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Advanced user guide

Creating a new placemark

In Google Earth, adding placemarks is a simple way to save a location or multiple locations. Placemarks can be used to create tours, snapshot a certain view, and much more.

To learn more about creating a new placemark, watch the video or follow the instructions below.

Watch the video

Follow the instructions

1. Position the 3D viewer to contain the spot you want to placemark. Consider zooming into the best viewing level for the desired location. Choose any one of the following methods:
   - Select **Placemark** from the 'Add' Menu.
   - Click the Placemark icon on the toolbar menu at the the top of the screen

   The 'New Placemark' dialog box appears and a 'New Placemark' icon is centered in the viewer inside a flashing yellow square. Position the placemark. To do this, position the cursor on the placemark until the cursor changes to a pointing finger and drag it to the desired location. The cursor changes to a finger pointing icon to indicate that you can move the placemark.

   

   You can also lock the placemark position or set advanced coordinates for its position. Set the following properties for

the new placemark:

- **Name** for the placemark
- **Description**, including HTML text (see Writing Descriptions)
- **Style, Color** - Choose a color, scale (size) and opacity for the placemark icon
- **View** - Choose a position for the placemark. For explanation of terms in this tab, mouse over each field. Click **Snapshot current view** to apply the current view (altitude and camera angle) to this placemark.
- **Altitude** - Choose the height of the placemark as it appears over terrain with a numeric value or the slider. Choose 'Extend to ground' to show the placemark attached to a line anchored to the ground.
- **(Icon)** - Click the icon for the placemark (top right corner of the dialog box) to choose an alternate icon.

To learn more about editing properties for your placemark, see Repositioning Placemark

2. Click **OK** to apply the information you entered in the placemark dialog box.

Your placemark appears in the 3D viewer and as an entry in the selected folder. Once you save this placemark, you can always change its position and properties. See Editing Places and Folder for more information.

Once your placemarks are organized in a folder, it is easy to make tours and movies. To learn more go to Repositioning Placemark.

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Overlay features

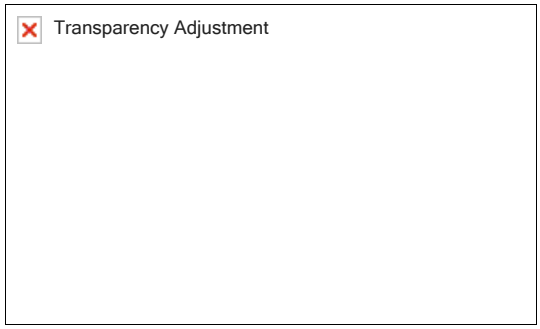
Once you create an overlay, it has many of the same features available to it as a simple placemark. With overlays, you can:

- **Email them to other people** - You can email image overlays just as you would mail other placemark data. However, keep in mind that overlay files can only be opened by other users of Google Earth. If you want to send the overlay image as it appears on the earth to someone who doesn't have Google Earth, email the view instead. For details on emailing overlays, see Emailing Places Data.

  When you email an overlay that references a local image, that image is automatically included with the overlay. You do not need to include the local image in your email attachment. This is an upgrade from Google Earth (Keyhole) version 2.2 and earlier.
- **Save them to your computer.** See Saving Places Data for details.
- **Edit their properties and settings** - See Editing Places and Folders for relevant information.

In addition to common placemark features, image overlays also have the following features:

Transparency Adjustment - You can adjust the transparency of an overlay from completely transparent to fully opaque whenever it is selected in the viewer. By adjusting the transparency of the overlay image, you can see how the overlay image corresponds to the 3D viewer imagery beneath.



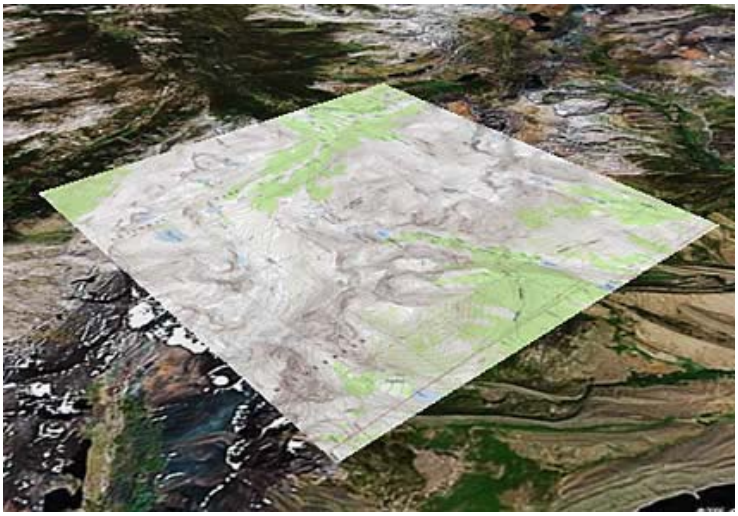
1. Overview slider for selected overlay

Note - You can also adjust the transparency of a selected overlay if your mouse has a scroll wheel. Click the slider (see above). Scroll down to make the overlay more opaque. Scroll up to make the overlay more transparent, .

