Quick Start Guide welcome

Welcome to the NCAR Graphics 4 Quick Start Guide. This document is designed to help users who have a general understanding of how the software works and who want to begin coding their own applications using examples that are bundled with the software as a template for their own programs. This document introduces the NCAR Graphics 4 examples and provides links to the source code, graphic output, and descriptions of each of the examples. This document also provides access to the documentation for the traditional interface (Low Level Utilities) and detailed descriptions of their use.

This interactive document is organized according to the functionality of the visualization software. The examples are grouped into sets that produce plots of a similar type. Some of the examples are written using High Level Utilities, some are written using the NCAR Command Language, some are written using both, and some examples make calls to the Low Level Utilities.

A typical module shows:

- A title that describes the purpose of the example
- A sample image produced by the example
- A brief discussion about the example
- Links to the example's source code and resource files
- Information about the example's data
- An explanation of how to produce the example

To access the modules, link to the "Pick a utility" module and scan the graphics shown there until you find one that appears to be closest to the type of plot you want to create. Click on that graphic to move to the module that shows more examples of that type. Then pick the example that is closest to the type of plot you want to create. For a list of all the NCAR Graphics 4.x examples and pointers to their source codes, see the Table of NCAR Graphics examples in this release.

Alternatively, you can use the ng4ex utility to view and run the NCAR Graphics 4 examples, or the ncargex utility to run the LLU examples. These utilities will copy the example source code to your local directory, compile the code, and automatically run the example.

A note on the example datasets

The external datasets that are used in the NCAR Graphics 4 examples are located in your NCAR Graphics data directory. The pathname to this directory is available by typing "ncargpath data" at your shell prompt. This command will return the pathname of the directory where the example datasets are located. This directory is subdivided into other directories that contain different types of data files.

Directory Name	Data Type
asc	ASCII
bin	Binary
cdf	NetCDF
hdf	HDF

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XyPlot example 7: Creating a scattergram
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XyPlot example 9: Setting axis styles
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XyPlot example 11: How to draw an XyPlot in an X window and an NCGM file
XyPlot example 12: How to incorporate the HLU library with your own X interface
XyPlot example 13: How to interactively retrieve coordinate locations from a plot
XyPlot example 14: How to manipulate XyPlot data
XyPlot example 15: Creating 'stacked' plots using the annotation feature

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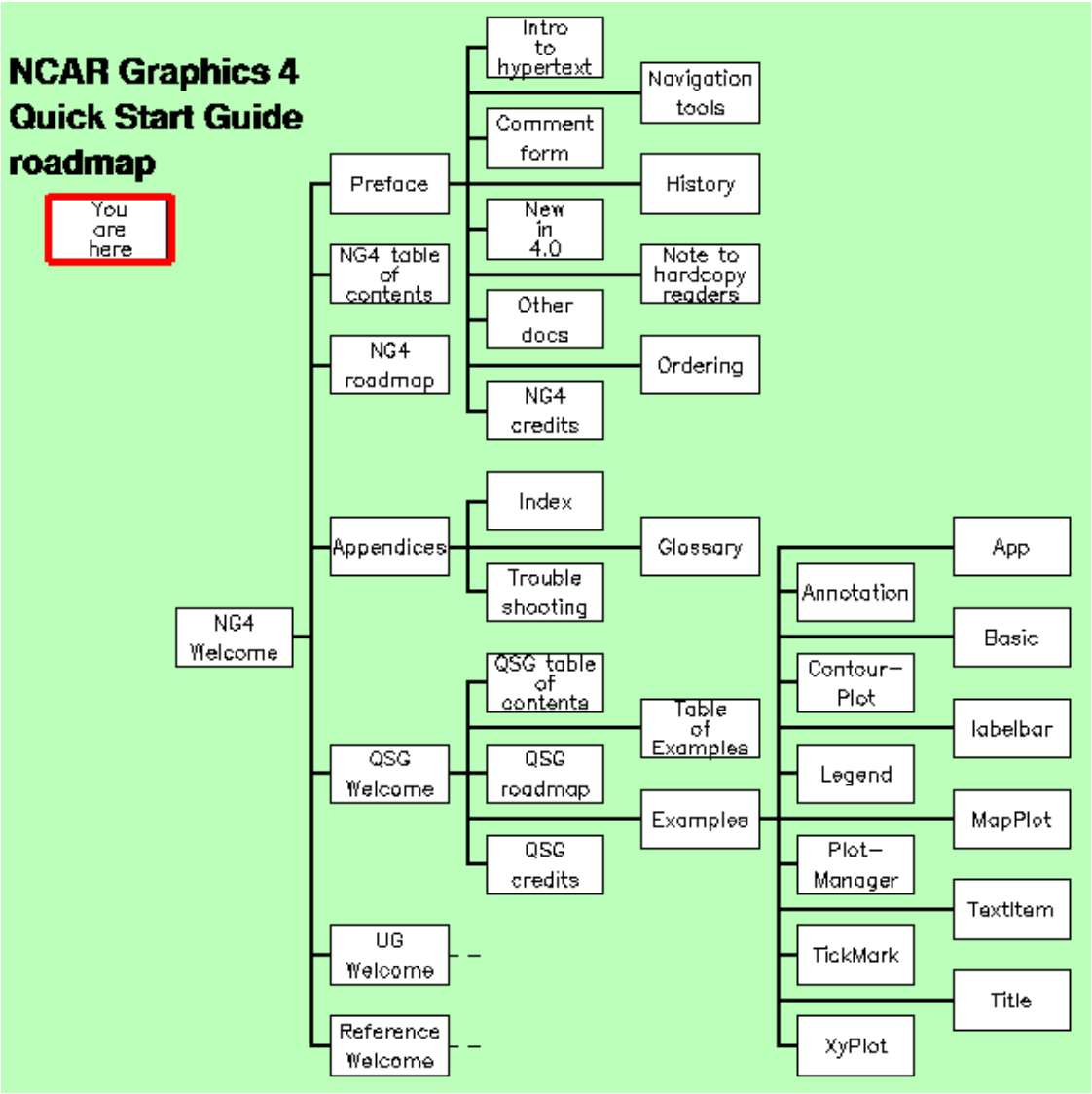
Quick Start Guide road map



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Quick Start Guide credits

Acknowledgments

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Table of NCAR Graphics examples

This table lists all of the available NCAR Graphics 4 examples, gives a brief description of what the example shows, and provides links to the example code, resource files, and more in-depth discussions.

The first column contains the name of the example. Click on this entry to link to the output graphic and a discussion about the example.

The second column contains the name of the resource file (if any) associated with the example. Click on this entry to view the resource file.

The third entry contains links to the C, NCL, and Fortran source codes for the example if they exist. Click on **C**, to view the C source code, **NCL** to view the NCL source script, or **Fortran** to view the FORTRAN source code.

You can use the ng4ex utility to copy, compile, and run any of these examples in your local directory.

Name	Resource File	C/NCL/ Fortran	Description
ap01	ap01.res	C/ /	App objects and resources.
basic01	none	C/NCL/ Fortran	How to create a simple plot using defaults.
basic02	none	C/NCL/ Fortran	How to set the size of a plot and how to draw multiple plots on a single frame.
basic03	basic03.res	C/NCL/ Fortran	How to set resources for a plot.
basic04	none	C/NCL/ Fortran	How to draw to different output devices (NCGM file, X Window, etc.).
basic05	none	C/NCL/ Fortran	How to manipulate a colormap.
basic06	none	C/NCL/ Fortran	How to size and position objects.
basic07	basic07.res	C/NCL/ Fortran	How to select a workstation device.
cn01	cn01.res	C/NCL/ Fortran	Drawing a contour plot using default settings.
cn02	cn02.res	C/NCL/ Fortran	Basic features of a ContourPlot object.
cn03	cn03.res	C/ / Fortran	Overlaying a ContourPlot on a LogLinPlot.
cn04	cn04.res	C/NCL/ Fortran	Multiple contour plots on a single frame.
cn05	none	/NCL/	Creating a map and contour overlay animation.
cn06	none	/NCL/	Creating contour plots of NetCDF temperature data.
cn07	none	/NCL/	Creating contour plots of NetCDF geo-potential height.
cn08	none	/NCL/	ContourPlot animation of vertical temperature profile.
cn09	none	/NCL/	ContourPlot of NetCDF surface pressure data.

cn10	none	/NCL/	Refine a contour plot.
cn11	cn11.res	C/ / Fortran	Mixing low level and high level utilities.
lb01	lb01.res	C/NCL/ Fortran	How to create a labelbar using default settings.
lb02	lb02.res	C/NCL/ Fortran	How to create a labelbar with the default colormap.
lg01	lg01.res	C/NCL/ Fortran	How to create a legend using defaults.
lg02	lg02.res	C/NCL/ Fortran	How to create a legend and specify marker types.
lg03	lg03.res	C/NCL/ Fortran	How to create a legend and specify line types.
mp01	mp01.res	C/NCL/ Fortran	How to use basic MapPlot capabilities.
mp02	mp02.res	C/NCL/ Fortran	How to control individual map areas.
mp03	mp03.res	C/NCL/ Fortran	How to use masking with maps.
mp04	mp04.res	C/ / Fortran	How to add textual annotations to a map.
ti01	ti01.res	C/NCL/ Fortran	How to create a main title with default settings.
ti02	ti02.res	C/NCL/ Fortran	How to create a main title and X and Y axis titles with default settings.
ti03	ti03.res	C/NCL/ Fortran	How to set Title font, color, and size resources.
tm01	tm01.res	C/NCL/ Fortran	How to create a TickMark object with default settings.
tm02	tm02.res	C/NCL/ Fortran	How to create a TickMark object with bottom and left ticks turned on.
tm03	tm03.res	C/NCL/ Fortran	How to reverse and change TickMark style.
tx01	tx01.res	C/NCL/ Fortran	How to create a TextItem object with default settings.
tx02	tx02.res	C/NCL/ Fortran	Creating text in a filled colored font with a bounding box.
tx03	tx03.res	C/NCL/ Fortran	How to set the text background fill color.
tx04	none	C/NCL/	How to use function codes to set text

		Fortran	characteristics.
tx05	none	C/NCL/	How to text height and angles.
tx06	none	C/NCL/	How to set text justification.
tx07	none	C/NCL/	How to set text spacing and aspect ratio.
tx08	none	/ / Fortran	Creating a TextItem annotation.
xy01	xy01.res	C/NCL/ Fortran	How to create an XyPlot using default settings.
xy02	xy02.res	C/NCL/ Fortran	How to set XyPlot resources using a resource file.
xy03	xy03.res	C/NCL/ Fortran	How to set resources and axis coordinates.
xy04	xy04.res	C/NCL/ Fortran	How to create an XyPlot with multiple lines.
xy05	xy05.res	C/NCL/ Fortran	How to create an XyPlot with multiple lines using a CoordArrTable object.
xy06	xy06.res	C/NCL/ Fortran	Using multiple lines, external data, and legends.
xy07	xy07.res	C/NCL/ Fortran	Creating a scattergram.
xy08	xy08.res	C/NCL/ Fortran	Using irregular points to set a plot transformation.
xy09	xy09.res	C/NCL/ Fortran	Setting axis styles.
xy10	xy10.res	C/NCL/ Fortran	Overlaying an XyPlot on a MapPlot.
xy11	none	C/NCL/ Fortran	How to draw an XyPlot in an X window and an NCGM file.
xy12	none	C/ /	How to incorporate the HLU library with your own X interface.
xy13	xy13.res	C/ /	How to interactively retrieve coordinate locations from a plot.
xy14	none	/NCL/	How to manipulate XyPlot data.
xy15	xy15.res	C/ /	This example illustrates the creation of a set of 4 'stacked' XyPlots.

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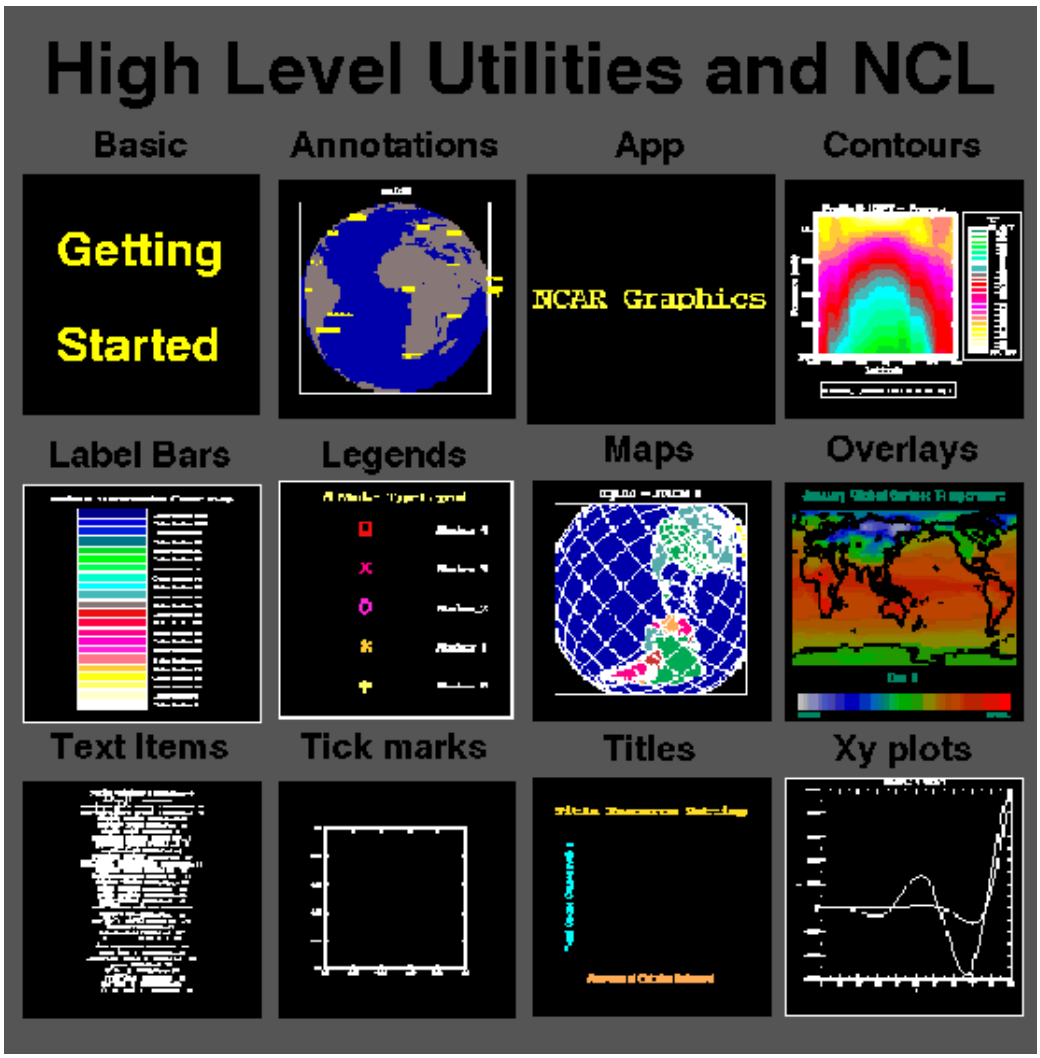
Examples: Pick a utility

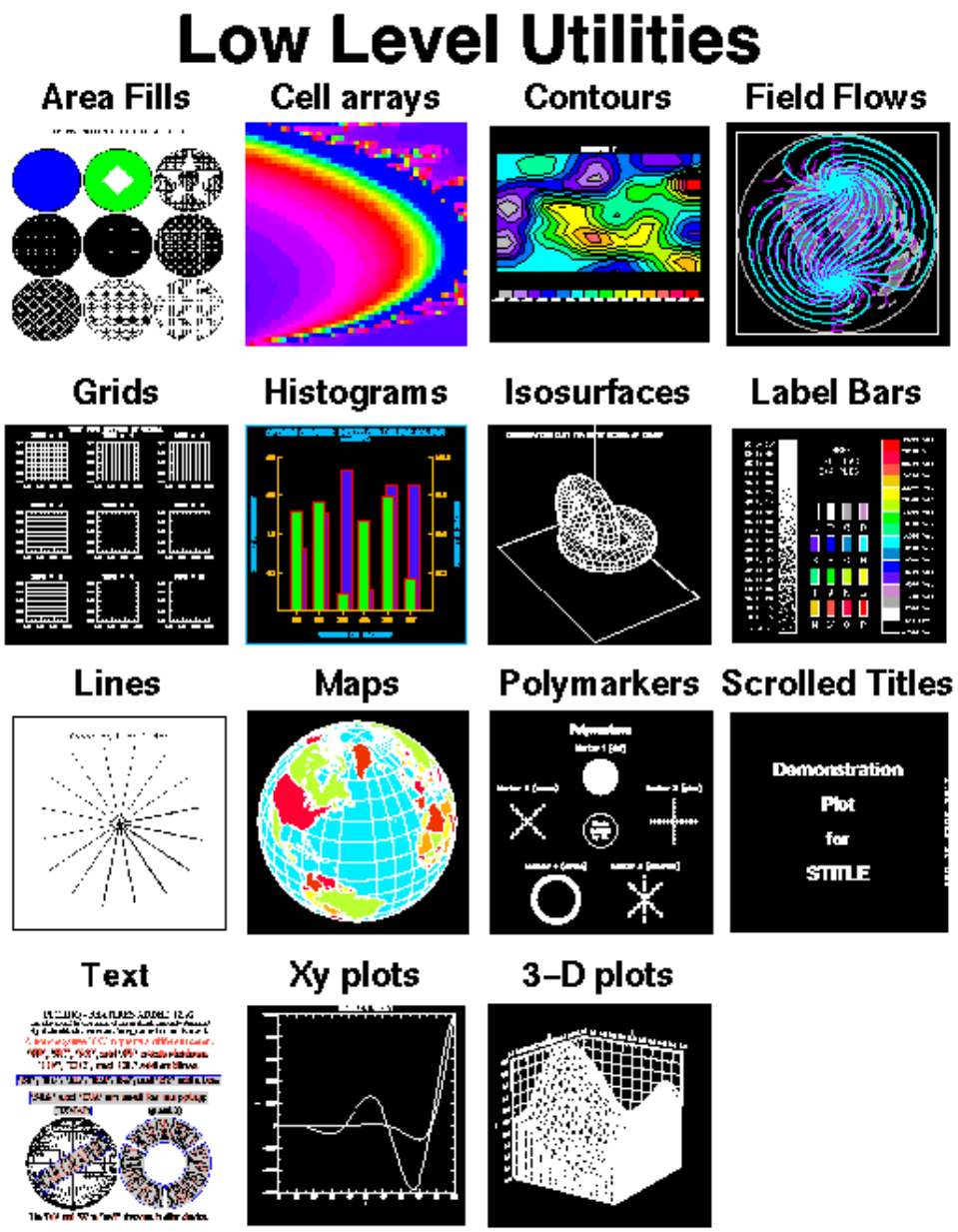
This module is a graphical interface to the example plots that are available with NCAR Graphics. Click on one of the images in the first set below to link to information about how to create a similar plot using the NCAR Graphics High Level Utilities, or the NCAR Command Language. Alternatively, you can click on one of the images in the second set to link to information about how to create similar plots using the NCAR Graphics Low Level Utilities with the traditional interface. You can also use the textual links following each set of images if your browser does not support graphics.



- Basic/Getting started
- Annotations
- App

- Contours
- Label Bars
- Legends
- Maps
- Overlays/Plotmanager
- Text Items
- Tick Marks
- Titles
- XY plots

See the QSG example table for a listing of the HLU and NCL examples.



- Area Fills
- Cell arrays
- Contours
- Field flows
- Grids
- Histograms
- Isosurfaces
- Label Bars
- Lines
- Maps
- Polymarkers
- Scrolled Titles
- Text
- XY plots
- 3-D plots

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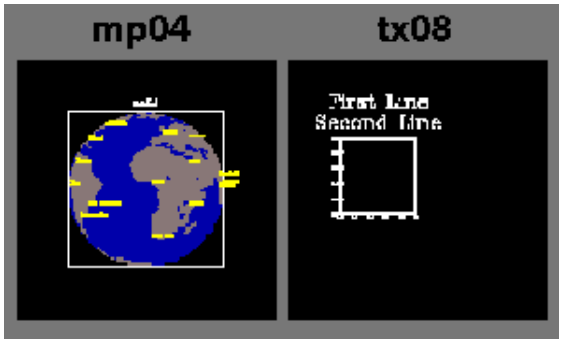
Annotation examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that are used to demonstrate how to use the annomanager utility.

Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- mp04: How to add textual annotations to a map.
- tx08: Creating a TextItem annotation.

All of these examples can also be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

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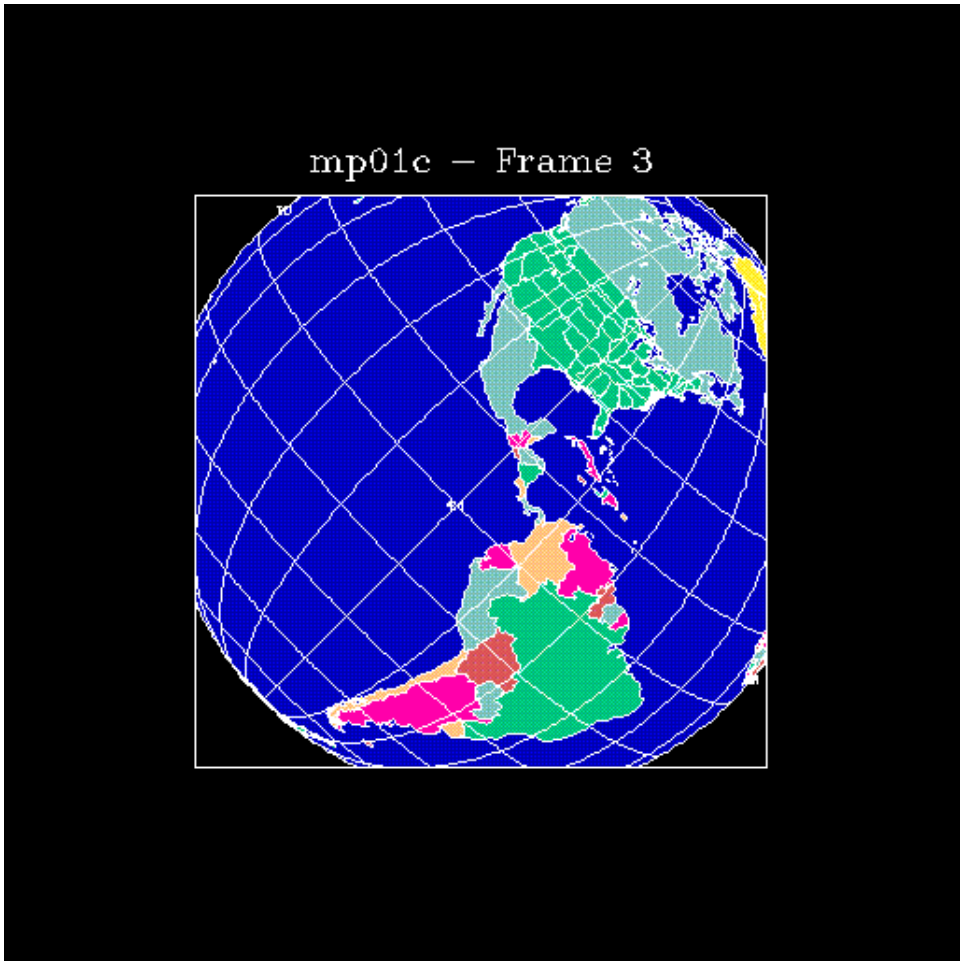
MapPlot example 1

How to use basic MapPlot capabilities

This example can be created using HLU C and FORTRAN library calls or NCL. It demonstrates how to create a MapPlot object using the defaults, and it also shows how to change the map projection, grid spacing, and set map boundaries in subsequent frames. The names of the source files for this example are mp01c.c, mp01f.f, and mp01n.ncl.



Discussion

This module discusses how to create this map plot using HLU function calls and a resource file. The resource file used in this example is called mp01.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called mp01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called mp01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called mp01n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be generated using a C program (mp01c.c), a FORTRAN program (mp01f.f), or an NCL script (mp01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/mapplot/mp01c.c
- $NCARG_LIB/ncarg/hluex/mapplot/mp01f.f
- $NCARG_LIB/ncarg/nclex/mapplot/mp01n.ncl

You can copy this example and run it by typing "ng4ex mp01c", "ng4ex mp01f", or "ng4ex mp01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

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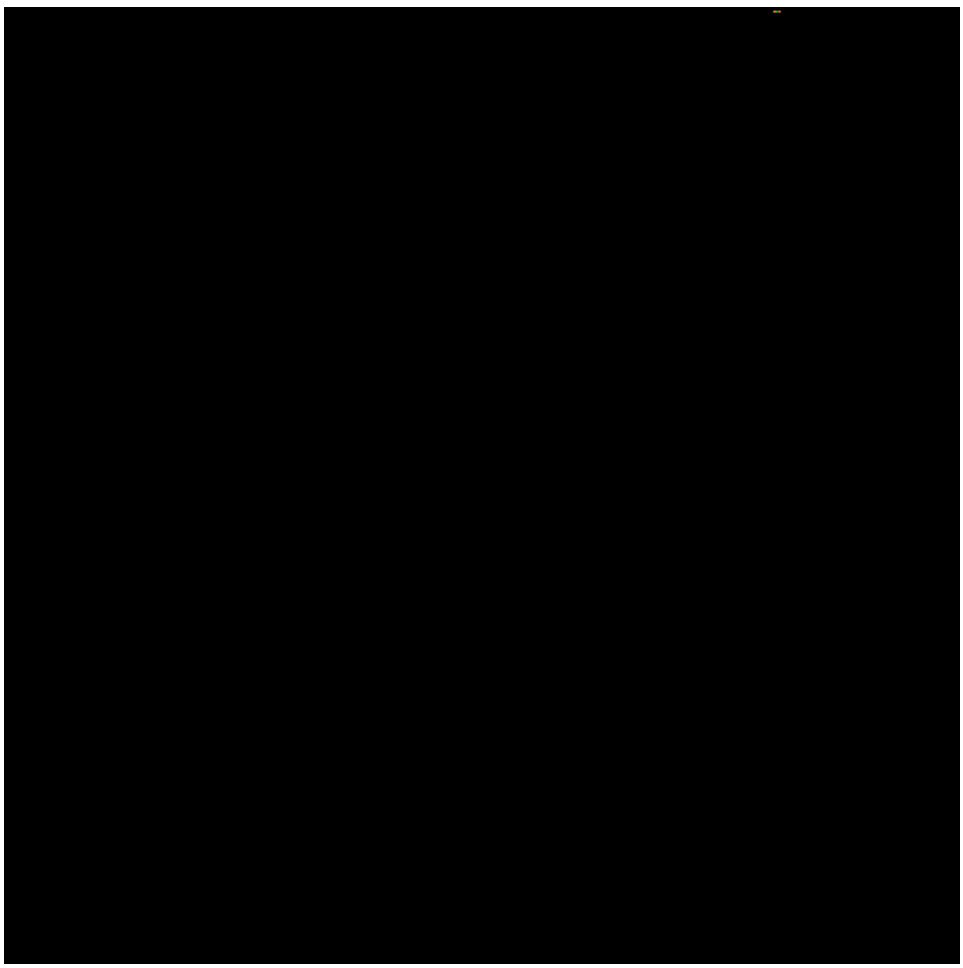
TextItem example 8

Creating a TextItem annotation

This example can be created using HLU FORTRAN library calls. It demonstrates how to create a TextItem annotation to an XyPlot object. The name of the source file for this example is tx08f.f.



Discussion

This module discusses how to create the previous plot using HLU function calls. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program is currently not available.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tx08f.f.

Creating the plot using NCL

The NCL script is currently not available.

The data

This plot does not use any external data.

How to run this example

This example can be created by using the FORTRAN program tx08f.f. The example is installed in the following location:

- $NCARG_LIB/ncarg/hluex/textitem/tx08f.f

You can copy this example and run it by typing "ng4ex tx08f". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

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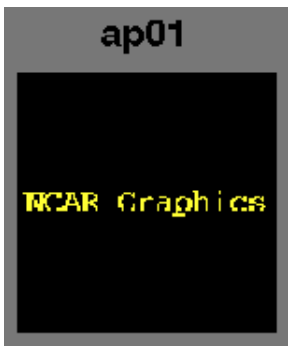
App object examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that are used to demonstrate how to use the App object.

Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



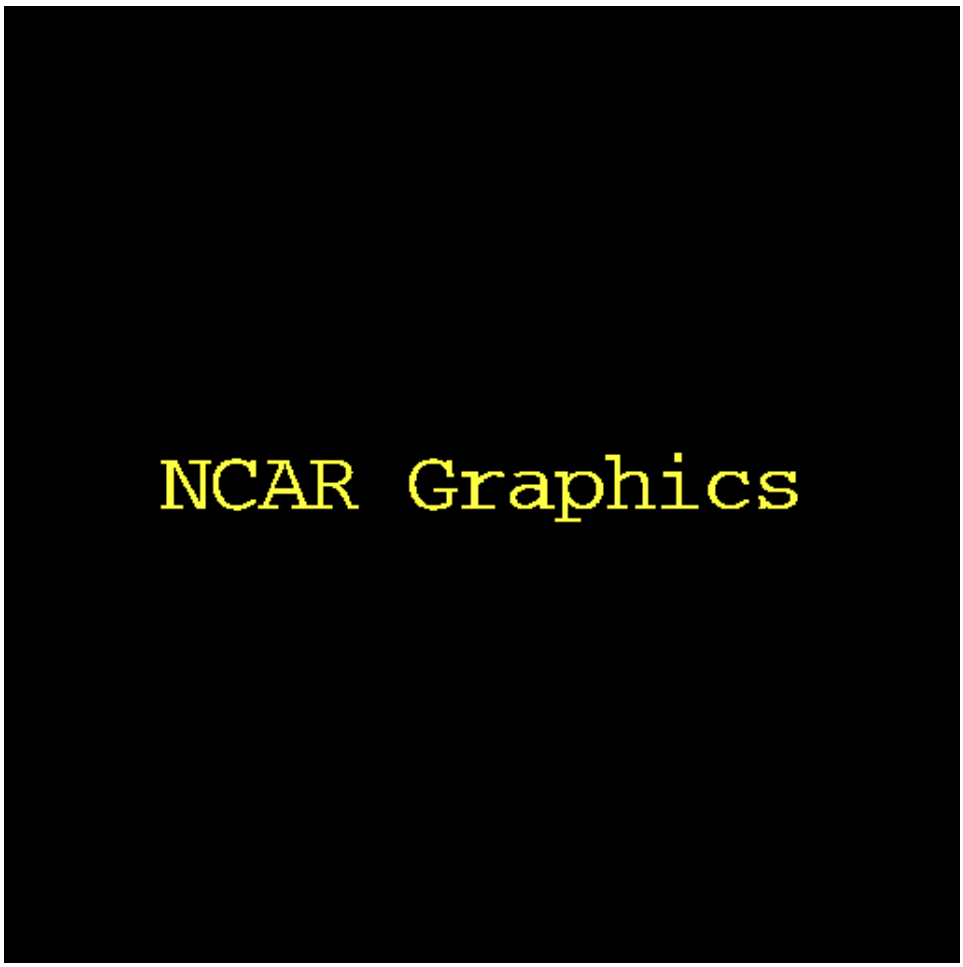
ap01: App objects and resources.

$Revision: 1.3 $ $Date: 1995/07/17 20:50:23 $

App example 1

App objects and resource files

This example demonstrates how App objects and resource files work together to define the values for object resources.



Discussion

This module demonstrates how to create an App object and how entries in a resource file take precedence over one another. The resource file used in this example is called ap01.res.

For a detailed discussion of how this example works, please see the source code. Also, see the User Guide for a discussion about resource precedence.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called ap01c.c.

Creating the plot using HLU FORTRAN library calls

Currently, there is no FORTRAN program available for this plot.

Creating the plot using NCL

Currently, there is no NCL script available for this plot.

The data

No external data is used in this plot.

How to run this example

The example is installed in the following locations:

- $NCARG_LIB/ncarg/hluex/app/ap01c.c

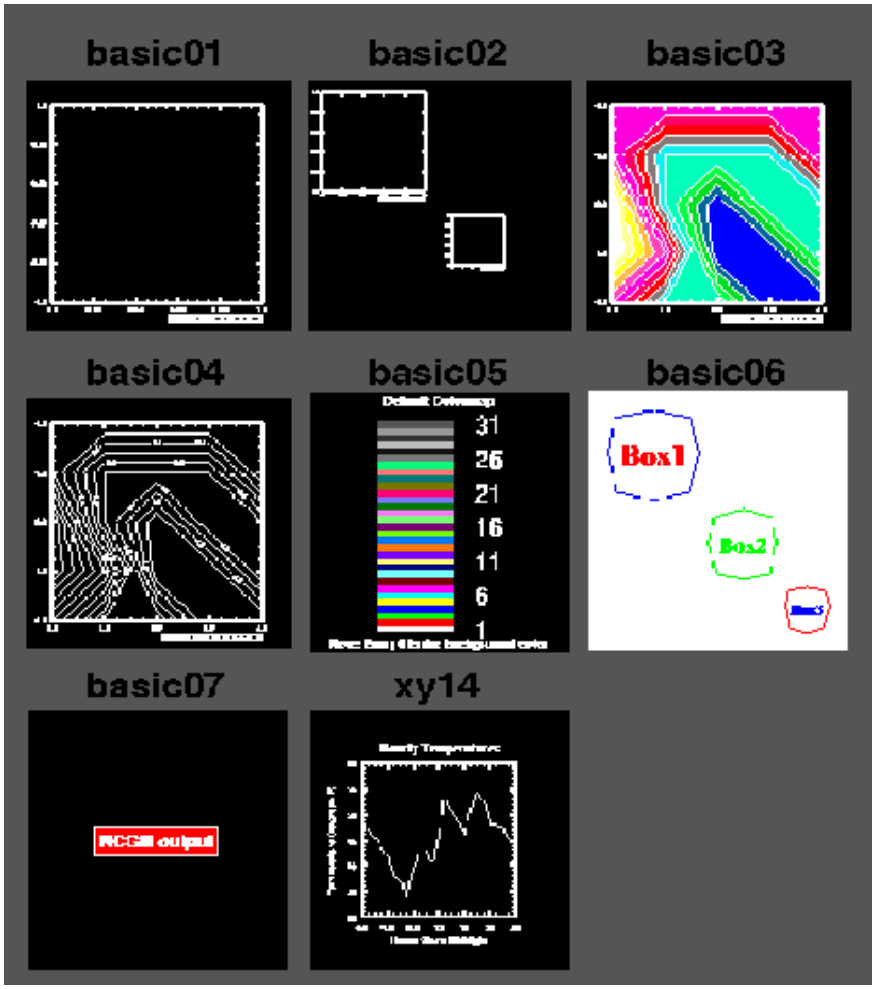
You can copy this example and run it by typing "ng4ex ap01c". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.5 $ $Date: 1995/07/17 22:23:01 $

Basic examples

This module is a grapical index to the HLU and NCL NCAR Graphics examples that are used to demonstrate how to get started and how to perform some of the simplest and most common NCAR Graphics operations like manipulating a colormap, creating multiple plots on a single frame, and drawing a plot to different types of output devices.

Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



basic01: How to create a simple plot using default settings.

basic02: How to set the size and location of a plot; how to draw multiple plots on a single frame.

basic03: How to set resources for a plot.

basic04: How to draw to different output devices (NCGM file, X window, etc.).

basic05: How to manipulate a colormap.

basic06: How to size and position objects.

basic07: How to select a workstation device.

xy14: How to manipulate XyPlot data using NCL.

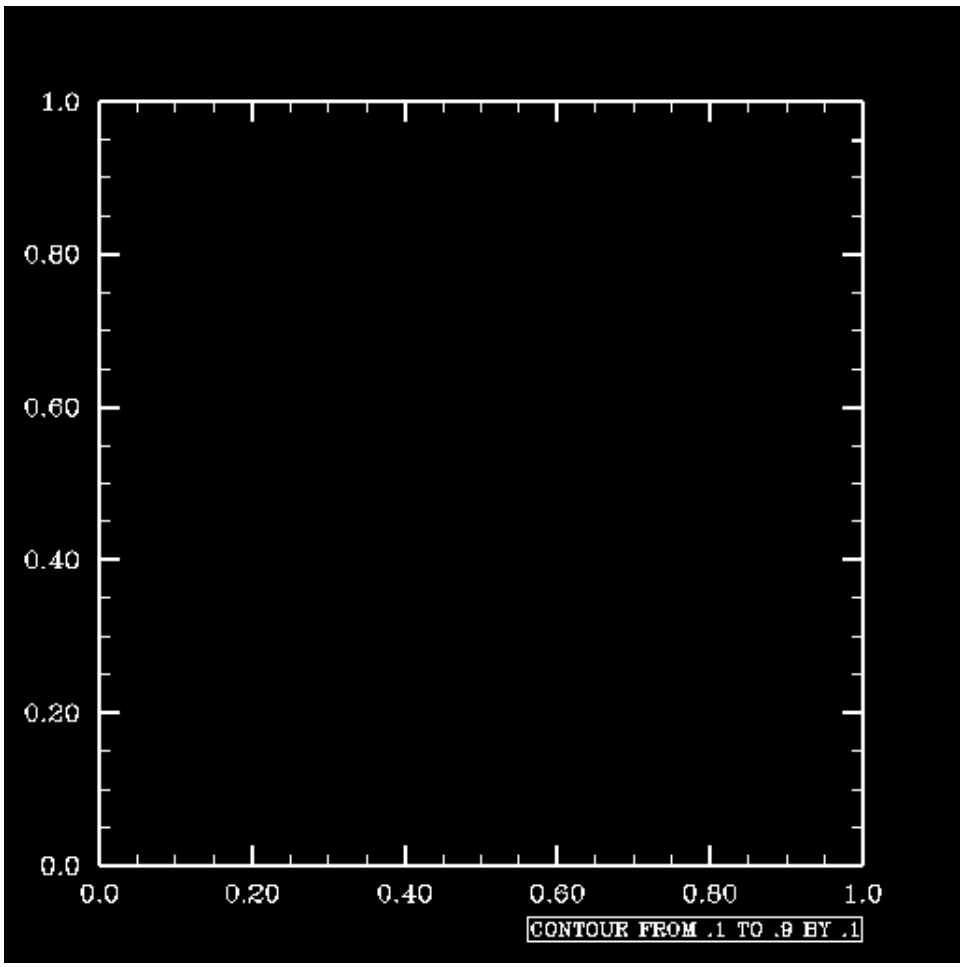
All of these examples can also be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.5 $ $Date: 1995/07/17 22:20:04 $

Basic example 1

How to create a simple plot using default settings

This is an introductory example that shows how to create a simple plot using NCL, HLU C, or HLU FORTRAN library calls. This module discusses the minimal set of steps needed to produce an NCAR Graphics plot using mostly default settings. The names of the source code files that create this plot are basic01n.ncl, basic01c.c, and basic01f.f.



Discussion

This example creates a contour plot object using the minimum number of steps needed to create a plot. This example does not use any data, however, and is therefore most useful for instruction rather than for

creating graphical output.

This example creates a single output frame in an X Window. The example shows how to choose the type of graphic output, how to create a contour plot object (with no data), how to draw the plot, how to update and clear the workstation with the frame call, and how to clean up memory after you are finished. A detailed discussion about how to create the plot is discussed in the comments of the source codes for the example.

Creating the plot using HLU C library calls

A discussion of how to create the plot using an HLU C program is located in the source code file basic01c.c.

Creating the plot using HLU FORTRAN library calls

A discussion of how to create the plot using an HLU FORTRAN program is located in the source code file basic01f.f.

Creating the plot using NCL

A discussion of how to create the plot using an NCL script is located in the script file basic01n.ncl.

The data

No data is used in this plot.

How to run this example

There are three ways to produce this example: by using an NCL script (basic01n.ncl), a C program (basic01c.c), or a FORTRAN program (basic01f.f). The examples are installed in the following locations:

```
$NCARG_LIB/ncarg/nclex/basic/basic01n.ncl
$NCARG_LIB/ncarg/hluex/basic/basic01c.c
$NCARG_LIB/ncarg/hluex/basic/basic01f.f
```

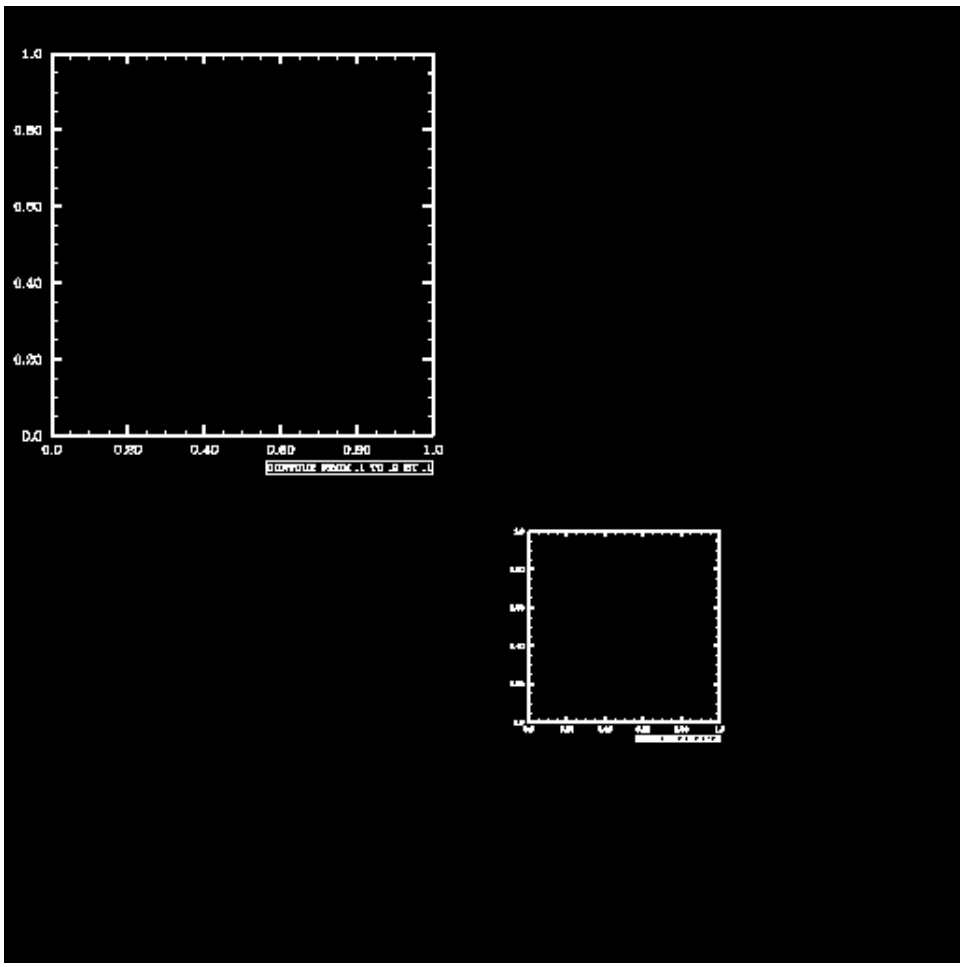
You can copy this example and run it by typing "ng4ex basic01n", "ng4ex basic01c", or "ng4ex basic01f". A copy of the source file will be placed in your current working directory. The source code will be compiled (if appropriate) and automatically run for you. The image will display to an X Window on your workstation.

$Revision: 1.4 $ $Date: 1995/07/17 22:46:12 $

Basic example 2

How to set the size and location of a plot; how to draw multiple plots on a single frame

This is an introductory example that shows how to specify viewport settings to adjust the size and location of a plot and how to position multiple plots on a single frame. This example demonstrates how to create the plot using NCL, HLU C, and HLU FORTRAN library calls. The names of the example codes that create this plot are basic02n.ncl, basic02c.c, and basic02f.f.



Discussion

This module discusses how to size and position an NCAR Graphics plot using HLU C library calls, HLU FORTRAN library calls, and the NCAR Command Language. The example produces two frames that are drawn into an X Window.

The first frame of the example shows how to set the viewport (an object's bounding box) for an object using the vpXF, vpYF, vpWidthF, and vpHeightF resources. vpXF and vpYF are resources that specify the location of the left and top edge, respectively, of a viewport window. The values are specified in Normalized Device Coordinates (NDCs), such that the lower-left corner of the frame corresponds to the

coordinate point (0,0), and the upper-right corner corresponds to the coordinate point (1,1). The vpWidthF and vpHeightF resources specify the width and height, respectively, of the viewport. These values are also specified in NDCs.

The second frame of the example shows how to draw multiple plots in a single frame. This is accomplished by drawing the first object, then resetting the viewport to specify a different plot location and size, then drawing the object again. These steps can be repeated multiple times to draw multiple plots on a single frame.

This example does not use any data and is therefore more useful for instruction rather than for creating useful graphical output. A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called basic02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called basic02f.f.

Creating the plot using NCL

The HLU NCL program that generates this plot is called basic02n.ncl.

The data

No data is used in this plot.

How to run this example

There are three ways to produce this example: by using an NCL script (basic02n.ncl), a C program (basic02c.c), or a FORTRAN program (basic02f.f). The examples are installed in the following locations:

$NCARG_LIB/ncarg/nclex/basic/basic02n.ncl
$NCARG_LIB/ncarg/hluex/basic/basic02c.c
$NCARG_LIB/ncarg/hluex/basic/basic02f.f

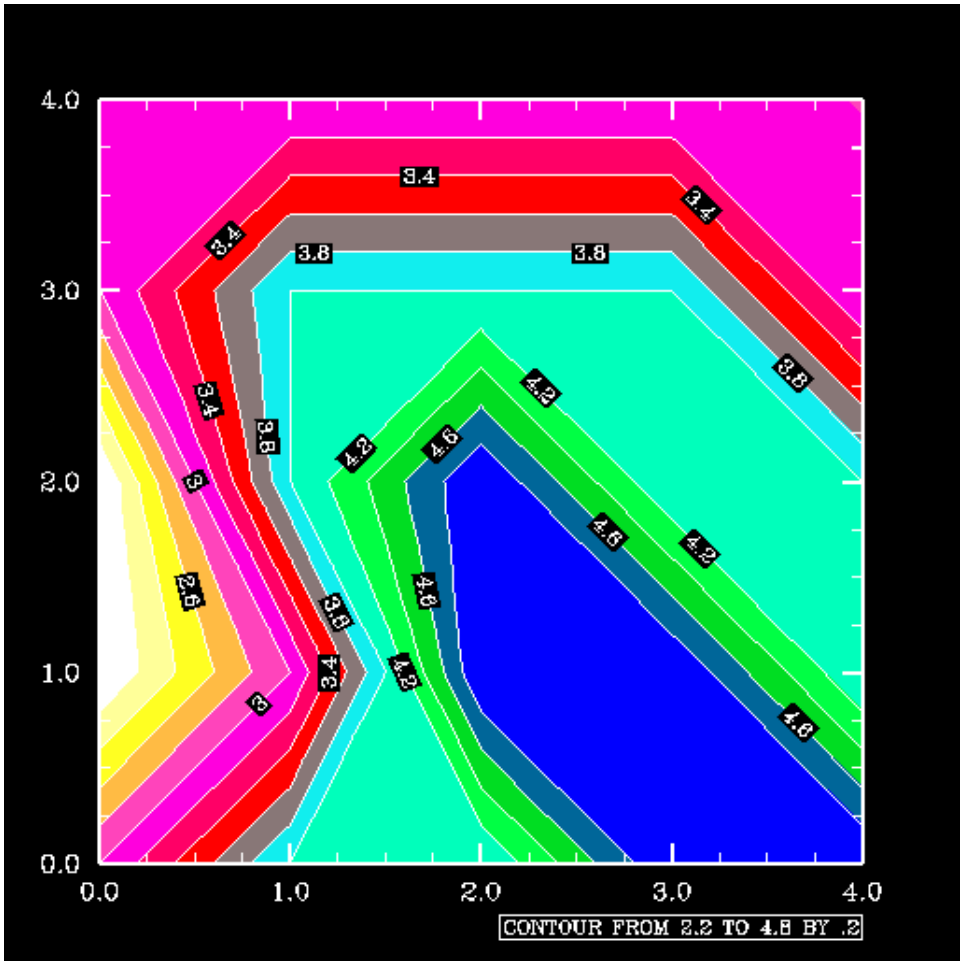
You can copy this example and run it by typing "ng4ex basic02n", "ng4ex basic02c", or "ng4ex basic02f". A copy of the source file will be placed in your current working directory. The source code will be compiled (if appropriate) and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/17 22:46:13 $

Basic example 3

How to set resources for a plot

This is an introductory example that shows how to set resources with a resource file, with arguments to the function that creates an object, and with arguments to the setvalues function after an object has been created. This example demonstrates how to create the plot using NCL, HLU C, and HLU FORTRAN library calls. The names of the example codes that create this plot are basic03n.ncl, basic03c.c, and basic03f.f.



Discussion

This module discusses the different methods for setting resources in a plot using HLU C library calls, HLU FORTRAN library calls, and the NCAR Command Language. Resources are parameters that control the characteristics of a plot, such as the size, colors, line patterns, etc. The example produces four frames that are drawn into X Windows.

Resources are controlled through resource files and by setting their values explicitly in an NCL script or

HLU source code. For a detailed explanation about resources and how to set them, see the Understanding resources module.

The first frame of the example shows how to draw a contour plot using all the default settings except for the input data field.

The second frame of the example is drawn into a new window and uses a resource that is set in the basic03.res resource file. Only one resource, cnFillOn, is set in this file. This resource turns on contour fill for the object.

The third frame of the example draws the same contour plot and uses the resource that is set in the resource file. However, in this example, a resource is set explicitly when the object is created. The resource, cnLineLabelsOn, controls whether or not the contour line labels are visible. In this case, the resource is set to "False" so the labels will not appear.

In the fourth frame of the example, a resource is set using the setvalues call that overrides the resource setting in the resource file. In this example, setvalues is used to set the cnFillOn resource to "False" to turn off contour fill.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called basic03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called basic03f.f.

Creating the plot using NCL

The HLU NCL program that generates this plot is called basic03n.ncl.

The data

The data for this plot was generated internally in the NCL script and in the HLU source codes. The data is a 5x5 array of integer values.

How to run this example

This example can be produced using an NCL script (basic03n.ncl), a C program (basic03c.c), or a FORTRAN program (basic03f.f). The examples are installed in the following locations:

```
$NCARG_LIB/ncarg/nclex/basic/basic03n.ncl
$NCARG_LIB/ncarg/hluex/basic/basic03c.c
$NCARG_LIB/ncarg/hluex/basic/basic03f.f
```

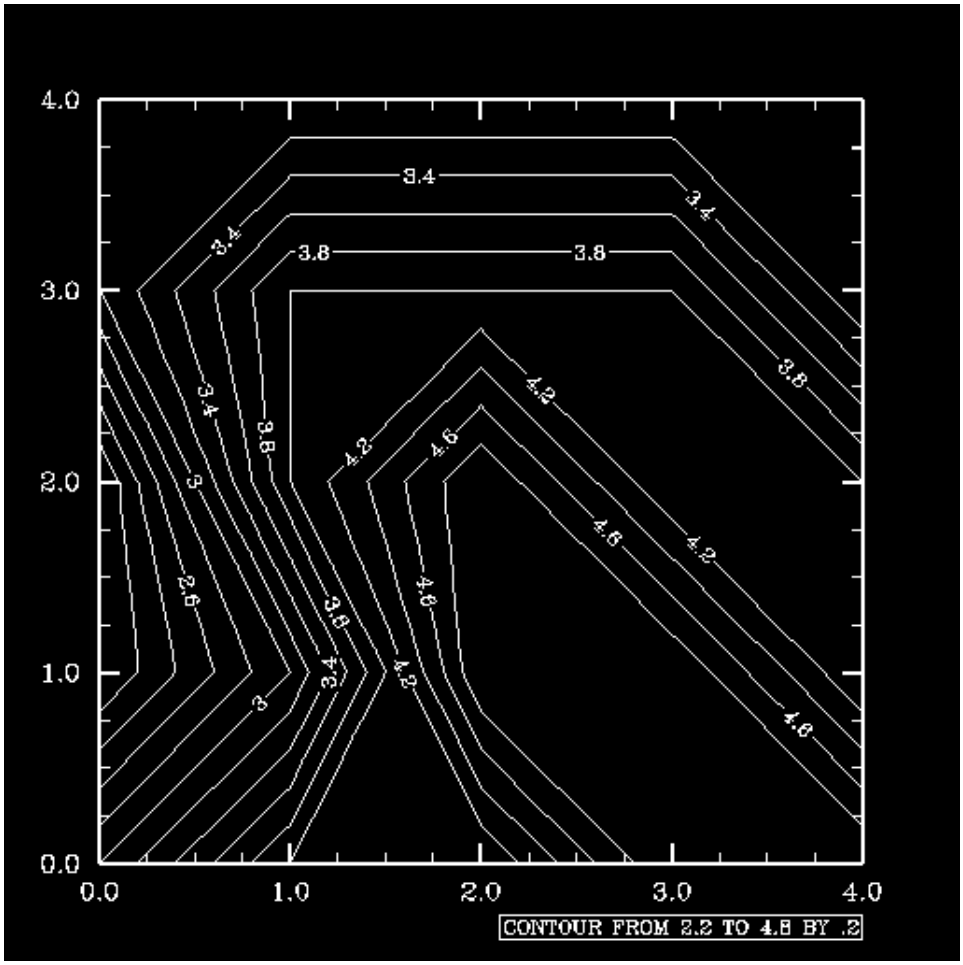
You can copy this example and run it by typing "ng4ex basic03n", "ng4ex basic03c", or "ng4ex basic03f". A copy of the source file, resource file, and Makefile (if appropriate) will be placed in your current working directory. The source code will be compiled (if appropriate) and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/17 22:46:14 $

Basic example 4

How to draw to different output devices

This is an introductory example that shows how to select the output for an NCAR Graphics program. This example demonstrates how to draw the plot using NCL, HLU C, and HLU FORTRAN library calls in a X Window and in an NCGM file. The names of the example codes that create this plot are basic04n.ncl, basic04c.c, and basic04f.f.



Discussion

This module demonstrates how to specify the type of output for an NCAR Graphics program. This example shows how to draw the output to a named NCGM file and to an X Window. The example creates two "workstations" that specify the type of output that will be used. The example then draws a contour plot into each of the devices. The output to the X Window is dynamically displayed. The output to the NCGM file is stored in a file called ./basic04.ncgm and can be view by using the ctrans utility.

A detailed discussion about how to create the plots appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called basic04c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called basic04f.f.

Creating the plot using NCL

The HLU NCL program that generates this plot is called basic04n.ncl.

The data

The data for this plot was generated internally in the NCL script and in the HLU source codes. The data is a 5x5 array of integer values.

How to run this example

This example can be generated using an NCL script (basic04n.ncl), a C program (basic04c.c), or a FORTRAN program (basic04f.f). The examples are installed in the following locations:

$NCARG_LIB/ncarg/nclex/basic/basic04n.ncl
$NCARG_LIB/ncarg/hluex/basic/basic04c.c
$NCARG_LIB/ncarg/hluex/basic/basic04f.f

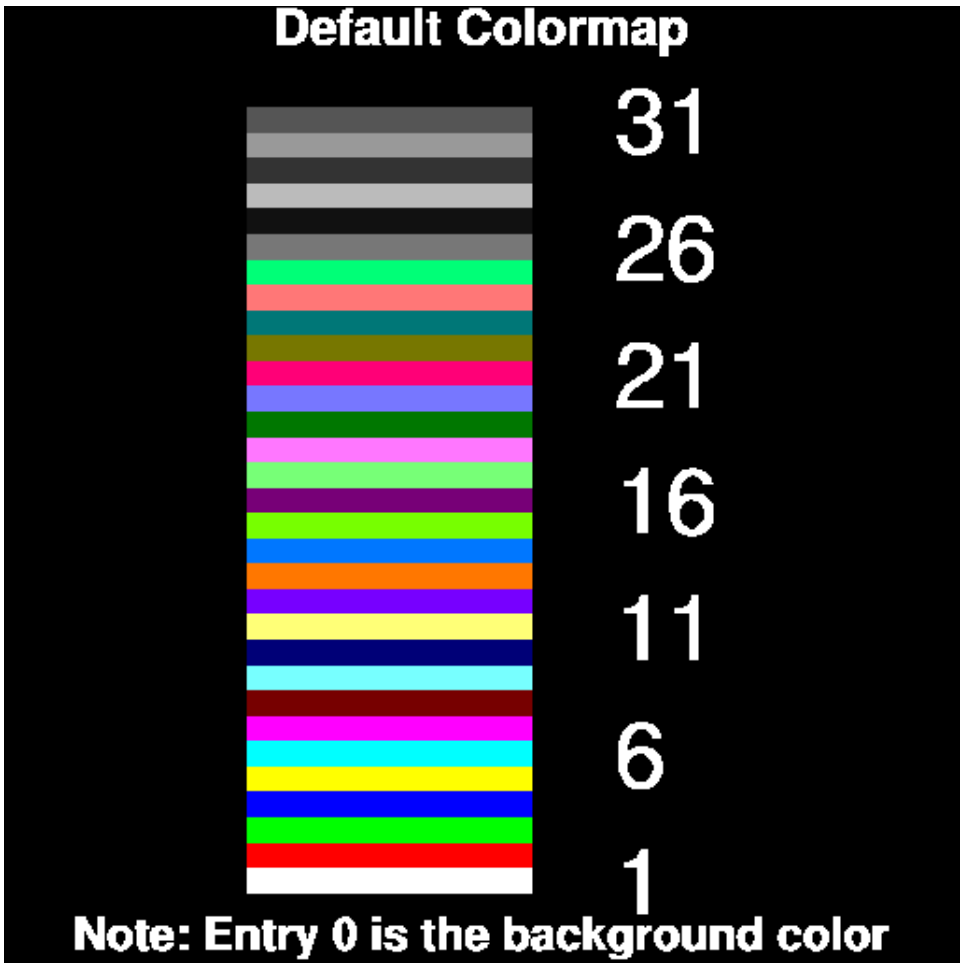
You can copy this example and run it by typing "ng4ex basic04n", "ng4ex basic04c", or "ng4ex basic04f". A copy of the source file will be placed in your current working directory. The source code will be compiled (if appropriate) and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/17 22:46:14 $

Basic example 5

How to manipulate a colormap

This is an introductory example that shows how to manipulate colormaps using HLU C, HLU FORTRAN library calls, and NCL. The example demonstrates how to change color tables, how to alter a colormap entry, and how to create a completely new colormap. The names of the example codes that create this plot are basic05n.ncl, basic05c.c, and basic05f.f.



Discussion

This module demonstrates how to assign one of the predefined colormaps to a workstation object and then draw a labelbar that displays the current colormap. This example displays each of the NCAR Graphics pre-defined colormaps in a single frame. The example also shows how to read a colormap array, alter entries in that array, and then reassign the colormap. Finally, this example demonstrates how to create a completely new colormap array and then apply it to a workstation object.

A detailed discussion about how to create the plots appears in the comments of the source code for the

example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called basic05c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called basic05f.f.

Creating the plot using NCL

The HLU NCL program that generates this plot is called basic05n.ncl.

The data

No external data is used with this example.

How to run this example

The examples are installed in the following locations:

$NCARG_LIB/ncarg/nclex/basic/basic05n.ncl
$NCARG_LIB/ncarg/hluex/basic/basic05c.c
$NCARG_LIB/ncarg/hluex/basic/basic05f.f

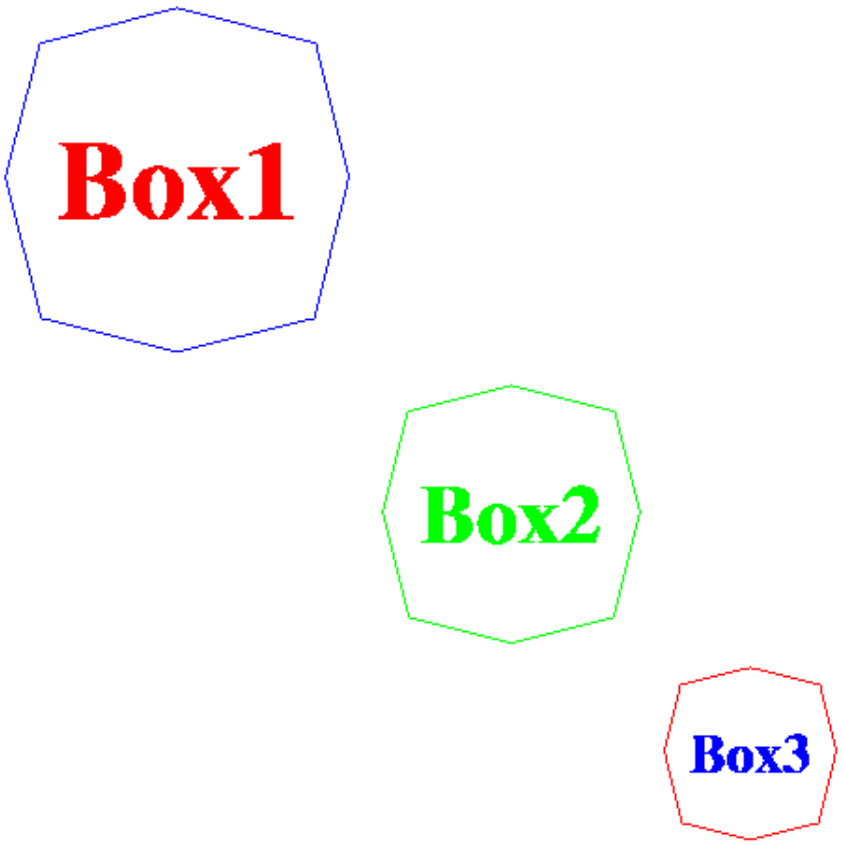
You can copy this example and run it by typing "ng4ex basic05n", "ng4ex basic05c", or "ng4ex basic05f". A copy of the source file and Makefile (if appropriate) will be placed in your current working directory. The source code will be compiled (if appropriate) and automatically run for you.

$Revision: 1.5 $ $Date: 1995/07/17 22:46:15 $

Basic example 6

How to size and position objects

This is an introductory example that shows how to position objects on an output device and how to change their sizes. A simple color table is also defined and used for changing the color of a curve in an XyPlot.



Discussion

This module demonstrates how to create an XyPlot object and a TextItem object, and then draw them at different positions and scales on a plot. The example also defines procedures for drawing, positioning, and scaling plot objects and text objects.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this example is called basic06c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this example is called basic06f.f.

Creating the plot using NCL

The NCL program that generates this plot is called basic06n.ncl.

The data

The data for this plot is generated internally by the example code.

How to run this example

The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/basic/basic06c.c
- $NCARG_LIB/ncarg/hluex/basic/basic06f.f
- $NCARG_LIB/ncarg/nclex/basic/basic06n.ncl

You can copy this example and run it by typing "ng4ex basic06n", "ng4ex basic06c", or "ng4ex basic06f". A copy of the source file will be placed in your current working directory and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/17 22:20:03 $

Basic example 7

How to select a workstation device

This is an introductory example that shows how to create three simultaneous workstations. The example draws a TextItem object into an NCGM, PostScript, and X11 workstation. The TextItem output states which type of workstation it is being drawn into.

Discussion

This module describes how to draw a plot object into a X11 window, an NCGM file, and a PostScript file. The example creates three simultaneous workstations, and then draws a TextItem object that specifies the type of output device into each workstation. A resource file, basic07.res, defines the output text strings' value, size, font, and color.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The C program that generates this plot is called basic07c.c.

Creating the plot using HLU FORTRAN library calls

The FORTRAN program that generates this plot is called basic07f.f.

Creating the plot using NCL

The NCL script that generates this plot is called basic07n.ncl.

The data

No external data is used for this plot.

How to run this example

The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/basic/basic07c.c
- $NCARG_LIB/ncarg/hluex/basic/basic07f.f
- $NCARG_LIB/ncarg/nclex/basic/basic07n.ncl

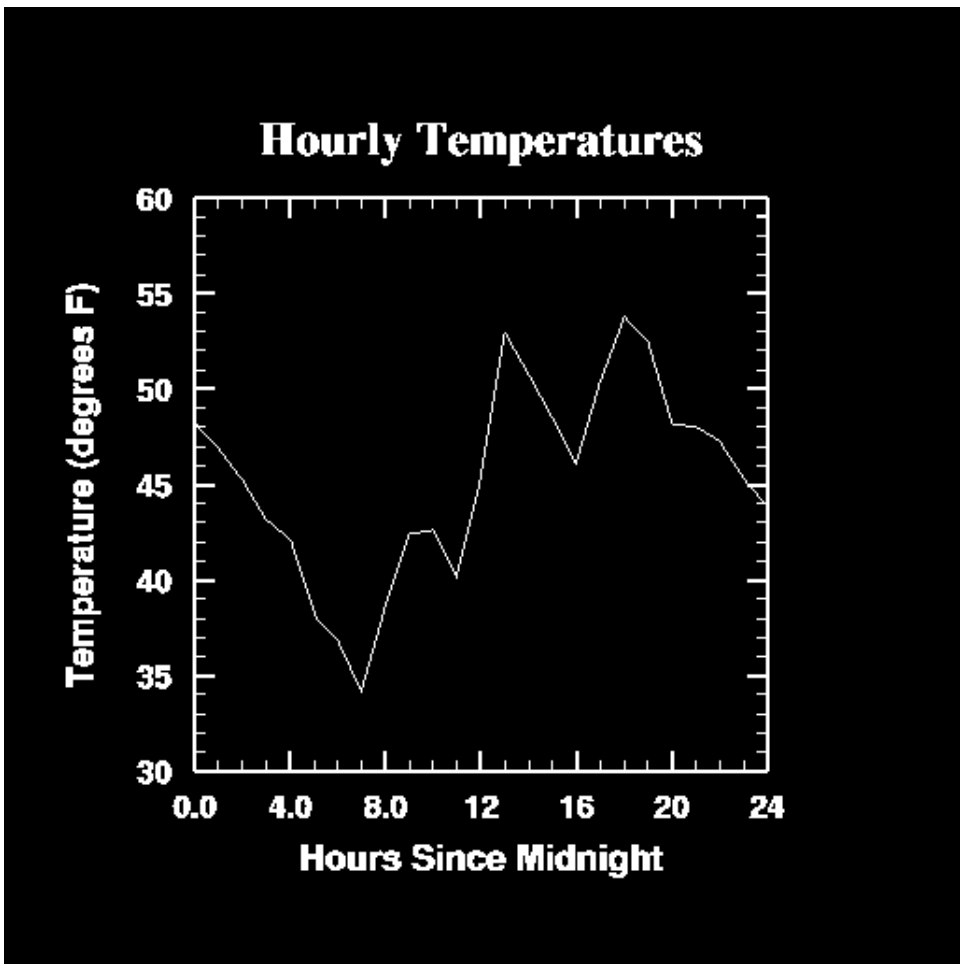
You can copy this example and run it by typing "ng4ex basic07f", "ng4ex basic07c", or "ng4ex basic07n". A copy of the source file will be placed in your current working directory, compiled, and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/17 22:20:03 $

XyPlot example 14

How to manipulate XyPlot data using NCL

This example is created using NCL. It demonstrates the data manipulation capabilities available in NCAR Graphics and how to create data objects. The name of the source file for this example is xy14n.ncl.



Discussion

This module discusses how to create this plot using NCL, and it demonstrates some of the data manipulation capabilities that are available with NCAR Graphics. The example creates a series of plots that use CoordArrays objects for managing data. The NCL example also demonstrates how to use some of the data manipulation features and functions of the language to subsample or thin data and perform conversions and other mathematical operations on the data. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

Currently, the HLU C program to generate this plot is not available.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN program to generate this plot is not available.

Creating the plot using NCL

The NCL script that generates this plot is called xy14n.ncl.

The data

The data for this plot is generated from within the program.

How to run this example

The example is installed in the following location:

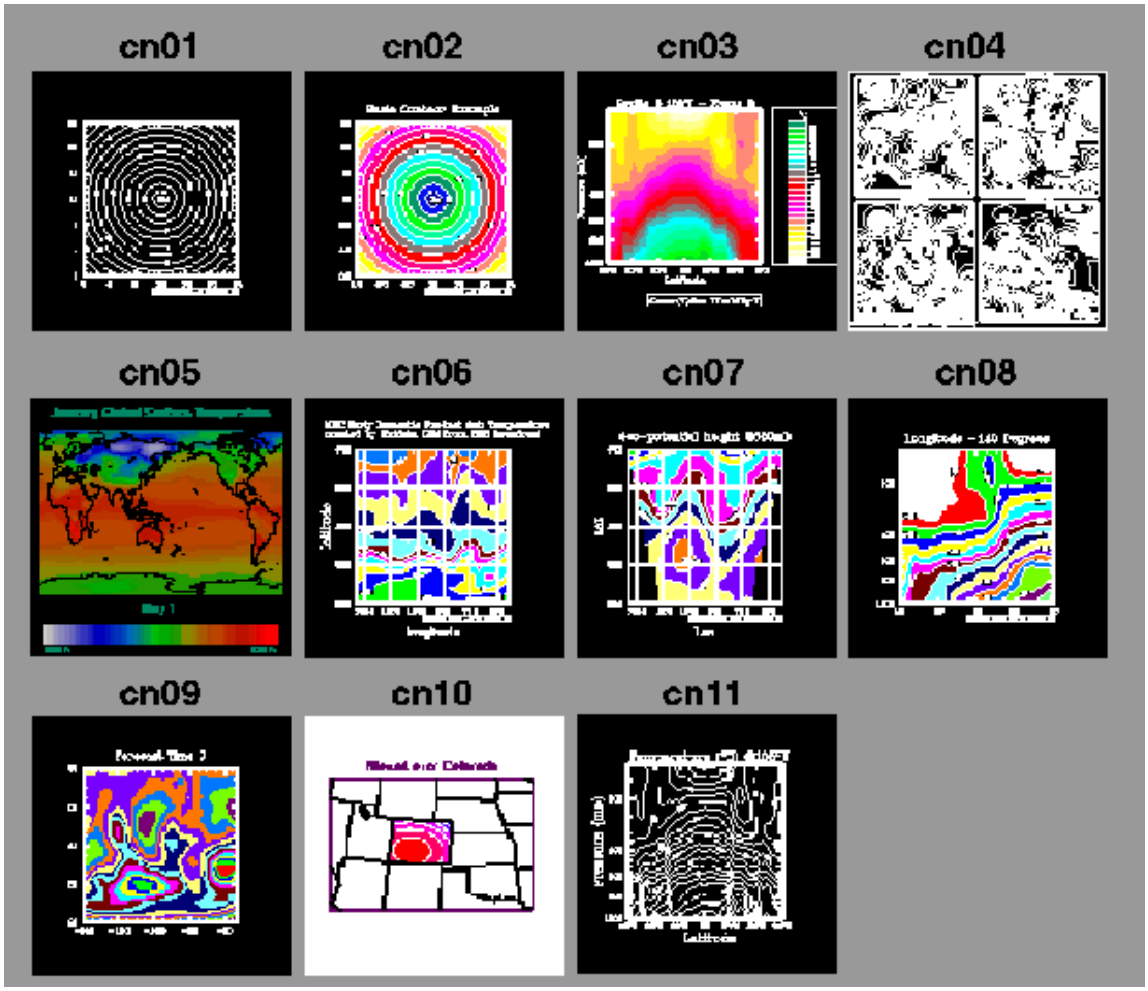
- $NCARG_LIB/ncarg/nclex/xyplot/xy14n.ncl

You can copy this example and run it by typing "ng4ex xy14n". A copy of the source file will be placed in your current working directory and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/18 21:06:39 $

ContourPlot examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that generate contour plots. Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- cn01: Drawing a contour plot using default settings.
- cn02: Basic features of a ContourPlot object.
- cn03: Overlaying a ContourPlot on a LogLinPlot.
- cn04: Multiple contour plots on a single frame.
- cn05: Creating a map and contour overlay animation.
- cn06: Creating contour plots of NetCDF temperature data.
- cn07: Creating contour plots of NetCDF geo-potential height data.
- cn08: ContourPlot animation of vertical temperature profile.
- cn09: ContourPlot of NetCDF surface pressure data.
- cn10: Refining a contour plot.
- cn11: Mixing low level and high level utilities.

