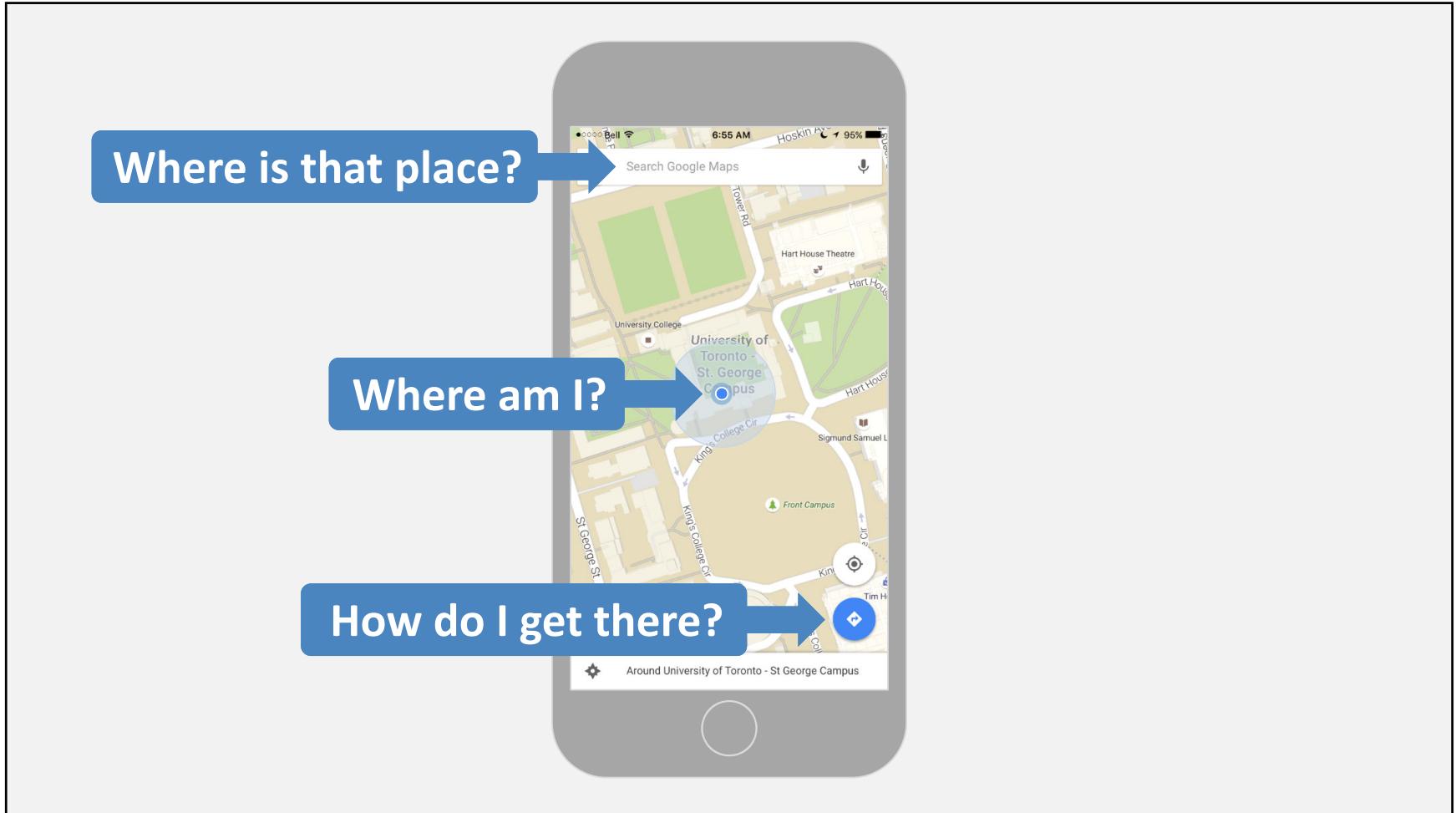
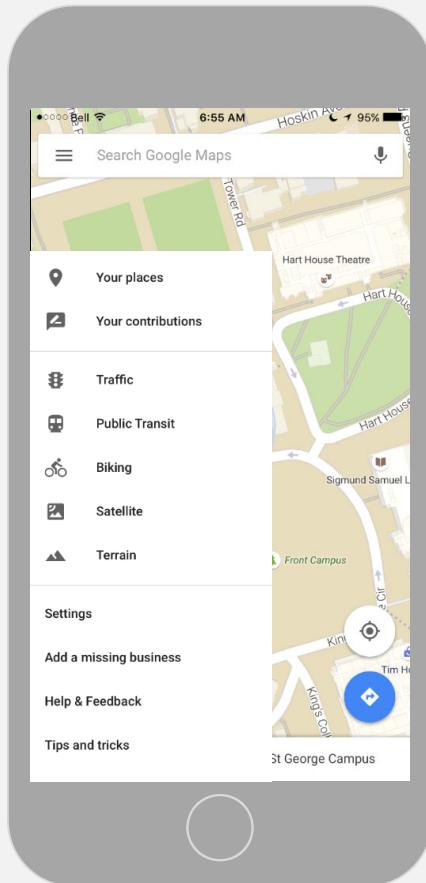


