

## Instruction Manual for Method 1 — Downloading Maps

# How to Download and Add MOAA Region Maps to Google Maps

### Introduction

The purpose of this manual is to guide you through the process of downloading the file containing the map data for a given region from a server (Step 1), and then loading the map file into Google Maps for display, printing, etc. (Step 2)

The maps files are known as KMZ files. The 'Z' part is an indication that they are compressed files, and they are actually compressed KML files. KML stands for Keyhole Markup Language. This is a subset of XML (used for more recent versions of MS-Office files) designed for displaying simple maps. The files have the extension '.kmz'

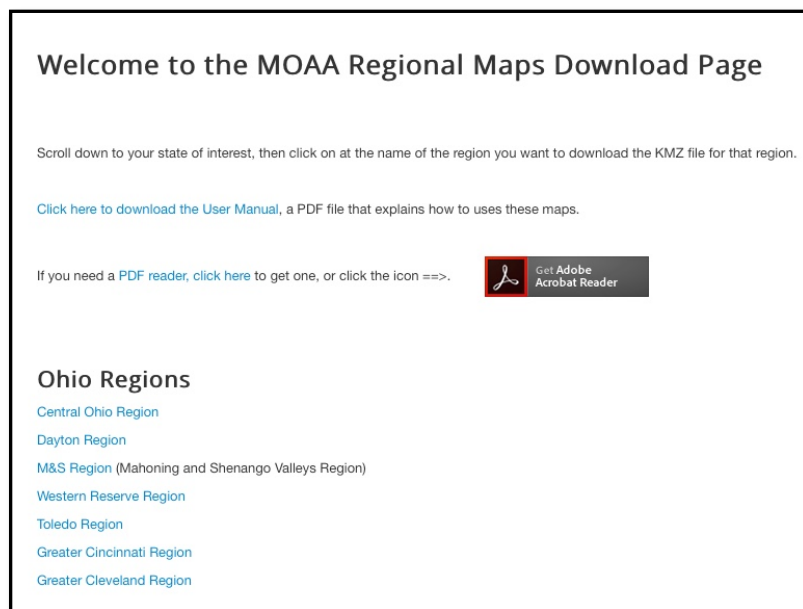
Google maps will automatically decompress the KMZ file in operation. It also needs to load it into your on-line Google Drive area, so you will need a Google account (e.g., Google Mail) for this to happen. This storage space costs you nothing, but it needs you to be on-line for everything to work.

If you already have the Google Drive application on your computer, you will have a Google Drive folder. You can store the KMZ files there, and they should be copied automatically to your on-line Google Drive.

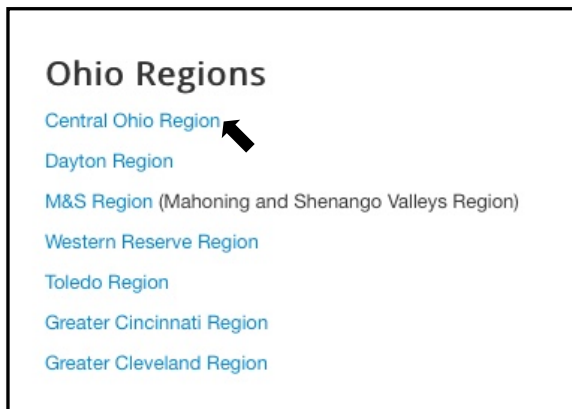
### Step 1: Download a Region Map File

Launch your browser and go to: <http://moaa.wollindina.com>

You will see a web page something like this:



Scroll down to your State (in alphabetical order), and click on the link for the region you want. Here you might go to the Ohio Regions and click to select the [Central Ohio Region](#) from the list.



The KMZ file will be downloaded to your computer, and should be in your Downloads area. Your browser may display a blank page as part of the process, but that can be closed.

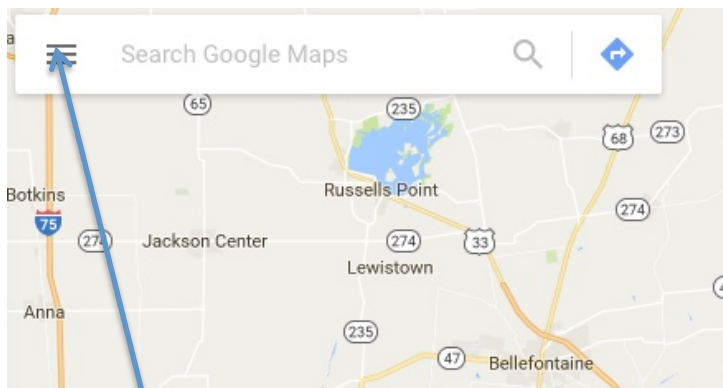
You can move the file from your Downloads folder to your Google Drive Folder, and you should be ready to display the map in Google Maps.