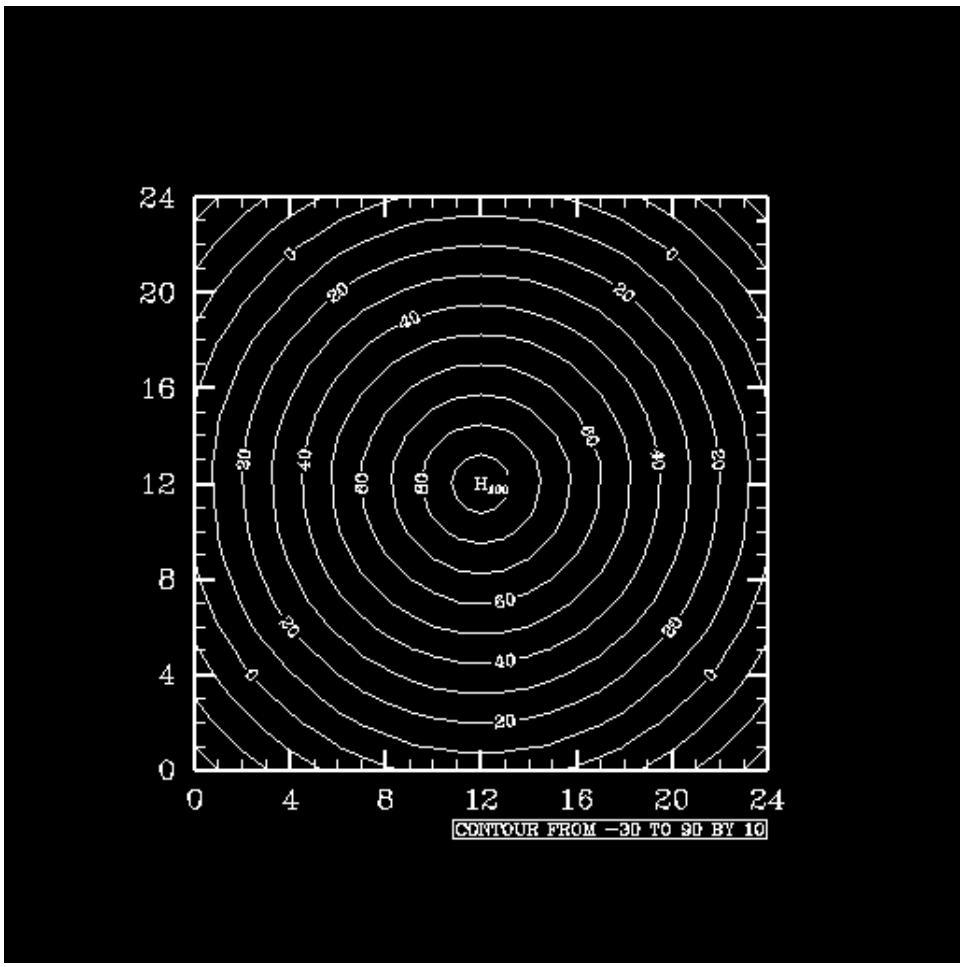
These examples can be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.5 $ $Date: 1995/07/17 23:20:42 $

ContourPlot example 1

Drawing a contour plot using default settings

This example demonstrates how to use HLUs and NCL to create a contour plot with all resources (except data) set to their default values.



Discussion

Resources are controlled through a resource file called cn01.res.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called cn01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called cn01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called cn01n.ncl.

The data

The data for this plot is created in the example's source code.

How to run this example

The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/contourplot/cn01c.c
- $NCARG_LIB/ncarg/hluex/contourplot/cn01f.f
- $NCARG_LIB/ncarg/nclex/contourplot/cn01n.ncl

The resource file for this example is located in:

- $NCARG_LIB/ncarg/resfiles/contourplot/cn01.res

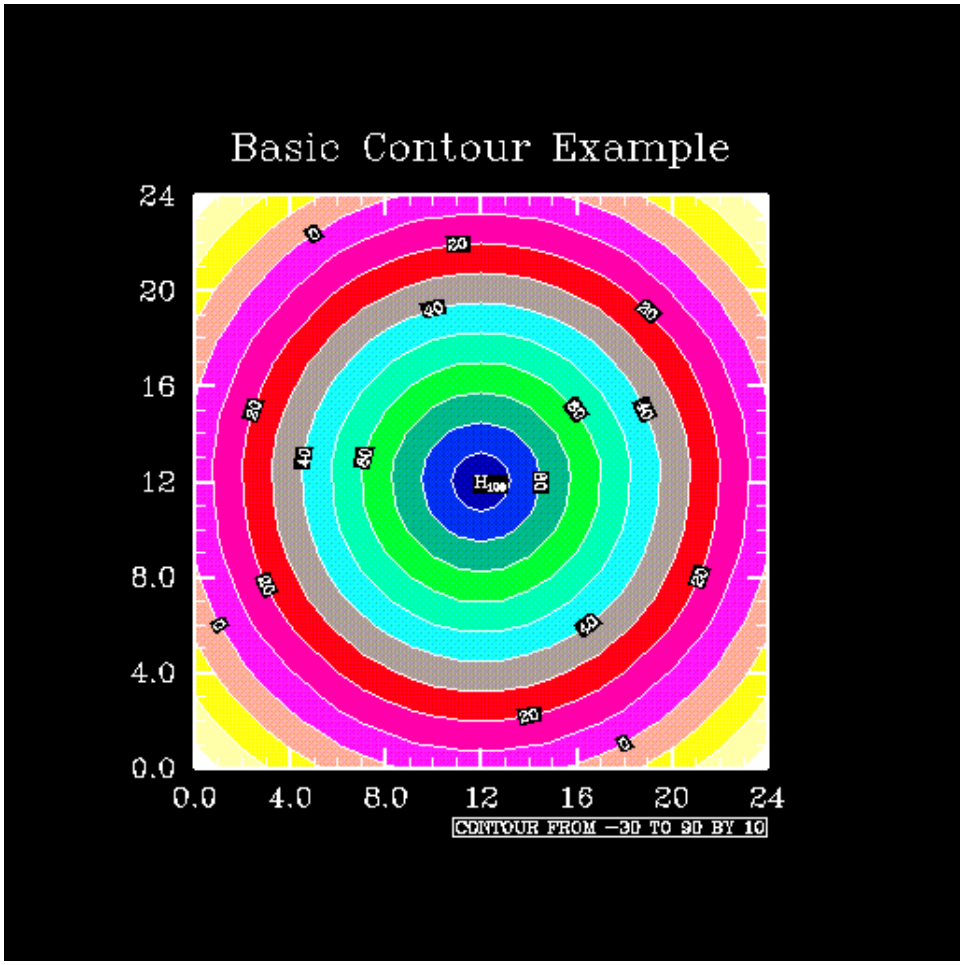
You can copy this example and run it by typing "ng4ex cn01c", "ng4ex cn01f", or "ng4ex nc01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/17 23:20:34 $

ContourPlot example 2

Basic features of a ContourPlot object

This example demonstrates how to create the plot using HLU C, HLU FORTRAN library calls, and NCL. The example shows many of the most-used features such as selecting the contour fill type, setting line patterns, and controlling labels. The names of the example codes that create this plot are cn02c.c, cn02f.f, and cn02n.ncl.



Discussion

Resources are controlled through a resource file called cn02.res.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called cn02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called cn02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called cn02n.ncl.

The data

The data for this plot is generated by the example's source code.

How to run this example

This example can be created using a C program (cn02c.c), a FORTRAN program (cn02f.f), or an NCL script (cn02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/contourplot/cn02c.c
- $NCARG_LIB/ncarg/hluex/contourplot/cn02f.f
- $NCARG_LIB/ncarg/nclex/contourplot/cn02n.ncl

The resource file for this example is located in:

- $NCARG_LIB/ncarg/resfiles/contourplot/cn02.res

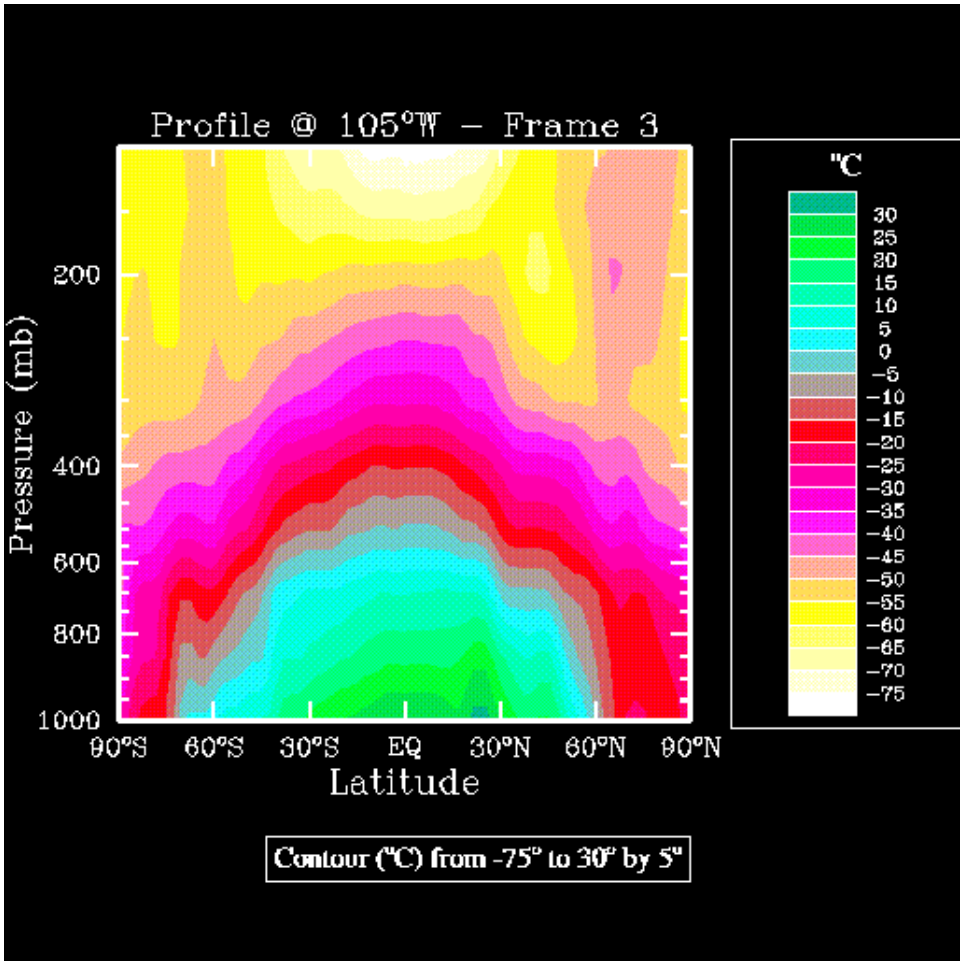
You can copy this example and run it by typing "ng4ex cn02c", "ng4ex cn02f", or "ng4ex cn02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/17 23:20:35 $

ContourPlot example 3

Overlaying a ContourPlot on a LogLinPlot

This example demonstrates how to create the plot using HLU C and HLU FORTRAN library calls. The names of the example codes that create this plot are cn03c.c and cn03f.f.



Discussion

Resources are controlled through a resource file called cn03.res.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called cn03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called cn03f.f.

Creating the plot using NCL

The NCL script to generate this plot has not been created yet.

The data

The data for this plot is defined in the header file (cn03c.h) for the C example and in an ASCII data file (cn03f.asc) for the FORTRAN example.

How to run this example

This example can be created using a C program (cn03c.c) or a FORTRAN program (cn03f.f). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/contourplot/cn03c.c
- $NCARG_LIB/ncarg/hluex/contourplot/cn03f.f

The resource file for this example is located in:

- $NCARG_LIB/ncarg/resfiles/contourplot/cn03.res

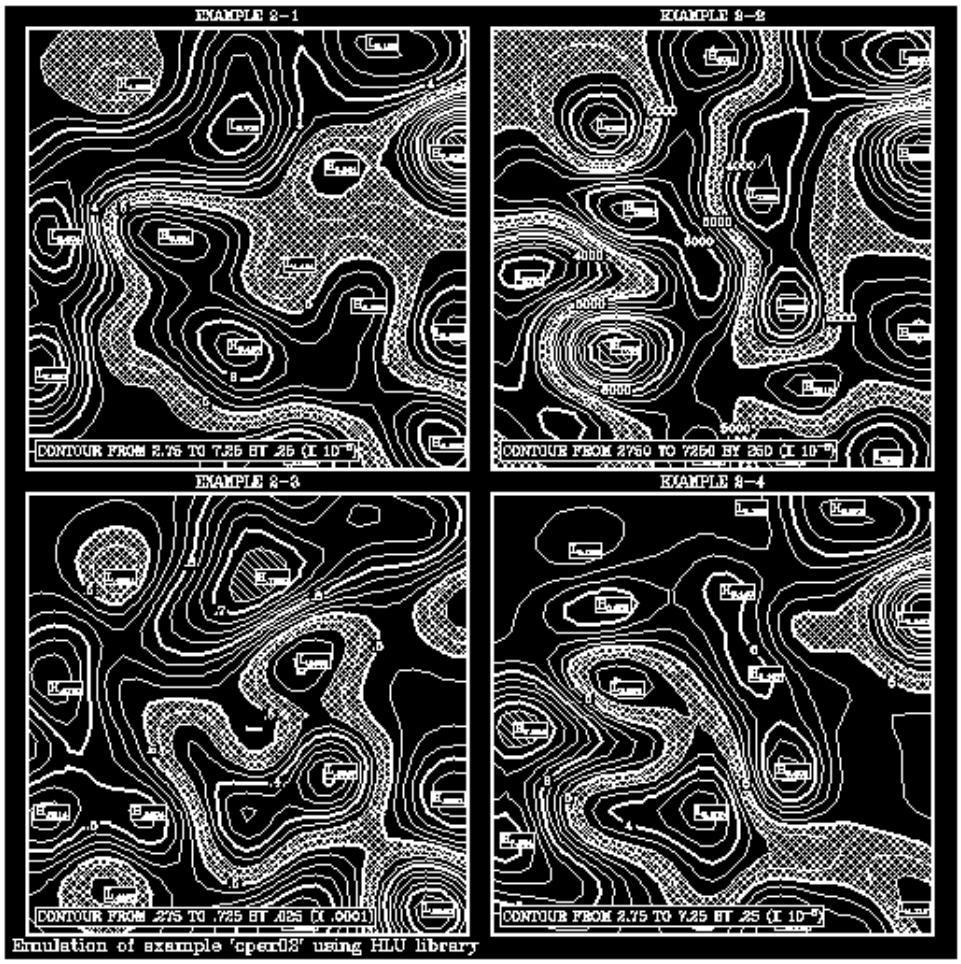
You can copy this example and run it by typing "ng4ex cn03c", or "ng4ex cn03f". A copy of the source file, and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/17 23:20:35 $

ContourPlot example 4

Multiple contour plots on a single frame

This example demonstrates how to create the plot using HLU C and HLU FORTRAN library calls and NCL. The names of the example codes that create this plot are cn04c.c, cn04f.f, and cn04n.ncl.



Discussion

Resources are controlled through a resource file called cn04.res.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called cn04c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called cn04f.f.

Creating the plot using NCL

The NCL script that generates this plot is called cn04n.ncl.

The data

The data for this example is generated using the GENDAT subroutine. However, the NCL script reads data from an ASCII data file called cn04n.asc.

How to run this example

There are two ways to produce this example: by using a C program (cn04c.c) or a FORTRAN program (cn04f.f). The examples are installed in the following locations:

$NCARG_LIB/ncarg/hluex/contourplot/cn04c.c
$NCARG_LIB/ncarg/hluex/contourplot/cn04f.f
$NCARG_LIB/ncarg/nclex/contourplot/cn04n.ncl

The resource file for this example is located in:

$NCARG_LIB/ncarg/resfiles/contourplot/cn04.res

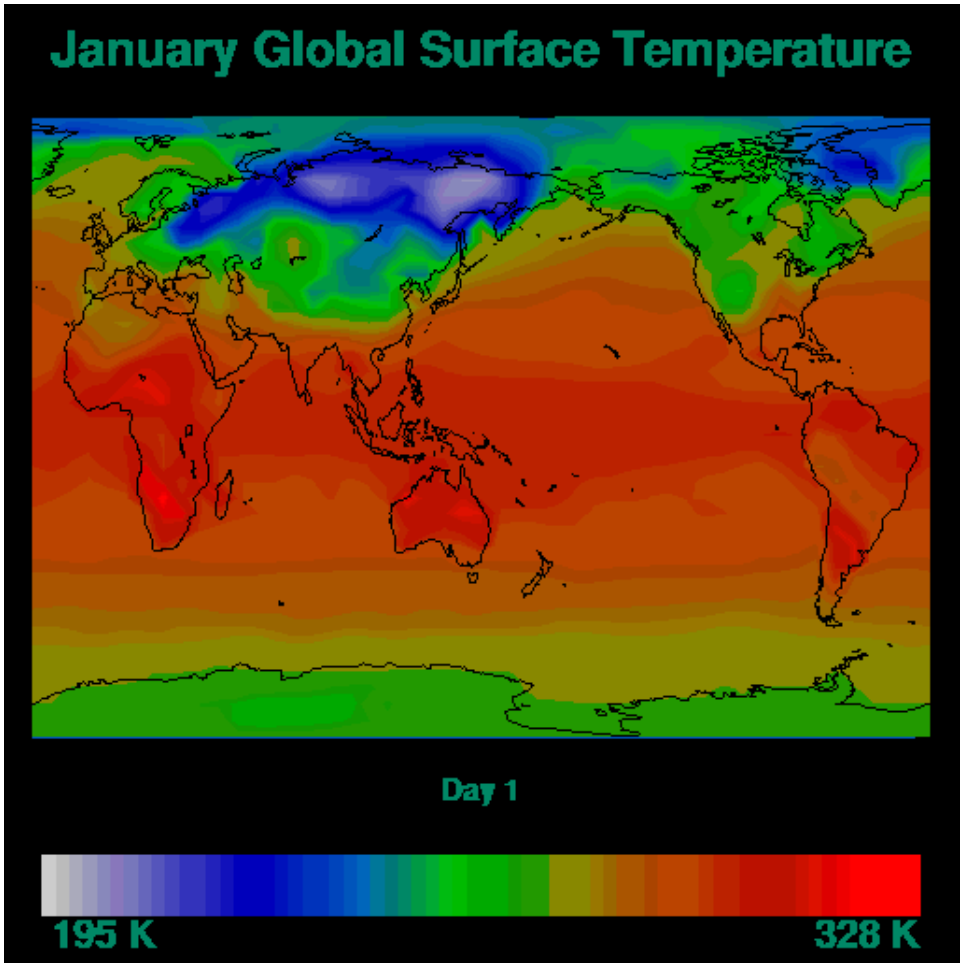
You can copy this example and run it by typing "ng4ex cn04c", "ng4ex cn04f", or "ng4ex cn04n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/17 23:20:36 $

ContourPlot example 5

Creating a map and contour overlay animation

This example was created using NCL commands, and it demonstrates how to read data from a netCDF file, set plot attributes, and generate a color-filled contour plot with a labelbar overlaid on a cylindrical equidistant map projection of the globe. The example also shows how to iteratively loop through the data and generate multiple plots to create an animation. The name of this example is cn05n.ncl.



View this animation..

Discussion

This module discusses how to create this plot using NCL commands. This module also shows how to read netCDF data from a file, create a scalar field data object, a workstation object for output to an NCGM workstation, a contour plot, a labelbar as an annotation object to a contour plot, and a MapPlot object.

Creating the plot using NCL

The NCL script that generates this plot is called cn05n.ncl. This script reads a netCDF data file, sets up the plot data attributes, then draws the first frame of the animation. Once the plot is drawn, the script reads another field of data, draws another frame, and repeats this cycle until it has finished reading all the data.

Detailed script discussion

See the code example for a detailed description of how to create this plot.

The data

The data for this plot is from a netCDF file called meccatemp.cdf. The original data for this plot was generated by Warren Washington (NCAR) and Gerald Meehl (NCAR) for the Model Evaluation Consortium for Climate Assessment (MECCA) project. The MECCA Analysis Team at the Climate Impacts Centre in Sydney, Australia, prepared and archived the data, and previous visualizations of this data by Kendal McGuffie (University of Technology, Sydney) were referenced for selecting appropriate attributes for the plot and animation.

The data file contains a three-dimensional array of temperature data. The dimensions of the temperature variable (t) are time (31), lat (40), and lon (49). Type "ncdump -h meccatemp.cdf" to view the header information for this data file.

How to run this example

This is example is installed in the following location:

$NCARG_LIB/ncarg/nclex/contourplot/cn05n.ncl

You can copy this example and run it by typing "ng4ex cn05n". A copy of the NCL script will be placed in your current working directory and run automatically for you.

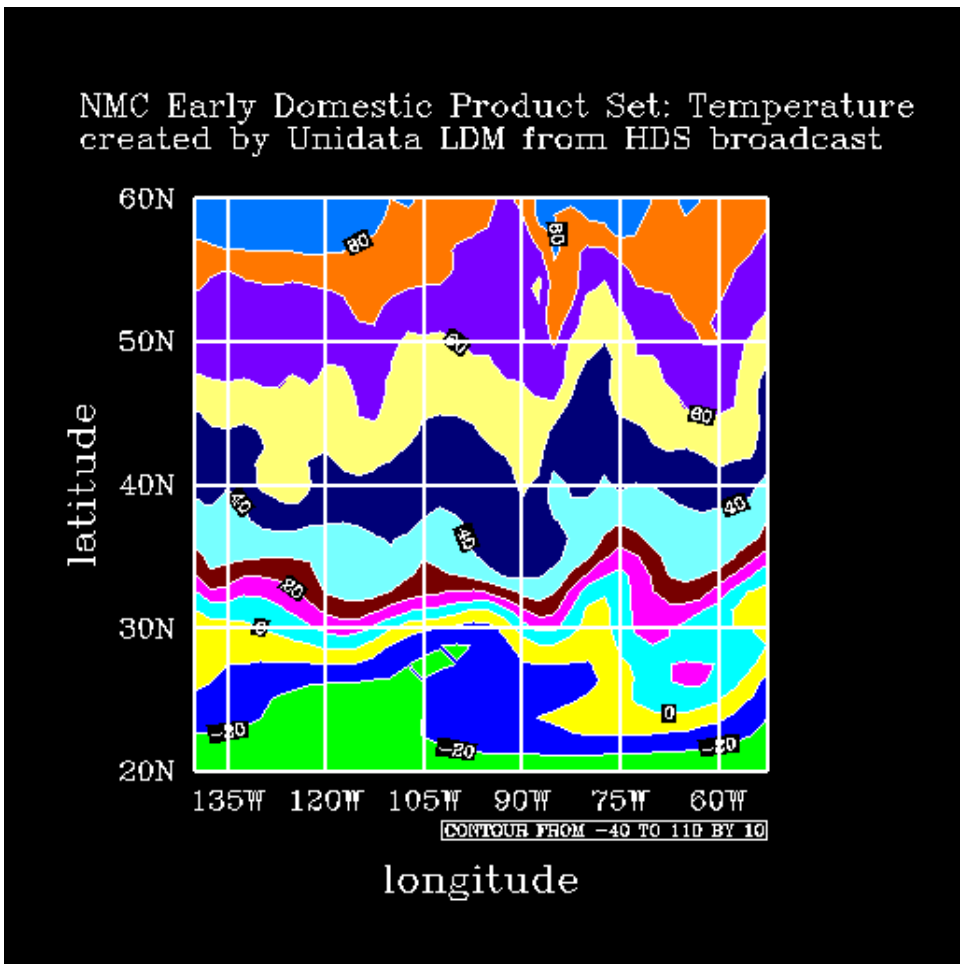
You can view the output NCGM file using the NCAR Graphics ctrans utility.)Type "ctrans gmeta".)

$Revision: 1.4 $ $Date: 1995/07/19 20:12:27 $

ContourPlot example 6

Creating contour plots of NetCDF temperature data

This example demonstrates how to read data from a NetCDF file and create a series of contour plots from the data. This example was created using NCL commands. The name of the example script is cn06n.ncl.



Discussion

This module discusses how to create this plot using NCL commands. This module also shows how to read netCDF data from a file and produce a series of contour plots. This example reads a subset of temperature data from a netCDF file, creates a contour plot of the data, and then repeats this process to produce several frames in a sequence of time steps.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

Currently, the HLU C code has not been written for this example.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN code has not been written for this example.

Creating the plot using NCL

The NCL script that generates this plot is called cn06n.ncl.

The data

The data for this plot is from a netCDF file called contour.cdf. This example data file contains several geophysical variables including a four-dimensional temperature variable, T. A subset of this variable is read from the netCDF file along with latitude and longitude coordinate variables for each time step.

This data file is located in your NCAR Graphics data directory. You can get the name of this directory by typing "ncargpath data" at your shell prompt. Change to this directory and then type "ncdump -h contour.cdf" to view the header information for this data file and see all the variables and data attributes.

How to run this example

This is example is installed in the following location:

$NCARG_LIB/ncarg/nclex/contourplot/cn06n.ncl

You can copy this example and run it by typing "ng4ex cn06n". A copy of the NCL script will be placed in your current working directory and run automatically for you.

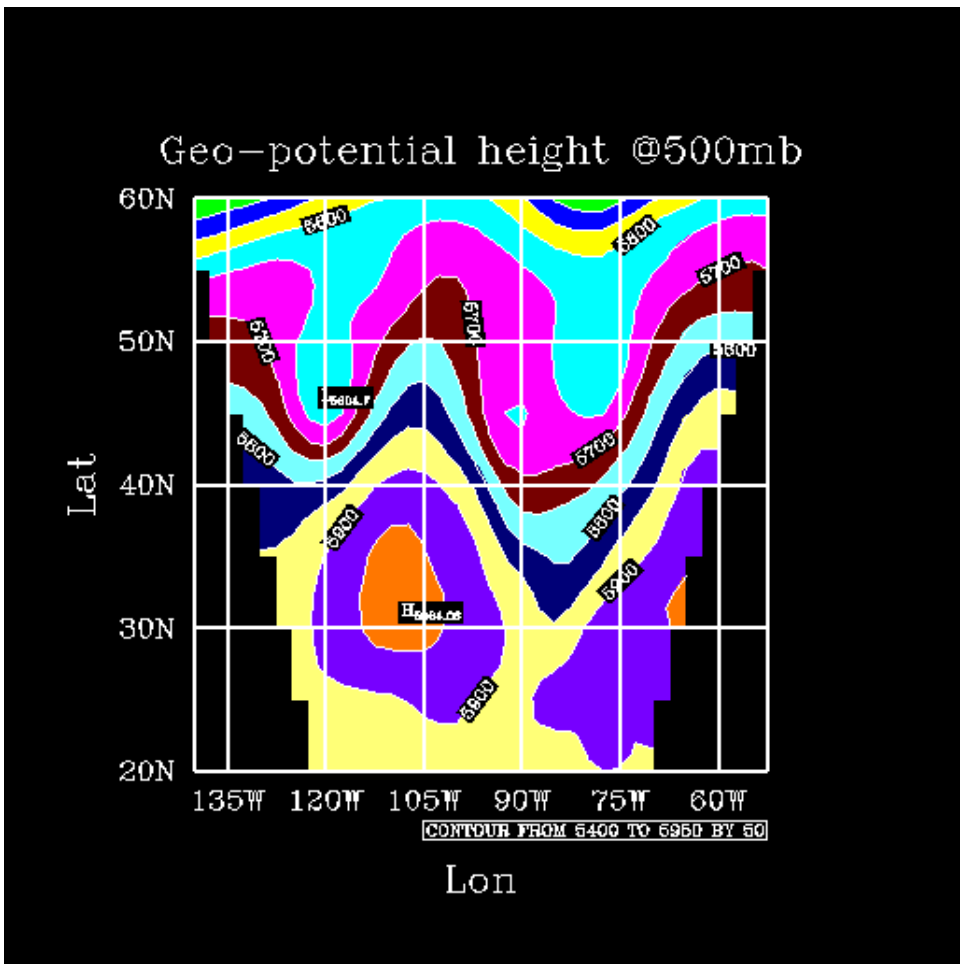
You can view the output NCGM file using the NCAR Graphics ctrans utility. (Type "ctrans cn06n.ncgm".)

$Revision: 1.4 $ $Date: 1995/07/17 23:20:37 $

ContourPlot example 7

Creating contour plots of NetCDF geo-potential height data

This example demonstrates how to read data from a NetCDF file and create a series of contour plots from the data. This example was created using NCL commands. The name of the example script is cn07n.ncl.



Discussion

This module discusses how to create this plot using NCL commands. This module also shows how to read netCDF data from a file and produce a series of contour plots. This example reads a subset of geo-potential height data from a netCDF file, creates a contour plot of the data, and then repeats this process to produce several frames in a sequence of time steps.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

Currently, the HLU C code has not been written for this example.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN code has not been written for this example.

Creating the plot using NCL

The NCL script that generates this plot is called cn07n.ncl.

The data

The data for this plot is from a netCDF file called contour.cdf. This example data file contains several geophysical variables including a four-dimensional geo-potential height variable, Z. A subset of this variable is read from the netCDF file along with latitude and longitude coordinate variables for each time step.

This data file is located in your NCAR Graphics data directory. You can get the name of this directory by typing "ncargpath data" at your shell prompt. Change to this directory and then type "ncdump -h contour.cdf" to view the header information for this data file and see all the variables and data attributes.

How to run this example

This example is installed in the following location:

$NCARG_LIB/ncarg/nclex/contourplot/cn07n.ncl

You can copy this example and run it by typing "ng4ex cn07n". A copy of the NCL script will be placed in your current working directory and run automatically for you.

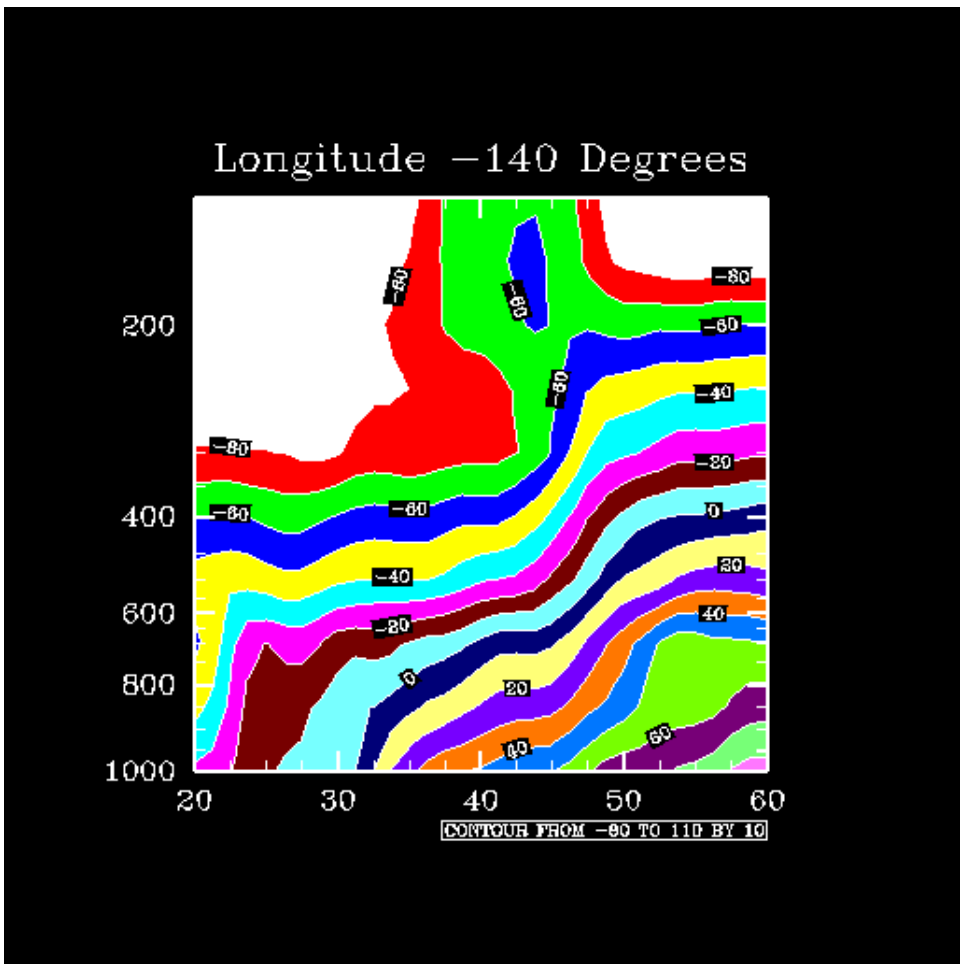
You can view the output NCGM file using the NCAR Graphics ctrans utility. (Type "ctrans cn07n.ncgm".)

$Revision: 1.4 $ $Date: 1995/07/17 23:20:38 $

ContourPlot example 8

ContourPlot animation of vertical temperature profile

This example demonstrates how to read data from a NetCDF file and create a series of contour plots from the data. The example shows a vertical profile of temperature for longitudes separated by 5 degrees. This example was created using NCL commands. The name of the example script is cn08n.ncl.



View this animation..

Discussion

This module discusses how to create this plot using NCL commands. This module also shows how to read netCDF data from a file and produce a series of contour plots. This example reads a subset of temperature data from a netCDF file, creates a contour plot of the data, and then repeats this process to produce several frames in a sequence of time steps.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

Currently, the HLU C code has not been written for this example.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN code has not been written for this example.

Creating the plot using NCL

The NCL script that generates this plot is called cn08n.ncl.

The data

The data for this plot is from a netCDF file called contour.cdf. This example data file contains several geophysical variables including a four-dimensional temperature variable, T. A subset of this variable is read from the netCDF file along with latitude and longitude coordinate variables for each time step.

