

## Introduction

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### Overview

This introduction provides an overview of NCSA Image capabilities on the color-equipped Macintosh. The organization and use of this manual are described and notational conventions explained.

### About NCSA Image

The predecessor of NCSA Image, NCSA ImageTool, was developed by Dr. Michael L. Norman and Carol Song at the National Center for Supercomputing Applications. The NCSA ImageTool and NCSA Image programs allow you to perform important data analyses and scientific visualization at a local desktop workstation. The original program was written for a Sun workstation.

Later versions, such as NCSA Image Version 2.1, were developed for the Macintosh by NCSA's Software Development Group.

Features of NCSA Image Version 2.1 for the Macintosh allow you to do the following:

- Use color, contour plots, 3D plots, shaded data plots, XY graphs, and ordered dither plots to display sets of data points
- Select imaging and analysis tools, or *mouse action modes*, from a special tool chest
- Copy to the Clipboard and paste into other applications color raster images, palettes, and black-and-white plots
- Print contour, shaded data, 3D, and ordered dither plots, as well as XY graphs
- Modify and save color palettes
- Display actual floating-point numbers
- Animate multiple raster images
- Make menu selections and load files during palette rotations and animation sequences

## System Requirements

NCSA Image is a color imaging program. For best results, it requires a Macintosh with 256 color capabilities, at least one megabyte of RAM, and a color monitor. (NCSA Image will run on a non-color equipped Macintosh, but many of its features would be rendered useless.)

To run animation sequences you will probably want to have as much memory as possible, since NCSA Image is a memory hog! You can run animation sequences from disk—but at speeds that cannot be considered real time.

NCSA Image also runs on SuperMac and RasterOps 8-bit graphics hardware, though color manipulations may be sluggish on these screens.

**NOTE:** NCSA Image supports multiple-monitor displays. For example, you may use both a SuperMac and Macintosh II monitor simultaneously.

## Use of This Manual

This section describes the organization of this manual, and the conventions and nomenclature used in developing it. Before using NCSA Image, you should be familiar with the Macintosh user interface; that is, you should know how to use the mouse and menu bars, and scroll, resize, and close windows. If you have not used the Macintosh before or need more information regarding these procedures, you may wish to refer to your Macintosh user's guide before using this package.

## Manual Contents

The manual is organized into the following chapters:

Chapter 1, "NCSA Image Tutorial," introduces NCSA Image and provides a brief tutorial to get you started using the program. The tutorial describes the basic steps involved in using the program: invoking the program, loading images and palettes from files, saving images, printing images, and exiting the program.

Chapter 2, "Formatting Your Data Files," explains how NCSA Image reads and displays data files. The chapter contains a detailed discussion of the file formats readable by NCSA Image and cites other packages that will enhance your use of the program.

Chapter 3, "Windows and Palette Manipulations," explains how windows function in the program, how to incorporate palettes other than the program's default palette, and how to save changes to the color palette.

Chapter 4, "Imaging Options for Data Analysis," describes the procedures to perform imaging manipulations and data analyses in NCSA Image. It discusses, for example, how to magnify and interpolate images; generate raster images, shaded data, contour, 3D, and ordered dither plots; and use the XY graphing and animation functions provided in the program.

Chapter 5, "Tools and Menus," provides brief descriptions and references for each of the tools and commands used in NCSA Image.

Appendix A, "Troubleshooting," presents the various error messages you may encounter in using NCSA Image, explains why they occur, and offers tips to help you avoid errors.

## Form of Presentation

The material in this manual is presented in text, screen displays, or entry format notation.

### Text

In explaining various features and commands, this manual often presents a word within a paragraph in *italics* to indicate that the word is defined within the paragraph.

Portions of this manual refer to other sections or chapters of the manual where related topics are discussed. These cross references usually indicate the title of sections or chapters enclosed in quotation marks, such as, See Chapter 1, "NCSA Image Tutorial."

### Screen Displays

Screen displays in this manual are presented in `courier type`.

### Entry Format Notation

Throughout this manual, several explanations instruct you to make entries by typing on the keyboard. These entry instructions are printed in **`courier bold type`** and appear within a screen display, paragraph, or on a separate line.

Keys that are labeled with more than one character (such as the RETURN key), are identified with all uppercase letters. Keys meant to be pressed simultaneously or in succession are linked with a hyphen. For example, press `⌘-A`.