
Subject: Re: map_set stereographic projection
Posted by [mattie](#) on Fri, 28 Apr 2006 16:58:55 GMT
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kuyper@wizard.net writes:

```
> dvila wrote:
>> Hi all,
>>
>> I'm trying to deal with a pre-projected polar stereographic image with
>> this geometrical characteristics:
>>
>> # It is a 1121x881 polar stereographic grid.
>> # Point (1,1) is at 23.117N 119.023W.
>> # Point (1,881) is at 53.509N 134.039W.
>> # Point (1121,1) is at 19.805N 80.750W.
>> # Point (1121,881) is at 45.619N 59.959W.
>> # The y-axis is parallel to 105W.
>> # The resolution is 4.7625km at 60N.
>> # The pole point is (I,J) = (400.5,1600.5)
>>
> ; These are the u-v values corresponding to pixel centers along each
> edge.
> topv = (uv[1,1]+uv[1,2])*0.5
> botv = (uv[1,0]+uv[1,3])*0.5
> leftu = (uv[0,0]+uv[0,1])*0.5
> rightu = (uv[0,2]+uv[0,3])*0.5
```

Aren't these the u-v values corresponding to the `_center_` of the gridcell along each edge? (assuming the initial data gave the centerpoints of the gridcell.)

```
>
> xscale = (rightu-leftu)/(1121-1)
> yscale = (topv-botv)/(881-1)
>
> ; U-V coordinates of midpoints of outer edges
> u = [leftu-0.5*xscale, 0.5*(leftu+rightu), rightu+0.5*xscale, $
>      0.5*(leftu+rightu)]
> v = [0.5*(botv+topv), topv+0.5*yscale, 0.5*(botv+topv),
>      botv-0.5*yscale]
> lonlat = MAP_PROJ_INVERSE(u, v, MAP_STRUCTURE=stereo)
> limit = [lonlat[1,*],lonlat[0,*]]
```

Again, I'm not sure, but don't you have to add half a gridcell to each direction to get the outer limit of each grid cell?

I'm asking these questions honestly because I've never quite convinced myself which is the actual limit of the `map_set` command. I think it's the outside edge of the grid cell that you want to set. So for this example, it will be quite close (half a pixel over 800. But if you're working with zoomed regions. 10x10 grid cells or whatever, it becomes noticable.

But this was a very informative tutorial on how to register images when corner points are known.

Thanks
Matt

btw. Does anyone know of a free news server that will let me post (besides google)? The university just turned ours off. Thanks.

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