This data file is located in your NCAR Graphics data directory. You can get the name of this directory by typing "ncargpath data" at your shell prompt. Change to this directory and then type "ncdump -h contour.cdf" to view the header information for this data file and see all the variables and data attributes.

How to run this example

This is example is installed in the following location:

$NCARG_LIB/ncarg/nclex/contourplot/cn08n.ncl

You can copy this example and run it by typing "ng4ex cn08n". A copy of the NCL script will be placed in your current working directory and run automatically for you.

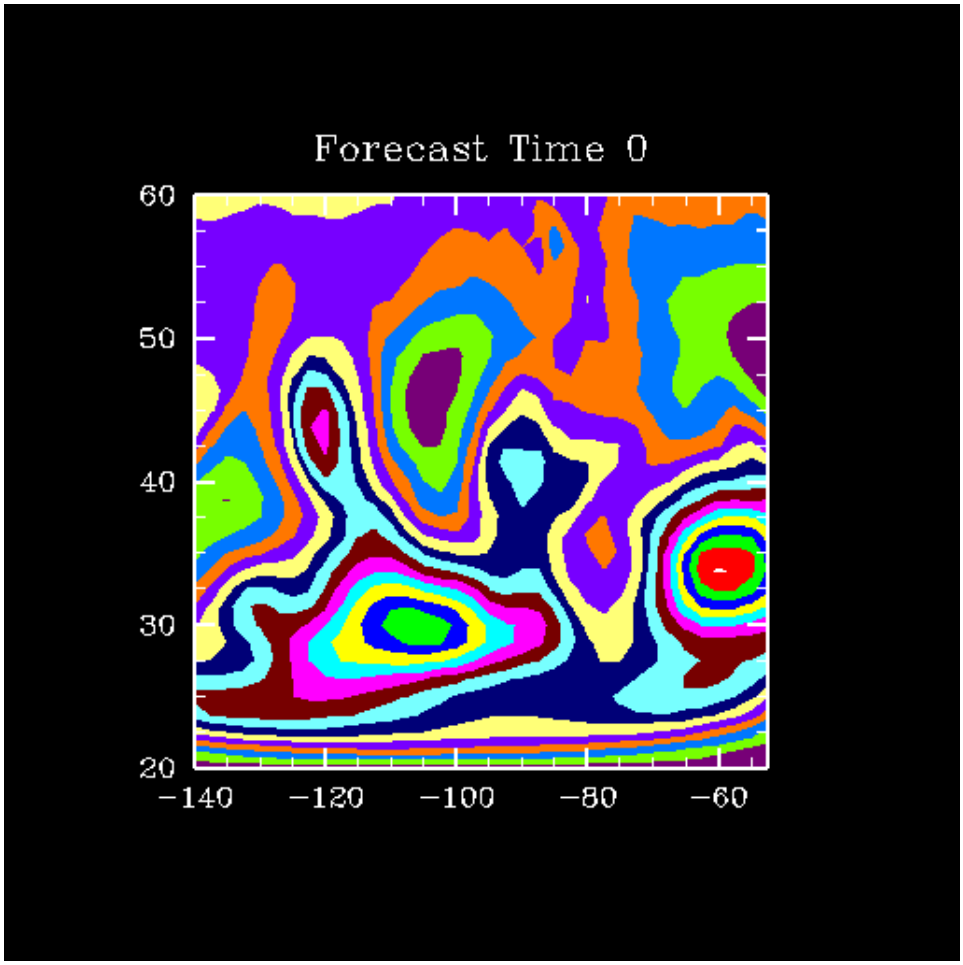
You can view the output NCGM file using the NCAR Graphics ctrans utility. (Type "ctrans cn08n.ncgm".)

$Revision: 1.4 $ $Date: 1995/07/17 23:20:39 $

ContourPlot example 9

ContourPlot of NetCDF surface pressure data

This example demonstrates how to read data from a NetCDF file and create a series of contour plots from the data. The example shows a series of plots of surface pressure. This example was created using NCL commands. The name of the example script is cn09n.ncl.



View this animation..

Discussion

This module discusses how to create the previous plot using NCL commands. This module also shows how to read netCDF data from a file and produce a series of contour plots. This example reads a subset of surface pressure data from a netCDF file, creates a contour plot of the data, and then repeats this process to produce several frames in a sequence of time steps.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

Currently, the HLU C code has not been written for this example.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN code has not been written for this example.

Creating the plot using NCL

The NCL script that generates this plot is called cn09n.ncl.

The data

The data for this plot is from a netCDF file called contour.cdf. This example data file contains several geophysical variables including a four-dimensional pressure variable, PS1. A subset of this variable is read from the netCDF file along with latitude and longitude coordinate variables for each time step.

This data file is located in your NCAR Graphics data directory. You can get the name of this directory by typing "ncargpath data" at your shell prompt. Change to this directory and then type "ncdump -h contour.cdf" to view the header information for this data file and see all the variables and data attributes.

How to run this example

This is example is installed in the following location:

$NCARG_LIB/ncarg/nclex/contourplot/cn09n.ncl

You can copy this example and run it by typing "ng4ex cn09n". A copy of the NCL script will be placed in your current working directory and run automatically for you.

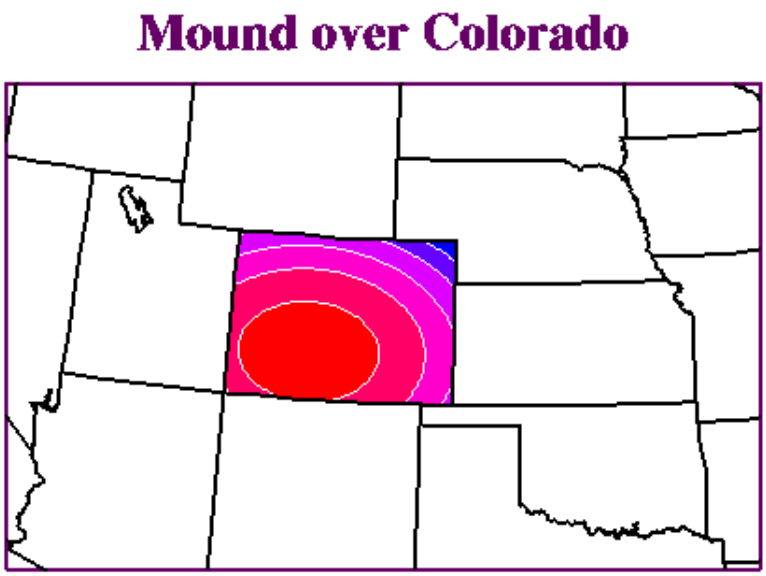
You can view the output NCGM file using the NCAR Graphics ctrans utility. (Type "ctrans cn09n.ncgm".)

$Revision: 1.3 $ $Date: 1995/07/17 23:20:39 $

ContourPlot example 10

Refining a contour plot

This example demonstrates how to read data from a NetCDF file and create a series of contour plots from the data. This example was created using NCL commands. The name of the example script is cn10n.ncl.



Discussion

This module discusses how to create this plot using NCL commands. This module also shows how to read netCDF data from a file and produce a series of contour plots. The example demonstrates how to create a contour plot using mostly defaults, how to turn on contour fill and other plot attributes, how to plot a sub-area, how to create an XyPlot through the contoured area, and how to overlay the contour plot on a MapPlot object.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

Currently, the HLU C code has not been written for this example.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN code has not been written for this example.

Creating the plot using NCL

The NCL script that generates this plot is called cn10n.ncl.

The data

The data for this plot is from a netCDF file called cn10n.cdf.

This data file is located in your NCAR Graphics data directory. You can get the name of this directory by typing "ncargpath data" at your shell prompt. Change to this directory and then type "ncdump -h cn10n.cdf" to view the header information for this data file and see all the variables and data attributes.

How to run this example

This is example is installed in the following location:

$NCARG_LIB/ncarg/nclex/contourplot/cn10n.ncl

You can copy this example and run it by typing "ng4ex cn10n". A copy of the NCL script will be placed in your current working directory and run automatically for you.

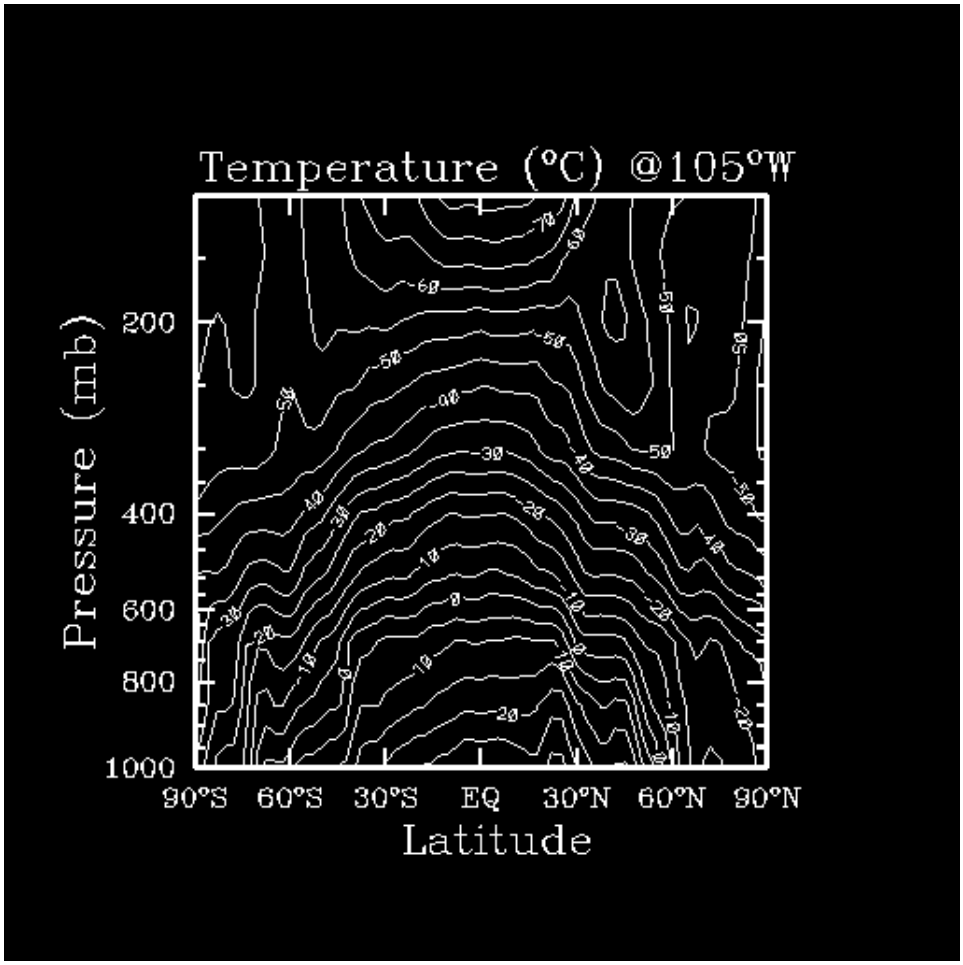
You can view the output NCGM file using the NCAR Graphics ctrans utility. (Type "ctrans cn10n.ncgm".)

$Revision: 1.3 $ $Date: 1995/07/17 23:20:40 $

ContourPlot example 11

Mixing low level and high level utilities

This example can be created using HLU C and HLU FORTRAN library calls. This example demonstrates how low level utilities and high level utilities can be combined to create an NCAR Graphics plot. The name of the example codes used to create this plot are cn11c.c and cn11f.f.



Discussion

Resources are controlled through a resource file called cn11.res.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called cn11c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called cn11f.f.

Creating the plot using NCL

An NCL script for this plot has not been created yet.

The data

The data for this plot is included in the header file for the example.

How to run this example

This example can be created using a C program (cn11c.c) or a FORTRAN program (cn11f.f). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/contourplot/cn11c.c
- $NCARG_LIB/ncarg/hluex/contourplot/cn11f.f

The resource file for this example is located in:

- $NCARG_LIB/ncarg/resfiles/contourplot/cn11.res

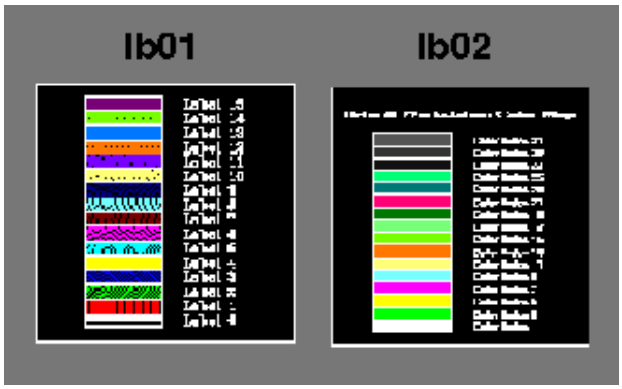
You can copy this example and run it by typing "ng4ex cn11c", or "ng4ex cn11f". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/17 23:20:41 $

Labelbar examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that are used to demonstrate how to use the LabelBar utility.

Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- lb01: How to create a labelbar using default settings.
- lb02: How to create a labelbar with the default colormap.

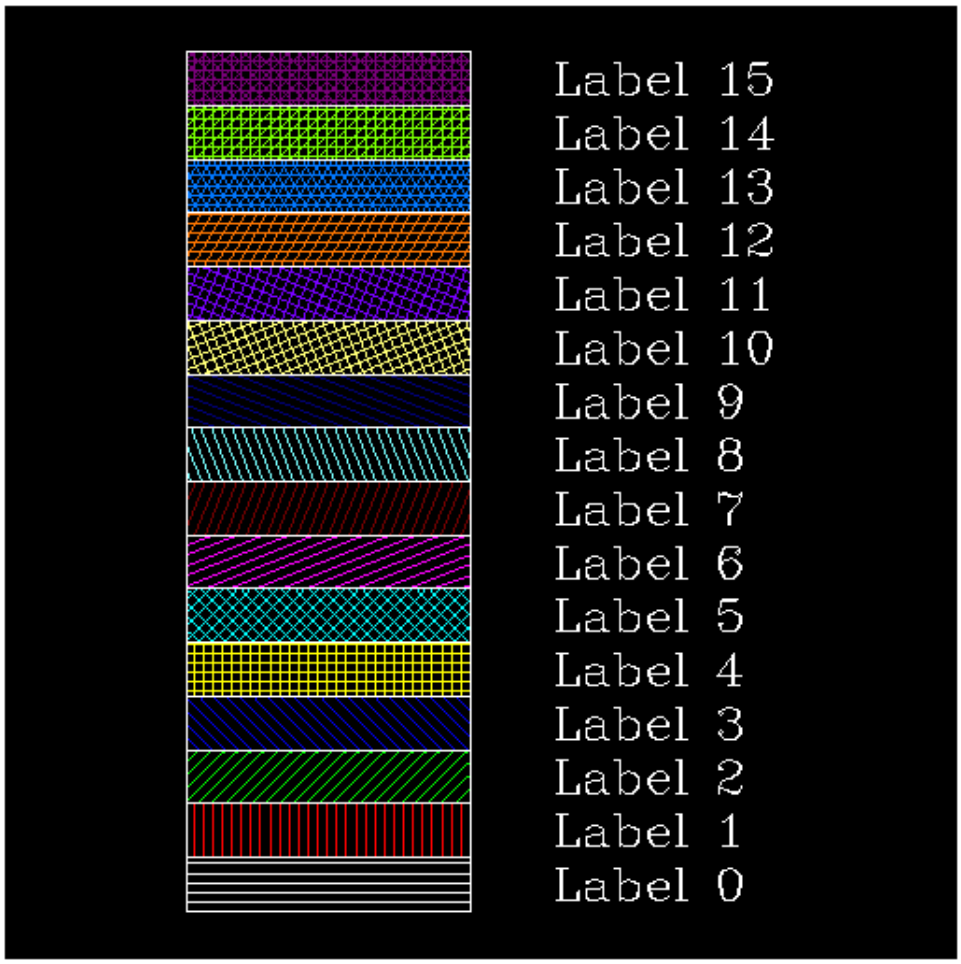
All of these examples can also be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.4 $ $Date: 1995/07/18 18:31:51 $

Labelbar example 1

How to create a labelbar using default settings

This example demonstrates how to create a labelbar using the default settings. This example was generated using HLU C and HLU FORTRAN library calls and NCL. The names of the example codes that create this plot are lb01c.c, lb01f.f, and lb01n.ncl.



Discussion

This module demonstrates how to create a LabelBar object using mostly default settings. The available resources for this example are listed in a resource file called lb01.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called lb01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called lb01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called lb01n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be created using a C program (lb01c.c), a FORTRAN program (lb01f.f), or an NCL script (lb01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/labelbar/lb01c.c
- $NCARG_LIB/ncarg/hluex/labelbar/lb01f.f
- $NCARG_LIB/ncarg/nclex/labelbar/lb01n.ncl

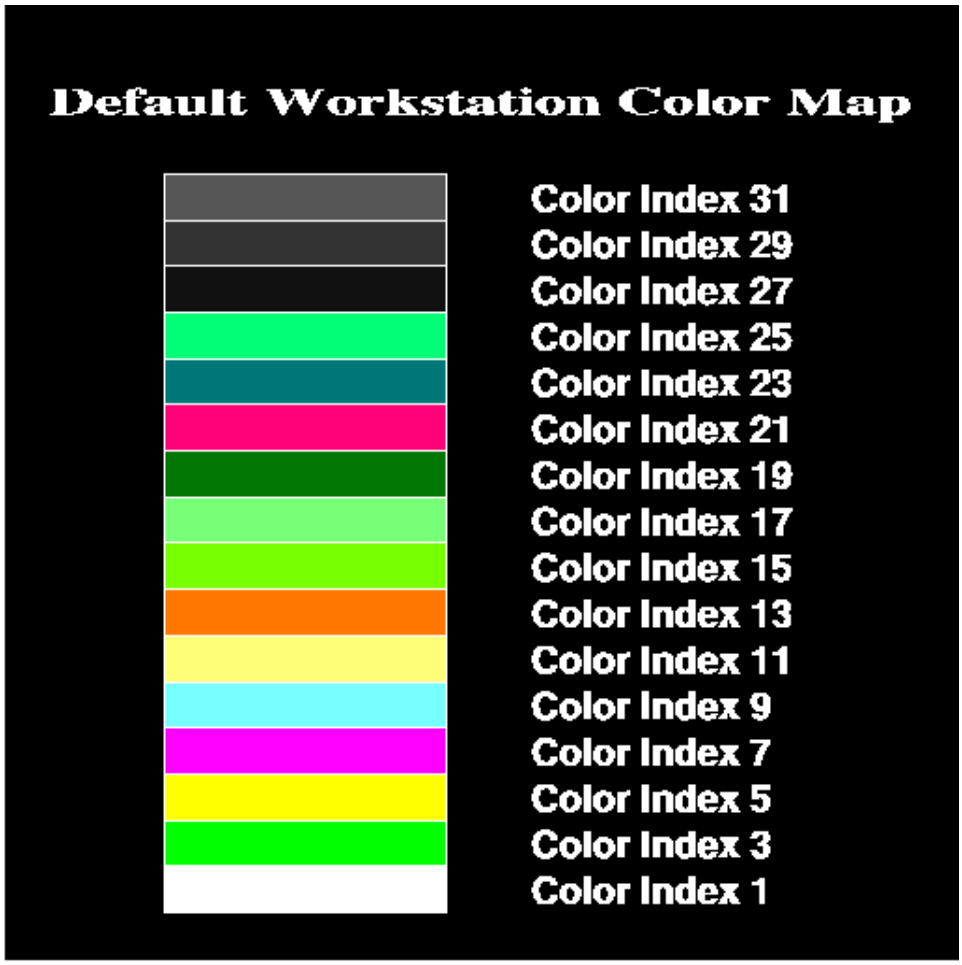
You can copy this example and run it by typing "ng4ex lb01c", "ng4ex lb01f", or "ng4ex lb01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 16:05:07 $

Labelbar example 2

How to create a labelbar with the default colormap

This example demonstrates how to create a labelbar using the default colormap. This example was generated using HLU C and HLU FORTRAN library calls and NCL. The names of the example codes that create this plot are lb02n.ncl, lb02c.c and lb02f.f.



Discussion

This module demonstrates how to create a LabelBar object using the default colormap with solid fill. The available resources for this example are listed in a resource file called lb02.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called lb02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called lb02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called lb02n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be created using a C program (lb02c.c), a FORTRAN program (lb02f.f), or an NCL script (lb02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/labelbar/lb02c.c
- $NCARG_LIB/ncarg/hluex/labelbar/lb02f.f
- $NCARG_LIB/ncarg/nclex/labelbar/lb02n.ncl

You can copy this example and run it by typing "ng4ex lb02c", "ng4ex lb02f", or "ng4ex lb02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 16:05:07 $

Legend examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that are used to demonstrate how to use the Legend utility.

Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.

- lg01: How to create a legend using default settings.
- lg02: How to create a legend and specify marker types.
- lg03: How to create a legend and specify line types.

All of these examples can also be created using the NCAR Graphics Low Level Utilities. See the *NCAR*

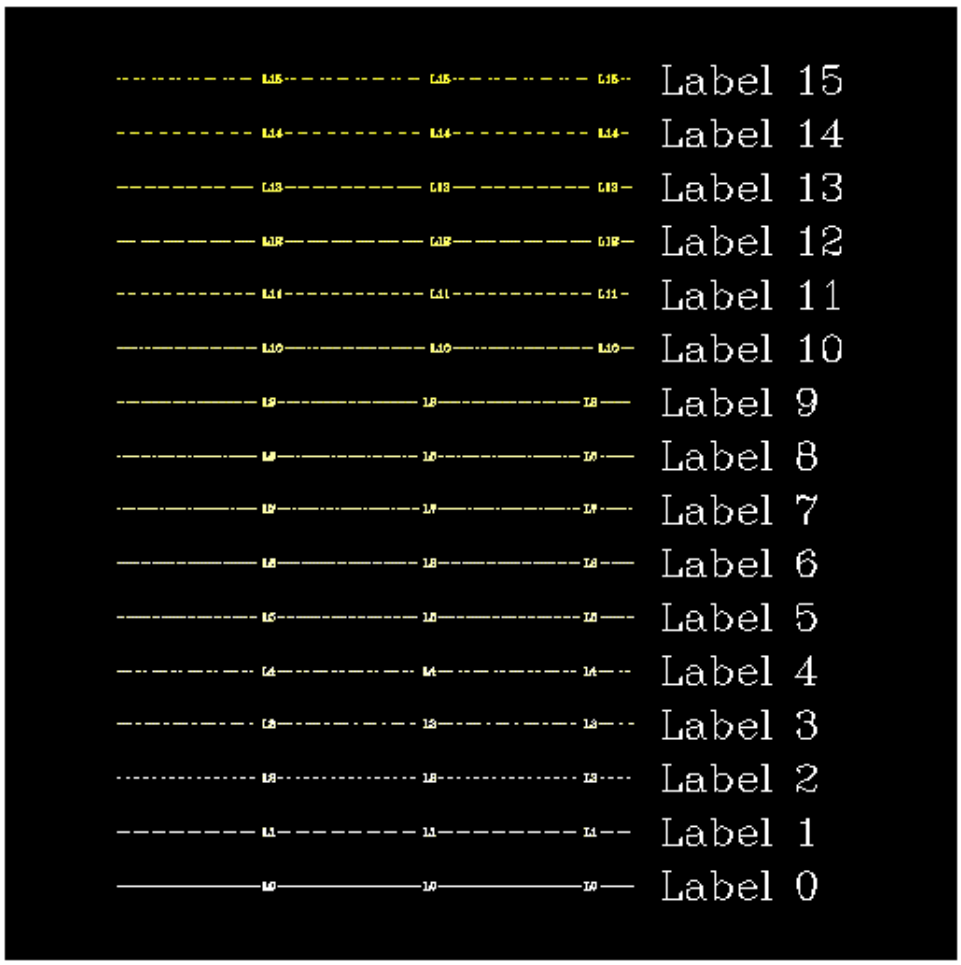
Graphics Fundamentals manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.3 $ $Date: 1995/07/18 16:19:50 $

Legend example 1

How to create a legend using default settings

This example demonstrates how to create a legend using the default settings. This example was generated using HLU C and HLU FORTRAN library calls and NCL. The names of the example codes that create this plot are lg01c.c, lg01f.f, and lg01n.ncl.



Discussion

This module demonstrates how to create a Legend object using mostly default settings. The available resources for this example are listed in a resource file called lg01.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called lg01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called lg01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called lg01n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be created using a C program (lg01c.c), a FORTRAN program (lg01f.f), or an NCL script (lg01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/legend/lg01c.c
- $NCARG_LIB/ncarg/hluex/legend/lg01f.f
- $NCARG_LIB/ncarg/nclex/legend/lg01n.ncl

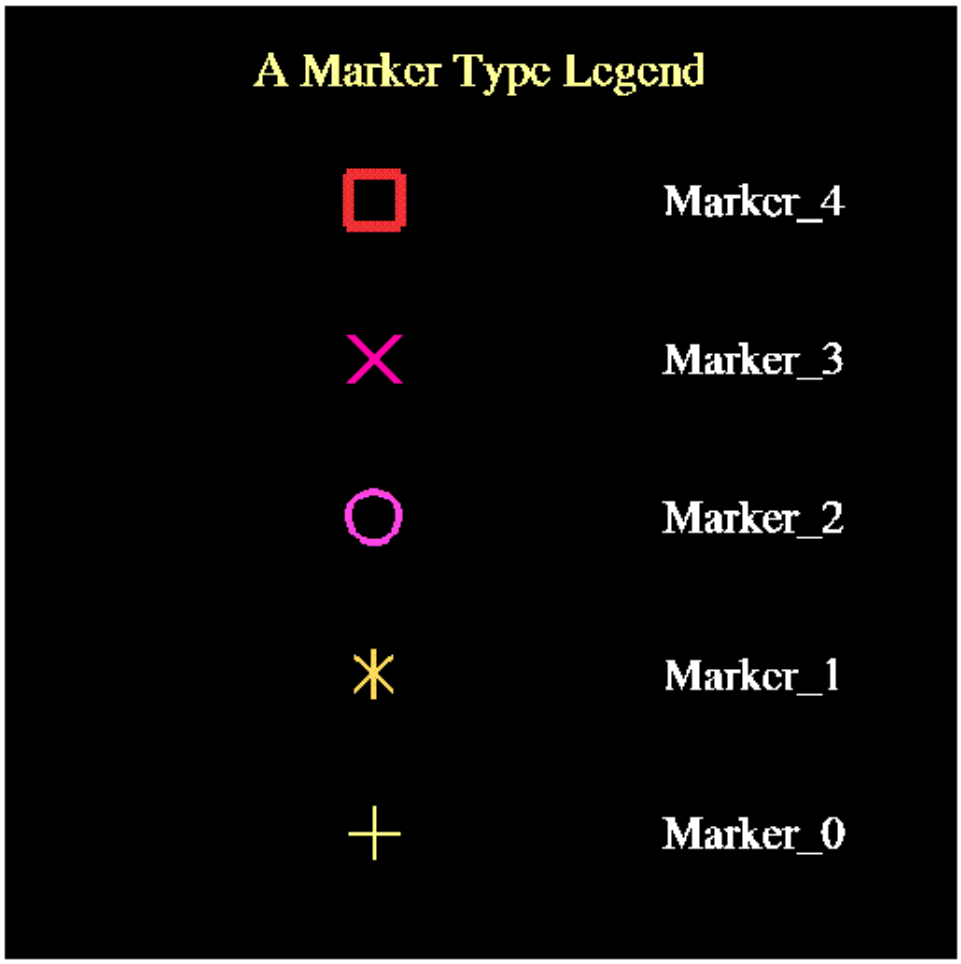
You can copy this example and run it by typing "ng4ex lg01c", "ng4ex lg01f", or "ng4ex lg01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 16:19:51 $

Legend example 2

How to create a legend and specify marker types

This example demonstrates how to create a legend and specify marker types. This example was generated using HLU C and HLU FORTRAN library calls and NCL. The names of the example codes that create this plot are lg02c.c, lg02f.f, and lg02n.ncl.



Discussion

This module demonstrates how to create a Legend object using mostly default settings. The available resources for this example are listed in a resource file called lg02.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called lg02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called lg02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called lg02n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be created using a C program (lg02c.c), a FORTRAN program (lg02f.f), or an NCL script (lg02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/legend/lg02c.c
- $NCARG_LIB/ncarg/hluex/legend/lg02f.f
- $NCARG_LIB/ncarg/nclex/legend/lg02n.ncl

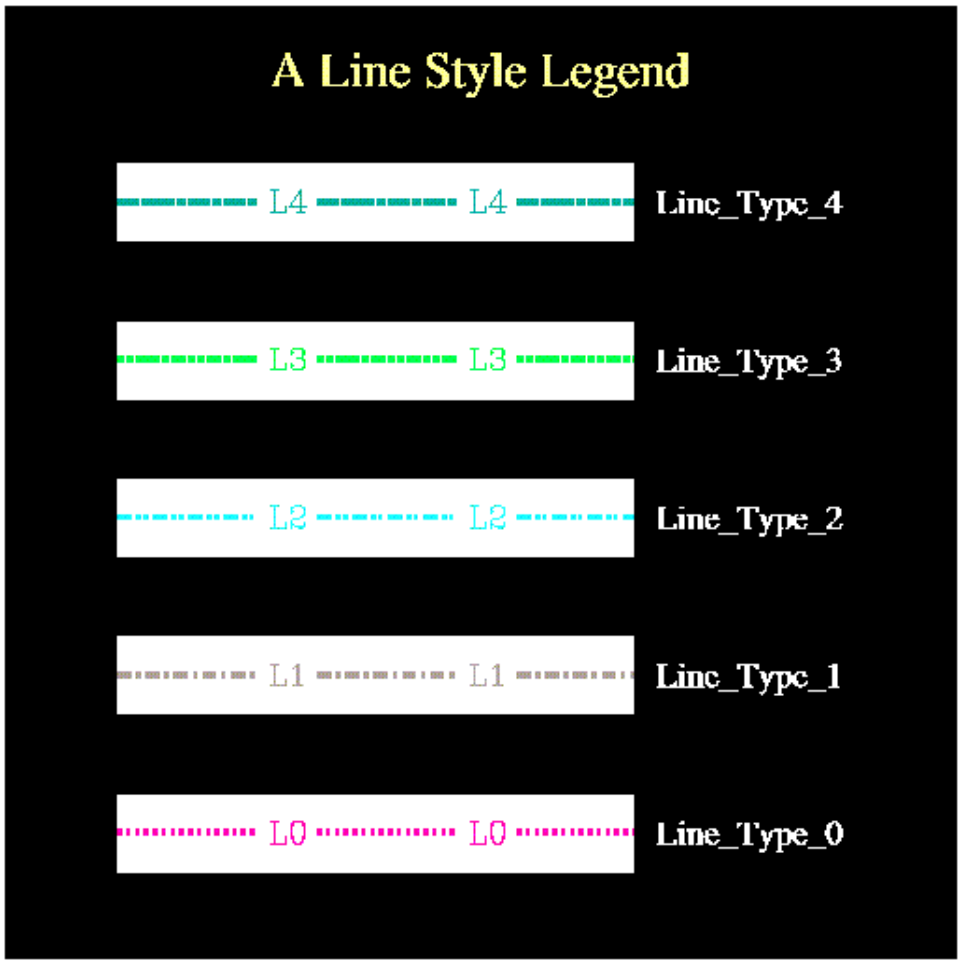
You can copy this example and run it by typing "ng4ex lg02c", "ng4ex lg02f", or "ng4ex lg02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 16:19:52 $

Legend example 3

How to create a legend and specify line types

This example demonstrates how to create a legend and specify line types. This example was generated using HLU C and HLU FORTRAN library calls and NCL. The names of the example codes that create this plot are lg03c.c, lg03f.f, and lg03n.ncl.



Discussion

This module demonstrates how to create a Legend object using mostly default settings. The available resources for this example are listed in a resource file called lg03.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called lg03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called lg03f.f.

Creating the plot using NCL

The NCL script that generates this plot is called lg03n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be created using a C program (lg03c.c), a FORTRAN program (lg03f.f), or an NCL script (lg03n.ncl). The examples are installed in the following locations:

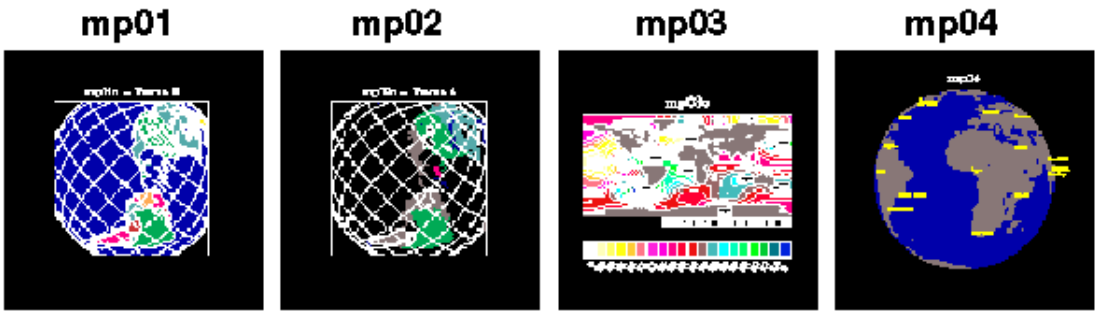
- $NCARG_LIB/ncarg/hluex/legend/lg03c.c
- $NCARG_LIB/ncarg/hluex/legend/lg03f.f
- $NCARG_LIB/ncarg/nclex/legend/lg03n.ncl

You can copy this example and run it by typing "ng4ex lg03c", "ng4ex lg03f", or "ng4ex lg03n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 16:19:52 $

MapPlot examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that generate map plots. Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- mp01: How to use basic MapPlot capabilities.
- mp02: How to control individual map areas.
- mp03: How to use masking and overlays with maps.
- mp04: How to add textual annotations to a map.