If you don't have a Google Drive folder, you will need to upload the KMZ file as part of Step 2.

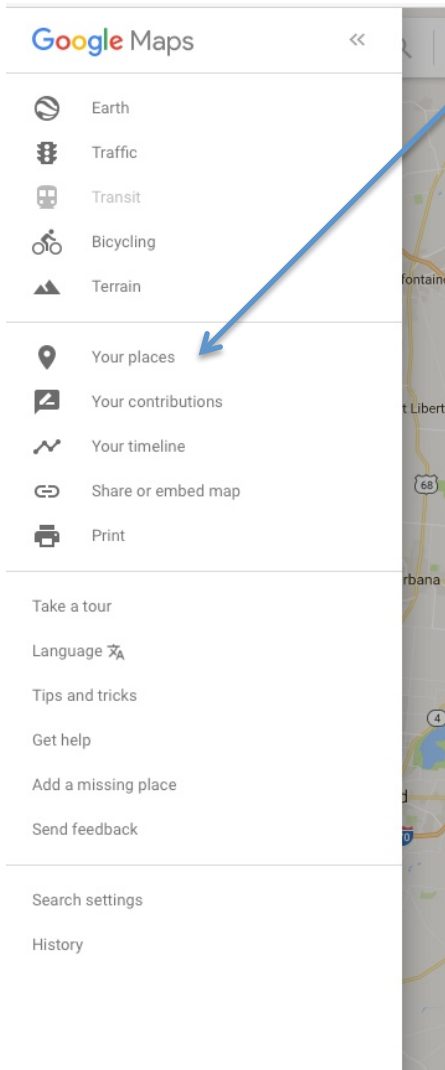
## Step 2: Loading the KMZ File into Google Maps

In your browser, open Google Maps, at <https://maps.google.com>

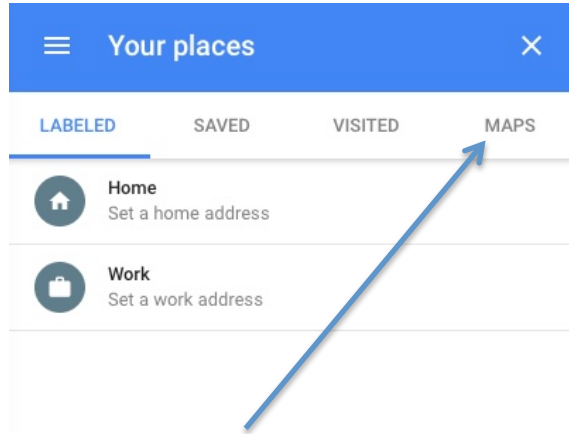
In the top left corner of the map, you will see a search box. At the left-hand end is an icon with three lines. This is the menu button.



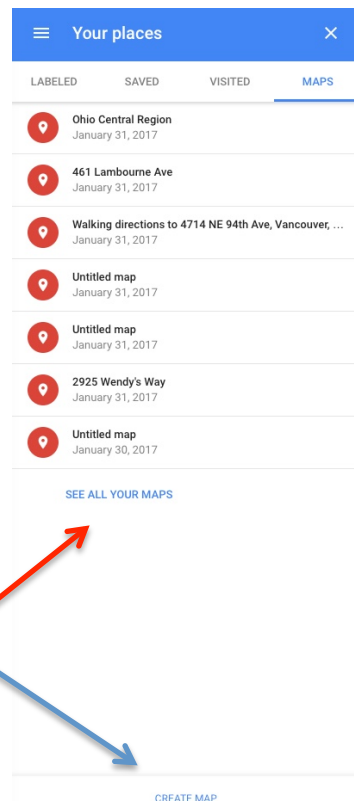
Click the menu button, and a long menu of options will be displayed, something like the image overleaf, on the left.



Click 'Your places' on the menu at the left, and you will get a new menu, something like the one below. 'Your place' may be better populated, depending on what you've done with Google Maps in the past.



