

## Glossary

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**Angle Cube**

The Angle Cube is a tool that appears in the upper-left corner of a window containing a contour plot. You may drag across the Angle Cube to alter the viewing angle of the contour image. (See "Basic Imaging Options" in Chapter 4.)

**Base Color**

The base color determines what color is used to replace color entries in the palette when you are operating in clear mode. The base color is white by default, but you may set it to any color from the Color Wheel dialog box. (See "Creating the Perfect Color Environment" in Chapter 3.)

**Clear Mode**

The clear mode is the mouse action mode in which clicking and dragging the mouse within an image or palette window causes the color entries which the mouse passes over to be replaced by the base color. (See "Creating the Perfect Color Environment" in Chapter 3.)

**Color Entry**

A color entry is that color assigned to represent the values mapped to a given palette entry. For example, the 189th color entry may be blue, which is distinct from the color blue in this respect: the color entry blue represents only those values in an image that are mapped to the 189th palette entry, whereas the color blue may be used to represent values mapped to any of a number of palette entries. (See "Creating the Perfect Color Environment" in Chapter 3.)

**Color Mapping**

Color mapping is the process whereby pixel values on the screen are converted to color. In this process, the pixel values are interpreted as an index in the color table and are represented accordingly. (See "Basic Imaging Options" in Chapter 4.)

**Color Table**

The color table is a set of hardware registers that determine which of the 16 million colors that the color-equipped Macintosh can display are mapped to each of the 256 possible pixel values. (See "Basic Imaging Options" in Chapter 4.)

**Column-Major Order**

Column-major order refers to the arrangement of data in a file in columns. Fortran datasets are generally organized in column-major format. To properly display data arranged in a file in column-major order, an application must read the data vertically. (See "How NCSA Image Reads and Displays Data Files" in Chapter 2.)

**Contour Plot**

A contour plot represents a dataset by drawing lines between areas of differing magnitude. (See "Basic Imaging Options" in Chapter 4.)

**Cross-Hatching**

Cross-hatching is a pattern that resembles a grid. In NCSA Image, cross hatching is used to represent the surface of a 3D plot. (See "Basic Imaging Options" in Chapter 4.)

**Drag Mode**

In drag mode, you may select a color entry and assign it to another palette entry by dragging to the targeted palette entry and releasing the mouse button. (See "Creating the Perfect Color Environment" in Chapter 3.)

**Eight-Bit Format**

Files displayed in 8-bit format contain data that is scaled onto the values from 0 to 255 and stored in single bytes, one data element per byte. (See "How NCSA Image Reads and Displays Data Files" in Chapter 2.)

**Fiddle Mode**

Fiddle mode is the mouse action mode in which clicking and dragging within an image or palette window causes the spectrum to be compressed so that a greater number of colors are assigned to a smaller number of palette entries, or expanded so that fewer colors are used to represent the values mapped to a larger number of palette entries. (See "Creating the Perfect Color Environment" in Chapter 3.)

**Freehand Mode**

Freehand mode is a line drawing mode that permits you to make diagonal, linear selections of datasets and plot them in an XY graph. (See "Features for Advanced Analysis" in Chapter 4.)

**Hierarchical Data Format (HDF)**

Hierarchical Data Format (HDF) is a general file format designed to facilitate the exchange and sharing of graphical and floating-point data among diverse programs and machines. HDF files are currently accessible from the CRAY X-MP, CRAY-2, Sun Workstation, IBM PC and compatibles, Macintosh, and Alliant. (See "File Formats" in Chapter 2.)

**Histogram**

A histogram is a graphic representation of a frequency or relative frequency distribution. It consists of columns whose heights correspond to the magnitude of the values being represented. (See "Features for Advanced Analysis" in Chapter 4.)

**Horizontal Mode**

Horizontal mode is a line drawing mode which permits you to make a horizontal selection of data from an image and plot the selected values in an XY graph. (See "Features for Advanced Analysis" in Chapter 4.)

**Image Window**

The image window is any window that displays a particular dataset with a visual representation of the following types: color raster image, contour plot, shaded data plot, ordered dither plot, and 3D plot. (See "Working with Image and Palette Windows" in Chapter 3.)

