# **Plants in the Human-Altered Environment (PHAE) Research Project**

**Module 1: Identify and characterize your study site**

### Part 1: Identify your study site

The **study site** is that space in the environment where your data collection will take place and should be carefully selected to address our research questions about plants in human-altered landscapes and to minimize bias. The study site can be located anywhere that contains at least one woody plant. It should range from 1000 to 5000 m2, or 0.1 to 0.5 hectare.

Select one area close to your location that will be your study site for this project. The area should be freely accessible or accessible with permission of the owner and should be relatively close to where you are staying. This could be your yard, a nearby park, etc. The environment could be anything from forested to agricultural to parkland to urban. For the first steps in this project, you will use your computer to collect data about your study site, but you will need to be able to visit it in person in the future.

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| **Question:**   1. In what general area will you be locating your study site? Why are you choosing this area? What, specifically, do you think it might uniquely contribute to this project? |

We will use [Google Earth](https://www.google.com/earth/), a freely available online mapping system, to identify, measure, classify, and organize your study site(s). You will need to download it if you do not already have it.

On the Google Earth homepage, choose “Launch Earth”, which might take some time depending on your internet speed. **If you aren’t able to run Google Earth, work with a partner who can, or find an alternative method to access it.**

#### Part 2: Create a map project

First, create a new project. On the left panel in Google Earth, click the  icon. Choose “Projects” and then select “Create project in Google Drive” in the “New Projects” dropdown menu. Name the project with your Lastname\_Firstname-ConsBio-Rollins (only one student needs to do this if working as a team).

*Note: This requires that you are logged into a Google account. You can make a Google account for free, if you don’t have one. If you don’t have a Google account and don’t want to make one, you can use Google Earth without saving your project. That means you won’t be able to go back to your project later, though, so make sure you write down all your information while you’re working!*

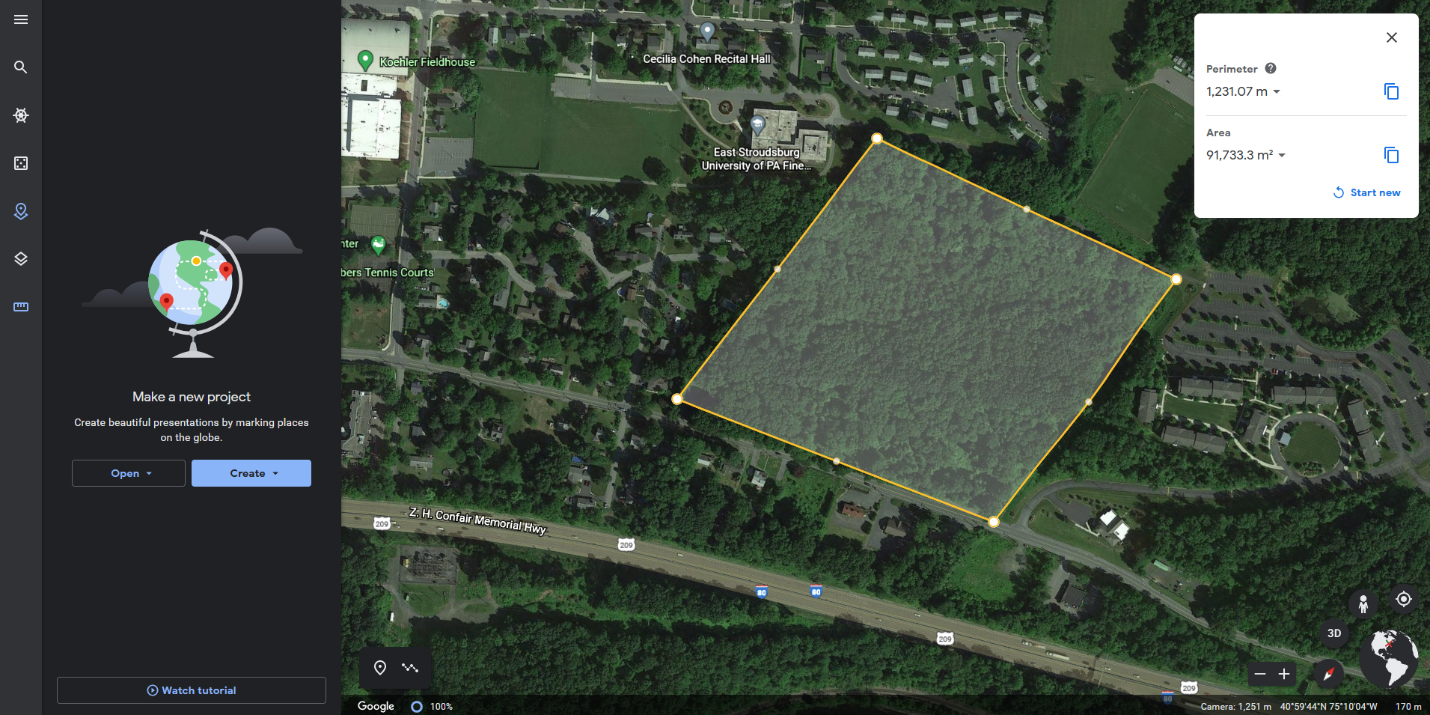
#### Part 3: Outline a study site

Next, identify and delineate your study site. Click the  icon and use the search box to search for your region – you can use the place name (town, etc.) or your zip code. Then use the map to navigate to your study area.

