

Introduction to Mapping

We're not lost

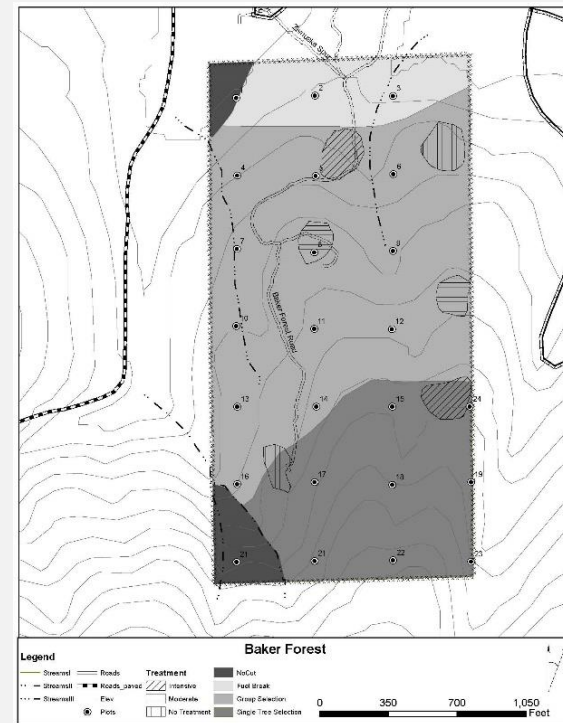


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Agriculture and Natural Resources

Why?

- Necessary for management plan
- “Big Picture” view of your forest
 - Identify: boundaries (property, unit, etc.), forested areas for treatment, important features, etc.
- Help you identify your objectives



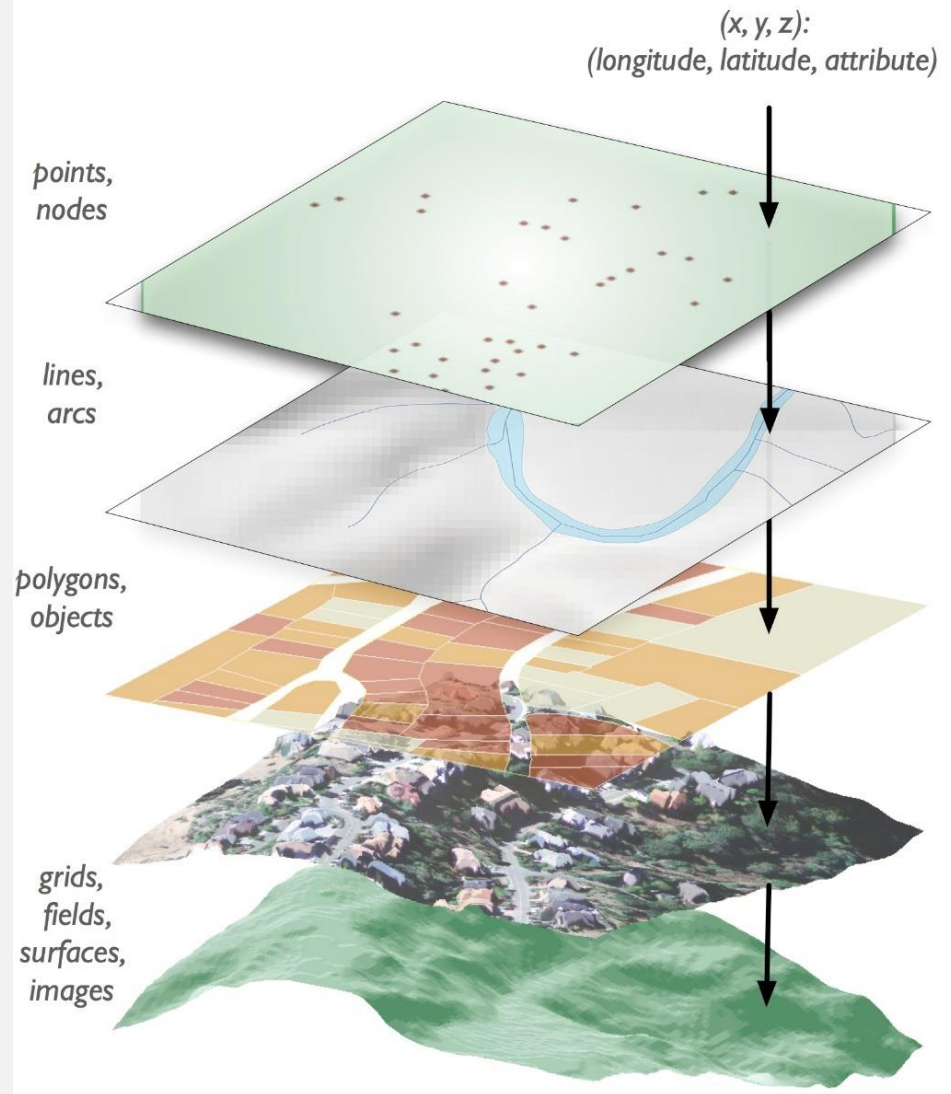
What's in a Map?

