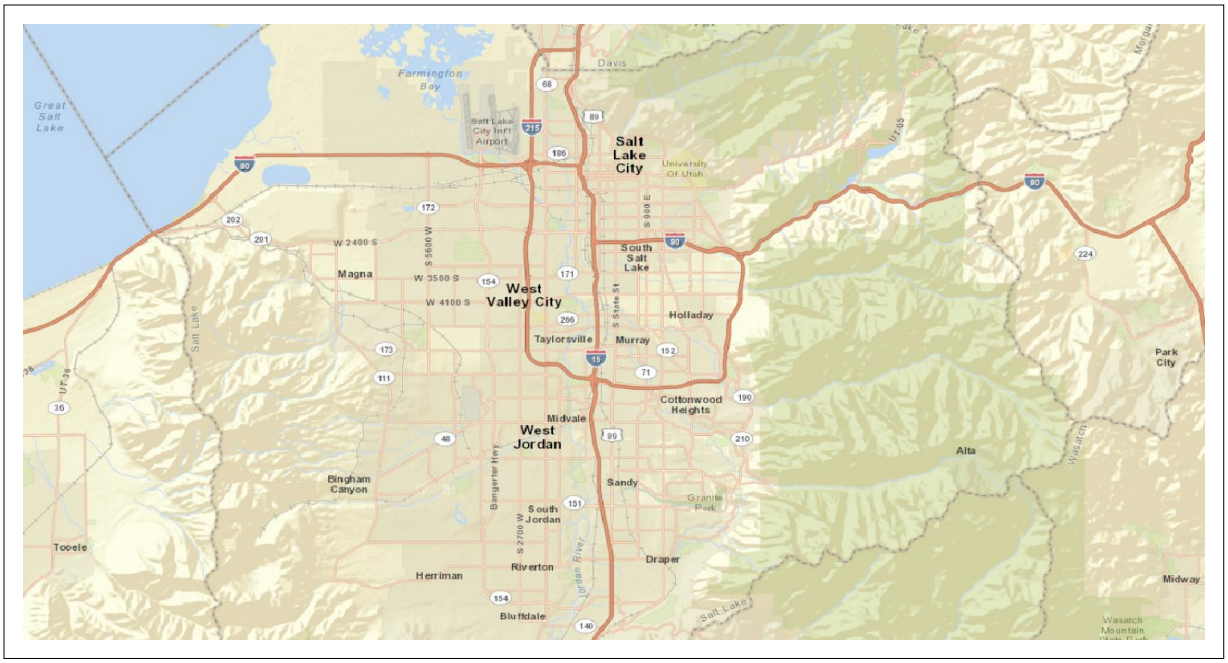
SMS

v. 12.1

SMS 12.1 Tutorial

Online Data – Dynamic Images



Objectives

This lesson is designed to help users become familiar with the Dynamic Image option offered by SMS. This option connects SMS to a web based program that adds additional functionality to the SMS program. The program interacts through an internet connection and allows accessing satellite photographs easily and quickly.

This tutorial instructs on the basic skills concerning how to use the Dynamic Image option.

Prerequisites

- None

Requirements

- Internet Connection

Time

- 15-30 minutes

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1 What does the Dynamic Image Option do for SMS?

The Dynamic Image option adds an easier way to obtain images from the internet to use as backgrounds for SMS projects. SMS is able to connect to online resources and retrieve selected photographs or maps of just about any location desired.

2 Importing a Dynamic Image Aerial Photo

A Dynamic Image aerial photo can be imported into SMS as an image to serve as a background for a project. This section instructs on how to import and save an aerial photo.

2.1 Selecting the location of the aerial photo

1. Open a new project in SMS. To do this select *File* | **Delete All**. This will delete all information from SMS and give a fresh screen. If asked to save data, click **No**.
2. Select *Web* | **Add Online Maps...** The *Virtual Earth Map Locator* will appear.
3. In the *Virtual Earth Map Locator*, toggle on the **Locator** tool.
4. Enter "Utah" under *Where*. Click **Find.** The *Virtual Earth Map Locator* windows should now look like Figure 1.
5. Click **OK** to exit the *Virtual Earth Map Locator*.

