Subject: Re: Reprojecting
Posted by JD Smith on Fri, 09 Apr 2004 18:32:37 GMT
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On Thu, 08 Apr 2004 07:09:36 -0700, Dan Steinberg wrote:

> I am having trouble reprojecting images within IDL. I want to be able
> to reproject the image arrays permanently, i.e. not just for display.
> In other words, I would like to be able to read in EOS-HDF or GeoTIFF
> files, reproject them into a desired projection and write them out as
> new GeoTIFF's (in their new projection). So far I have run into a lot
> of problems, and I am a bit stuck. If anyone has any leads (or
> ideally .pro's) it would be greatly appreciated. Thanks.

As Ben mentioned last week, the MAP_PROJ_* routines let you access the internal projection code (both forward and in reverse), and I've used them successfully with INTERPOLATE to construct huge (~1Gpix) tiled mappings directly with no display device:

...

```
map=map_proj_init('Aitoff',SPHERE_RADIUS=180.0D/!DPI, $
                  LIMIT=[quad_lat_min,quad_lon_min, $
                         quad_lat_max,quad_lon_max])
```

...

```
lonlat=map_proj_inverse(x,y,MAP_STRUCTURE=map)
 x=reform((lonlat[0,*]-lonmin)/scale,width,height,/OVERWRITE)
 y=reform((lonlat[1,*]-latmin)/scale,width,height,/OVERWRITE)
 projected_result=interpolate(array,x,y,MISSING=!VALUES.F_NAN )
```

That particular SPHERE_RADIUS value is set to map x,y coordinates in degrees of longitude and latitude (as my input images contain). Otherwise x & y refer to physical coordinates on the surface of the Earth (which might also be useful to you). See MAP_PROJ_INIT for more.

JD