Key Ingredients

- Data Layers
- Point and Line Features
- Label, Label, Label

Collecting Field Data

- Compass Navigation
- Digital Navigation



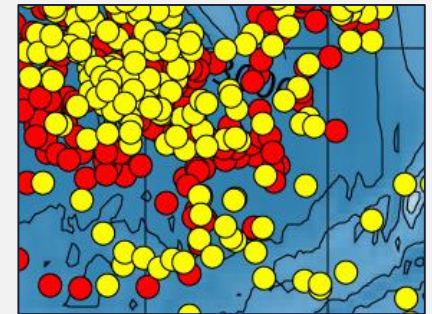
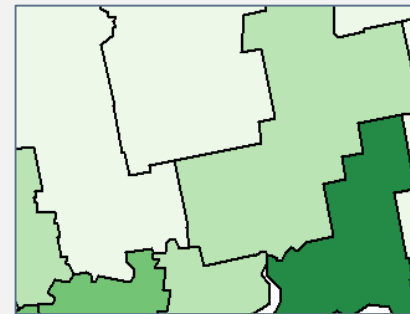
Step 1: Layer your Ingredients



Background

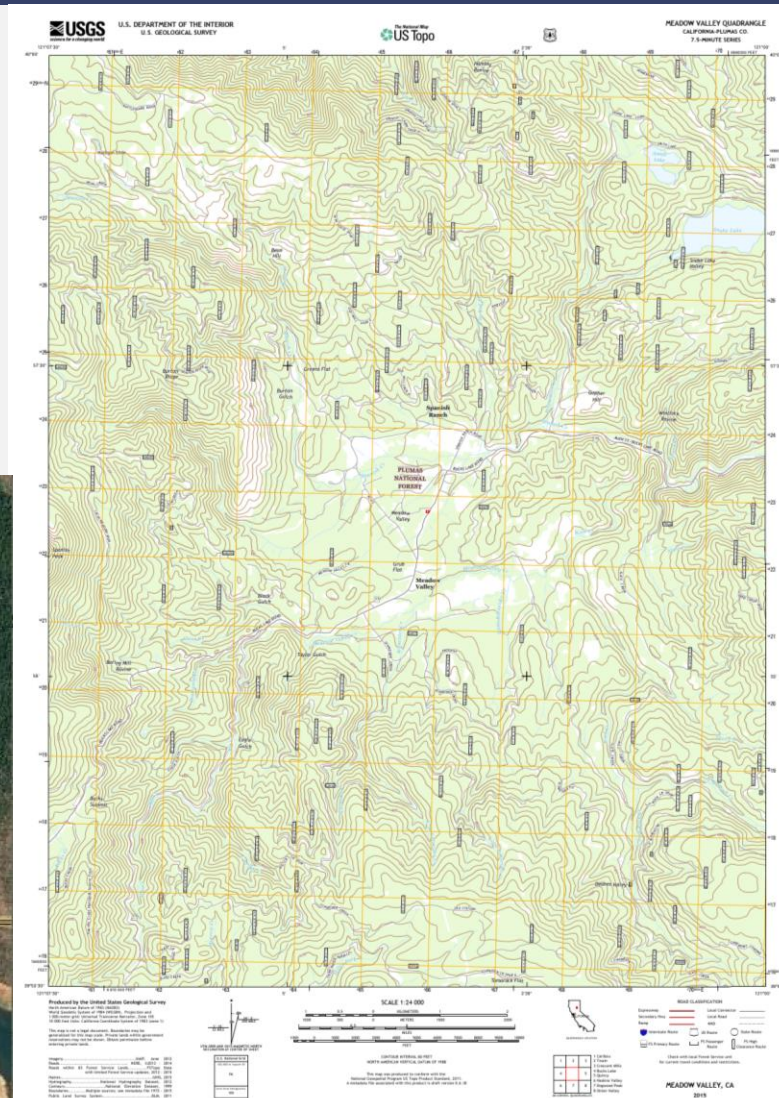
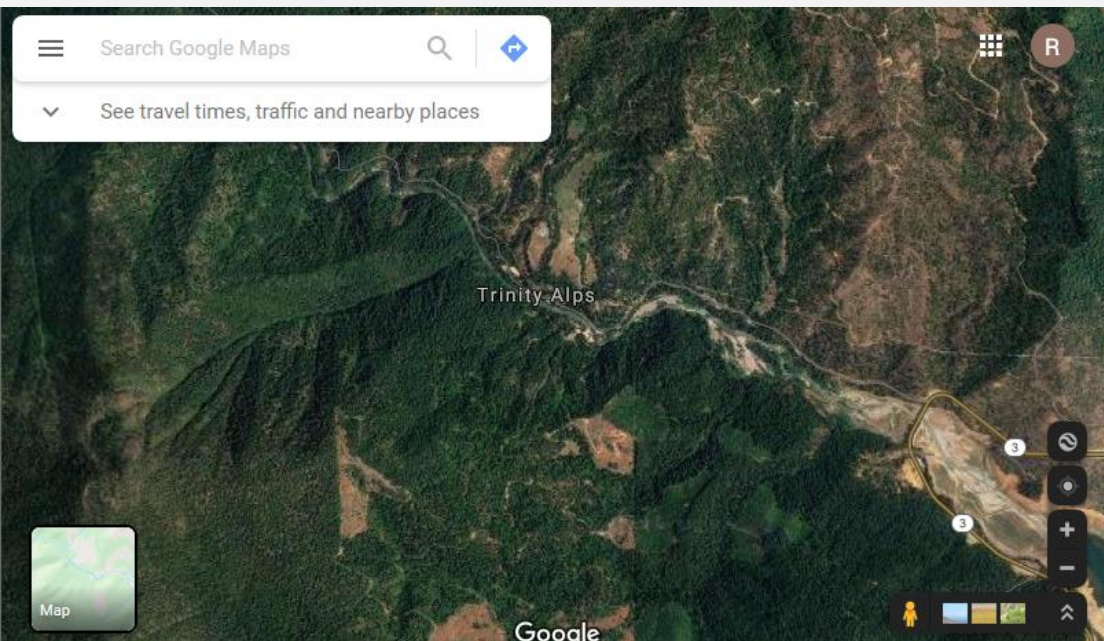