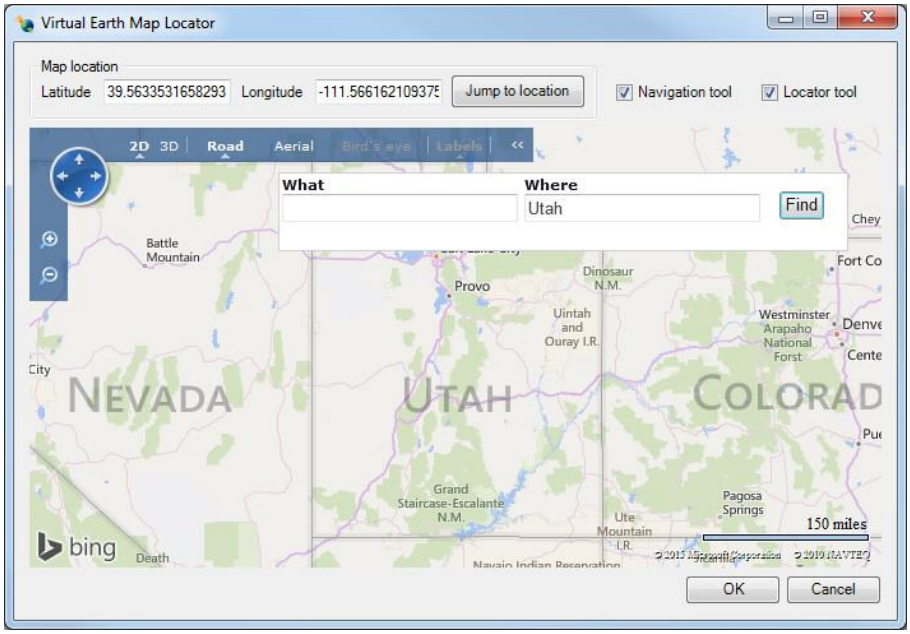

Figure 1 Virtual Earth Map Locator dialog

6. The *Get Online Maps* dialog will appear. This dialog gives a few different options on what type of image to look for. Depending on image choice, it may take longer to retrieve the specified type of image due to the resolutions of the images. For this tutorial, use the *World Street Map* option by selecting it and clicking **OK**.

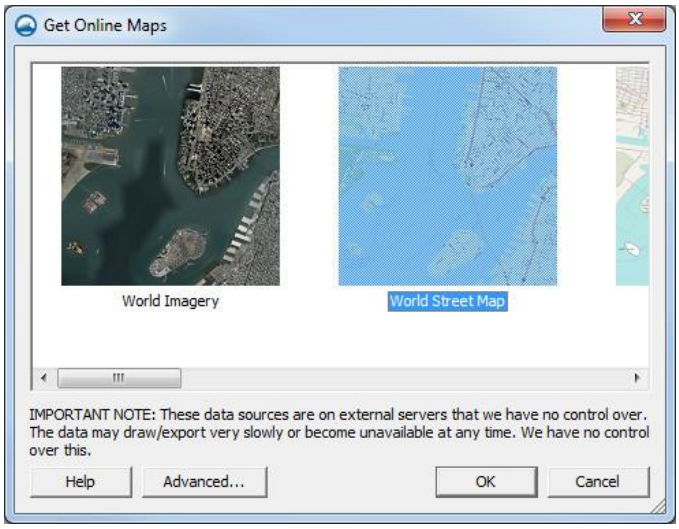

Figure 2 Get Online Maps dialog

7. Wait while SMS retrieves the image. It can take a few minutes depending on the available connection speed. Notice on the left side of the screen in the Project Explorer, there will be a "GIS Data" parent object with an item below it. It may take some time to retrieve the images from the internet so if "(processing)" is under "GIS Data", just wait until it finishes loading.

8. Once the image has finished loading, it will then appear in the display area. Now zoom in manually with the **Zoom** tool. Select the **Zoom** tool then click and drag a box over the area marked "Salt Lake City".
9. Wait while SMS processes. Notice in the Project Explorer the "World Street Map" object will say "(processing) World Street Map" to indicate that SMS is retrieving data from the World Street Map database.
10. Once SMS is done processing, it should look like the image below (Figure 3).

