

Guide to Tree Mapping

By Chris Ehrich

This is a guide for those who wish to create a reference map of trees in a given area, be it a park, a forest, or just around your neighborhood. The method of creating a tree map detailed in this guide involves three major steps: setting up a spreadsheet database for collecting tree data, collecting the tree data, and importing the database into Google My Maps.

Google My Maps is a desktop-only* custom map editor that allows you to both place waypoints on a map and import a database of waypoints from a spreadsheet (Google Sheets, Excel). Because Google My Maps does not have a mobile app to place waypoints at your location, you will be using the Google Maps app to discern waypoints of trees, the Google Sheets website (and/or the Google Sheets app) or Microsoft Excel to build your database of trees, then the Google My Maps website to import the database.

*Maps created in Google My Maps are viewable on the Google Maps app, but are not editable. Part 5 details how to set up the map overlay on your Google Maps app.

GETTING STARTED: MATERIALS

Before you begin tree mapping, be sure to have the following materials:

- A Google account
- A smartphone with the following apps:
 - o Google Maps
 - o Google Sheets (not necessary if creating your database by hand)
 - o OPTIONAL: Preferred flora ID app (PlantNet, iNaturalist, etc.)



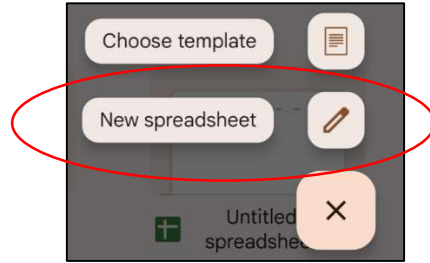
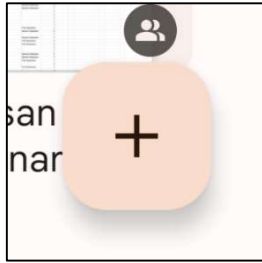
- A desktop computer / laptop
 - o Microsoft Excel (if not using Google Sheets)
- Tree ID materials of choice (books, apps, etc.)

PART 1: SETTING UP YOUR DATABASE

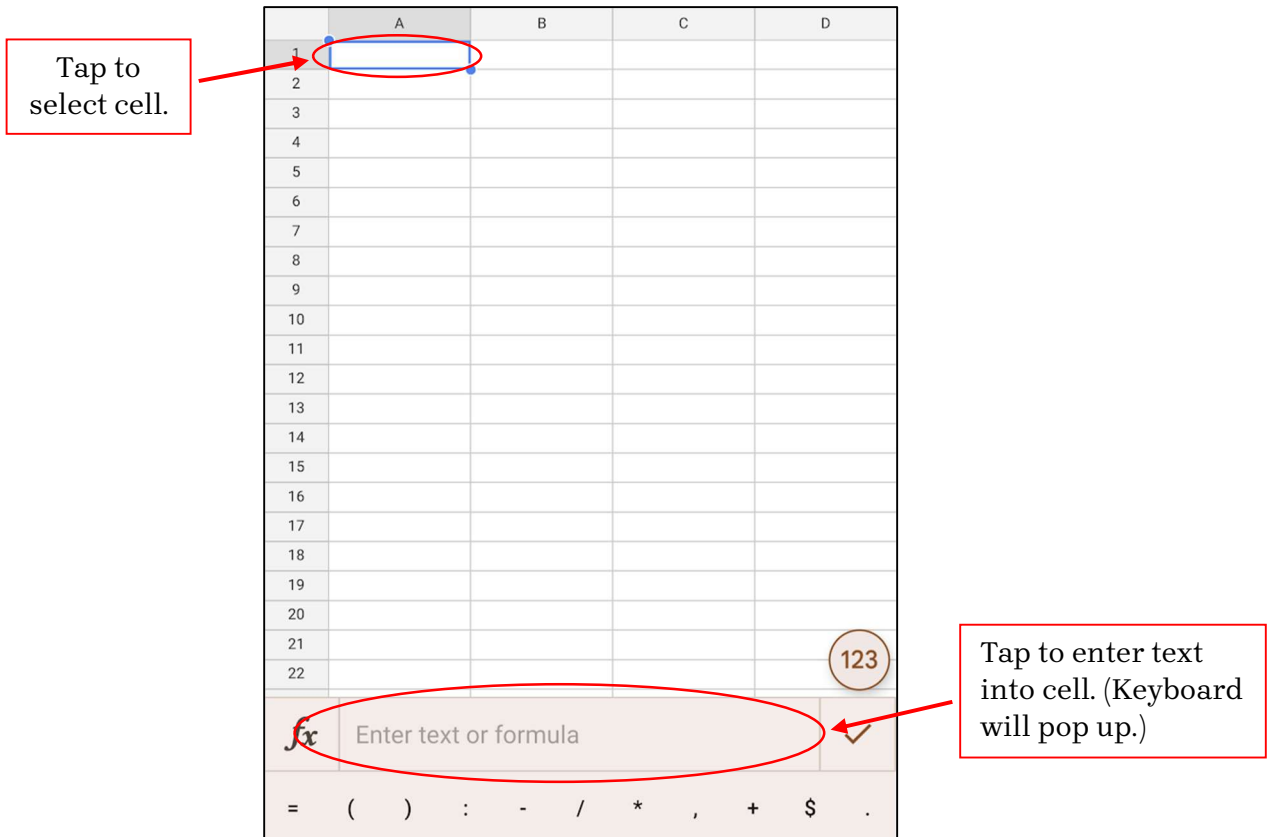
METHOD 1: MOBILE (GOOGLE SHEETS)

(For setting up the database on a computer, skip to Method 2.)

- 1) Open the Google Sheets app (and log in to your Google account if not already logged in).
- 2) Tap the + icon at the bottom right of the screen, then “New spreadsheet.”



