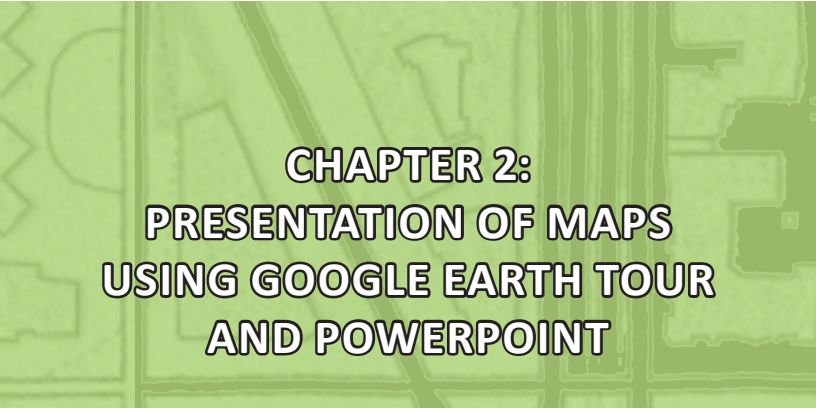# CHAPTER 2: PRESENTATION OF MAPS USING GOOGLE EARTH TOUR AND POWERPOINT

CHAPTER 2:
PRESENTATION OF MAPS USING GOOGLE EARTH TOUR AND POWERPOINT

With today's technology, advocacy has been evolving creatively and conveniently through the use of different medium. In terms of mapmaking, GIS data can be presented in a more innovative, mobile, and visually compelling form using Google Earth and Microsoft Powerpoint Presentation.

Aside from their user-friendly attributes, both software programs offer basic functions that can be utilized in presenting maps. In terms of availability and accessibility, Google Earth application is downloadable online while Microsoft Powerpoint Presentation is accessible in desktops and laptops that have preinstalled Microsoft Office products. Google Earth is popular among mapmakers since it has advantages over some mapmaking methods. Google Earth gives instant up-to-date map data with three-dimensional visuals that are extremely detailed. It is available on a wide array of devices and in 45 languages. Lastly, Google Earth and Microsoft Powerpoint Presentation can be embedded in webpages.

Using Google Earth in presenting advocacy map

Google Earth is a well-established, free desktop application that allows users to easily access all information from a three-dimensional map of the world. The kind of information that users can obtain from Google Earth varies, among others, from coordinates, elevation, and

street view of a certain location which also includes photos, videos, audio, and weather information. These features are utilized by users to create visualizations as a compressed video file or guided tour.

However, the technological barrier across countries affects the quality of images and/or videos that can be viewed in Google Earth. Most developed countries offer more detailed image projections unlike other countries that have not obtained certain advancements in GIS.

Google Earth is suited for advocacy maps simply because it has a *history imagery* feature. Historical imagery is used to see and analyze the changes happened and/or made over time to a certain location especially when observing the effects of a natural disaster or the evident changes in the landscapes. In addition, Google Earth allows users to render files that can be exported through different social networking sites (SNS).

For advanced features such as GIS data import, it is recommended to use Google Earth Pro.

1. Features and uses of Google Earth
Using Google Earth is relatively simple and easy to navigate. Imagine creating a tour around a specific location. A tour consists of 'Placemarks' or the points of interest (the user can add supplementary information about the placemark). These Placemarks are either added manually by the user or generated by Google Earth using 'Geocoding' or importing a list of addresses that determine the Placemarks – allowing the user to create a route to connect all the generated Placemarks which will compose the 'tour.' The tour can be rendered as an audiovisual file.

2. Workspace of Google Earth
On the left side of the workspace, a 'Search bar' is located underneath the 'Menu bar'. The 'Search bar' is used to locate coordinates, states, provinces, cities, and addresses. At the middle upper part of the workspace, the 'Toolbar' can be found and it contains the essential features in creating a tour. Some of the features include placemarks,

polygon, path, image overlay, and record a tour, among others. On the right side of the workspace, the user can find two navigational compass and a 'Zoom' tool. The first compass with an eye icon (Eye altitude) in the middle is used for scouting around the location, while the second compass is used for moving from one location to another. This compass guides the user in navigating through the map. The 'Zoom' tool is used to view a more detailed image projection or to zoom out the map. On the bottom part of the workspace, image date, elevation, and coordinates of the location can be found (See Figure 32). More Google Earth tools and features will be tackled in the next sections.
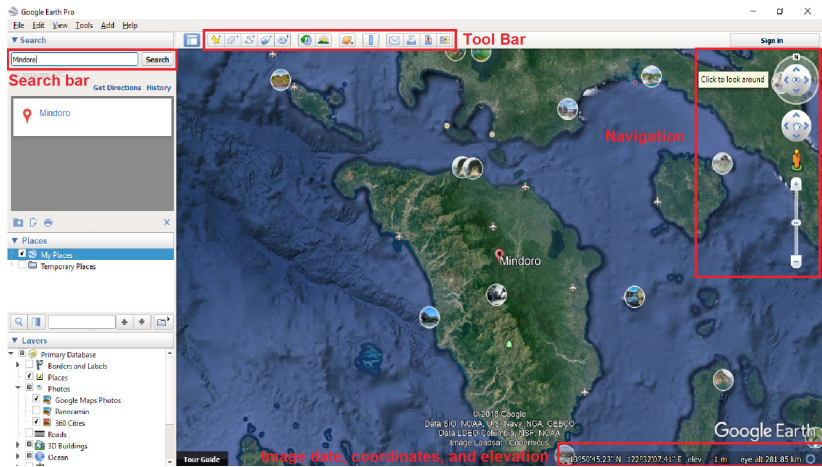

Figure 32: Interface of Google Earth.

3. Historical Imagery

Historical Imagery is a useful tool for advocacy maps especially when forwarding political, social, and environmental issues. This feature allows users to view changes in specific landscape overtime. For example, one can use historical imagery to view the mining activities in Mindoro[1] within a certain timeframe.

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[1] For the purpose of this Manual, Mindoro will be used as an example to demonstrate the procedures. Mindoro is located at the southwestern coast of Luzon Island, Philippines and is part of Region IV-B. The province is divided into Occidental Mindoro and Oriental Mindoro. Mindoro is the home of several Mangyan groups and is the cradle of Mt. Halcon and Mt. Basco.

Step 1: In the 'Search' text box in the upper left-hand corner, enter 'Mindoro' and click 'Search' (see Figure 33).

