

List of resources mentioned in graphics lecture

<http://www.ncl.ucar.edu/Document/Graphics/Resources/>

Contour resources

cnFillColor	[List of color indexes or names for filled contours]
cnFillMode	“AreaFill”, “RasterFill”, “CellFill”
cnFillOn	Turn on/off contour fill
cnLevels	[List of contour levels desired] (“ExplicitLevels”)
cnLevelSectionMode	“AutomaticLevels”, “ManualLevels”, “ExplicitLevels”
cnLevelSpacingF	Spacing for contour levels (“ManualLevels”)
cnLineLabelsOn	Turn on/off contour line labels
cnLinesOn	Turn on/off contour lines
cnMaxLevelValF	Maximum contour level value (“ManualLevels”)
cnMinLevelValF	Minimum contour level value (“ManualLevels”)
cnRasterSmoothingOn	Turn on/off raster smoothing (if “RasterFill” is on)

Resources for coordinates for contours

sfXArray	Set coordinate arrays for X dimension of contour data
sfYArray	Set coordinate arrays for Y dimension of contour data

Map resources

mpFillOn	Turn on/off map fill
mpOutlineOn	Turn on/off map outlines
mpProjection	“CylindricalEquidistant”, “LambertConformal”, etc.
mpDataBaseVersion	“LowRes”, “MediumRes”, “HighRes”
mpDataSetName	[Many values depending on mpDataBaseVersion]
mpLimitMode	“LatLon”, “Corners”, etc.
mpMinLatF	Minimum latitude value for map
mpMaxLatF	Maximum latitude value for map
mpMinLonF	Minimum longitude value for map
mpMaxLonF	Maximum longitude value for map
mpOutlineBoundarySets	[Many values possible]

Vector resources

vcGlyphStyle	[“LineArrow”, “FillArrow”, “WindBarb”]
vcLineArrowThicknessF	Set the line thickness for vectors
vcMinDistanceF	Set a minimum distance between vectors
vcMonoVectorLineColor	Turn off mono colors for vectors
vcRefAnnoOrthogonalPosF	Move the vector reference annotation label
vcRefLengthF	Set the length of the reference vector
vcRefMagnitudeF	Set the magnitude of the reference vector

Resources for coordinates for vectors

vfXArray	Set coordinate arrays for X dimension of vector data
vfYArray	Set coordinate arrays for Y dimension of vector data

XY plot resources

xyDashPattern	Set the dash pattern for an XY curve
xyLineColor	Set the line color for an XY curve
xyLineThicknessF	Set the line thickness for an XY curve
xyMonoDashPattern	Turn on/off using a single pattern for all curves

Labelbar resources

lbBoxLinesOn	Turn on/off labelbar box lines
lbLabelAutoStride	Pick “nice” spacing for labelbar labels
lbLabelBarOn	Turn on/off labelbar
lbLabelFontHeightF	Set size for labelbar labels
lbOrientation	“Vertical” or “Horizontal”

Title resources

tiMainString	Main title for plot
tiXAxisString	X axis title
tiYAxisString	Y axis title

Tickmark resources

tmXBMode	[“Automatic”, “Manual”, “Explicit”]
tmXBValues	[“explicit” mode, list of values for bottom X tickmarks]
tmXBLLabels	[“explicit” mode, list of labels for bottom X tickmarks]
tmYLMode	[“Automatic”, “Manual”, “Explicit”]
tmYLValues	[“explicit” mode, list of values for left Y tickmarks]
tmYLLLabels	[“explicit” mode, list of labels for left Y tickmarks]

Resources to control “managed” objects like tickmarks and labelbars

pmLabelBarHeightF	Set labelbar height when used with a plot
pmLabelBarOrthogonalPosF	Move labelbar perpendicular to plot
pmLabelBarWidthF	Set labelbar width when used with a plot
pmTickMarkDisplayMode	“Always” gives you “nice” map tickmarks

Resources to control minimum and maximum of X and Y axes:

trXMinF	Minimum value for X axis
trXMaxF	Maximum value for X axis
trYMinF	Minimum value for Y axis
trYMaxF	Maximum value for Y axis

