Subject: Re: bounding box subsetting for lat/lon
Posted by David Fanning on Tue, 16 Feb 2010 13:04:33 GMT
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mankoff writes:

> I'm wondering if a routine already exists that can subset a data set
> based on non-square lat/lon limits. I have large 1D arrays of lat,
> lon, and data, and want to do something like this:
>
> roi = WHERE(lat LE a AND lat GE b AND lon LE c AND lon GE d)
> lat = lat[roi] & lon=lon[roi] & data = data[roi]
>
> But at a minimum I want to specify 4 lat/lon elements that do not
> defined the edges of the box but the four corners, so the roi could be
> a diamond shape (when projected on, say, the /cylinder projection).
> And ideally I could define a path of n points defining a closed region
> and get the indices back that lie within that region.
>
> Anyone know if this exists? I don't see it under the ROI section, and
> searching for bounding box brings up too much noise.

The biggest mistake people make in working with map projections
is working in lat/lon space. This is not a space where you
can do much of anything worthwhile in terms of selecting and
manipulating pixels. Life will be MUCH simpler if you work
in Cartesian XY space, where it is quite easy to define your
"box" by either its top, bottom and sides, or by any two opposite
corners. You can use the Map_Proj_Inverse and Map_Proj_Forward
routines to go back and forth between geographic and Cartesian
coordinates.

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")