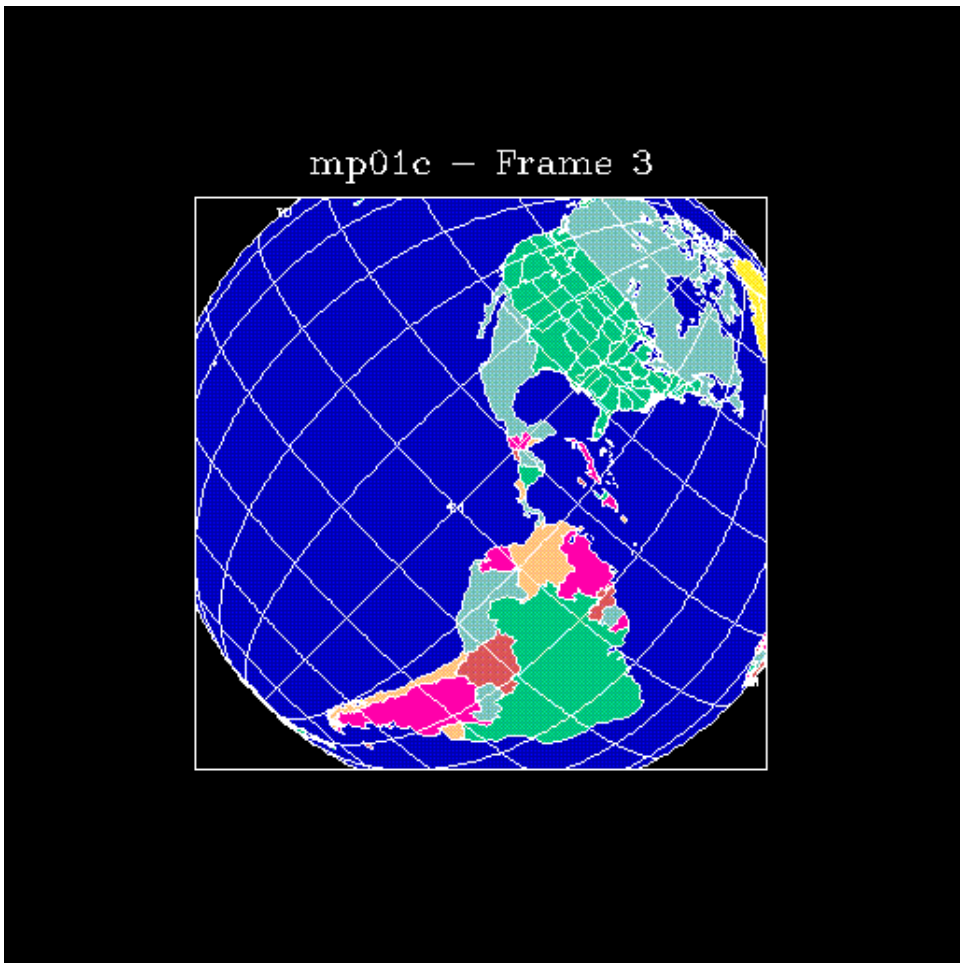
All of these examples can be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.3 $ $Date: 1995/07/18 17:37:37 $

MapPlot example 1

How to use basic MapPlot capabilities

This example can be created using HLU C and FORTRAN library calls or NCL. It demonstrates how to create a MapPlot object using the defaults, and it also shows how to change the map projection, grid spacing, and set map boundaries in subsequent frames. The names of the source files for this example are mp01c.c, mp01f.f, and mp01n.ncl.



Discussion

This module discusses how to create this map plot using HLU function calls and a resource file. The resource file used in this example is called mp01.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called mp01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called mp01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called mp01n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be generated using a C program (mp01c.c), a FORTRAN program (mp01f.f), or an NCL script (mp01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/mapplot/mp01c.c
- $NCARG_LIB/ncarg/hluex/mapplot/mp01f.f
- $NCARG_LIB/ncarg/nclex/mapplot/mp01n.ncl

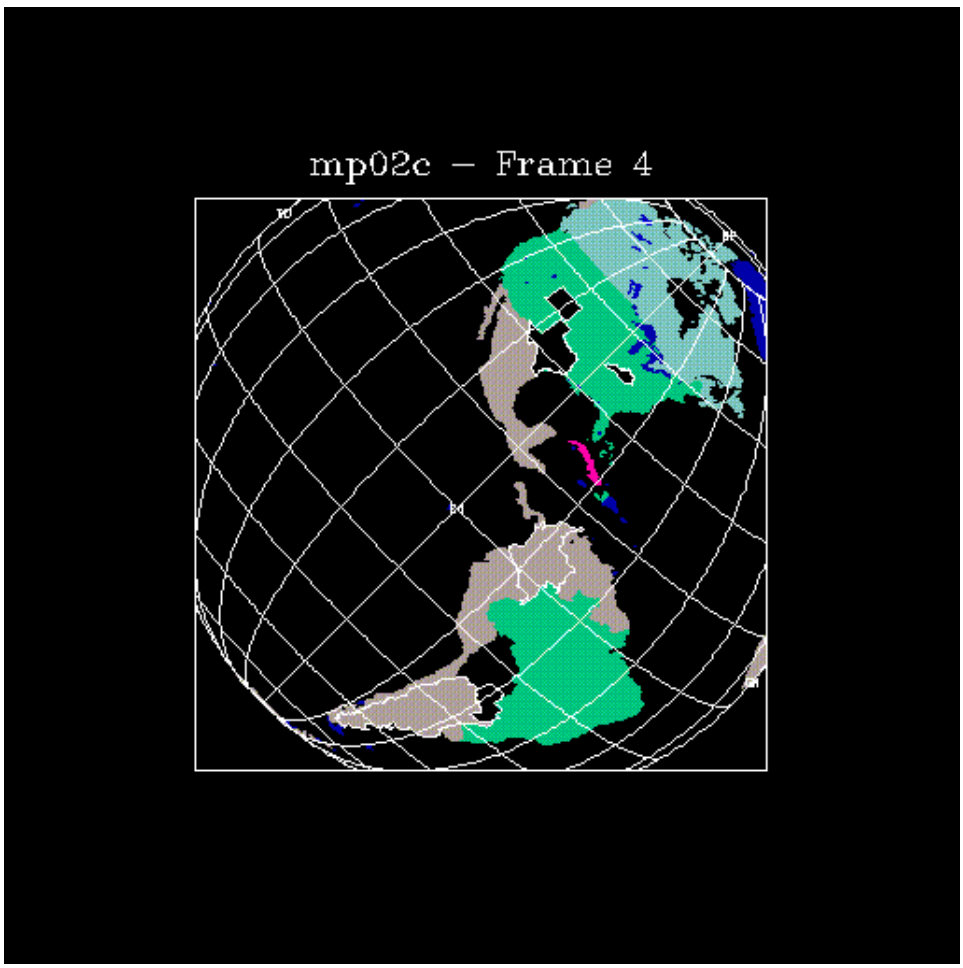
You can copy this example and run it by typing "ng4ex mp01c", "ng4ex mp01f", or "ng4ex mp01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 17:37:38 $

MapPlot example 2

How to control individual map areas

This example can be created using HLU C or HLU FORTRAN library calls or NCL. It demonstrates how to highlight and emphasize certain areas of a map through the map projection, limits, and masking areas. The names of the source files for this example are mp02c.c, mp02f.f, and mp02n.ncl.



Discussion

This module discusses how to create this example using HLU function calls and a resource file. The resource file used in this example is called mp02.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called mp02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called mp02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called mp02n.ncl.

The data

This plot does not use any external data.

How to run this example

This example can be generated using a C program (mp02c.c), a FORTRAN program (mp02f.f), or an NCL script (mp02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/mapplot/mp02c.c
- $NCARG_LIB/ncarg/hluex/mapplot/mp02f.f
- $NCARG_LIB/ncarg/nclex/mapplot/mp02n.ncl

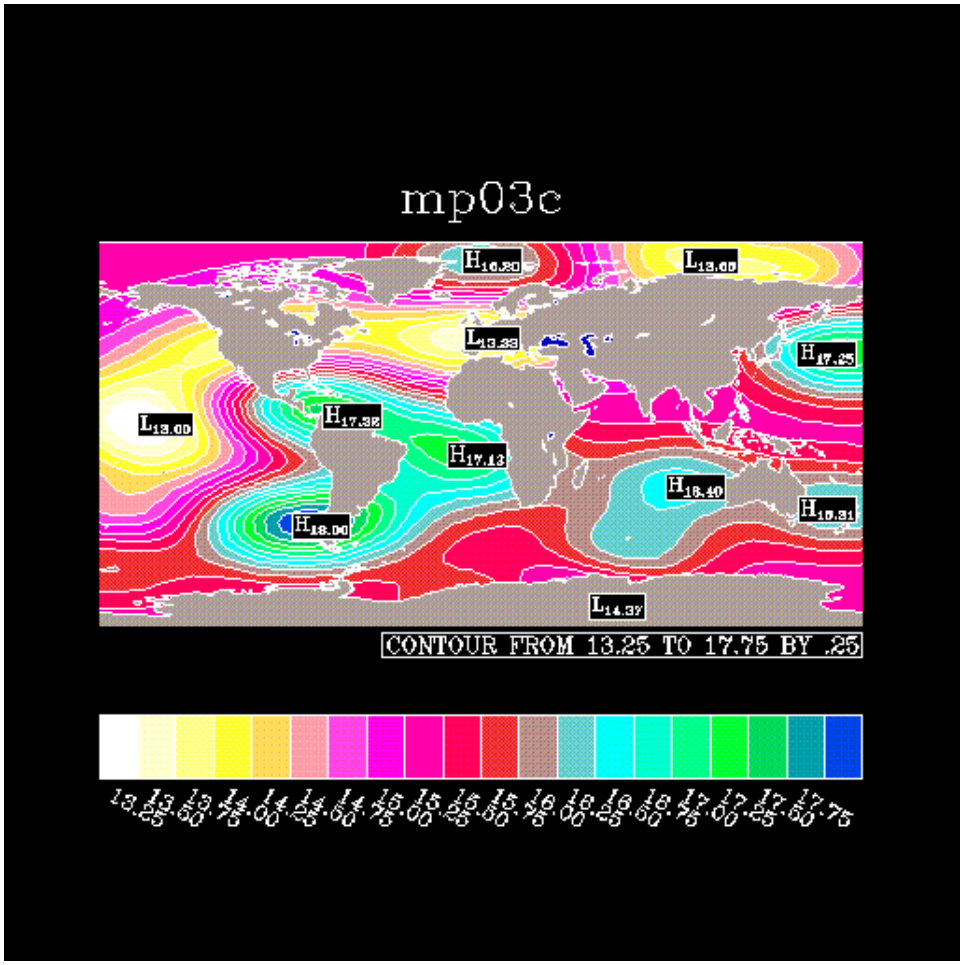
You can copy this example and run it by typing "ng4ex mp02c", "ng4ex mp02f" or "ng4ex mp02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 17:37:38 $

MapPlot example 3

How to use masking and overlays with maps

This mapping example was created using HLU C and HLU FORTRAN library calls and NCL. It demonstrates how to use masking and overlays to show a map and a contour plot together. The names of the source files for this example are mp03c.c, mp03f.f, and mp03n.ncl.



Discussion

This module discusses how to create this example using HLU function calls and a resource file. The program demonstrates how to create a MapPlot object and set the mask area specifiers to be used when overlaying the ContourPlot object.

The resource file used in this example is called mp03.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called mp03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called mp03f.f.

Creating the plot using NCL

The NCL script that generates this plot is called mp03n.ncl.

The data

The contour data for this plot was generated by the subroutine GENDAT. This routine is located in the source file for the C and FORTRAN versions of this example. The NCL version reads the data from an external file called mp03n.asc.

How to run this example

The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/mapplot/mp03c.c
- $NCARG_LIB/ncarg/hluex/mapplot/mp03f.f
- $NCARG_LIB/ncarg/nclex/mapplot/mp03n.ncl

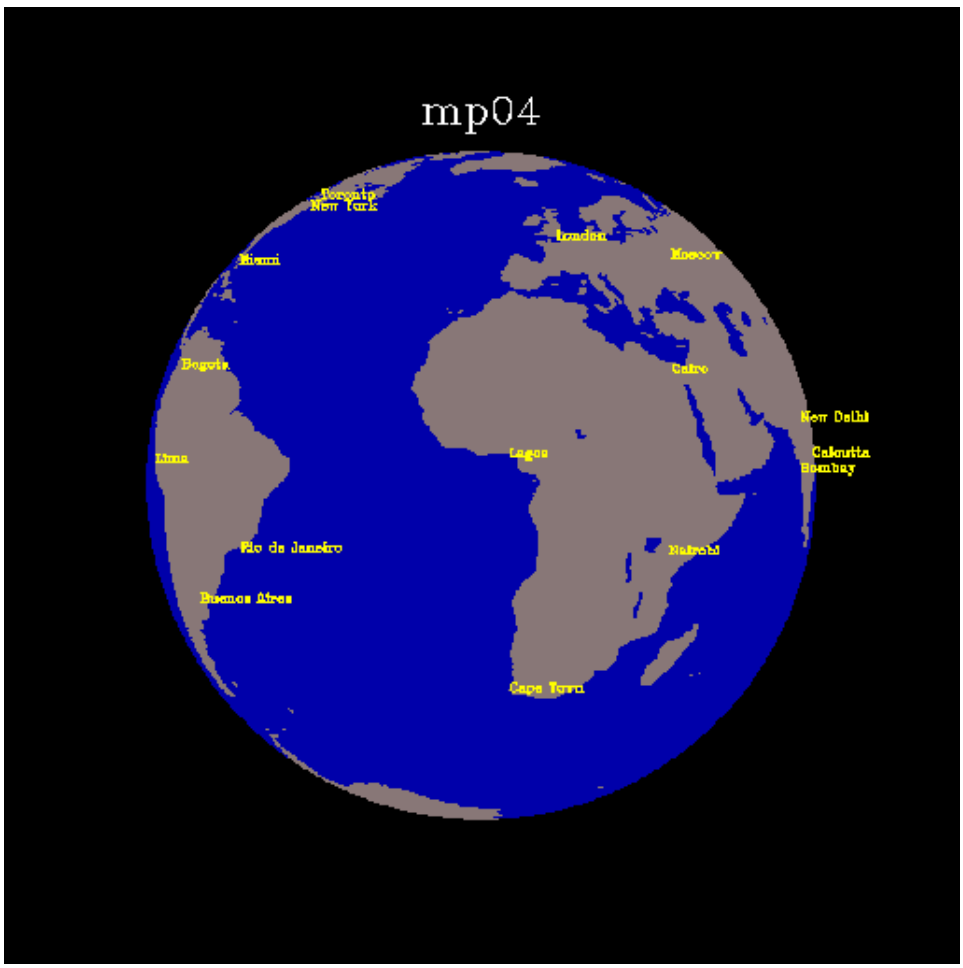
You can copy this example and run it by typing "ng4ex mp03c", "ng4ex mp03f", or "ng4ex mp03n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 17:37:39 $

MapPlot example 4

How to add textual annotations to a map

This example demonstrates how to create annotations on a MapPlot using HLU C and HLU FORTRAN library calls. The name of the example codes that create this plot are mp04c.c and mp04f.f.



View this animation.

Discussion

This module demonstrates how to create a MapPlot object with annotations for major cities on the globe. The example creates a multiframe sequence that displays as a rotating globe. Resources for this example are set in a resource file called mp04.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called mp04c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called mp04f.f.

Creating the plot using NCL

Currently, the NCL script for this example has not been written.

The data

This plot does not use any external data.

How to run this example

The examples are installed in the following locations:

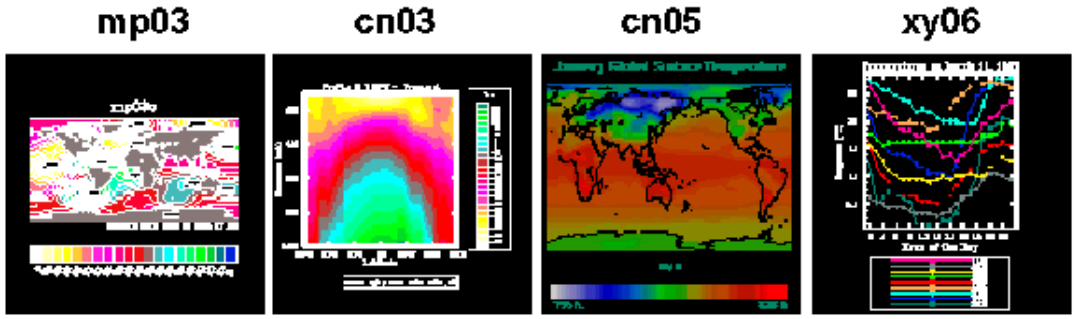
- $NCARG_LIB/ncarg/hluex/mapplot/mp04c.c
- $NCARG_LIB/ncarg/hluex/mapplot/mp04f.f

You can copy this example and run it by typing "ng4ex mp04c" or "ng4ex mp04f". A copy of the source file, resource file, and Makefile will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.5 $ $Date: 1995/07/18 17:37:40 $

Plotmanager examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that demonstrate the use of PlotManager and overlays to create NCAR Graphics plots. Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that generates the plot.



- mp03: How to use masking and overlays with maps.
- cn03: Overlaying a ContourPlot on a LogLinPlot.
- cn05: Creating a map and contour overlay animation.
- xy06: Using multiple lines, external data, and legends.

These examples can be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about

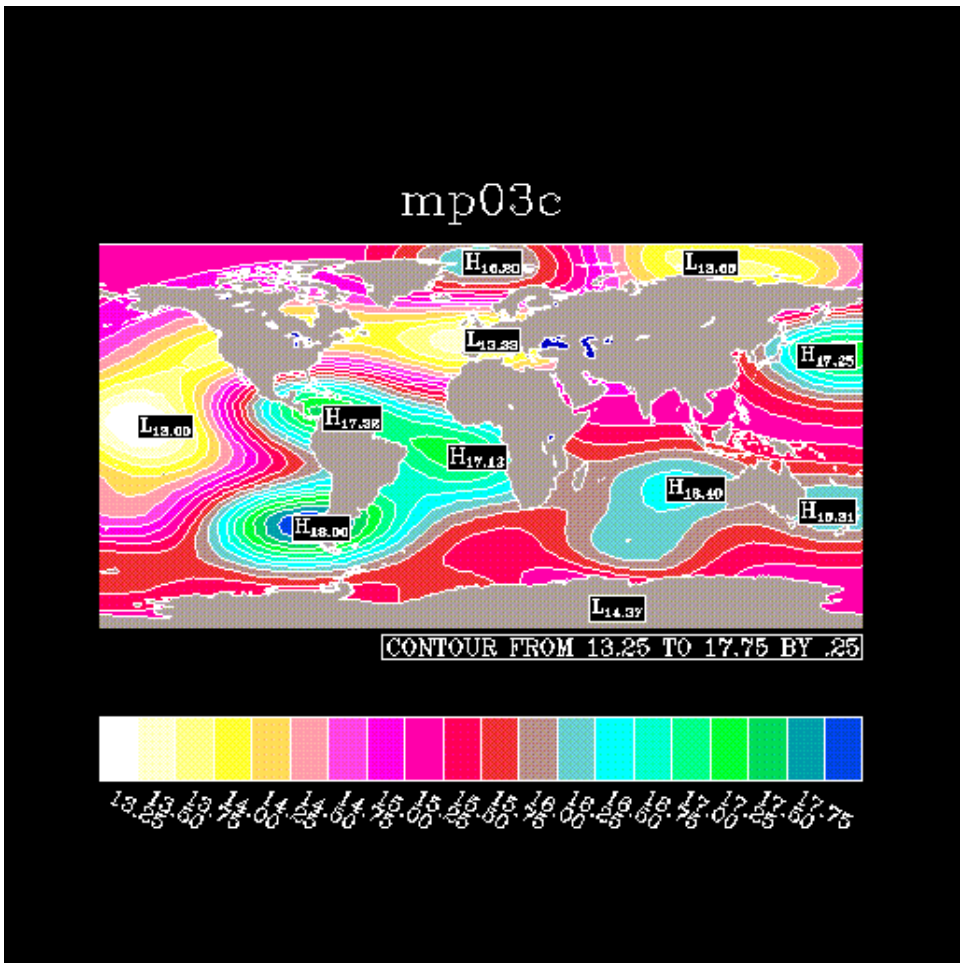
using the Low Level Utilities.

$Revision: 1.4 $ $Date: 1995/07/18 18:22:31 $

MapPlot example 3

How to use masking and overlays with maps

This mapping example was created using HLU C and HLU FORTRAN library calls and NCL. It demonstrates how to use masking and overlays to show a map and a contour plot together. The names of the source files for this example are mp03c.c, mp03f.f, and mp03n.ncl.



Discussion

This module discusses how to create this example using HLU function calls and a resource file. The

program demonstrates how to create a MapPlot object and set the mask area specifiers to be used when overlaying the ContourPlot object.

The resource file used in this example is called mp03.res.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called mp03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called mp03f.f.

Creating the plot using NCL

The NCL script that generates this plot is called mp03n.ncl.

The data

The contour data for this plot was generated by the subroutine GENDAT. This routine is located in the source file for the C and FORTRAN versions of this example. The NCL version reads the data from an external file called mp03n.asc.

How to run this example

The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/mapplot/mp03c.c
- $NCARG_LIB/ncarg/hluex/mapplot/mp03f.f
- $NCARG_LIB/ncarg/nclex/mapplot/mp03n.ncl

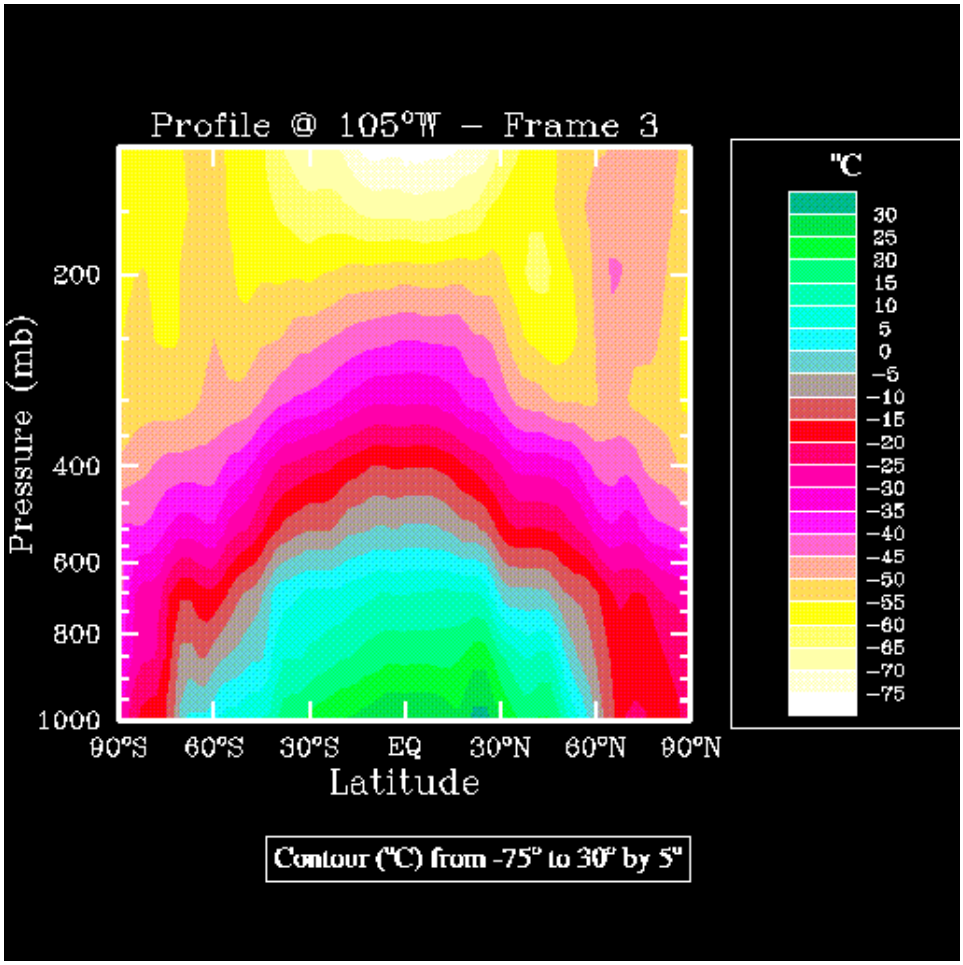
You can copy this example and run it by typing "ng4ex mp03c", "ng4ex mp03f", or "ng4ex mp03n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 17:37:39 $

ContourPlot example 3

Overlaying a ContourPlot on a LogLinPlot

This example demonstrates how to create the plot using HLU C and HLU FORTRAN library calls. The names of the example codes that create this plot are cn03c.c and cn03f.f.



Discussion

Resources are controlled through a resource file called cn03.res.

A detailed discussion about how to create the plot appears in the comments of the source code for the example.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called cn03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called cn03f.f.

Creating the plot using NCL

The NCL script to generate this plot has not been created yet.

The data

The data for this plot is defined in the header file (cn03c.h) for the C example and in an ASCII data file (cn03f.asc) for the FORTRAN example.

How to run this example

This example can be created using a C program (cn03c.c) or a FORTRAN program (cn03f.f). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/contourplot/cn03c.c
- $NCARG_LIB/ncarg/hluex/contourplot/cn03f.f

The resource file for this example is located in:

- $NCARG_LIB/ncarg/resfiles/contourplot/cn03.res

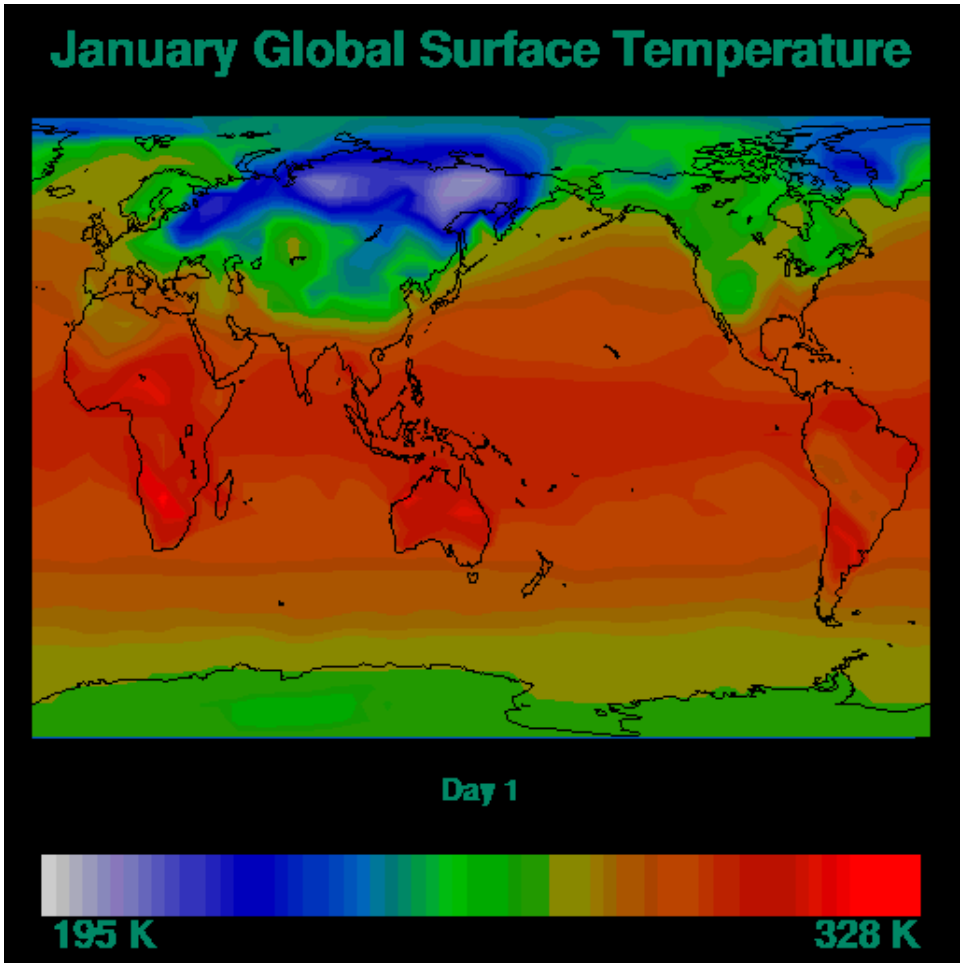
You can copy this example and run it by typing "ng4ex cn03c", or "ng4ex cn03f". A copy of the source file, and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/17 23:20:35 $

ContourPlot example 5

Creating a map and contour overlay animation

This example was created using NCL commands, and it demonstrates how to read data from a netCDF file, set plot attributes, and generate a color-filled contour plot with a labelbar overlaid on a cylindrical equidistant map projection of the globe. The example also shows how to iteratively loop through the data and generate multiple plots to create an animation. The name of this example is cn05n.ncl.



View this animation..

Discussion

This module discusses how to create this plot using NCL commands. This module also shows how to read netCDF data from a file, create a scalar field data object, a workstation object for output to an NCGM workstation, a contour plot, a labelbar as an annotation object to a contour plot, and a MapPlot object.

Creating the plot using NCL

The NCL script that generates this plot is called cn05n.ncl. This script reads a netCDF data file, sets up the plot data attributes, then draws the first frame of the animation. Once the plot is drawn, the script reads another field of data, draws another frame, and repeats this cycle until it has finished reading all the data.

Detailed script discussion

See the code example for a detailed description of how to create this plot.

The data

The data for this plot is from a netCDF file called meccatemp.cdf. The original data for this plot was generated by Warren Washington (NCAR) and Gerald Meehl (NCAR) for the Model Evaluation Consortium for Climate Assessment (MECCA) project. The MECCA Analysis Team at the Climate Impacts Centre in Sydney, Australia, prepared and archived the data, and previous visualizations of this data by Kendal McGuffie (University of Technology, Sydney) were referenced for selecting appropriate attributes for the plot and animation.

The data file contains a three-dimensional array of temperature data. The dimensions of the temperature variable (t) are time (31), lat (40), and lon (49). Type "ncdump -h meccatemp.cdf" to view the header information for this data file.

How to run this example

This is example is installed in the following location:

$NCARG_LIB/ncarg/nclex/contourplot/cn05n.ncl

You can copy this example and run it by typing "ng4ex cn05n". A copy of the NCL script will be placed in your current working directory and run automatically for you.

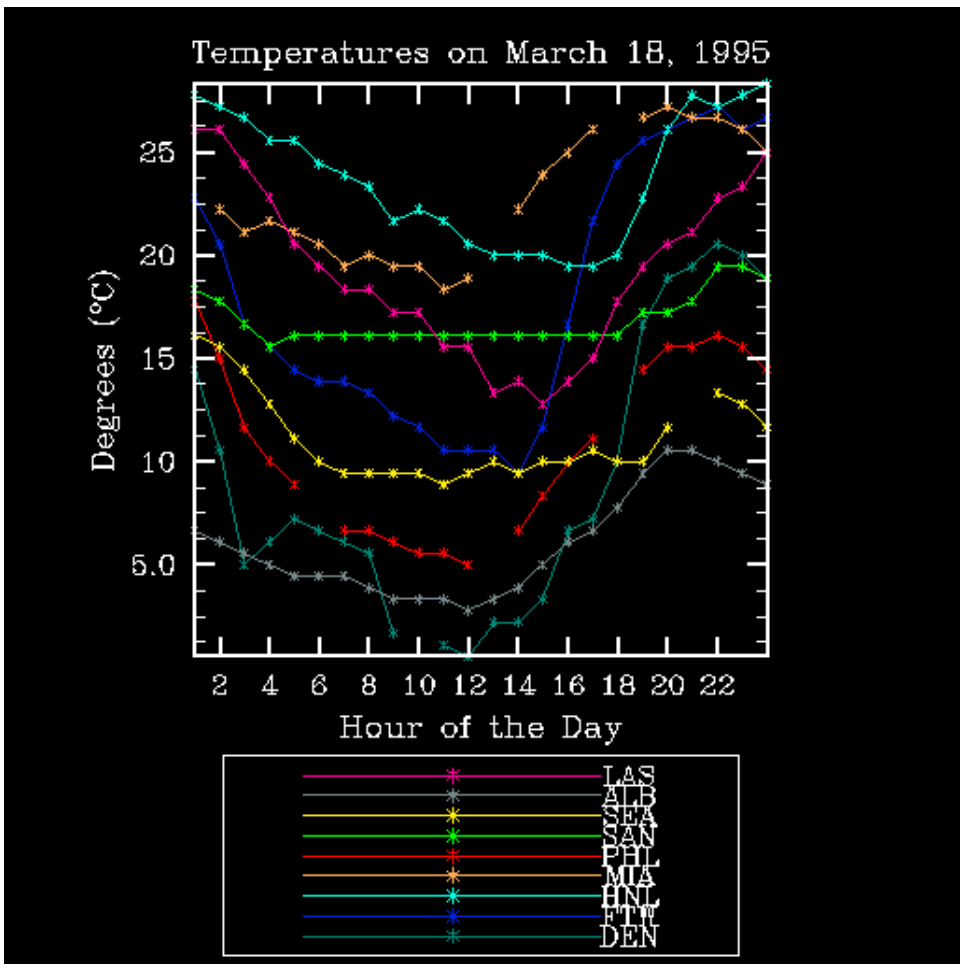
You can view the output NCGM file using the NCAR Graphics ctrans utility.)Type "ctrans gmeta".)

$Revision: 1.4 $ $Date: 1995/07/19 20:12:27 $

XyPlot example 6

Using multiple lines, external data, and legends

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. This is an advanced example that demonstrates how to create a plot that contains multiple lines on multiple plots with a legend. This example also demonstrates how to read data from an external file. The names of the source files for this example are xy06c.c, xy06f.f, and xy06n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls and NCL. A resource file is included with this example, and it is called xy06.res. This file is used to change the default resource settings for the plot.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy06c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy06f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy06n.ncl.

The data

The data for this plot was read from external netCDF files.

How to run this example

You can produce this example by using a C program (xy06c.c), a FORTRAN program (xy06f.f), or an NCL script (xy06n.ncl). The examples are installed in the following locations:

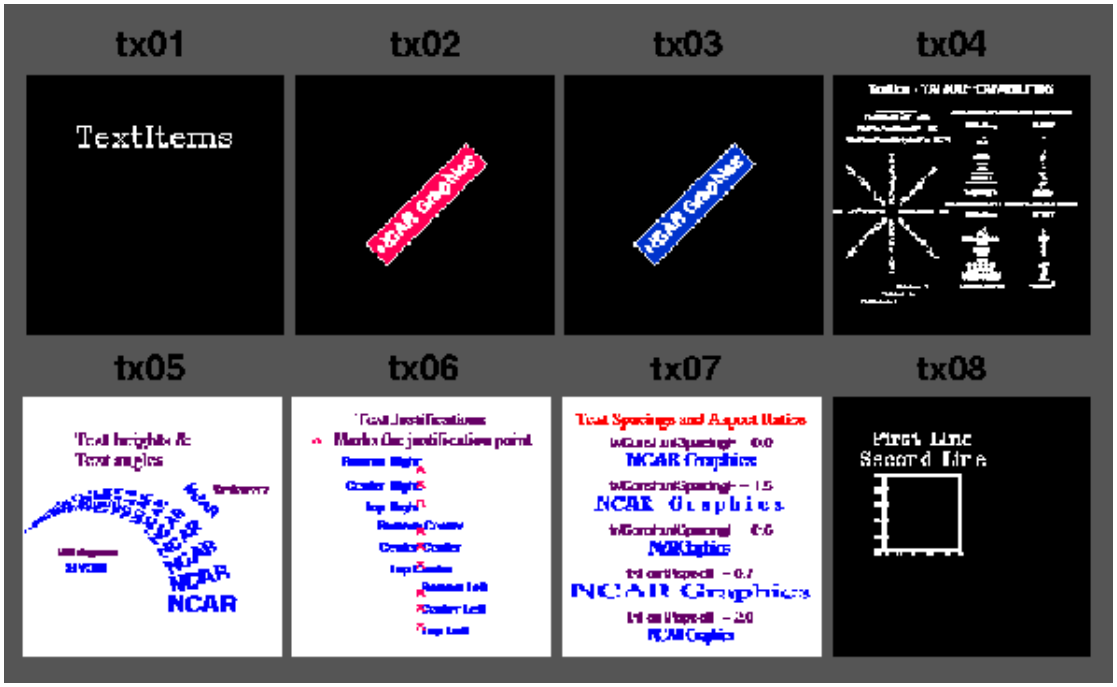
- $NCARG_LIB/ncarg/hluex/xyplot/xy06c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy06f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy06n.ncl

You can copy this example and run it by typing "ng4ex xy06c", "ng4ex xy06f", or "ng4ex xy06n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:35 $

Textitem examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that are generate and control text in an NCAR Graphics plot. Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- tx01: How to create a TextItem object with default settings.
- tx02: Creating text in a filled colored font with a bounding box.
- tx03: How to set the text background fill color.
- tx04: How to use function codes to set text characteristics.
- tx05: How to set text height and angle.
- tx06: How to set text justification.
- tx07: How to set text spacing and aspect ratio.
- tx08: Creating a TextItem annotation.