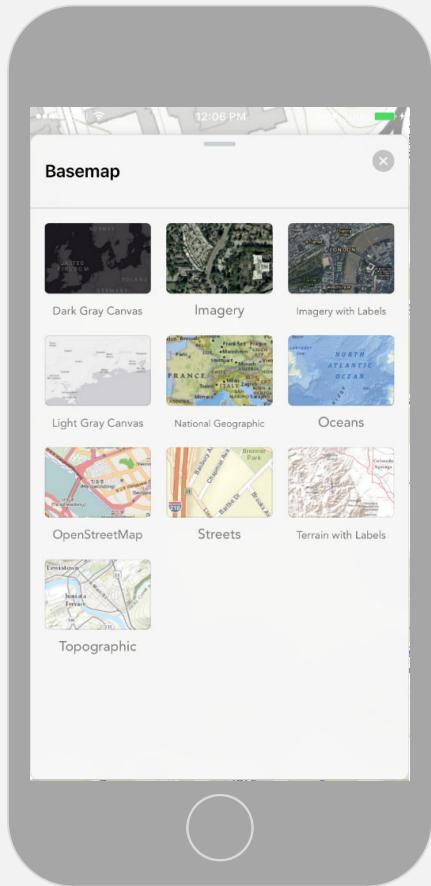
Maps in your pocket

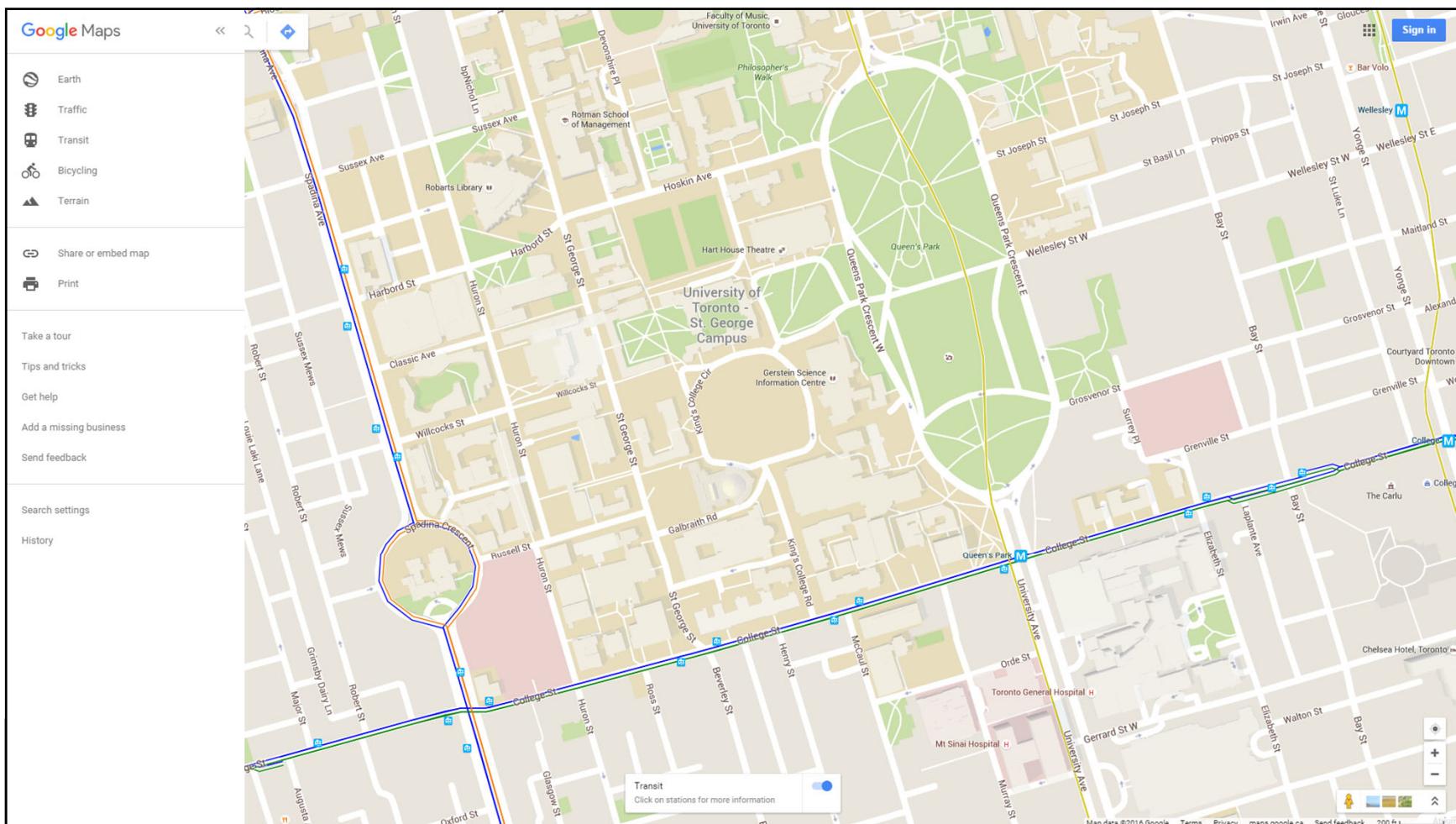








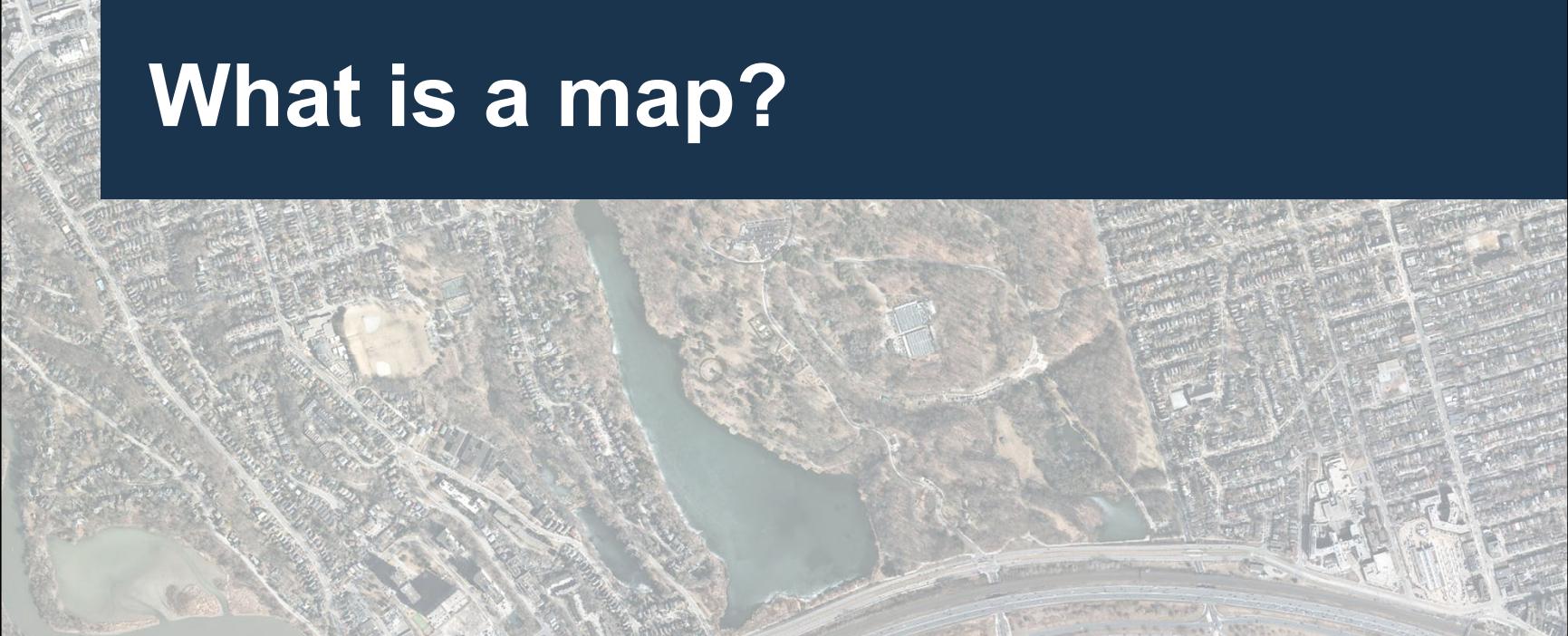


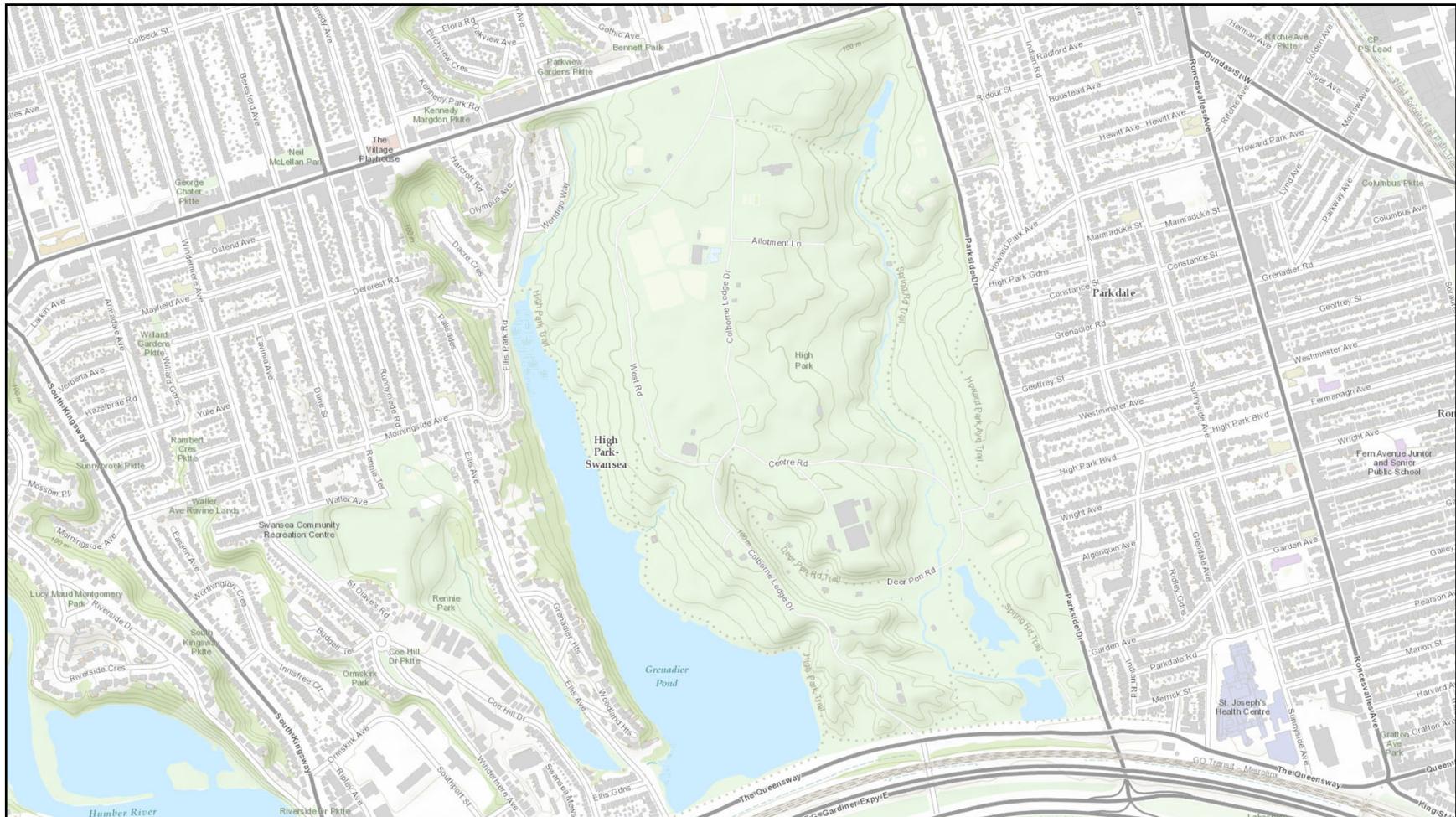






What is a map?

