



SUBSETTING AN IMAGE USING A SHAPEFILE

eTRAINING

Introduction

Learn to subset an image using a shapefile by using an existing vector polygon to define the output boundary.

Software

- ERDAS IMAGINE

Data

- TM_00.img
- Wynoochee_drainage.shp

Transcript

0:09

Thank you for watching Hexagon Geospatial eTraining: Subsetting an Image with a Shapefile.

You are starting today with two files loaded in the IMAGINE Viewer. *TM_00* is a Landsat image showing a portion of Washington State. It's displayed using a Near Infrared band combination so our vegetation appears red, bare ground is a cyan-blue, and water is dark blue or black.

You also have a shapefile, *wynoochee_drainage.shp*, loaded in the Viewer. This shape file is a polygon vector file of the Wynoochee River Valley. In this video you'll use this file as the defining boundary to subset the Landsat image.

0:47

The first step when subsetting a shapefile is to create an AOI layer based upon the vector polygon.

1. Click on the polygon in the Viewer to select it.
2. Next, from the **Edit** Group on the **Home** Tab, click the **Copy from Selected Object** button.

1:06

Notice that a new AOI layer has been added to the **Contents Pane** and an AOI polygon has been created following the boundary of the selected vector polygon. You no longer need the Shapefile.

3. Remove it by right clicking on the layer in the contents pane and selecting **Remove Layer**.

1:25

Sometimes the image under the AOI can make the AOI polygon difficult to see. You can change the style of the AOI.

4. First select it in the Viewer.
5. Open up the styles tools from the **Styles** properties on the **Drawing** Tab.
6. Change the width of the line and change the foreground color to yellow.

This creates a thick, dashed black and yellow line that is much easier to see over the imagery.

1:50

The AOI layer can be saved to use at another time.

7. Select **File, Save AOI Layer As**.
8. Define where the file should be saved, give it a name, and click **OK**.

2:04

Next, you'll create the subset image.

From the **Geometry Group** on the **Raster** tab, select **Subset and Chip, Create Subset image**.

2:12

The input file has been defined by default with the active image layer in the Viewer, but you will need to define the output file name.

9. Name this `Subset` and click **OK**.
10. Turn off **Ignore Zeros** in **Output Statistics**.
11. Then click the **AOI** button.

2:28

This allows you to define which AOI layer is used for the subset boundary. In this dialog, you have the option to select **Viewer** as the AOI source. Always be sure at least one AOI is selected in the Viewer with a bounding box around it before using this dialog.

12. When you have made your selection, click **OK**, and then **OK** to the subset dialog.

The **Process** list will show the status of the image, and indicates when the processing has finished.

13. When it's done, you can close this dialog.
14. You can now add a second Viewer and display the subset image.

3:03

The first thing you notice is the colors are very different than the colors in the original image. The display colors are applied with a contrast stretch that is calculated from the image pixels statistics. Because there are a lot less pixels in the subset image, the calculated stretched values are much different than the original image. You can easily apply the same colors to the subset image by saving the breakpoints from the original and applying them to your subset.

3:29

15. Activate the original image in Viewer 1 and use the **Adjust Radiometry** tools in the **Multispectral** Tab to open the **Breakpoint Editor**.
16. In this dialog, click **Save** to save the breakpoint file.
17. Next, reactivate the subset image in Viewer 2.
18. From the **Adjust Radiometry** tools, select **Load Breakpoints**.
19. Select the file you just saved and click **OK**.

The breakpoints that define the stretched pixel values are now applied to the subset image and the colors look identical the original image. You can now save the image with the breakpoints so each time you load this image, the colors will look identical to the original image.

4:14

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