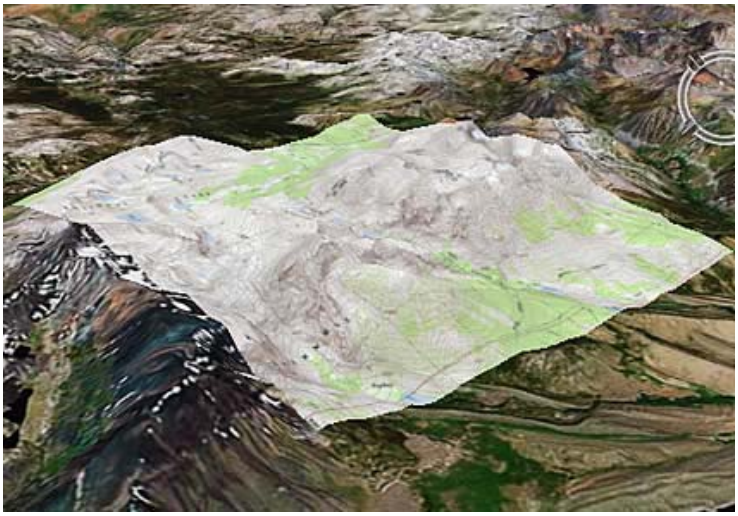
Terrain Integration

When you create an overlay, it completely integrates with the terrain or shape of the land beneath if the terrain layer

is turned on. For example, you might create an overlay of Yosemite National Park and be able to view the trails in relationship to the 3D view of the mountains. In this way, the combination of an overlay map and the 3D viewer imagery gives more information than either one by itself.



Overlay map with terrain off



Overlay map with terrain on

- **Updates based on time or view coordinates** - If you are viewing time-sensitive imagery that changes periodically, you can set the imagery to a refresh rate to make sure you are viewing the latest image. This is useful for viewing imagery maps from the web where the image is automatically updated.

  In addition, you can set the imagery to update depending upon your view. For example, you might be viewing imagery from a server that only delivers imagery that can be seen in your current 3D view. In this case, the imagery update changes whenever you navigate the 3D viewer to a new position.
- **Draw Order** - You can determine the hierarchy Google Earth uses when you use overlapping image overlays. Google Earth displays images with a higher draw order number in front of images with a lower draw number.

Creating an Image Overlay

This section covers three parts to creating an image overlay:

- Creating an overlay
- Positioning the imagery in the viewer
- Position settings

Creating an Overlay

1. Position the 3D viewer in the location where you want to place the overlay image file.

   Try to position the viewer so that it corresponds in viewing altitude to the overlay. If the overlay is of a detailed view, zoom into the subject area so that you don't have to make large adjustments later. By contrast, if the overlay covers a large area, make sure the entire area is encompassed in the 3D viewer with some margins for adjusting the imagery.
2. Click **Add** > **Image Overlay** or click  . The 'New Image Overlay' dialog box appears.
3. Provide a descriptive name in the Name field.
4. In the Link field, enter the location of the image file you want to use as an overlay or use the **Browse** button to locate it on your computer or network.
   If the image you are referencing is located on the Internet, you will need to enter the URL for that image file. This is different from the URL for the web page itself! If you are using Internet Explorer, you can retrieve the URL for an image by right-clicking on the image on its web page and selecting **Copy Shortcut** from the pop-up menu. At that point, you can insert your cursor in the 'Image URL' or 'Filename' field and paste the information using CTRL+V (⌘ on the Mac).