All of these examples can be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.5 $ $Date: 1995/07/18 19:17:09 $

TextItem example 1

How to create a TextItem object with default settings

This TextItem example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to draw a text string on a plot using the default resources. The names of the

source files for this example are tx01c.c, tx01f.f, and tx01n.ncl.

Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called tx01.res. This file shows all the default TextItem resources.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tx01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tx01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called tx01n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tx01c.c), a FORTRAN program (tx01f.f), or an NCL script (tx01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/textitem/tx01c.c
- $NCARG_LIB/ncarg/hluex/textitem/tx01f.f
- $NCARG_LIB/ncarg/nclex/textitem/tx01n.ncl

You can copy this example and run it by typing "ng4ex tx01c", "ng4ex tx01f", or "ng4ex tx01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:17:10 $

TextItem example 2

Creating text in a filled colored font with a bounding box

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to draw a text string, set its font, and turn on a bounding box. The names of the source files for this example are tx02c.c, tx02f.f, and tx02n.ncl.

Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example; it is called tx02.res. This file shows how to set the value of the text string, the text color, font, position, etc.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tx02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tx02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called tx02n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tx02c.c), a FORTRAN program (tx02f.f), or an NCL script (tx02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/textitem/tx02c.c
- $NCARG_LIB/ncarg/hluex/textitem/tx02f.f
- $NCARG_LIB/ncarg/nclex/textitem/tx02n.ncl

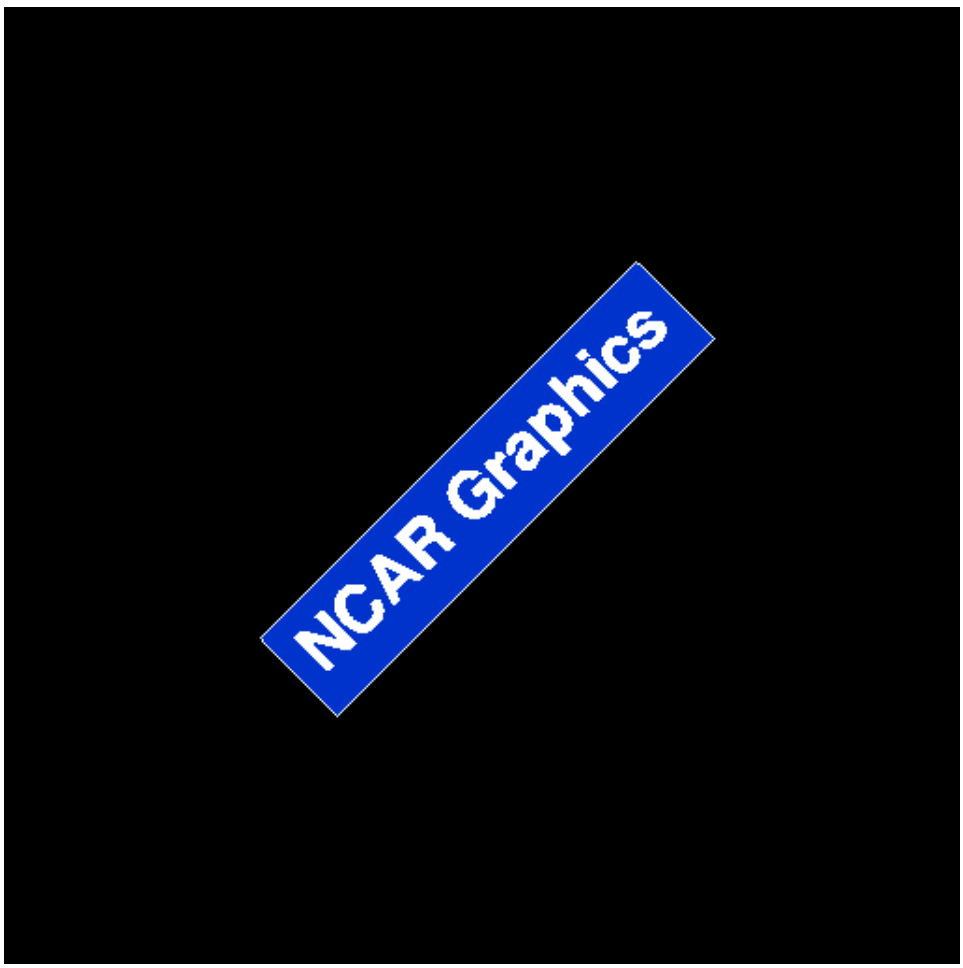
You can copy this example and run it by typing "ng4ex tx02c", "ng4ex tx02f", or "ng4ex tx02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/18 19:17:11 $

TextItem example 3

How to set the text background fill color

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to set the background fill color of a text item. The names of the source files for this example are tx03c.c, tx03f.f, and tx03n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called tx03.res. This file shows how to set the value of the text string, the text color, font, position, etc.

This example contains multiple frames. In each frame, the text string's background color is changed by setting a color resource in the source code and then redrawing the TextItem object.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tx03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tx03f.f.

Creating the plot using NCL

The NCL script that generates this plot is called tx03n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tx03c.c), a FORTRAN program (tx03f.f), or an NCL script (tx03n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/textitem/tx03c.c
- $NCARG_LIB/ncarg/hluex/textitem/tx03f.f
- $NCARG_LIB/ncarg/nclex/textitem/tx03n.ncl

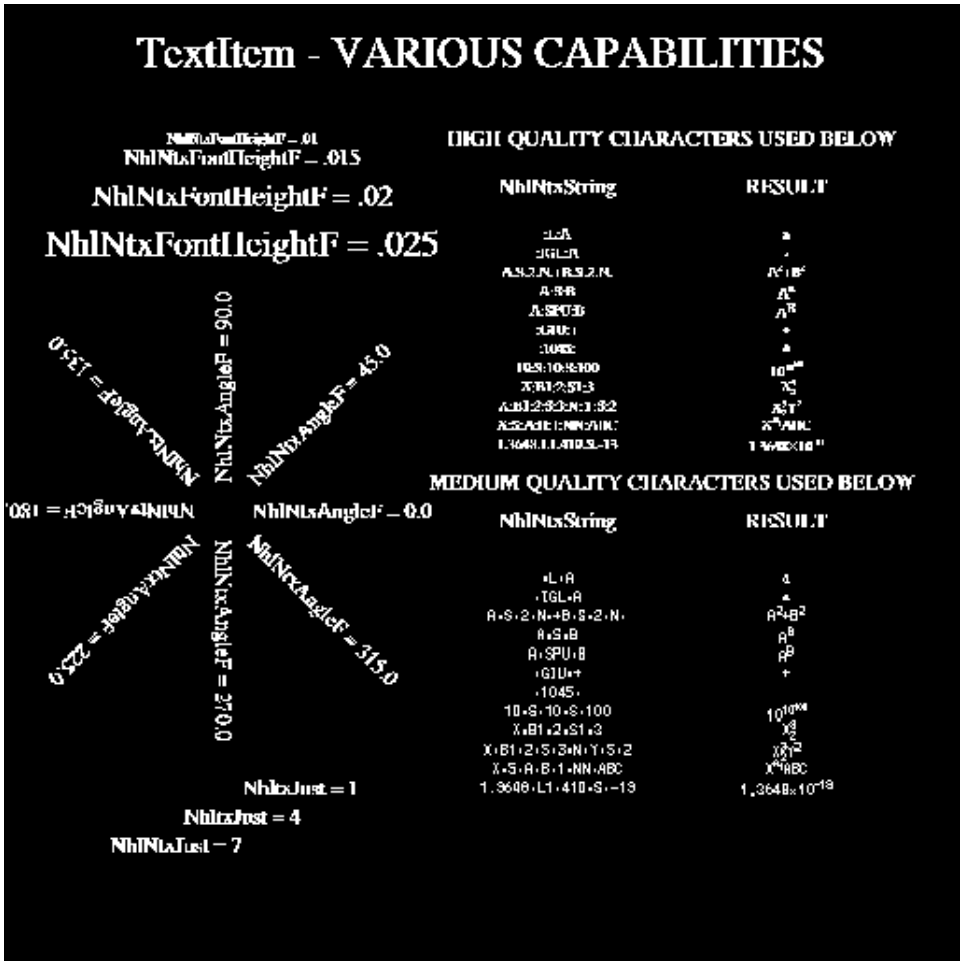
You can copy this example and run it by typing "ng4ex tx03c", "ng4ex tx03f", or "ng4ex tx03n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/18 19:17:11 $

TextItem example 4

How to use function codes to set text characteristics

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. This is an extensive example that demonstrates most of the TextItem functionality. It demonstrates, among other things, how to set text position, height, angle, font, and quality. The names of the source files for this example are tx04c.c, tx04f.f, and tx04n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tx04c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tx04f.f.

Creating the plot using NCL

The NCL script that generates this plot is called tx04n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tx04c.c), a FORTRAN program (tx04f.f), or an NCL script (tx04n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/textitem/tx04c.c
- $NCARG_LIB/ncarg/hluex/textitem/tx04f.f
- $NCARG_LIB/ncarg/nclex/textitem/tx04n.ncl

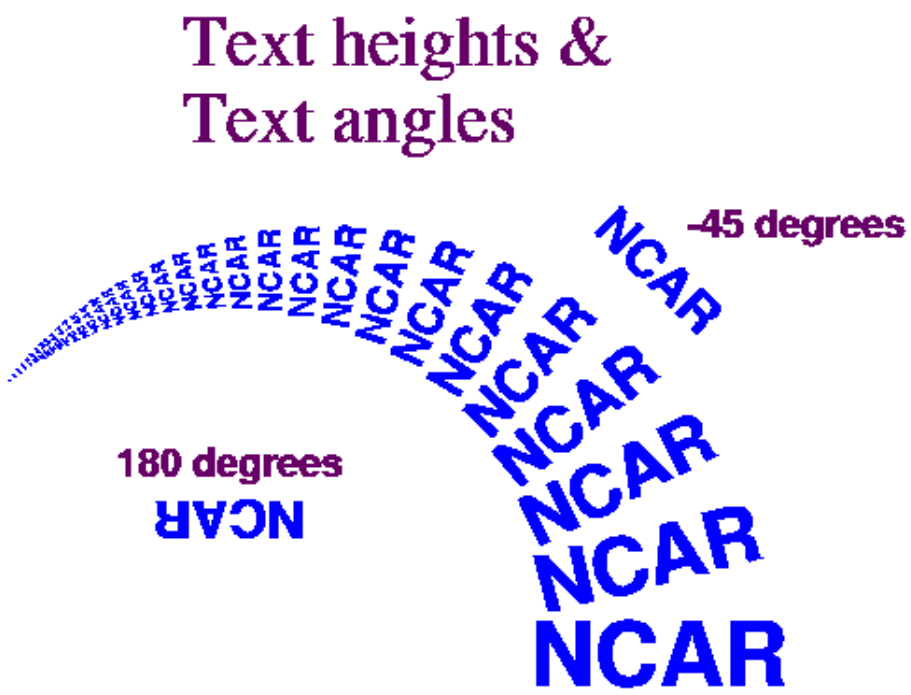
You can copy this example and run it by typing "ng4ex tx04c", "ng4ex tx04f", or "ng4ex tx04n". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:17:12 $

TextItem example 5

How to set text height and angle

This example can be created using HLU C library calls or NCL. This example demonstrates how to set the angle and height of a text string. The names of the source files for this example are tx05c.c and tx05n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tx05c.c.

Creating the plot using HLU FORTRAN library calls

An HLU FORTRAN program is currently not available for this plot.

Creating the plot using NCL

The NCL script that generates this plot is called tx05n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tx05c.c) or an NCL script (tx05n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/textitem/tx05c.c
- $NCARG_LIB/ncarg/nclex/textitem/tx05n.ncl

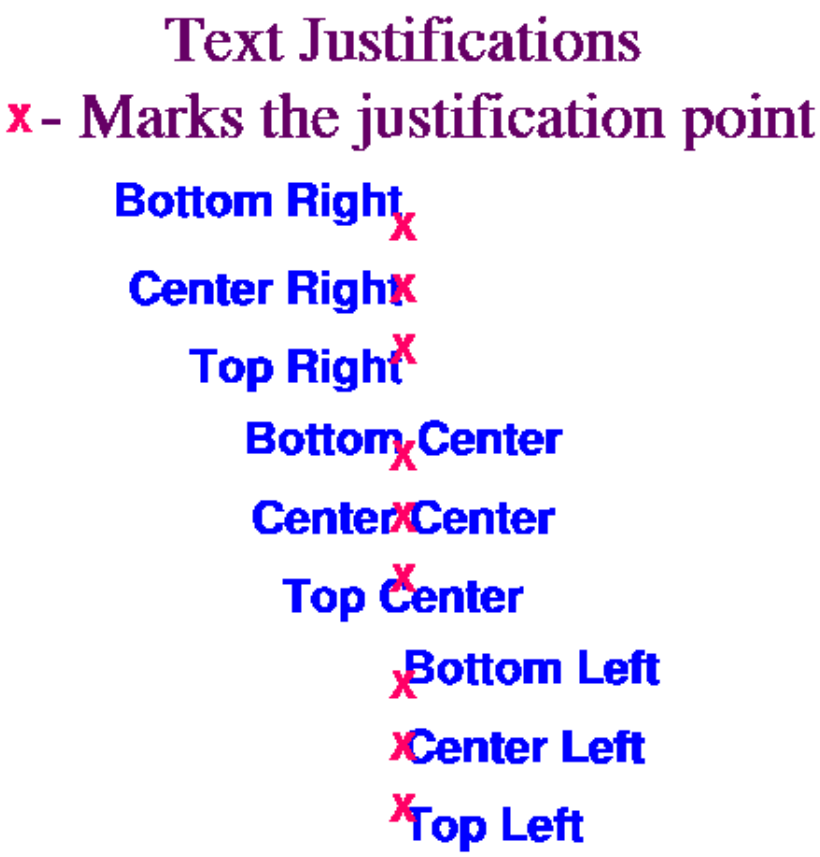
You can copy this example and run it by typing "ng4ex tx05c" or "ng4ex tx05n". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:17:13 $

TextItem example 6

How to set text justification

This example can be created using HLU C library calls or NCL. This example demonstrates how to set the justification point of a text string. The names of the source files for this example are tx06c.c and tx06n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tx06c.c.

Creating the plot using HLU FORTRAN library calls

An HLU FORTRAN program is currently not available for this plot.

Creating the plot using NCL

The NCL script that generates this plot is called tx06n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tx06c.c) or an NCL script (tx06n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/textitem/tx06c.c
- $NCARG_LIB/ncarg/nclex/textitem/tx06n.ncl

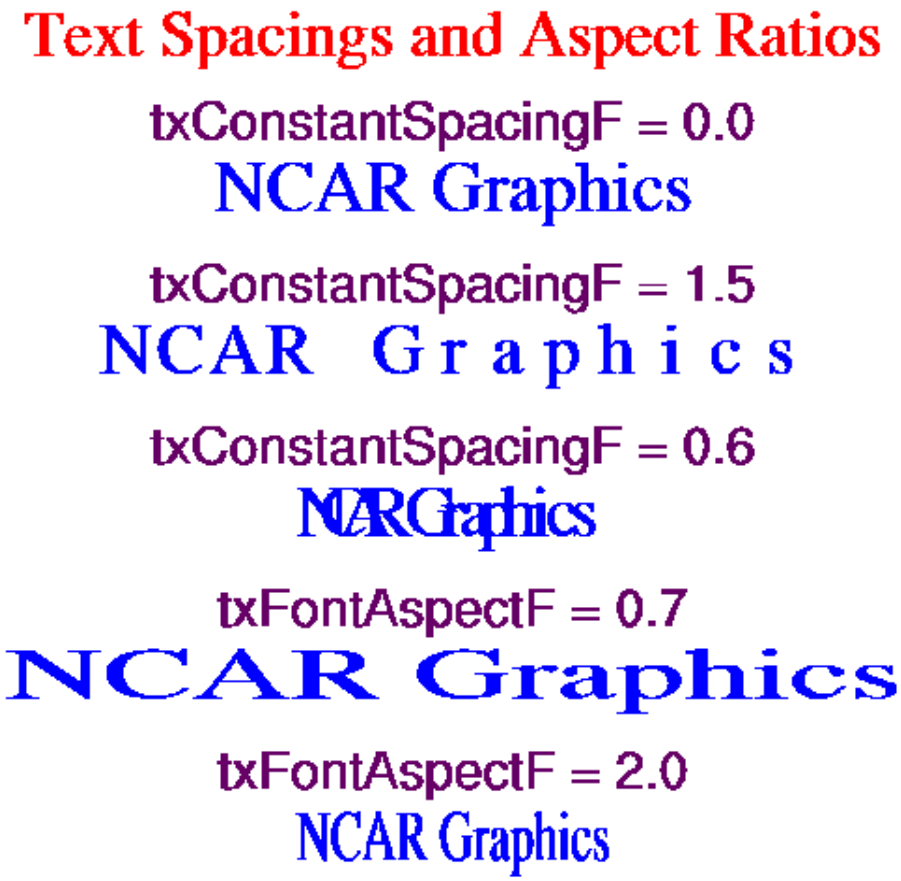
You can copy this example and run it by typing "ng4ex tx06c" or "ng4ex tx06n". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:17:13 $

TextItem example 7

How to set text spacing and aspect ratio

This example can be created using HLU C library calls or NCL. This example demonstrates how to set the text spacing and aspect ratio of a string. The names of the source files for this example are tx07c.c and tx07n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tx07c.c.

Creating the plot using HLU FORTRAN library calls

An HLU FORTRAN program is currently not available for this plot.

Creating the plot using NCL

The NCL script that generates this plot is called tx07n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tx07c.c) or an NCL script (tx07n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/textitem/tx07c.c
- $NCARG_LIB/ncarg/nclex/textitem/tx07n.ncl

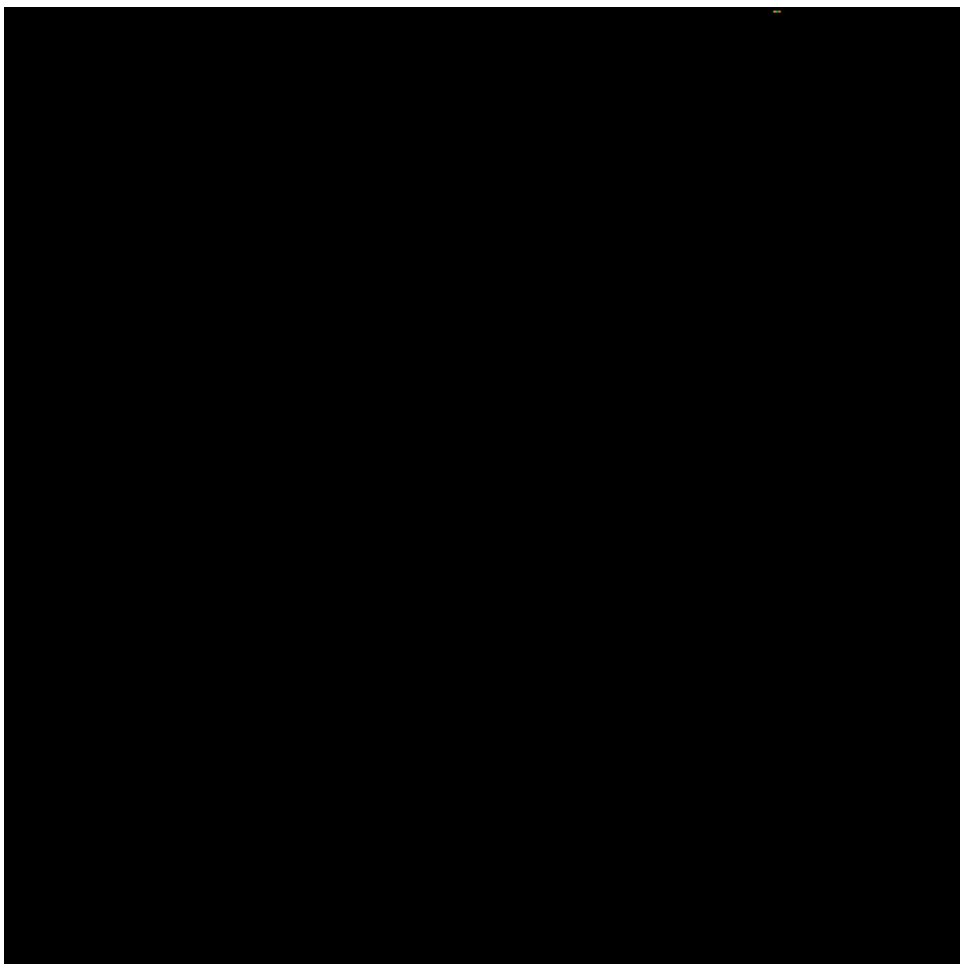
You can copy this example and run it by typing "ng4ex tx07c" or "ng4ex tx07n". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:17:14 $

TextItem example 8

Creating a TextItem annotation

This example can be created using HLU FORTRAN library calls. It demonstrates how to create a TextItem annotation to an XyPlot object. The name of the source file for this example is tx08f.f.



Discussion

This module discusses how to create the previous plot using HLU function calls. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program is currently not available.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tx08f.f.

Creating the plot using NCL

The NCL script is currently not available.

The data

This plot does not use any external data.

How to run this example

This example can be created by using the FORTRAN program tx08f.f. The example is installed in the following location:

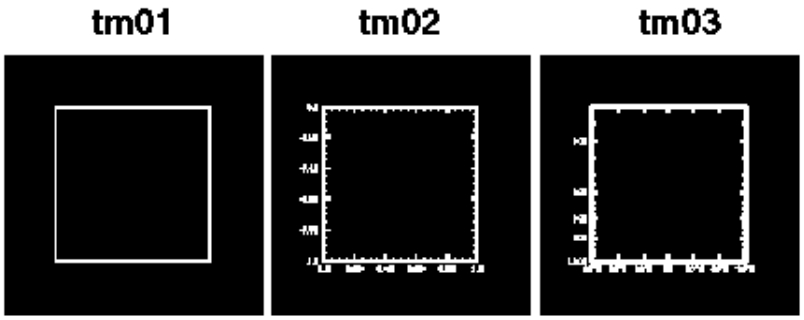
- $NCARG_LIB/ncarg/hluex/textitem/tx08f.f

You can copy this example and run it by typing "ng4ex tx08f". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:17:15 $

TickMark examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that are used to generate and control tickmarks on X and Y axes. Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- tm01: How to create a TickMark object with default settings.
- tm02: How to create a TickMark object with bottom and left ticks turned on.
- tm03: How to reverse and change TickMark style.

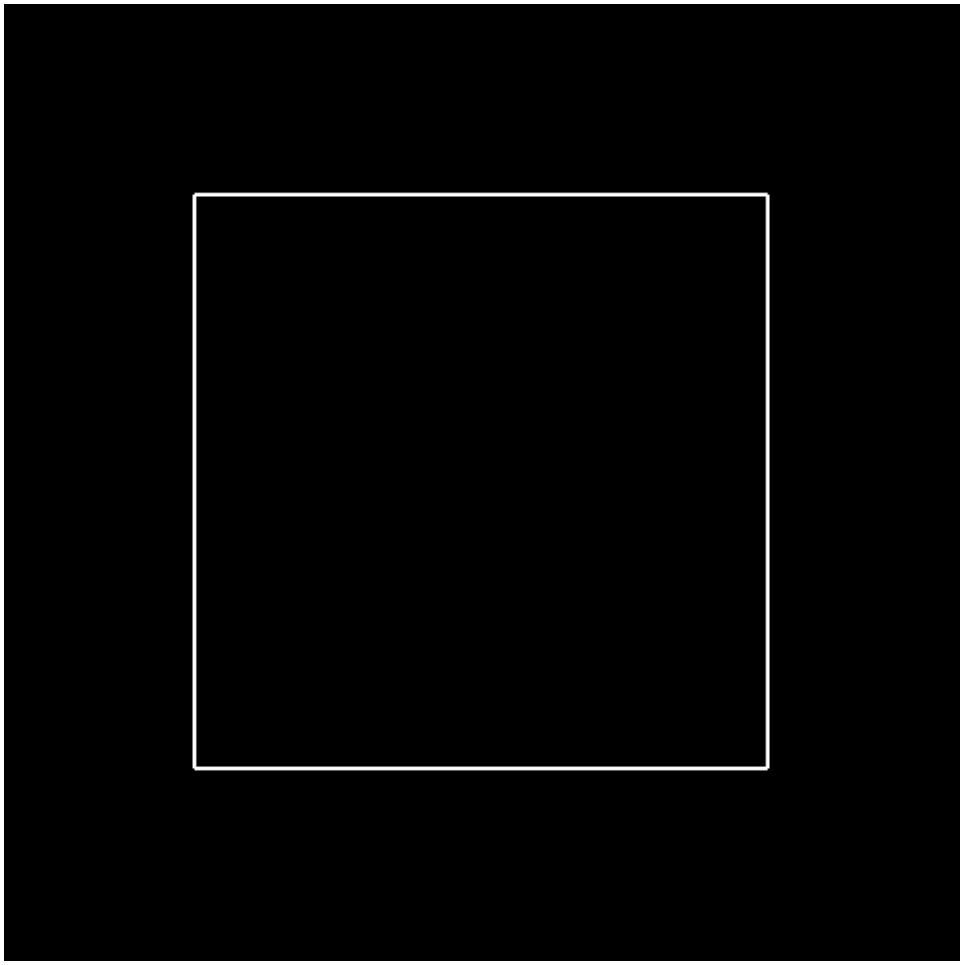
All of these examples can be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.4 $ $Date: 1995/07/18 19:47:39 $

TickMark example 1

How to create a TickMark object with default settings

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create a TickMark object using all default settings. The names of the source files for this example are tm01c.c, tm01f.f, and tm01n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called tm01.res. This file shows all the default TickMark resources.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tm01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tm01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called tm01n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tm01c.c), a FORTRAN program (tm01f.f), or an NCL script (tm01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/tickmark/tm01c.c
- $NCARG_LIB/ncarg/hluex/tickmark/tm01f.f
- $NCARG_LIB/ncarg/nclex/tickmark/tm01n.ncl

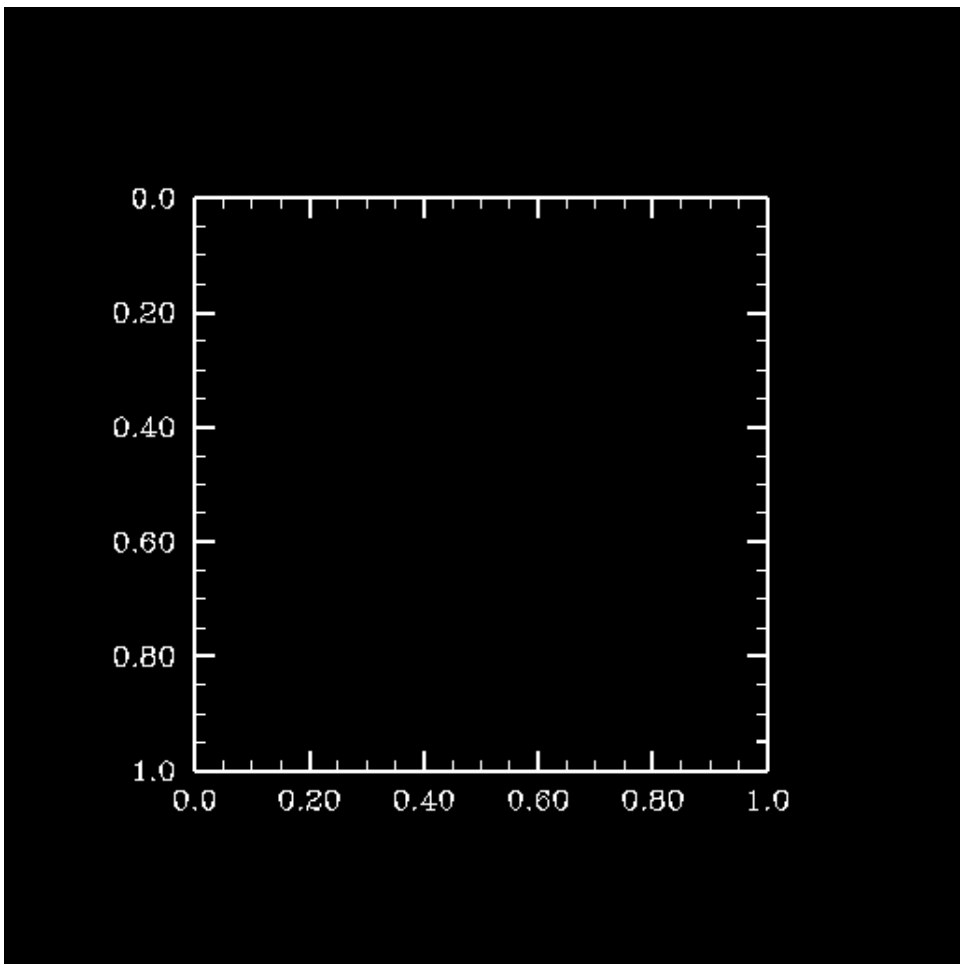
You can copy this example and run it by typing "ng4ex tm01c", "ng4ex tm01f", or "ng4ex tm01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:47:40 $

TickMark example 2

How to create a TickMark object with bottom and left ticks turned on

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create a TickMark object with the bottom and left tick marks turned on. The names of the source files for this example are tm02c.c, tm02f.f, and tm02n.ncl.



Discussion

This module discusses how to create the previous plot using HLU function calls or NCL. A resource file is included with this example, and it is called tm02.res. This file shows how to turn on tickmarks and set their extent.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tm02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tm02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called tm02n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tm02c.c), a FORTRAN program (tm02f.f), or an NCL script (tm02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/tickmark/tm02c.c
- $NCARG_LIB/ncarg/hluex/tickmark/tm02f.f
- $NCARG_LIB/ncarg/nclex/tickmark/tm02n.ncl

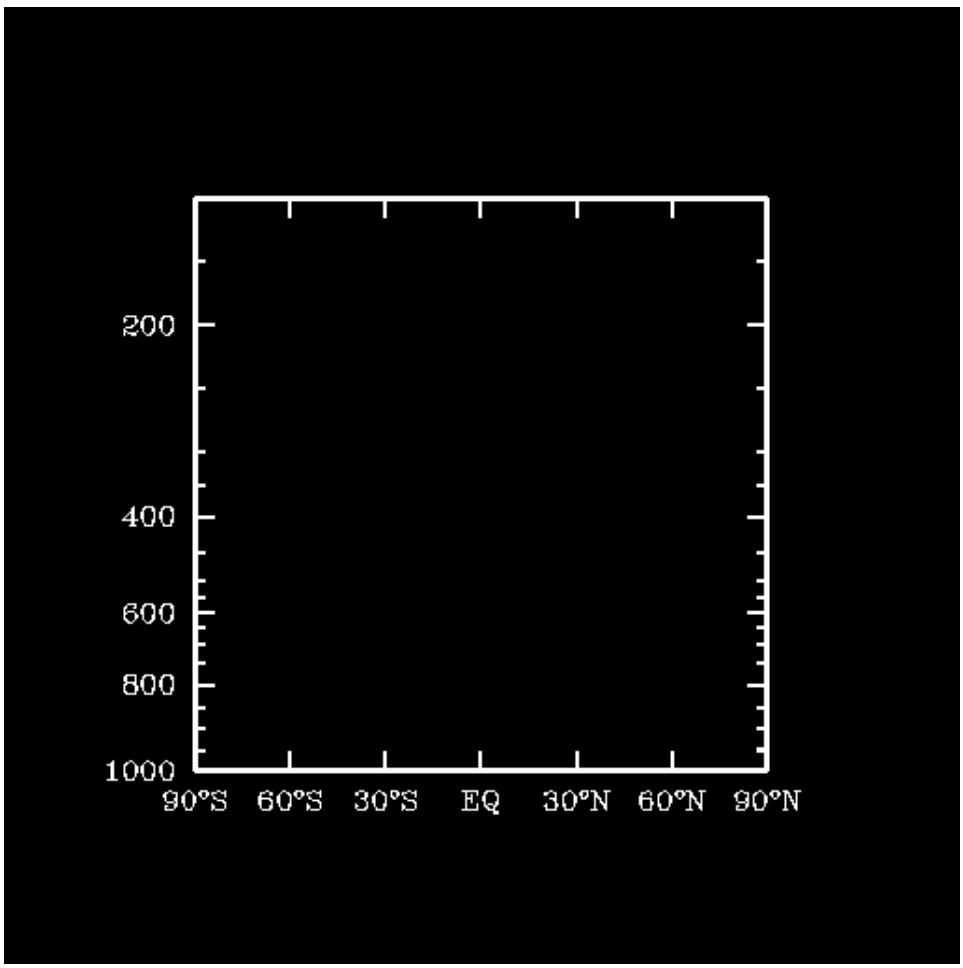
You can copy this example and run it by typing "ng4ex tm02c", "ng4ex tm02f", or "ng4ex tm02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:47:40 $

TickMark example 3

How to reverse and change TickMark style

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create a TickMark object with reversed and log y axis and how to set explicit labels. The names of the source files for this example are tm03c.c, tm03f.f, and tm03n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called tm03.res. This file shows how to manipulate the size and label fonts for tick marks.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called tm03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called tm03f.f.

Creating the plot using NCL

The NCL script that generates this plot is called tm03n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (tm03c.c), a FORTRAN program (tm03f.f), or an NCL script (tm03n.ncl). The examples are installed in the following locations:

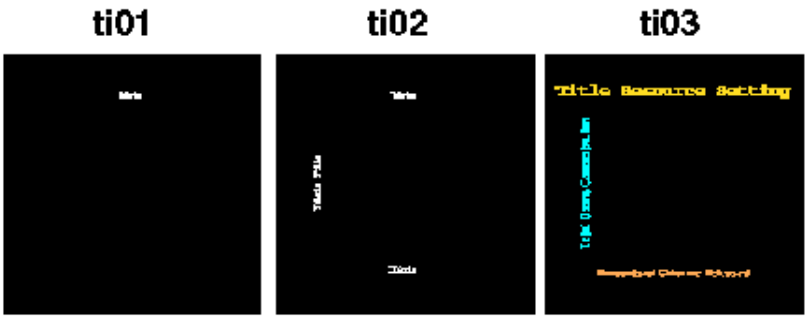
- $NCARG_LIB/ncarg/hluex/tickmark/tm03c.c
- $NCARG_LIB/ncarg/hluex/tickmark/tm03f.f
- $NCARG_LIB/ncarg/nclex/tickmark/tm03n.ncl

You can copy this example and run it by typing "ng4ex tm03c", "ng4ex tm03f", or "ng4ex tm03n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 19:47:41 $

Title examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that are used to generate main and X and Y axis titles for plots. Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- ti01: How to create a main title with default settings.
- ti02: How to create a main title and X and Y axis titles with default settings.
- ti03: How to set Title font, color, and size resources.

