
Subject: IDL5.1: Fitting image and map w general projection
Posted by [Ole Bossing Christens](#) on Fri, 14 Aug 1998 07:00:00 GMT
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Dear idl users,

Please prevent me from going crazy:

I want to plot output from an atmospheric model. This output comes as a regular grid in a ROTATED lat-lon projection. I want to plot these data as an image, either in a window or as postscript. On top of this image I want to plot map contours. I am aiming at showing this in the native projection, so I would not like to bend the image with MAP_IMAGE, if this is possible, (in contrast to a solution by David Fanning to a similar problem some time ago). I have been tweaking !d.position, !w.window, keywords to TV etc. etc. and it is driving me crazy. When I have found something that works for one area, it does not work when I change the area, i.e. number of points, aspect ratio, position on the globe, and the like.

I am using IRIX 6.3 on an SGI O2 and IDL 5.1.

Any suggestions are welcome! My setup is something like the following:

```
x,y,z are fltarr(nlon,nlat)
  x1=x(0,0)+0.5*(x(1,1)-x(0,0))
  y1=y(0,0)+0.5*(y(1,1)-y(0,0))
  x2=x(0,nlat-1)+0.5*(x(1,nlat-2)-x(0,nlat-1))
  y2=y(0,nlat-1)+0.5*(y(1,nlat-2)-y(0,nlat-1))
  x3=x(nlon-1,nlat-1)+0.5*(x(nlon-2,nlat-2)-x(nlon-1,nlat-1))
  y3=y(nlon-1,nlat-1)+0.5*(y(nlon-2,nlat-2)-y(nlon-1,nlat-1))
  x4=x(nlon-1,0)+0.5*(x(nlon-2,1)-x(nlon-1,0))
  y4=y(nlon-1,0)+0.5*(y(nlon-2,1)-y(nlon-1,0))
; These are supposedly corner points for the whole image
if ps ne 0 then begin
  device,/color,bits=8
    device,xsize=18.0,ysize=(18.0*nlat)/nlon
  device,xoffset=0.5,yoffset=1.5
endif  else begin
;   Display is a window:
  keyscale=1.00
  set_plot,'X'
  device,pseudo_color=8
  window,0,xsize=740,ysize=round((740L*nlat)/nlon),retain=2,/f ree,colors=256
; More playing around...
  px = [0.05,0.85]*!d.x_vsize
  py = [0.05,0.85]*!d.y_vsize
  sx=px(1)-px(0)+1
  sx=round(sx*keyscale)
```

```

    px(1) = sx - 1 + px(0)
    sy=py(1)-py(0)+1
    !p.position=[0.05,0.05,0.85,0.85]
endelse
; More tweaking of !p.position etc...
!x.window=[0,1]
!y.window=[0,1]
if polat gt -89.9 then begin ; Rotated lat-lon
    map_set,0,polon-90,/cylin,/noborder,/advance, $
    limit=[y1,x1,y2,x2,y3,x3,y4,x4],$
    CENTRAL_AZIMUTH = -polat-90.0
endif else begin ; Ordinary lat-lon
    map_set,/cylin,/noborder,/advance, $
    limit=[y4,x1,y2,x3]
endelse
zmod=bytarr(nlon,nlat)
if ps eq 0 then begin
    zmod=congrid(zmod,sx,sy)
    tv,zmod,px(0)-0.6*(px(1)-px(0))/nlon,py(0)
endif else begin
    tv,zmod,-0.005,0.0,xsize=1.005,ysize=1.003,/norm
; Right, more tweaking
endelse
map_grid
map_continents
--

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Thanks in advance for any help! /Ole

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