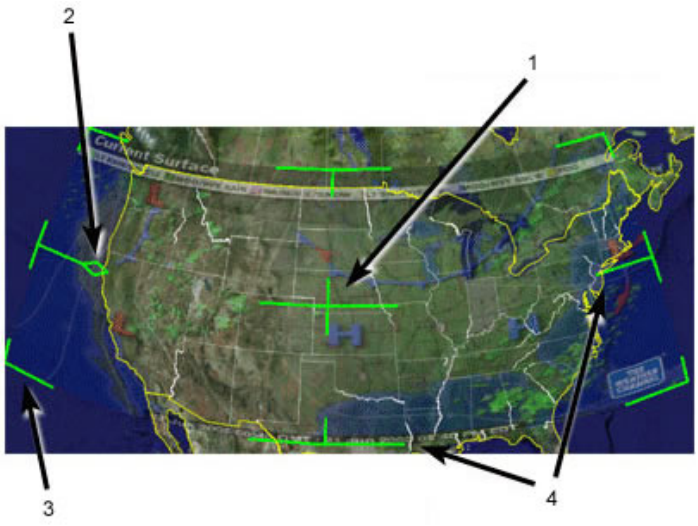
   

   The image appears in the 3D viewer, with anchor points that you use to position it.
5. Specify the descriptive information for the overlay. Descriptions for overlays are identical to descriptions for all places data. See Writing Descriptions for details.
6. Click the Refresh tab and set the correct refresh properties for your overlay imagery. The refresh settings for overlays are identical to those described for network links. Typically, any imagery that is updated automatically and located on a server will need refresh properties set. For example, weather satellite image maps will likely need to be refreshed. For details on the differences between time-based and view-based refresh, see the description for network links.
7. Set the default transparency for the imagery using the slider. The transparency setting for image overlays can be adjusted at any time when you are viewing an overlay. To make it easy to position the overlay, first adjust the transparency to achieve a good balance between seeing the imagery and the earth beneath it.
8. When you select the View tab, you can modify the view settings for the overlay just as you would any place data. See Setting the View for details.
9. Position the image in the viewer to your preferences and click OK to complete the creation. If you later want to correct the overlay or reposition it, simply edit the overlay as you would any other places data. See the topics in Editing Places and Folders for more information.

Positioning the Imagery in the Viewer

Once you have inserted the overlay image into the viewer, you can use the green markers to stretch and move the image in a number of ways to get the most exact positioning required. An overlay image will have corner and edge marks that you can use to stretch the image, a central cross hair marker to position the image, and a triangle marker that you can use to rotate the image.

When you select one of these markers, the cursor changes from an open hand to either a finger-pointing hand or an arrow to indicate that an anchor point is selected. The following illustration describes the anchor points in detail.



1. Use the center cross-hair marker to slide the entire overlay on the globe and position it from the center. (Tip: do this first.)
2. Use the triangle marker to rotate the image for better placement.
3. Use any of the corner cross-hair markers to stretch or skew the selected corner. If you press the Shift key when selecting this marker, the image is scaled from the center.
4. Use any of the four side anchors to stretch the image in or out of from the selected side. If you press the Shift key when doing this, the image is scaled from the center.

> **Tip** - Try positioning the center of the image as a reference point first, and then use the **Shift** key in combination with one of the anchors to scale the image for best positioning.

Position settings

When you select the 'Location' tab, you can use the following settings:

- **Manual coordinates for each corner of the image overlay.** This is similar in principle to the manual setting discussed in Repositioning Placemarks, except that instead of setting coordinates for a single point, you set coordinates for each corner of the image overlay. You might want to use this feature if your image overlay comes from a precise map where the exact coordinates are known.
- **Draw Order** - If you have more than one overlay for a given region, you can set the draw order for overlays to determine which image is displayed relative to other images. Overlays with higher numbers are drawn before those with lower numbers.
- **Fit to Screen** - Click this to resize the image to fit the current view.

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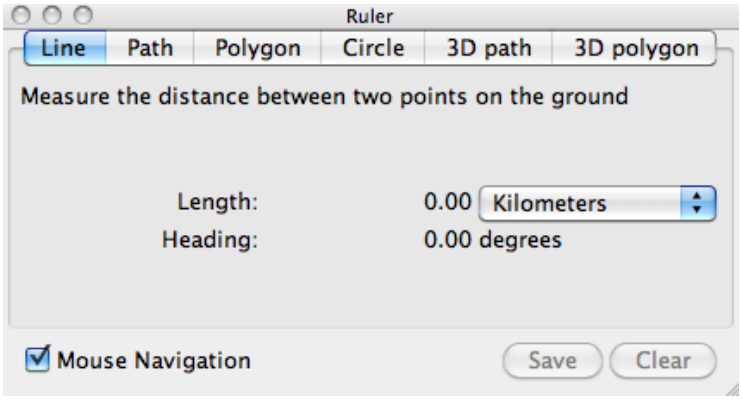
Measuring distances and areas

Certain features outlined in this article are available to Google Earth Pro and Google Earth EC customers only.

