Subject: Re: Using map projections to display images
Posted by seanr on Fri, 28 Aug 1998 07:00:00 GMT
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UPDATE:

Well, for those who have been following this thread, I have been playing with MAP_SET and MAP_IMAGE and feel that I understand them much better now. I have discovered a way to keep the resolution of my imagery *almost* the same. Basically, MAP_SET will create a window of a default size if one does not exist, and MAP_IMAGE will place the image warped to the selected projection within that window...in a best fit. So, I set things up so that the window size = image size of the raw image. (I will have to use tiling on my full implementation anyway, so having a small window to put this all to is no big deal, I will probably use a pixmap window, or possibly the z-buffer). Here is a small snippet of my test code that will place the sub image in the map projection and keep it at the correct resolution:

```
image = bytarr(188,124)
openu, lun,'image.dat', /get_lun
readu,lun, IMAGE
close, lun
free_lun, lun
window, 0, xsize =188, ysize =124
TV, IMAGE  ;Display the image so we can see what it looks like before warping.

  pi = 3.1415925  LL_rad = 1.268 * 2.D * !pi / 360.D  degfix = 1.0 /
double(cos(LL_rad))  ; Earth radius = 6378.17km ==> 111.32km/degree  ; of
longitude at the equator, or 0.0089 deg/km ;  xdegpkm = .00899D * degfix  ;
fix size of longitudinal mile based on ;  ydegpkm = .00899D  ; cosine of
latitude  x_mpdeg = double(111320.0 * degfix)  y_mpdeg = double(111320.0)

;(image is approx .25 meters per pixel)
Minlon = double(-71.829 - ((94.0 *.25)/x_mpdeg))    ;71.829 lon W for center
pixel
Maxlon = double(-71.829 + ((94.0 *.25)/x_mpdeg))
Minlat = double(1.268 - ((62.0 * .25) / y_mpdeg))   ;1.268 lat N for center
pixel
Maxlat = double(1.268 + ((62.0 * .25) / y_mpdeg))
limit1 = [minlat, minlon, maxlat, maxlon]
loncenter = double(-71.829)
window, 1, xsize =188, ysize =124
MAP_SET, 0, loncenter, 0, /TRANSVERSE, limit=limit1, /noborder, xmargin=[0,0],
ymargin=[0,0]

result=MAP_IMAGE(image,startx,starty,xsize,ysize,$
   latmin=limit1(0),latmax=limit1(2),$
```

```
    lonmin=limit1(1),lonmax=limit1(3),$
    compress=1)

tv,result,0,0  ;Display the warped image on the map at the proper position.
```

For my limited example, this works like a charm.

The one remaining problem I have is sometimes I can get a resulting image back that is 187 by 125 or some such, usually only a pizel or two. What I would like and have looked into a little is for MAP_SET and MAP_IMAGE to use xsize and ysize values as passed in, and not the window size. Has anyone attempted to do this, or should I go ahead and make my own?

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