Step 2: After viewing the area, click 'Show historical imagery' button in the upper middle area of the screen just above the map (see Figure 33).

Step 3: A scroll bar will appear on the top left of the screen in the map window which will be used to scroll through imagery obtained from specific dates within the preferred timeframe (see Figure 33).

Step 4: Use the imagery to observe, for example, the changes brought about mining activities in Mindoro.
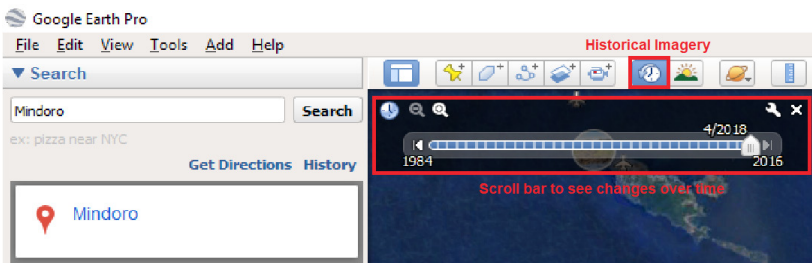
Figure 33: Historical imagery and scroll bar.

4. Creating a Google Earth tour

In creating a guided tour, the following steps are essential to navigate the user accordingly to the chosen point of interest. For the first step, adding placemarks will determine the places to navigate to while embedding information will give context to the added placemarks. Once the placemarks are added along with their information, creating the route will stitch the tour together. To export the finished output, simply record the tour and save.

5. Adding placemark

Placemarks represent points of interest in the tour. Placemarks are vital since they give description of each location which makes up the totality of the tour. Name of placemarks can be edited by the user according to the purpose of the tour.

Step 1: In the 'Search' text box in the upper left-hand corner, enter 'Mindoro' and click 'Search'.

Step 2: Next, click 'Add Placemark button' in the toolbar on the upper middle side of the screen.

Step 3: In the 'Google Earth new placemark' window, select 'Name field' and type 'Point A' (this serves as sample name for the first target placemark); leave the other options as their defaults (see Figure 34).

Step 4: Leaving the window open, position the placemark over the target area. A yellow pin will appear, then drag it to position the 'Point A' placemark (see Figure 34).

Step 5: Click 'OK' to create the placemark.
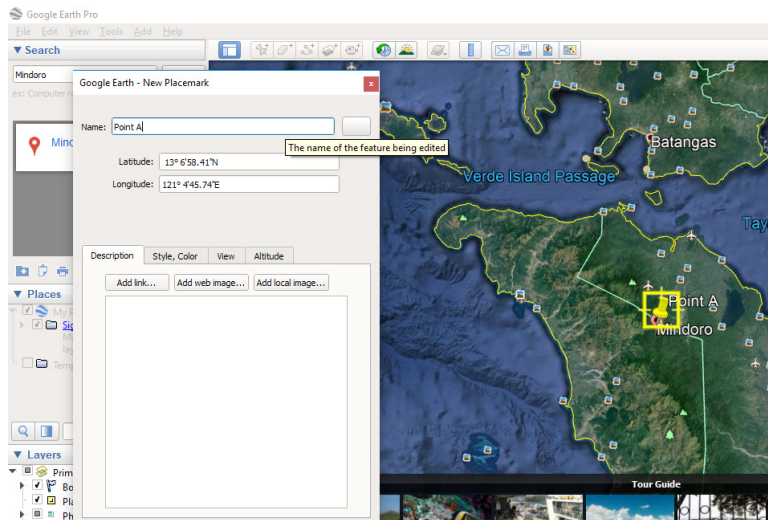
Figure 34. Adding placemark.

NOTE TO THE USER: To change the name, right click on the pin and select 'Rename'. The location can only be modified when the 'Edit Placemark window' is open (see figure 35). To edit placemark, right click on the pin in the map or in the side bar and choose 'Properties' (see Figure 36.1). To select a symbol for placemark, click 'Icon' just on the right side of 'Name field' (see Figure 36.2).
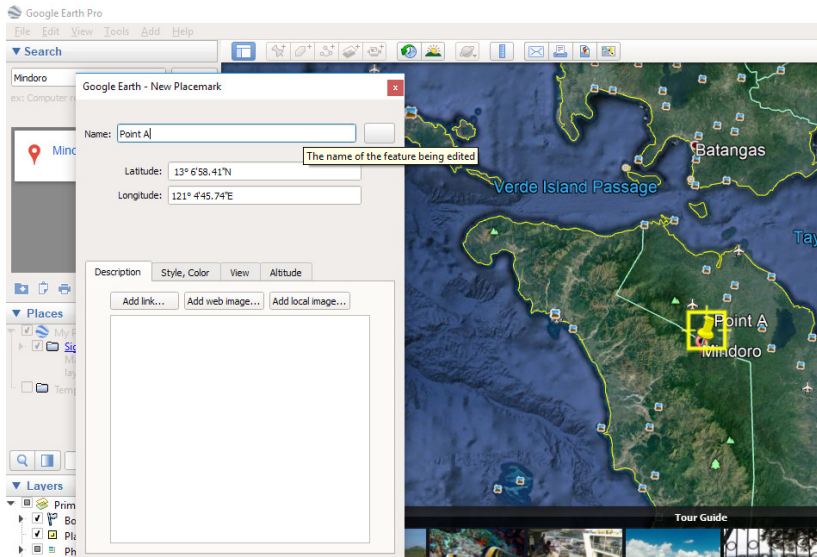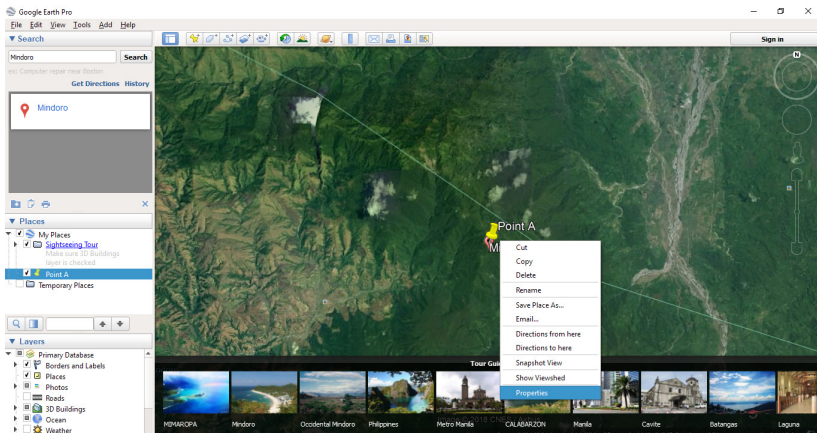
Figure 35. Editing placemark name.