Features



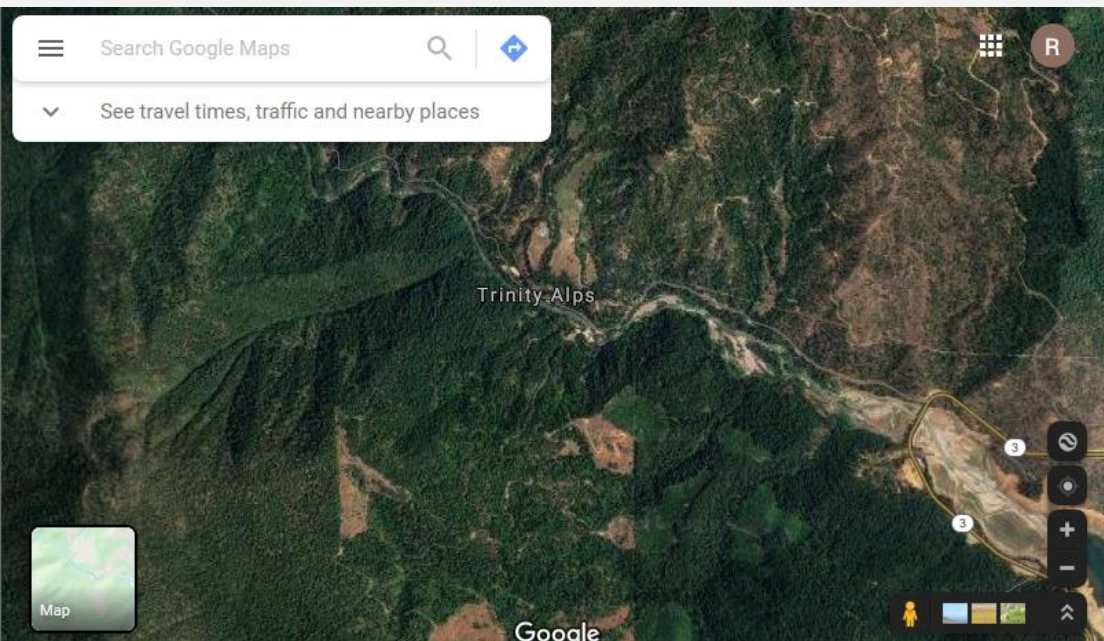
Step 2(a): Locate Background Layer

- Satellite
- Contour Map
- Assessor Parcel Map

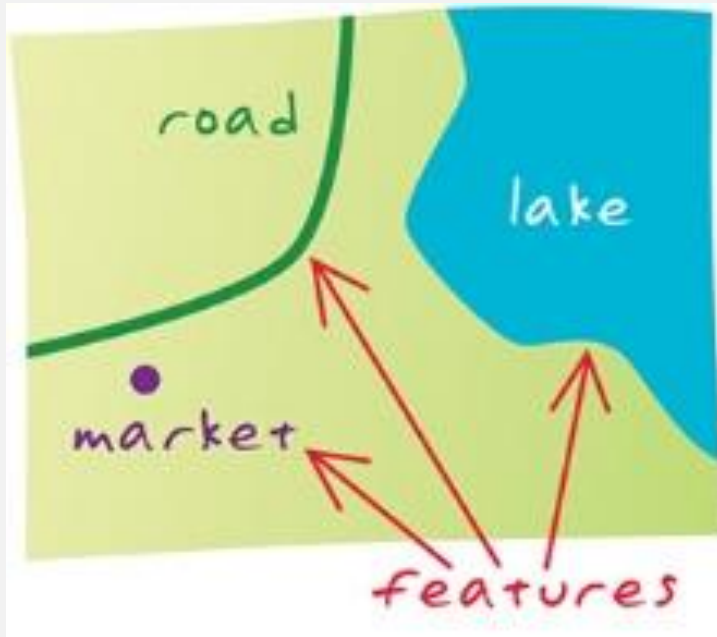


Step 2(a): Locate Background Layer


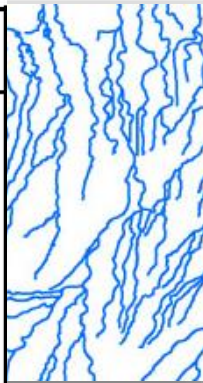







- Satellite
- Contour Map
- Assessor Parcel Map



Step 2(b): Locate Features



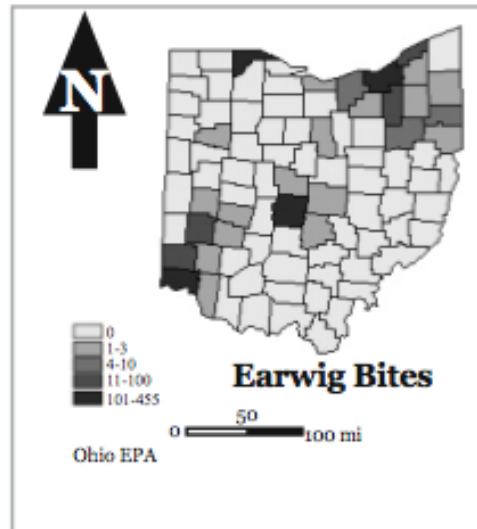
a single 'thing' on the ground

Feature Type	Shape
	 
	<p>Line</p> <ul style="list-style-type: none">  National Border  Trail  Section Line
	<p>Area</p> <ul style="list-style-type: none">  Gravel  Sand

