
Subject: Re: plotting x-y error bars in IDL

Posted by [atmospheric physics](#) on Mon, 09 Dec 2013 10:10:59 GMT

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Hello All,

Thanks for the suggestions. I have an array of latitude, longitude coordinates from GPS measurements from various stations with corresponding variability (i.e., standard deviation) over a period of operation. I am trying to plot the errorbars of latitude and longitude on a latitude-longitude axes. I am first obtaining the latitude-longitude axes and then projecting the lat-lon points. Next, I wanted to plot the errorbars corresponding to lat and lon values by using the commands as suggested in the example of Coyote graphics. While I see the figures and the points on the lat-lon axes nicely, I don't see the error bars and x-y labels. Can you suggest where I am going wrong? Below is my IDL code for your reference...

```
; -----  
PRO test_errorPlot  
  
  xlon = longitude  
  ylat = latitude  
  xstd = lon_err & ystd = lat_err  
  
  x_higherr=(xlon + xstd) & x_lowerr=(xlon - xstd)  
  y_higherr=(ylat + ystd) & y_lowerr=(ylat - ystd)  
  
  ; Set up variables for the plot  
  xtitle='Longitude'  
  ytitle='Latitude'  
  title='Errorbar Plot'  
  position = [0.125, 0.125, 0.9, 0.925]  
  thick = (!D.Name EQ 'PS') ? 3 : 1  
  
  ; Data Projection to Map coordinates  
  Lats=[50.84D,50.96D] ; deg.N  
  Lons=[6.36D,6.50D] ; deg E  
  centerLat=(Max(Lats) + Min(Lats)) / 2.0  
  centerLon=(Max(Lons) + Min(Lons)) / 2.0  
  zoom=12  
  scale = cgGoogle_MetersPerPixel(zoom)  
  xsize = 600 < 640 ; Max size of Google image with this Google API  
  ysize = 600 < 640 ; Max size of Google image with this Google API  
  resolution = STRTRIM(xsize,2) + 'x' + STRTRIM(ysize,2)  
  
  map = Obj_New('cgMap', 'Mercator', ELLIPSOID='WGS 84')  
  uv = map -> Forward(centerLon, centerLat)  
  uv_xcenter = uv[0,0]  
  uv_ycenter = uv[1,0]  
  xrange = [uv_xcenter - (xsize/2.0D*scale), uv_xcenter + (xsize/2.0D*scale)]
```

```
yrange = [uv_ycenter - (ysize/2.0D*scale), uv_ycenter + (ysize/2.0D*scale)]  
map -> SetProperty, XRange=xrange, YRange=yrange
```

```
cgDisplay, 600, 500, Title=title
```

```
cgMap_Grid, MAP=map, /BOX_AXES, /cgGRID, FORMAT='(F0.2)'
```

```
cgPlotS, xlon, ylat, PSYM=16, SYMSIZE=1.2, MAP=map, COLOR='red'
```

```
; Draw the error bars in the signal Y  
cgErrPlot, xlon, y_lowerr, y_higherr, COLOR='blu5', Thick=thick
```

```
; Draw the error bars in the signal X  
cgErrPlot, ylat, x_lowerr, x_higherr, COLOR='blu5', Thick=thick, /Horizontal
```

END

```
; Display the plot in a graphics window.
```

```
cgDisplay, 600, 500
```

```
test_errorPlot
```

```
; Create a PostScript file.
```

```
cgPS_Open, Filename='test_errorPlot.ps'
```

```
test_errorPlot
```

```
cgPS_Close
```

```
; Create a PNG file with a width of 600 pixels.
```

```
cgPS2Raster, 'test_errorPlot.ps', /PNG
```

END

```
;-----
```

Thanks in advance