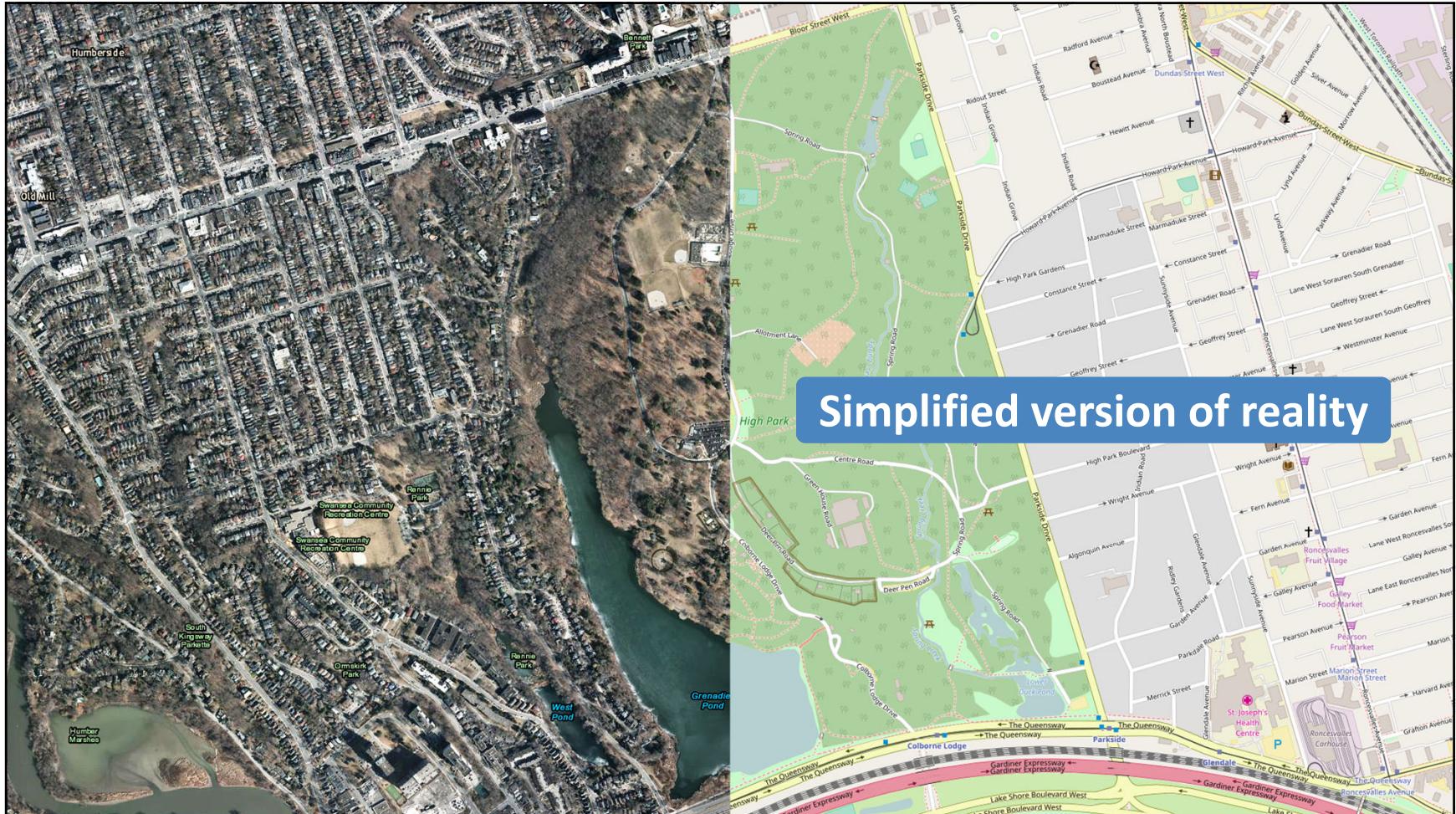


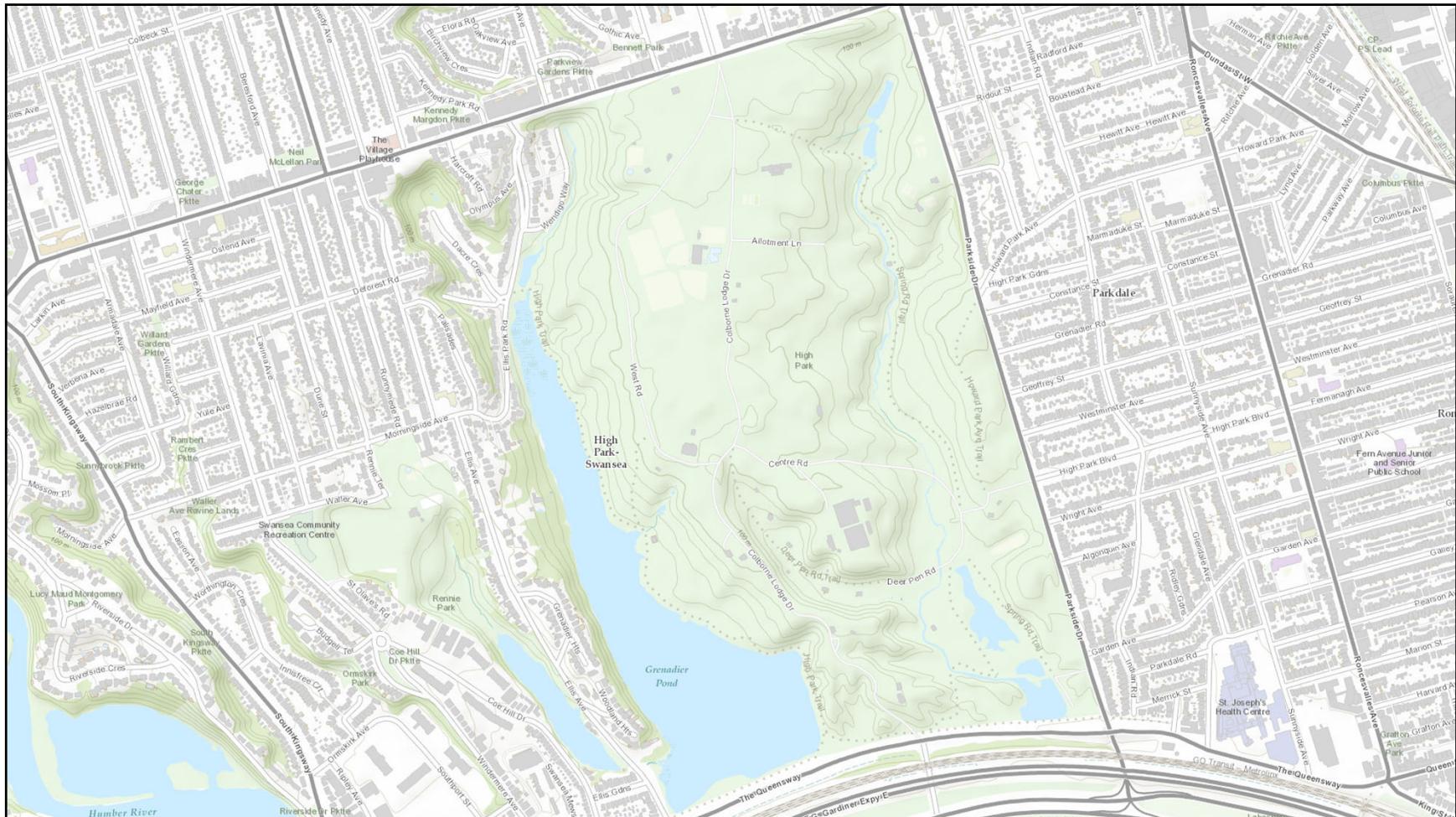




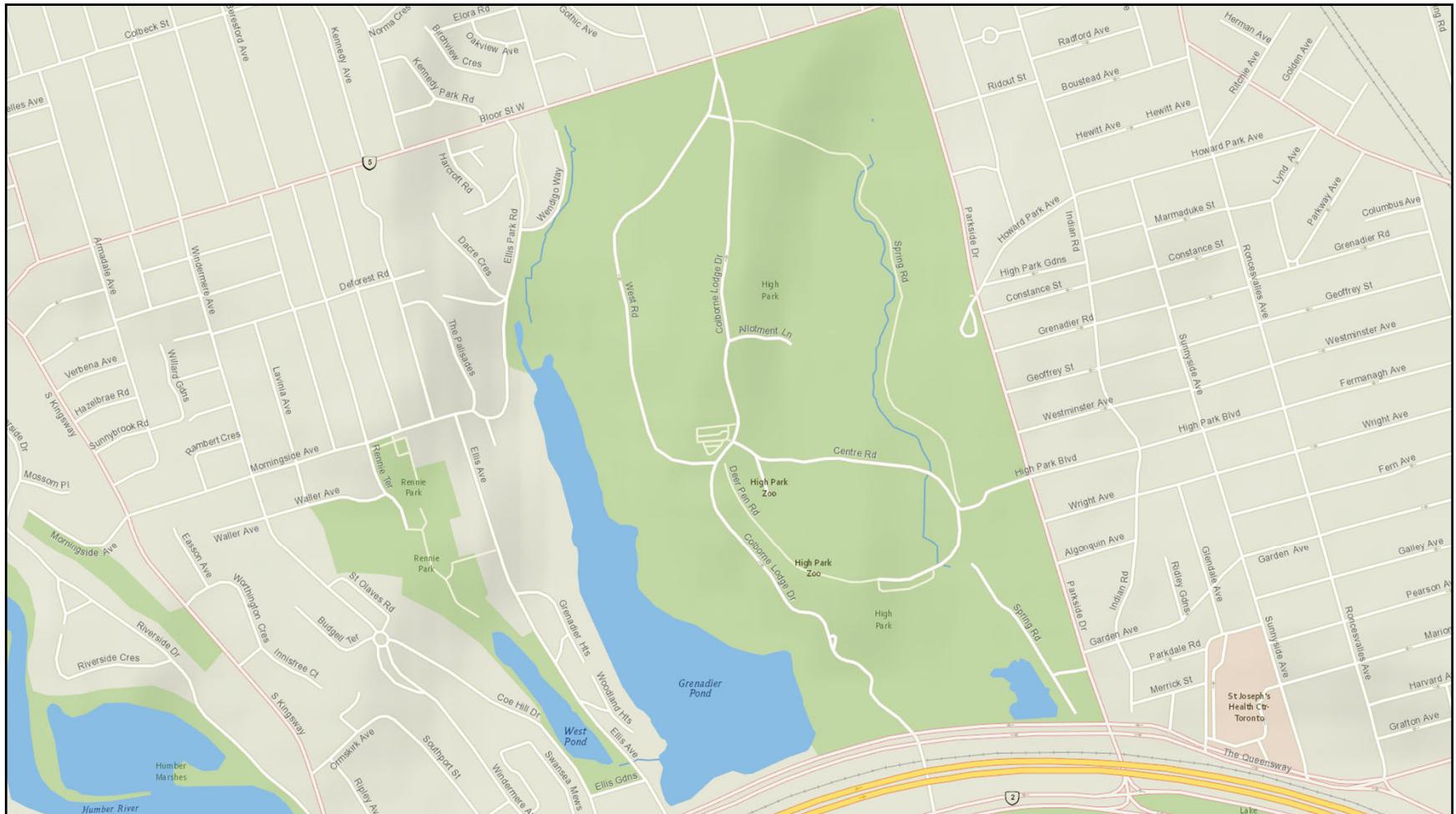


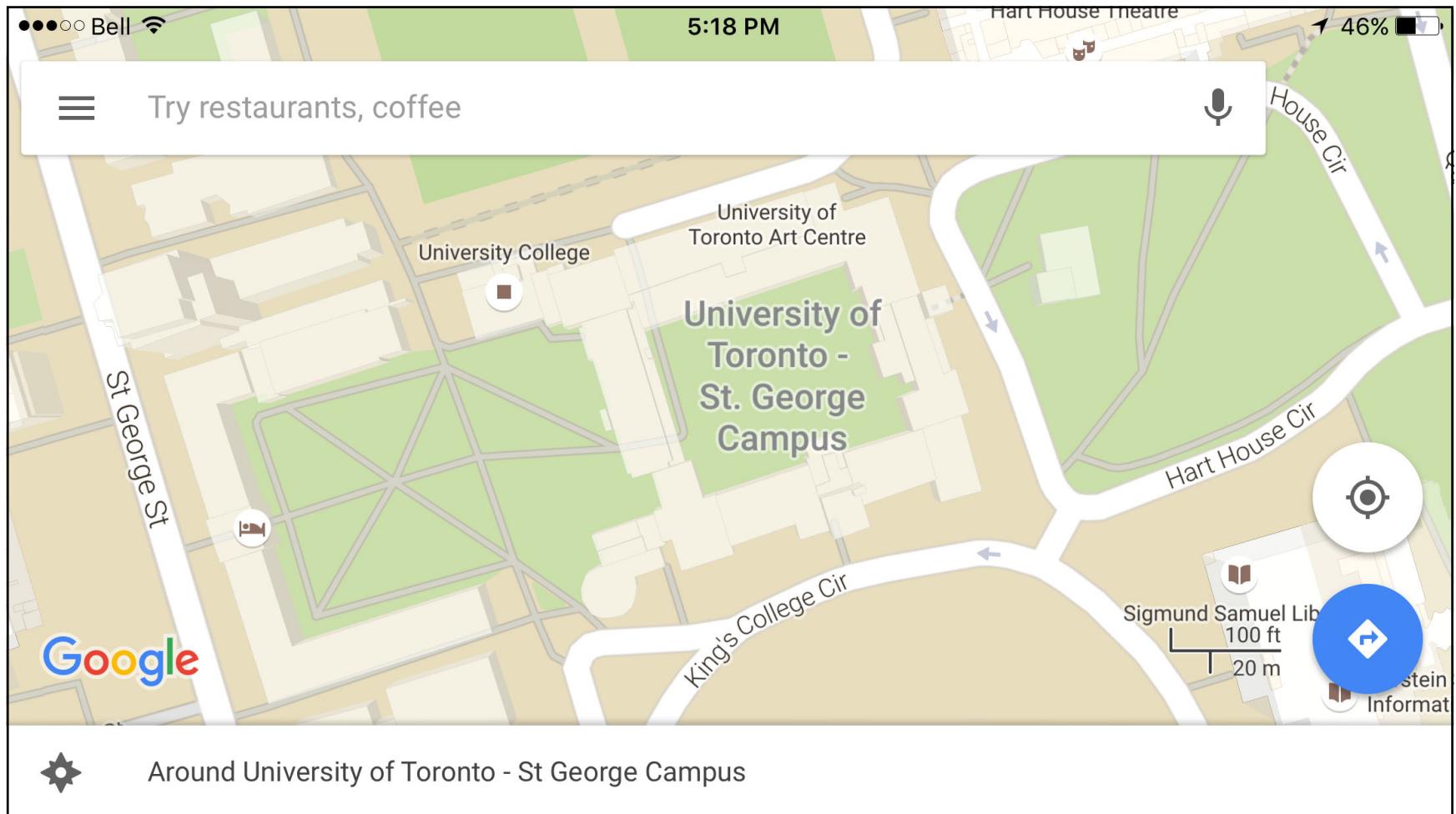


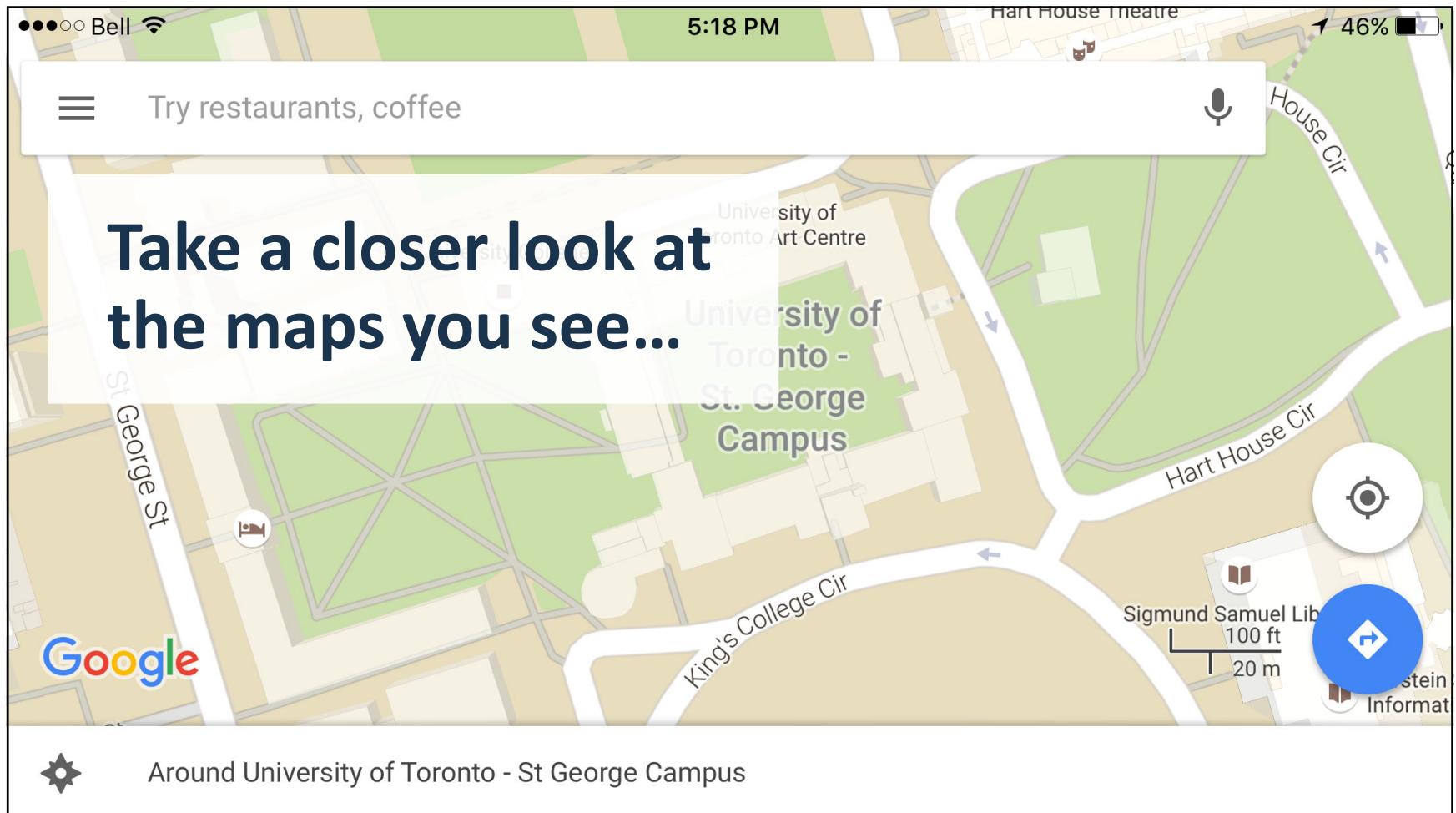










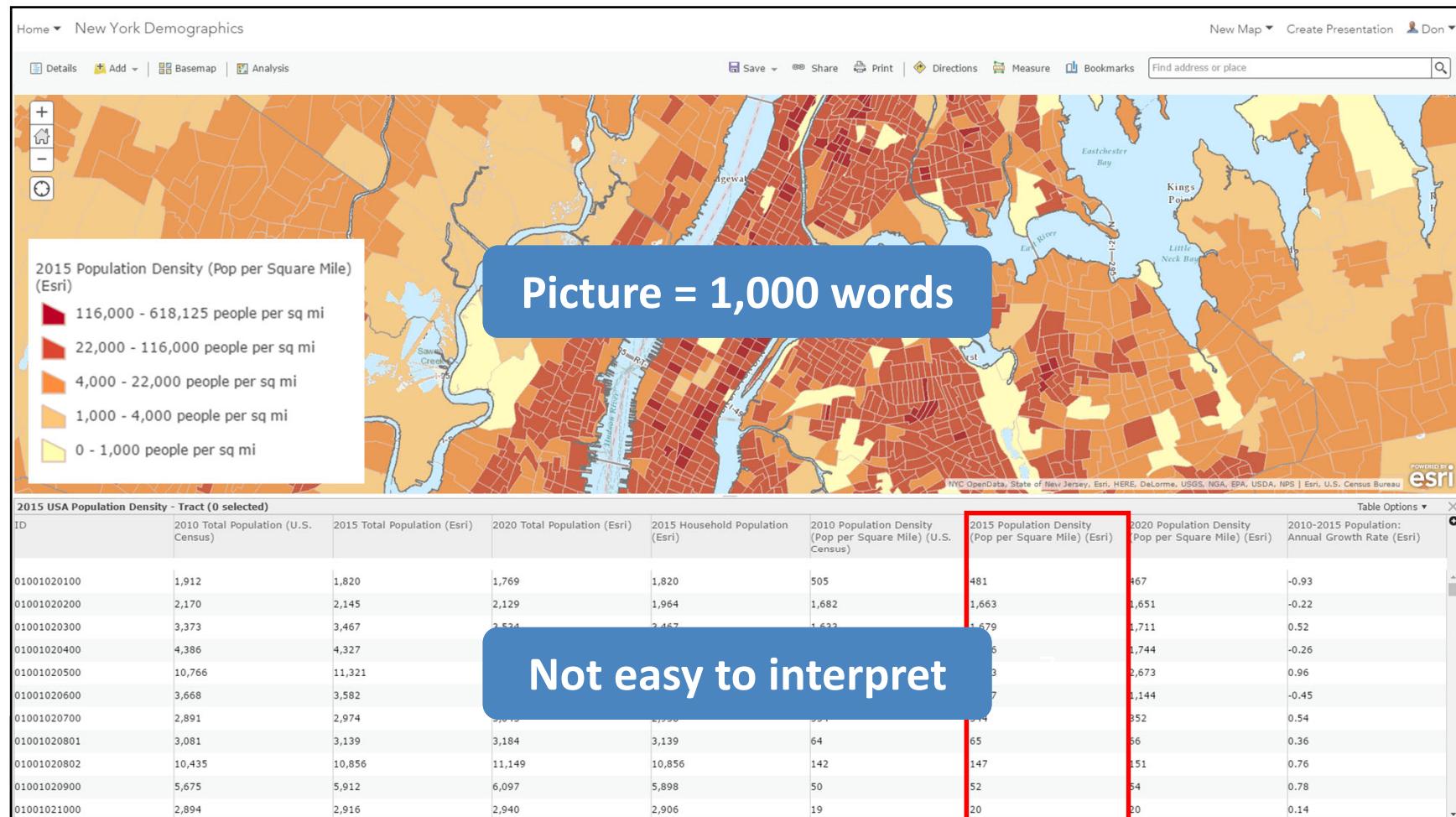


What is a GIS?



geographic information system
(not a proper name, so it's not capitalized)

GIS
(acronym, so it's capitalized, with no periods)

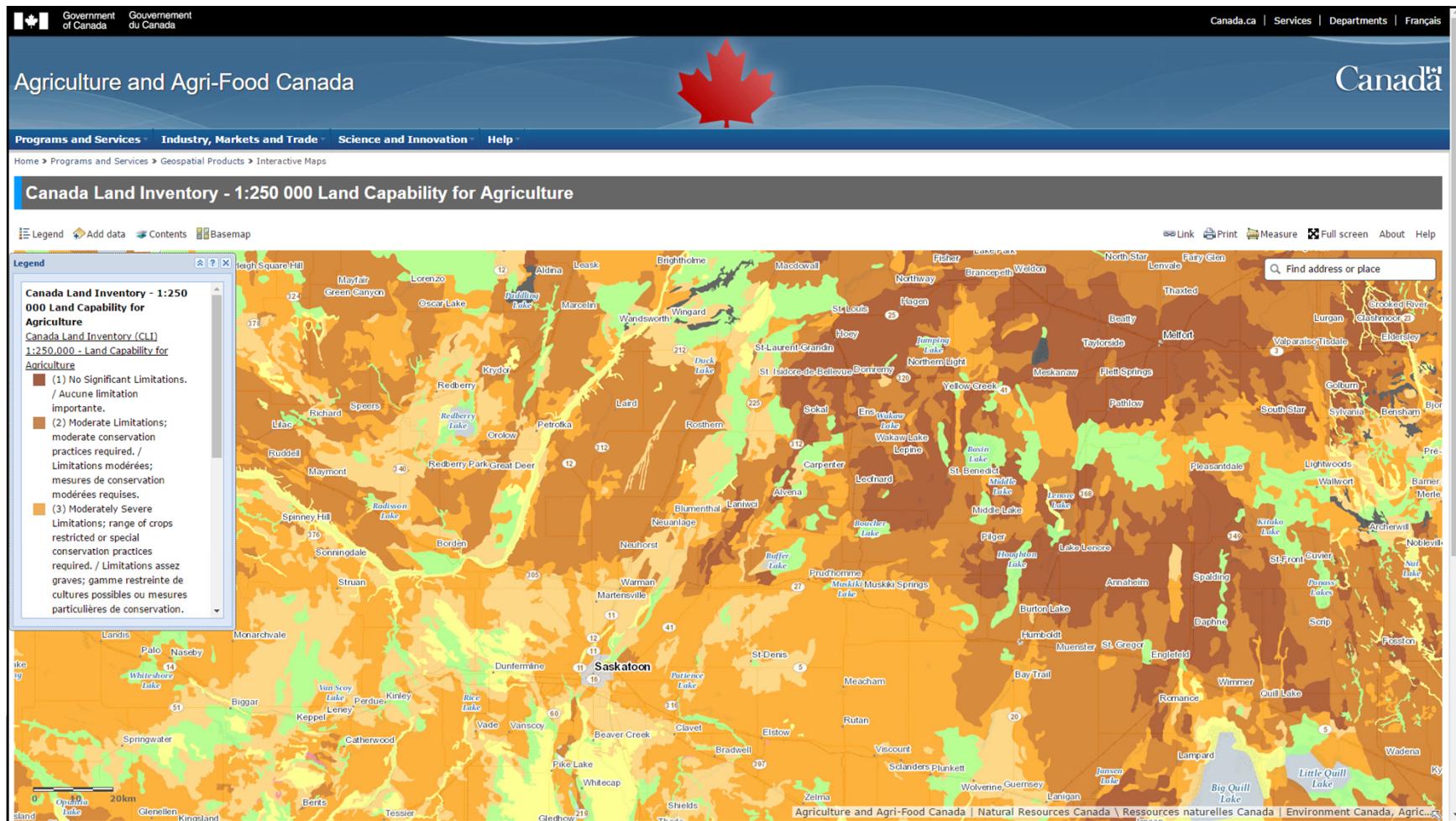


Roger Tomlinson

- **Canada Land Inventory**
- **Canadian Geographic Information System**
- **“Father of GIS”**

Canada is big!

