SPECTRAL RATIOING

Open image in viewer (mss5.img)

Review histograms (Utility →Layer Info)

- Digital Numbers (DNs) decrease from band 1 to 4 generally – DN is the spectral reflectance value

We will divide band 1 by band 4.

- Why is important to think through which bands to divide & how?

> Truncation (Erdas functions do round off values, be sure to specify whether **integer**)

> If divide 4 by 1 almost all values will be less than 1 & hencel likely truncated to zero

Start *Model Maker*

➢ In *Modeller* → *Model Maker*

❖ Use ⬡ to add raster layers and ◯ to add a function, and ↘ to connect any of two objects (raster-function, function-raster and vice versa)

❖ Double-click on each object to specify the parameters

❖ Specify the input file name & output name & *Declare as* to **Float** & click Ok.

❖ Specify the Function as:

EITHER 0 IF ($n1_mss5(4) == 0) OR ($n1_mss5(1) / $n1_mss5(4)) OTHERWISE

❖ Firstly set Output Data type as *Unsigned 8-bit,* rerun the ratioing with Data type set to *Float*

❖ View the images and compare.

- What it the importance of 'Output Data type'?

SPECTRAL INDICES

Open TM image (lanier.img)

Start *Interpreter* (Interprter → Spectral Enhancement → Indices…)

- Indices dialogue box opens (typical indices sm of which have graphical model: press *View*)

- We will use pre-defined NDVI model

  - ❖ Set input (lanier.img) and output file (specify folder to save it)

  - ❖ Check **Stretch to Unsigned 8-bit**

  - ❖ Select **NDVI** as the function

  - ❖ Run the process

- Modifying the index

  - ❖ Start *Modeler* (Modeler → Model Maker)

  - ❖ Open graphical model **veg_ndvi** & save it as **veg_ndvi_custom**

  - ❖ Study the model. What is the the purpose of the last function in the model?

  - ❖ Now change and replace band 4 and 3 with band 3 and 2 respectively.

    - o Don't forget to change the output raster layer

  - ❖ Rud the model.

  - ❖ Why do we choose bands 4 and 3 (instead of 3 and 2) in NDVI?