Subject: Re: lon-lat coordinates for Geotiff images?
Posted by d.poreh on Thu, 05 Aug 2010 09:39:33 GMT

On Aug 4, 5:49 am, David Fanning <n...@dfanning.com> wrote:
> Dave Poreh writes:
>> I have some geotiff images (DEM). I can read these files with:
>> im=read_tiff(file)
>> And I can contour them:
>> CONTOUR, im, /FILL, NLEVELS = 7
>> But in the contour I get the pixel locations in the x-y axis (local
>> coordinates). Does anybody know how could I get lon-lat coordinates in
>> x-y axis?
>
> In a contour plot you have some kind of regular (or irregular)
> grid. That is to say, your labels are labels of straight lines.
> That is seldom true of a map, where straight lines don't seem
> to exist.
>
> There is a grid of straight lines associated with a map-
> projected image, however. This is the XY grid, which can
> be read directly from the GeoTiff file:
>
>   http://www.dfanning.com/map_tips/tiffoverlay.html
>
> I would create these vectors using tools from the
> Catalyst Library:
>
>   mapCoord = GeoCoord('mygeoTiffFile.tif')
>   mapCoord -> GetProperty, XRANGE=xr, YRANGE=yr
>   image = Read_Tiff(('mygeoTiffFile.tif')
>   s = Size(image, /DIMENSIONS)
>   xvec = Scale_Vector(Findgen(s[0]), xr[0], xr[1])
>   yvec = Scale_Vector(Findgen(s[1]), yr[0], yr[1])
>
> Then, you could draw your contour plot:
>
>   pos = [0.15, 0.15, 0.9, 0.9]
>   Contour, Reverse(image,2), xvec, yvec, XStyle=1, $
>   YStyle=1, Position=pos, NLEVELS=7, /FILL
>
> If you wanted to know the latitude and longitude of
> any point in the image, you could convert the XY location
> to a lon/lat location:
>
>   mapStruct = mapCoord->GetMapStructure()
>   lonlat = Map_Proj_Inverse(x, y, MAP_STRUCTURE=mapStruct)
>   lon = lonlat[0]

```
>     lat = lonlat]1]
>
> If you wanted to see a lat/lon map grid on your contour map, you
> could easily add it like this:
>
>     grid = Obj_New('Map_Grid', MAPCOORD=mapCoord, /AUTODRAW_GRID, $
>        COLOR='gray')
>     mapCoord -> SetProperty, POSITION=pos, GRID_OBJECT=grid
>     mapCoord -> Draw, /OVERLAYS
>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
```

Thanks David it was very helpful!
Cheers
Dave