

Importing Data into Google Earth Pro: A Guide



What is Google Earth Pro?

This is a free program which we know can allow us to view maps and satellite images of anywhere in the world by zooming in and out, as well as giving access to Street View images for many countries.

Google Earth Pro is a simple version of a type of program known as a **Geographic Information System**, or **GIS**. These are digital maps which allow the use of layers of information, which can be turned on and off (like borders or street names). We are going to be adding in our own data layers which we can then analyse.

These notes assume you understand the basics of operating Google Earth Pro; zooming in and moving around the map, as well as turning 'Layers' on and off (bottom section of the sidebar on the left).

This guide provides step-by-step instructions for bringing your fieldwork data into Google Earth Pro so you can manipulate and analyse it. The sections are:

- A. Downloading
- B. Setting-up
- C. Setting a Placemark and attaching an image
- D. Drawing a polygon
- E. Creating a data spreadsheet and importing data

A: Downloading

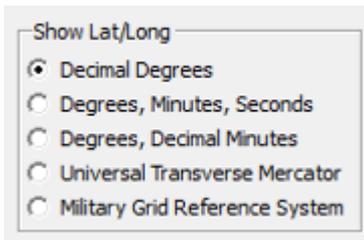
If you do not have Google Earth Pro installed on your computer, you will need to download it using the link below. Google Earth Pro is now free for use. Note the message on the right side of the window "Google Earth Pro requires a license key. If you do not have a key, use your email address and the key GEPFREE to sign in."

The download link: <http://www.google.com/earth/download/gep/agree.html>

B: Setting-up

We have collected all of our data in decimal latitude and longitude format because it is simple to use. We have to make sure Google Earth Pro is using the same system.

To check this go to 'Tools' > 'Options' > '3D View' tab > 'Show Lat/Long' and make sure it is set like this:



Click 'Apply' and 'Okay' and you are done.

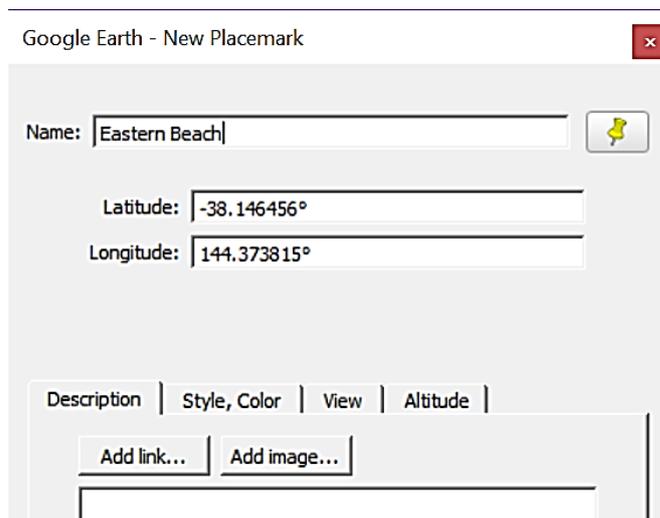
Some other things to check or set:

- The Status Bar (showing the cursor position's latitude and longitude) should be visible, via 'View' with 'Status Bar' ticked.
- The Scale Legend should be visible, via 'View' with 'Scale Legend' ticked.
- To view the map grid of parallels of latitude and meridians of longitude, use Ctrl-L (PC) or Command-L (Mac) keys, or 'View' > 'Grid'.
- To make more screen space, turn off the Tour Guide, via 'View' with 'Tour Guide' un-ticked.
- The sidebar can also be shown or hidden to save screen space. There are several ways to do this:
 - Click the sidebar menu button: 
 - 'View' > 'Sidebar' un-ticked
 - Ctr-Alt-B (PC), Command-Option-B (Mac)

