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(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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