



Google Earth Help

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Drawing and measuring

1. Drawing

1.

You can draw free-form paths and polygons in the 3D viewer and save them in your 'My Places' folder just as you would a placemark. Paths and polygons share all the features of placemark data, including name, description, style view, and location. Once you create a path, you can select and [play a tour of it](#). For more information on modifying paths and polygons once you create them, see [Editing Places and Folders](#).

Follow the steps below to draw a path or polygon in the 3D viewer.

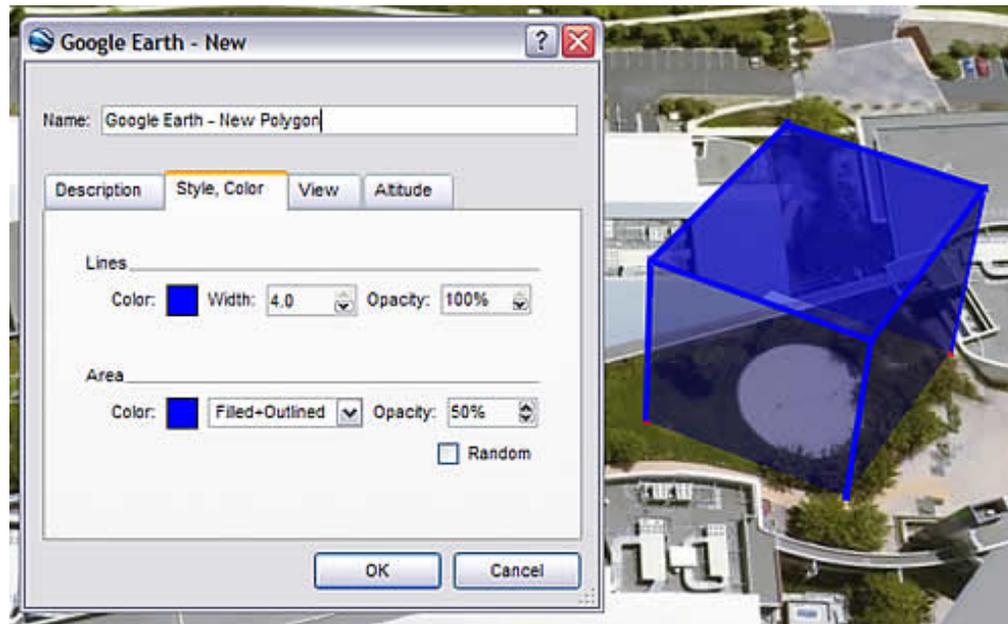
1. Position the 3D viewer to best contain the region you want to mark. The more detailed your view, the more closely your drawing can follow the land feature. From the Add menu, select **Path (CTRL + Shift + T)** or **Polygon (CTRL + Shift + G)**. The New Path or New Polygon dialog box appears and the cursor changes to a square drawing tool. Enter the properties for your drawing just as you would for any other type of places data. See [Editing Places and Folders](#) for details.

Hint: Change the style color (Style, Color tab) for the line or polygon from the default white to better visualize the shape you are about to try. Click in the viewer to start your drawing and use the following methods to achieve your desired shape:

- **Free-Form shape** - Click once and drag. The cursor changes to an up-arrow to indicate that you are using free-form mode. As you drag the cursor around the 3D viewer, the outline of the shape follows the path of your cursor. If you are drawing a path, a line appears as a result, and if you are drawing a polygon, a shape evolves from the path of your cursor, always connecting the beginning and ending points.
- **Regular shape** - Click and release. Move the mouse to a new point and click to add additional points. In this mode, the cursor remains a square drawing tool, and the path or polygon that you draw is exactly the same as the path and polygon creation described in [Measuring Distances and Areas](#).

You can use a combination of these drawing modes to combine curved edges with straight edges. To transition from a free-form mode

to a regular mode, just release the mouse button, position the pointer to a new place, and click. A straight edge is drawn between the last point and the most recent one. Reverse the process to enter free-form drawing mode again.



Hint: To navigate in the 3D viewer while creating a new path or polygon, use the keyboard controls or the [navigation panel](#).

2. If you are creating a polygon, you can make the shape a 3D object. To do this:
 - a. Click the 'Altitude' tab.
 - b. Slide the slider from 'Ground' toward 'Space'. This elevates the polygon. Elevate the shape to the appropriate height.
 - c. Check '>Extend sides to ground'. The polygon is now a 3D object. [Learn more about placing other 3D objects](#).
3. Click **OK** to save your new path or polygon.

. Measuring

1.

The following table describes the units of measure available for length, perimeter, area, and radius.

Feature or Function

Description

Length, Perimeter, and Radius	Centimeters
	Meters
	Kilometers
	Inches
	Feet
	Yards
	Miles
	Nautical Miles
	Smoots
	Square Meters
	Square Kilometers
Area	Hectares
	Square Feet
	Square Yards
	Square Miles
	Square Nautical Miles
	Acres

2.

The following table describes the options available to all measuring tools, as well as the features specific to each tool.