C: Setting a Placemark and attaching an image

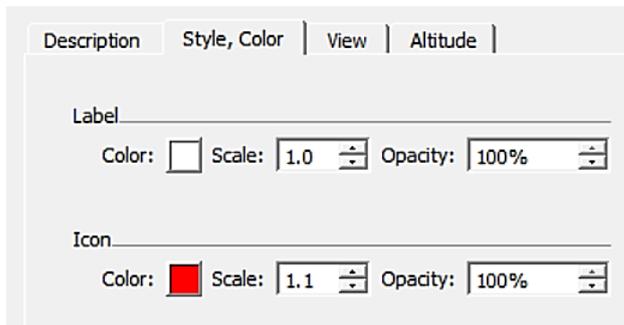
A placemark is a 'pin' in the map at a specific location. Placemarks can have text and images associated with them. To view the details of any placemark, right-click and from the pop-up menu, select 'Properties'. To set a placemark for specific co-ordinates, here are the steps:

1. Click the 'Add Placemark' button: 
2. In the 'New Placemark' window that appears, enter a location name in the 'Name:' field (this will be the pin's label on the map), and the decimal latitude and longitude from your observations. The placemark can be manually shifted by clicking and dragging on the map, if necessary.



3. To add any text or information to the placemark, enter it in the large field in the 'Description' tab.

- To change the placemark's look, click the  button and make your selection of symbol and colour. The colour of the placemark and label can also be changed under the 'Style, color' tab:



- Adding an image requires that image to be stored on an internet site such as Google Drive or Dropbox, etc. You will need to get/copy the link address from that site.
- To attach an image to the placemark, click the 'Add image...' button: . In the small panel that appears, enter the image URL (web address) and then click the 'OK' button:



- To accept all the changes, click 'OK' and your placemark will now be on the map itself and you are returned to the interactive map view. Clicking the placemark will bring up the attached image.

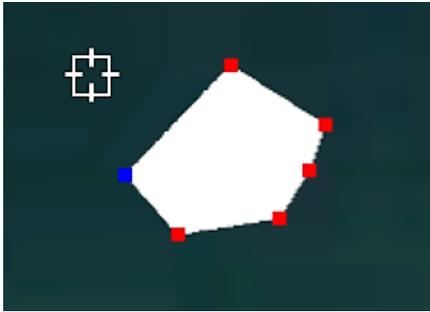
D: Drawing a polygon

A polygon is a straight-sided shape with as many sides as you like. Polygons are used to mark out areas on the map. You will use the polygon to approximate the area visible in an image, based on the location from which it was taken (that is, a placemark). The following is an example of an image taken in 1935 at Barwon Heads, with the Google Earth Pro representation of the area viewed in the original image.

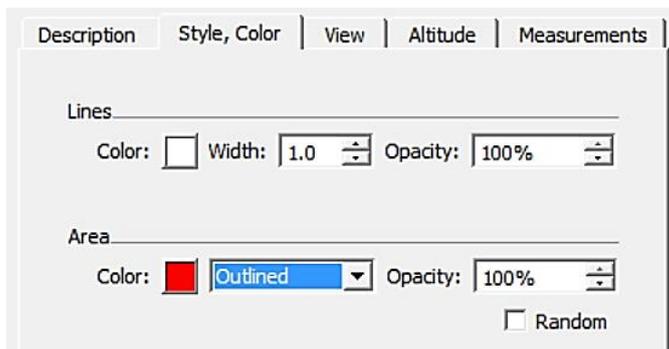


- Click the 'Add Polygon' button: 

2. In the 'New Polygon' window that appears, enter an appropriate name in the 'Name:' field.
3. On the map (you may need to move the window out of the way, draw the desired shape (in your case a triangle) by clicking each corner point. You will notice that the shape is filled and that the starting point always remains connected to your last corner point. Below is an example:



4. Back in the 'New Polygon' window, select the 'Style, Color' tab and change the polygon to 'Outlined' in the 'Area' section and change the colour to make it stand out against the background, and change the line 'Width' as required.



5. Click 'OK' to finish manipulating the polygon and return to the map view. To further change the polygon, right click the like and select 'Properties' from the drop-down menu.

