

“Blue Band Correction” of Images Using MultiSpec© PC

When viewed with the MultiSpec® software, Landsat Thematic Mapper (TM) images provided to GLOBE Program® schools do not show the same spectral patterns that are used in MultiSpec tutorials (available at: <http://www.globe.gov/hq/templ.cgi?multispec>) or that are demonstrated in GLOBE training sessions. Images used in tutorials and training have been “corrected” for some atmospheric effects, and these corrections are not automatically applied to all GLOBE Program images sent to schools.

A tutorial for doing this correction, called the “Blue Band Correction” can be found on the University of New Hampshire GLOBE page (<http://www.globe.unh.edu>). This tutorial was written for the Macintosh platform before the ability to carry out this process had been implemented in the PC version of the software.

The process can now be carried out on the PC platform, using the latest version of MultiSpec PC available from Purdue University at:

<http://dynamo.ecn.purdue.edu/~biehl/MultiSpec/>

Except for displaying the data to be used, the process used in MultiSpec PC is identical to that shown in the original tutorial.

This document will show you how to access the statistics needed to do the correction in MultiSpec PC.

The “Blue Band” Correction

- Before beginning, download the document “Blue-Band Corrections for GLOBE© MultiSpectral Landsat Images” from the University of New Hampshire WWW site.

The material that follows replaces the instructions on pages 3 through 5 of the tutorial.

Opening the Image and Gathering Needed Data

- **Launch** MultiSpec
- **Select** your image and **Open** it in any band combination
- From the **Processor** menu, select **Display Image** (Ctrl-D is a shortcut)
- The standard **Display Specifications** window opens, shown below

	Start	End	Interval
Line	1	512	1
Column	1	512	1

Display Type: 3-Channel Color
Magnification: 1

Enhancement Bits of color: 24
Stretch: Linear Stretch
Min-maxes: 2 Percent Tails Clipped
Treat '0' as: Data
Display levels per channel: 256

Channels Red: 1
Green: 2
Blue: 3

Load New Histogram

Buttons: Cancel, OK

- In the **Channels** selection window, enter the band combination 1, 2, 3 as shown above. This is different from the normal “True Color” (3, 2, 1) or “False Color Infrared” (4, 3, 2) views, but necessary for this process.
- In the **Min-maxes** pull-down menu, select **User defined**.

- The window shown below, the **Set Specifications for Display Enhancement**, opens.
- Under the heading **Enhancement**, copy down the **Min** and **Max** values shown for channels 1 through 3.

Note: The values you find for your image will differ from those shown in this tutorial. They vary from image to image. Those used here were taken from an image of Logan, Utah.

		Data		Enhancement	
		Min	Max	Min	Max
Red channel:	3	18	181	24	96
Green channel:	2	26	150	32	77
Blue channel:	1	43	155	49	85

Channel min/max with percent of tails clipped:

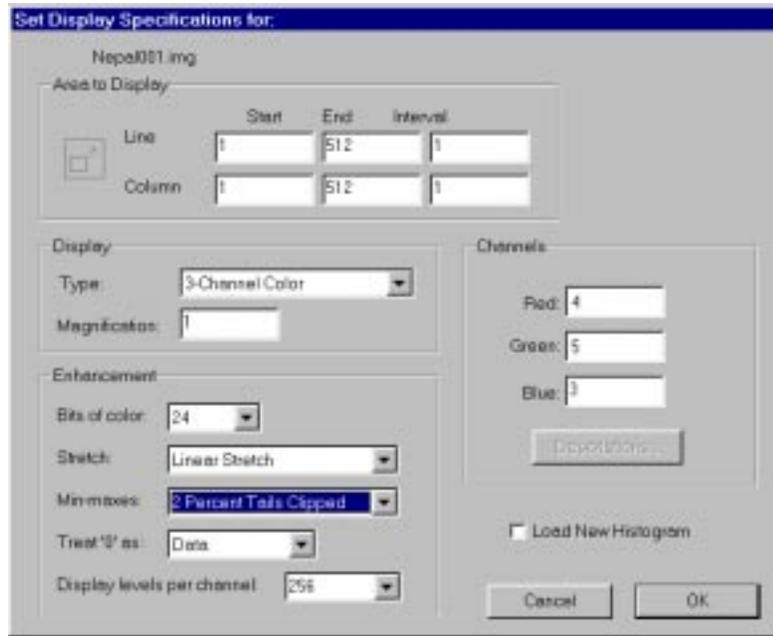
 Entire data range

 User specified

Cancel OK

- Click **Cancel**, which returns you to the **Display Specifications** screen

- In the **Channels** window, enter “4” and “5” for the Red and Green channels, as shown below.



- Again, in the **Min-maxes** window, select **User Defined**.
- **Copy** the **Enhancement** values for channels 4 and 5, just as you did for channels 1 - 3.
- When you have copied these data, click **Cancel**.

Note: This tutorial assumes that your image contains 5 channels, which is standard for images supplied by the GLOBE Program to its participating schools. If your image has a different number of channels, modify these instructions to fit your number of channels.

- Now proceed to page 6 of the “Blue-Band” tutorial.