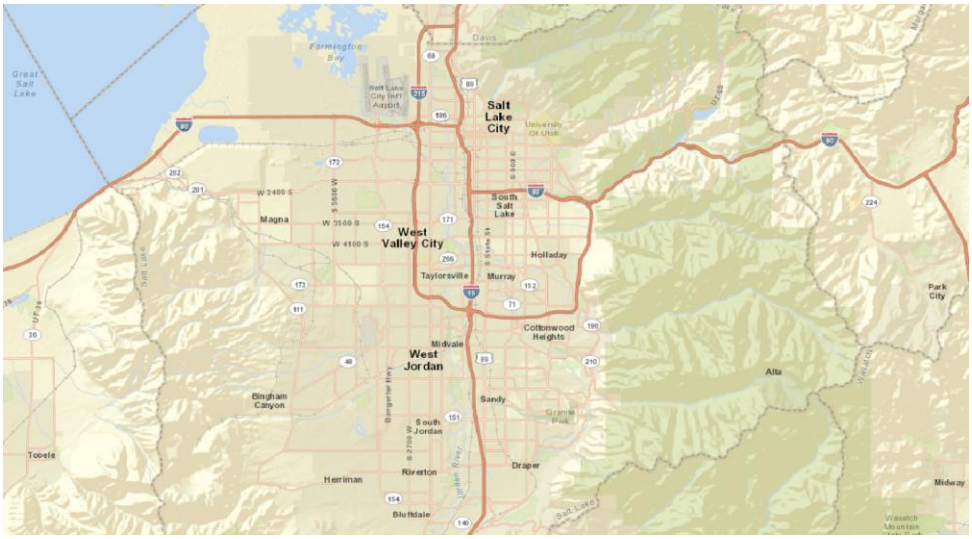

Figure 3 World Street Map of Salt Lake City.

2.2 Saving the image

1. Once having located the particular region desired, make this image a static image that will act as a background image for the project. To do this, right-click the coverage "World Street Map" and select **Convert to Static Image.** The *Resample and Export Raster* dialog will appear.
2. In the *Resample and Export Raster* dialog, set the *Resampling ratio* to "2" and make sure that the *Add to project after saving* option is toggled on. Leave everything else. Now press **OK**.
3. The *Save As* dialog will ask where to save out the information. Go ahead and select a directory to save the tutorial. Save using the name "World Imagery" and keep the default options. Click **Save**.
4. Wait while the image is exported. A TIF image will appear in the Project Explorer once SMS is finished saving the image file.

3 Importing a World Topographic Image

A topographic image can be imported into SMS to serve as a background for a project. This section will instruct how to import and save a topographic image.

3.1 Selecting the location for the topographic image

1. Open a new project in SMS. To do this select *File* | **Delete All**. This will delete all information from SMS. If prompted, click **Yes** to continue.
2. Select *Web* | **Import from Web...** . The *Virtual Earth Map Locator* dialog will appear. From here use the *Virtual Earth Map Locator* tools to find the location to import a topographic image from. For this tutorial a location is given to search for. The location to find is Shinnecock Bay, Long Island, NY.
3. In the *Virtual Earth Map Locator* dialog toggle on the **Locator** Tool option. This will open a toolbar on the screen. In the toolbar type "Shinnecock Bay" in the *What:* field, and "Long Island, NY" in the *Where:* field. Then click **Find**.
4. Once having found the location, center the bay in the window and zoom in to a comfortable view where the entire bay fits the screen nicely.
5. In the top left side of the *Virtual Earth Map Locator* window, switch the view to "Aerial" by clicking on that heading.
6. Click the **OK** button in the lower right corner of the screen. When this is done, SMS takes the last image that was on the screen and allows it to be saved.