E: Creating a data spreadsheet and importing data

A spreadsheet provides an efficient means to organise data so that it can be imported in to Google Earth Pro. On your fieldwork, you collected observational data linked to specific location using your mobile devices GNSS receiver. You can use either Google Docs Sheets or Microsoft Excel for organising your data for Google Earth Pro. Once your data file is created, it can be imported into Google Earth Pro, which will map all your data as a new interactive layer. Here are the steps:

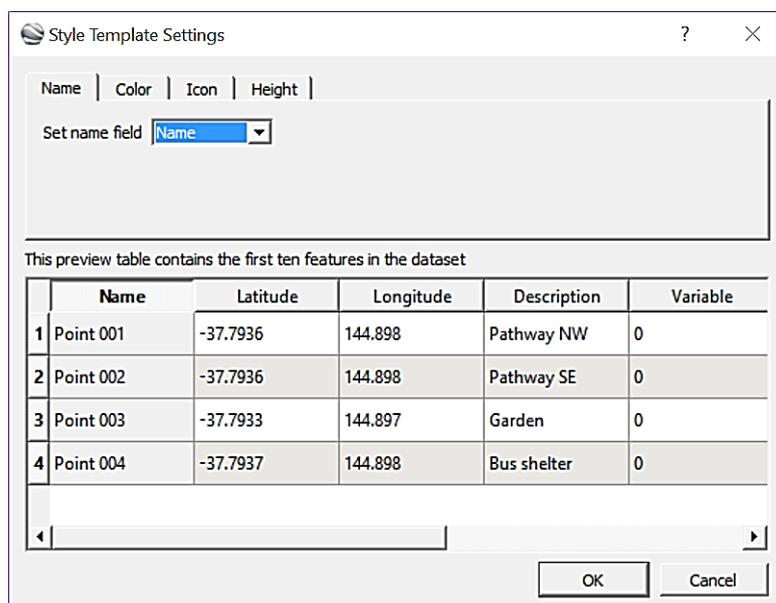
1. Open your spreadsheet application.
2. You will use seven columns for your data. Any 'rules' for your collected data should be discussed with your teacher (e.g., how will things you observe be categorised?). The first row (1) will contain the headings for each column. Columns should be named as follows from left (A) to right (G):

Column heading	Description
Name	An identification name of the point
Latitude	Decimal latitude as a <i>negative</i> number (i.e., for the Southern Hemisphere)
Longitude	Decimal longitude
Description	Description of feature or relevant observations
Variable	Numerical value if relevant (e.g., a count or measurement of something)
Category	Description of the point's category (determine categories with your teacher)
Colour	Unique number representing each category

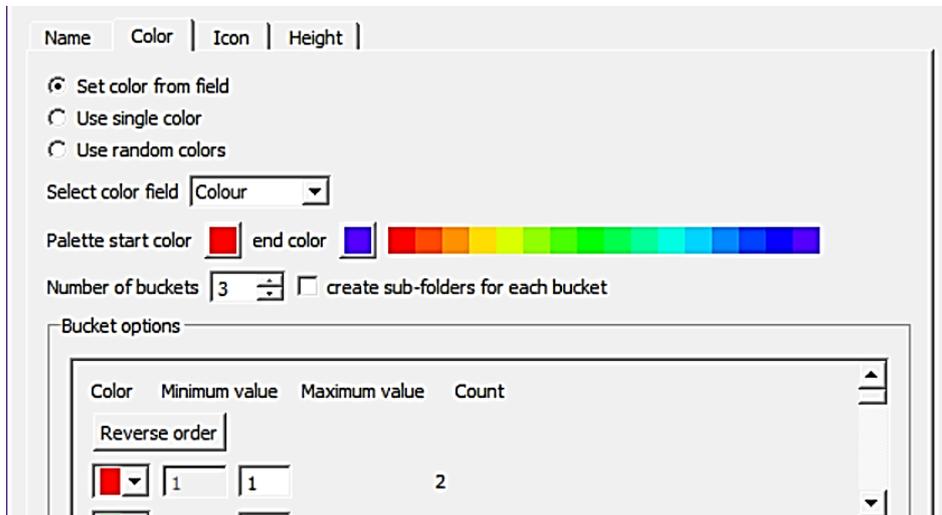
- Enter the location data fieldwork observations, each in a separate row. It will look something like this (example only):