- 3) Insert “Coordinates,” “Name,” and “Description” into cells A1, B1, and C1, respectively. These will be the headers for the database. (To type text into a cell, tap the desired cell, then at the bottom of the screen, tap where it says “Enter text or formula.”)

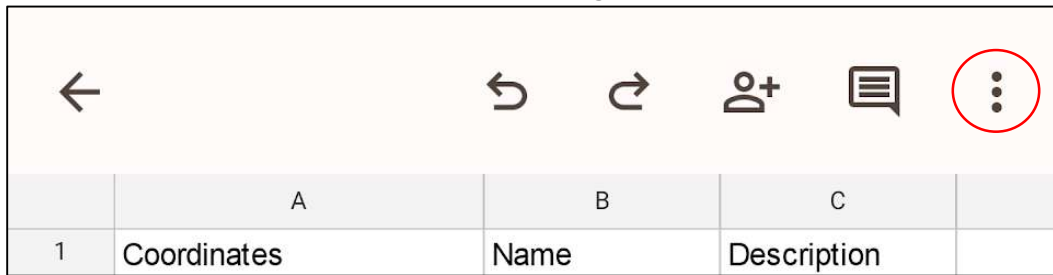


The spreadsheet should match the image below:

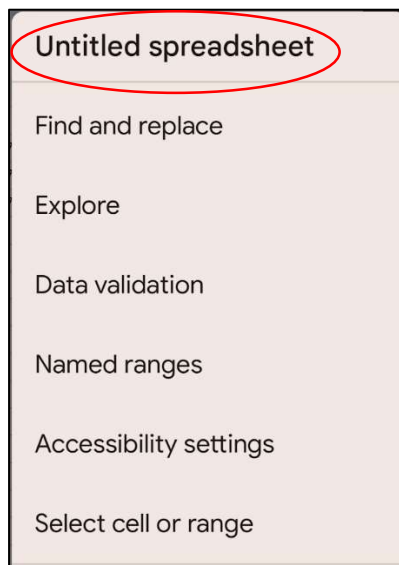
	A	B	C	D
1	Coordinates	Name	Description	
2				
3				
4				

The database is now created! If you wish to name the spreadsheet, follow the below steps. This will be useful later on, as the name of the spreadsheet will become the name of the layer on the map that contains your coordinates.

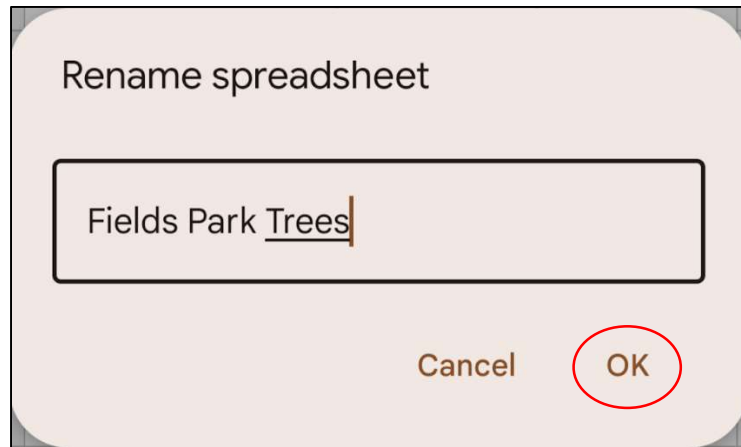
- 1) Tap the vertical three dot icon on the top right of the screen.



- 2) A new menu will appear on the right. On the top, tap where it says “Untitled spreadsheet.”

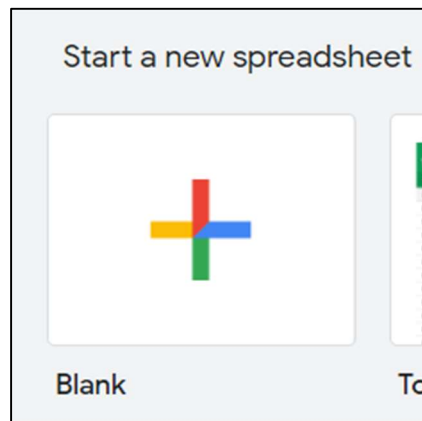


3) Type in your desired name and tap “OK.”

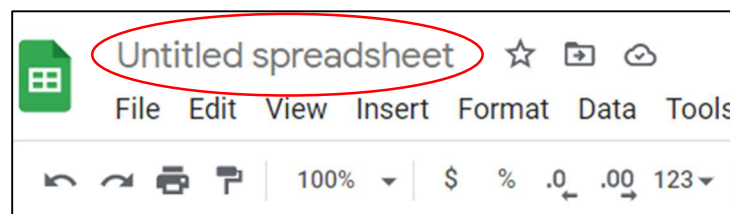


METHOD 2: COMPUTER

- 1) On your favorite web browser, navigate to sheets.google.com.
- 2) At the top, under “Start a new spreadsheet,” click the “Blank” plus icon.



- 3) Give your spreadsheet a name. To do so, click “Untitled spreadsheet” on the top left of the screen and type in your title. This will be useful later on, as your data will be imported into the map as a layer, and the title of the spreadsheet will be the name of the layer.



- 4) Type in “Coordinates,” “Name,” and “Description” in cells A1, B1, and C1, respectively. (To enter text into a cell, just click the desired cell and begin typing.) Your spreadsheet should match the image below:

	A	B	C
1	Coordinates	Name	Description
2			
3			


The database is now created!

