# **Spatial Display**

# MicroImages View Histograms for Any Raster or Raster Layer

The Histogram/Statistics window allows you to view the histogram for any grayscale raster or the color-component histograms for any color composite raster or RGB separates display layer. You can open the Histogram/Statistics window from the Display Manager in the Display process or from the Layer Manager in other TNTmips processes with display capabilities. The Histogram/Statistics window provides graphic histogram plots, histogram statistics, and detailed raster properties listings. You can view the histogram for the entire image area or for a portion of the image. Histograms also can be saved as an image or as a text file.

You can view the histogram for a grayscale raster of any bit-depth. A raster histogram plots cell values on the x-axis versus cell counts on the y-axis. The histogram at the right is for a 32-bit floating-point elevation raster.

When you open the histogram window for any single-raster layer, it shows the histogram for that raster by default, but you can use the Raster button at the top of the window to choose any other raster object to view its histogram.

K q0520\_se\_NAIP2006 - Histogram/Statisti... 😑 🗖 🔀

100

150

Raster... q0520\_se\_NAIP2006.tif

500,704 400,000

300,000

200,000

100.000

Histogram Statistics Properties

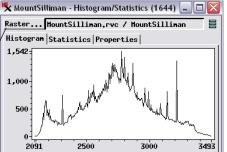
50

#### **RGB Color Composite Raster**

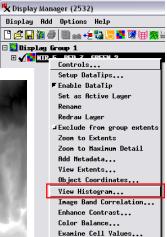
200

255

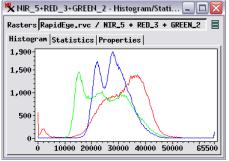




To open a Histogram window from the Display Manager, rightclick on the raster laver entry and choose View Histogram from the menu.



# **RGB Separates Display Layer**



The histogram window for a three-component color composite raster or an RGB separates display layer shows the histograms of all three components, with each curve in its respective component color. You can press the Settings icon button and use the buttons in the Component section of the menu (illustrated to the right ) to choose to show the histogram of any single color component or switch back to All. The histogram window for an RGB separates layer does not provide the option to choose another raster as the histogram source.

⊒ Logarithmic

Compute full histogram

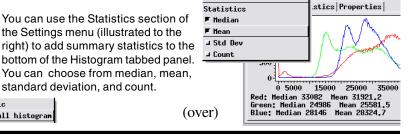
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1542					
3313					
339					
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	Count	6250000			
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The labels at the top of the statistics columns indicate whether the raster has full or sampled histograms. If the latter, an option on the Settings menu lets you compute and save full histograms.

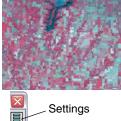
#### **Histogram Statistics**

The Statistics tabbed panel (illustrated to the left) lists the histogram statistics for each histogram shown, including minimum, maximum, mean, median, and modal cell values and the standard deviation. Also shown are the cell count for the histogram bin with the highest count (labeled Most) and the total cell count. If the raster has null cells (via a null

mask or null value) then a null cell count is also listed (null cells are not used in computing histograms). For floating-point rasters the histogram bin interval is also shown.

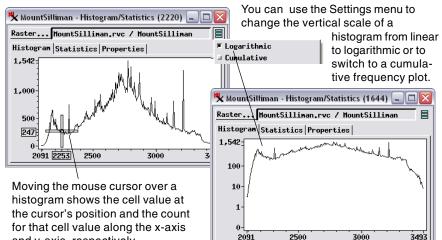


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#### **Histogram Vertical Scale**



#### **Raster Properties**

🛠 MountSilliman - Histogram/Statistics (2220) 📃 🗔	×
Raster MountSilliman.rvc / MountSilliman	
Histogram Statistics Properties	
Raster Object Name: MountSilliman Description: DEM 10-m for Mount Silliman CA 7.5-min quad Created: 06/23/05 15:15:08 Rows: 1406 Columns: 1142 Tile Rows: 128 Columns: 128 Data Type: 32-bit Floating-Point (3)	3
Defined cell size: line: 0 column: 0 Computed cell size using georeference: 'FromSDTS') Row: 10 meters Column: 10 meters	
Null Value: -32766 Compression: None	v

The Properties tabbed panel shows the object properties for the source raster or rasters. These properties include raster dimensions, data type, cell size, and null value setting if any. (This information also can be accessed from the File Manager.)

The histogram computed for the

subarea is automatically added

to the plot in the Histogram/

Statistics window. The Area

section of the Settings menu

lets you choose to view the

just the region, or both region

Compute full histogram Save as Image...

150

200

and full histograms.

⊒ Logarithmic

Save as Text...

Area

🗘 Full

■ Both

Region

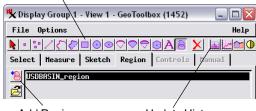
Basin region computed from an elevation raster.

histogram for the full image only,

You can view a histogram of any portion of the raster you are viewing. You can outline the desired image area using any of the area drawing tools in the GeoToolbox, by generating a region, or by adding a previously-saved region object to the list on the Region tabbed panel in the GeoToolbox (see the Tutorial entitled Using Regions). Then press the Update Histograms icon button on the GeoToolbox toolbar to compute the histogram or histograms for the designated area.

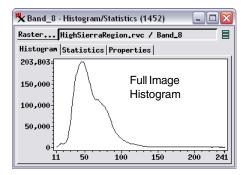
GeoToolbox drawing tools

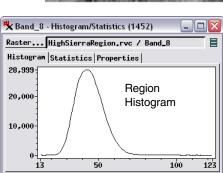
and y-axis, respectively.

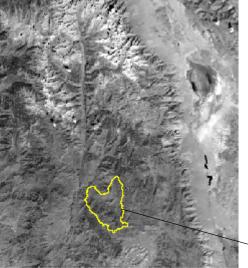


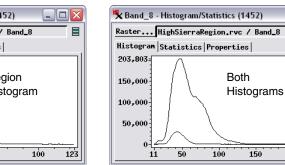
Add Region

Update Histograms



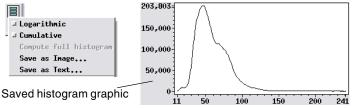






The Histogram/Statistics window's Settings menu provides the option to save the histogram graphic (plot area with labels) as an image. You can save the histogram image in JPEG, JPEG2000, PNG, or TIFF formats. The menu also provides the option to save the current histogram(s) in a text file.

## Saving Histograms



### **Histograms for Image Subareas**