	A	B	C	D	E	F	G
1	Name	Latitude	Longitude	Description	Variable	Category	Colour
2	Point 001	-37.7936	144.897934	Pathway NW	0	Construction	1
3	Point 002	-37.7936	144.898022	Pathway SE	0	Construction	1
4	Point 003	-37.7933	144.897084	Garden	0	Landform	2
5	Point 004	-37.7937	144.898258	Bus shelter	0	Feature	3

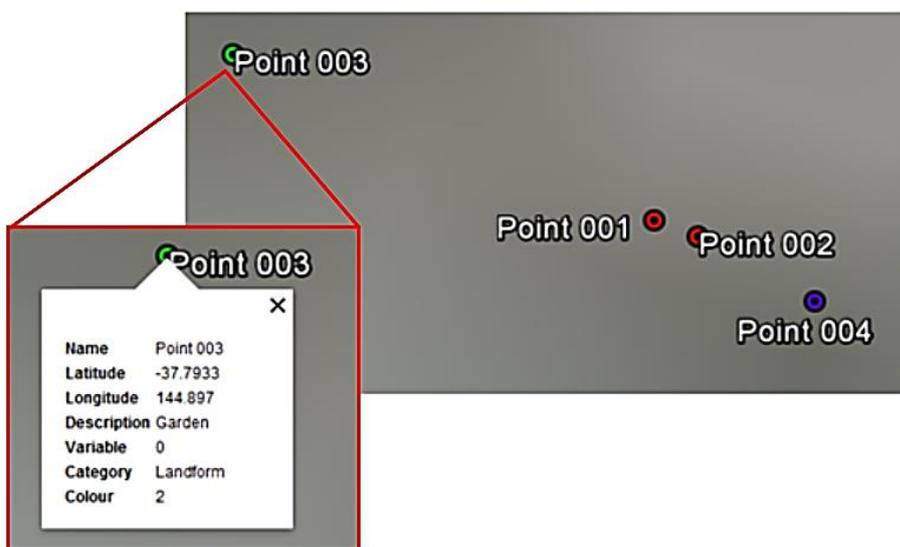
- Google Earth Pro accepts many formats for data, but the most relevant here is 'CSV', which stands for comma separated variables. In your spreadsheet application, 'Save As...', select CSV as the file type, choose your desired file storage location, name the file appropriately, then click 'Save'.
- Now, swap to Google Earth Pro and select 'File' > 'Import...'. In the window which opens, ensure the file type menu has 'Generic Text (*.txt *.csv)' selected.
- Browse to and select the CSV data file you just saved from your spreadsheet and then 'Open'.
- You will be asked if you wish to apply a 'Style Template' to your data. Click 'Yes'.
- A 'Style Template Settings' window will open which allows you to control how your data will be displayed on the map. Firstly, at the 'Name' tab, 'Set name field' to 'Name'; this is the first column of your spreadsheet as you will see from the spreadsheet preview in the window.



- Next, move to the 'Color' tab. Set the options button to 'Set color from field', and a range of new options will appear. Set the 'Select color field' to 'Colour' from the menu; this is the last column in your spreadsheet. Using the buttons, set the 'Palette start color' to red and the 'end color' to blue, which will give you a good range of contrasting colours. You will see in the preview window that each of your colour categories now has a separate colour. Click 'OK'. You will be asked to save a template (*.kst) file; click 'Save'.



- You will now see your named data points mapped in the Google Earth Pro, each with a colour according to your categories. Clicking on a data point will bring up the information for that point.



Point data when clicked