Subject: Help needed in remapping data using IDL
Posted by kaba on Tue, 04 May 2010 21:30:16 GMT
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Hello Guys, I am relative a new IDL programer who would appreciate some help in how to remap a sample data from satellite projection to Lambert Conformal.

Here are the detail of What I have done so far:

```
;;INPUTS are 2D- arrays of : DATA, LAT & LON   ;;; each 1600*600
 inproj = 7    ;Satellite projection
 indatum = 0   ; Clarke 1866
 yy=WHERE(LAT GE -90.0  AND LAT LE 90.0)
 zz=WHERE(LON GE -180.0 AND LON LE 180.0)

 inclat=MEAN(lat(yy))   & inclon=MEAN(lon(zz))         ;;input central
lat,lon
 inlimit=[MIN(LAT(yy)), MIN(LON(zz)), MAX(LAT(yy)), MAX(LON(zz))]
 LAT1=REVERSE(LAT,2) &  LON=REVERSE(LON, 2) &   DATA=REVERSE(DATA,
2)


;;;Desired output 2D ARRAY of DATA, LAT & LON  ;;each 1073* 689
;;; I want the LAT/LON values of the corners of the grid to be :

  outproj=104    ; /GCTP lambert conformal conic
  outdatum = 0   ; Clarke 1866
  outlimit=[238.4459,20.1919, 229.8965,49.9396, 299.1145,50.1054,
290.7919, 20.3317]
  outsp1 =  25.0   ; Out standard parallel 1
  outsp2 =  25.0   ; Out standard parallel 2
  outclat = 37.9   ; Out standard parallel 2
  outclon = -97.0  ; Out standard parallel 2


 ;;Define the malp projections

mapin=MAP_PROJ_INIT(inproj, ELLIPSOID=indatum,  CENTER_LATITUDE=inclat,
$
                CENTER_LONGITUDE=inclon, limit=inlimit)

mapout= MAP_PROJ_INIT(outproj,  /GCTP, ELLIPSOID=outdatum,
STANDARD_PAR1=outsp1,
                  STANDARD_PAR2=outsp2, CENTER_LATITUDE=outclat,
$
                   CENTER_LONGITUDE=outclon,
```

```
limit=outlimit)



;;;converting lat/lon to UV coord with some help from Mr. Fanning's
docs online
        xx=MAP_PROJ_FORWARD(LON(*,0), LAT(*,0),
MAP_STRUCTURE=mapout)
        yy=MAP_PROJ_FORWARD(LON(0,*), LAT(0,*),
MAP_STRUCTURE=mapout)

        xvec=REFORM(xx[0,*])        &  yvec=REFORM(yy[1,*])
        xhalf=(xvec[1]-xvec[0])/2.0  &  yhalf=(yvec[1]-yvec[0])/2.0
        xrange=[xvec[0]-xhalf, xvec[N_ELEMENTS(xvec)-1] +xhalf]
        yrange=[yvec[0]-yhalf, yvec[N_ELEMENTS(yvec)-1] +yhalf]
        newrange=[xrange[0], yrange[0], xrange[1], yrange[1]]


  ;;Question: I actually wanted to use “outlimit” which is an 8
element not 4, how
  ;;can I use that instead?



 ;;; Remap the data

timgout=MAP_PROJ_IMAGE(data,  MAP_STRUCTURE=mapin) ;,
UVRANGE=uvrange) ;  inlimit,   IMAGE_STRUCTURE=mapin,

imgout=MAP_PROJ_IMAGE(data,  newrange, MAP_STRUCTURE=mapout,
UVRANGE=uvrange,
                IMAGE_STRUCTURE=mapout)



When I plot this using on a window, the map projection looks right but
the data does not seem to be remapped correctly.
This is my first time using map_proj_init and map_pro_image. Please
help.

Thanks
```