Subject: Re: Problem Plotting Symbols on a Map?
Posted by grunes on Wed, 07 Jun 1995 07:00:00 GMT
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In article <3r28t9$4bpe@enzu.unm.edu> rdhunt@unm.edu writes:
> I am having trouble drawing filled circles on a map in IDL 4.0.
...

Actually your problem quite simple. Assuming RSI hasn't yet
fixed their map_set routine, it simply doesn't draw things
ere it says they are--e.g., features are drawn at the wrong
coordinates.

I devised a junky solution, which served my own needs, bypassing
map_set altogether, and using a very simple projection.

```
----------CUT HERE---------- ----------
 ;---------- ----------
; Routine to Draw a map.
 ;---------- ----------
  pro draw_map,latmin,latmax,lonmin,lonmax,title

                ;Draw a map.  It will then be possible to
                ; plot over the map using
                ;       PLOTS,LON,LAT,NOCLIP=0
                ; (LON and LAT are arrays in degrees).

                ;latmin,latmax=minimum,maximum latitude (>0=north)
                ;lonmin,lonmax=minimum,maximum longitude (>0=east)
                ;title=plot title

                ;By Mitchell Grunes.
                ;Simplified from userlib procedure map_set.pro,
                ; because I could not figure out a way to get
                ; map_set.pro to give a simple rectangular
                ; projection, and because it seemed to be drawing
                ; things in the wrong places.

  latmin2=latmin
  latmax2=latmax
  lonmin2=lonmin
  lonmax2=lonmax
                ;Adjust aspect, lat and lon boundaries so that
                ;the lat and lon scales will be the same at map
                ;center.  Approximately valid for default postscript
                ;in landscape mode.
  aspect=8.3125/6.125/cos((latmin+latmax)/2.*!pi/180)
  if (lonmax-lonmin) lt (latmax-latmin)*(aspect*.98) then begin
    d=(latmax-latmin)*aspect-(lonmax-lonmin)
```

```
    lonmin2=lonmin2-d/2
    lonmax2=lonmax2+d/2
  endif else if (latmax-latmin) lt (lonmax-lonmin)/(aspect*.98) then begin
    d=(lonmax-lonmin)/aspect-(latmax-latmin)
    latmin2=latmin2-d/2
    latmax2=latmax2+d/2
  endif
  xticks=fix(lonmax2-lonmin2)
  yticks=fix(latmax2-latmin2)
  if xticks lt 3 or xticks gt 15 or lonmin2 ne fix(lonmin2) $
   or lonmax2 ne fix(lonmax2) then xticks=0
  if yticks lt 3 or yticks gt 15 or latmin2 ne fix(latmin2) $
   or latmax2 ne fix(latmax2) then yticks=0
  plot,[lonmin2,lonmin2,lonmax2,lonmax2,lonmin2], $
    [latmin2,latmax2,latmax2,latmin2,latmin2],xstyle=1,ystyle=1, title=title, $
   ticklen=1,xticks=xticks,yticks=yticks
  close,1
  openr,1,FILEPATH('supmap.dat',subdir = "maps"),/xdr,/stream
  fbyte = [ 0, 71612L, 165096L]
  nsegs = [ 283, 325, 594 ]
  ij=2                ;0=course resolution map,1=U.S. only,2=All
  point_lun, 1, fbyte(ij)
  for i=1,nsegs(ij) do begin
    npts = 0L
    maxlat=0. & minlat=0. & maxlon=0. & minlon=0.
    readu,1,npts,maxlat,minlat,maxlon,minlon
    npts = npts / 2         ;# of points
    xy = fltarr(2,npts)
    readu,1,xy
    if (maxlat lt latmin2) or (minlat gt latmax2) then goto,skipit
    if (maxlon lt lonmin2) or (minlon gt lonmax2) then BEGIN
      if (lonmax2 gt 180 and maxlon + 360 ge lonmin2) then goto,goon
      if ( lonmin2 lt -180 and minlon -360 le lonmax2) then goto,goon
      goto, skipit
    endif
goon:
    lat  = xy(0,*) & lon = xy(1,*)
    plots, lon,lat,NOCLIP=0,color=3*!d.n_colors/9
    empty
skipit:
  endfor
  end
```