Figure 36.1. Editing placemark properties.

6.   Placemark description

The viewer navigating through the tour/map can see displayed information about the placemark by simply clicking the pin. Adding information on the placemark gives context to the viewer about what the tour is all about.

Step 1: To add description, right-click the placemark and choose 'Properties'.
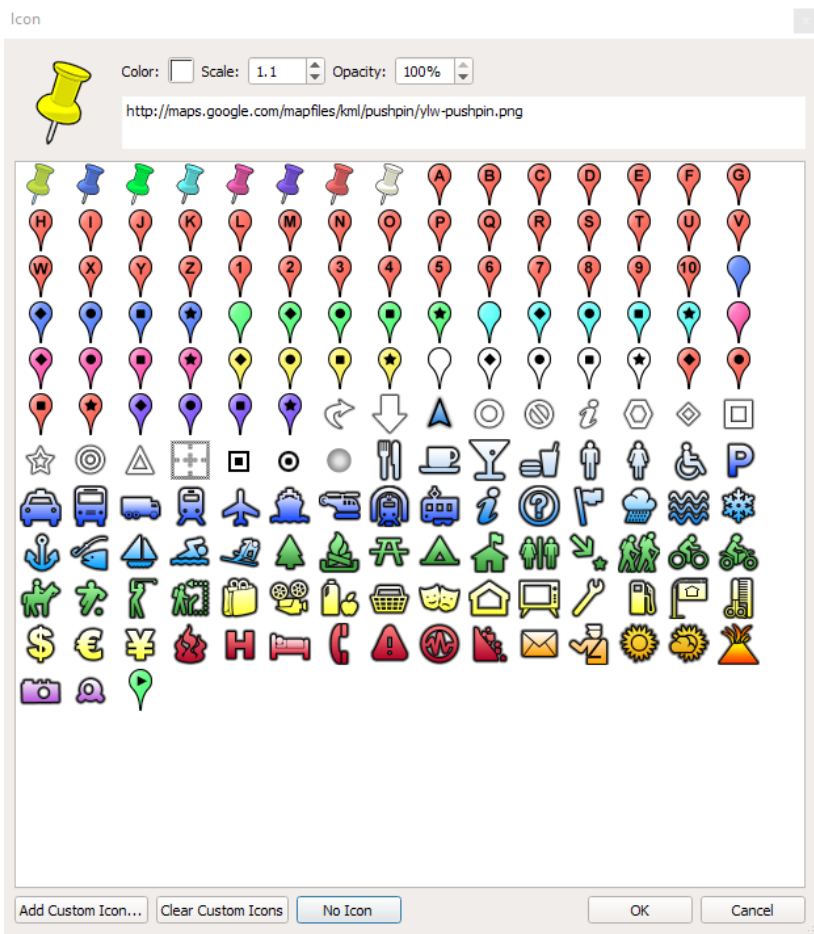
Figure 36.2. Pin Icons.

Step 2: In the 'Edit Placemark window'. click inside the description box and type description/information for 'Point A' (See Figure 37).

Step 3: An image can be added by selecting the 'Add web image button' and paste the URL/Link of the selected image.

7.   Embedding information from the computer

Google Earth offers different options for adding images directly from the user's computer. Inserting an image as a different object appears differently from linked images since the image appears to be 'floating' above the Earth's surface. To organize the placemarks and
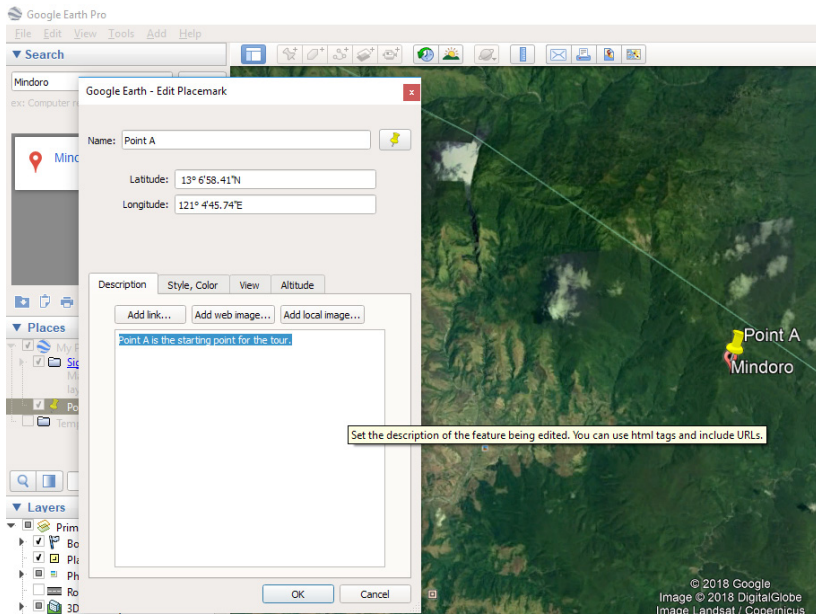
Figure 37. Adding description on placemark.

images, there is an option to create folder to help keep track of the files. The default name of the folder is 'My Places'. This folder collates placemarks, images, and, routes for the tour.

Step 1: Double click on the created 'Point A' placemark. Google Earth will zoom into the view showing 'Point A' placemark on the map. Alternately zoom in and out using '+' and '-'.

Step 2: Add image by clicking on the 'Add' menu and select 'Photo' (see figure 38).

Step 3: Once the 'New photo overlay window' opens, enter the image name. Adjust the image if necessary (see figure 39).

