Subject: Multiple plot with mapCoord Posted by morganisilverman on Wed, 02 Jul 2014 17:29:53 GMT View Forum Message <> Reply to Message

Hello,

I'm struggling to create a 6 panel multiple graph plot. I started trying to use !P.Multi=[3,3,1] and tried to follow these suggestions https://www.idlcoyote.com/tips/oplot\_pmulti.html since I need to put several lines of data on each graph separately. I have a map background for each plot that I've created using

```
mapCoord = Obj_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, $ center_lat=centarlat, center_lon=centerlon, position=pp) mapCoord -> Draw cgMap_Grid, map=mapCoord, /box cgMap_Continents, map=mapCoord, /continents, /countries, /usa, /advance cgplots, Avg2000Lon, Avg2000Lat, map=mapCoord, color='blue', thick=4 p1 = !P & x1 = !X & y1 = !Y
```

I'm hoping someone can give me some guidance because what I'm doing is not working. Thank you.

Sincerely, Morgan

>

Subject: Re: Multiple plot with mapCoord Posted by David Fanning on Wed, 02 Jul 2014 17:58:16 GMT View Forum Message <> Reply to Message

Morgan Silverman writes:

> I'm struggling to create a 6 panel multiple graph plot. I started trying to use !P.Multi=[3,3,1] and tried to follow these suggestions https://www.idlcoyote.com/tips/oplot\_pmulti.html since I need to put several lines of data on each graph separately. I have a map background for each plot that I've created using

- > mapCoord = Obj\_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, \$
- > center\_lat=centarlat, center\_lon=centerlon, position=pp)
- > mapCoord -> Draw
- > cgMap Grid, map=mapCoord, /box
- > cgMap\_Continents, map=mapCoord, /continents, /countries, /usa, /advance
- > cgplots, Avg2000Lon, Avg2000Lat, map=mapCoord, color='blue', thick=4
- > p1 = !P & x1 = !X & y1 = !Y

> I'm hoping someone can give me some guidance because what I'm doing is not working. Thank you.

Yes, I can see that. If you are trying to get your six plots in three columns and two rows, you might try setting up !P.Multi=[0,3,2].

Does that help?

Cheers,

David

--

>>

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: http://www.idlcoyote.com/

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Multiple plot with mapCoord Posted by morganisilverman on Wed, 02 Jul 2014 18:15:50 GMT View Forum Message <> Reply to Message

```
On Wednesday, July 2, 2014 1:58:16 PM UTC-4, David Fanning wrote:
> Morgan Silverman writes:
>
>
>> I'm struggling to create a 6 panel multiple graph plot. I started trying to use !P.Multi=[3,3,1]
and tried to follow these suggestions https://www.idlcoyote.com/tips/oplot_pmulti.html since I need
to put several lines of data on each graph separately. I have a map background for each plot that
I've created using
>
>>
>> mapCoord = Obj New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, $
>
    center_lat=centarlat, center_lon=centerlon, position=pp)
>
>> mapCoord -> Draw
>
>> cgMap_Grid, map=mapCoord, /box
>
>> cqMap Continents, map=mapCoord, /continents, /countries, /usa, /advance
>> cgplots, Avg2000Lon, Avg2000Lat, map=mapCoord, color='blue', thick=4
>> p1 = !P & x1 = !X & y1 = !Y
```

```
>
>> I'm hoping someone can give me some guidance because what I'm doing is not working.
Thank you.
>
>
  Yes, I can see that. If you are trying to get your six plots in three
>
  columns and two rows, you might try setting up !P.Multi=[0,3,2].
>
>
>
  Does that help?
>
>
>
>
  Cheers,
>
>
  David
>
>
>
>
>
>
>
  David Fanning, Ph.D.
>
  Fanning Software Consulting, Inc.
>
>
  Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

Well that made it the correct number of panels but the graphs continue to flash across the screen over and over until I'm left with a pieces of the graph in scattered locations (i.e. map in one corner, grid in another, data in another). I also tried to use cgWindow and wMulti since that's what I was originally using but get the same problem with the the graphs flashing across the screen for several seconds. In an unrelated question, I also get this error message when using cgWindow and mapCoord CGCOORD::DRAW: Received unexpected keywords.