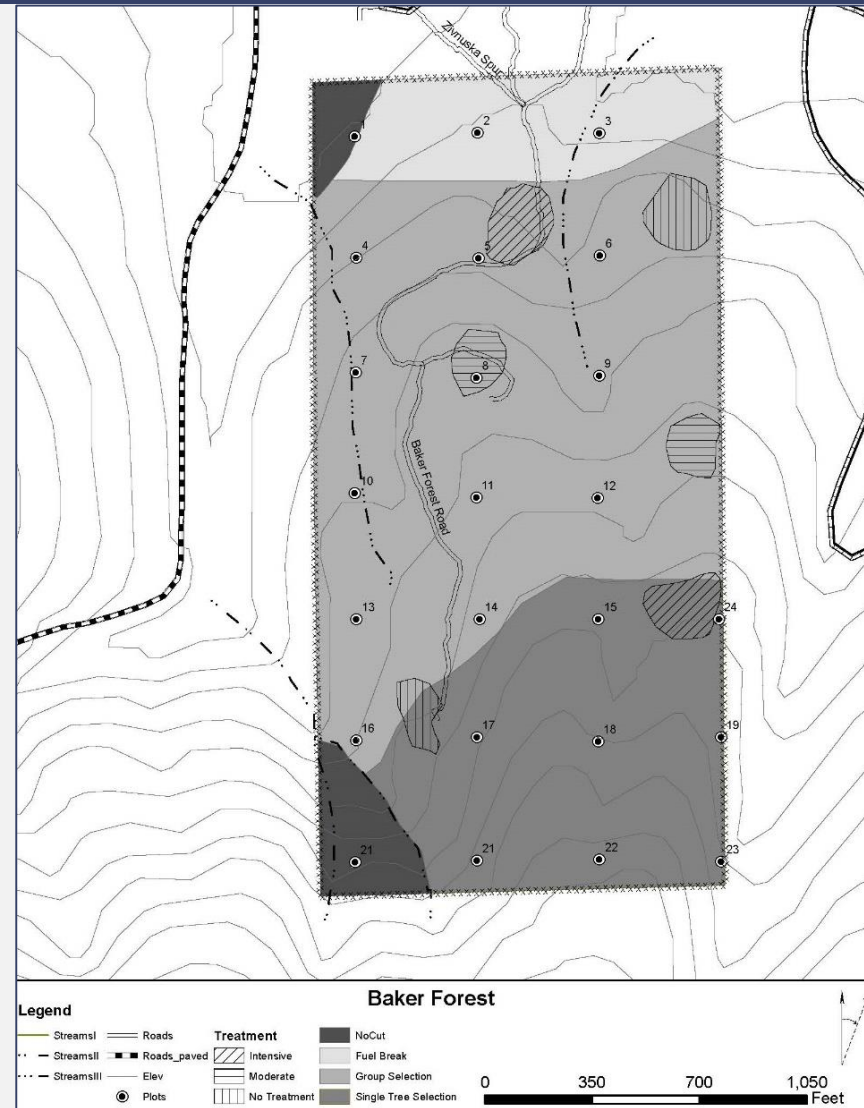
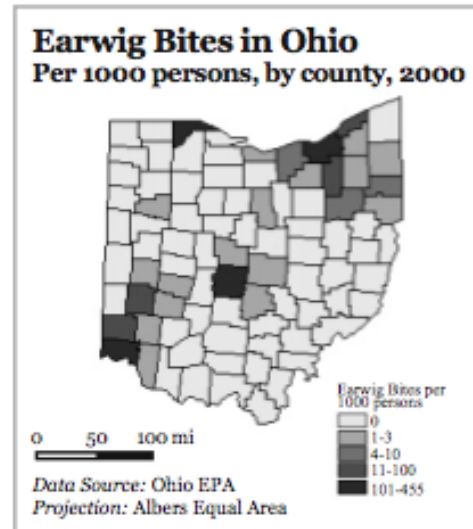
Step 3: Stack and Label

- Title
- North Arrow
- Scale

Poor layout:



Good layout:

