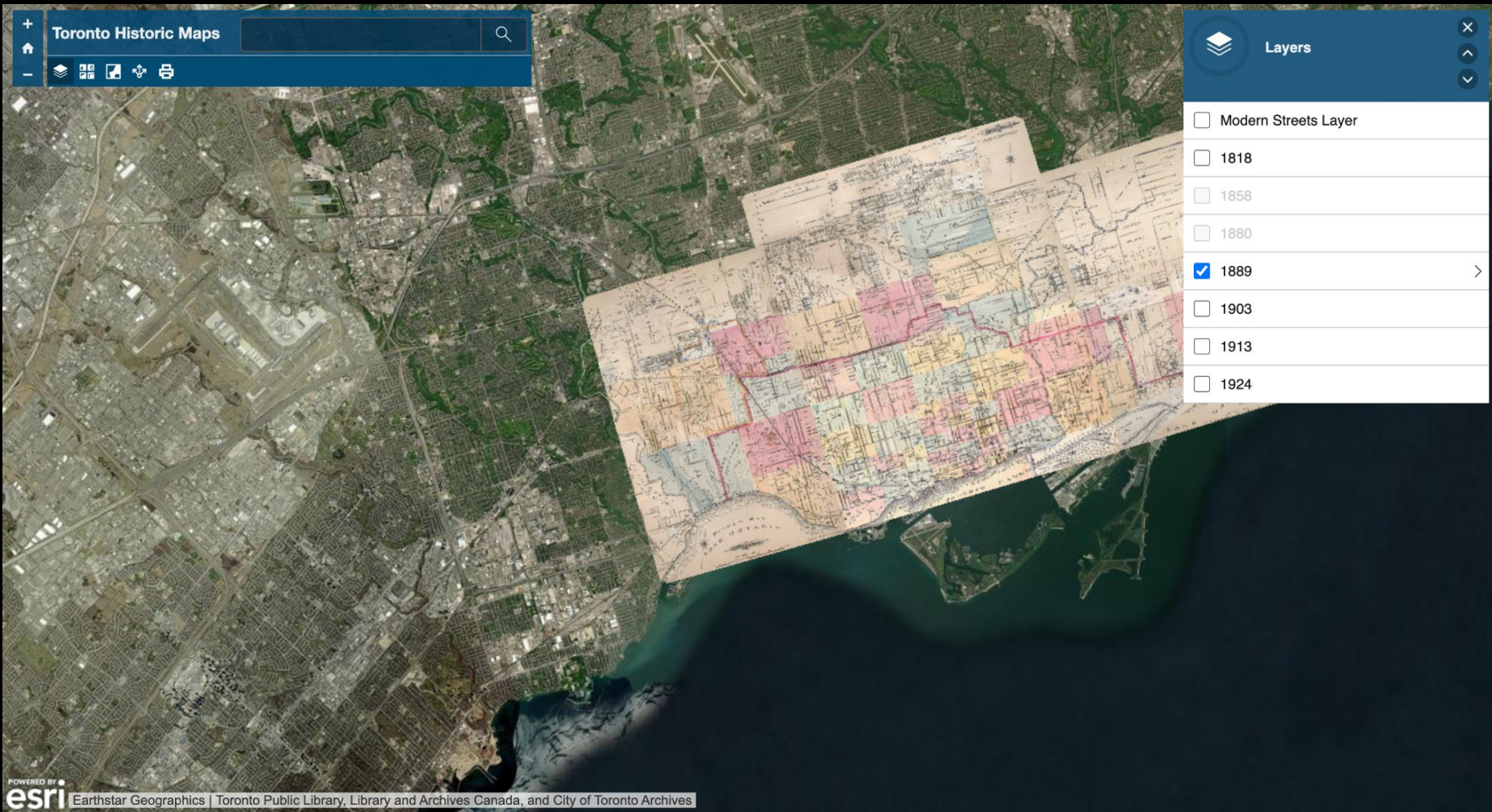
Source: 2018 Tree Cover; City of Toronto Automated Land Cover 2018.