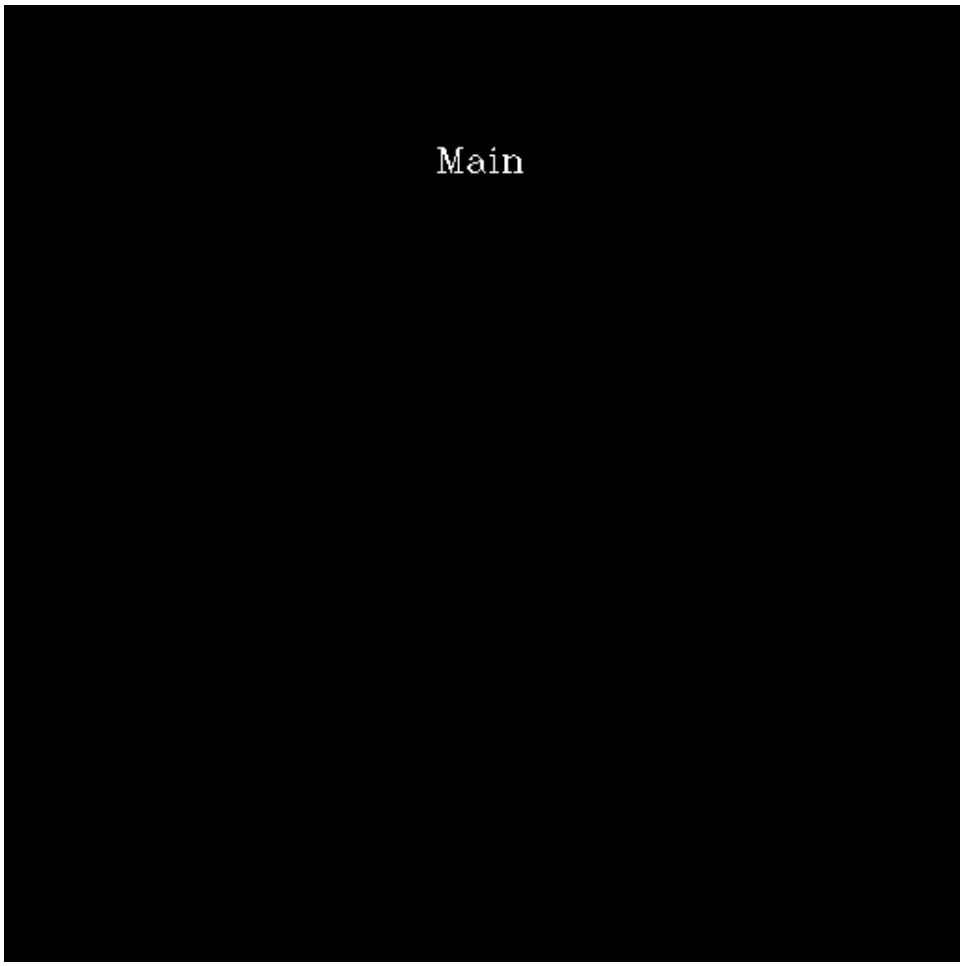
All of these examples can be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.5 $ $Date: 1995/07/18 20:10:54 $

Title example 1

How to create a main title with default settings

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create a main title on a plot using the default resources. The names of the source files for this example are ti01c.c, ti01f.f, and ti01n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called ti01.res. This file shows all the default Title resources.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called ti01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called ti01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called ti01n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (ti01c.c), a FORTRAN program (ti01f.f), or an NCL script (ti01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/title/ti01c.c
- $NCARG_LIB/ncarg/hluex/title/ti01f.f
- $NCARG_LIB/ncarg/nclex/title/ti01n.ncl

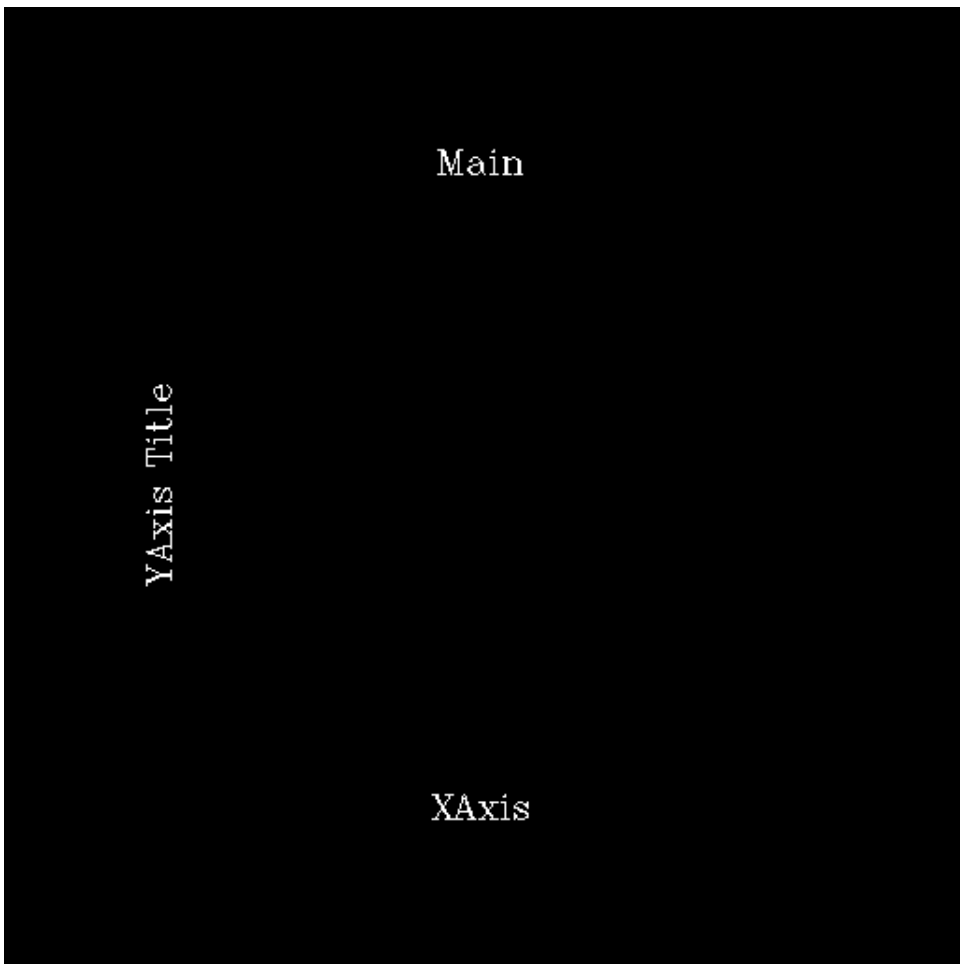
You can copy this example and run it by typing "ng4ex ti01c", "ng4ex ti01f", or "ng4ex ti01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 20:10:51 $

Title example 2

How to create a main title and X and Y axis titles with default settings

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create a main title and X and Y axis titles on a plot using the default resources. The names of the source files for this example are ti02c.c, ti02f.f, and ti02n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called ti02.res. This file shows how to set the title names for the main title and each axis.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called ti02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called ti02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called ti02n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (ti02c.c), a FORTRAN program (ti02f.f), or an NCL script (ti02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/title/ti02c.c
- $NCARG_LIB/ncarg/hluex/title/ti02f.f
- $NCARG_LIB/ncarg/nclex/title/ti02n.ncl

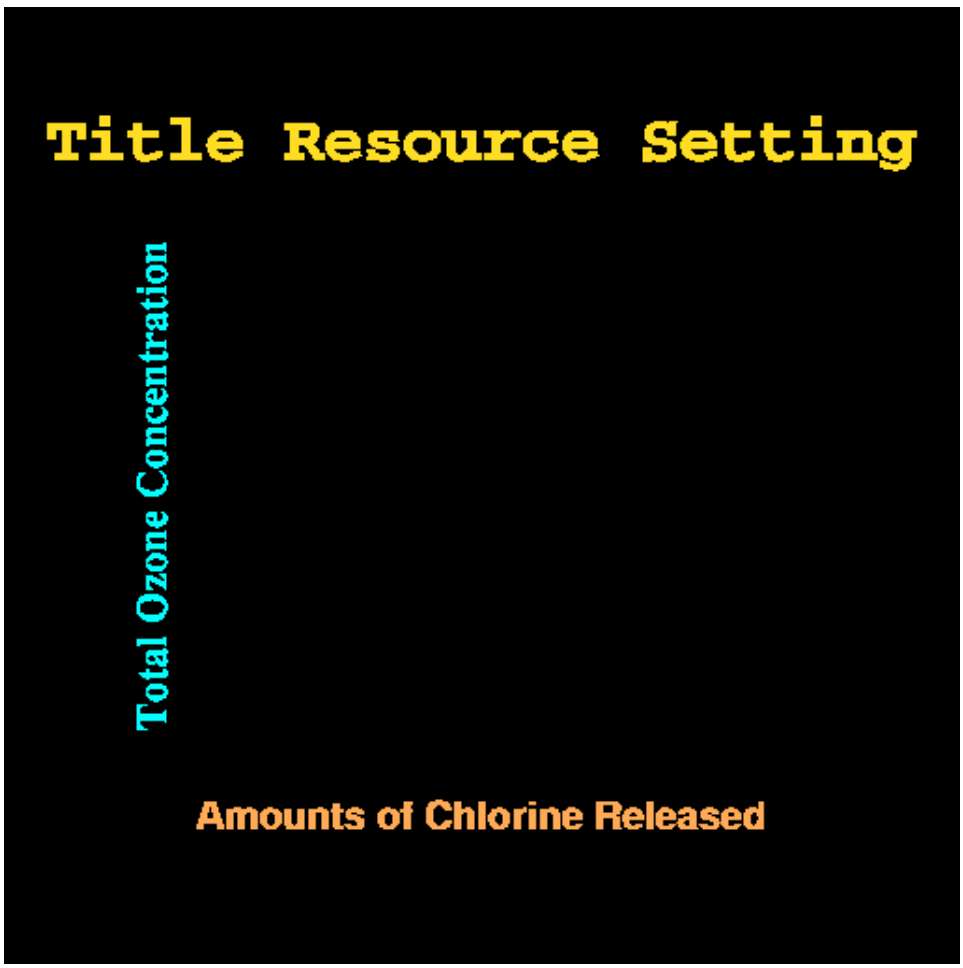
You can copy this example and run it by typing "ng4ex ti02c", "ng4ex ti02f", or "ng4ex ti02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 20:10:52 $

Title example 3

How to set Title font, color, and size resources

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to set the title font, color and size resources from within a resource file. The names of the source files for this example are ti03c.c, ti03f.f, and ti03n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called ti03.res. This file shows how to set the font, color, and size of each title.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called ti03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called ti03f.f.

Creating the plot using NCL

The NCL script that generates this plot is called ti03n.ncl.

The data

This plot does not use any external data.

How to run this example

You can produce this example by using a C program (ti03c.c), a FORTRAN program (ti03f.f), or an NCL script (ti03n.ncl). The examples are installed in the following locations:

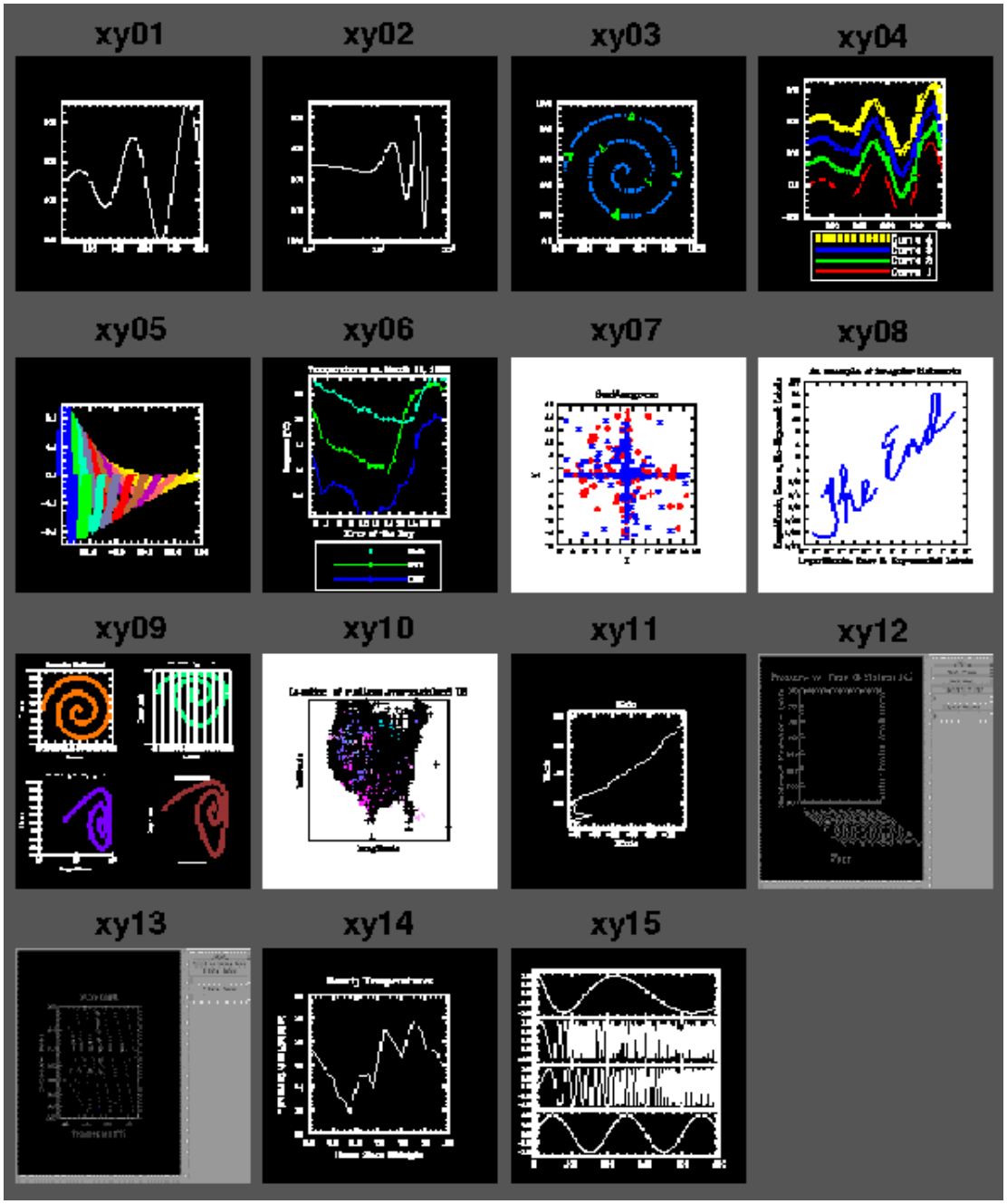
- $NCARG_LIB/ncarg/hluex/title/ti03c.c
- $NCARG_LIB/ncarg/hluex/title/ti03f.f
- $NCARG_LIB/ncarg/nclex/title/ti03n.ncl

You can copy this example and run it by typing "ng4ex ti03c", "ng4ex ti03f", or "ng4ex ti03n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 20:10:53 $

XyPlot examples

This module is a graphical index to the HLU and NCL NCAR Graphics examples that generate X-Y plots. Click on one of the example graphics below to link to information about how to create the graphic and how to access the data and code that was used to generate the plot.



- xy01: How to create an XyPlot using default settings.
- xy02: How to set XyPlot resources using a resource file.
- xy03: How to set resources and axis coordinates.
- xy04: How to create an XyPlot with multiple lines.
- xy05: How to create an XyPlot with multiple lines using a CoordArrTable object.
- xy06: Using multiple lines, external data, and legends.
- xy07: Creating a scattergram.
- xy08: Using irregular points to set a plot transformation.
- xy09: Setting axis styles.
- xy10: Overlaying an XyPlot on a MapPlot.

- xy11: How to draw an XyPlot in an X Window and in an NCGM file.
- xy12: How to incorporate the HLU library with your own X interface.
- xy13: How to interactively retrieve coordinate locations from a plot.
- xy14: How to manipulate XyPlot data using NCL.
- xy15: Creating 'stacked' plots using the annotation feature.

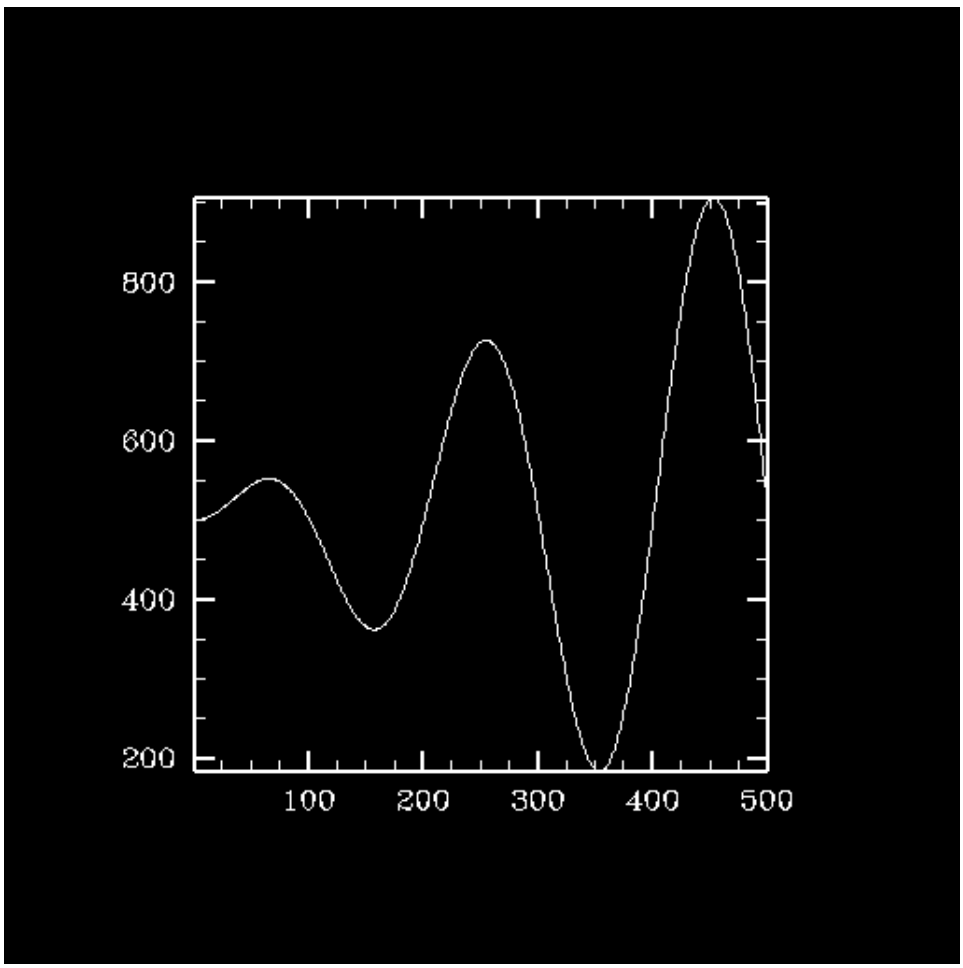
These examples can be created using the NCAR Graphics Low Level Utilities. See the *NCAR Graphics Fundamentals* manual and the *NCAR Graphics Contouring and Mapping Tutorial* for information about using the Low Level Utilities.

$Revision: 1.5 $ $Date: 1995/07/20 16:40:13 $

XyPlot example 1

How to create an XyPlot using default settings

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create an XyPlot object using the default resources, and it explains how to create data for the plot. The names of the source files for this example are xy01c.c, xy01f.f, and xy01n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called xy01.res. This file shows all the default XyPlot resources.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy01c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy01f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy01n.ncl.

The data

The data for this plot is created by calls within the HLU program or NCL script.

How to run this example

This example can be created using a C program (xy01c.c), a FORTRAN program (xy01f.f), or an NCL script (xy01n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy01c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy01f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy01n.ncl

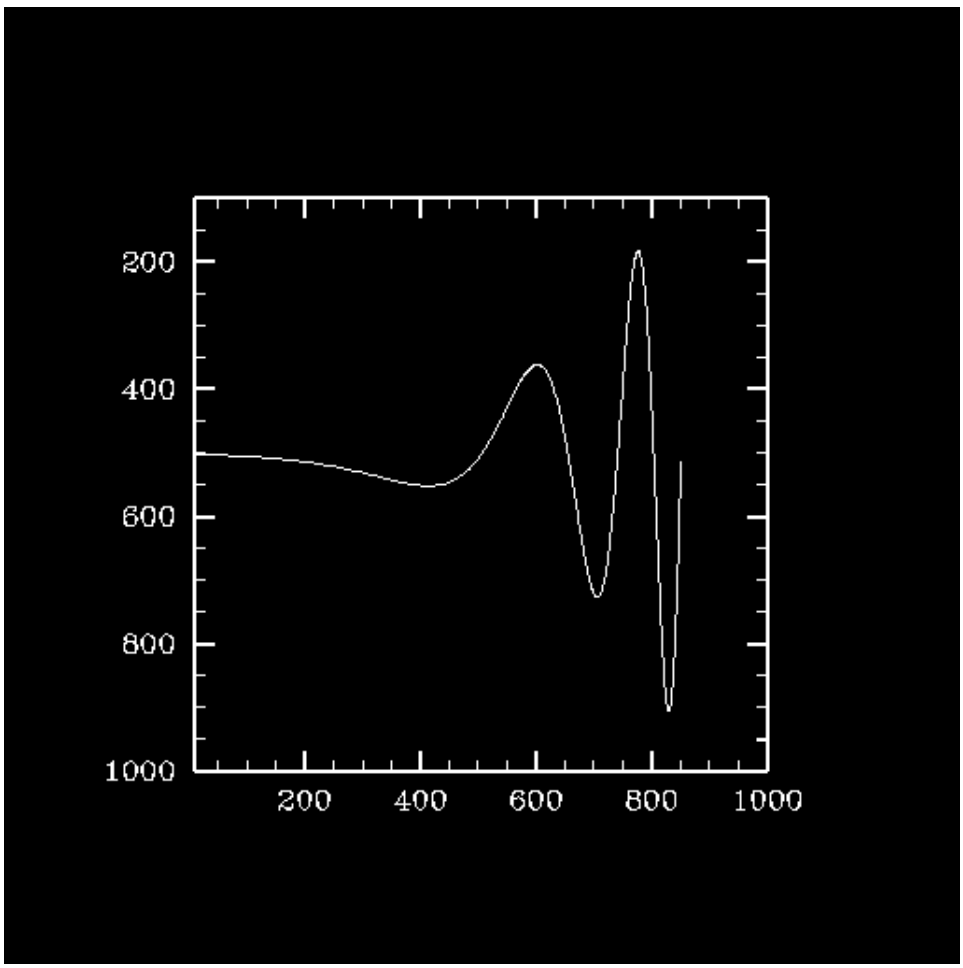
You can copy this example and run it by typing "ng4ex xy01c", "ng4ex xy01f", or "ng4ex xy01n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:32 $

XyPlot example 2

How to set XyPlot resources using a resource file

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to tweak XyPlot resources using a resource file. The names of the source files for this example are xy02c.c, xy02f.f, and xy02n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called xy02.res. This file is used to change the default resource settings for the plot.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy02c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy02f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy02n.ncl.

The data

The data for this plot is created by calls within the HLU program or NCL script.

How to run this example

This example can be created using a C program (xy02c.c), a FORTRAN program (xy02f.f), or an NCL script (xy02n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy02c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy02f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy02n.ncl

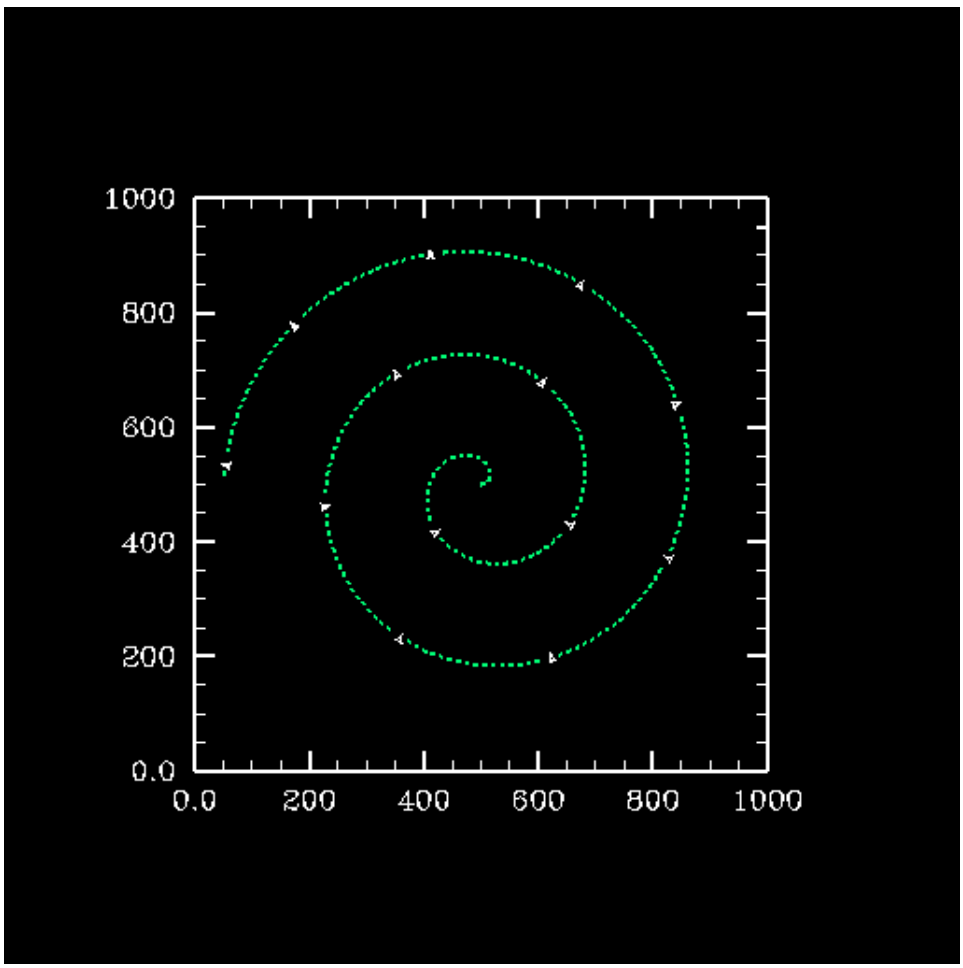
You can copy this example and run it by typing "ng4ex xy02c", "ng4ex xy02f", or "ng4ex xy02n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:33 $

XyPlot example 3

How to set resources and axis coordinates

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to tweak XyPlot resources using a resource file and how to set coordinates for the plot axes. The names of the source files for this example are xy03c.c, xy03f.f, and xy03n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called xy03.res. This file is used to change the default resource settings for the plot. This example uses the same Y-axis dataset as the xy02 example, but this time values for the X axis are specified, changing the look of the plot.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy03c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy03f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy03n.ncl.

The data

The data for this plot is created by calls within the HLU program or NCL script.

How to run this example

This example can be created using a C program (xy03c.c), a FORTRAN program (xy03f.f), or an NCL script (xy03n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy03c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy03f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy03n.ncl

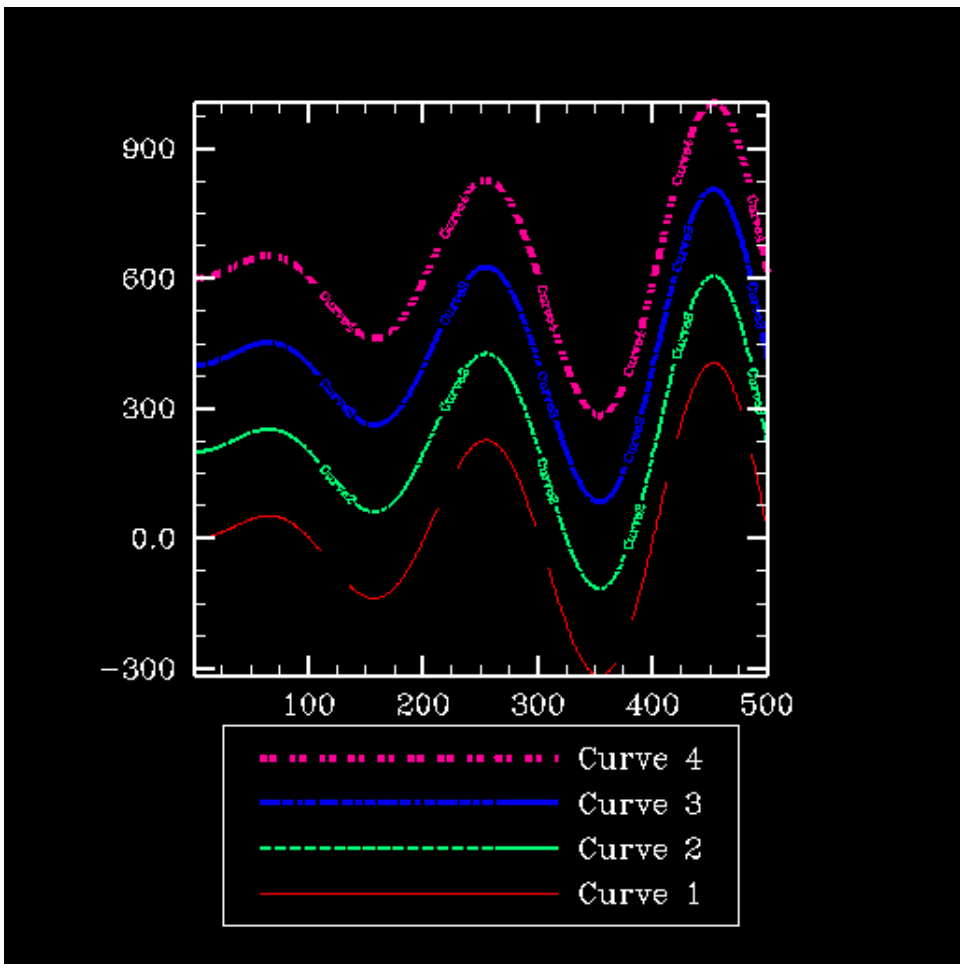
You can copy this example and run it by typing "ng4ex xy03c", "ng4ex xy03f", or "ng4ex xy03n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:33 $

XyPlot example 4

How to create an XyPlot with multiple lines

This XyPlot example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create a plot that contains multiple lines. The name of the source files for this example are xy04c.c, xy04f.f, and xy04n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called xy04.res. This file is used to change the default resource settings for the plot. Some of the XyPlot line resources are tweaked in the resource file to show how to change the appearance of the lines.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy04c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy04f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy04n.ncl.

The data

The data for this plot is created by calls within the HLU program or NCL script.

How to run this example

This example can be created using a C program (xy04c.c), a FORTRAN program (xy04f.f), or an NCL script (xy04n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy04c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy04f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy04n.ncl

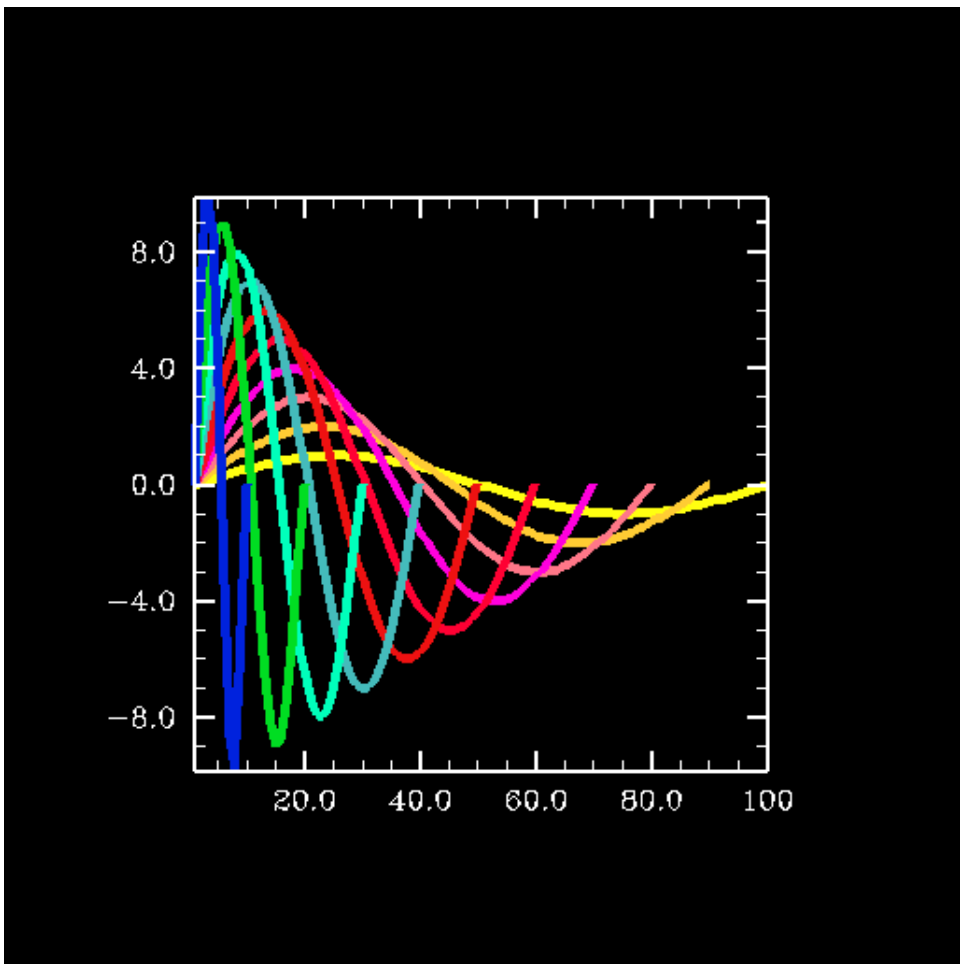
You can copy this example and run it by typing "ng4ex xy04c", "ng4ex xy04f", or "ng4ex xy04n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:34 $

XyPlot example 5

How to create an XyPlot with multiple lines using a CoordArrTable object

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. It demonstrates how to create a plot that contains multiple lines using a CoordArrTable object (C version only). The names of the source files for this example are xy05c.c, xy05f.f, and xy05n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls or NCL. A resource file is included with this example, and it is called xy05.res. This file is used to change the default resource settings for the plot. This example shows one way to create an XyPlot object with multiple lines and multiple lengths using multiple data objects. The C version uses the CoordArrTable object which is not available in the Fortran or NCL versions.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy05c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy05f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy05n.ncl.

The data

The data for this plot is created by calls within the HLU program or NCL script.