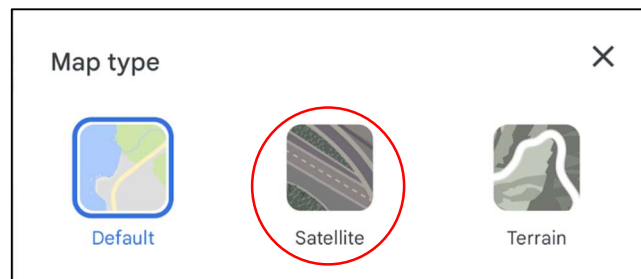
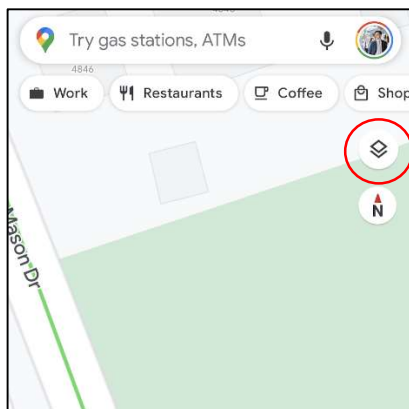
PART 2: COLLECTING YOUR TREE DATA

Now that the database is prepared, it’s time to start plotting trees! This section details two different methods to collect data:

- 1) Digital Database: This method requires both that you are using Google Sheets and that you have the Google Sheets mobile app.
- 2) Manual Database: This method requires a pen and paper/notebook and adds an additional step of recording the data again on Google Sheets/Excel. This would be the preferable option for those who would rather enter their data on a computer instead of on a phone, or for those who prefer to use Excel.

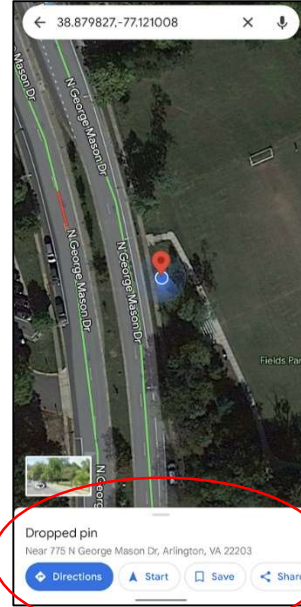
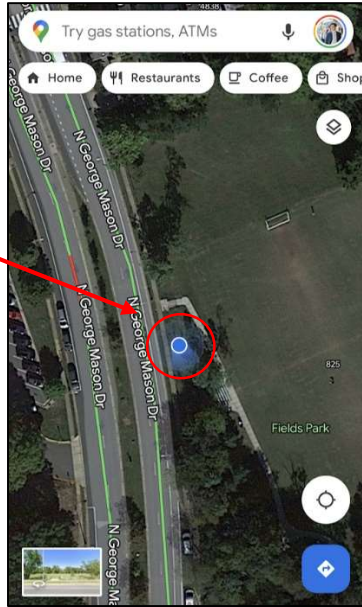
METHOD 1: DIGITAL DATABASE

- 1) Locate and identify the tree you wish to map.
- 2) Open Google Maps. (I recommend using satellite view. To do this, tap the Layers icon on the top right of the screen [], then tap “Satellite” under “Map Type.”)



- 3) Stand directly under the tree. The blue circle icon that marks your location on the map should be where the tree is. Tap and hold on your location, indicated by a blue circle. A waypoint will appear on the map and a menu will appear on the bottom of the screen.

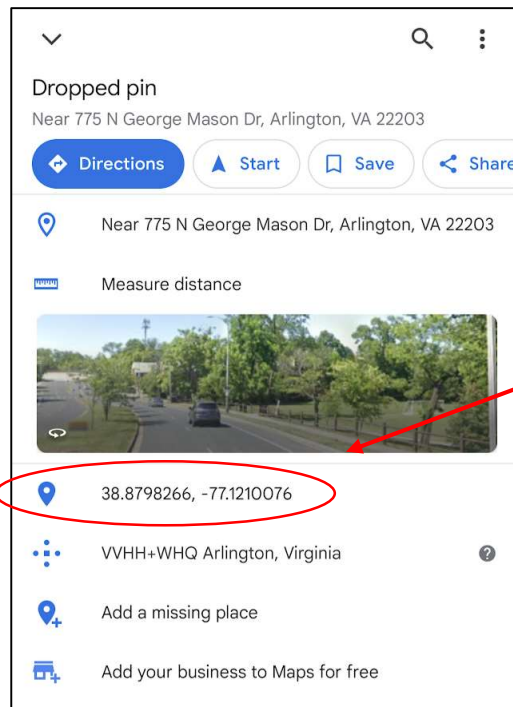
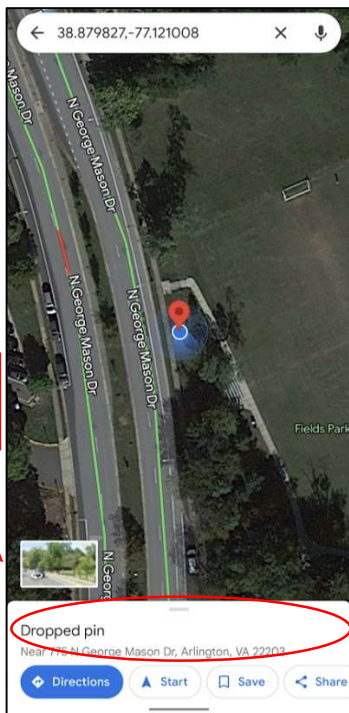
Tap and hold on your location (blue circle).



New menu (important for the next step)

- 4) Swipe up where it says “Dropped pin” to reveal the full menu, then tap the coordinates. This will copy the coordinates to your clipboard.