“Data for Decision”
National Film Board, 1968
https://www.nfb.ca/film/data_for_decision/



Home Gallery Map Scene Groups My Content My Organization

Don ▾

Canada Land Inventory - 1:250 000 Land Capability for Agriculture

Overview

This map shows the Canada Land Inventory's Land Capability for Agriculture at the 1:250 000 extent.

by AgCanada
Last Modified: December 5, 2014
Web Mapping Application

 Add to Favorites

Description

The Canada Land Inventory (CLI), 1:250,000, Land Capability for Agriculture dataset illustrates the varying potential of a specific area for agricultural production. Classes of land capability for agriculture are based on mineral soils grouped according to their potential and limitations for agricultural use. The classes indicate the degree of limitation imposed by the soil in its use for mechanized agriculture. The subclasses indicate the kinds of limitations that individually or in combination with others, are affecting agricultural land use. Characteristics of the soil as determined by soil surveys.

Access and Use Constraints

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Comments (1) 

Sort By: New

View Application

Share

Details

★★★★★ 0 ratings, 162 views
Created: November 1, 2013
Size: 1 KB
API: JavaScript
Purpose: Ready To Use

Owner

 AgCanada

Tags

farming, lang-en, geoscientificInformation

Credits (Attribution)

Agriculture and Agri-Food Canada

URL 

Canada Land Inventory

The screenshot shows a web browser window displaying the ArcGIS Resources website. The URL in the address bar is resources.arcgis.com/en/help/getting-started/articles/026n0000000t00000.htm. The page title is "Introduction to GIS". The main content area contains several paragraphs of text describing what GIS is and how it is used. A red box highlights a specific section of text. To the right, three blue callout boxes list the key functions of GIS: "visualizing", "analyzing", and "spatially referenced".

A geographic information system (GIS) is a system used to describe and characterize the earth and other geographies for the purpose of visualizing and analyzing spatially referenced information. This work is primarily performed using maps.

The purpose of GIS is to create, share, and apply useful map-based information products that support the work of organizations as well as to create and manage the supporting geographic information.

Maps portray logical collections of geographic information as map layers. They provide an effective metaphor for modeling and organizing geographic information as a series of thematic layers. In addition, interactive GIS maps provide the primary user interface for using geographic information.

How maps are used to apply GIS

Maps are at the heart of how GIS is used.

A new kind of map is a GIS map, and each GIS map is more than a static map presentation. A GIS map is an interactive window into all geographic information and descriptive data, and into rich spatial analysis models created by GIS professionals.

GIS maps are:

- How you communicate and share GIS
- How GIS content is compiled and maintained
- How geographic information is designed and organized using thematic layers

visualizing

analyzing

**spatially
referenced**

Desktop GIS

The cloud

Web GIS

Defining GIS



Geographic information system

A computer system for:

capturing

storing

filtering

analyzing

visualizing

geospatial data

What a GIS can do



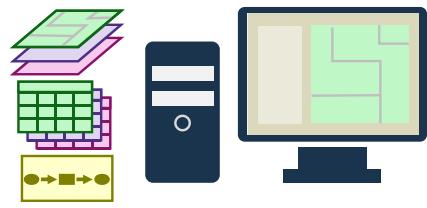
(Chang, 2014)

Components of a GIS

- Hardware
- Software
- Geospatial data
- Procedures (data management and analysis)
- People.

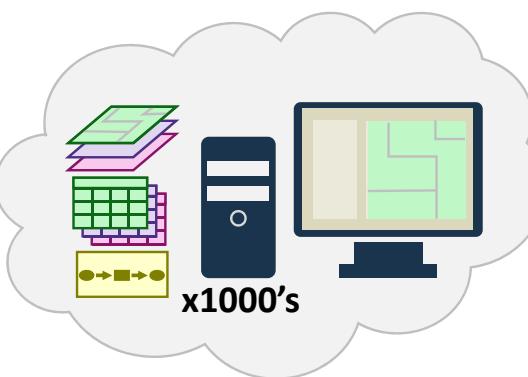
What a GIS is made of

Desktop GIS



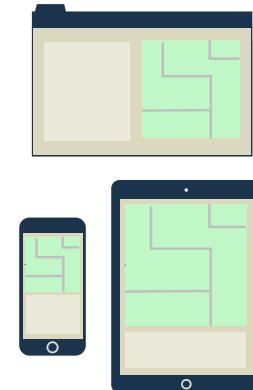
Hardware
Software
Data
Procedures

The cloud

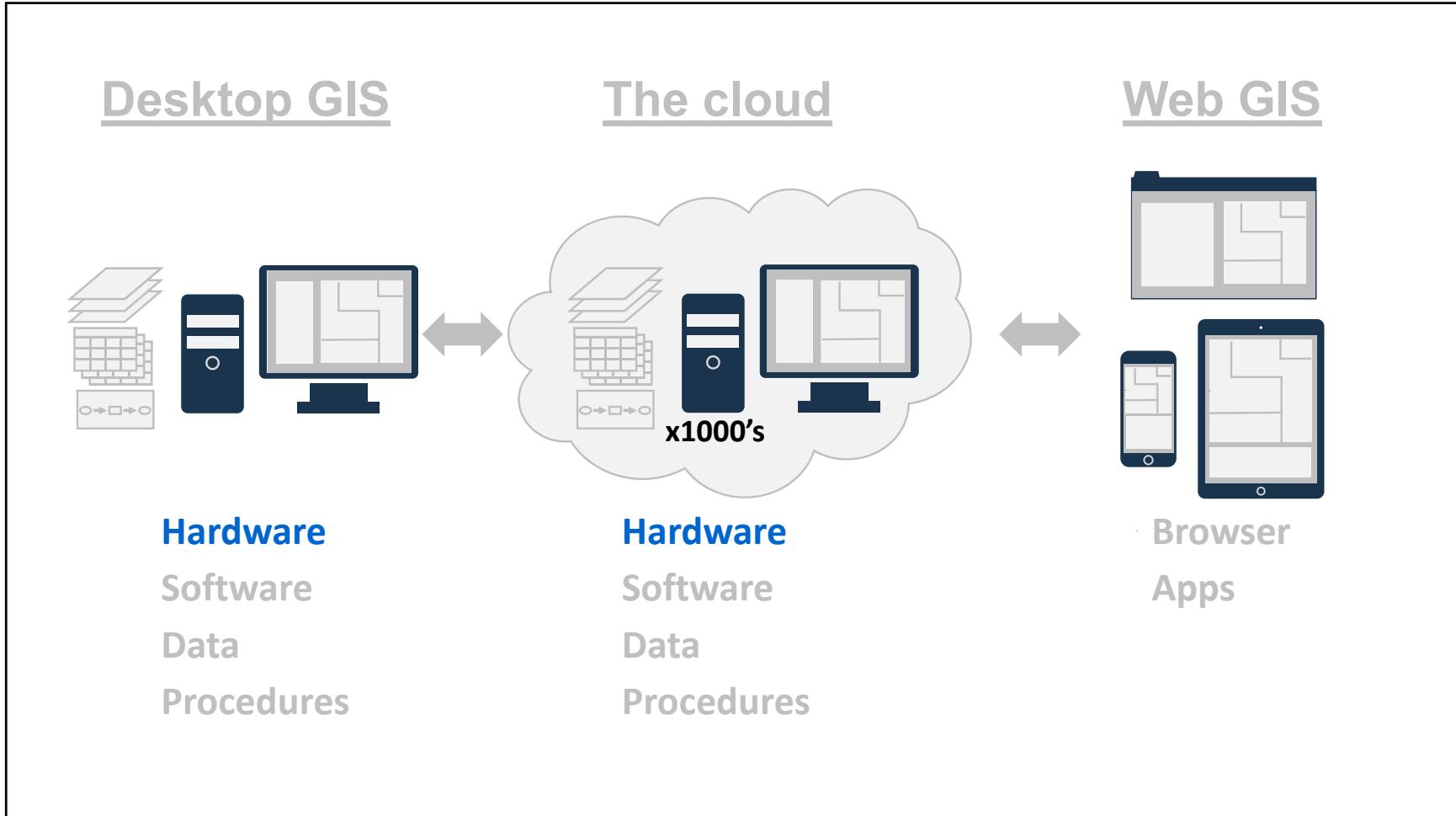


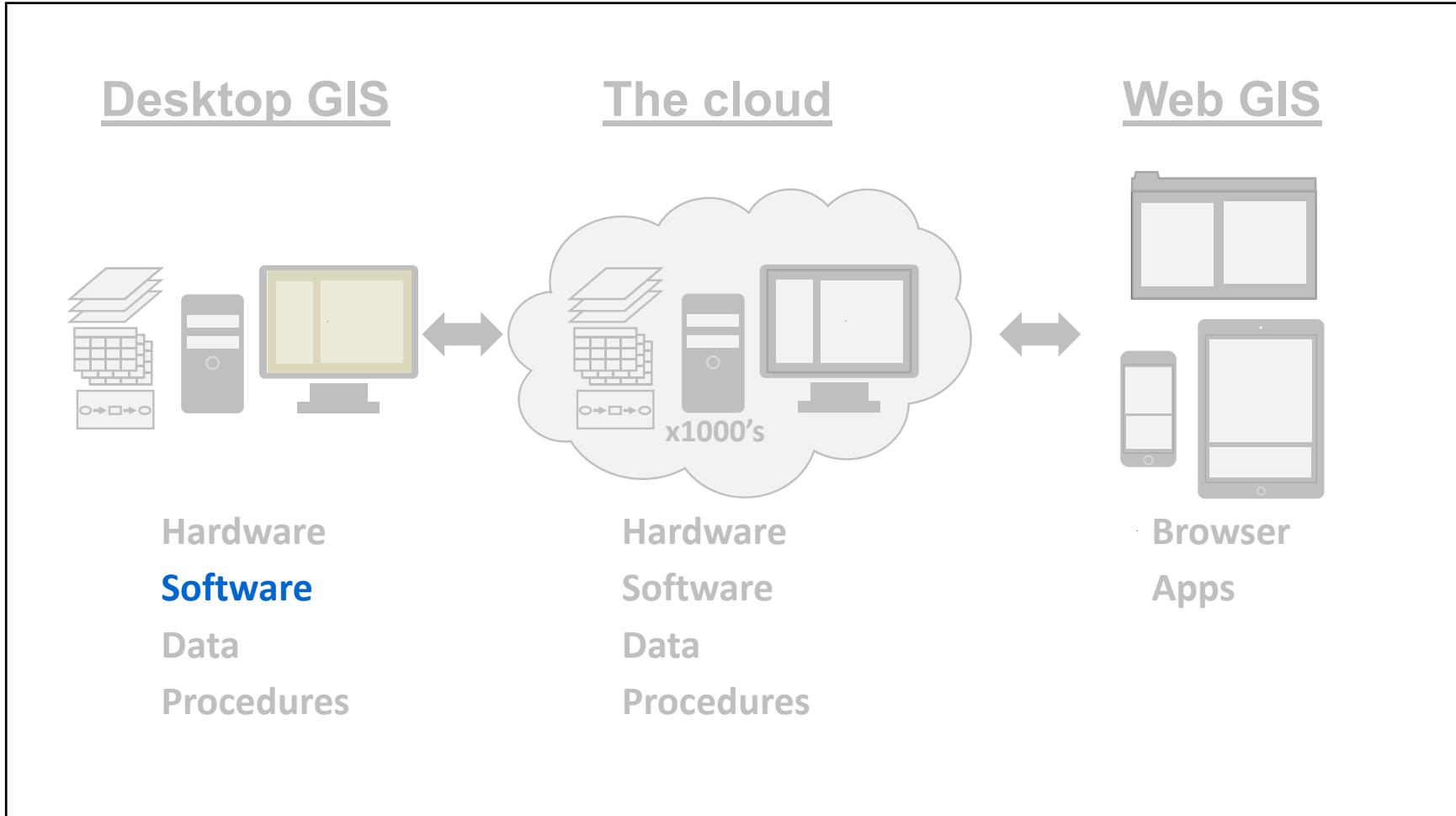
Hardware
Software
Data
Procedures

Web GIS



Browser
Apps





ArcGIS Desktop

A collection of programs:



ArcMap: Creating and analyzing maps



ArcCatalog: file management



ArcScene: 3D visualization



ArcGIS Pro: Eventual replacement for above



ArcGIS Earth: Earth viewer.