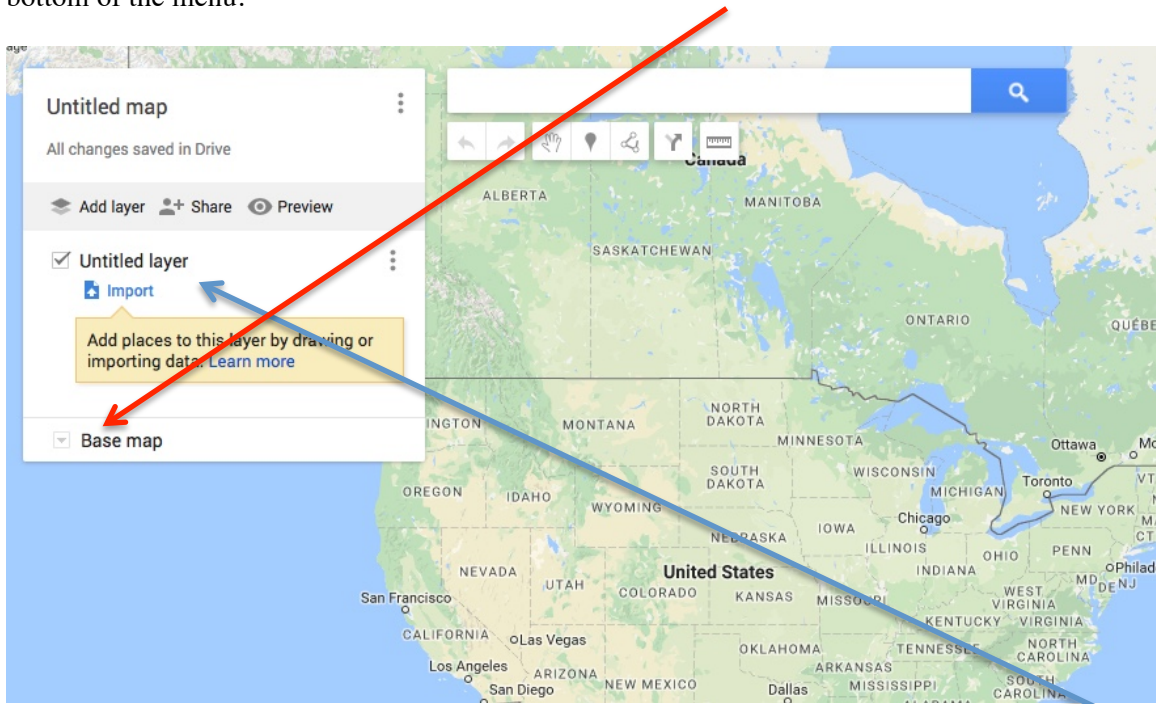
Click on the 'MAPS' tab in the menu, and you should see a collection of maps you may have used in the past. Your list may also be empty. The list will look something like the screen-shot below.



Click on 'CREATE MAP' at the very bottom of the menu. A new browser window or tab will open and look like the screen shot overleaf.

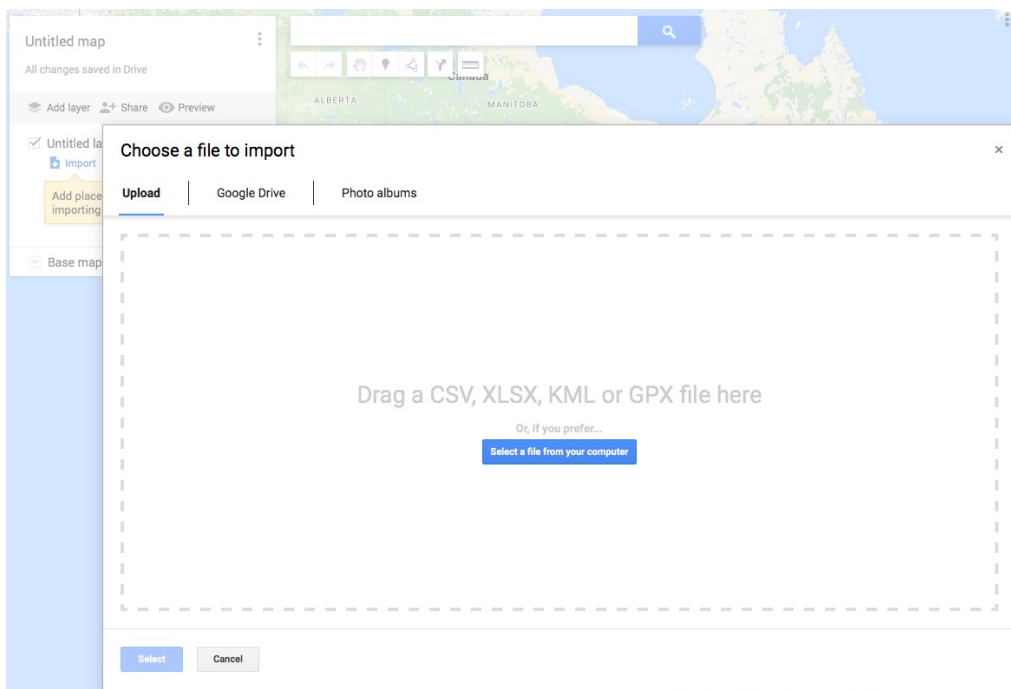
[If you click 'SEE ALL YOUR MAPS,' you will get the new window or tab, with all your maps visible there. There is a big red button there labeled 'CREATE A NEW MAP' that will bring you to the same point as overleaf.]