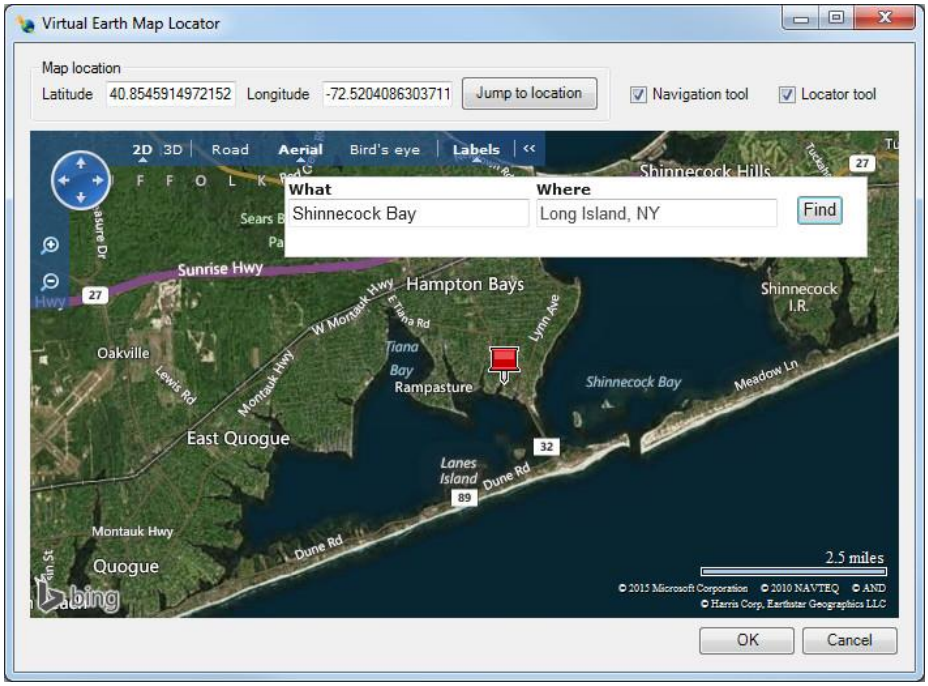

Figure 4 Shinnecock Bay

3.2 Saving the image

1. The *Data Service Options* dialog will appear. Notice the options in the central window. The third option is a *World Topo Map* image. Select this option and then click **OK**.

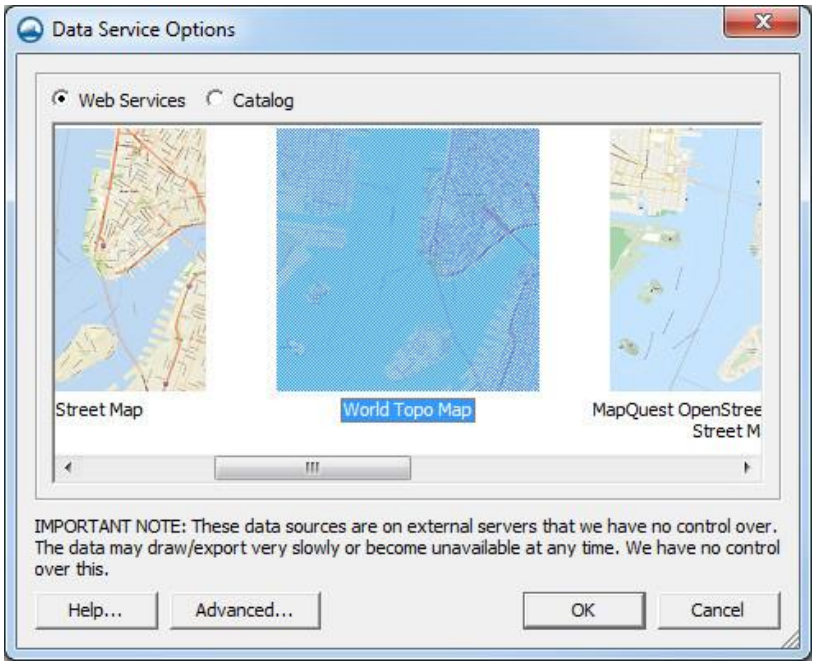

Figure 5 Data Service Options dialog

2. The *Save Web Service Data File(s)* dialog will appear to save the web service data file. Save the file with the name as "shinnecock_bay". Click **Save**.
3. The next dialog that appears will show the complete path of where the file will be saved and shows the extension of the file, as well. Please note that since this file is a topo image, it ends with the extension "*.gm_w_topo.web.tif." The other image types have their own unique file extensions to help differentiate between them all. Click the **Yes** button to go on.
4. If the *Select Projection* dialog appears, leave the default settings and click **OK**.
5. The *Display Projection* dialog will appear after the *Select Projection* dialog is closed. Click **OK**.
6. The *Image Pixel Size* dialog will ask what scale to save the file. There will be a suggested scale already given in the dialog, but a different scale can be selected if desired. Just remember that the lower the scale the more detailed the image and usually it will take more time to save. Leave the scale set at the suggested level and click **OK** to exit the dialog.
7. Next, SMS will create the file and load it into SMS. Notice the file under the "GIS Data" in the Project Explorer.