Step 4: Once adjustments has been made, select preferred image then click 'Ok'.
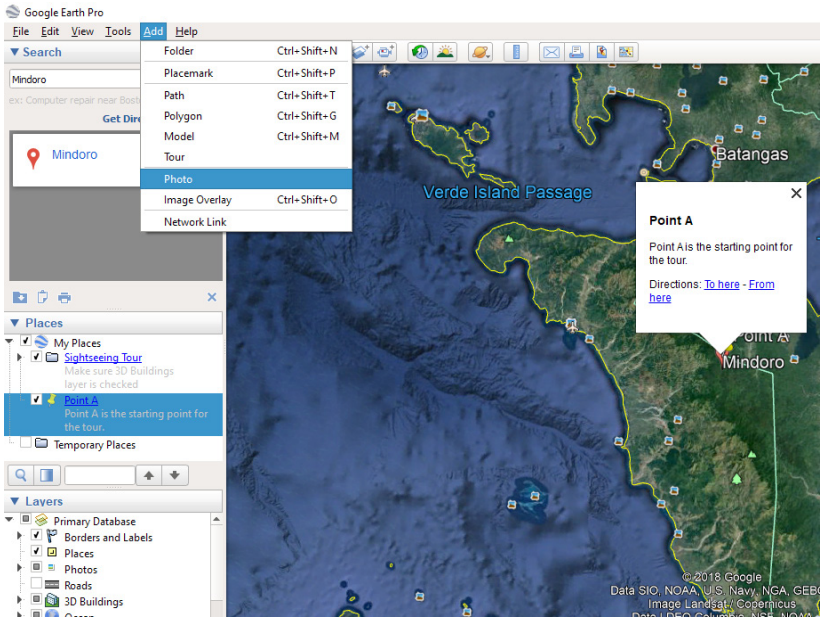
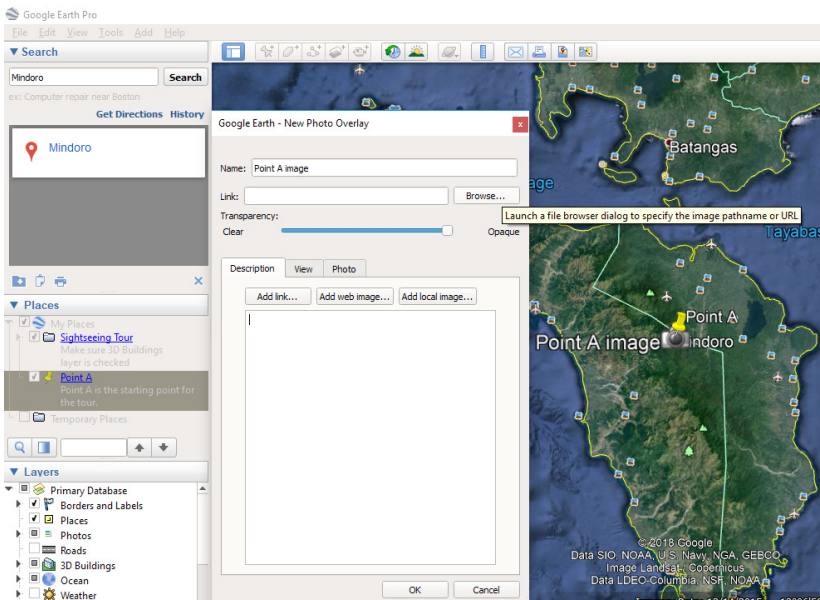Figure 38. Adding photo on placemark straight from computer.

Figure 39. Browsing image file from computer.

NOTE TO THE USER: To keep a placemark and the supplementary images together and separate from other placemarks, create a subfolder under 'My Places'. To create a new folder, click on the 'Add' menu and choose 'Folder'. Once the 'New folder window' opens, rename the folder to 'Sightseeing Tour' (this serves as sample name of the subfolder for 'My Places' folder) (see Figure 40). When the new folder is created, drag 'Point A' placemark and its supplementary image into the folder.
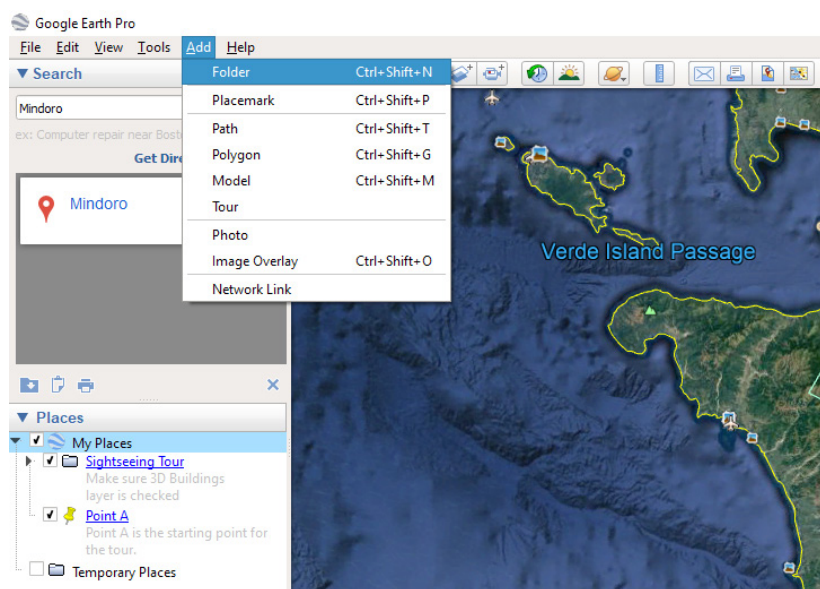

Figure 40. Creating subfolders to organize images and description per placemark.

In creating a tour, the user will need to add more placemarks. For example, the user will add 'Point B' placemark and 'Point C' placemark. This time, these placemarks will be added via 'Geocoding'. 'Geocoding' converts tabular data such as street addresses or longitude and latitude coordinates into georeferenced points which can be easily mapped.

Using longitude and latitude coordinates

Step 1: On the menu bar, click 'File' then 'Import' (see Figure 41).
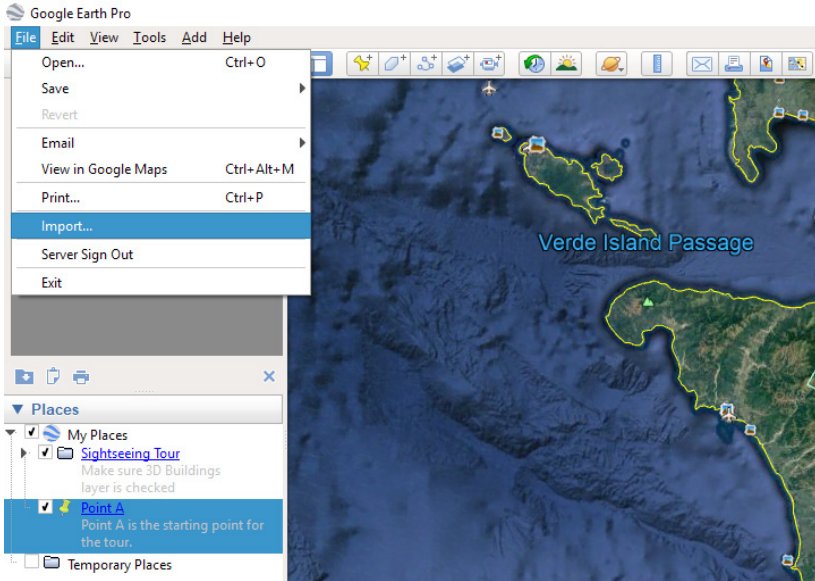
Figure 41. Importing CSV file for 'Geocoding'.

