Subject: converting xy to lon lat
Posted by rsori on Wed, 19 Jul 2017 12:42:39 GMT
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Hello,

I am trying to convert/plot a matrix of data from xy to lon lat coordinates. I am using this script which is available in the coyote web; but I have a problem with this line: latlon = map -> Inverse(xgrid, ygrid)

The message says: Object reference type required in this context: MAP.

I have no idea, because I declared before map as a matrix but the mistake remains...

Any help is appreciated !

```
pro leer_fich
  datos2=BYTARR(304, 447, /NOZERO)

   openw,1,'G:\Raquel\convert_xy_lonlat\mean.aug.1979-2015.n.tx t'
  printf,1,datos2,FORMAT='(304(i0,2x))'
  close,1

  ; Read the data, reverse the Y direction, and save the data
dimensions;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; ;;;;;;;;;;;;;;;;;;;;;;;;;;;
;   filename = 'usegriddata.dat'
;   tempAnomaly= FltArr(144, 73)
;   OpenR, lun, filename, /Get_Lun
;   ReadU, lun, tempAnomaly
;   Free_Lun, lun
;   tempAnomaly = Reverse(tempAnomaly,2)
   dims = Size(datos2, /DIMENSIONS)

    ; Set up the output map projection and create a projected meter grid.
    x0 = -241043.0D
    x1 = 500000.0D
    y0 = 5653409.0D
    y1 = 2035.0D
    xdim = 304
    ydim = 448
    xscale = (x1 - x0) / xdim
    yscale = (y1 - y0) / ydim
    xvec = cgScaleVector(Findgen(xdim), x0+(xscale/2.0), x1-(xscale/2.0))
    yvec = cgScaleVector(Findgen(ydim), y0+(yscale/2.0), y1-(yscale/2.0))
    xgrid = Rebin(xvec, xdim, ydim)
```

```
   ygrid = Rebin(Reform(yvec, 1, ydim), xdim, ydim)

  map=strarr(304, 447)
   ; Convert the projected meter grids into the lat/lons of the data.
   latlon = map -> Inverse(xgrid, ygrid)
   longrid = Reform(latlon[0,*], xdim, ydim)
   latgrid = Reform(latlon[1,*], xdim, ydim)

   ; Make sure longitudes are in the range 0 to 360.
   longrid = (longrid + 360.0) MOD 360.0

   ; Create the fractional indices.
   xindex = cgScaleVector(longrid, 0, dims[0], Min=0, Max=357.5)
   yindex = cgScaleVector(latgrid, 0, dims[1], Min=-90.0, Max=90.0)

   ; Do the gridding.
   nearestNeighbor = tempAnomaly[Round(xindex), Round(yindex)]
   bilinear = Interpolate(tempAnomaly, xindex, yindex)
   cubic = Interpolate(tempAnomaly, xindex, yindex, /Cubic)

   ; Display the data.
   cgDisplay, 300, 450, /Free, Title='Nearest Neighbor Interpolation'
   mapPosition = [0.05, 0.05, 0.95, 0.85]
   map -> SetProperty, XRange=[x0,x1], YRange=[y0,y1], Position=mapPosition
   map -> Draw
   cgLoadCT, 22, /Reverse, NColors=10, Bottom=1, /Brewer
   scaledImage = BytScl(nearestNeighbor, TOP=9, MIN=-7.5, MAX=7.5) + 1B
   cgImage, scaledImage, Position=mapPosition
   names = String(Findgen(11)*1.5-7.5, Format='(F0.1)')
   names[indgen(5)*2+1] = " "
   cgColorbar, NColors=10, Bottom=1, /Discrete, Range=[-7.5, 7.5], $
      Ticknames=names, Position=[0.05, 0.9, 0.95, 0.93], Title='Temperature Anomaly', $
      Charsize=0.75
   Map_Grid, MAP=map->GetMapStruct(), Lats=Indgen(10)*10, Lons=Indgen(36)*10,
Color=cgColor('black')
   cgMap_Continents, Map=map

   ; Bilinear display.
   cgDisplay, 300, 450, /Free, Title='Bilinear Interpolation'
   map -> Draw
   scaledImage = BytScl(bilinear, TOP=9, MIN=-7.5, MAX=7.5) + 1B
   cgImage, scaledImage, Position=mapPosition
   cgColorbar, NColors=10, Bottom=1, /Discrete, Range=[-7.5, 7.5], $
      Ticknames=names, Position=[0.05, 0.9, 0.95, 0.93], Title='Temperature Anomaly', $
      Charsize=0.75
   Map_Grid, MAP=map->GetMapStruct(), Lats=Indgen(10)*10, Lons=Indgen(36)*10,
Color=cgColor('black')
   cgMap_Continents, Map=map
```

```
   ; Cubic display.
   cgDisplay, 300, 450, /Free, Title='Cubic Interpolation'
   map -> Draw
   scaledImage = BytScl(cubic, TOP=9, MIN=-7.5, MAX=7.5) + 1B
   cgImage, scaledImage, Position=mapPosition
   cgColorbar, NColors=10, Bottom=1, /Discrete, Range=[-7.5, 7.5], $
     Ticknames=names, Position=[0.05, 0.9, 0.95, 0.93], Title='Temperature Anomaly', $
     Charsize=0.75
   Map_Grid, MAP=map->GetMapStruct(), Lats=Indgen(10)*10, Lons=Indgen(36)*10,
Color=cgColor('black')
   cgMap_Continents, Map=map

 ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
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  print,'FIN'
end
```