You are now in 'My Maps.' This is the Base Map that we will be using to show the region. You can change the base map any time by clicking the little down arrow next to 'Base map' at the bottom of the menu.



In the middle of the menu, you can see an 'Untitled layer' is ready for your map. Click on 'Import' to start the process of getting the KMZ file into Google Maps. When you move the mouse pointer over 'Import,' it should give you a little 'tool tip' that says 'Import data from a CSV file, spreadsheet or KML. We will import a compressed KML file, known as a KMZ file.'

When you click on 'Import,' you will see the following dialog box open up in Google Maps.



You now have a choice, depending upon where your KMZ file is located.

### ***Option 1: KMZ File on Your Computer***

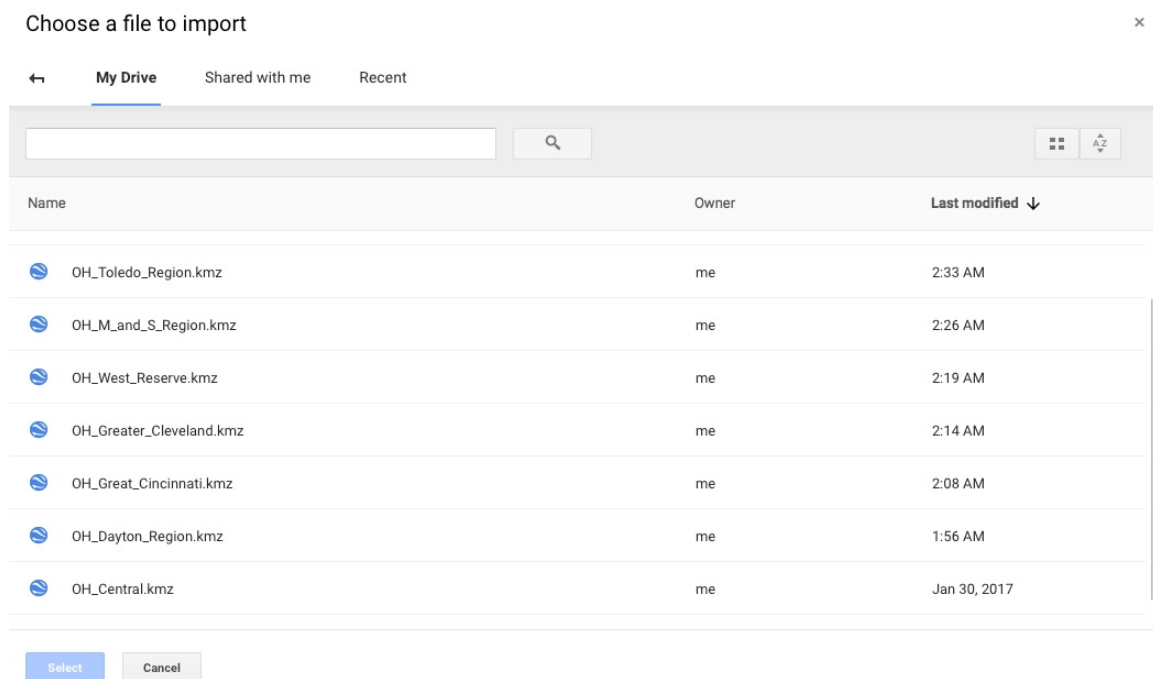
If the KMZ file is located somewhere on your computer, you can drag-and-drop the file into the dashed area of the box. This means you would need to have the folder with the file open somewhere on your desktop and accessible while you have Google Maps visible.