How to run this example

This example can be created using a C program (xy05c.c), a FORTRAN program (xy05f.f), or an NCL script (xy05n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy05c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy05f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy05n.ncl

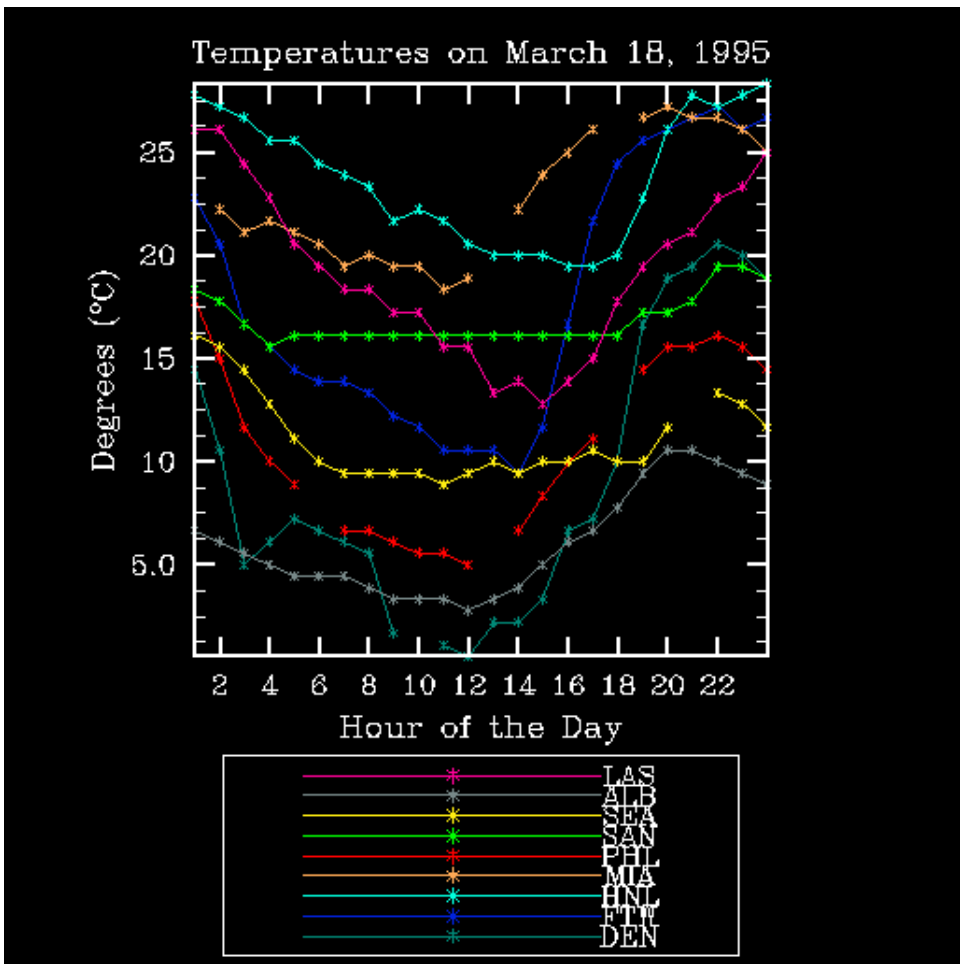
You can copy this example and run it by typing "ng4ex xy05c", "ng4ex xy05f", or "ng4ex xy05n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:34 $

XyPlot example 6

Using multiple lines, external data, and legends

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. This is an advanced example that demonstrates how to create a plot that contains multiple lines on multiple plots with a legend. This example also demonstrates how to read data from an external file. The names of the source files for this example are xy06c.c, xy06f.f, and xy06n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls and NCL. A resource file is included with this example, and it is called xy06.res. This file is used to change the default resource settings for the plot.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy06c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy06f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy06n.ncl.

The data

The data for this plot was read from external netCDF files.

How to run this example

You can produce this example by using a C program (xy06c.c), a FORTRAN program (xy06f.f), or an NCL script (xy06n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy06c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy06f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy06n.ncl

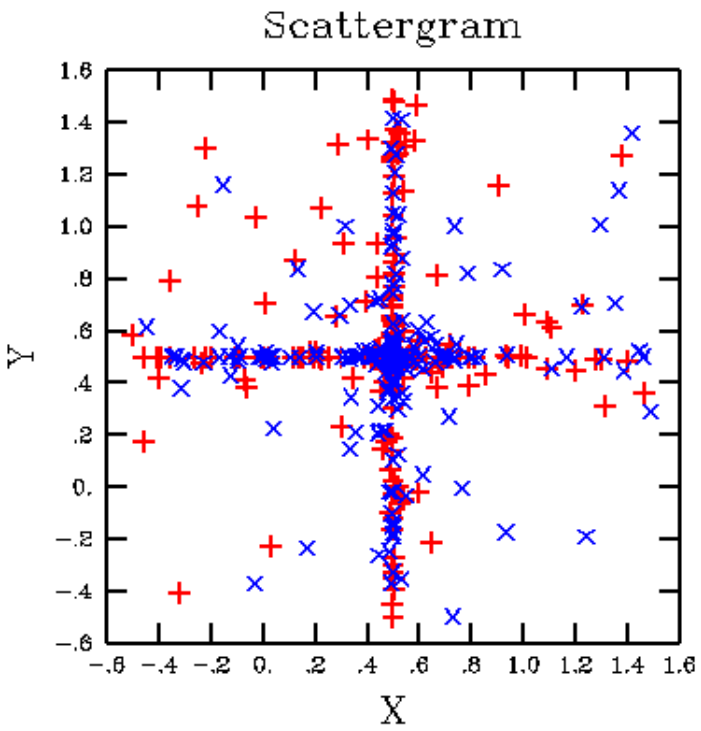
You can copy this example and run it by typing "ng4ex xy06c", "ng4ex xy06f", or "ng4ex xy06n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:35 $

XyPlot example 7

Creating a scattergram

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. This example demonstrates how to create a "scattergram" using the XyPlot utility. The names of the source files for this example are xy07c.c, xy07f.f, xy07n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls and NCL. A resource file is included with this example, and it is called xy07.res. This file is used to change the default resource settings for the plot.

This example is similar to the ncargex Autograph example "agex11". It shows how to draw a "scattergram". It also shows one way to modify the color map to produce different background/foreground colors.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy07c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy07f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy07n.ncl.

The data

The data for this plot is generated internally by the program code.

How to run this example

The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy07c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy07f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy07n.ncl

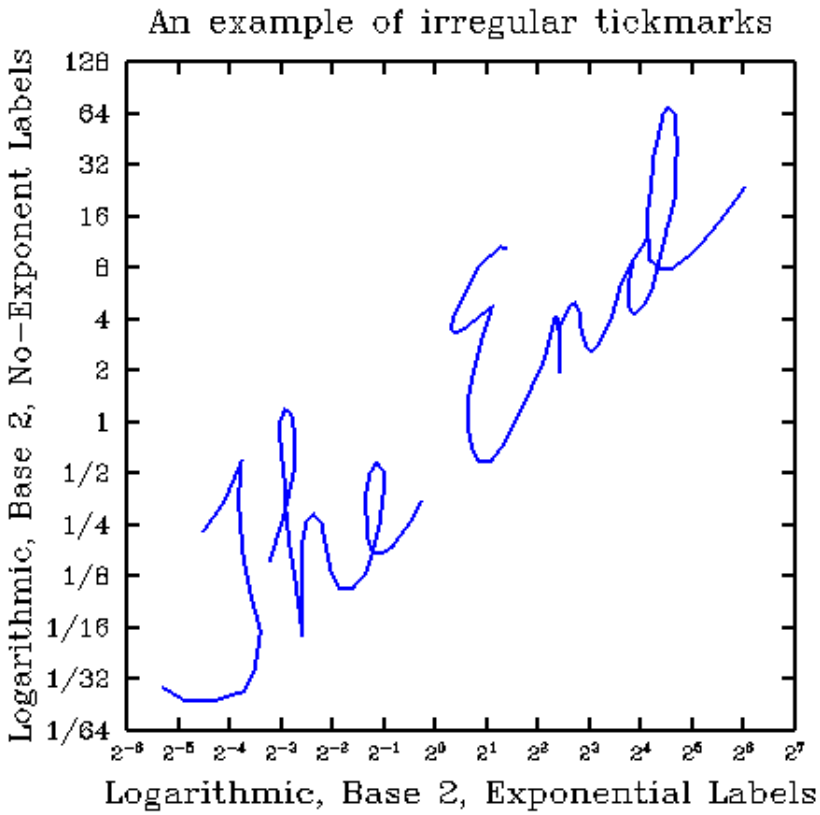
You can copy this example and run it by typing "ng4ex xy07c", "ng4ex xy07f", "ng4ex xy07n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled (if necessary) and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/18 21:06:35 $

XyPlot example 8

Using irregular points to set a plot transformation

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. This example demonstrates how to create a plot that uses irregular points to change the plot transformation. This example also shows how to read data from an ASCII file using the asciiread function (NCL only). The names of the source files for this example are xy08c.c, xy08f.f, and xy08n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls and NCL. A resource file is included with this example, and it is called xy08.res. This file is used to change the default resource settings for the plot.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy08c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy08f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy08n.ncl.

The data

The data for this plot is read from an ASCII file called xy08.asc.

How to run this example

You can produce this example by using a C program (xy08c.c), a FORTRAN program (xy08f.f), or an NCL script (xy08n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy08c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy08f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy08n.ncl

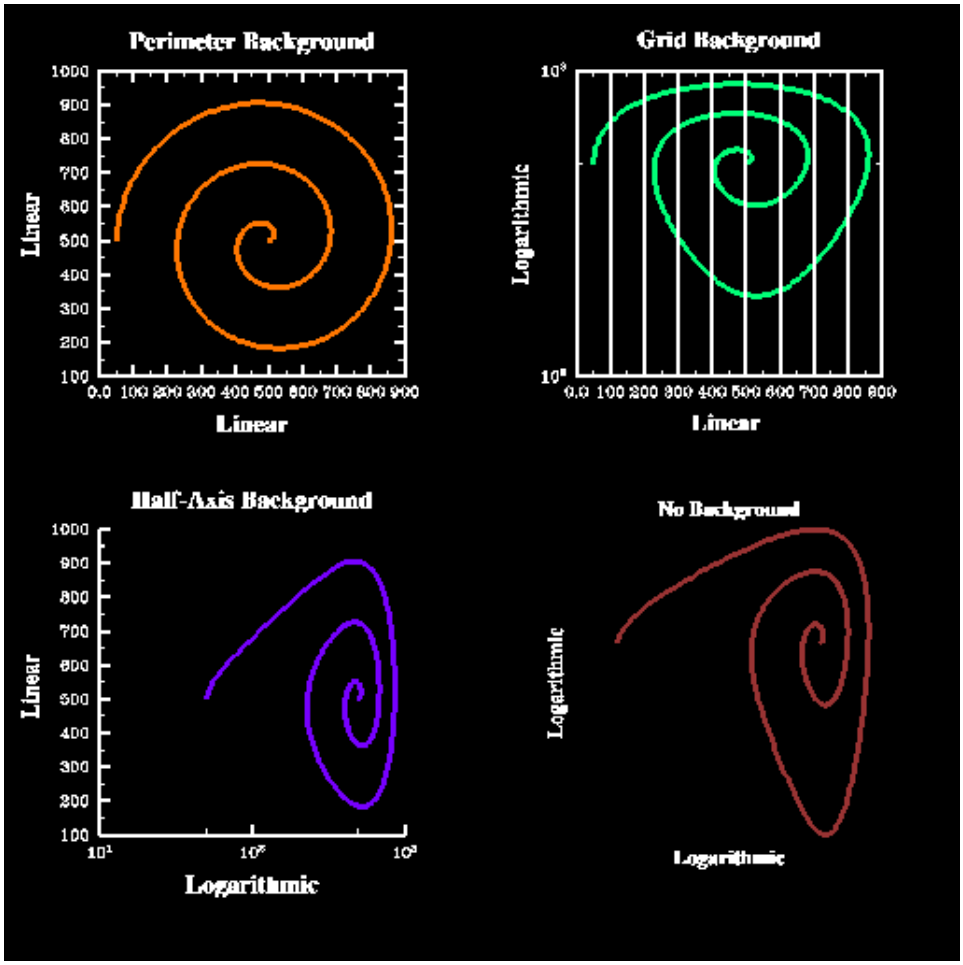
You can copy this example and run it by typing "ng4ex xy08c", "ng4ex xy08f", or "ng4ex xy08n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/18 21:06:36 $

XyPlot example 9

Setting axis styles

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. This example demonstrates how to set the axis styles of an XyPlot. The names of the source files for this example are xy09c.c, xy09f.f, and xy09n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls and NCL. A resource file is included with this example, and it is called xy09.res. This file is used to change the default resource settings for the plot.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy09c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy09f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy09n.ncl.

The data

The data for this plot is generated internally in the source code.

How to run this example

You can produce this example by using a C program (xy09c.c), a FORTRAN program (xy09f.f), or an NCL script (xy09n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy09c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy09f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy09n.ncl

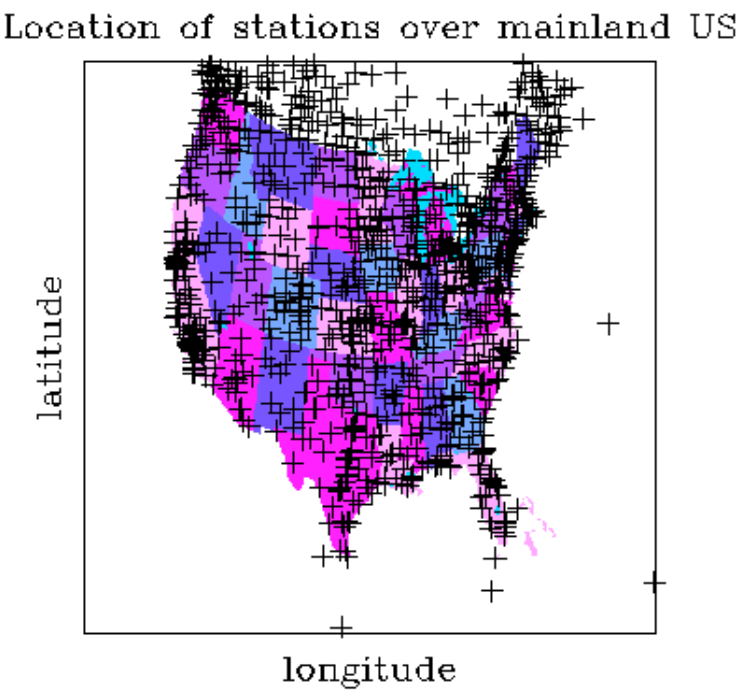
You can copy this example and run it by typing "ng4ex xy09c", "ng4ex xy09f", or "ng4ex xy09n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:37 $

XyPlot example 10

Overlaying an XyPlot on a MapPlot

This example can be created using HLU C library calls, HLU FORTRAN library calls, or NCL. This example demonstrates how to overlay an XyPlot on a MapPlot. The names of the source files for this example are xy10c.c, xy10f.f, and xy10n.ncl.



Discussion

This module discusses how to create this plot using HLU function calls and NCL. A resource file is included with this example, and it is called xy10.res. This file is used to change the default resource settings for the plot.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy10c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is called xy10f.f.

Creating the plot using NCL

The NCL script that generates this plot is called xy10n.ncl.

The data

The data for this plot is read from a netCDF file called 95031800_sao.cdf. This data is installed in your NCAR Graphics data directory. The location of this directory can be obtained by typing "ncargpath data". This is a netCDF file, so you can use the netCDF utility, ncdump, to view the header information for this file. Type "ncdump -h 95031800_sao.cdf" to view the set of variables and attributes that are stored in this file.

How to run this example

You can produce this example by using a C program (xy10c.c), a FORTRAN program (xy10f.f), or an NCL script (xy10n.ncl). The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy10c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy10f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy10n.ncl

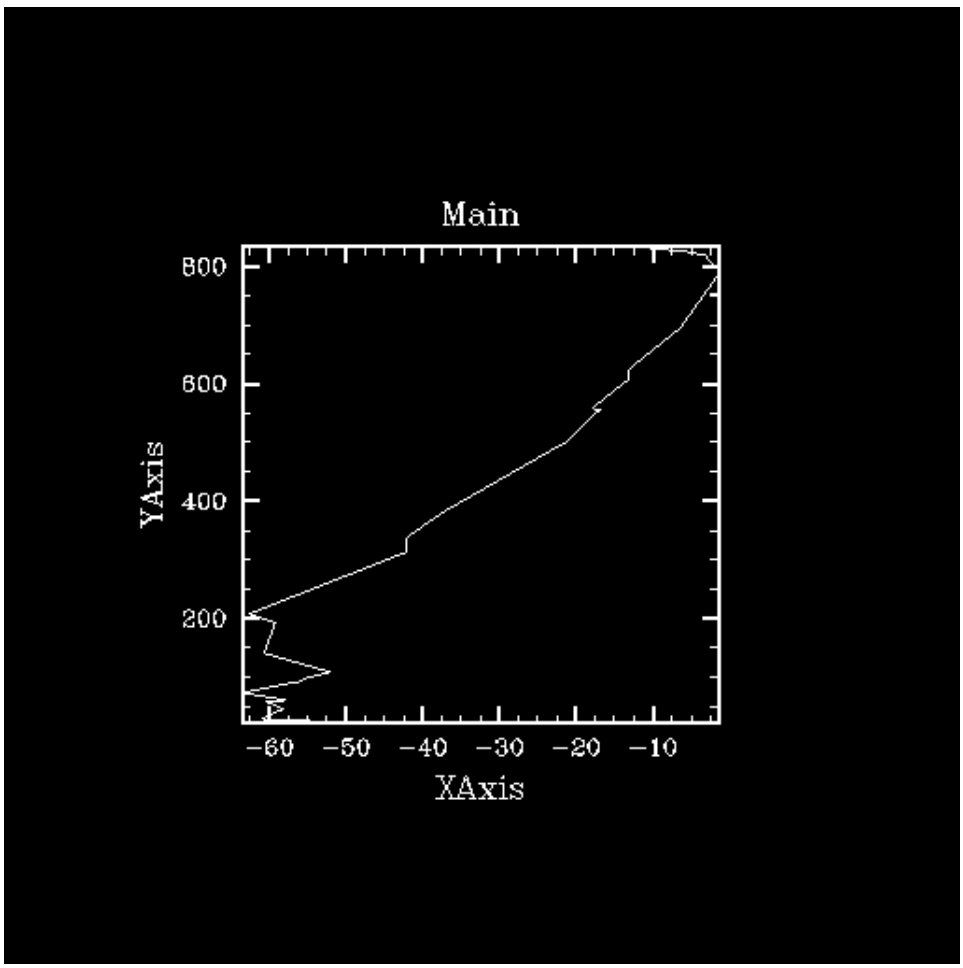
You can copy this example and run it by typing "ng4ex xy10c", "ng4ex xy10f", or "ng4ex xy10n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:37 $

XyPlot example 11

How to draw an XyPlot in an X Window and in an NCGM file

This example can be created using HLU C or HLU FORTRAN library calls or NCL. It demonstrates how to draw a plot in an X Window and then switch the output device to draw the plot to an NCGM file. The names of the source files for this example are xy11c.c, xy11f.f, and xy11n.ncl.



Discussion

This module discusses how to create this plot using HLU library calls or NCL. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

The HLU C program that generates this plot is called xy11c.c.

Creating the plot using HLU FORTRAN library calls

The HLU FORTRAN program that generates this plot is xy11f.f.

Creating the plot using NCL

The NCL script that generates this plot is xy11n.ncl.

The data

The data for this plot is created by calls within the source program.

How to run this example

The examples are installed in the following locations:

- $NCARG_LIB/ncarg/hluex/xyplot/xy11c.c
- $NCARG_LIB/ncarg/hluex/xyplot/xy11f.f
- $NCARG_LIB/ncarg/nclex/xyplot/xy11n.ncl

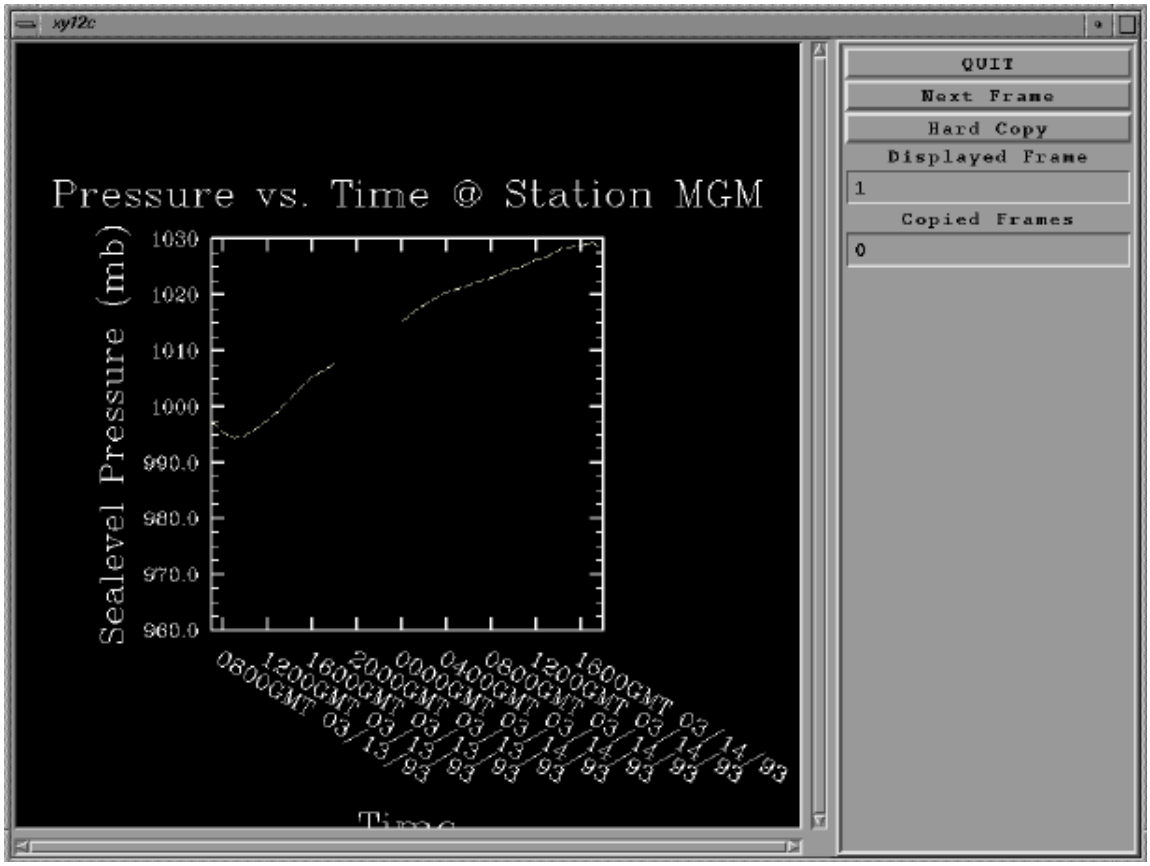
You can copy this example and run it by typing "ng4ex xy11c", "ng4ex xy11f", or "ng4ex xy11n". A copy of the source file and resource file will be placed in your current working directory. The source code will be compiled (if necessary) and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:38 $

XyPlot example 12

How to incorporate the HLU library with your own X interface

This example is created using HLU C library calls. It demonstrates how to combine calls to the HLU C library with an X interface. The name of the source file for this example is xy12c.c.



Discussion

This module discusses how to create this plot using HLU C function calls. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy12c.c.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN program to generate this plot is not available.

Creating the plot using NCL

Currently, the NCL script to generate this plot is not available.

The data

The data for this plot is read from an ASCII file called xy12c.asc. This data is located in $NCARG_LIB/ncarg/data/asc/xy12c.asc.

How to run this example

This example can be produced using a C program (xy12c.c). The example is installed in the following location:

- $NCARG_LIB/ncarg/hluex/xyplot/xy12c.c

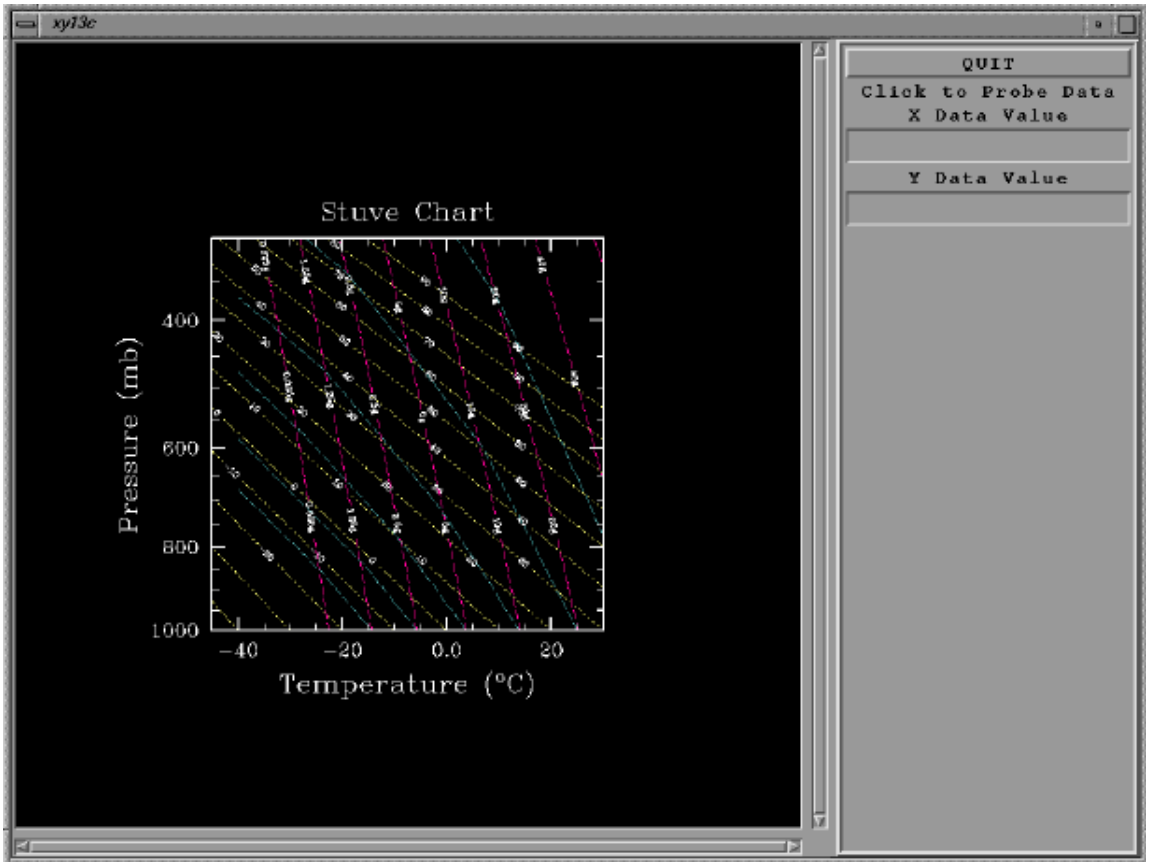
You can copy this example and run it by typing "ng4ex xy12c". A copy of the source file and data file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:38 $

XyPlot example 13

How to interactively retrieve coordinate locations from a plot

This example is created using HLU C library calls. It demonstrates how to interactively retrieve coordinate values from a plot using a point-and-click interface. The name of the source file for this example is xy13c.c.



Discussion

This module discusses how to create this plot using HLU C function calls. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy13c.c.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN program to generate this plot is not available.

Creating the plot using NCL

Currently, the NCL script to generate this plot is not available.

The data

The data for this plot is generated from within the HLU program.

How to run this example

There is currently one way to produce this example: using a C program (xy13c.c). The example is installed in the following location:

- $NCARG_LIB/ncarg/hluex/xyplot/xy13c.c

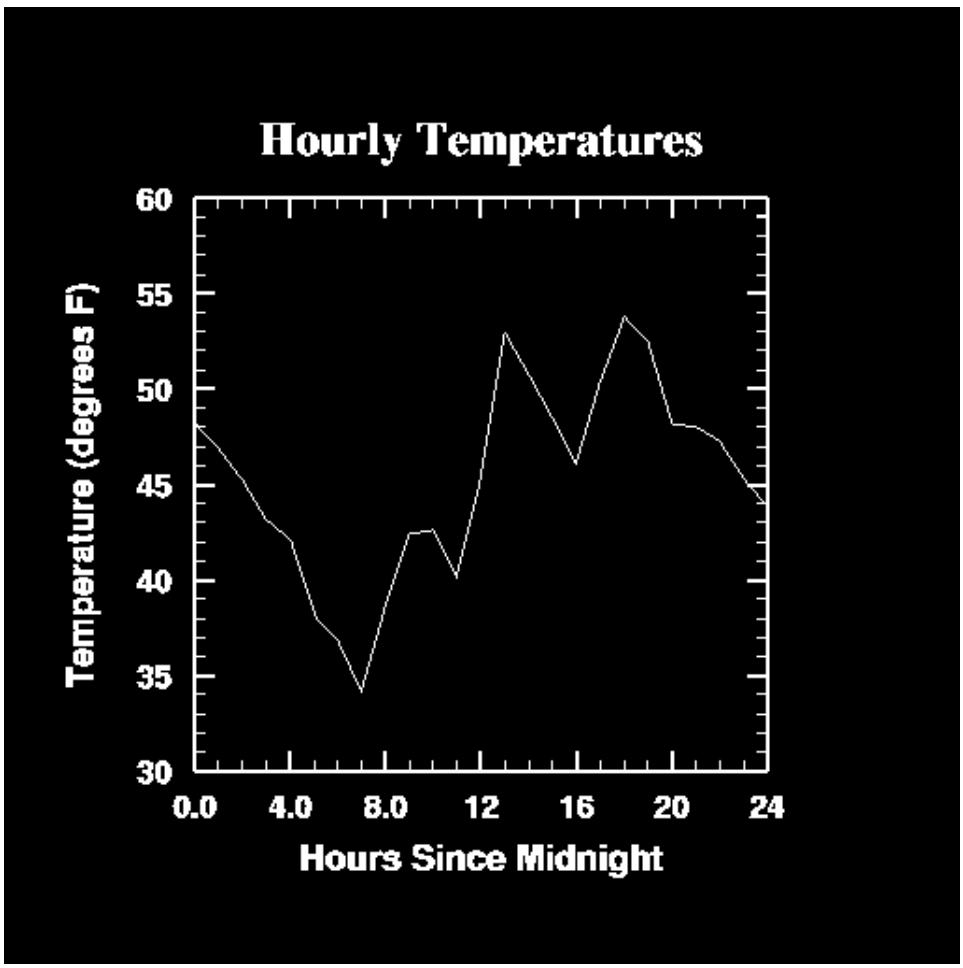
You can copy this example and run it by typing "ng4ex xy13c". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.3 $ $Date: 1995/07/18 21:06:39 $

XyPlot example 14

How to manipulate XyPlot data using NCL

This example is created using NCL. It demonstrates the data manipulation capabilities available in NCAR Graphics and how to create data objects. The name of the source file for this example is xy14n.ncl.



Discussion

This module discusses how to create this plot using NCL, and it demonstrates some of the data manipulation capabilities that are available with NCAR Graphics. The example creates a series of plots that use CoordArrays objects for managing data. The NCL example also demonstrates how to use some of the data manipulation features and functions of the language to subsample or thin data and perform conversions and other mathematical operations on the data. A resource file is not used with this example.

A detailed discussion of how this example works appears in its source code.

Creating the plot using HLU C library calls

Currently, the HLU C program to generate this plot is not available.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN program to generate this plot is not available.

Creating the plot using NCL

The NCL script that generates this plot is called xy14n.ncl.

The data

The data for this plot is generated from within the program.

How to run this example

The example is installed in the following location:

- $NCARG_LIB/ncarg/nclex/xyplot/xy14n.ncl

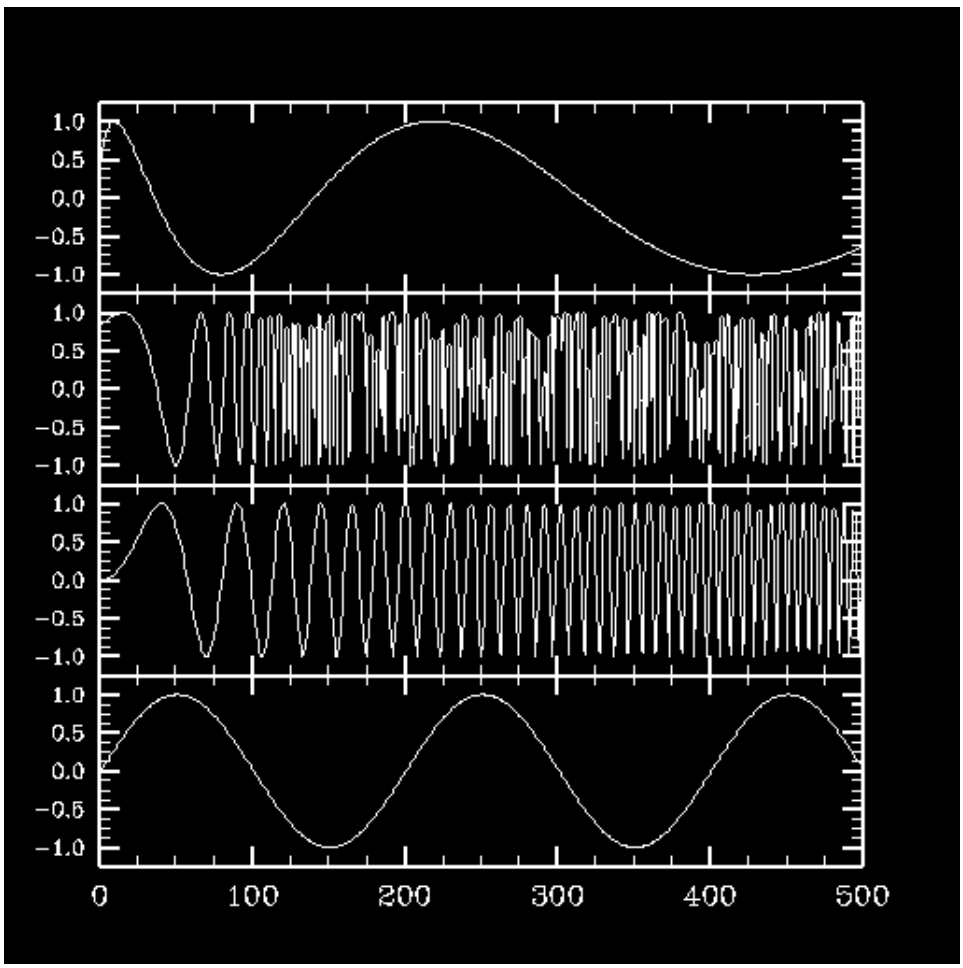
You can copy this example and run it by typing "ng4ex xy14n". A copy of the source file will be placed in your current working directory and automatically run for you.

$Revision: 1.4 $ $Date: 1995/07/18 21:06:39 $

XyPlot example 15

Creating stacked plots

This example is created using HLU C library calls. It demonstrates how to create a set of 4 'stacked' XyPlots and how to use annotations to simplify the control and sizing of all the plots. The name of the source file for this example is xy15c.c.



Discussion

This module discusses how to create this plot using HLU C function calls. The resource file used with this example is called xy15.res.

This example illustrates the creation of a set of 4 of 'stacked' XyPlots. Each plot has the same X axis. By making the top 3 plots into annotations of the bottom plot, all four plots can be manipulated as a unit. To demonstrate this concept the second frame sets the viewport of the base plot. Because all the annotations have their "amResizeNotify" resource set to true (in the resource file), all the annotation plots resize themselves proportionally to the change in the size of the base plot. Each plot draws a variation of sinusoidal curve.

A more detailed discussion of how this example works appears in its source code.

Creating the plot using HLUs

The HLU C program that generates this plot is called xy15c.c.

Creating the plot using HLU FORTRAN library calls

Currently, the HLU FORTRAN program to generate this plot is not available.

Creating the plot using NCL

Currently, the NCL script to generate this plot is not available.

The data

The data for this plot is generated from within the HLU program.

How to run this example

This example can be produced using a C program (xy15c.c). The example is installed in the following location:

- $NCARG_LIB/ncarg/hluex/xyplot/xy15c.c

You can copy this example and run it by typing "ng4ex xy15c". A copy of the source file will be placed in your current working directory. The source code will be compiled and automatically run for you.

$Revision: 1.2 $ $Date: 1995/07/20 16:35:46 $