
Subject: map: integerized sinusoidal

Posted by [Roman](#) on Tue, 17 Feb 2009 16:59:26 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi there

After trying out for several days to map (hundreds of) MODIS MOD14A2 products in IDL, I hope someone can help me here ! I went through older comments on that but I really don't know where is my mistake ! The dataset and the boundaries of the continents/coast lines dont fitt to each other. In the upper right corner yes but than it gets worse to the lower right corner !

Thank you in advance for any help - cheers Roman

Datasets are HDF files, 1200 x 1200 rows/columns, resoultion 1 km in integerized sinusoidal projection.

Here is part of my code (I work with IDL 5.6 on windows, I do not have ENVI nor the MODIS reprojection tool):

```
...  
tx=18 ; tile horizontal number  
ty=4 ; tile vertical number  
utm_zone=32 ; UTM zone of the output projection (please choose the  
one you need)  
lonmin=0.0  
lonmax=15.0  
latmin=40.0  
latmax=50.0
```

```
in_resolution=1.0 ; resolution of the input datasete in km (SIN  
projection)
```

```
out_resolution=1.0; output resolution in km (UTM projection)
```

```
wx = round(43200./in_resolution) ; world x size
```

```
wy = round(21600./in_resolution) ; world y size
```

.....after reading in the HDF file:

```
HDF_SD_GETINFO, sds_id, DIMS=dims  
HDF_SD_ATTRINFO,sds_id,HDF_SD_ATTRFIND  
(sds_id,"valid_range"),DATA=hdfrange  
HDF_SD_ATTRINFO,sds_id,HDF_SD_ATTRFIND  
(sds_id,"_FillValue"),DATA=hdffill  
HDF_SD_GETDATA, sds_id, array  
hdffill=hdffill[0]  
nx=dims[0]  
ny=dims[1]
```

```

; create geolocation for specific tiles (lat/lon for each grid point)
lats=replicate(1.d,nx)#((90.d)-double(ty)/(18.d)*(180.d)-(di ndgen(ny)+.
5d)/double(wy)*(180.d))
lons=((dindgen(nx)+tx*nx)/double(wx)*(360.d)-(180.d))#((1.d)/(sin
((dindgen(ny)+ty*ny)*!dpi/double(wy))>1E-8))

map=map_proj_init(101,datum=8,zone=utm_zone)
xy=map_proj_forward(lons,lats,map_structure=map)

xutm=dblarr(nx,ny)
yutm=dblarr(nx,ny)
xutm[*]=xy[0,*]
yutm[*]=xy[1,*]

xy=map_proj_forward(lonmin,latmin,map_structure=map)
xmin=xy[0]
ymin=xy[1]
xy=map_proj_forward(lonmax,latmax,map_structure=map)
xmax=xy[0]
ymax=xy[1]

; the actual triangulation and reprojection goes here
triangulate,xutm,yutm,tr
dx=out_resolution*1000.
dy=out_resolution*1000.

dims=size(outdata,/dimensions)
ox=dims[0]
oy=dims[1]

; the output data [outdata], is in a regular UTM grid with grid bounds
[xmin, ymin, xmax, ymax] and should be plottet in a map

x1=latmax
x2=latmin
y1=lonmin
y2=lonmax

....create dummy file from the outdata file..^

sz=size(dummy) & nx=sz(1) & ny=sz(2) & mag=1

map_set,/grid,/continent,/HIRES, Position=[0.05, 0.05, 0.95, 0.80],$
      charsize=1,LIMIT=[x2,y1,x1,y2]

imagemap,congrid(dummy,mag*nx,mag*ny), congrid(lats,mag*nx,mag*ny,/
interp), congrid(lons,mag*nx,mag*ny,/interp),$
      PIXRANGE=[0,254],colrange=[0,254] ;Position=[0.05, 0.05, 0.95, 0.80],

```

PIXRANGE=[0,254],colrange=[0,254],thick=2,xthick=2,ythick=2

map_continents, /COASTS,/HIRES, mlinethick=2,/COUNTRIES

map_grid,/box_axes,/clip_text,charsize=1.5,charthick=2,/HORI ZON