Alternately, you can click the blue ‘Select a file from your computer’ button in the middle of the dialog box. This will bring up your computer’s standard means of locating and opening a file.

When you do this, the box will be replaced with a progress bar labeled ‘Uploading,’ and your file will be uploaded to Google Drive and loaded into the map.

### ***Option 2: KMZ File Already on Google Drive***

If your KMZ file is already on the Google Drive, click the ‘Google Drive’ tab along the top of the dialog box. The dialog box will change to something like this:

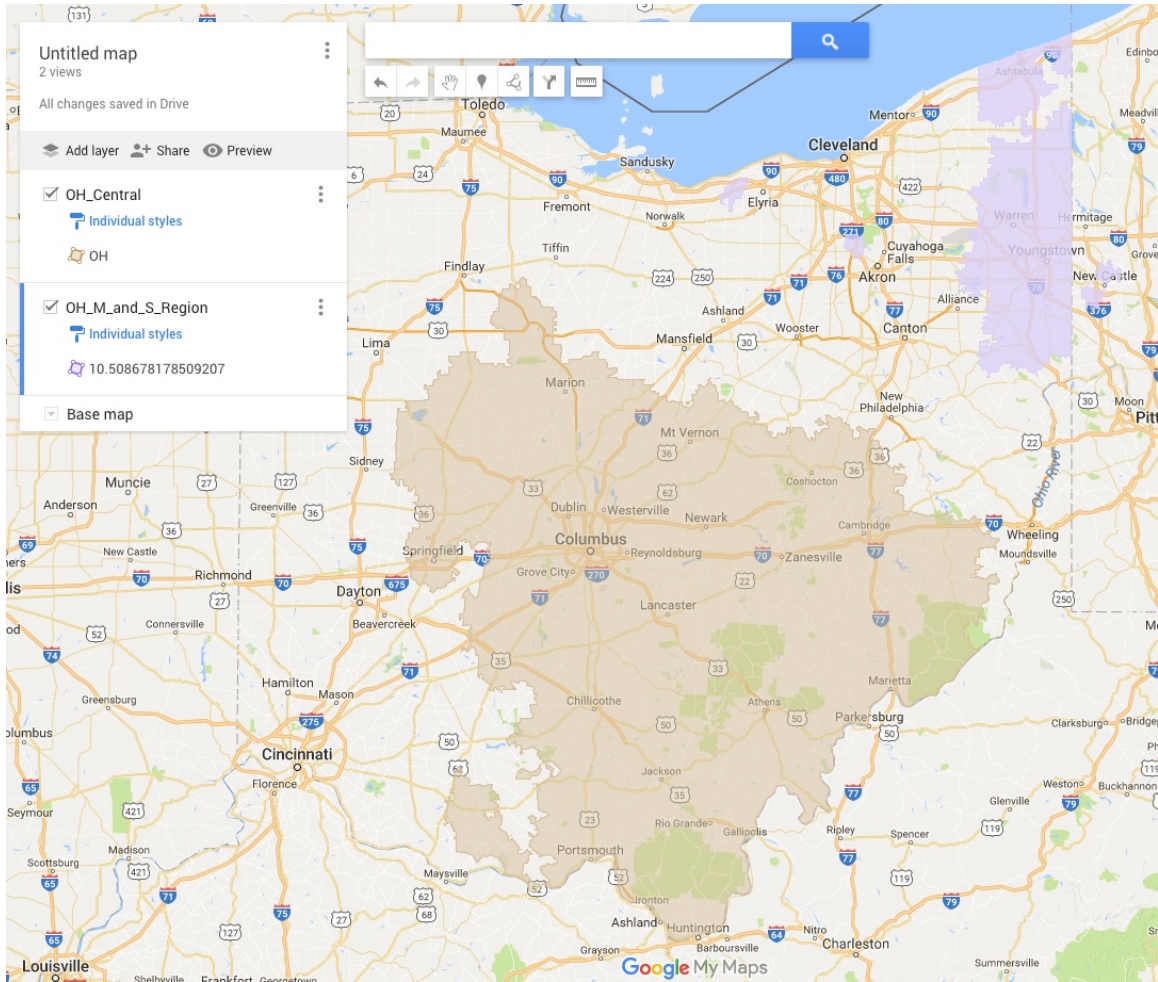


To load a file onto the map, click the file name, then the ‘Select’ button. The file is then displayed on the map, as a polygon over the base map, and its name and the colors in which it is presented are displayed in the map menu.