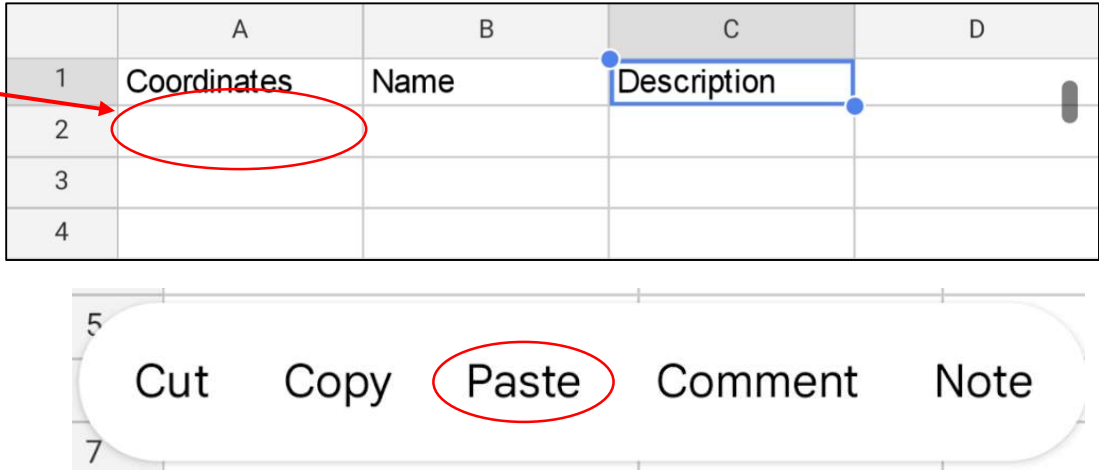
Tap in this area and swipe up.



Tap coordinates once to copy them to the clipboard.

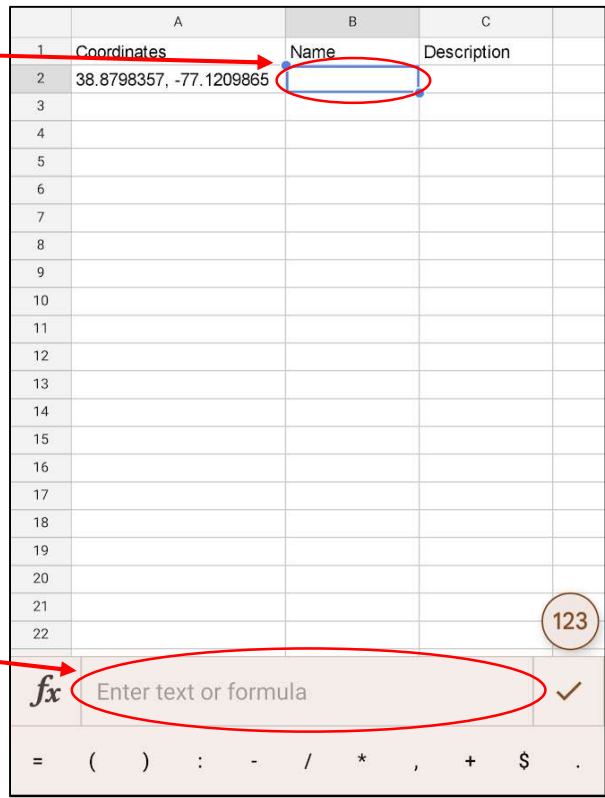
- 5) Exit Google Maps and open Google Sheets. Navigate to your database spreadsheet.
- 6) Tap and hold the next blank cell in column A (if it is the first coordinate, this would be cell A2), then tap “Paste” to enter your coordinates.

Tap and hold empty cell to bring up below options.



- 7) Tap the cell to the right of the coordinates in column B, then tap the text box at the bottom of the screen (which says “Enter text or formula”) and enter the name you wish the waypoint to have. (E.g., “Red maple (Acer rubrum)”))


Tap to select Name cell.

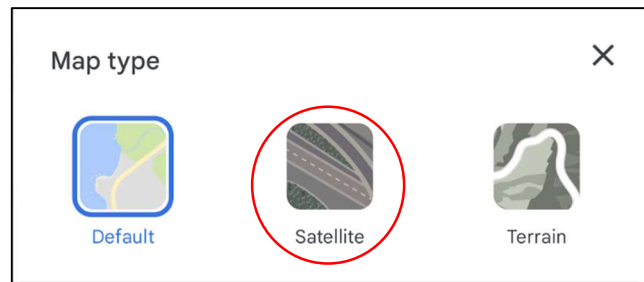
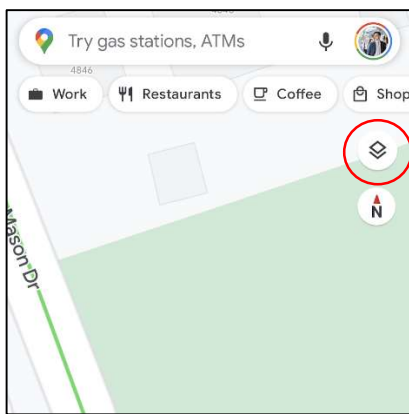


Then tap here to enter the tree name.

- 8) OPTIONAL: Repeat step 7 with the adjacent cell in column C to add any other description, such as facts or a website link. This can also be done later on a computer.
- 9) Repeat steps 1-8 for each tree you wish to add to your database.

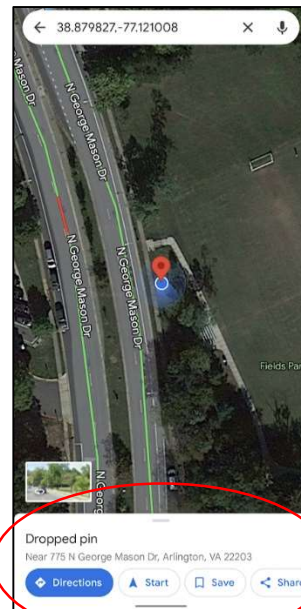
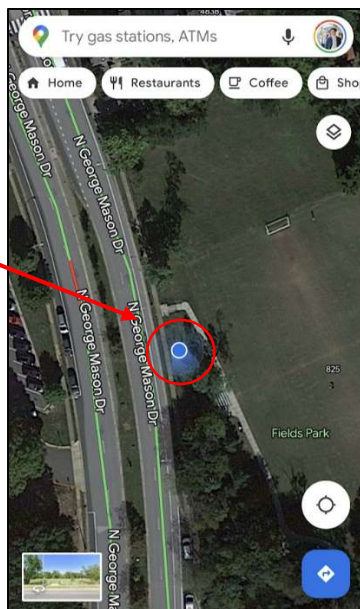
METHOD 2: MANUAL DATABASE

- 1) Locate and identify the tree you wish to map.
- 2) Open Google Maps. (I recommend using satellite view. To do this, tap the Layers icon on the top right of the screen [], then tap “Satellite” under “Map Type.”