Within your study area, choose an area that you can use to address our research questions. For example, you might be interested in your block in your neighborhood, an area bounded by sidewalks in a park or campus, or a particular section of forest. Remember, make sure it is a site that you will be able to visit in person in the future!

#### Part 4: Measure the area of your study site

To check the area of your potential study site, select the  ruler icon on the left panel. Choose units of “Meters” from the dropdown menu, and then delineate a closed polygon around your study site. A measured area will appear on your screen once the polygon is closed. Your area should be between 1000 m2 (0.1 hectare, ha) and 5000 m2 (0.5 ha) in area. If the polygon you drew fits within that size range, copy the area value into the question box below. If it is too big or too small, adjust accordingly until you have a study area of the appropriate size.



The area of your shape is here – record that number

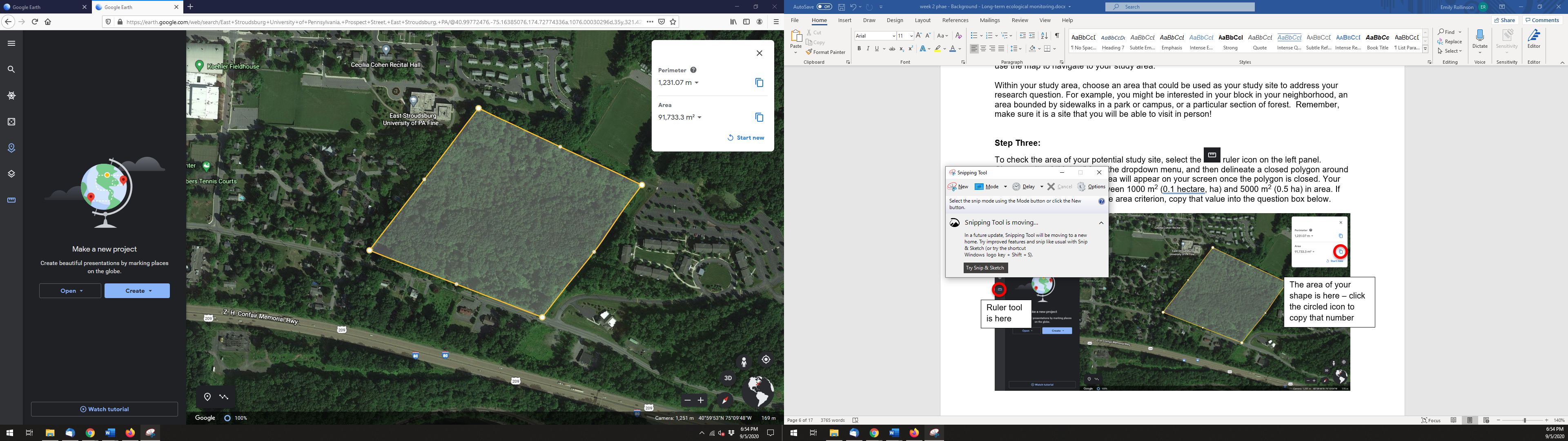
Ruler tool is here

#### Part 5: Find the latitude and longitude of your study site

If this polygon meets the area criterion, then choose the “Draw line or shape” tool  in the lower left corner to create your study site. If your site has a wide boundary (e.g., sidewalk or road), consider whether the polygon should follow the inside, outside, or middle of the boundary.

Edit the features of your study site by drifting over the frame’s name and then clicking “Edit features”. You can change the site’s name, as well as boundary and fill colors, in this dialog box. You can also note the latitude and longitude for the polygon center.

*Note:* *If you are not signed into a Google account, you will not be able to edit the features of your study site. You can still get the latitude and longitude by hovering your cursor over the center of the polygon. You will see the latitude and longitude printed in the bottom right corner of the screen. Write those down.*



The latitude and longitude are listed here in DMS format

Hover the mouse over the center of the area

If you have latitude and longitude in DMS format from the values displayed in the bottom right corner, you will need to convert them to decimal format for later steps in the project. You can enter DMS coordinates into this website to get decimal values of latitude and longitude: <https://www.fcc.gov/media/radio/dms-decimal>. Note that for our hemisphere (W), you will need to add a negative sign in front of the decimal value for longitude.

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| **Questions:**   1. What is the name of your study site? 2. What is the area (e.g., 2,383.96 m2) of this study site? Include the units. 3. What is the latitude and longitude for the approximate center to your study site? Don’t forget to convert to decimal format.                    Latitude:                   Longitude:   1. Paste in a screenshot of your study site. |

Save your Google Earth project, or keep the window open – you will need it again later.