Step 2: Browse for the CSV file to be imported and click 'Open'.

Step 3: Once a box appeared, choose 'Delimited' located next to 'Field Type'.

Step 4: Choose 'Comma' then use the 'Preview pane' to ensure that imported data are correct and click 'Next'.

Step 5: Uncheck the box which indicates "This dataset does not contain latitude/longitude information."

Step 6: Select the fields in your spreadsheet that contain the 'Latitude and Longitude data' (see figure 42.1) and click 'Next'. Optional: Specify the type of each field in your dataset.

	A	B	C	D
	Name	Latitude	Longitude	Elevation
	Point A	13.233471	121.004838	3451.45
	Point B	13.308212	121.076505	105.93
	Point C	13.398408	121.128078	22.46

Figure 42.1. Sample CSV file which contains the coordinates

Step 7: Click 'Finish'. Google Earth begins geocoding your data.

Step 8: To add description and image, simply repeat process in 'Placemark Description'.

> **NOTE TO THE USER:** When entering longitude and latitude values, formats varies from DD MM SS.SSS degrees minutes and decimal seconds, DD.DDDD decimal degrees, DD MM.MMMM degrees and decimal minutes. Users can also use N, S, E, and W to specify directions.

Using street addresses

Step 1: On the menu bar, click 'File' then 'Import'.

Step 2: Browse for the CSV file to be imported and click 'Open'.

	A	B	C	D	E	F	G	H
1	Code	Business	Address	City	State	Zip	Integer	Float
2	WBIS1	Taxi 9000	3750 East Rosser Avenue	Bismarck	ND	58501	3	0.5
3	WBNA1	UPS Supply Chain Solutions	516 Ligon Drive	Nashville	TN	37204	4	1.333333
4	WCGI1	Kelly Transportation	41 N Sprigg Street	Cape Girardeau	MO	63701	1	0.2
5	WCID1	Velocity Express	640 63rd Avenue SW	Cedar Rapids	IA	52404	4	1
6	WCLE1	UPS Supply Chain Solutions	55 Andrews Circle	Brecksville	OH	44141	5	1
7	WCOS1	UPS Supply Chain Solutions	802 W Garden of the Gods Road	Colorado Springs	CO	80907	8	2
8	WCYS1	Security Armored Express	1719 Pacific Avenue	Cheyenne	WY	82007	6	2
9	WDCA1	UPS Supply Chain Solutions	13878 Park Center Road	Herndon	VA	20171	7	1.75
10	WDEN1	UPS Supply Chain Solutions	4401 East 46th Avenue	Denver	CO	80216	8	1.6
11	WEUG1	Aero United	1380 West 2nd Avenue	Eugene	OR	97402	5	1.666667
12	WHNL1	UPS Supply Chain Solutions	449 Cooke Street	Honolulu	HI	96813	9	2.25
13	WJNU1	Juneau Couriers	10155 Jensine Street	Juneau	AK	99801	9	1.8

Figure 42.2. Sample CSV file which contains the street addresses *(Retrieved from Google Earth)*.

Step 3: Once a box appears, choose 'Delimited' located next to 'Field Type'.

Step 4: Choose 'Comma' then use the 'Preview pane' to ensure that imported data are correct and click 'Next'.

Step 5: Check the box which indicates "This dataset does not contain latitude/longitude information."

Step 6: Select "Addresses are broken into multiple fields."

Step 7: Review the names to ensure the encoded data are correct under 'Select Address Field(s)' then click 'Next'.

Step 8: Check the list of fields and the type of data selected for each then click 'Back'.

Step 9: Click 'Finish'. Google Earth begins to geocode the data.

Step 10: To use a style template, click 'Yes' then select 'OK'.

> **NOTE TO THE USER:** Address data appear as icon in the 3D viewer and their properties can be edited. *Users can only import addresses located within the United States, United Kingdom, Canada, France, Italy, Germany, and Spain.*

8. Create a route

In creating a tour, the goal is to form a route that connects all placemarks. On the other hand, the 'Direction tool' is used to navigate user from one placemark to another by car, bike, walking, or public transit. Likewise, it can be changed according to the user's preference in navigating the tour.

Step 1: Go to 'Point A' placemark. Above the map, click Add Path. To add a shape, click Add Polygon. To make a path or polygon into a 3D object, click 'Altitude'.

Step 2: A "New Path" or "New Polygon" dialogue will pop up. Move the dialog box away before moving on to the next step.

Step 3: To draw the line or shape, click a start point on the map which in this case, 'Point A' placemark and drag.

Step 4: Click an endpoint to 'Point B' placemark. Then, enter description and properties and click 'OK'.

Step 5: Repeat process in creating routes from 'Point B' to 'Point C' and so on.

9. Record an animated tour

For the last step, record a tour that goes through the created route in Google Earth's 3D environment. An audio can also be added to the recorded tour.

Step 1: In the 'Layers panel', turn on the preferred layers to be featured on the tour (e.g. 3D building, ocean, roads, weather, ocean, etc.) (see figure 43).

Step 2: Click 'Add' then select 'Tour' (see Figure 44), or in the bar above the globe, click 'Record'.