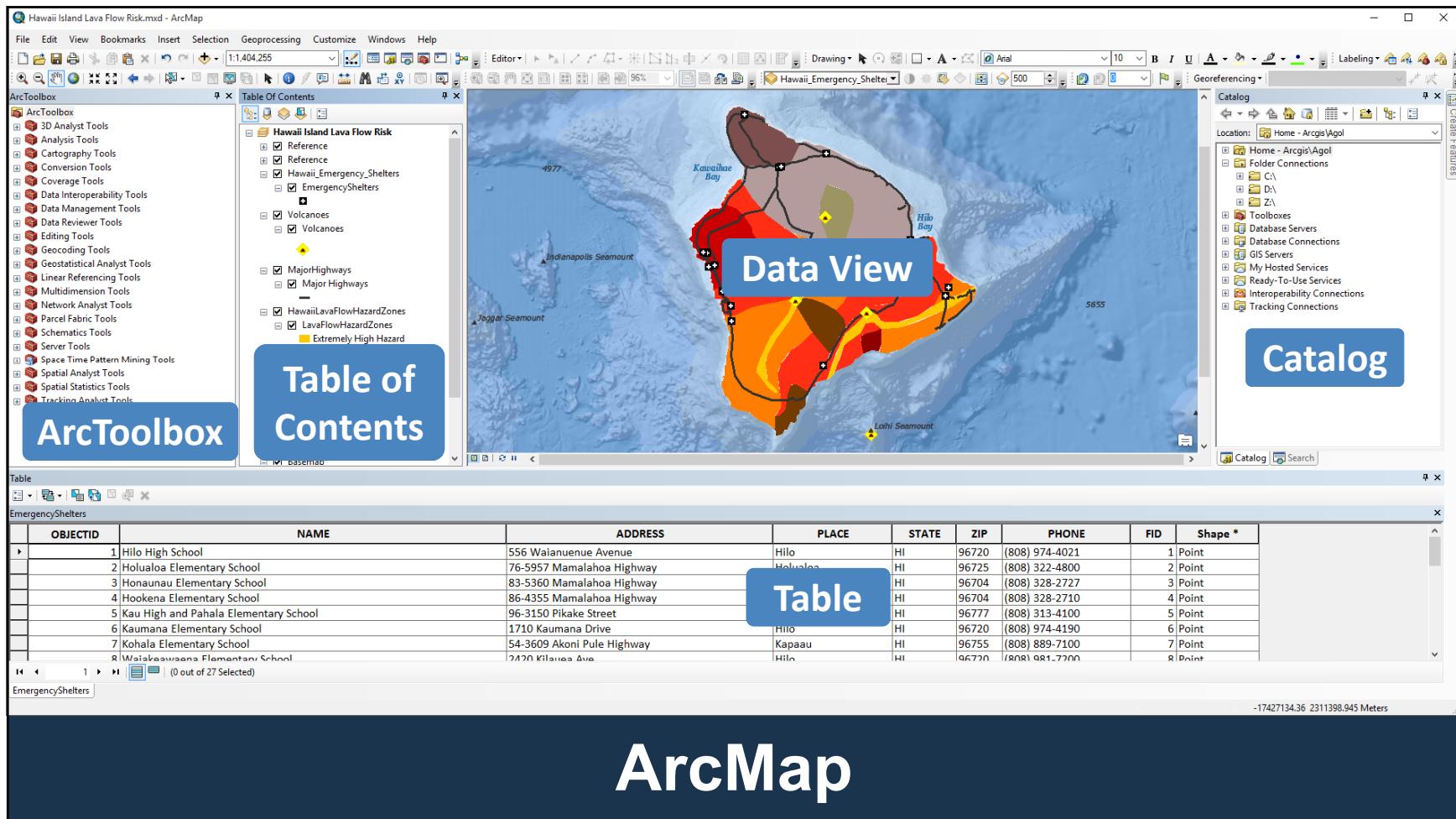
A quick tour of the software

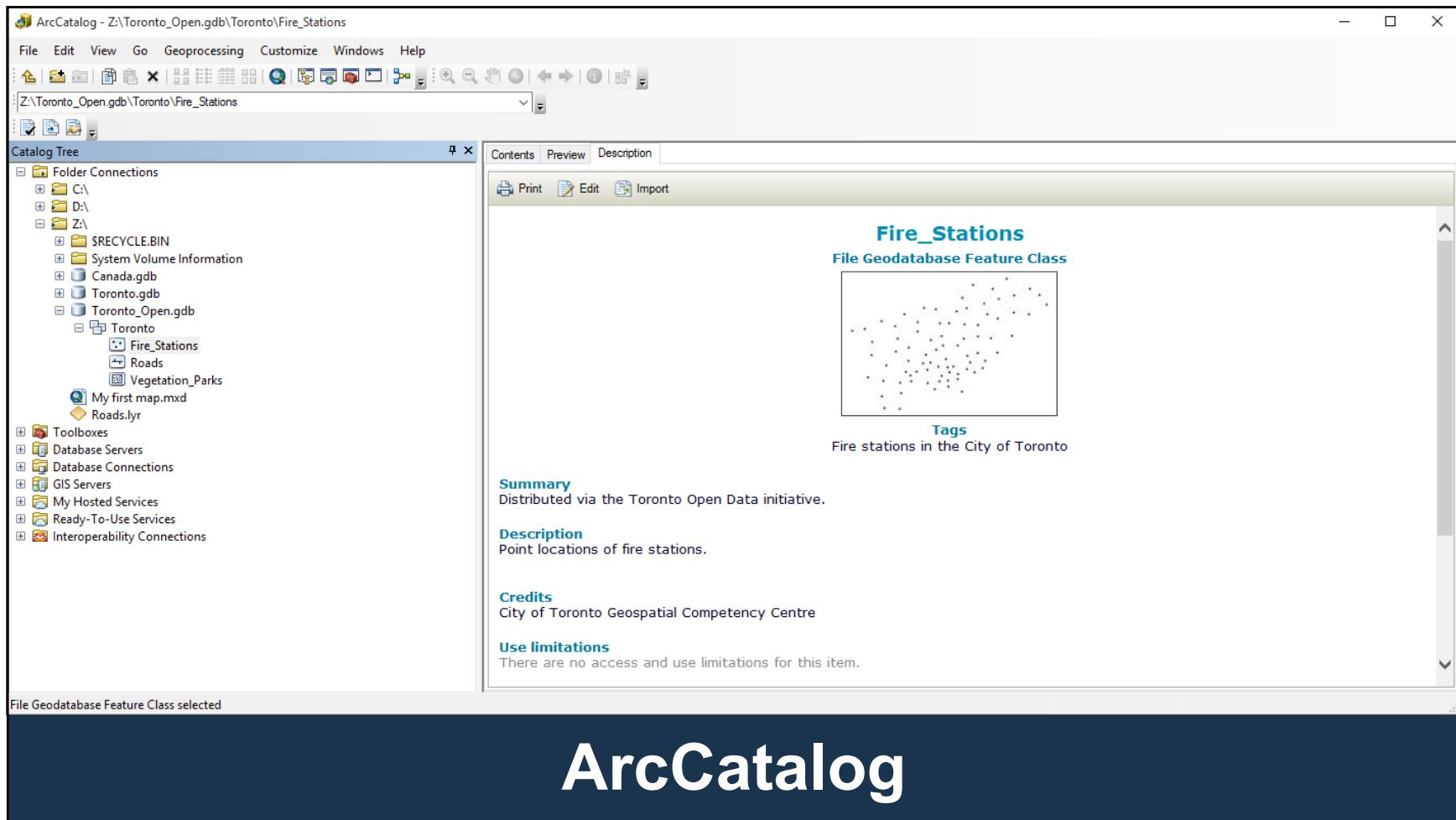
Table of Contents

Table

The screenshot shows the ArcMap interface with a map of Hawaii Island. A red polygon layer represents lava flow risk, with a specific area near Kawaihae Bay highlighted. The ArcToolbox window is open, showing various spatial analysis tools. The Table of Contents window lists layers including 'Hawaii Island Lava Flow Risk' and 'EmergencyShelters'. The main map view shows a coastal area with a yellow marker labeled 'Lohi Seamount'. Below the map is a table titled 'EmergencyShelters' with columns for OBJECTID, NAME, ADDRESS, PLACE, STATE, ZIP, PHONE, FID, and Shape *. The table lists 27 entries, including schools like Hilo High School and Holualoa Elementary School.

OBJECTID	NAME	ADDRESS	PLACE	STATE	ZIP	PHONE	FID	Shape *
1	Hilo High School	556 Waianuenue Avenue	Hilo	HI	96720	(808) 974-4021	1	Point
2	Holualoa Elementary School	76-5957 Mamalahoa Highway	Holualoa	HI	96725	(808) 322-4800	2	Point
3	Honaunau Elementary School	83-5360 Mamalahoa Highway		HI	96704	(808) 328-2727	3	Point
4	Hookena Elementary School	86-4355 Mamalahoa Highway		HI	96704	(808) 328-2710	4	Point
5	Kau High and Pahala Elementary School	96-3150 Pikake Street		HI	96777	(808) 313-4100	5	Point
6	Kaumana Elementary School	1710 Kaumana Drive	Hilo	HI	96720	(808) 974-4190	6	Point
7	Kohala Elementary School	54-3609 Akoni Pule Highway	Kapaa	HI	96755	(808) 889-7100	7	Point
8	R/Waiakeawena Elementary School	19A70 Kilohana Ave	Hilo	HI	96776	(808) 981-7300	8	Point





ArcCatalog

Ribbon

The screenshot shows the ArcGIS Pro application window. At the top is the ribbon menu with tabs: PROJECT, MAP, INSERT, ANALYSIS, VIEW, EDIT, and SHARE. Below the ribbon are several toolbars: Geoprocessing, Contents, Project, Layout, and a large central map view. The map displays the Hawaiian Island Lava Flow Risk Demo, showing Mauna Kea and various lava flow hazard zones. A table titled 'Emergency Shelters' is open in the foreground, listing 13 entries with columns for OBJECTID, Name, Address, Town, STATE, ZIP, PHONE, FID, and Shape. The 'Toolboxes' button is highlighted on the left toolbar, and the 'Project' panel is visible on the right.

Toolboxes

Contents

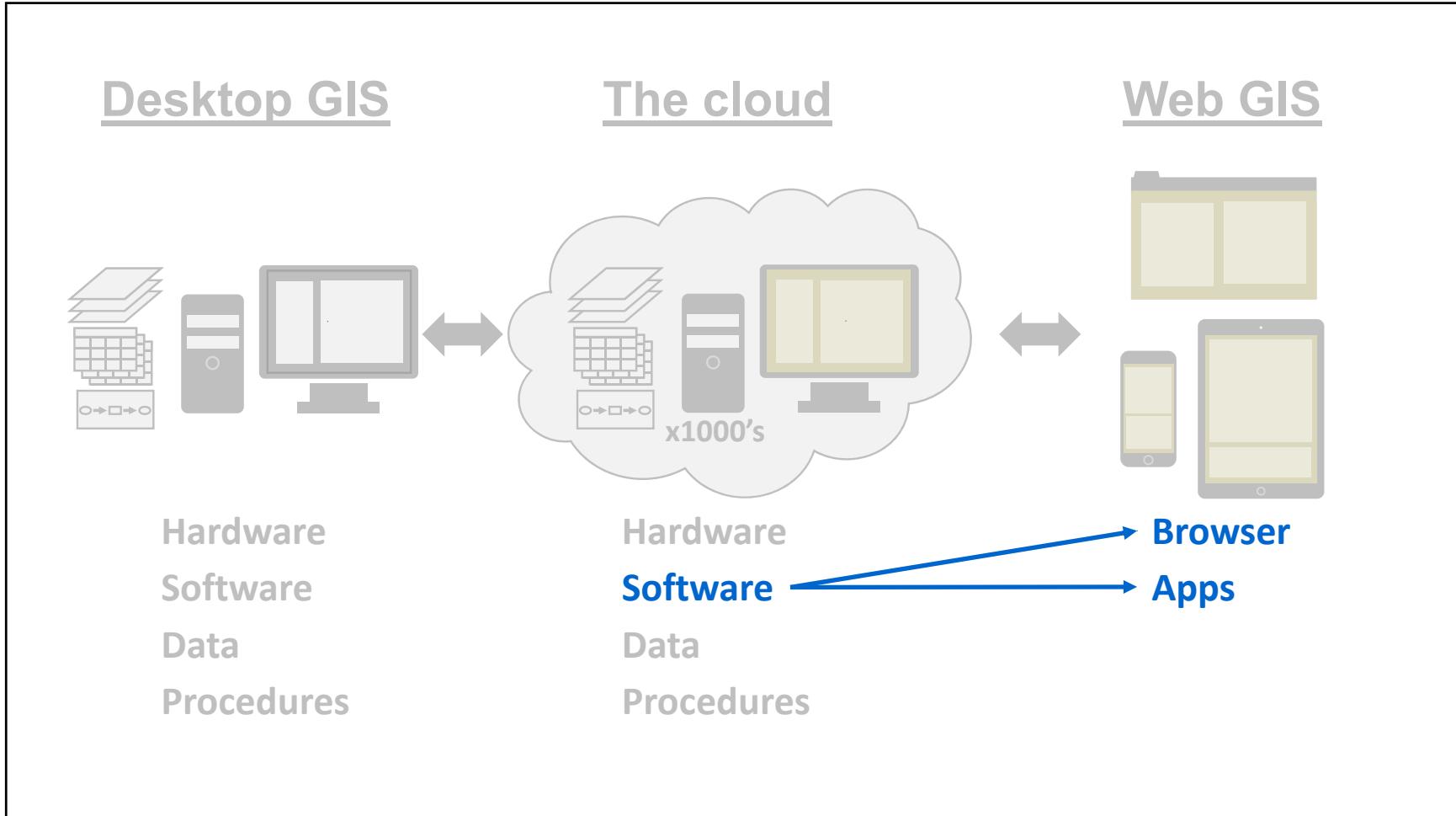
Table

Map

Ribbon

Project

ArcGIS Pro



Header

Menu

Map

Contents

Table

Home ▾ Hawaii Island Lava Flow Risk Demo

Details Add Basemap Analysis

Save Share Print Directions Measure Bookmarks Find address or place

New Map Create Presentation Don

Perform Analysis

- Summarize Data
 - Aggregate Points
 - Summarize Nearby
 - Summarize Within
- Find Locations
- Data Enrichment
- Analyze Patterns
- Use Proximity
- Manage Data

