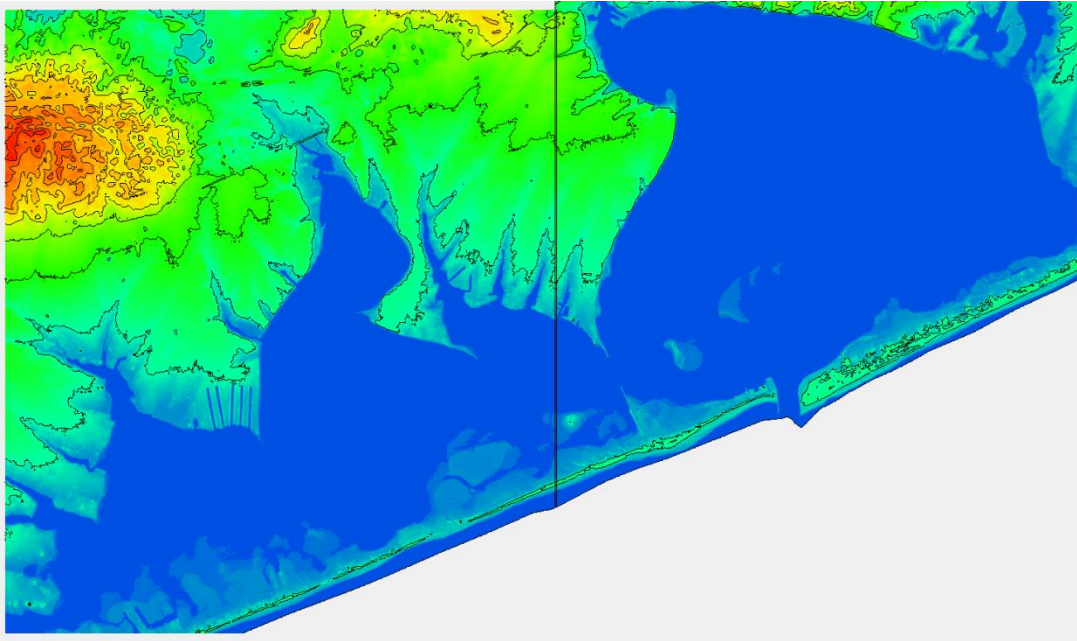




SMS 14.0 Tutorial

Import from Web (GRiD Data)

Import files from the GRiD web database



Objectives

This tutorial gives an overview of the *Import from Web* option offered by SMS used with data from the GRiD website (<https://grid.nga.mil/grid/>) developed by the US military. SMS and the GRiD website interact through an internet connection and allow accessing various types of GIS data.

This tutorial will review the basic skills concerning how to use *Import from Web* with the GRiD website.

Prerequisite Tutorials

- None

Required Components

- SMS Core

Time

- 10–20 minutes

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1 Introduction

The *Import from Web* option adds a way to obtain images from the internet to use as backgrounds for SMS projects. SMS is able to connect to the GRiD data server (<https://grid.nga.mil/grid/>) then retrieve selected LIDAR, elevation raster, and various other types of datasets for many areas throughout the world. This tutorial shows how to obtain elevation raster data for a specific location, but other types of data are also available.

2 Obtaining the Token

Before using the GRiD data service, first need to obtain an access token from the GRiD website. This token is like a username and password and it will allow access the data located on the GRiD website from SMS. This token is used to query and download data for the desired location.

To obtain a token, do the following:

1. Go to the following web site: <https://grid.nga.mil/grid/>
2. Click the **CAC / GEOAxIS Signup / Login** button at the top of the page.
3. Make sure a CAC card is inserted into the computer and on the GEOAxIS sign in page, click the "PKI Certificate" option.
4. Select the appropriate certificate and select the **OK** button.
5. Enter your PIN number as directed.
 Note: If the PIN number is entered incorrectly 3 times here, visit a CAC facility to reset the PIN number.
6. After inputting your PIN number, you will be redirected to the GRiD web page.
7. In the upper right corner of this page, select **API | Manage Tokens**.
8. Select grid (default) for the *New Token Application*.
9. Select the **Generate new token** button.

Note the new Access Token (NOT the Refresh Token) and the token expiration date in the table. It is important not to share this token with other users since it allows access to the GRiD website data. This is the token you will use with SMS to access the data.

3 Downloading Elevation Data

With a token obtain, elevation data can now be downloaded through SMS.

3.1 Define an Area of Interest

After obtaining a token, define a download data area. To define an area of interest in SMS, do the following:

1. Select *File* | **New** to clear all previous data.
2. If asked to confirm deletion of all data, click **Don't Save**.
3. Select *File* | **Import from Web...** to bring up the *Map Locator* dialog.
4. In the *Search* field, type "Shinnecock Bay, New York" and press *Enter*.
5. From the pop-up menu  below the *Search* field, select "ESRI World Imagery".
6. Using the zoom buttons on the upper left of screen, and the mouse, zoom and drag the map view until it appears similar to Figure 1.