Viewport resources

vpHeightF	Set the viewport height [0,1]
vpWidthF	Set the viewport width [0,1]
vpXF	Set the location of left edge of plot in viewport [0,1]
vpYF	Set the location of top edge of plot in viewport [0,1]

Resources for polymarkers, polygons, and polylines

gsEdgesOn	Turn on edges for gsn_add_polygon
gsFillColor	Set fill color for gsn_add_polygon
gsLineColor	Set line color for gsn_add_polyline
gsLineThicknessF	Set line thickness for gsn_add_polyline
gsMarkerColor	Set marker color for gsn_add_polymarker
gsMarkerIndex	Set marker index for gsn_add_polymarker
gsMarkerSizeF	Set marker size for gsn_add_polymarker
gsMarkerThicknessF	Set marker thickness for gsn_add_polymarker

Resources for “gsn_panel” procedure

gsnPanelBoxes	Turn on panel debug box outlines
gsnPanelDebug	Turn on panel debug prints
gsnPanelFigureStrings	Add figure strings to panel plots
gsnPanelLabelBar	Turn on panel labelbar
gsnPanelRowSpec	Specify number of plots per row
gsnPanelScalePlotIndex	Set the index of the plot to be used for scaling
gsnPanelXF	Set location of left edge of paneled plots
gsnPanelYF	Set location of top edge of paneled plots
txString	Set a main title for paneled plots (a misnomer here)

Resources for generic text strings

txFont	Set the font for gsn_add_text
txFontColor	Set the font color for gsn_add_text
txFontHeightF	Set the font height for gsn_add_text
txJust	Set the justification for gsn_add_text

Special “gsn” resources recognized by many “gsn_csm_xxxx” functions

gsnAddCyclic	Turn the addition of a longitude cyclic point on/off
gsnCenterString	Set a string for a center subtitle
gsnDraw	Turn draw on/off
gsnFrame	Turn frame on/off
gsnLeftString	Set a string for a left subtitle
gsnMaximize	Maximize plot in frame
gsnPolar	["NH" or "SH"] for gsn_csm_xxx_polar plots
gsnRightString	Set a string for a right subtitle
gsnSpreadColorEnd	Ending index for filled contours or vectors
gsnSpreadColors	Span the full colormap for filled contours or vectors
gsnSpreadColorStart	Starting color index for filled contours or vectors

List of graphical functions mentioned in graphics lecture

http://www.ncl.ucar.edu/Document/Functions/graphics_routines.shtml

draw	Draw the given plot or object
frame	Force a frame (page) advance
gsn_add_polygon	Attach a polygon to the given plot
gsn_add_polyline	Attach a polyline to the given plot
gsn_add_polymarker	Attach a set of polymarkers to the given plot
gsn_add_text	Attach a text string to the given plot
gsn_csm_contour	Draw a contour plot
gsn_csm_contour_map	Draw contours over a map
gsn_csm_map	Draw a map
gsn_csm_vector	Draw a vector plot
gsn_csm_vector_map	Draw vectors over a map
gsn_csm_vector_map_polar	Draw vectors over a polar stereographic map
gsn_csm_xy	Draw an XY plot, given X and Y arrays
gsn_csm_y	Draw an XY plot using index values for the X axis
gsn_define_colormap	Set a color map
gsn_draw_colormap	Draw the current color map
gsn_merge_colormaps	Merge two color maps
gsn_open_wks	Open a workstation (PS file, X11 windows, etc)
gsn_panel	Panel a set of given plots
NhlNewColor	Add a color to the existing color map
NhlNewDashPattern	Add a dash pattern to the existing pattern table
NhlNewMarker	Add a marker to the existing marker table
overlay	Overlay one plot on another

WRF-specific functions

wrf_user_getvar	Retrieve the given variable from the WRF file
wrf_contour	Create contours given a WRF variable
wrf_map_overlays	Overlay a set of WRF plots on a map
wrf_overlays	Overlay a set of WRF plots on a non-map plot
wrf_vector	Create vectors given a WRF variable