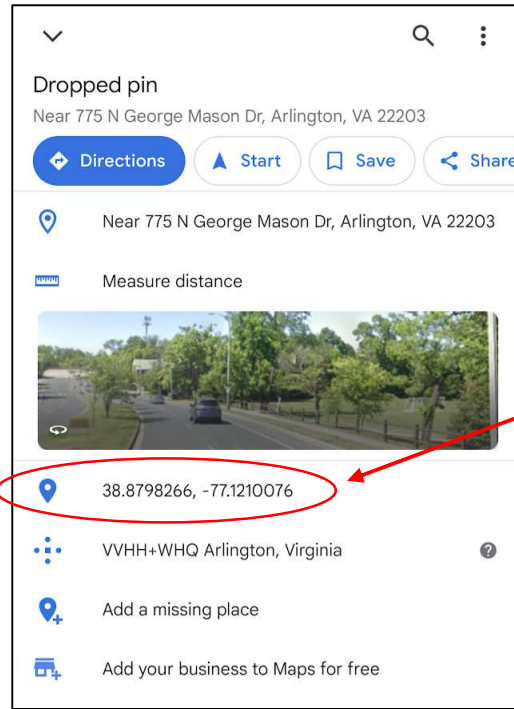
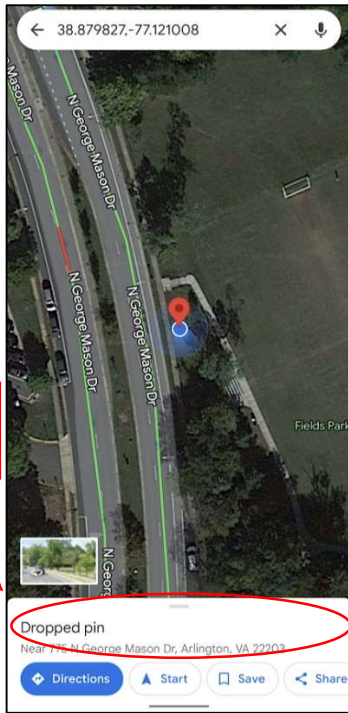
- 3) Stand directly under the tree. The blue circle icon that marks your location on the map should be where the tree is. Tap and hold on your location, indicated by a blue circle. A waypoint will appear on the map and a menu will appear on the bottom of the screen.

Tap and hold on your location (blue circle).



New menu (important for the next step)

- 4) Swipe up where it says “Dropped pin” to reveal the full menu. Write down the coordinates.



- 5) Write down the name of the tree and notes (if any) along with the coordinates.
- 6) Repeat steps 1-5 as necessary.
- 7) On your computer/laptop, type your data into the appropriate cells and columns of your database. If you are using Excel, make sure to save once finished.

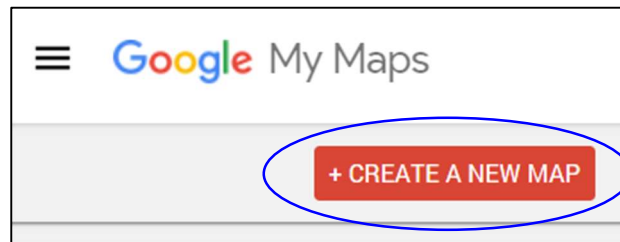
PART 3: PLOTTING YOUR DATABASE IN GOOGLE MY MAPS

Now that your database is complete, it is time to plot your coordinates. The following steps should be done on a desktop computer or a laptop.

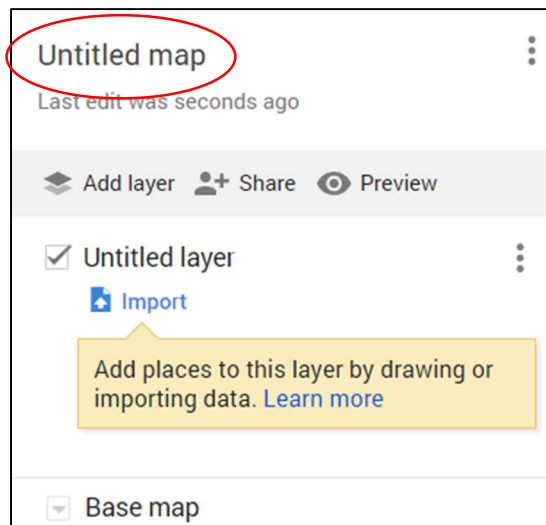
	A	B	C
1	Coordinates	Name	Description
2	38.8798357, -77.1209865	Tree 1	Lorem ipsum
3	38.8796504, -77.1209396	Tree 2	Dolor sit amet
4	38.8794607, -77.1208812	Tree 3	Consectetur

(Sample of a completed database.)

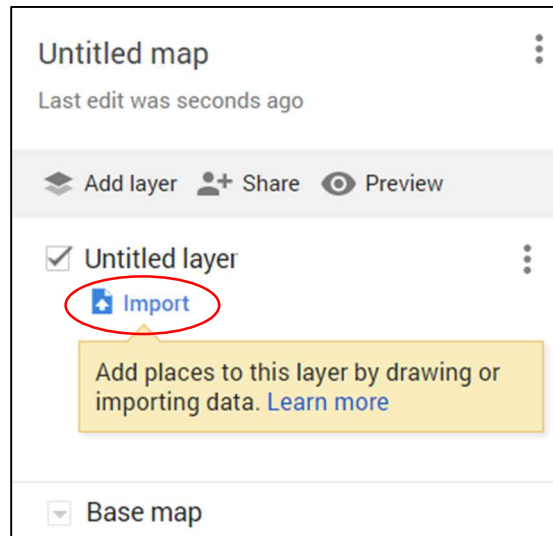
- 1) Double-check your data for any errors. This is also the time to add any additional descriptions, such as general facts, features, or links to websites that describe the tree.
- 2) Navigate to mymaps.google.com on your favorite web browser.
- 3) On the top left of the screen, click the red button labeled “+ CREATE A NEW MAP.”