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're using, you might have access to the following measuring tools:

1. Measuring length on the ground with a line or path (all versions of Google Earth)
2. Measuring circumference and area with a polygon or circle (Google Earth Pro & EC only)
3. Measuring 3D buildings with a path or polygon (Google Earth Pro & EC only)



Using the Measuring Tool

To measure length, area, and circumference, you have two options:

- Click the **Ruler** icon in the toolbar (**Tools** > **Ruler**), check the **Mouse Navigation** box if it's not already checked, and click in the 3D viewer to start measuring. You can select different tabs within the measuring tool to change the shape (Path, Polygon, Circle) that you're measuring with. The measurements will appear in the dialog box as you draw. Click **Save** to save your measurement as a KML file.
- Click the **Polygon** or **Path** icon in the toolbar (**Add** > **Path/Polygon)**, select the **Measurement** tab within the dialog box, and click in the 3D viewer to start drawing. To see measurements for existing shapes, right-click the shape in the **Places** panel and click **Properties** (PC) or **Get info** (Mac) to open the dialog box and select the **Measurement** tab. The measurements appear in the dialog box.

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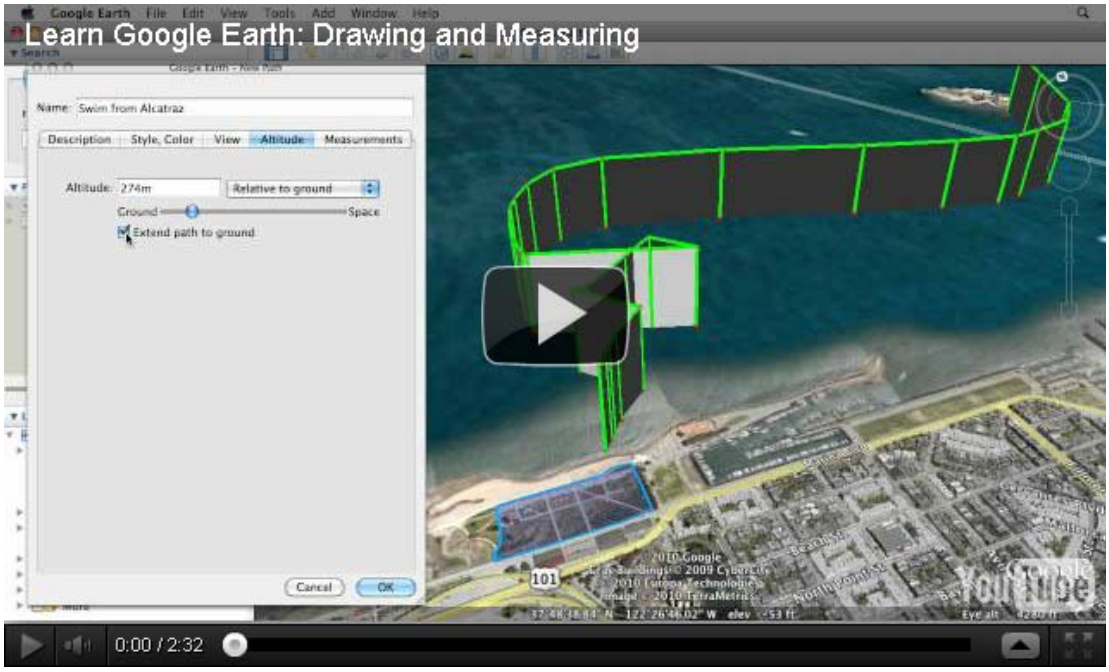
Drawing paths and polygons

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 or watch the video(*English only*) below to learn more about how to draw a path or polygon in the 3D viewer.

Watch the video



Read the steps

1. **Name and Style your Path or Polygon** - 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 Tool Bar at the top, click **Add Path** (**CTRL + Shift + T**) or **Add 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're about to try.
2. **Draw your Path or Polygon** - Click in the 3D viewer to start your drawing, and use the following methods to create your desired shape:
    - **Free-Form shape** - Click once and drag. The cursor changes to an up-arrow to indicate that you're 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're drawing a path, a line appears as a result. If you're 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 save the paths and polygons you draw with the **Measurement tool**. Just select the **Measurement** tab within the Path or Polygon dialog box, and click in the 3D viewer to start drawing. The measurements appear in the dialog box as you draw. Note: You can also view measurements for shapes you draw using the **Drawing** tool.