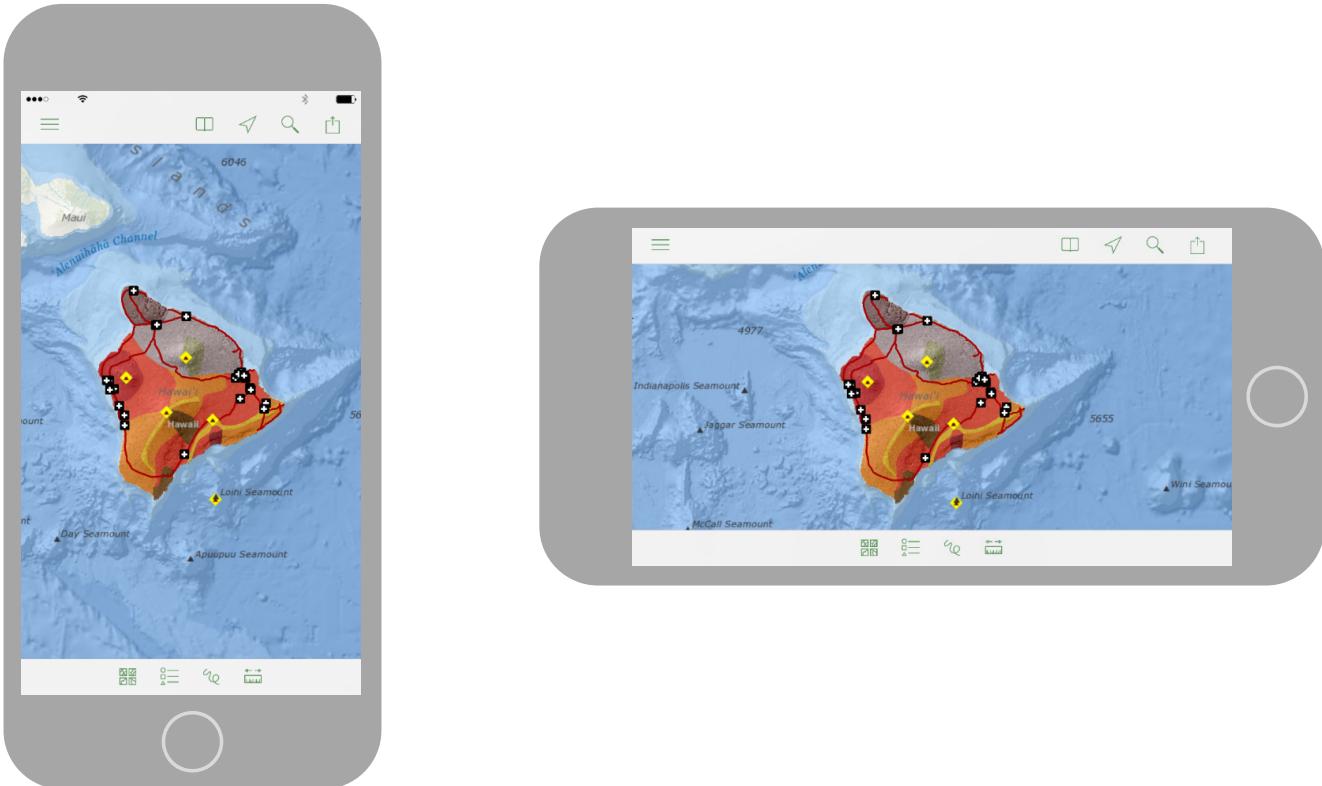
0 15 30km

Emergency Shelters (27 features, 0 selected)

Name:	Address:	Town:
Hilo High School	556 Waianuenue Avenue	Hilo
Holualoa Elementary School	76-5957 Mamala	Holualoa
Honaunau Elementary School	83-5360 Mamala	Captain Cook
Hookipa Elementary School	86-4355 Mamalahoa Highway	Captain Cook
Kau High and Pahala Elementary School	96-3150 Pkake Street	Pahala

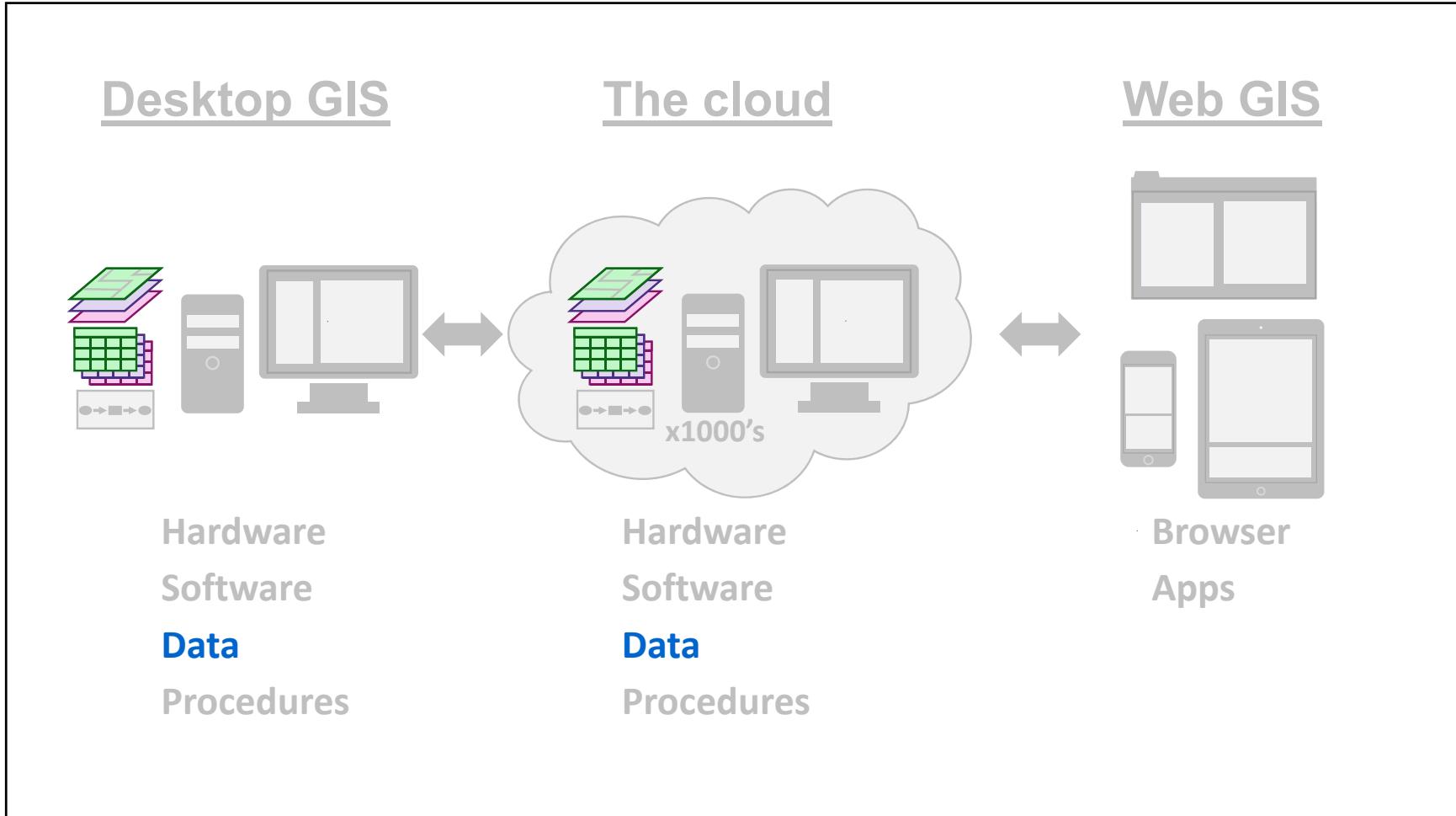
Powered by esri

ArcGIS Online



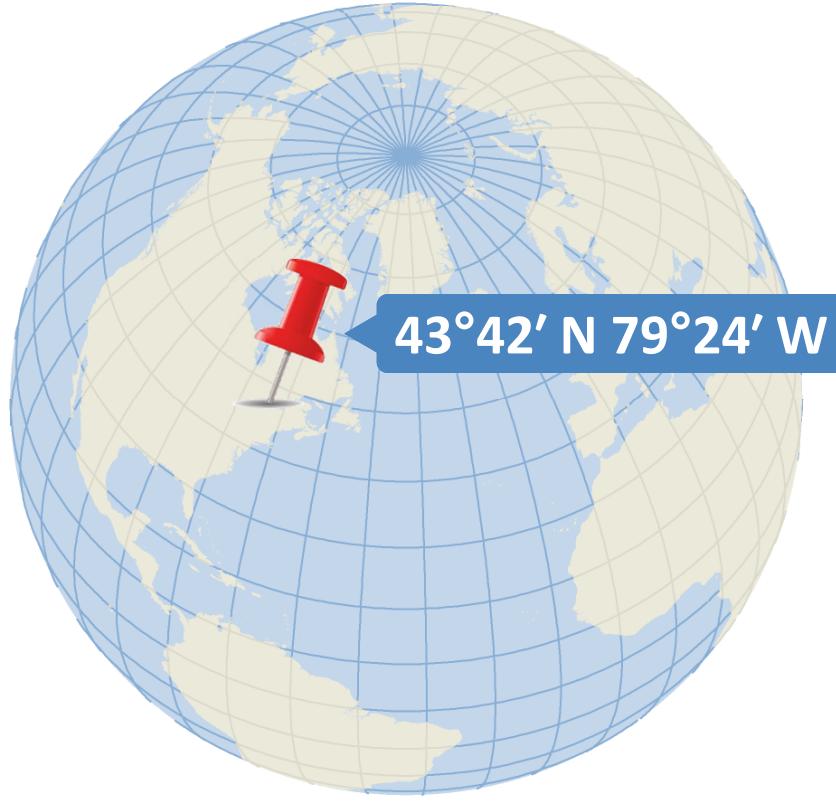
Explorer app

Examples of geospatial data





What data can be used to map things?



Longitude and latitude



Forward Sortation Areas (FSA)

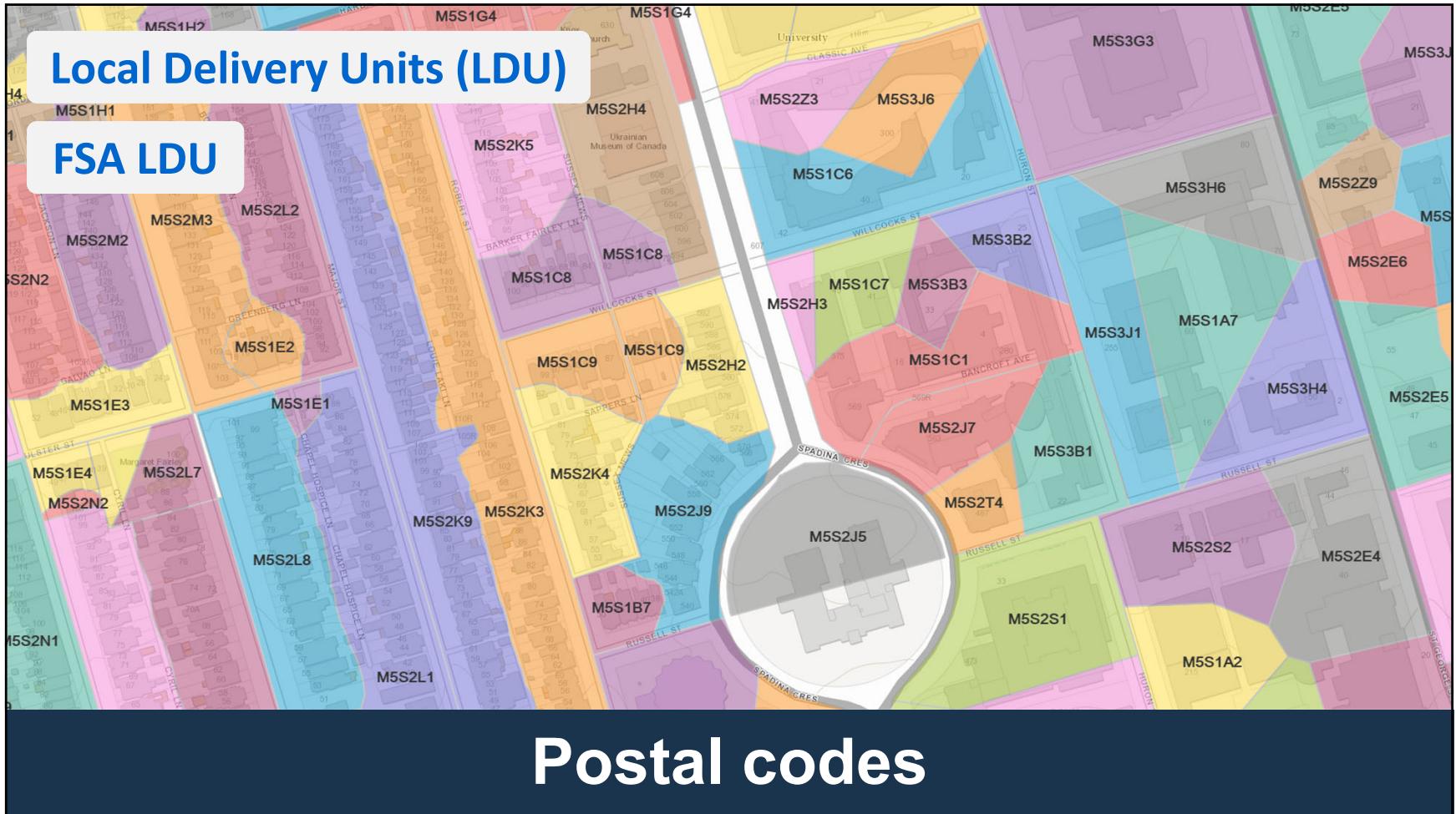
Attention Customers

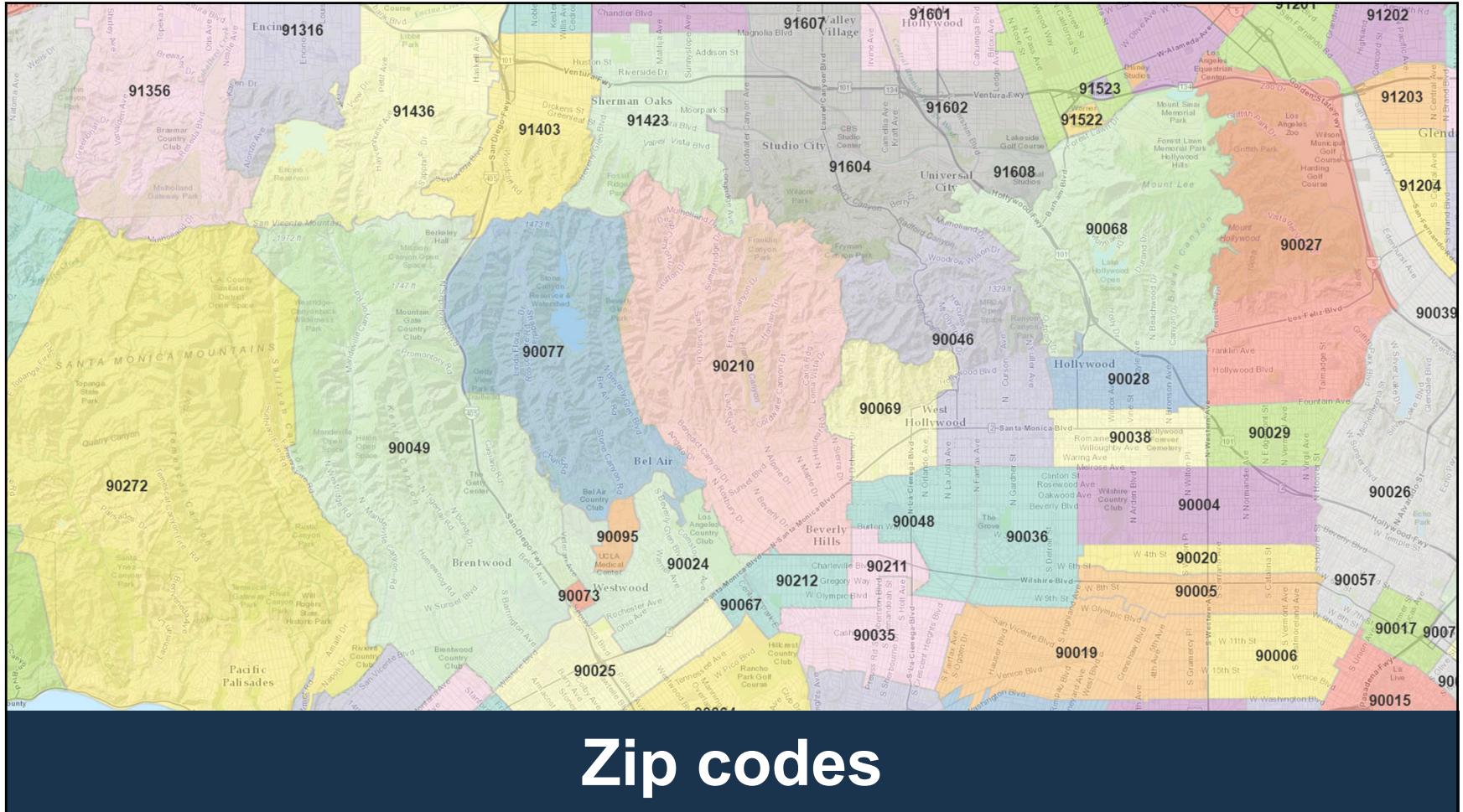
We will be conducting a Customer Origin Survey at this store from Thursday, January 12th to Sunday, January 15th, 2012.