**Interpolation**

Interpolation is a method of magnifying or reducing an image by applying a mathematical function to calculate estimated values for the additional or remaining pixels of the resulting image. (See "Basic Imaging Options" in Chapter 4.)

**Legend**

The legend is a special dialog box that allows you to name, or label, each dataset that you have plotted in an XY graph and to specify a boundary rectangle of the selection range. (See "Features for Advanced Analysis" in Chapter 4.)

**Mouse Action Mode**

There are seven mouse action modes: clear, drag, fiddle, rotation, XY graphing, scope, and selection. The active mouse action mode determines the effects of performing mouse actions in the image, palette, and tool chest windows. (See "Creating the Perfect Color Environment" in Chapter 3 and "Features for Advanced Analysis" in Chapter 4.)

**Ordered Dither Plot**

An ordered dither plot visualizes a dataset by using calculated patterns to represent the different intensities of data values. (See "Features for Advanced Analysis" in Chapter 4.)

**Palette**

A palette is a group of data used by the computer to determine how the data in an image file is to be mapped to the set of available colors. (See "Working with Image and Palette Windows" in Chapter 3.)

**Palette Rotation**

Palette rotation describes the shifting of color assignments from their original palette entries to their neighboring palette entries. Palette rotation may progress continuously or in single-step increments. (See "Working with Image and Palette Windows" in Chapter 3.)

**Palette Window**

A palette window displays the range of the active palette, contains scrolling and resizing features and a text box, and may be manipulated in various ways. The active mouse action mode determines the effects of operating the mouse within the palette window. (See "Working with Image and Palette Windows" in Chapter 3.)

**Pixel**

A pixel is an 8-bit value indexed to a color table entry and a point on your monitor. Each pixel can represent a data value in your dataset. (See "Basic Imaging Options" in Chapter 4.)

**Raw Palette Format**

Files saved in raw palette format consist of 768 bytes—256 bytes of red, 256 bytes of green, and 256 bytes of blue. (See "File Formats" in Chapter 2.)

**Raw Raster Format**

Files saved in raw raster format contain binary, 8-bit raster data arranged in row-major order. (See "File Formats" in Chapter 2.)

**Rotation Mode**

Rotation mode is the mouse action mode used to initiate and control palette rotations. (See "Creating the Perfect Color Environment" in Chapter 3.)

**Row-Major Order**

Row-major order refers to the arrangement of data in a file in rows. Files created in C are generally organized in row-major order. To properly display data arranged in a file in row-major order, an application must read the data horizontally. (See "How NCSA Image Reads and Displays Data Files" in Chapter 2.)

**Scope Mode**

The scope mode is the mouse action mode used to view actual floating-point numbers by positioning the scope tool on pixels in the image that correspond to actual values. (See "Features for Advanced Analysis" in Chapter 4.)

**Shaded Data Plot**

A shaded data plot is an image that represents a dataset with eight different patterns of gray; each pattern represents a different degree of magnitude. (See "Basic Imaging Options" in Chapter 4.)

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**Text Box**

The text box is located in the lower-left corner of an image or palette window. The text box reveals actual floating-point, raster, or palette values for the current mouse location, depending upon which mouse action mode is active. (See "Working with Image and Palette Windows" in Chapter 3.)

**Tool Chest**

The tool chest is a window that contains icons representing each of the seven mouse action modes. When you click on one of these icons, you enter that mouse action mode. (See "Creating the Perfect Color Environment" in Chapter 3.)

**Vertical Mode**

Vertical mode is the line drawing mode which allows you to select and plot a vertical series of values from an image window in an XY graph. (See "Features for Advanced Analysis" in Chapter 4.)

**XY Line Mode**

There are three modes in which you can draw lines and plot them in an XY graph: vertical, horizontal, and freehand. The line drawing mode determines the sort of linear selection of data you may plot in an XY graph, and how many data selections you may plot in an XY graph. (See "Features for Advanced Analysis" in Chapter 4.)