Introduction

Access Web Map Service over an internet connection and use it as backdrops during imagery analysis in ERDAS IMAGINE.

Software

- ERDAS IMAGINE

Data

- Multispectral image of Cherokee County, Georgia courtesy DigitalGlobe
- United States National Map OGC Web Map Service

Transcript

0:09

Thank you for watching this Hexagon Geospatial eTraining module: Web Map Service in ERDAS IMAGINE. In this module, we’ll look at accessing Web Map Service, or WMS, over an internet connection and using it as a backdrop during imagery analysis.

Web Map Service is an official specification from the Open Geospatial Consortium (OGC). An OGC WMS delivers a ‘portrayal’, or a picture screenshot, of geographic information presented as a static map, rendered into picture formats such as PNG and GIF and useful for display and view purposes. WMS focuses on rendering customized maps and is an ideal solution for dynamic data or custom-styled maps.

Access to OGC services via Web Coverage Service (WCS) and Web Map Service (WMS) protocols has been available in ERDAS IMAGINE for several years as generic raster layers. However, with the introduction of ERDAS IMAGINE 2015 and onward, a dedicated layer type has been added for WMS that makes access simpler and performance faster.

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As an example of using a WMS service, compare a local satellite image such as this GeoEye-1 multispectral image provided courtesy of DigitalGlobe, showing Cherokee County, Georgia, against an online service such as the one foot resolution ortho imagery offered by the United States National Map.

1. To connect to the US National Map online service, go to the Home tab.
2. In the Windows group, click Add Views > Create New 2D View.
3. Click 2D View #2 to ensure it is the active view.
4. From the File menu select Open > Web MapService. The Open WMS Layer dialog opens.

2:00

You will need to know the URL address of the WMS you want to connect to. Usually this is provided on the web page of the service provider.
5. Copy the URL from the service provider web page and paste it into the **Open WMS Layer** dialog.

6. Click **Test** to ensure the address has been entered correctly.

If the test is successful, the Message dialog reads “Connection succeeded”.

7. Click **OK**.

8. If you are likely to need to access this WMS service again, add it to the pull-down list of available links by clicking **Add**.

9. To add the service to the active View, click **OK**.

Initial connection and display may take a few minutes depending on the speed of your network connection and the efficiency of the Server.

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Once the service has displayed it can be zoomed and panned as normal using the Ribbon tools or the mouse controls.

10. To automatically pan in a particular direction select the **Pan** tool.

11. Click once in the center of the View and then move the mouse in the direction you want to pan.

12. Click once to stop panning.

13. To compare and geographically sync the two Views, first activate the 2D View containing the GeoEye-1 image.

14. To identify the next View to sync with it, click the **Sync** icon in the 2D View containing the WMS service.

15. To make the second View the same scale as the active View, from the **Home** tab, in the **Windows** group, click **Equalize Scales**.

Now you can pan, zoom or rotate one View and the other synced views will follow. As you roam or zoom the View containing the service connection, it is populated with data requested from and delivered by the remote internet server.

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We can also layer WMS services onto each other or other data sources.

16. Close the second View to maximize the area of the remaining View.

17. To access another Service click **File > Open > Web Mapping Service**.

18. In the **URL** field, paste the following address:

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http://activefiremaps.fs.fed.us/cgi-bin/mapserv.exe?map=conus.map&SERVICE=WMS&VERSION=1.1.1&REQUEST=GetCapabilities
```

19. Click **Test** to ensure the address has been entered correctly.

20. Click **OK** to close each dialog.

4:17

As seen in the Contents panel, this service, provided by the USDA Forest Service to track fire detections, serves multiple layers. By default, ERDAS IMAGINE has turned on the layer with
the largest geographic extent – in this instance a Shaded Relief representation of the continental United States.

21. To see the accumulated fire detections for the past year, in the Contents panel, check Cumulative Fire Detections to turn on the layer.

22. Check Shaded Relief to turn off the layer.

23. Turn on other service layers such as State Boundaries and Cities for reference.

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Note that we cannot yet compare the fire detection service and other service layers against our original, local imagery because the white background of the service layers obscures underlying data.

24. To change this, click to activate one of the displayed WMS layers.

25. Click to open the WMS tab.

On the WMS tab note that the service is defaulting to delivering the requested image tiles in JPEG format. This format has the advantage that it is compressed and therefore small and quick to transmit from the server to the local display. JPEG does not support layer transparency. However, the Format drop-down lists several server options including PNG and GIF formats.

26. Select PNG. This format supports transparency masks.

PNG will take longer to deliver to the client computer because of its larger size, but it allows the background to be transparent so that we can see our local data underneath.

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The yellow dots represent the location of burn detections during 2014 as well as other layers such as state boundaries. Other ERDAS IMAGINE tools can be used to compare layers.

27. On the Home tab, in the View group, click Swipe to peel the upper layers off the underlying data.

28. In the Transition tab that opens, in Control group, click Swipe Line to display a vertical line in the View.

29. Drag the Swipe Line back and forth to show and hide the WMS layers containing the yellow dots and city names.

30. Once the data has been analysed, click Close Transition to close the Swipe tool.

31. The Web Map Service layer can also be accessed from the Home tab by clicking Basemap and selecting Hexagon Content. The Open WMS Layer dialog opens.

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Note that by accessing the Web Map Service layer from this location it defaults to the Hexagon Imagery Program service. Like some other WMS services, this service requires log-in credentials.

32. Simply type in your username and password credentials, click Test and OK as shown previously.

33. Now if we want to see Fire Detections in a part of Texas, in the Contents panel, move the Hexagon Imagery Program layer below the Fire Detections service layer.

34. Check Texas_2014_CIR (color infrared) to turn the layer on.
35. Uncheck VCP to turn the layer off.

36. Right click Texas_2014_CIR and select Fit Layer to Window to zoom to the extent of that service layer.

You may want to change this new service to PNG.

37. To do so, go to the WMS tab, and from the Format list, select image/png.

We can immediately see that there were no Fire Detections in the vicinity of Hebbronville, Texas in 2014.

Finally, if you access Web Map Service layers frequently, customize the ERDAS IMAGINE workspace to make access easier.

This can be done by adding the Open WMS Layer dialog to your Quick Access Toolbar.

38. To do so, go to File > Open and right click the Web Map Service option.

39. Select Add to Quick Access Toolbar. A button is now present on the Quick Access Toolbar.

40. Now click once on the button to open the Open WMS Layer dialog.

Throughout this module, you've seen how to display Web Map Service layers and some of the basic ways that they can be used interactively with other data.

Thank you for watching this eTraining module from Hexagon Geospatial. For more eTraining, please visit hexagongeospatial.com/eTraining.