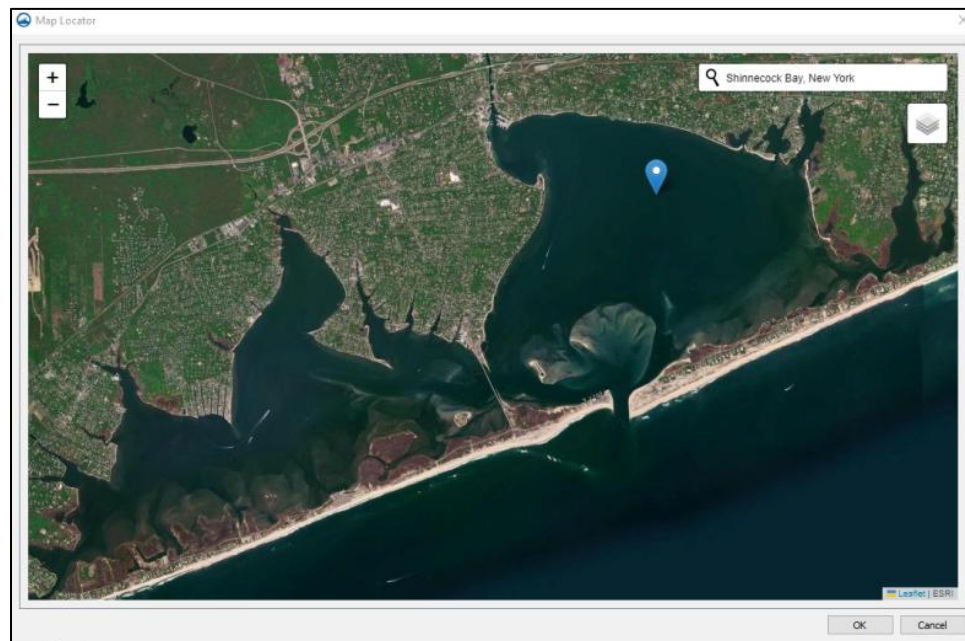


Figure 1 Shinnecock Bay

7. Click the **OK** button to close the *Map Locator* dialog.
8. Click **OK** at the message stating a projection needs to be set.
9. Accept the projection in the *Display Projection* dialog and click **OK** to bring up the *Data Service Options* dialog.

3.2 Defining a New Service

In the *Data Service Options* dialog, there are several download options. To retrieve data from the GRiD system, a new service will need to be defined.

1. Click the **Advanced** button to open the *Select Online Source* dialog.
2. Click the **Add New Source...** button to open the *Add New Source* dialog.
3. Enter the following information in the dialog:
 - a. *Service name*: "GRiD raster"
 - b. *Category*: "GRiD"
 - c. *URL*: "<https://grid.nga.mil/grid/api/v3>"
 - d. *Is SSL Safe?*: turn on.
 - e. *File abbreviation*: "grid_raster"
4. Under *Query layers*, click the **Select...** button to open the *Enter GRiD Authorization Token* dialog.
5. Enter the access token from the GRiD website from section 2.
6. Click **OK** to close the *Enter GRiD Authorization Token* dialog and open the *Select Layer* dialog.
7. Select "NY_LongIsland_Z18_2014 (rasters:135890)" if it is available. If not available, select one of the other raster options.
8. Select **OK** to close the *Select Layer* dialog.
9. Select **OK** to close the *Add New Source* dialog.

3.3 Downloading Data from the Service

With the new service defined, download data from the new "GRiD raster" service by doing the following:

1. Back in the *Select Online Source* dialog, in the *Select data source* section, scroll down to locate and select the "GRiD raster" source that was just created.
2. Click **OK** to close the *Select Online Source* dialog and open the *Save Web Services Data File(s)* dialog.
3. Browse to the desired location to save the file.
4. For the *File name*, enter "shinnecock_bay".
5. For the *Save as type drop-down*, select "Web Services Files (*.tif;*.gml;*.jpg;*.zip)".
6. Click **Save** to close the *Save Web Services Data File(s)* dialog.
7. When asked to confirm the creation of the file, click **Yes**.
8. In the *Enter GRiD Authorization Token* dialog, keep the previously entered token and select **OK** to begin downloading the data.

It may take a few minutes for the data to download depending on the internet connection speed. The download data should appear similar to Figure 2.

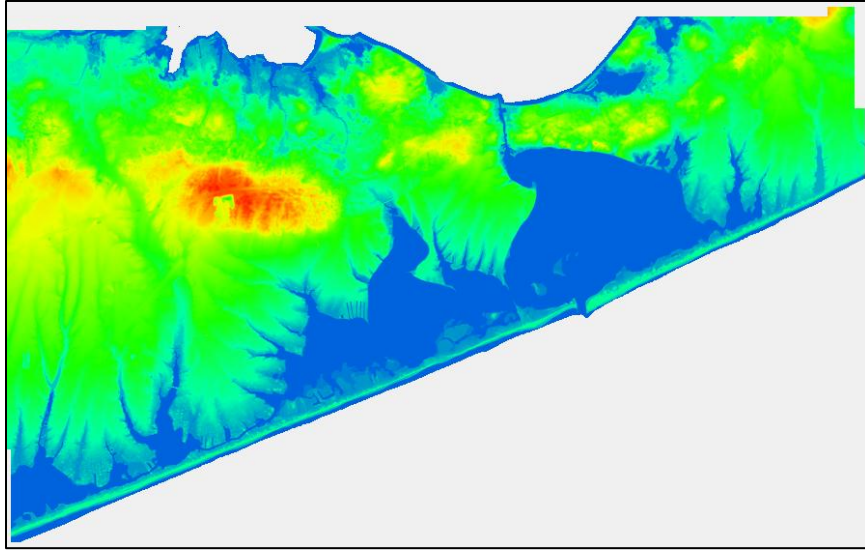


Figure 2 Downloaded GRiD data

Note that several automated steps happen where SMS communicates with the GRiD website after entering the GRiD authorization token.

- First, SMS creates an area of interest (AOI) based on the defined region.
- Second, SMS triggers an Export on the GRiD website given the area of interest and selected layer.
- Finally, SMS waits for the Export to complete and downloads the final file.

After the file(s) associated with the selected area of interest are downloaded, SMS reads the files into the project and displays them in the Graphics Window.

To download additional data layers, create a new service as described in section 3.2.

4 Conclusion

This concludes the “Import from Web (GRiD Data)” tutorial. Feel free to continue to download and experiment with other layers, or exit the program.