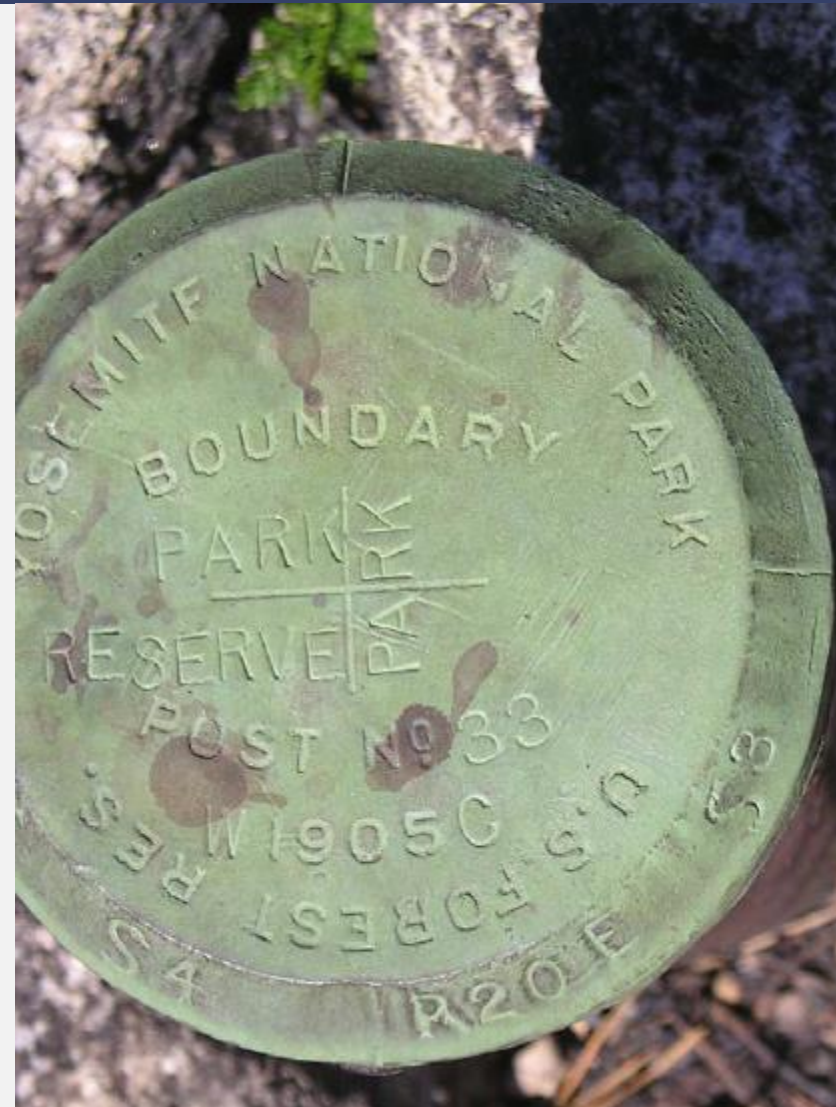


Collecting Features

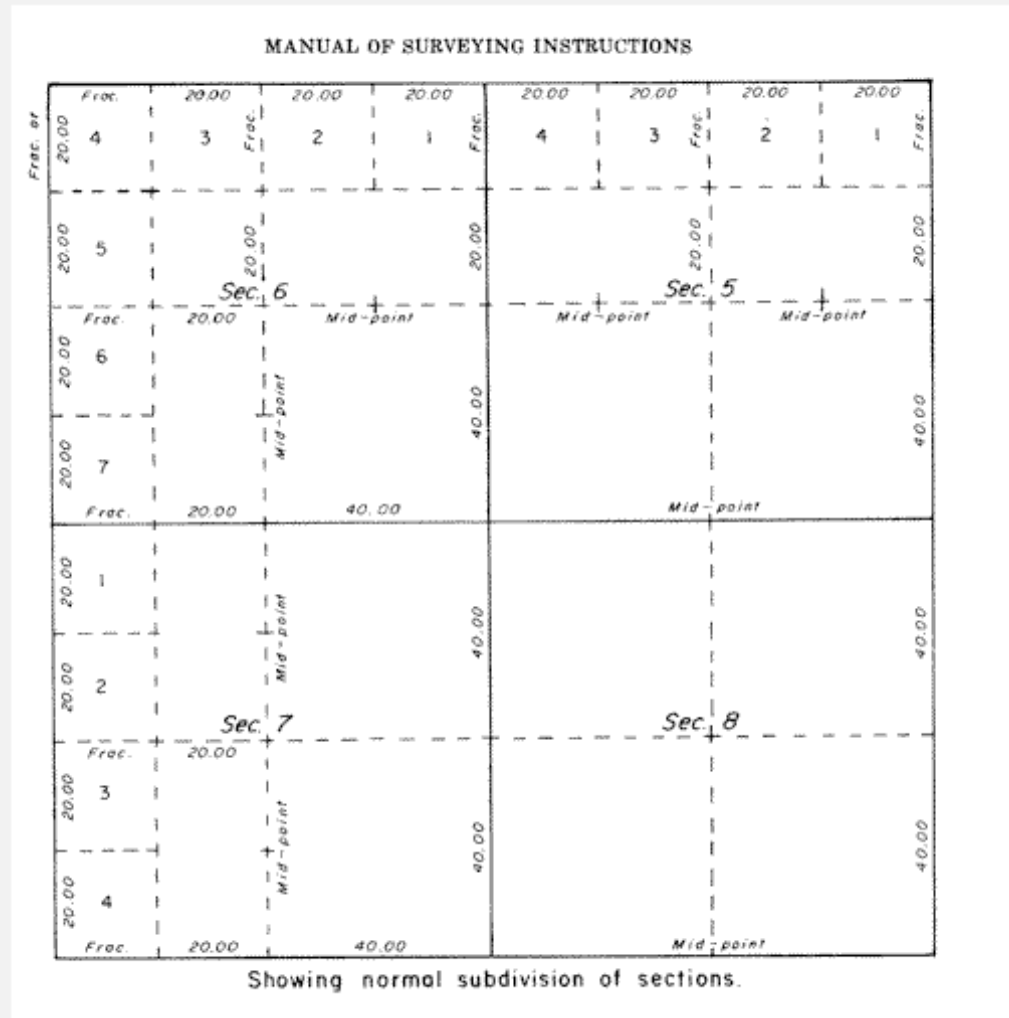
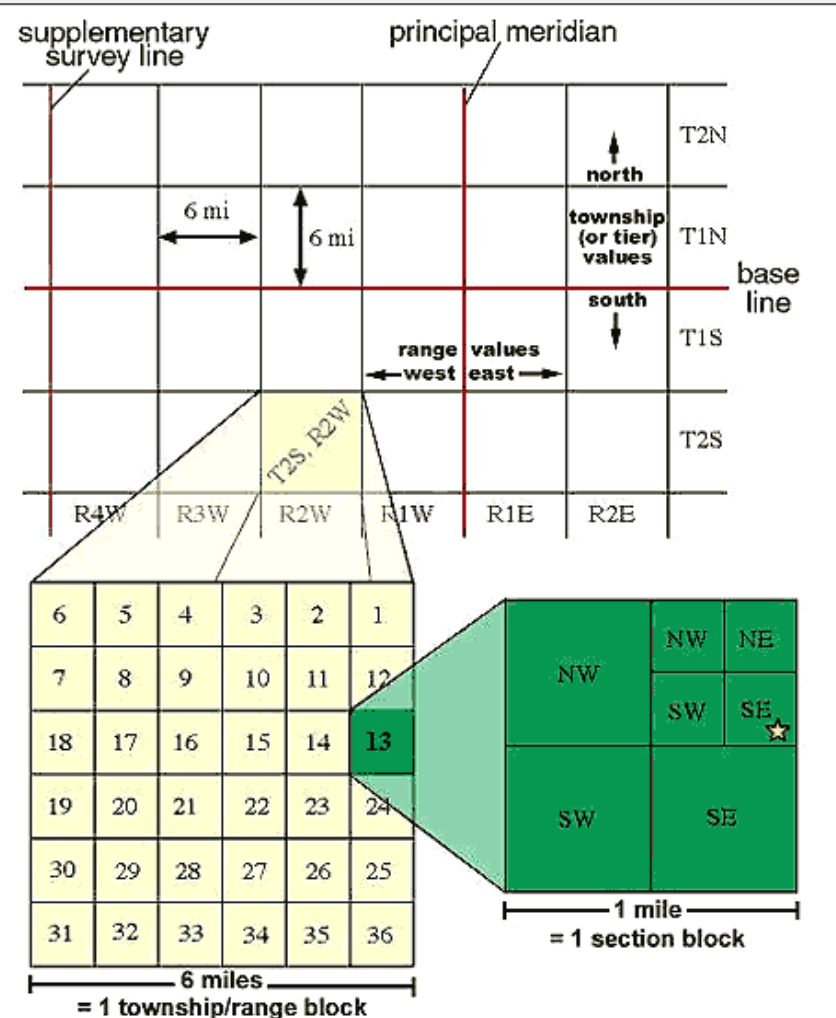
(1) Map and compass