- 4) In the left menu, click “Untitled map” to edit the name and description of the new map.



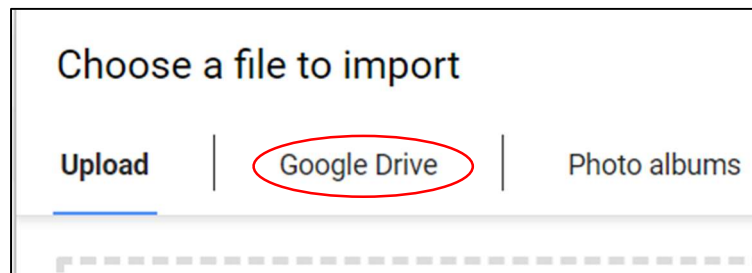
5) In the left menu, under “Untitled layer,” click “Import” in blue.



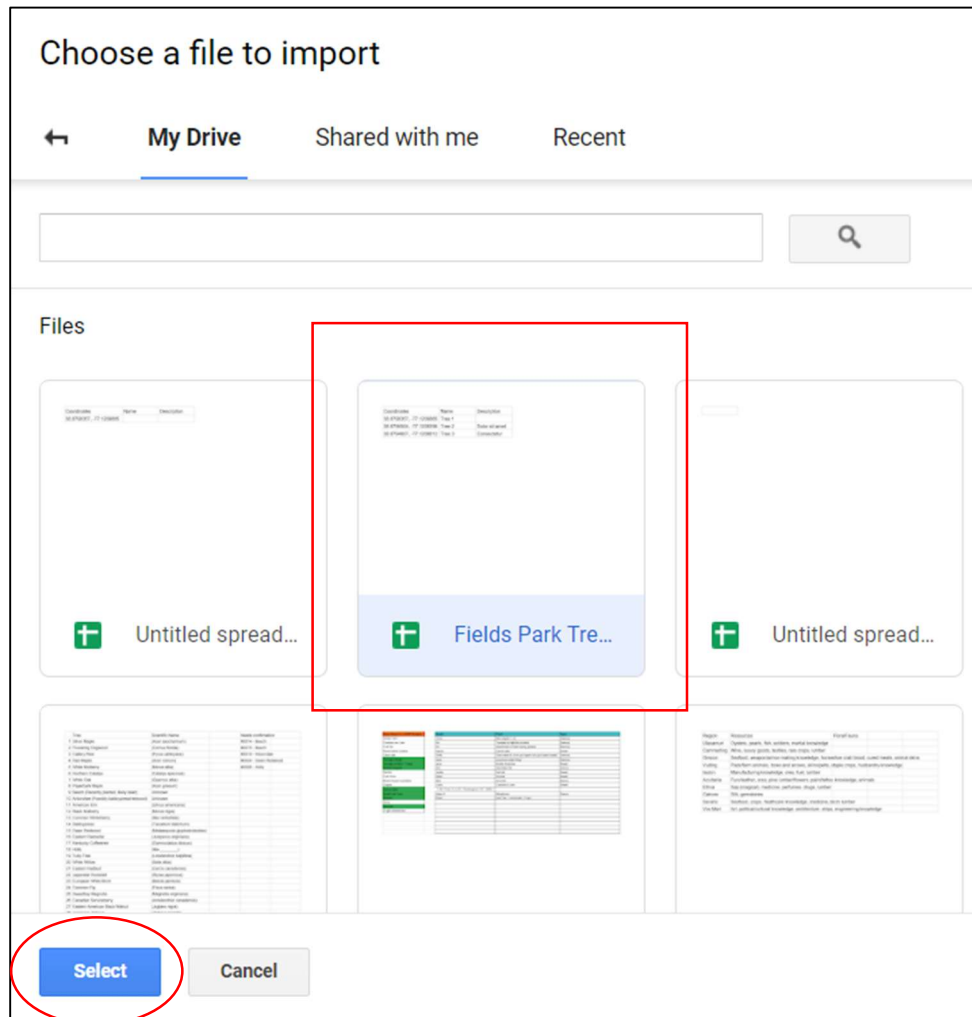
6) Import your data.

a. Google Sheets

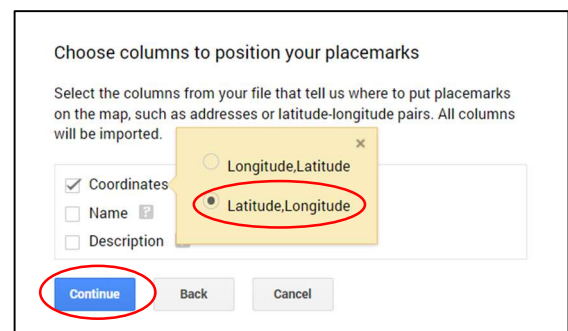
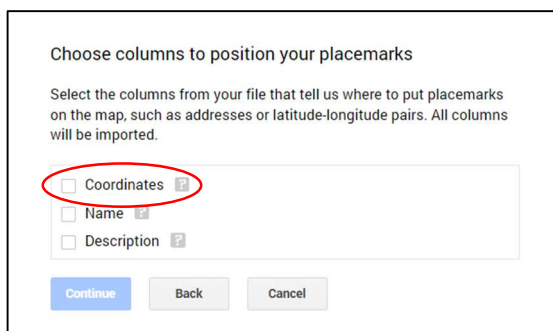
i. On the top left of the dialog box next to “Upload,” click “Google Drive.”



- ii. Navigate to your database spreadsheet, click it, and click the blue button labeled “Select” on the bottom left of the dialog box.