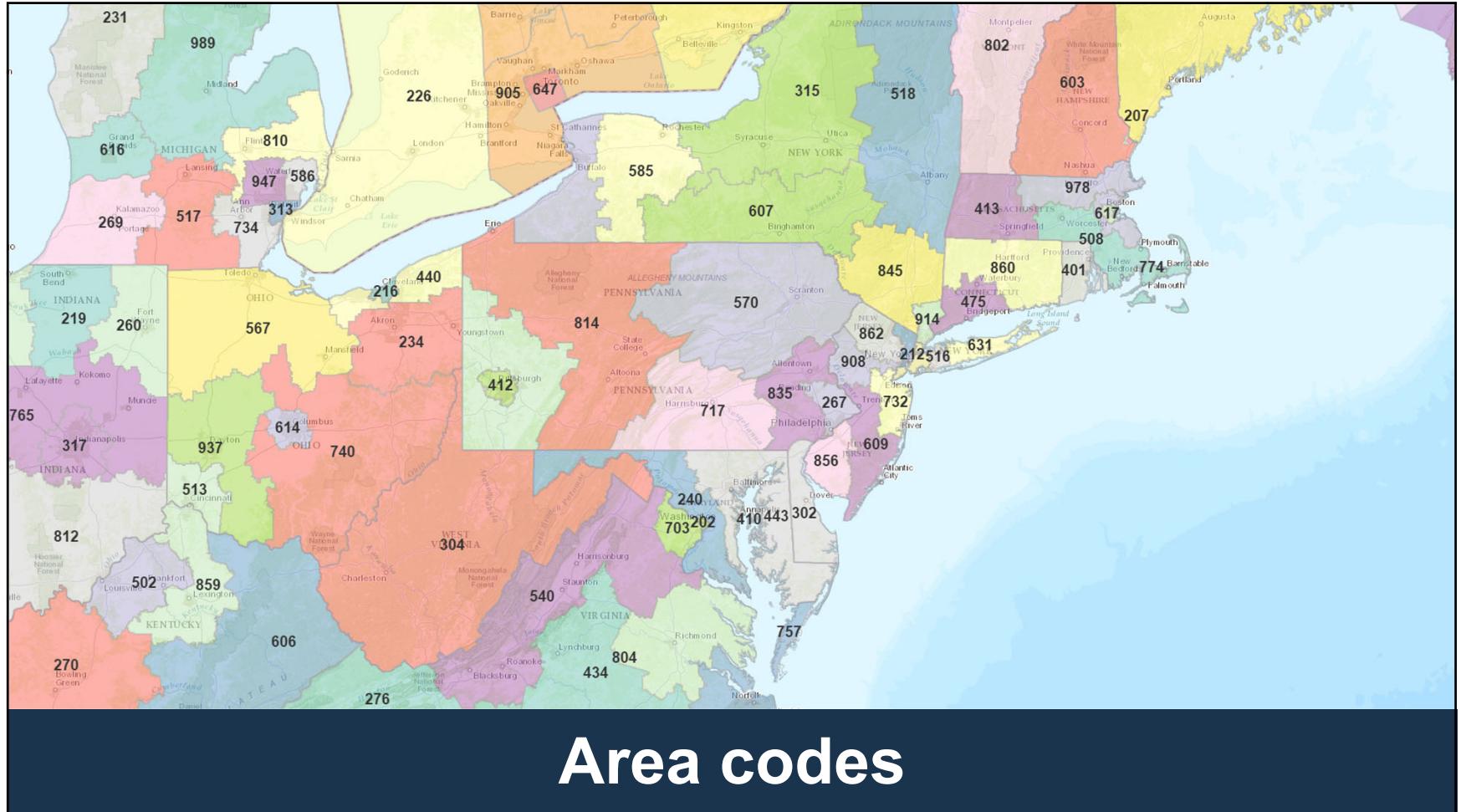
Postal Codes are collected to determine how far our customers live from the store for market research purposes.

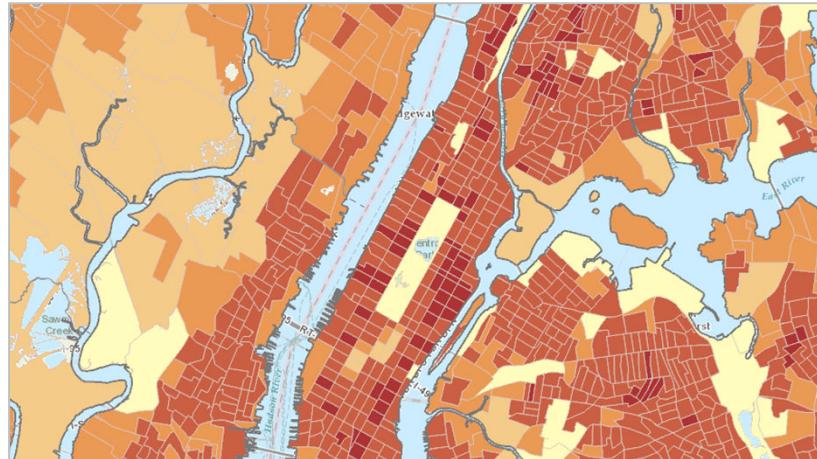
This information will help us serve you, the customer, better in the future.

Postal codes





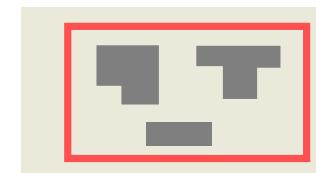
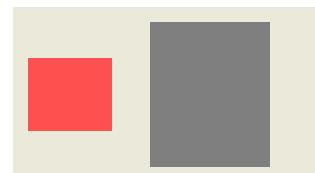
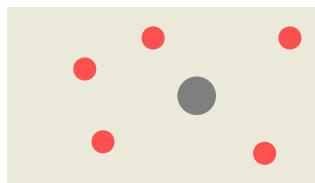




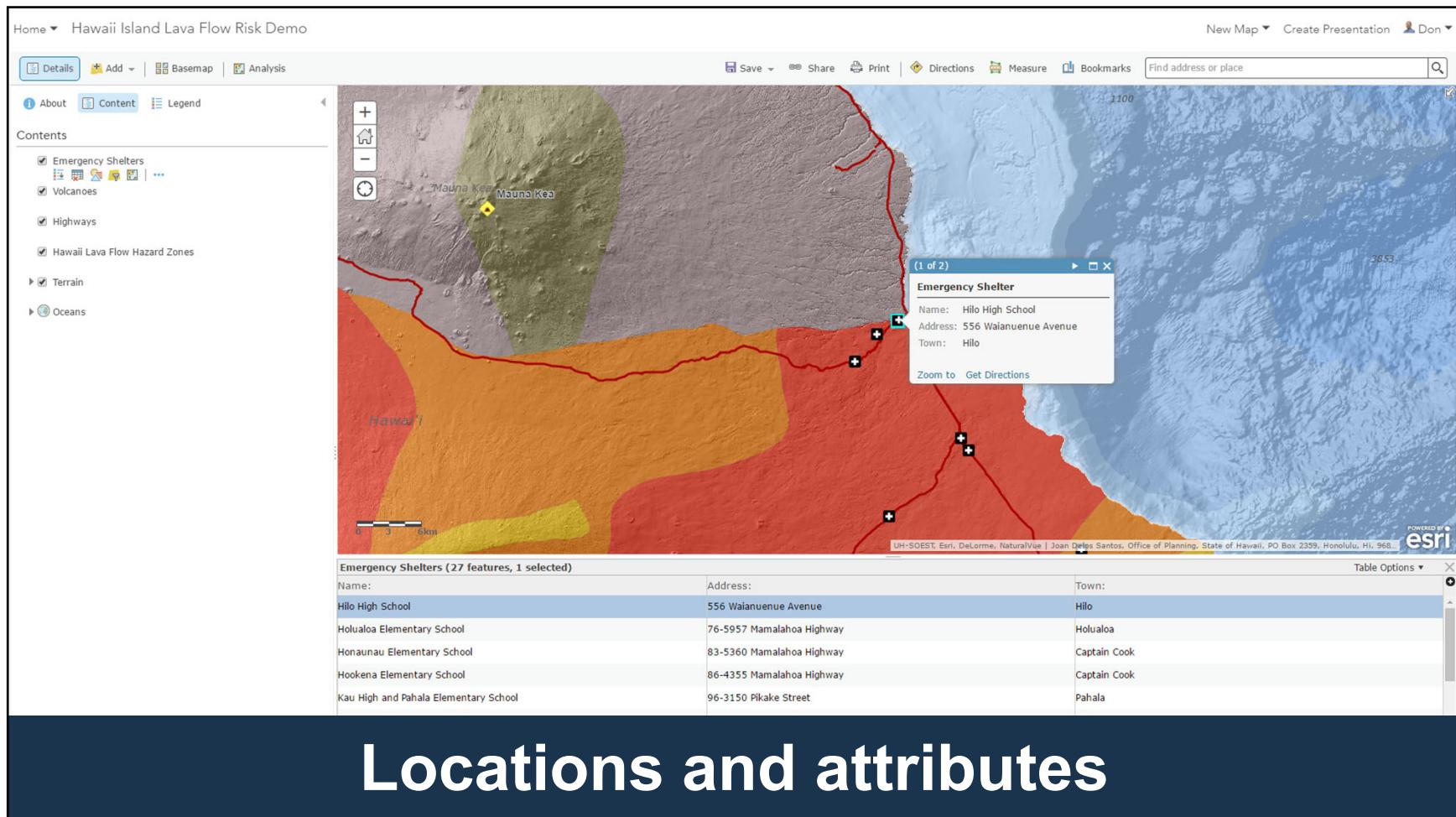
Locations

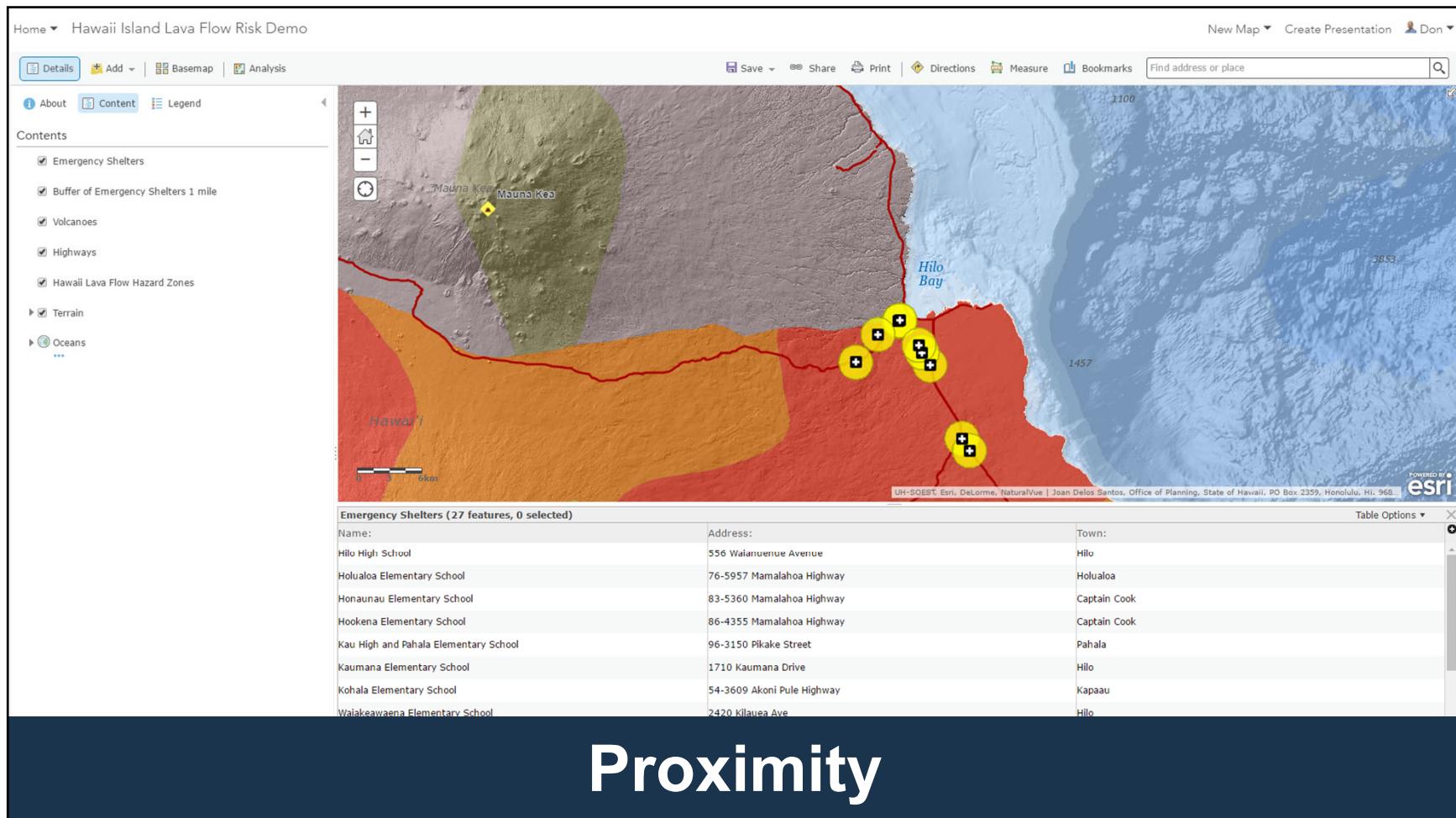
2010 Population Density (Pop per Square Mile) (U.S. Census)	2015 Population Density (Pop per Square Mile) (Esri)	2020 Population Density (Pop per Square Mile) (Esri)	2010-2015 P Annual Grow
505	481	467	-0.93
1,682	1,663	1,651	-0.22
1,633	1,679	1,711	0.52
1,780	1,756	1,744	-0.26
2,446	2,573	2,673	0.96
1,185	1,157	1,144	-0.45
334	344	352	0.54
64	65	66	0.36
142	147	151	0.76
50	52	54	0.78
19	20	20	0.14