(2) Handheld GPS Systems



Compass and Map

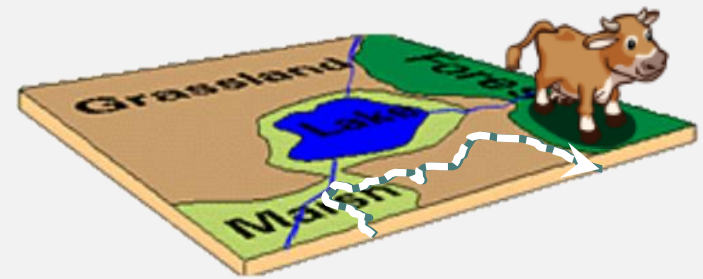
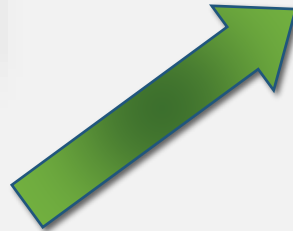
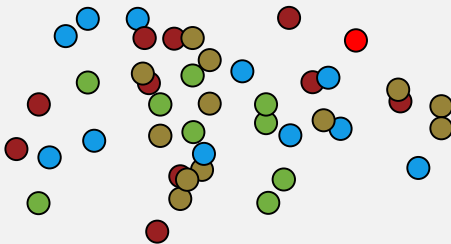
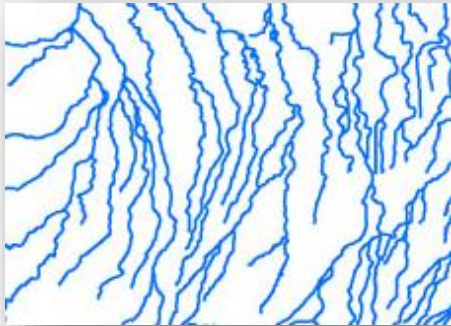
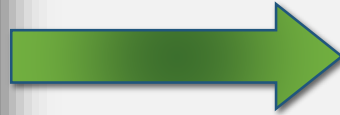


Global Positioning System

- 24 -32 active NAVSTAR satellites make up civilian GPS
- At least 6 satellites are visible from any spot on Earth
- 6 orbit planes, each with 4 operational satellites in each
- Orbiting 12,500 miles above earth at $\sim 7,000$ mph (medium Earth orbit)
- 2 complete orbits in less than 24 hours
- 4 or more GPS satellites used to compute X, Y, and Z



Data Collection and Visualization



Mobile Maps

EXERCISE

Avenza: Adding Basic Map

The image shows a screenshot of the Avenza Maps application interface. The top status bar displays the time 2:51, signal strength, Wi-Fi, and 93% battery. The main header is titled "My Maps" and contains three icons: a user profile, a search magnifying glass, and a three-dot menu. Below the header, there is a "Sorted By Name" dropdown and a list of maps. The first map is "Avenza Systems area" (39.4 MB), the second is "Nice, France" (1.6 MB), and the third is "Toronto Transit Commission" (35.0 MB). At the bottom, there is a navigation bar with "My Maps", "Layers", and "Store" icons, and a large orange "+" button. Callouts point to the user profile icon (labeled "Map Store Account"), the search icon (labeled "Search"), and the three-dot menu (labeled "Settings"). Another callout points to the bottom "+" button, which opens a menu with "Add Folder" (plus icon), "Add Collection" (calendar icon), and "Download or import a map" (download icon).