Step 3: To start recording, go to the lower left corner in the media player and click 'Record/Stop' (see figure 45).
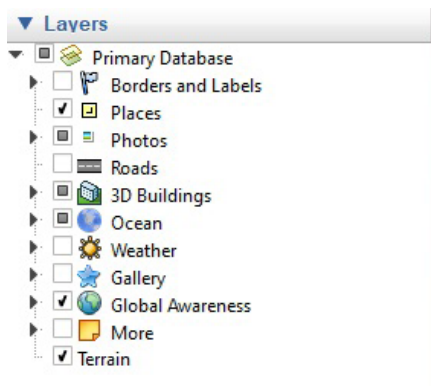
Figure 43. Layers panel.
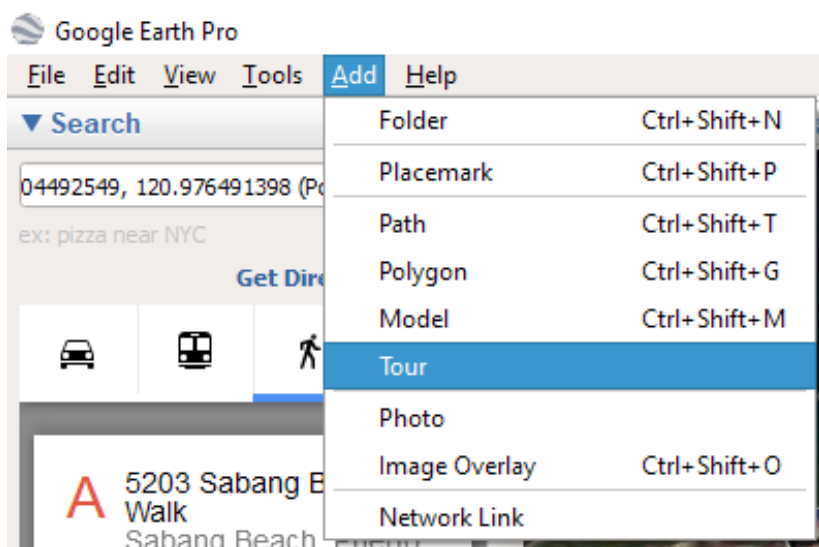
Figure 44. Add 'Tour 'option in the 'Menu Bar'.

Step 4: To record audio, click Microphone (See Figure 45).
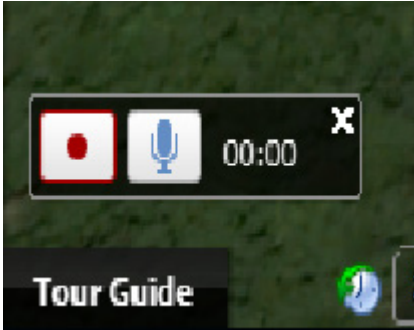
Figure 45. 'Record.' 'Stop.' and 'Microphone' icon located at the lower left bottom of the map.

Step 5: Navigate to each placemark on the route or go to the left-hand panel under 'My Places' and click a placemark to go to that location. Start from 'Point A' then to 'Point B' and so on.

Step 6: When you finish recording, click 'Record/Stop'. In the lower right corner, a media player will appear, and your tour will start playing.

Step 7: To save the tour, in the media player, click Save (see Figure 46). In the box that opens, enter a title in the "Name" field.
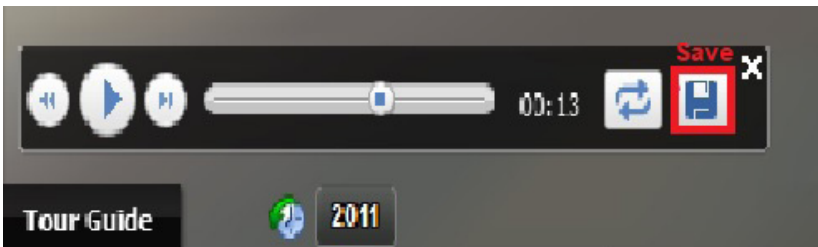
Figure 46. Once the tour is completed, save the tour under 'My Places'.

Step 8: To add more information about the tour, use the 'Description' and 'View tabs'. Click 'OK'.

NOTE TO THE USER: The tour is saved in KMZ file but later can be converted to an AVI file which can be uploaded in the web.

Presenting dynamic maps using Microsoft Powerpoint Presentation

Another innovative way in presenting advocacy maps is through a Powerpoint presentation. Powerpoint presentation animates static images from QGIS and converts them into a dynamic map. In using dynamic maps, each layer is dissected to emphasize information or legends depicted in the map such as watershed, mining tenement, forest, among others.

Adding a dynamic map into a Powerpoint slide

> **Step 1:** Upon opening a PowerPoint file, click the dropdown menu on the Powerpoint ribbon then select 'More Commands' to customize the quick access toolbar (see figures 47 and 48).
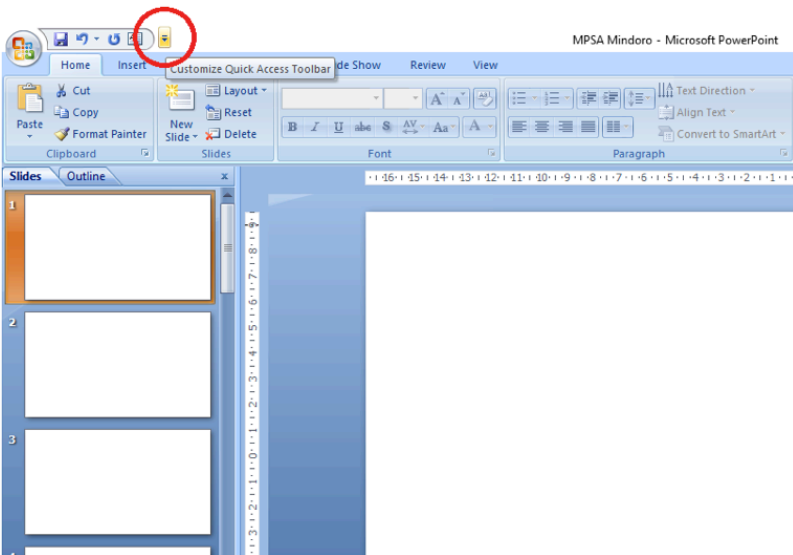
Figure 47. Dropdown menu to customize quick access toolbar.

