
Subject: Re: Another Map Projection Problem with Map_Proj_Init
Posted by [Fabzou](#) on Tue, 06 Dec 2011 10:32:52 GMT
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Thanks David.

Just to be sure: if I never used UV_box values but a LOT of the projections I am using have a non-zero center longitude, this bug won't affect me in any sense, will it?

Fab

On 12/06/2011 01:43 AM, David Fanning wrote:

> David Fanning writes:

>

>> I have discovered another map projection problem this morning.

>> It seems Map_Proj_Init is calculating incorrect UV ranges

>> (they are wrong by 10 degrees) when the center latitude is

>> not 0.0. Here is a short test program:

>>

>> FOR j=0,10 DO BEGIN

>> center_lon = 0> j*36.0d< 360.0

>> mapStruct = Map_Proj_Init(117, CENTER_LONGITUDE=center_lon)

>> print, center_lon, mapStruct.uv_box[[0,2]]

>>

>> ll = Map_Proj_Inverse(mapStruct.uv_box[[0,2]], \$

>> mapStruct.uv_box[[1,3]], MAP_STRUCTURE=mapStruct)

>> print, center_lon, ll[0,0], ll[0,1]

>> print, ""

>> ENDFOR

>> END

>>

>> Here are the results. The numbers should be symmetric,

>> but you can see they are not.

>>

>> 0.000000 -20015077. 20015077.

>> 0.000000 180.00000 -180.00000

>>

>> 36.0000 -19570298. 19347908.

>> 36.0000 -140.00000 -150.00000

>>

>> 72.0000 -19125518. 19792688.

>> 72.0000 -100.00000 -110.00000

>>

>> 108.000 -19792688. 19125518.

>> 108.000 -70.000000 -80.000000

>>

>> 144.000 -19347908. 19570298.

```

>> 144.000 -30.000000 -40.000000
>>
>> 180.000 -20015077. 18903129.
>> 180.000 0.00000000 -10.000000
>>
>> 216.000 -19570298. 19347908.
>> 216.000 40.000000 30.000000
>>
>> 252.000 -19125518. 19792688.
>> 252.000 80.000000 70.000000
>>
>> 288.000 -19792688. 19125518.
>> 288.000 110.00000 100.00000
>>
>> 324.000 -19347908. 19570298.
>> 324.000 150.00000 140.00000
>>
>> 360.000 -20015077. 20015066.
>> 360.000 180.00000 179.99990
>>
>> I couldn't figure out why my grid lines were always getting
>> screwed up when I calculated them using the UV range! :-(
>
> It turns out, according to the folks in technical support,
> that to get correct UV_BOX values from Map_Proj_Init you
> MUST use the LIMIT keyword, even (well, *especially*) if
> you don't plan to limit the map projection in any way.
>
> Another way to say this is that if you plan to use
> Map_Proj_Init and set the CENTER_LONGITUDE to anything
> other than 0, you MUST also use the LIMIT keyword to
> produce correct results. This is, as you might expect,
> not documented. :-)
>
> I've updated my cgMap object to handle the problem
> correctly.
>
> Cheers,
>
> David
>
>

```