2:51

My Maps

Sorted By Name

Avenza Systems area
On map, 39.4 MB

Nice, France
6612.5 km, 1.6 MB

Toronto Transit Commission
On map, 35.0 MB

Map Store Account

Search

Settings

Add Folder

Add Collection

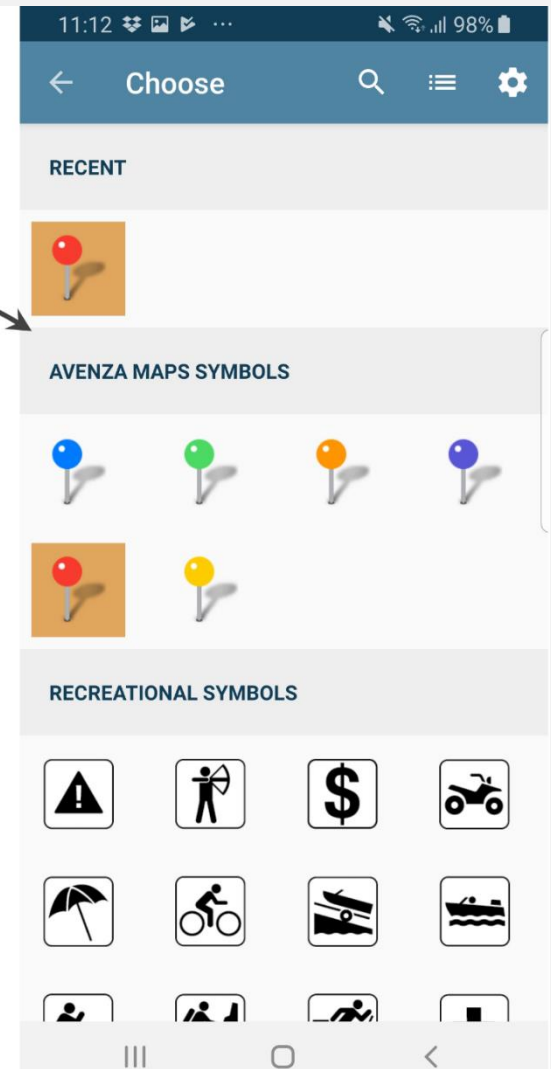
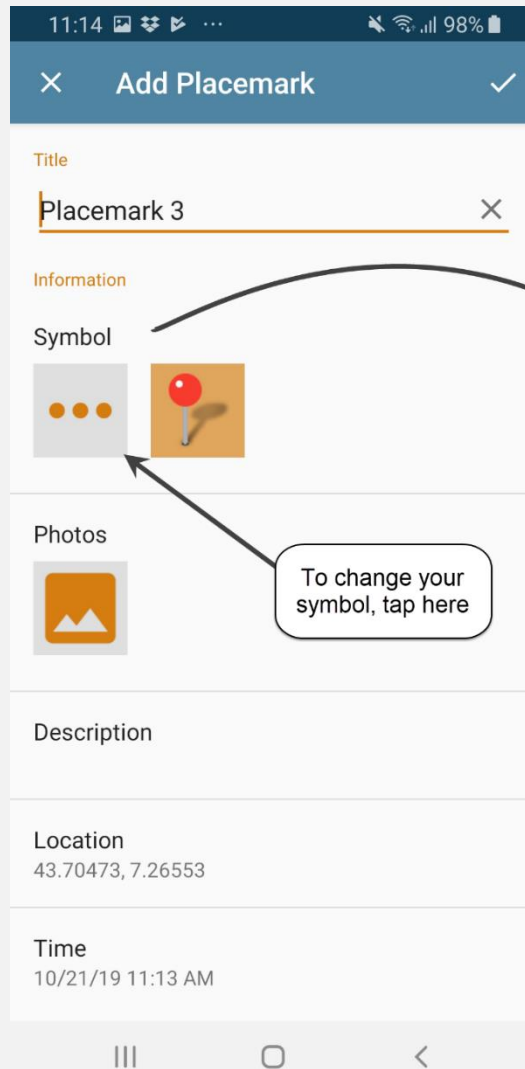
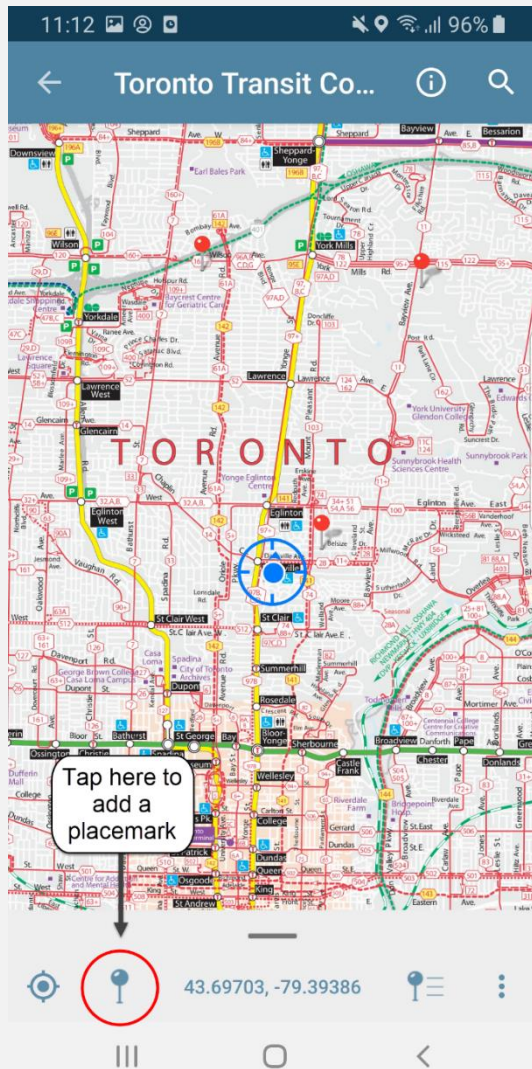
Download or import a map