You can keep adding map layers, by adding more KMZ files.

Note that you only need to upload a KMZ file to Google Drive once. Once it is there, you can open it again any time using Option 2, above.

If we loaded the Central Ohio Region polygon and the Ohio M & S Region polygon, and then zoom in to look at Ohio, we would see something like this.

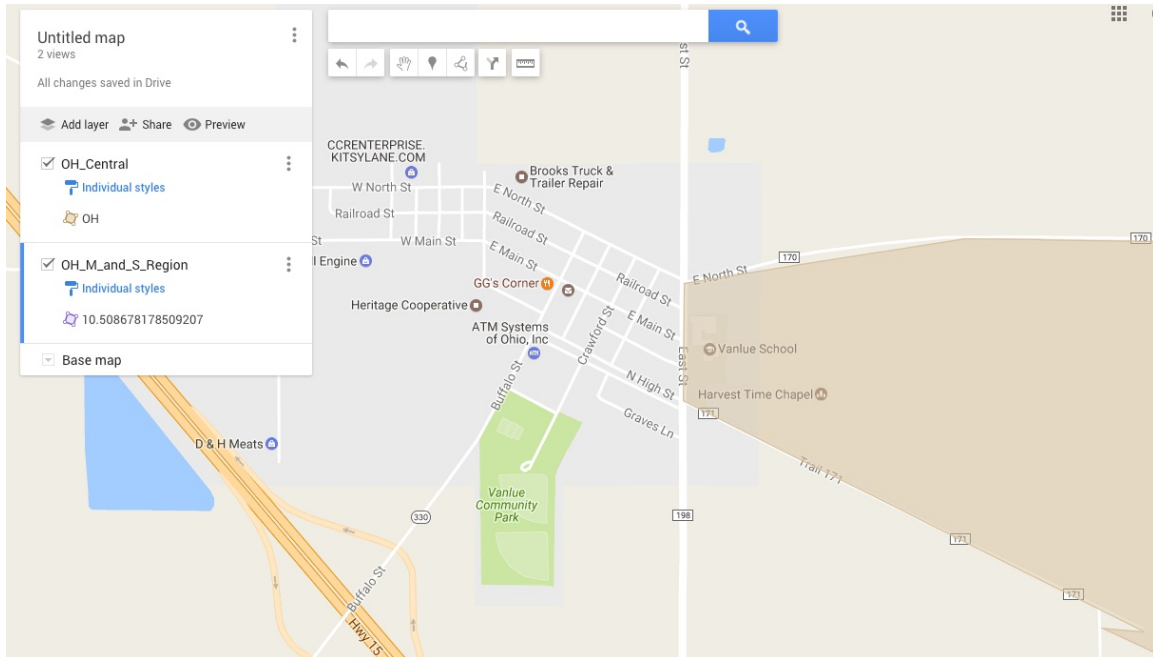


At this point, the KMZ file is loaded and displayed, and can be manipulated to get the map how you would like it to look.

If you zoom in, the base map provides progressively more detail, and the polygons for each region get more detailed edges, such as shown overleaf.

You can print the map at any time, and arrange it however you want. In the next section some notes for basic modifications of the appearance of the map are provided.

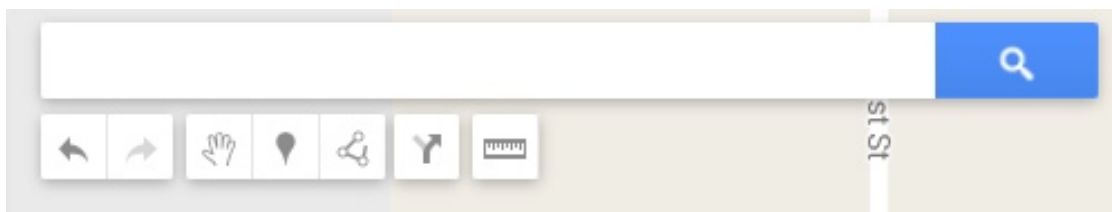
You will notice that the Central Ohio Region polygon shown in the screen shot overleaf has two small anomalies. The polygon doesn't quite match the road along E. North St (Route 170), coming out of Vanlue, OH, and there is a little zigzag in the polygon boundary along Trail 171. These small anomalies are discussed in a later section of this User Manual.



## Modifying the Presentation of the Map

With the various polygons loaded and displayed in the map, you can now fine-tune the map to how you would like it to look. Most of this is done using the map menu area at the top left.

