
Subject: Re: Inverse Map Projection Help

Posted by [David Fanning](#) on Wed, 27 Feb 2008 04:56:54 GMT

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mankoff writes:

```
> And the actual one I've started with is:
> http://www.antarctica.ac.uk/bas_research/data/access/bedmap/ download/surface=
> .asc.gz
```

Well, I just basically moved the corners over to the image edges, which is what IDL requires, and I get what I think is a pretty darn good fit. Here is the code I used:

```
pro load_asc, file, data0, data1, img
  if not keyword_set(file) then begin
    print, 'bathy, bedelev, groundbed, icethic, surface, water'
    return
  end
  result = read_ascii(file+'.asc',data_start= 6)
  data0 = result.field0001
  bad = where( data0 eq -9999, complement= good )
  data1 = data0 & data1[bad] = !values.f_nan
  mm = [Min(data0[good]), Max(data0[good])]
  img = bytscl( data1, min= mm[0], max= mm[1], top= 253 ) + 1
  img[ bad ] = 0
end
```

```
load_asc, 'surface', d1, d2, data
data = reverse(data,2)
s = Size(data, /Dimensions)
```

```
x0   = -2713600 -2500      ; from data set header
y0   = -2304000 -2500
x1 = s[0]*5000 + x0 + 2500
y1 = s[1]*5000 + y0 + 2500
xx = [x0,x0,x1,x1]       ; the four corners
yy = [y0,y1,y1,y0]
```

```
;; this is the projection the data is distributed on
stereo = map_proj_init(106, DATUM= 8, $
  CENTER_LONGITUDE= 0, CENTER_LATITUDE= -71 )
lonlat = MAP_PROJ_INVERSE( xx, yy, MAP_STRUCTURE= stereo )
longitude = reform(lonlat[0,*])
latitude = reform(lonlat[1,*])
```

```
;; output zoom
limit = [ -90, -180, max(latitude), 180 ]
```

```

;; this is the projection I would like it on
cyl = map_proj_init('Cylindrical', limit= limit)
range = [ x0, y0, x1, y1 ]
warp = MAP_PROJ_IMAGE( data, range, $
    image_structure= stereo, $ ;; input
    map_structure = cyl, $    ;; output
    missing = -2, $
    uvrage = uvrage, $
    min_value = 0, $
    _EXTRA= e )

erase
window, xsize=s[0], ysize=s[1]
TV, BytScl(warp)

pos = [0,0,1,1]
;; Pick one. Which one?
;uv_box = cyl.uv_box
uv_box = uvrage

Plot, uv_box[[0, 2]], uv_box[[1, 3]], Position= pos, $
    /Nodata, XStyle= 5, YStyle= 5, /NoErase

MAP_CONTINENTS, Map_Structure= cyl, /HIRES
map_grid, gline= 0, color= 255, /label, map_structure= cyl

end

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

```