> **Step2:** Once the 'Powerpoint Options' tab appeared, choose 'All Commands' in the dropdown menu (see figure 48).
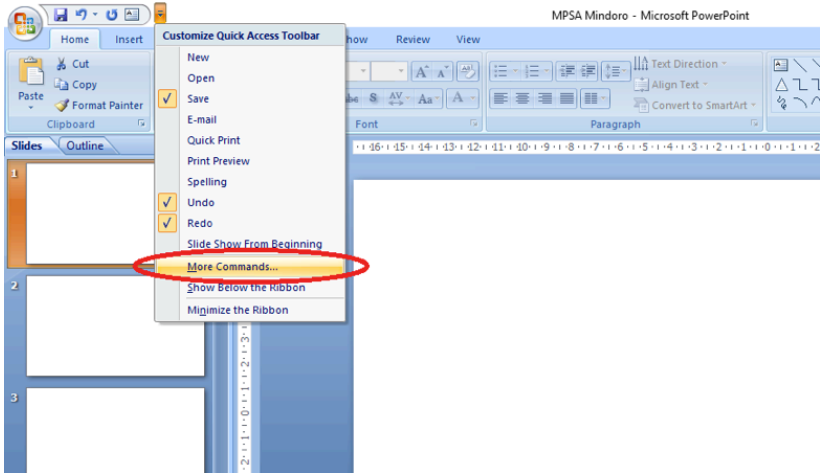
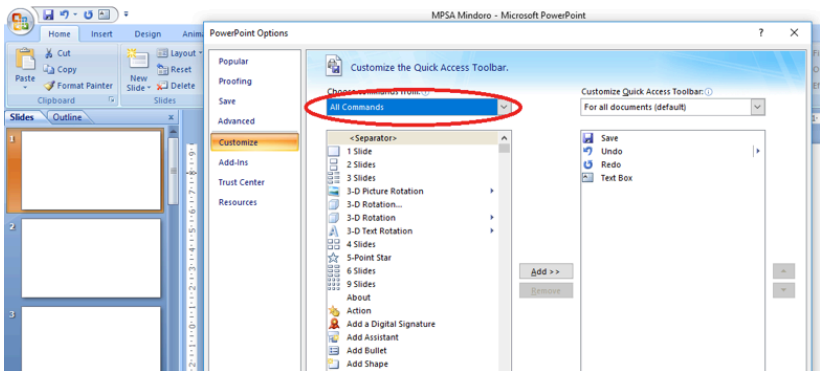**Figure 48. 'More commands' under the customize quick access toolbar.**

Figure 49. 'All commands' display all available functions that can be displayed in the quick access toolbar.

Step 3: Under 'All Commands', find the 'Set Transparent Color', click 'Add' then 'OK' (see Figures 50 and 51).

Step 4: To copy the map layer from the QGIS software, click 'Project' on the menu bar then select 'Save as image'.

Step 5: Open and copy the saved map layer image that will be featured in the presentation.
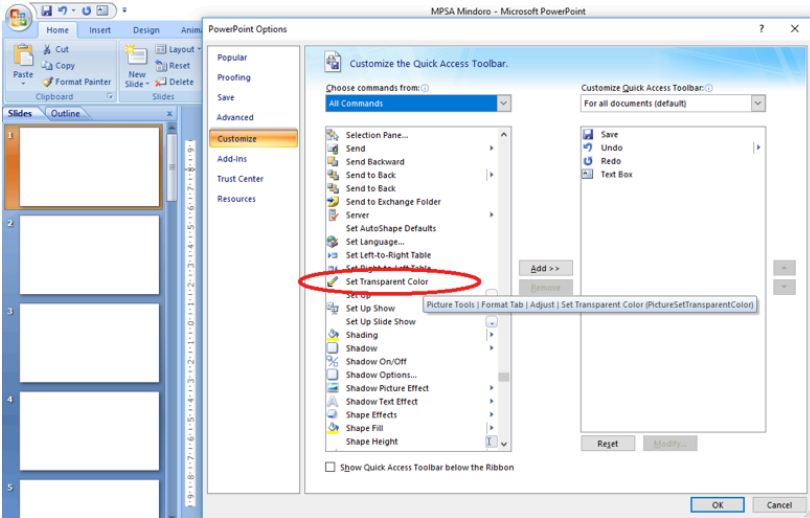
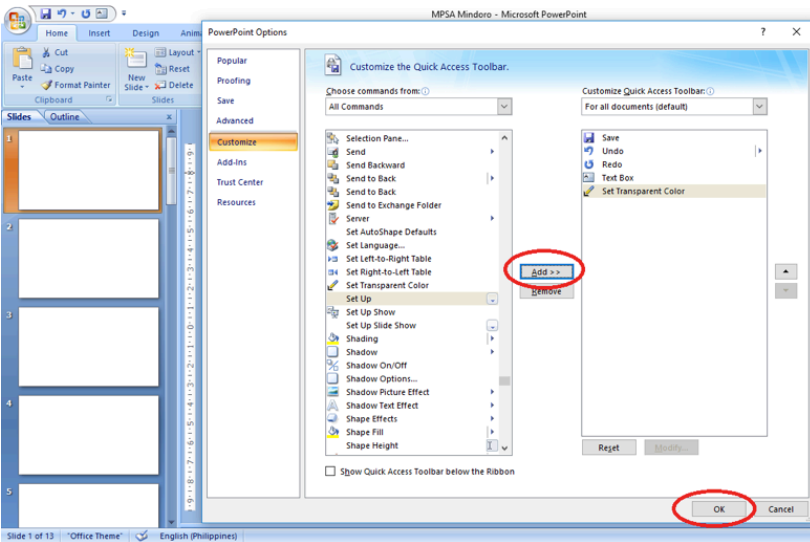Figure 50. 'Set transparent color' makes the image overlays.

Figure 51. Select 'Add 'then 'OK' to add the function into the quick access toolbar.

Step 6: Go to the Powerpoint slide to paste the map layer image then select the figure (see Figure 52).

Step 7: Click 'Set Transparent Color' command located on the Powerpoint ribbon (see Figure 53).
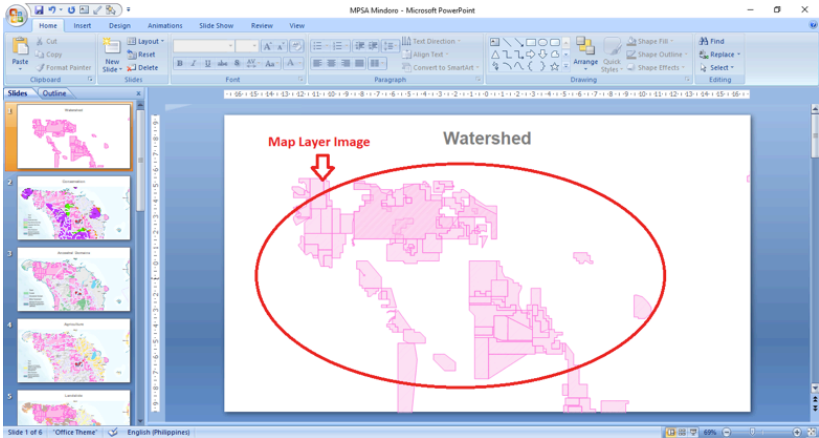
Figure 52. Pasted map layer image from QGIS.