# 02

*What does GIS let us do?*







# Toronto Historic Maps



## Layers



☐ Modern Streets Layer

☐ 1818

☐ 1858

☐ 1880

☒ 1889



☐ 1903

☐ 1913

☐ 1924



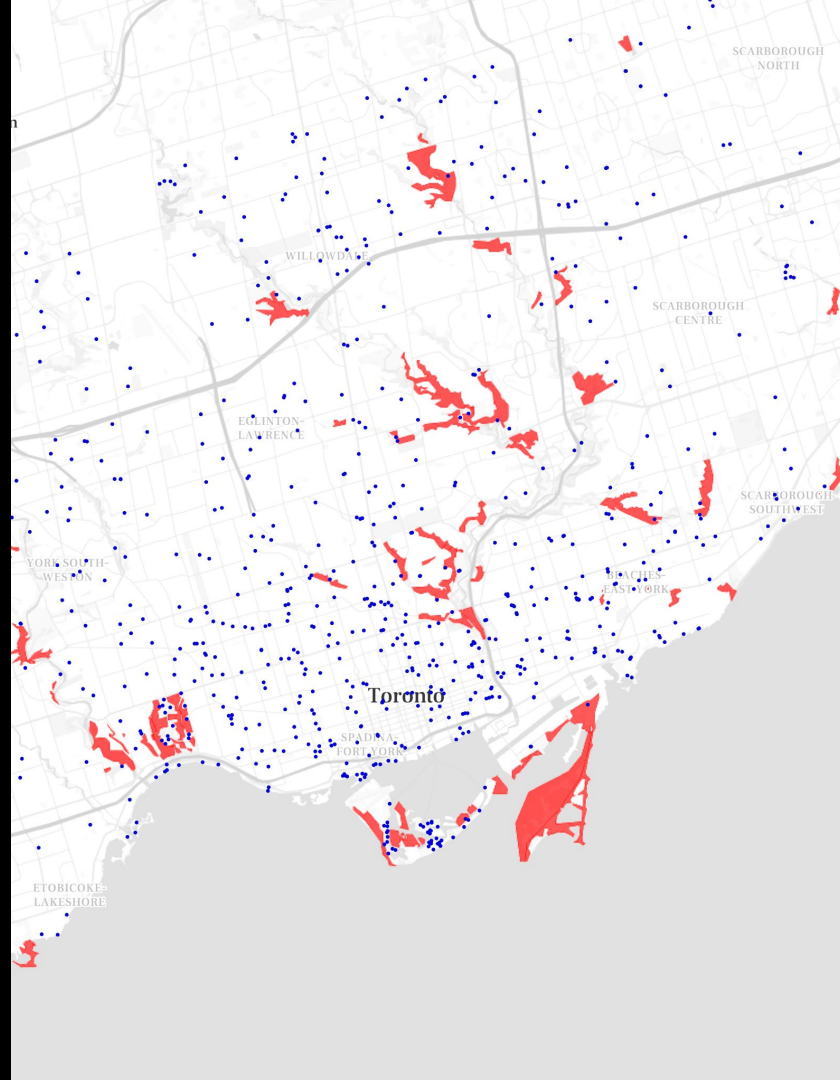
Earthstar Geographics | Toronto Public Library, Library and Archives Canada, and City of Toronto Archives

*In breakout rooms of about 3 people for about 10 minutes, look through the different maps of Toronto from 1818 to present day. Come ready to share back with the group how the area around the Don River (or another waterway) has changed.*

03

*Mapbox Tutorial*

*Let's make a map*



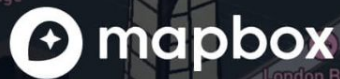


A wide-angle, nighttime photograph of the Toronto skyline. The CN Tower is the central focus, illuminated with its signature red and white lights. Surrounding it are numerous skyscrapers, their windows glowing with warm yellow and orange light. The sky is a deep, dark blue with some wispy clouds. The overall scene is a vibrant and detailed representation of the city at night.

Search the City of Toronto's Open Data Portal

Search datasets

SEARCH



# Mapbox Maps



THANK YOU