Contents

Introduction

Overview *xv*

About NCSA Collage *xv*

Organization of This Manual *xvi*

Conventions Used in This Manual *xvii*

Installation *xvii*

System Requirements *xvii*

Display Requirements *xviii*

Networking Requirements *xviii*

Installing NCSA Collage *xviii*

User Interface *xviii*

Configuring Your X Environment *xix*

Configuring Your Data Files *xix*

Sample Data Files *xix*

1 NCSA Collage - An Overview

Overview *1*

Data Display Capabilities *1*

Scientific Data Spreadsheets Display *1*

Raster Images Display *2*

Animation Display *2*

Color Table Display *2*

Display Management *3*

Data Associations *3*

Raster Images and Spreadsheets *4*

Color Tables and Raster Images *4*

Data Analysis Tools *4*

Point Selection Tool *4*

Line Selection Tools and X-Y Graphs *4*

Area Selection Tool and Histogram Plots *4*

Drawing Tools 5
Data File Support 6
Data Import Support 6
Collaboration Support 6
Chat Box Window 7
Whiteboard Window 7
Text Edit Window 8
Preferences 8

2 Basic Procedures

Overview 9
Starting NCSA Collage on a Local Machine 9
Display Configuration 9
Starting NCSA Collage 9
Command Line Options 10
Starting NCSA Collage on a Remote Machine 11
Display Configuration 11
Remote Client Configuration 11
Starting NCSA Collage Remotely 12
Exiting NCSA Collage 12
Using NCSA Collage Main Window Menus 12
File Menu 12
Windows Menu 13
Tools Menu 13
Collaborate Menu 14
Options Menu 14
Opening Files 15
Opening HDF Files 15
Opening a Single Data Group 18
Opening Multiple Data Groups 18
HDF Browser Menus 19
Opening a GIF or XWD File 19
Opening a Text File 19
Converting Other Data To HDF 19
Opening an Animation Sequence from an HDF File 19
Using the Screen Capture Tool for Data Import 20
Tool Palette 20
Using Data Analysis Tools 21

Data Analysis Tools 21
Using the Histogram Window 23
Using Annotation Tools and Overlays 24
Drawing on the Overlay 24
Selecting Line Thickness 26
Selecting Colors 26
Clearing the Overlay 27
Showing and Hiding the Overlay 27
Cutting and Pasting on the Overlay 27
Saving Images and Data 28
Printing Images and Data 29
Printing to a Printer 30
Printing to a File 30

3 Spreadsheets

Overview 31
Opening Spreadsheet Data 31
Opening Spreadsheet Data from an HDF File 31
Opening a 2D Slice from 3D Data 31
Spreadsheet Window 33
Spreadsheet Menus 33
File Menu 33
Edit Menu 34
Option Menu 34
Generating an Image From a Spreadsheet 35
Magnification Factor 35
Interpolated Images 35
Data Analysis 36
Selecting Points in the Spreadsheet 36
Selecting Areas in the Spreadsheet 36
Selecting Areas of the Spreadsheet using the Raster Image 37
Spreadsheet Annotation 37
Manipulating Spreadsheet Data 37
Saving the Spreadsheet and Overlay 37
Printing the Spreadsheet and Overlay 38

4 Visualization

Overview 39

Opening a Raster Image 39
Opening a Raster Image from an HDF file 39
Opening a Raster Image from a GIF or XWD file 40
The Image Window 41
The Image Menu 41
File Menu 41
Edit Menu 42
Operations Menu 43
Options Menu 43
Making a Private Copy and Publishing Data 43
Generating a Spreadsheet from a Raster Image 44
Displaying Contour Lines 44
Data Analysis 44
Selecting Points in the Raster Image 45
Selecting Lines in the Raster Image 45
Selecting Areas in the Raster Image 46
Selecting Areas of the Spreadsheet using the Raster Image 47
Image Annotation 47
Animation 48
Opening Raster Images for Animation 48
Playing Raster Animations 49
Animation Menus 50
Animation Storage Options 51
Using Color Tables 52
Opening Color Tables 52
Selecting Color Tables 52
Using the Entire Color Table 53
Editing Color Tables 53
Saving Raster Images and Overlays 53
Printing Raster Images and Overlays 54

5 Color Tables and the Palette Editor

Overview 55
What Is a Color Table? 55
Palette Editor Window 55
Palette Editor Window Structure 56
Palette Editor Menus 56
File Menu 56

Edit Menu 56
View Menu 56
Options Menu 57
Color Model and Component Selection 57
Component Descriptions 57
Editing the Palette 59
Component Modification 59
Shifting the Color Table 60
Squeezing and Expanding the Color Table 60
Opening a Palette File 61
Saving A Palette File 61

6 Collaboration

Overview 63
Collaboration 63
Beginning a Collaborative Session 63
Joining a Collaborative Session 64
Ending a Collaborative Session 65
Using a Local Server 65
Viewing the Server Location 65
Viewing Collaborative Participants and Activity 66
Network Controls 66
Talking to Collaborators 67
Chat Box Menu 67
Publishing Images, Palettes, and Data 68
Images 68
Palettes 69
Spreadsheet Data 69
Collaborative Text Editing 69
Text Edit File Menu 70
Text Edit Edit Menu 70
Text Edit Options Menu 71
Screen Capture 71
The White Board 72
White Board File Menu 73
Whiteboard Edit Menu 73
Whiteboard Options Menu 73
Associations and Collaborative Sessions 74

Appendix A **Glossary** *75*

Appendix B **Windows and Menus** *77*

Appendix C **X Resources Used by NCSA Collage** *97*

Appendix D **Using DTM** *99*

Appendix E **References** *101*

Appendix F **Error Messages** *103*

Appendix G **Known Problems** *105*