Subject: Re: contouring into continents only Posted by David Fanning on Mon, 19 Aug 2002 14:27:34 GMT View Forum Message <> Reply to Message

David (losiento@peromefrienaspam.com) writes:

- > I'm desperately trying to draw contour lines inside continental boundaries
- > only (I have irregularly gridded precipitation data). I have test several
- > 'brute force' methods (as creating a mask of 1 over land and 0 over seas)
- > but none seems to work properly.

>

> Is there any easy (as any esoteric keyword unknown to me) method to do that?

No esoteric keywords, unfortunately. :-(

But here is a modified example from my web page that uses a mask to only draw the portion of the contours that are over land:

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## PRO EXAMPLE

; Pick a seed, so you see what I see. Create data.

seed = -1L lat = RANDOMU(seed, 40) \* (24./1.0) + 24 lon = RANDOMU(seed, 40) \* 40.0/1.0 - 112 data = RANDOMU(seed, 40) \* 1000

; Colors for plot.

LOADCT, 0 TVLCT, [255, 0], [255, 255], [0,0], 1

thisDevice = !D.Name Set\_Plot, 'Z' Device, Set\_Resolution=[800, 600]

; Set up the map projection of the Eastern US.

MAP\_SET, 15, -87, 0, LIMIT=[24,-115,49,-67], \$
/CONTINENTS, /USA, /MERCATOR, Position=[0.1,0.1,.9,.9]

; Plot the random data locations.

PLOTS, Ion, lat, PSYM=4, COLOR=2

; Grid the irregularly spaced data.

```
gridData= SPH_SCAT(lon, lat, data, $
 BOUNDS=[-115., 24., -67., 49.], GS=[0.5,0.5], BOUT=bout)
 : Calculate xlon and vlat vectors corresponding to gridded data.
s = SIZE(gridData)
xlon = FINDGEN(s(1))*((bout(2) - bout(0))/(s(1)-1)) + bout(0)
ylat = FINDGEN(s(2))*((bout(3) - bout(1))/(s(2)-1)) + bout(1)
 ; Put the contours on the map.
CONTOUR, gridData, xlon, ylat, /OVERPLOT, NLEVELS=20, C_COLOR=1
map = TVRD()
 ; Now draw the mask.
ERASE
MAP SET, 15, -87, 0, LIMIT=[24,-115,49,-67], $
 /MERCATOR, Position=[0.1,0.1,.9,.9]
Map Continents, /FILL, /USA, /HIRES, /CONTINENTS
mask = TVRD()
 ; Display both the upclipped and clipped contours.
Set Plot, thisDevice
Window, XSize=800, YSize=600, Title='Unclipped contours'
TV, map
Window, 1, XSize=800, YSize=600, Title='Clipped contours'
screen = Where(mask EQ 0)
map[screen] = 0
TV, map
END
It seems to do a reasonably good job.
Cheers.
David
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