To learn more about measuring, check out 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.

3. If you're creating a polygon or path, you can make the shape a 3D object. To do this:
   a. Click the **Altitude** tab.
   b. Choose the appropriate option in the drop down menu
      - Relative to ground
      - Relative to sea floor
      - Absolute
   c. Use the distance slider to adjust the altitude of the polygon or path.
   d. Check **Extend sides to ground**. The polygon is now a 3D object. Click **OK** to save your new path or polygon.

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Using tours

Note: This updated touring feature is available only in Google Earth 5 and later

You can create and play tours of places and content. Tours are a guided experience where you fly from one location to another, view terrain and content and look around as you wish. You can create tours that record your exact navigation in the 3D window and even add audio. You can then share these tours with other Google Earth users

To learn more about tours and how to record tours, watch the video *(English only)* or read the sections below.

Watch Video

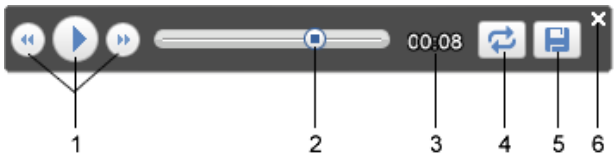
Read Instructions

Playing Tours

To play a tour, double click the tour in the Places panel. To create and play a new tour of items in My Places, select the appropriate folder in the Places panel and click the Play Tour button  . To create and play a new tour of a line (path), select the appropriate line in the Places panel and click the Play Tour button  .

The tour begins playing in the 3D viewer and the tour controls appear in the bottom left corner of the 3D viewer. To pause or resume the tour, click the Pause/Play button. To fast forward or go back on the tour, click the arrow buttons (press these repeatedly to accelerate back or forward). To replay the again and again tour, click the Repeat button. Use the tour slider to move to any part of the tour.

These controls disappear if the tour is inactive for a period of time, but you can make them reappear by moving the cursor over the bottom left corner of the 3D window.

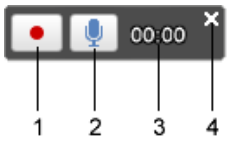


1. Go back, play/pause and fast forward buttons
2. Tour slider
3. Current time in tour
4. Repeat button
5. Save tour button
6. Close tour button

As a tour plays, you can look around by dragging the view. Note that this is diferent than navigating, as you can only look around from the view points of the tour. When you pause a tour, you can navigate anywhere. When you click the play button again, the tour resumes where it left off. Once you create a new tour, be sure to click the Save tour button.

Recording Tours

To record a tour, click the Record a Tour button in the toolbar or click View > Tour. The record tour controls appear in the bottom left corner of the 3D window. To begin and end recording, click the Record/Stop button. To add audio to your tour, click the Audio button. When you are finished recording your tour, it appears in the Places panel. You can then play it or share it with others.



1. Record/Stop button
2. Audio button
3. Current time in tour
4. Cancel tour recording button

When you finish recording, click the Record/Stop button. The tour then plays. To save the tour, click the Save button in the playback controls that re-appear. Your tour appears in the Places panel.

Tours are KML-based. If you are familiar with KML, you can manually edit the code of your tour. Learn more about KML (English only).

Tip - You can record while another tour is playing to create a new tour. This allows you to create interesting perspectives and effects in the new tour, such as using the mouse to change the viewing angle.

Setting Tour Options

You can control touring behavior, as described below. To access these settings, click **Tools > Options**. (on the Mac, click **Google Earth > Preferences**).

When you are creating a tour from a folder in the places panel, use these settings:

- **Time between features** - Use this setting to control how fast the viewer flies to each stop a the tour you create from a folder. Keep in mind that setting the tour to a high speed requires that your cache contain all imagery, or else the earth, road, and placemark imagery will not be streamed quickly enough to keep up with the tour.
- **Wait at features** - Use this to set the desired pause time for each stop in the tour.
    - **Fly along lines** - Check this to make your tour follow a path (if available).
    - **Show balloons when waiting at features** - Check this to display balloons at each placemark when the tour pauses.

When you are creating a tour that follows a line (path), use these settings:

- **Camera tilt angle** - Use this to set the angle of the view displayed when following a line
- **Camera range** - Use this to determine how much of the earth (example 10,000 meters) is displayed in the tour
- **Speed** - Use this to set the speed of the tour

When you are recording a tour, use the slider to choose a balance between the file size and the quality (fidelity) of your tour.