```
** Structure <1fca1968>, 1 tags, length=2, data length=2, refs=1: ADDCMD INT 1
```

Thanks, Morgan

```
My cgWindow code is...
loadct, 33
pp=[0.1,0.1,0.95,0.90]
lonmin = -125
lonmax = -65
latmin = 25
latmax = 60
centerlon = (lonmax-lonmin)/2.0 + lonmin
centerlat = (latmax-latmin)/2.0 + latmin
limit = [latmin, lonmin, latmax, lonmax]
xrange = [lonmin, lonmax]
yrange = [latmin, latmax]
mapCoord = Obj_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, $
 center_lat=centarlat, center_lon=centerlon, position=pp, /AddCmd)
mapCoord -> Draw, /AddCmd
cgMap Grid, map=mapCoord, /box, /AddCmd
cgMap Continents, map=mapCoord, /continents, /countries, /usa, /AddCmd
cgControl, Multi=[0,3,2]
wids = cgQuery(Title=titles, Count=count)
if (count ne 0) then begin
 windex=where(titles eq 'Plot_DAQ_Trajectories', tcnt)
endif else tcnt = 0
if (tcnt eq 0) then begin
 cqWindow, wtitle='Plot_DAQ_Trajectories', wxsize=800, wysize=800
endif else begin
 cqSet, wids[windex[0]]
endelse
cgControl, Execute=0
ShoreData = './gshhs/gshhs_h.b'
cgplots, Avg2000Lon, Avg2000Lat, map=mapCoord, color='blue', thick=4, WMulti=[0,2,3],
/AddCmd
cgControl, Execute=1
```

Subject: Re: Multiple plot with mapCoord Posted by David Fanning on Wed, 02 Jul 2014 18:18:38 GMT

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## David Fanning writes:

Morgan Silverman writes:
 Morgan Silverman writes:
 I'm struggling to create a 6 panel multiple graph plot. I started trying to use !P.Multi=[3,3,1] and tried to follow these suggestions https://www.idlcoyote.com/tips/oplot\_pmulti.html since I need

to put several lines of data on each graph separately. I have a map background for each plot that I've created using >> >> mapCoord = Obj\_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, \$ >> center\_lat=centarlat, center\_lon=centerlon, position=pp) >> mapCoord -> Draw >> cgMap\_Grid, map=mapCoord, /box >> cgMap\_Continents, map=mapCoord, /continents, /countries, /usa, /advance >> cgplots, Avg2000Lon, Avg2000Lat, map=mapCoord, color='blue', thick=4 >> p1 = !P & x1 = !X & y1 = !Y>> >> I'm hoping someone can give me some guidance because what I'm doing is not working. Thank you. > Yes, I can see that. If you are trying to get your six plots in three > columns and two rows, you might try setting up !P.Multi=[0,3,2]. You might also find this article helpful: https://www.idlcoyote.com/code\_tips/multiplots.php Cheers, David David Fanning, Ph.D. Fanning Software Consulting, Inc. Coyote's Guide to IDL Programming: http://www.idlcoyote.com/ Sepore ma de ni thue. ("Perhaps thou speakest truth.") Subject: Re: Multiple plot with mapCoord Posted by morganisilverman on Wed, 02 Jul 2014 18:57:01 GMT View Forum Message <> Reply to Message On Wednesday, July 2, 2014 2:18:38 PM UTC-4, David Fanning wrote: > David Fanning writes: > > > >> >> Morgan Silverman writes: >

>>> I'm struggling to create a 6 panel multiple graph plot. I started trying to use !P.Multi=[3,3,1]

>>

and tried to follow these suggestions https://www.idlcoyote.com/tips/oplot\_pmulti.html since I need to put several lines of data on each graph separately. I have a map background for each plot that I've created using

```
>
>>>
>>> mapCoord = Obj_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, $
      center_lat=centarlat, center_lon=centerlon, position=pp)
>>>
>>> mapCoord -> Draw
>>> cgMap_Grid, map=mapCoord, /box
>>> cgMap_Continents, map=mapCoord, /continents, /countries, /usa, /advance
>>> cgplots, Avg2000Lon, Avg2000Lat, map=mapCoord, color='blue', thick=4
>>> p1 = !P & x1 = !X & y1 = !Y
>>>
>>> I'm hoping someone can give me some guidance because what I'm doing is not working.
Thank you.
>
>>
>
>> Yes, I can see that. If you are trying to get your six plots in three
>
   columns and two rows, you might try setting up !P.Multi=[0,3,2].
>
>
>
  You might also find this article helpful:
>
>
>
    https://www.idlcoyote.com/code_tips/multiplots.php
>
>
>
>
  Cheers,
>
>
>
> David
>
>
```