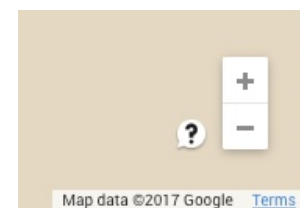
The search box and icons along the top are for the following purposes. The search box allows you to speech specific things in the map, in the usual manner for Google Maps. The buttons have tool tips that show up when you hover over them with the mouse pointer, but from left to right they are:



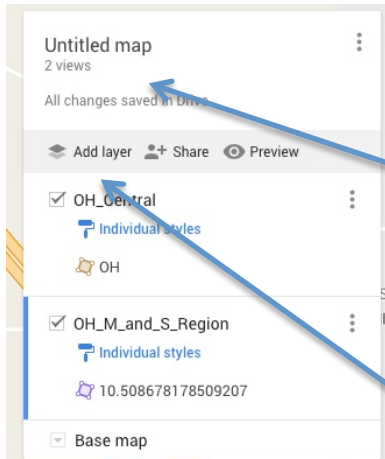
Undo; Redo; Select items; Add marker (place a point); Draw a line; Add directions; and Measure distances and area.

The zoom buttons are in the bottom-right corner of the map window, along with a Help button.

The map can be searched by typing a place name into the search box. A list of options are presented and one can be chosen if it is a better fit. A temporary marker is placed and the map zoomed to that location. The marker is also added to the map menu.



For each layer in the map, you can change various characteristics using the map menu.



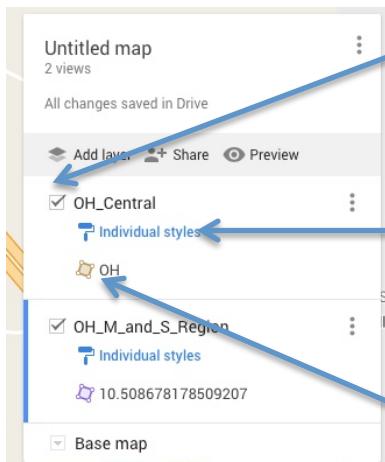
The three vertical dots at the right side of the map name cover a menu of options for managing maps in general, and is reasonably self-explanatory.

Clicking on the title of the map, here 'Untitled map' allows you to rename the map, and add a description.

The three vertical dots on the right side of each layer open a small menu that allow you to Rename this layer, Delete this layer, or Open the Data Table associated with the layer.

The 'Add layer' allows you to add another layer to the map. This opens a dialog box, as discussed above.

You can Share the map with others, through sharing data through the Google Drive system. Before you do this, you should check that you have the map the way you want it, and you can use the Preview button to see how the map will look to others.

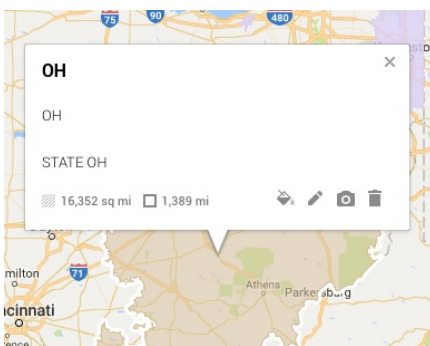


When a layer is loaded into the map menu, you can retain the layer, while making it invisible, by unchecking the check box beside the layer's name. This is useful for examining details and checking how different layers go together in the final map.

With the layers for the different MOAA regions, there is no internal data. There is a single polygon that simply represents the region as a whole. The 'Individual styles' menu allows you to manipulate the layer's appearance, based on internal data. This is not required for this map.

Clicking on the little tilted square allows you to change the appearance of the polygon, as well as see other data.

When the little tilted square is clicked the dialog box below opens in the map over the polygon. You can also click the polygon on the map to get the same dialog box to appear.



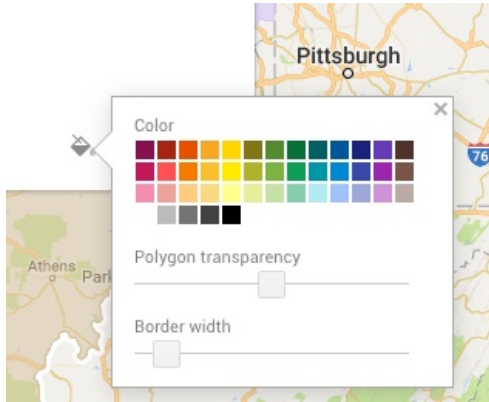
The data that appears in the upper area of the box related to internal data, and so is irrelevant in this case. It is a remnant of processing the ZIP Codes into a single unit. You can edit this data from this dialog box.