My Maps

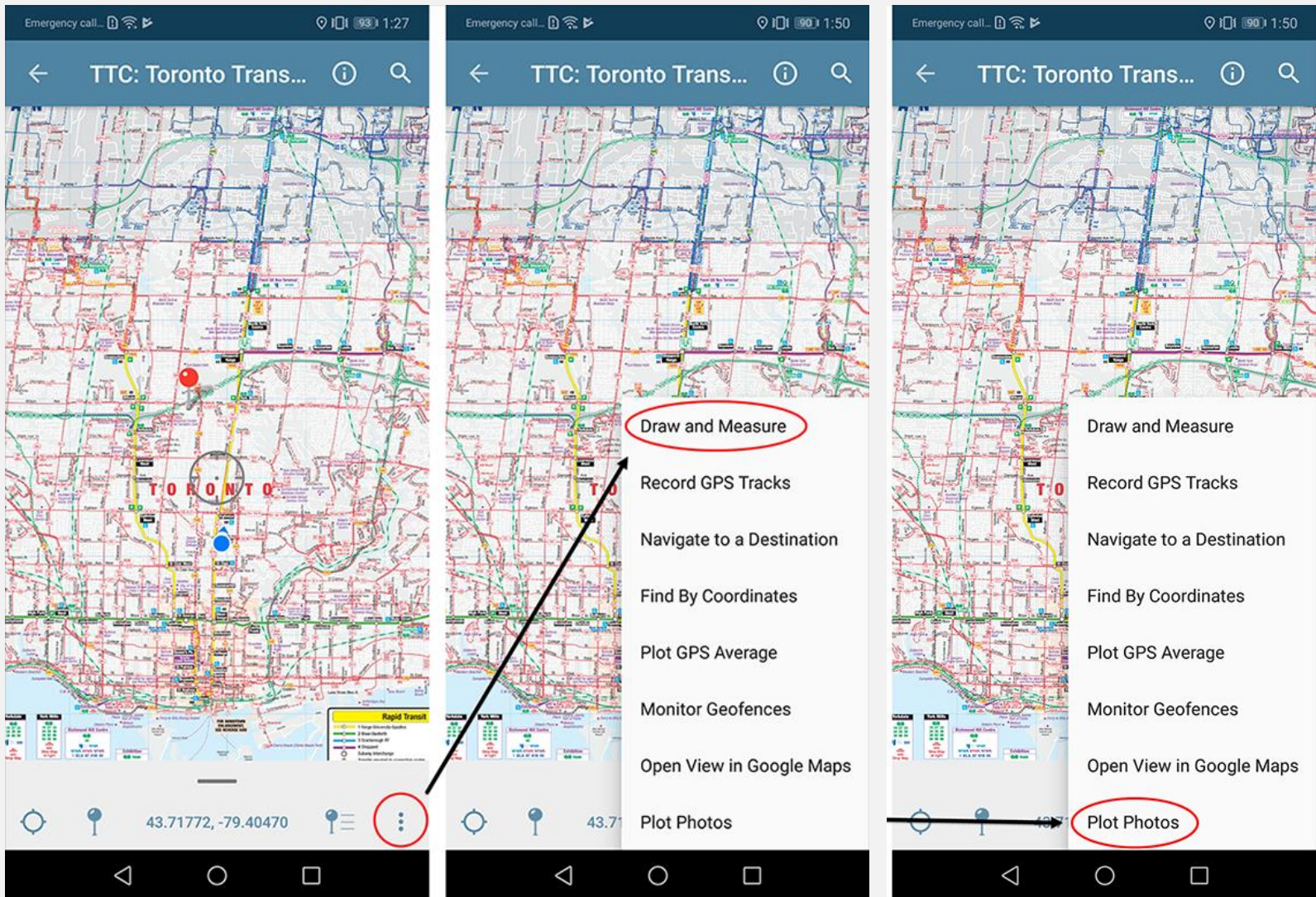
Layers

Store

Avenza: Adding Point Features



Avenza: Other Features



Hands-on Activity

Go into the field and map out the selected area. (Select One) of the mapping methods below to collect information about the features you find on the landscape. **Locate as many as you can find**, then meet back in the classroom to discuss.

Compass and Map

1. Bring the paper map with you
2. Draw in the features you find and or would expect to find

Digital GPS

1. Open the Avenza App
2. Add points for discrete features
3. Add lines for continuous features

What did you find?

Found Features

- Road
- Unit Boundary
- Stream
- Stream Crossing

What else?

- Road Surface Type
- Condition of crossing
- Culvert type
- Tree health

Example

Example Map