```
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

Good article. I'm still missing something though. I'd like to use coyote graphics because I'm trying to make publication figures and from my understanding better quality can be gotten using cgWindow and ImageMagick. When I run my code I see the maps then they flash away and i'm left with just 4 colored lines that should be overlaid on the maps. I've tried with the mapCoord statements both inside and outside the loop both with the same results.

```
loadct, 33
pp=[0.1,0.1,0.95,0.90]
lonmin = -125
lonmax = -65
latmin = 25
latmax = 60
centerlon = (lonmax-lonmin)/2.0 + lonmin
centerlat = (latmax-latmin)/2.0 + latmin
limit = [latmin, lonmin, latmax, lonmax]
xrange = [lonmin, lonmax]
yrange = [latmin, latmax]
cgWindow, wxsize=800, wysize=800, wmulti=[0,2,3], xomargin=[2,6], woymargin=[2,8], $
wtitle='Plot DAQ Trajectories'
ShoreData = './gshhs/gshhs_h.b'
mapCoord = Obj_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, $
 center lat=centarlat, center lon=centerlon, /AddCmd)
mapCoord -> Draw, /AddCmd
cgMap Grid, map=mapCoord, /box, /AddCmd
cgMap_Continents, map=mapCoord, /continents, /countries, /usa, /AddCmd
for j=0,5 do begin
 caplots, Avg1000Lon, Avg1000Lat, map=mapCoord, color='orange', thick=4, /AddCmd
 cgplots, Avg1500Lon, Avg1500Lat, map=mapCoord, color='red', thick=4, /AddCmd
 cgplots, Avg2000Lon, Avg2000Lat, map=mapCoord, color='blue', thick=4, /AddCmd
 cgplots, Avg2500Lon, Avg2500Lat, map=mapCoord, color='green', thick=4, /AddCmd
 caplots, Avg3000Lon, Avg3000Lat, map=mapCoord, color='cyan', thick=4, /AddCmd
 cgplots, Avg3500Lon, Avg3500Lat, map=mapCoord, color='magenta', thick=4, /AddCmd
end
cqControl, Execute=1
```

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## Morgan Silverman writes:

> Good article. I'm still missing something though. I'd like to use coyote graphics because I'm trying to make publication figures and from my understanding better quality can be gotten using cgWindow and ImageMagick. When I run my code I see the maps then they flash away and i'm left with just 4 colored lines that should be overlaid on the maps. I've tried with the mapCoord statements both inside and outside the loop both with the same results.

Well, there are a lot of things are wrong with your code. :-) I would try something like this: PRO Map Test cities = ['Denver', 'Omaha', 'Atlanta', 'Portland', 'Seattle', 'Trenton']  $city_lats = [39.75, 41.29, 33.84, 45.49, 47.62,$ city\_lons = [ -105.00, -95.92, -84.38, -122.69, -122.34, -74.78] cgLoadCT, 33, NColors=6, Bottom=1 lonmin = -125lonmax = -65latmin = 25latmax = 60centerlon = (lonmax-lonmin)/2.0 + lonmin centerlat = (latmax-latmin)/2.0 + latmin limit = [latmin, lonmin, latmax, lonmax] xrange = [lonmin, lonmax] yrange = [latmin, latmax] mapCoord = Obj\_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', \$ Limit=limit, Center Lat=centarlat, center lon=centerlon) ; Convert city locations to projected meters. xy = mapCoord->Forward(city\_lons, city\_lats)  $city_x = Reform(xy[0,*])$ city\_y = Reform(xy[1,\*]) ; Set up 3-col by 2-row grid. p = cgLayout([3,2], Aspect=0.5, YGAP=4, XGAP=6, \$OXMargin=[4,4], OYMargin=[4,6]) : Draw the plots. FOR j=0,5 DO BEGIN pos = p[\*,j]

```
mapCoord -> SetProperty, Position=pos, /Draw
  cgMap Grid, MAP=mapCoord, /Box
  cgMap_Continents, MAP=mapCoord, /Continents, /Countries, /USA
  cgPlotS, city_x[i], city_y[i], Color=Byte(i+1), PSYM=16, SYMSize=2.0
  x = (pos[2]-pos[0])/2.0 + pos[0]
  y = pos[3] + (!D.Y_CH_SIZE * 2) / Float(!D.Y_Size)
  cgText, x, y, cities[j], /Normal, Alignment=0.5
ENDFOR
END
; Run the program in a cgWindow.
cgWindow, 'Map Test', WXSize=800, WYSize=400, WBackground='White'
END
Cheers.
David
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

Subject: Re: Multiple plot with mapCoord Posted by morganlsilverman on Thu, 03 Jul 2014 13:15:32 GMT View Forum Message <> Reply to Message

On Wednesday, July 2, 2014 3:21:03 PM UTC-4, David Fanning wrote:

```
    Morgan Silverman writes:
    >
    >
    Good article. I'm still missing something though. I'd like to use coyote graphics because I'm
```

trying to make publication figures and from my understanding better quality can be gotten using cgWindow and ImageMagick. When I run my code I see the maps then they flash away and i'm left with just 4 colored lines that should be overlaid on the maps. I've tried with the mapCoord statements both inside and outside the loop both with the same results.

