
Subject: Re: Mapping questions
Posted by [David Fanning](#) on Fri, 21 Jun 2002 03:33:47 GMT
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NSTSMT (nstsmt@aol.com) writes:

- > I am new to IDL, and am hoping someone can point me in the right direction to
- > accomplish the following 3 tasks. Any advice would be greatly appreciated.
- >
- > Task 1: Start with a globe and some form of overlay to show land forms. Allow
- > the user to zoom in on an area, and show more detail in the map.

If you know how the Globe demo works, you know more than I do. But the general way you would "zoom" into something is get the two endpoints of your "zoom box" in lat/lon coordinates, and use these to set your map projection space. This would be quite easy in direct graphics, where map projections are reasonably well defined. I don't know how you would do it in the Globe demo object graphic space. It would be harder, I'm pretty sure of that.

You can look at a program like Zoombox from my program library to see how to do the rubberband box for zooming.

<http://www.dfanning.com/programs/zoombox.pro>

I'd probably start with direct graphics and an orthographic map projection. Zooming into that should be fairly straightforward, I think.

- > Task 2: After zooming to a specific area (say Alabama), I have image data that
- > has a associated pixel map that has the UTM coordinates for each and every
- > pixel from the image. I would like to plot on the map the location of each
- > pixel(or really just the outer edge of the image which do to motion is not a
- > square)

IDL doesn't lend itself to this sort of thing, really.
You might have a look at IMAGEMAP on Liam Gumley's web page. This is the sort of thing you will want to do.

<http://cimss.ssec.wisc.edu/~gumley/imagemap.html>

- > Task 3: I also have some annotations to apply to the map. At a given latitude
- > and longitude, I want to draw a circle with a radius of 1.0 nautical miles.
- >
- > Any thoughts on how to accomplish any of this? I looked at the globe demo, and
- > I understand how that works, but I dont know how to zoom.

Well, I do happen to know something about this. :-)

If you want a circle, you will have to draw an ellipse.
This is because a nautical mile is 0.01667 degrees of latitude and $(0.016667 / \cos(\text{lat}))$ degrees of longitude.
So the radius of your "circle" is different in the two directions. Hence, an ellipse.

I've used the ELLIPSE program I found in the JHUAPL library to do this sort of thing.

http://fermi.jhuapl.edu/s1r/idl/s1rlib/local_idl.html

Good luck!

Cheers,

David

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Subject: Re: Mapping questions
Posted by [nstsmt](#) on Sun, 23 Jun 2002 18:32:13 GMT
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Thanks for the help. I made some progress, using direct graphics, and think that I know what I need to do to get the zooming working. For item 2, I don't want to actually display the image, but rather put a plot of the area of coverage on the map. I think I figured this out also.

For the ellipse, I am still having trouble. I looked at the ellipse program that you suggested, and I can not get it to work. I am misunderstanding what input to give it. What I tried to do was give it the end points of the major axis, and the minor axis, but that didn't seem to work. Any suggestions?

Thanks
Neil
