

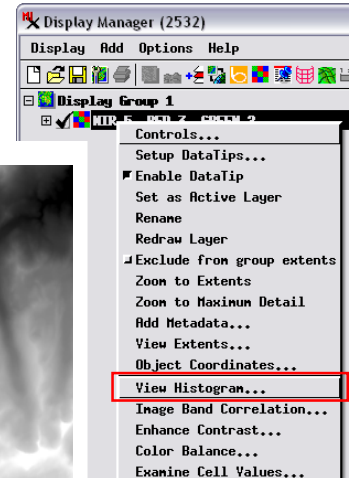
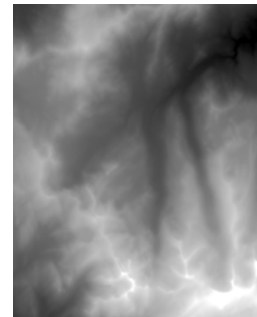
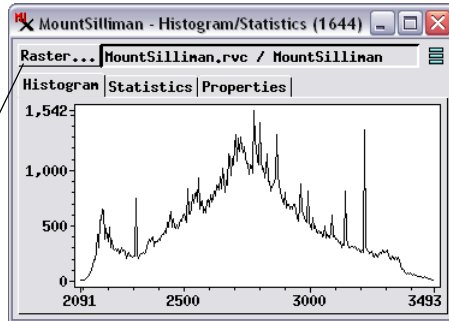
# View Histograms for Any Raster or Raster Layer

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.

To open a Histogram window from the Display Manager, right-click on the raster layer entry and choose View Histogram from the menu.

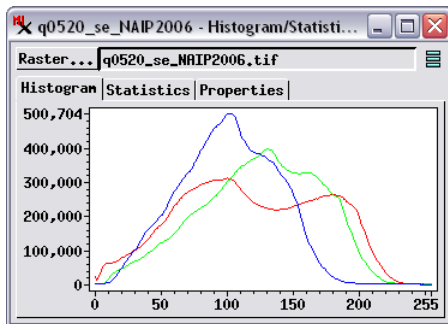
You can view the histogram for a grayscale raster of any bit-depth. A raster histogram plots cell values on the x-axis versus cell counts on the y-axis. The histogram at the right is for a 32-bit floating-point elevation raster.

Grayscale Raster

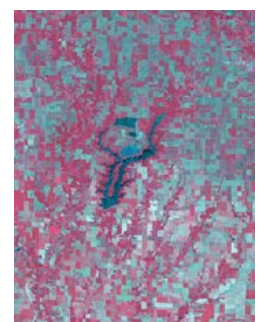
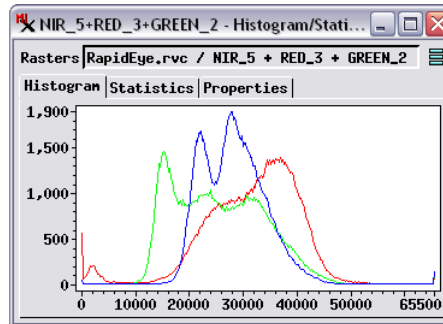


When you open the histogram window for any single-raster layer, it shows the histogram for that raster by default, but you can use the Raster button at the top of the window to choose any other raster object to view its histogram.

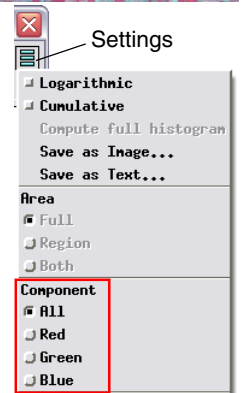
RGB Color Composite Raster



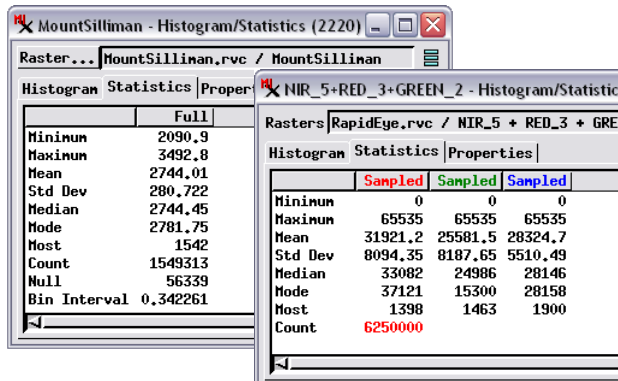
RGB Separates Display Layer



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.

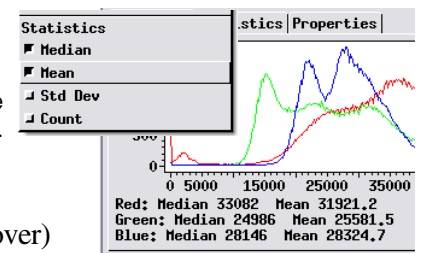


## Histogram Statistics

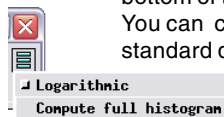


The Statistics tabbed panel (illustrated to the left) lists the histogram statistics for each histogram shown, including minimum, maximum, mean, median, and modal cell values and the standard deviation. Also shown are the cell count for the histogram with the highest count (labeled Most) and the total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

You can use the Statistics section of the Settings menu (illustrated to the right) to add summary statistics to the bottom of the Histogram tabbed panel. You can choose from median, mean, standard deviation, and count.