Attributes



Relationships





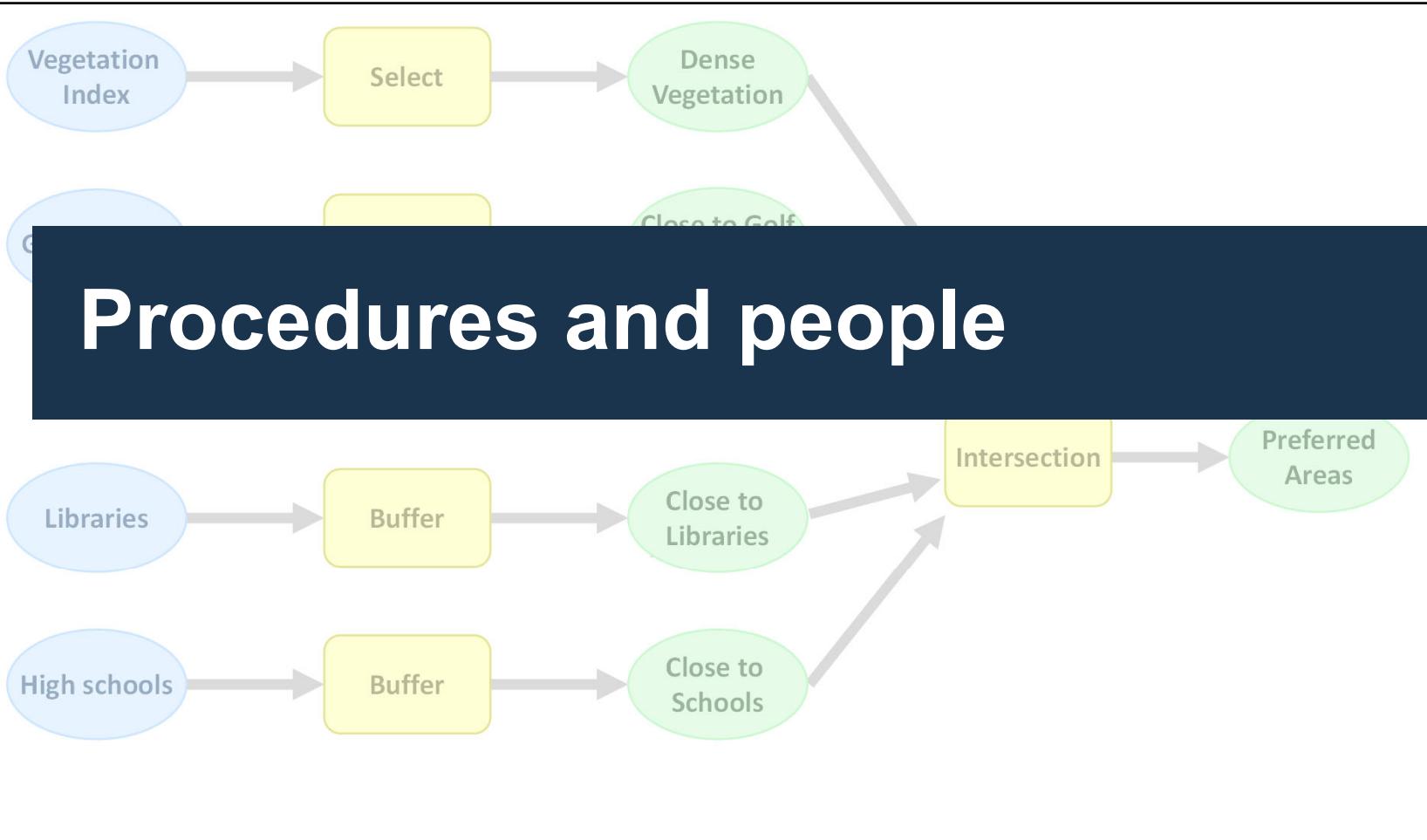
Mapping business data...

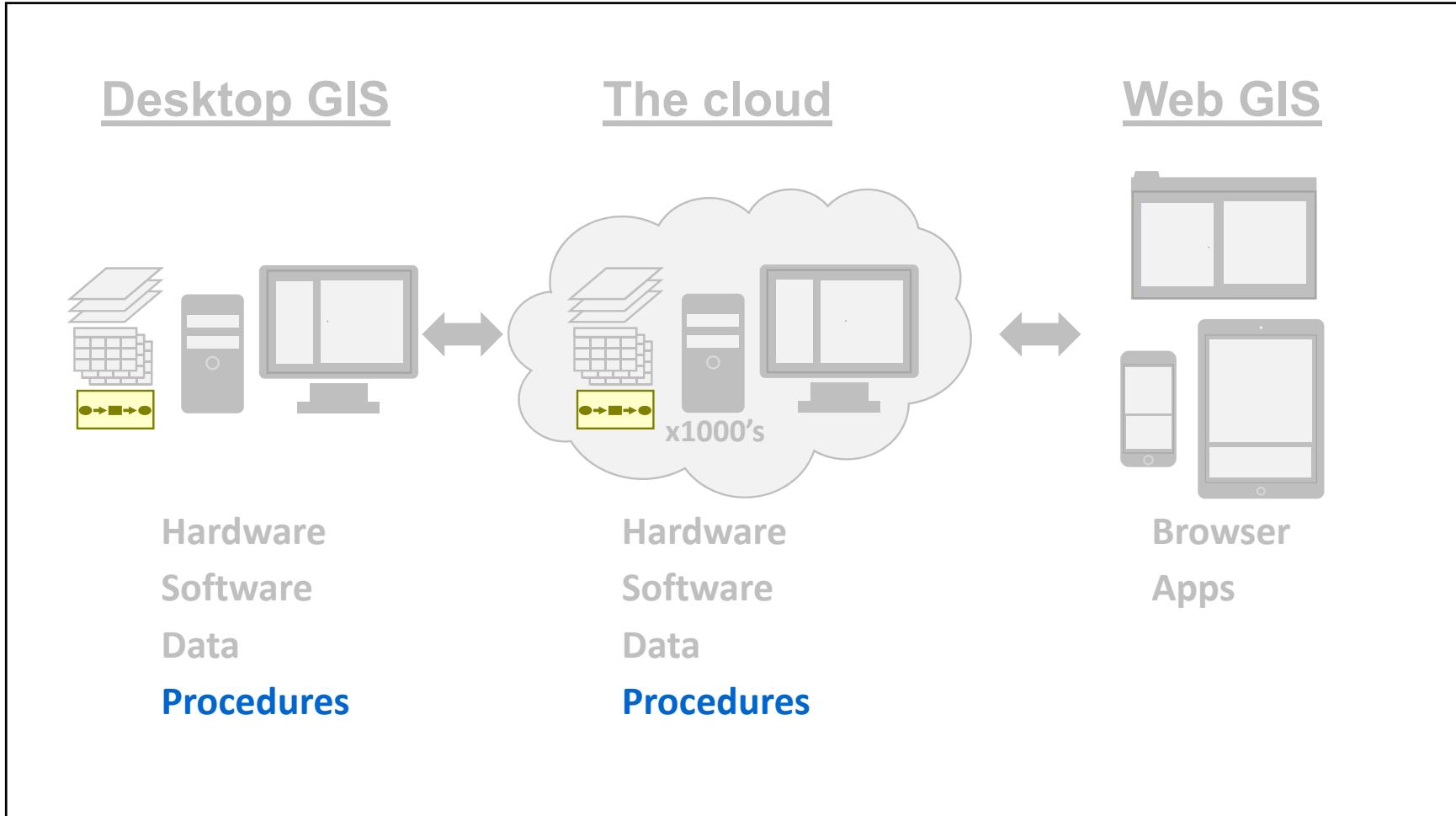
Estimated that 80% of all business data have a spatial component

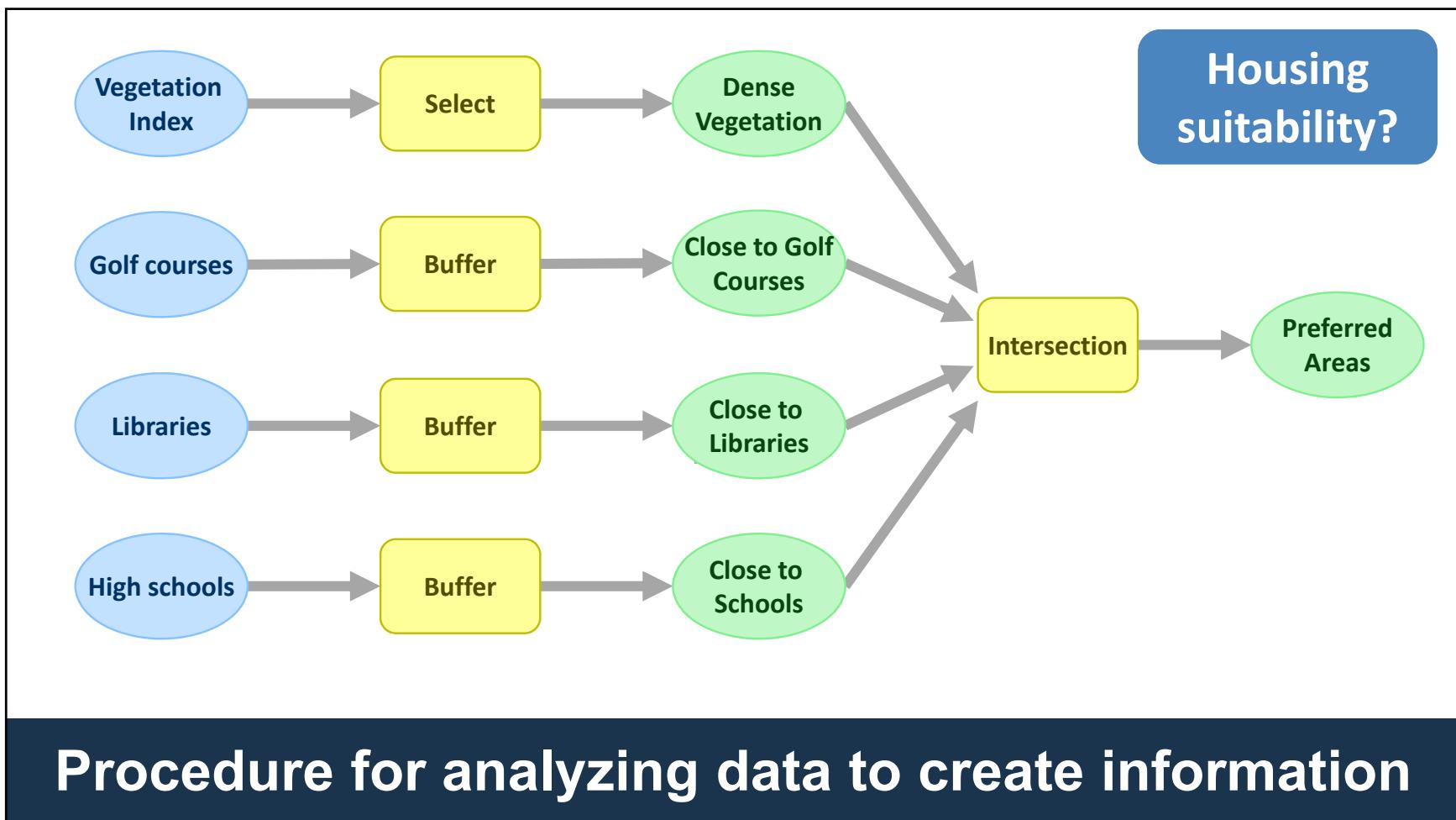
*...no one knows if this is true,
...but you hear it all the time.*

Why?

Procedures and people

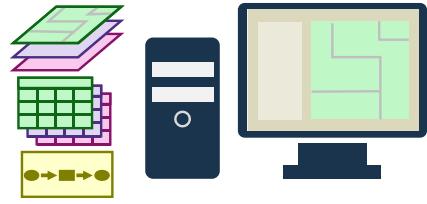






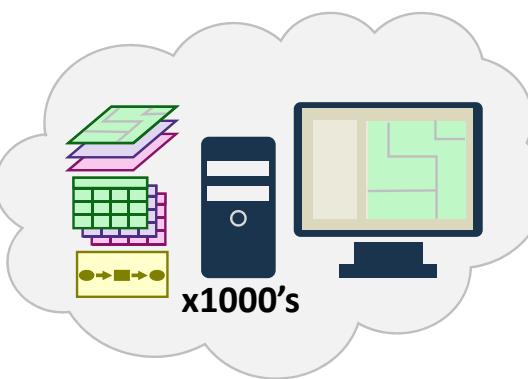
Procedure for analyzing data to create information

Desktop GIS



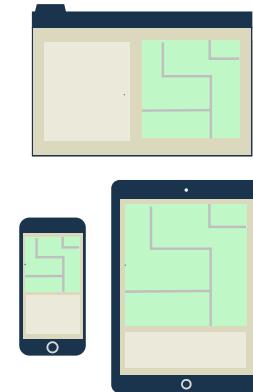
Hardware
Software
Data
Procedures

The cloud



Hardware
Software
Data
Procedures

Web GIS



Browser
Apps

The cloud

people!

Hardware

Software

Data

Procedures

