
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', $
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Color=cgColor('black')
cgMap_Continents, Map=map

```


On Wednesday, July 19, 2017 at 2:42:43 PM UTC+2, Roger wrote:

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> Hello,
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>
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>
> ; 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
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>   xdim = 304
>   ydim = 448
>   xscale = (x1 - x0) / xdim
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>   xvec = cgScaleVector(Findgen(xdim), x0+(xscale/2.0), x1-(xscale/2.0))
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>   xgrid = Rebin(xvec, xdim, ydim)
>   ygrid = Rebin(Reform(yvec, 1, ydim), xdim, ydim)
>
>   map=strarr(304, 447)
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```

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> longrid = (longrid + 360.0) MOD 360.0
>
> ; Create the fractional indices.
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> ; Do the gridding.
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> bilinear = Interpolate(tempAnomaly, xindex, yindex)
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> names = String(Findgen(11)*1.5-7.5, Format='(F0.1)')
> names[indgen(5)*2+1] = " "
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>   Ticknames=names, Position=[0.05, 0.9, 0.95, 0.93], Title='Temperature Anomaly', $
>   CharSize=0.75
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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'

```