8. Notice that by zooming in on the image, that it has already been converted to a static image. This is a significant difference between the **Import From Web** and **Get Online Data** command.

4 Changing the Display Order

Images are displayed in the order they are loaded into the Project Explorer, with images on top getting drawn last.

1. Clear the current images by right-clicking each image file and selecting the **Remove** command.
2. Use to *File* | **Open** to bring up the *Open* dialog.
3. Browse to the files "Aerial_Map.tif" and "Street_Map.tif" in the data folder for this tutorial. Select both files and click **Open**.

These images are samples of two maps obtained from different online databases. "Aerial_Map" was obtained using the *World Imagery* option and the "Street Map" came from using the *World Street Map* option in the *Get Online Maps* dialog.

4. In the Project Explorer, select and drag the "Aerial_Map" item so that it is underneath the "Street_Map" item. Notice that the aerial photo is no longer visible in the Graphics Window.
5. Return the "Aerial_Map" back on top by dragging it in the Project Explorer so that it is above "Street_Map".

5 Transparency

The transparency of online maps can be set just as it can with normal images.

1. Right-click on the "Aerial_Map" item in the Project Explorer and select the **Transparency** command from the menu. The *Layer Transparency* dialog will appear
2. Change the transparency to around "40%" and click **OK** to close the *Layer Transparency* dialog.
3. Notice the Street Map photo bleeding through the Aerial image as shown in Figure 6 below.

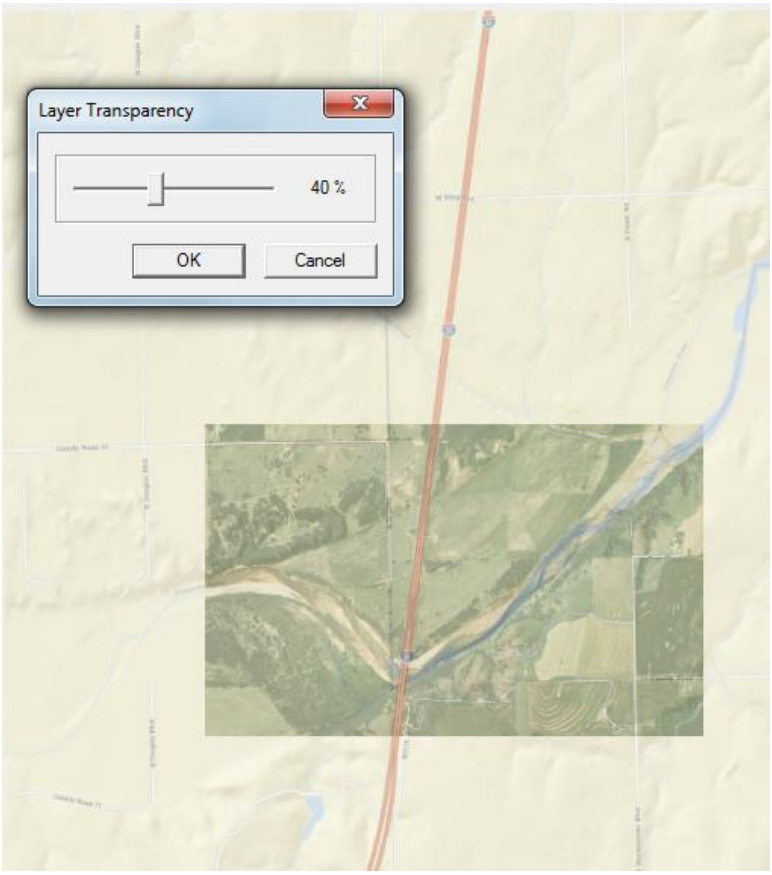

Figure 6 Example of a layer transparency applied to an image

6 Conclusion

This concludes the *Online Data* tutorial. Continue to experiment with this part of SMS or continue on to the next tutorial.