

Image Analysis for ArcGIS FAQs¹



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How Do I Create Vegetation Indices?

Use the Image Analysis extension in ArcMap to create various vegetation indices from a multispectral image. This document explains how to perform this operation using ArcGIS. Vegetation indices are often useful for enhancing vegetation discrimination within an image, and are sometimes used for subsequent spectral analysis.

What You Will Need and Other Assumptions

- A multispectral image (ERDAS Imagine format)

Overview of Steps

1. Use the Spectral Enhancement tools of the Image Analysis extension in ArcMap to create a vegetation index from your image.

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 multispectral image to the Data Frame.
3. Using the Image Analysis extension, click **Image Analysis | Spectral Enhancement | Vegetative Indices**.
4. In the Vegetative Indices dialog, specify your **Input Image** (your multispectral image), choose the correct **Near Infrared Band** and **Visible Red Band**, select the **Desired Index**, and specify a location and filename for your new **Output Image** (the vegetation index to be created). Click **OK** to create your new vegetation index. *Note: it is very important that you know which band numbers correspond to the actual NIR and Visible Red bands in your image. Otherwise the output vegetation index will not be valid!*
5. Inspect the results.

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.