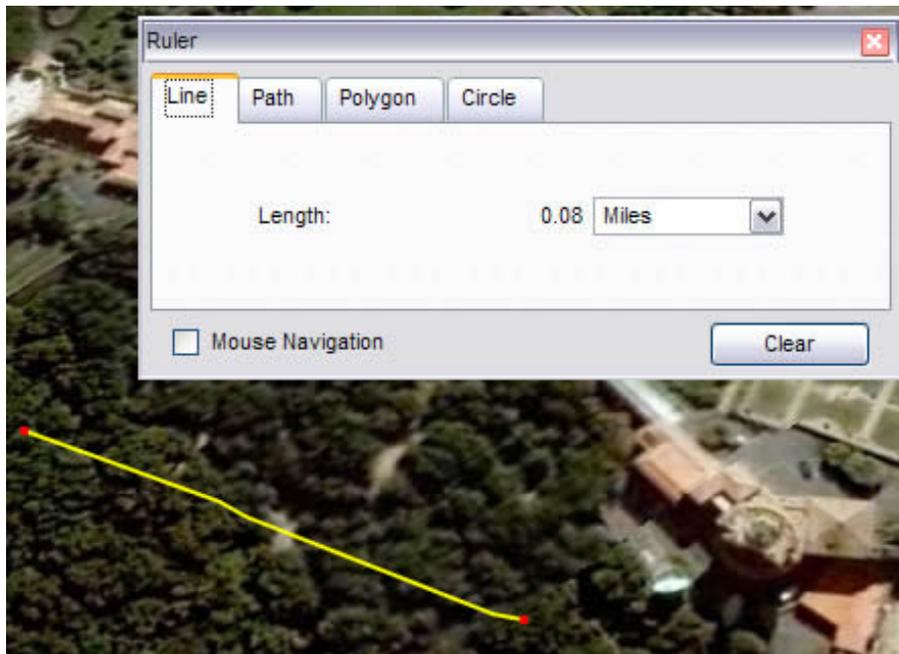
Feature or Function	Description
Modify or reposition a shape	<p>Once you define a line, path, or other shape in the 3D viewer, you can change its dimensions by clicking on a desired point and dragging it to the new position. First make sure you have the type of shape you want to modify selected in the Ruler dialog box.</p> <p>When you place the cursor over an existing point, the cursor changes from a drawing box to a finger-pointing hand to indicate that you can click the highlighted point if you want to reposition it.</p> <p>For circles, you can click the radius point and drag the circle to a new position on the earth.</p>
Remove selected shape	For area shapes, you can add additional points by clicking in the 3D viewer. Points are added in an area shape in a strict sequence from first to last, regardless of where you click in the 3D viewer.
Remove selected point	If you want to remove a shape from the viewer, right-click the shape in the Places panel and click Delete.
Remove all shapes	If you want to remove a point from either a path or an area shape, select a point and press the Backspace key.
Reposition the viewer	You can clear all measuring shapes from the viewer by clicking on the Clear All button in the 'Ruler' dialog box regardless of which tab is active.
Line	By default, navigation with the mouse is disabled when you use measuring mode, but you can enable it by checking 'Mouse Navigation'. When enabled, mouse navigation works in conjunction with measuring: click and hold to add a new point; click and drag to move the earth.
	All Google Earth versions support measuring with a line. A line consists of two points connected by a straight line, and measurement is done along its length.

Path	All Google Earth versions support measuring with a path. A path in the measuring mode consists of two or more points connected with a straight line. Measurement is done along the entire length of the path. To follow a natural boundary or road more closely, try zooming in closely to the feature and adding more points.
Polygon	Google Earth PRO version supports measuring with the polygon tool. A polygon consists of three or more points. Measurement for a polygon tool is done for both perimeter and area.
Circle	Google Earth PRO version supports measuring with the circle tool. Measurement for a circle is done for its radius, area, and circumference (in the appropriate measurement unit).

3.

Google Earth offers a number of tools that you can use to measure distances and estimate sizes. Depending upon which version of Google Earth you are using, you have access to the following measuring tools:

- o Measuring with a line or path (all Google Earth versions)
- o Measuring with a circle radius or polygon (Google Earth PRO)



Use the 'Ruler' window ('Tools' menu) or click  to measure length, area, and circumference as follows:

1. Position the imagery you want to measure within the 3D viewer and make sure you are viewing the earth from top-down (type U) and with terrain turned off for best accuracy. Measuring is calculated using the lat/lon coordinates from point to point and does not consider elevation.

2. From the Tools menu, select Ruler. The Ruler dialog box appears. Consider moving the dialog box to a region of your screen that doesn't obstruct the 3D viewer.
3. Choose the type of shape you want to measure with. All versions of Google Earth can measure with Line or Path. Google Earth PRO users can also measure using a polygon or circle.
4. Choose the unit of measure for length, perimeter, area, radius, or circumference, as applicable. See the table below for a list of supported units of measure.
5. Click in the 3D viewer to set the beginning point for your shape and continue clicking until the line, path, or shape measures the desired region. (For circle, click in the center and drag out to define the circle.)

A red dot indicates the beginning point of your shape, and a yellow line connects to it as you move the mouse. Each additional click adds a new line to the shape, depending upon the tool you chose. The total units for the shape are defined in the Ruler dialog box, and you can choose other units of measure for the existing shape.

For more details on how to modify the shape, reposition the viewer while measuring, and use other shape features, [see the features table](#).

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