- iii. In the next dialog box, check only “Coordinates,” select “Latitude,Longitude,” then click “Continue.”



- iv. In the next dialog box, check “Name,” then click “Finish.”

Choose a column to title your markers

Pick a column to use as the title for the placemarks, such as the name of the location or person.

Coordinates ?

Name ?

Description ?

Finish Back Cancel

b. Microsoft Excel

- i. Click the blue button labeled “Select a file from your device” in the center of the dialog box.

Drag a CSV, XLSX, KML or GPX file here

Or, if you prefer...

Select a file from your device

- ii. Navigate to where your file is saved, then click “Open.”
- iii. In the next dialog box, check only “Coordinates,” select “Latitude,Longitude,” then click “Continue.”

Choose columns to position your placemarks

Select the columns from your file that tell us where to put placemarks on the map, such as addresses or latitude-longitude pairs. All columns will be imported.

Coordinates ?

Name ?

Description ?

Continue Back Cancel

Choose columns to position your placemarks

Select the columns from your file that tell us where to put placemarks on the map, such as addresses or latitude-longitude pairs. All columns will be imported.

Coordinates ?

Name ?

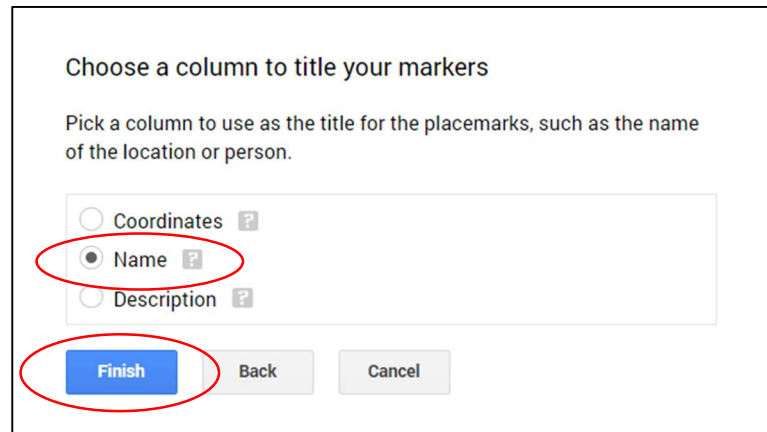
Description ?

Longitude, Latitude

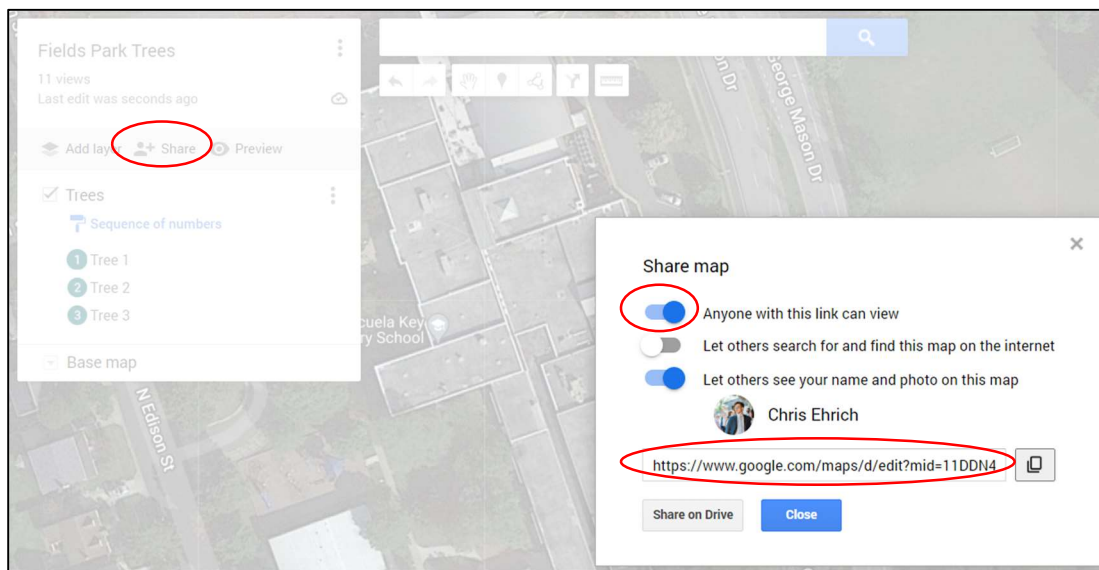
Latitude, Longitude

Continue Back Cancel

- iv. In the next dialog box, check “Name,” then click “Finish.”

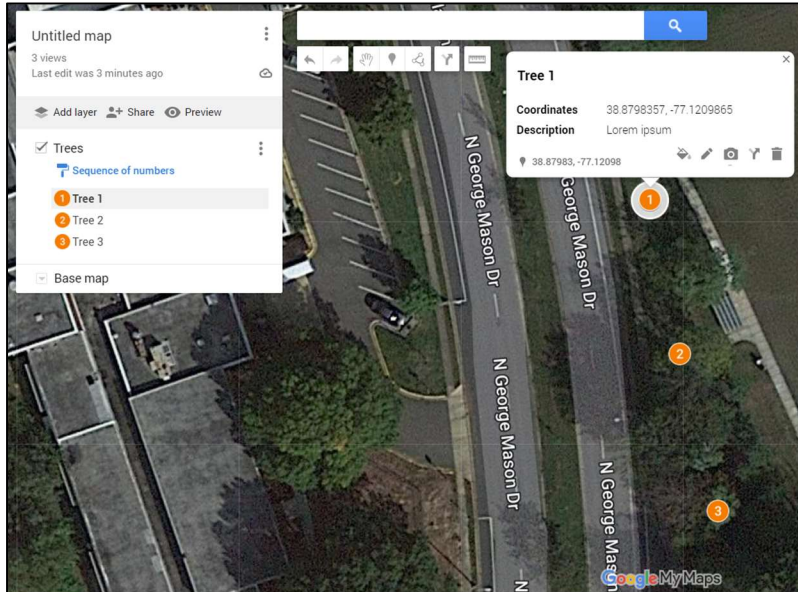


- 7) To share this map with others, first click “Share” on the left menu, then select “Anyone with this link can view,” then copy the link at the bottom of the dialog box.



