Subject: Re: Longstanding Map Overlay Problem Solved!
Posted by Wasit.Weather on Sun, 16 Mar 2008 02:37:11 GMT
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On Mar 14, 4:00 pm, David Fanning <n...@dfanning.com> wrote:
> Folks,
>
> For well over a year I have been pondering a map overlay problem.
> The problem appears when trying to overlay continental outlines
> on a GeoTIFF image. If you use the UV_BOX that is returned
> in the map projection structure from MAP_PROJ_INIT to set up
> a data coordinate space, then the outlines are just ever so
> slightly wrong. However, it you use the UV_BOX that is
> returned from MAP_PROJ_IMAGE, even if you don't warp the
> image, the results are absolutely correct. The problem
> (and solution) is described here.
>
> http://www.dfanning.com/map_tips/tiffoverlay.html
>
> With a great deal of help from Matt Savoie, I have now
> identified the reason these two UV_BOXES are slightly
> different. The answer comes down to a limitation in
> MAP_PROJ_INIT.
>
> Specifically, the limitation is that the LIMIT keyword
> to MAP_PROJ_INIT can only accept a four-element vector
> that describes two opposite corner points on the image.
> The assumption is that the other two opposite corner
> points can also be determined by this method. Unfortunately,
> that is not a valid assumption for images that are in
> some type of map projection already.
>
> Rather, we need to use an 8-element LIMIT vector to
> describe the location of a projected image in lat/lon
> space. Something of this sort is available for MAP_SET,
> although you must specify the left, top, right, and
> bottom of the image, rather than its corners. But
> if you try to use an 8-element LIMIT vector with
> MAP_PROJ_INIT, it will accept it without argument, it
> will just *completely* ignore its values.
>
> Fortunately, MAP_PROJ_IMAGE *does* calculate the 8-element
> limit correctly, and so does return the correct UV_BOX
> to set up the data coordinate space. But, as Matt discovered,
> it is also possible to set the data coordinate space directly
> from values calculated from geotiff information in the file.
>
> So, now we have two solutions, and it is only the most

> commonly used method that is wrong. :-)
>
> Anyway, I can't tell you how happy I am to know the reason
> for this longstanding discrepancy and I look forward to
> submitting a feature request to ITTVIS to get this cleared up.
>
> 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.")

Hi David,
Thanks! this is very useful. I tried exactly your code. But I ended in compiling error

```
TVLCT, FSC_Color('ivory', /Triple), 0
            ^
Syntax error.
  At: F:\IDLPractice\data\MapOverlay\tiffoverlay.pro, Line 74
1 Compilation error(s) in module TIFFOVERLAY.
```

Why? and can you also provide the countinent border data?

Thanks!