Image Analysis for ArcGIS FAQs[1]

Fall 2004

Remote Sensing Applications Center
http://fsweb.rsac.fs.fed.us

How Do I Perform an Unsupervised Classification?

Use the image classification tools in Image Analysis for ArcGIS to perform a simplified version of an Unsupervised Classification. This document describes how to use the image classification tools in Image Analysis for Unsupervised Classification.

What You Will Need and Other Assumptions

- A satellite image that has been properly prepared for input to an image classification (e.g., atmospheric correction, terrain correction, etc.)
- Aerial photographs and other ancillary data for the same area, as well as good local knowledge of the terrain, vegetation and soils for the area
- The Unsupervised Classification tools in Image Analysis are very limited as compared to those available in ERDAS Imagine

Overview of Steps

1. Load your satellite image to be classified into ArcMap's Data Frame.
2. Specify the required parameters for the Unsupervised Classification tool and run your classification.
3. Label the spectral clusters in your new classified image, using all available ancillary data to assist with this process.
4. Recode the classified image to your final classification scheme.

Step-by-Step Example

1. Start ArcMap from your Desktop, or on the Windows Taskbar click **Start | Programs | ArcGIS | ArcMap**. Ensure the Image Analysis extension is visible. If not, from ArcMap's main menu select: 1) **Tools | Extensions** and enable **Image Analysis**; and 2) **View | Toolbars** and enable **Image Analysis**.

2. Use the **Add Data** button on the main toolbar of ArcMap to add your satellite image to the Data Frame.

3. From the Image Analysis extension, click **Image Analysis | Classification | Unsupervised / Categorize**.

4. In the Unsupervised Classification dialog, specify your **Input Image**, your **Desired Number of Classes**, and your **Output Image**—be sure to write your output classification to an appropriate project directory. Click **OK**.

5. Examine your classified image, label all clusters, and recode to your final classification scheme using the recode tool in Image Analysis—refer to ***How Do I Recode a Thematic Image?*** for further instructions.

[1] Produced by the USDA Forest Service RSAC (http://fsweb.rsac.fs.fed.us). A Forest Service version of Image Analysis for ArcGIS was used to develop this reference document. No warranty is made as to completeness or accuracy.