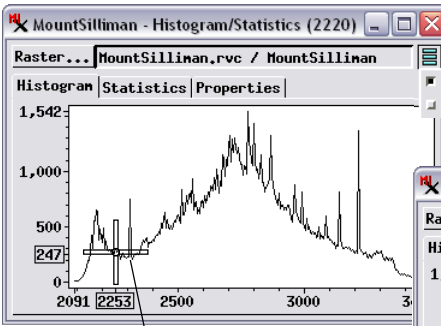


The labels at the top of the statistics columns indicate whether the raster has full or sampled histograms. If the latter, an option on the Settings menu lets you compute and save full histograms.



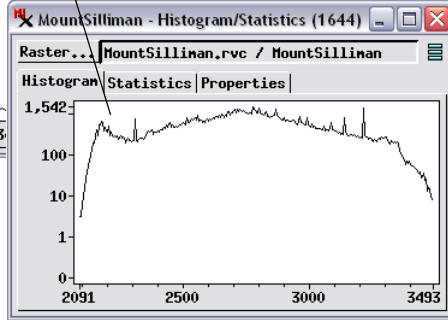
(over)

## Histogram Vertical Scale

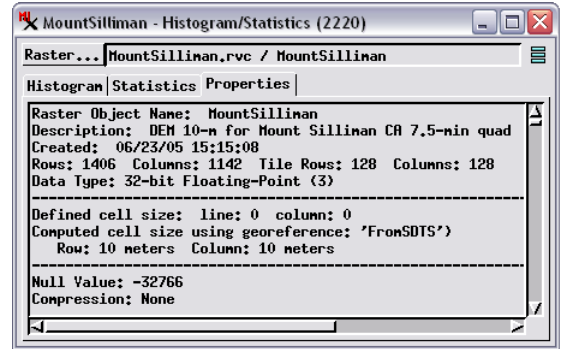


Moving the mouse cursor over a histogram shows the cell value at the cursor's position and the count for that cell value along the x-axis and y-axis, respectively.

You can use the Settings menu to change the vertical scale of a histogram from linear to logarithmic or to switch to a cumulative frequency plot.



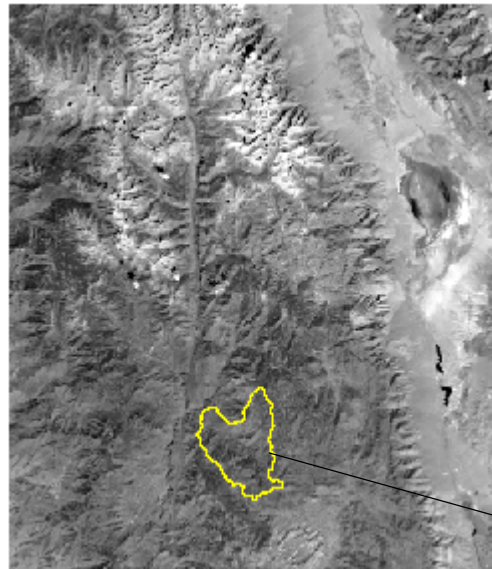
## Raster Properties



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.)

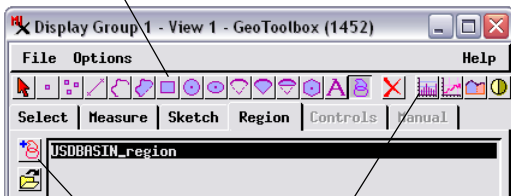
## Histograms for Image Subareas

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 on the GeoToolbox toolbar to compute the histogram or histograms for the designated area.



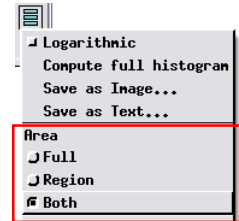
The histogram computed for the subarea is automatically added to the plot in the Histogram/Statistics window. The Area section of the Settings menu lets you choose to view the histogram for the full image only, just the region, or both region and full histograms.

GeoToolbox drawing tools

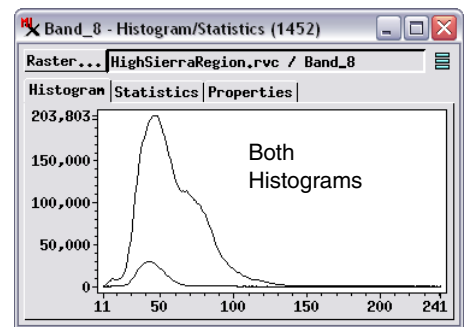
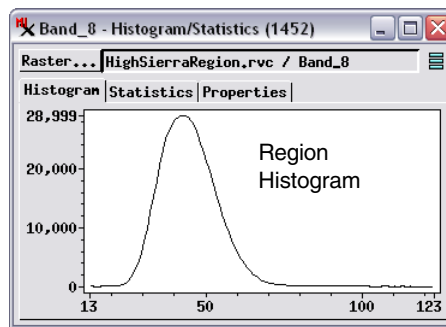
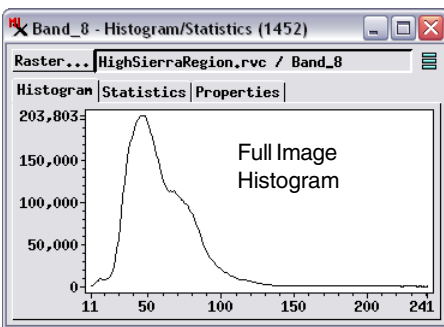


Add Region

Update Histograms

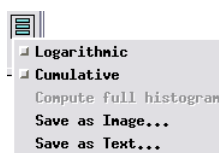


Basin region computed from an elevation raster.



## Saving 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.



Saved histogram graphic

