
Subject: Re: Map pixel areas

Posted by [khyde](#) on Tue, 13 May 2014 14:14:27 GMT

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On Friday, May 9, 2014 12:44:12 PM UTC-4, David Fanning wrote:

> kjwh writes:

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>
>

>> I was hoping someone could help me figure out how to calculate the size of a pixel from a given map projection. For example, I use the following MAP_SET command to create a global 4096x2048 equidistant map. In theory (if I understand it correctly), the pixel sizes should all be the same since it is an equidistant map.

>

>> MAP_SET, /CYLINDRICAL, 0, 0, ISOTROPIC = 1, POSITION=[0.0, 0.0, 1.0, 1.0],/NOBORDER

>

>>

>

>> Conversely, this map should have pixel areas of varying sizes.

>

>> MAP_SET, /MOLLWEIDE, 0, 0, ISOTROPIC = 1, POSITION=[0.0, 0.0, 1.0, 1.0],/NOBORDER

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>>

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>> So, what I would like to do is determine the area of each pixel based on the given map projection. I have tried MAP_2POINTS, but I think this gives me the actual distance from point A to point B based on the coordinates on a globe and not the projected pixel, which has been distorted because of the map projection.

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>> I apologize if I am not explaining my question very well, but hopefully someone understands mapping well enough to help me figure this out.

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>

> I understand map projections well enough to understand that if you want

>

> a projected XY grid of known resolution (which is what I *think* you

>

> want), Map_Set is about the *last* IDL routine you want to be fooling

>

> around with. :-)

>

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>

> I would seriously investigate Map_Proj_Init. (Or, if you want something

>
> easier to use, the cgMap object from the Coyote Library.)
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>
> Do you have a map projected image you are trying to establish a map
>
> projection for? I think it is odd (and probably not that useful) to want
>
> to know the area of a pixel.
>
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>
> Cheers,
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> David
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> --
>
> David Fanning, Ph.D.
>
> Fanning Software Consulting, Inc.
>
> Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>
>
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Hello David,

The reason I am trying to figure out the pixel areas is I need to know the difference between a the "projected" area of a specified region of interest and the "true" area of the ROI. I have several dozen maps that have been created using MAP_SET and are used to remap satellite derived data. I have never used MAP_PROJ_INIT and will look into it more, but if I can figure out how to do this with the maps I already have that would be great.

The main thing I am trying to do is determine the areal production within a subsetting area of the map. Because we are using the sum of the pixels in the ROI, I need to know both the "projected" size and the "actual" size (which I already know), to get an accurate areal estimate. Again, I am not sure I am explaining this very well, but I do appreciate any suggestions.

Thank you,
Kim
