QGIS: Adding WMS Layers

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QGIS: Adding WMS Layers

Welcome to the Essential ArcGIS Task Sheet Series. This series supplements the Iowa State University GIS Geospatial Technology Training Program short course series, "Essential ArcGIS Tutorial Series." The task sheets are designed to provide quick, easy instructions for performing specific tasks in GIS.

Web Map Service (WMS) layers are map layers that are streamed over the web. These layers can range from imagery to map coverages and anything in-between. There are several advantages to using this type of layer over downloading data and storing it on your local machine. For one, high resolution imagery usually has a very large file size which can quickly use up memory on a local machine. WMS layers are usually updated by the publisher, giving you the most up-to-date layer without having to download it again. Secondly, using a WMS layer for imagery gives you a seamless image between counties boundaries. There is not always exact alignment between county boarders when downloading imagery by county. An important factor to remember is that a high speed Internet connection is needed when using a WMS layer in order to view and navigate around the layer quickly. This task sheet will demonstrate how to connect to WMS layers using QGIS and show you the difference between a seamless and a seamed image.

1. WMS layers for Iowa

2. Add WMS Layer
   a. Open QGIS. Click on the Add WMS layer icon. This will bring up the Add layer(s) from a WM(T) Server window.
   b. In the Add layer(s) from a WM(T) Server window, click on the New button in the upper left corner near the Connect button. This will pop up the Create a new WMS connection window.
   c. In the Name box type: Iowa 2013 Summer Natural Color and in the URL box below enter in this link: http://ortho.gis.iastate.edu/arcgiserver/services/Ortho/naip_2013_nc/ImageServer/WMServer? Once added, click on the OK button. This WMS layer is from the Iowa Geographic Map Server. Hint: see above for more information.
   d. Now you should see Iowa 2013 Summer Natural Color in the layers drop down menu. Click Connect.
e. Once the layer appears below, click on it to highlight it in blue and then click **Add** in the lower right corner. Once the layer has loaded in the map viewer, (behind the Add Layers window) click **Close**. Below is the 2013 WMS layer along with an outline of Iowa counties shapefile. *Hint: loading the layer in the map view may take a minute.*

![Map Layer Image]

### 3. Seamless Image vs. Seamed Image

a. Compare the two images on the right. You can see that the top image smoothly flows from Mahaska County to Keokuk County without any interruption in the image. This represents the WMS layer **Iowa 2013 Summer Natural Color** from the Iowa Geographic Map Server.

![Top Image]

b. In the second image you can see a large black bar cutting between the two counties. This represents what might happen if you download aerial imagery from the NRGIS by county and the county boundaries in the imagery don’t quite line up. *Hint: the NRGIS stands for the Iowa National Recourses Geographic Information Systems Library [http://www.igsb.uiowa.edu/nrgislibx/]*.

![Bottom Image]

c. This is one of the benefits of using a WMS layer for imagery rather than downloading and stitching together your imagery by county.

### Contact:

Amy Logan amylogan@iastate.edu, 515 294 0980 for QGIS specific questions. Bailey Hanson bahanson@iastate.edu, 515-520-1436 or Professor Christopher J. Seeger, ASLA, GISP cjseeger@iastate.edu, 515-509-0651 for more information about the Geospatial Technology Program. This task sheet and more are available at www.extension.iastate.edu/communities/gis

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