
Subject: Re: map_image and latmin/latmax, lonmin/lonmax - edges or centres?

Posted by [Andy Sayer](#) on Thu, 26 Sep 2013 13:17:40 GMT

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Ok, here is some code which will reproduce the problem (IDL 7.1.1). This should draw an image in a 5x5 degree box from 47-52 N, 115-110 W. It puts the image in the right place, but the edge columns and rows are chopped in half in size (they should all be the same size). So you can see that this means all the points are offset from where they really should be. Does anyone know what is happening here?

```
; Define some dummy data
datavals=intarr(5,5)
for i=0,4 do begin
    for j=0,4 do begin
        datavals[i,j]=i+j
    endfor
endfor

; Scale the data to byte range 0=255
scaled_data=1+254*(datavals)/max(datavals)

; Load a colour table
loadct,3

; Set up a map projection covering the region of interest and a bit more
window,0
map_set,latdel=1,lonel=1,limit=[45,-118,55,-108],/noborder, xmargin=[2,2],ymargin=[2,2]

; Scale image to data: assume the 5x5 grid is a dataset at 1 degree resolution.
; So put the box from, say, 47-52 N, 115 to 110 W

cola = map_image(scaled_data,startx,starty,xsize,ysize,compress=1,$
    latmin=47.0,latmax=52.0,$
    lonmin=-115.,lonmax=-110.)

; Put the image on the map
tv,cola,startx,starty,xsize=ysize,ysize=ysize

; Add borders
map_continents,/usa

end
```

On Thursday, September 26, 2013 8:50:59 AM UTC-4, AMS wrote:

> I keep meaning to rewrite my mapping routines to include GSHHS but didn't get round to it yet... :)

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> I think in this case it isn't the IDL borders & boundaries database which is in the wrong, but rather my use of map_image. The reason is that if I draw the data in my image pixel-by-pixel using polyfill it lines up exactly correctly, and it's only when I use map_image that the data is offset from where it should be. So something must be up with these offsets.
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> Andy
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> On Wednesday, September 25, 2013 4:35:01 PM UTC-4, David Fanning wrote:
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>> AMS writes:
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>>> After fiddling some more, I agree that it's probably the outer coordinates of the image rectangle that it wants. However, I'm still encountering some odd behaviour. For example, if I take regular 1 degree gridded data and try to map that, things like the US-Canada border (at 49 degrees N) don't lie exactly on grid cell borders (as they should) but are slightly shifted. I'm going to leave it for the rest of the day in case my overtired mind is overlooking something, but
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>> if I can't figure it out tomorrow, will create some code which reproduces the issue and post it.
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>> You might find that the GSHHS database is more accurate than the
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>> database that comes with IDL:
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>>  http://www.idlcoyote.com/map_tips/gshhs.html
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>> Cheers,
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>> David
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>
>> David Fanning, Ph.D.
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>
>> Fanning Software Consulting, Inc.
>
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>
>> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
>
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>
>> Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```
