

## Lab 8 RGB-IHS-RGB and Image Sharpening    Name:

Upload the following files to the instructor:

(1j) "YourName\_ASTER\_CIR\_my\_sat\_str" .jpg

Question 1: A. Discuss the differences in the colors between the original ASTER CIR image and the ENVI saturated stretched CIR image.

B. Do you prefer the "instant" ENVI saturation stretch or your 2% saturation stretch that you created at the end of this exercise? (page 7) WHY?

Question 2: A. Which HSV grayscale image has a significant skew to the left (meaning most pixels are dark)?

B) What is the range of brightness for Hue pixels?

C) What is the range of brightness for Intensity (Value) and Saturation pixels?

D) What is the brightness value on the horizontal axis of the Saturation (View 3) histogram when you slide the vertical line to the left so that 95% of the pixels are below that brightness value (Hint: look above the vertical line for the data brightness value and percentage of pixels to the left of the vertical line).

Question 3: With the Cursor Value tool, *Click-on* a light brown – light orange agricultural field (fallow – no vigorous crops growing) in the color IR in View 1. The data values for each type of image are listed in the “Data:” entry space of the Cursor Value window. Write the data values you find for the same feature in the table below

| View    | Type of Image     | Data Value (brightness) |
|---------|-------------------|-------------------------|
| View #1 | Color IR          |                         |
| View #2 | Hue               |                         |
| View #3 | Saturation        |                         |
| View #4 | Intensity (Value) |                         |

Question 4: What is the mean and StdDev of the stretched saturation grayscale image?  
(Hint: Quick Stats has the answer)

Question 4: Is the 3-band image displayed in View #1 natural color or color IR?

Question 5: A. Do you see much difference in spatial detail when both the 120 cm and 30 cm images are *Zoomed to Full Extent*?

B. Describe the difference in spatial detail when zoomed-in to the baseball in-field at baseball stadium.

C. Each 120 cm pixel covers how much more area compared to each 30 cm pixel? (Can answer with cm-based measurement or a magnitude difference (for example, 5 x more area)