Across the bottom of the box are various pieces of information and buttons for action.

The leftmost value is the area of the polygon, while the next value is the perimeter of the polygon. These values cannot be changed.

The paint-bucket button, when clicked, opens another dialog box with a color palette (for the polygon's fill), and sliders to control the transparency of the fill and the width of the border.

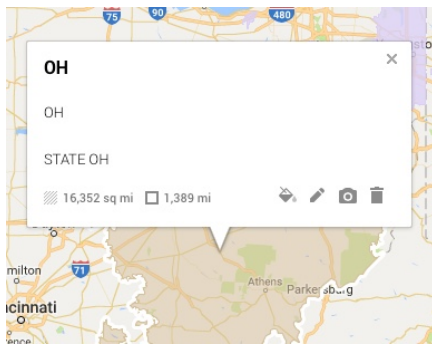
The same palette can also be opened by moving the mouse pointer over the area on the map menu where the little tilted square is; a paint bucket icon appears, and clicking it brings up the palette.



Note that when a layer is selected, its border is highlighted, usually by a white line outside the polygon(s) in the layer.

By clicking different colors and adjusting the transparency and border width, the layer can be adjusted to fit in with the map as a whole.

Experiment a bit with this. There is no perfect solution to getting a map to be a great communications medium, but there are many poor ones!



Clicking the pencil icon allows you to edit the text information that appears with this dialog box. You can change what you find there to suit your requirements. You can even add an image or a video to appear with the polygon.

The camera icon opens a large dialog box that allows you to add images and video to the polygon.

The trash can icon deletes the polygon (also known as a feature) from the layer.

If you delete a feature by mistake, you have a short time to undo that action, as a small Undo notification appears under the search box. You can also use the Undo button under the search box, but it has limited steps. Undo cannot bring back a deleted layer: you have to Add the layer all over again.

Note that deleting layers and features only removes them from the map. It does not affect the files on Google Drive.

You cannot edit the boundary of the polygons in Google Maps. You can change the names and other text information associated with the various layers, and they will remain even when you close the map and leave Google Maps.

You can get to your map any time in Google Maps by clicking the menu, then 'My places,' then the Maps tab, and selecting your map. When the map is brought up, you have the option to 'Open in My Maps.' This allows you to edit the map.

## About the ZIP Code Map

The ZIP Code map data that forms the basis of these map polygons is not perfect. You have to expect some anomalies and imperfections. The reasons for this are several, but the most important are as follows.

ZIP Codes were developed by the USPS to facilitate sorting of mail, especially with a view to mechanical sorting. The purpose of sorting was to get the right set of mail to the appropriate delivery person, and possibly also in the correct order for delivery (the 5 + 4 system was designed for this). The ZIP Codes were therefore developed on the basis of how mail was delivered.

There are two important consequences of this design. The first is that ZIP Codes can be changed as mail delivery methods and routes changes, and these changes occur from time to time. The second is that the entire concern with ZIP Codes was getting the mail to the delivery point of an address or group of addresses. Mail delivery has nothing to do with figuring out boundaries between different ZIP Codes, so the USPS didn't waste time on a problem that meant nothing to them, and for which they had neither mandate nor resources.

County, municipal and state boundaries, by contrast, demarcate definite areas of income and responsibility, and so are well defined. ZIP Codes don't have those financial drivers for exact demarcation, and so it was never established. The financial drivers for ZIP Codes are well within the polygons, not at their edges.

As a result, there is no actual definition of where the boundaries between ZIP Codes are located. The Census Bureau uses ZIP Codes to help with its management of census data, and so makes some effort to establish boundaries, but these are not complete, nor necessarily authoritative. In fact, there is no authoritative definition of any ZIP Code boundary, merely an acceptance that it's out there somewhere. It is even possible for ZIP Codes to overlap, and there are obviously areas where mail is not delivered, such as lakes.

However, ZIP Codes were adopted for mapping purposes because of their universal coverage of the nation at a reasonable human scale. The lack of boundary definition was initially not a problem, because the scale of operation was the entire ZIP Code, not individual properties.

Today, as we move to an ever-finer level of resolution, these fundamental problems with ZIP Code areas comes back to haunt us. The map should therefore be considered as a reasonable guide for locations, rather than being exact. Over time, parts of the map may become out of date and need to be updated.