PART 4: CUSTOMIZING YOUR MAP

Your waypoints are now on a map! Below are some tips for customizing the map and your coordinates:



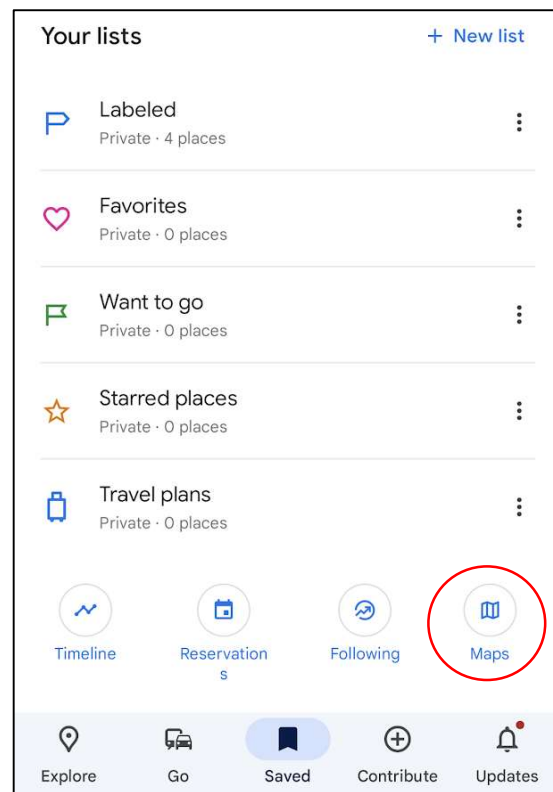
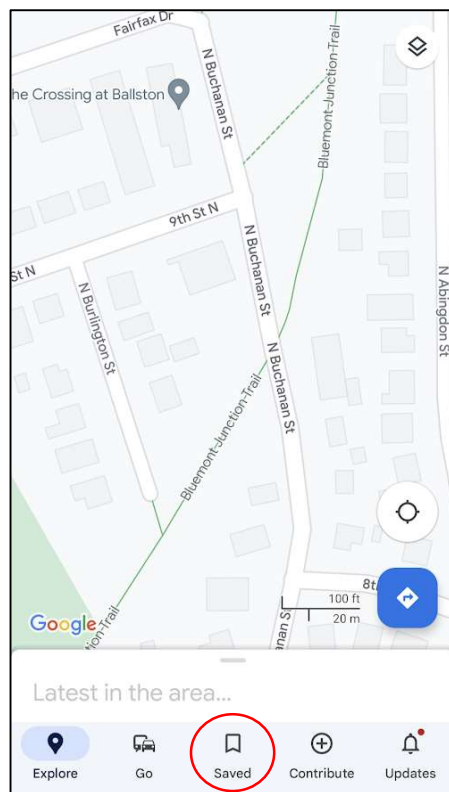
- 1) To customize the format of waypoints, click the blue paint roller icon under the name of your layer. (In the above image, it says “Sequence of numbers,” but by default it will say “Individual styles.” Below are the options:
 - a. Group places by
 - i. Uniform style – Makes all waypoints look the same.
 - ii. Sequence of numbers – Numbers waypoints in the order in which they appear in the database.
 - iii. Individual styles – Gives the ability to change colors of individual waypoints.
 - iv. Style by data column:
 1. Coordinates – Assigns color based on individual coordinates of waypoints.
 2. Name – Assigns color based on individual names of waypoints.
 3. Description - Assigns color based on individual descriptions of waypoints.
 - b. Set labels – Shows the coordinates, names, or descriptions next to the waypoints on the map.

- 2) To customize the color of a waypoint, click a waypoint and select the paint bucket icon in the box that pops up. Note: this will change the color of all coordinates unless the style is set to “Individual styles.”
- 3) To edit the name or description of a waypoint, click a waypoint and select the pencil icon.
- 4) To add a photo to a waypoint, click a waypoint and select the camera icon.
- 5) To change the look of the map, click the down arrow button next to “Base map” on the left menu.

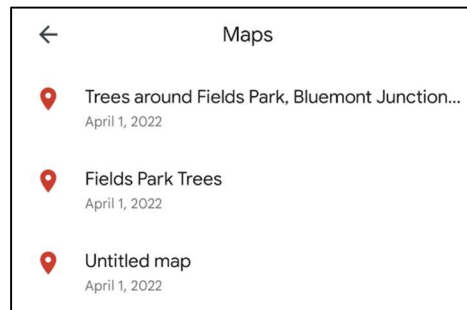
PART 5: VIEWING YOUR MAP ON THE GOOGLE MAPS APP

Opening a link to a map on your phone will open your map in a browser via Google My Maps. If you are the creator of the map, you also have the ability to add it as an overlay on your Google Maps app. Unfortunately, you cannot edit the map in the Google Maps app, but it can come in handy when mapping additional trees in the area. Here is how to set up the view:

- 1) Open the Google Maps app.
- 2) Tap the “Saved” icon at the bottom of the screen, then under “Your lists,” tap “Maps.” (You may have to scroll down a bit to see the full Maps icon.)



- 3) Tap the map you wish to see in Google Maps. The list is normally in the order in which the maps are made, but once a map is selected here, it will be moved to the top.



- 4) Enjoy your map! Whenever you open the Google Maps app now, your waypoints will be displayed and can be interacted with to view the information.

To remove the map view:

- 1) Repeat steps 1-3 above.
- 2) Tap “View map legend” at the bottom of the screen, then tap “CLOSE.”