Step 8: Apply the command to the map layer image by clicking the image (see Figure 55).
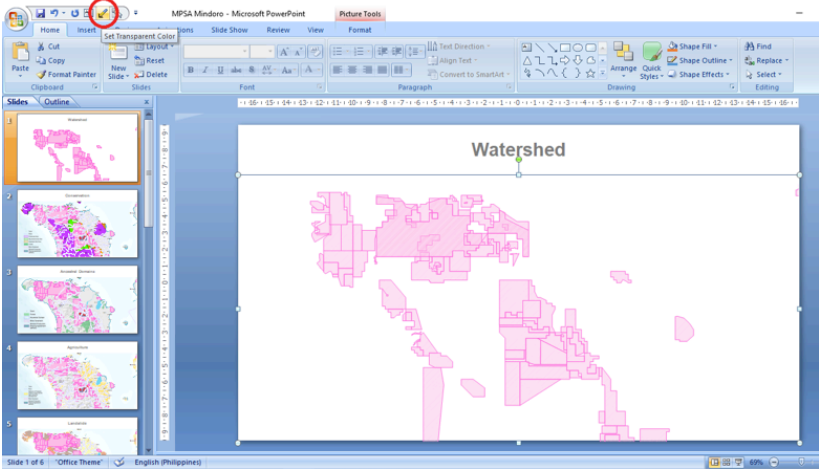

Figure 53. Showing the 'Set Transparent Color' command to remove the background of the map layer image.

Step 9: Repeat the processes until all overlays are incorporated into the slide.

Step 10: To edit the order of the map layer images on the slide, click the 'Format' button on the Powerpoint ribbon then select 'Selection Pane' (see Figure 54).
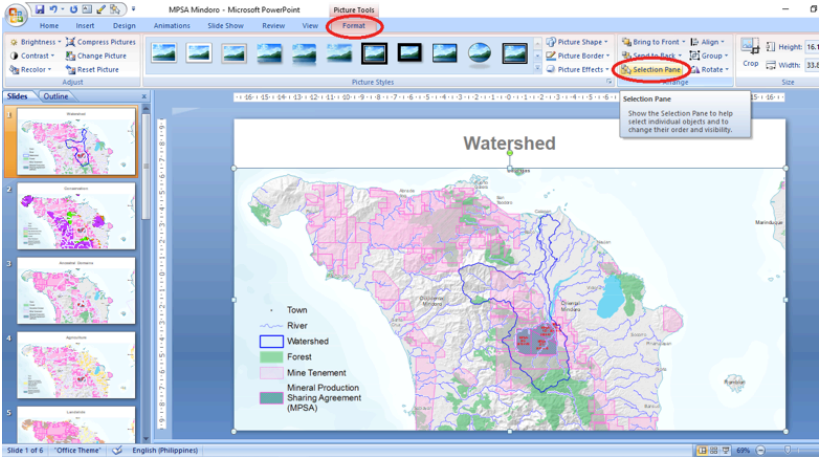
Figure 54. Under format, user can open the 'Selection Pane ' to easily navigate and edit each map layer image.

Step 11: Once the 'Selection Pane' is opened, the 'Selection and visibility' tab will appear on the right side of the screen, then the user can select the visibility of the images on the slide as well as edit their arrangement (see Figure 55).
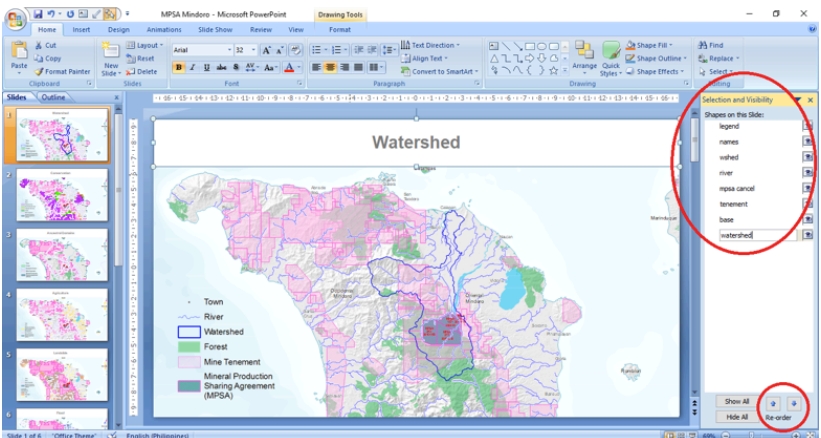

Figure 55. In the 'Selection and Visibility' window, user can re-arrange order of the layers, edit their visibility, and rename them.

Step 12: When presenting, user may apply animations for each image to emphasize the layers. To add transition to the images on the slide, simply click the map image layer under the 'Selection and visibility tab'. Once the image is selected, go to 'Animations' then click the desired animation type (see Figure 56).
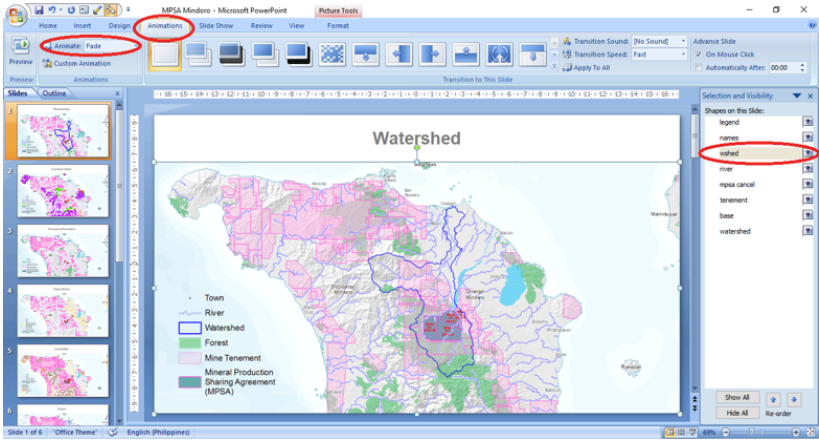
Figure 56. Animations can emphasize each layer during presentation.

NOTE TO THE USER: To activate the map and make it dynamic, click the 'Slideshow' button.

Figure 57 is an example of an advocacy map showing the overlaps of mining tenements with forests, watersheds, and river systems in Mindoro. The map illustrates mining tenements sitting above forests and watersheds. It also shows how forests and communities will be affected by the mine tailings and other wastes through water tributaries that lead to the lowland areas. The map strongly bespeaks these mining operations as illegal since the areas should be protected against mining under the National Integrated Protected Areas System (NIPAS) Law.

Figure 57. A map of Mindoro showing overlaps of mining tenements with forests, watershed, and river systems.