```
>  
> Well, there are a lot of things are wrong with your code. :-)  
>  
>  
>   
I would try something like this:
```

>

```
>
>
  PRO Map_Test
>
  cities = ['Denver','Omaha','Atlanta','Portland','Seattle','Trenton']
 city_lats = [ 39.75, 41.29, 33.84, 45.49,
                                                47.62,
                                                         40.22]
> city_lons = [ -105.00, -95.92, -84.38, -122.69, -122.34, -74.78]
>
>
  cgLoadCT, 33, NColors=6, Bottom=1
 lonmin = -125
  lonmax = -65
  latmin = 25
 latmax = 60
> centerlon = (lonmax-lonmin)/2.0 + lonmin
  centerlat = (latmax-latmin)/2.0 + latmin
  limit = [latmin, lonmin, latmax, lonmax]
> xrange = [lonmin, lonmax]
  yrange = [latmin, latmax]
  mapCoord = Obj_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', $
     Limit=limit, Center_Lat=centarlat, center_lon=centerlon)
>
  ; Convert city locations to projected meters.
> xy = mapCoord->Forward(city_lons, city_lats)
```

```
> city_x = Reform(xy[0,*])
> city_y = Reform(xy[1,*])
>
  ; Set up 3-col by 2-row grid.
  p = cgLayout([3,2], Aspect=0.5, YGAP=4, XGAP=6, $
       OXMargin=[4,4], OYMargin=[4,6])
>
>
>
  ; Draw the plots.
  FOR j=0,5 DO BEGIN
    pos = p[*,j]
>
    mapCoord -> SetProperty, Position=pos, /Draw
>
>
    cgMap_Grid, MAP=mapCoord, /Box
>
>
    cgMap_Continents, MAP=mapCoord, /Continents, /Countries, /USA
>
>
    cgPlotS, city_x[j], city_y[j], Color=Byte(j+1), PSYM=16, SYMSize=2.0
>
>
    x = (pos[2]-pos[0])/2.0 + pos[0]
>
    y = pos[3] + (!D.Y_CH_SIZE * 2) / Float(!D.Y_Size)
    cgText, x, y, cities[j], /Normal, Alignment=0.5
>
> ENDFOR
> END
>
 ; Run the program in a cgWindow.
> cgWindow, 'Map_Test', WXSize=800, WYSize=400, WBackground='White'
> END
>
```

```
Cheers,
Cheers,
David
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

I'm sorry for all the trouble but I tried modifying your code to work with my data and I get both a black background IDL window (which didn't happen in your Map\_Test) and a white background resizable graphics window that creates an infinite number of windows until I hard quite IDL. I think this is because Avg2000Lon=float(73) so my code is trying to create 73 windows. Map\_Test is based on 6 discrete city lat/lons. How do I modify this to work with my array of values. I'm plotting trajectories so each window has several different trajectories plotted in each graph. Thanks.

```
Pro Plot6PanelTrai MOZAlCpaper
restore, './DAQPadonia_AvgBackTraj_Flight7.sav'
lonmin = -125
lonmax = -65
latmin = 25
latmax = 60
centerlon = (lonmax-lonmin)/2.0 + lonmin
centerlat = (latmax-latmin)/2.0 + latmin
limit = [latmin, lonmin, latmax, lonmax]
xrange = [lonmin, lonmax]
vrange = [latmin, latmax]
mapCoord = Obj_New('cgmap', 'Stereographic', Ellipsoid='WGS 84', Limit=limit, $
 center_lat=centarlat, center_lon=centerlon)
: Convert trajectory locations to projected meter space
xy = mapCoord->Forward(Avg2000Lon, Avg2000Lat)
locx = Reform(xy[0,*])
locy = Reform(xy[1,*])
; Set up 2-col by 3-row grid
p = cgLayout([2,3], Aspect=0.5, YGap=4, XGap=6, OXMargin=[4,4], OYMargin=[4,6])
```

```
; Draw plots for j=0,5 do begin pos = p(*,j) mapCoord->SetProperty, Position=pos, /Draw cgMap_Grid, map=mapCoord, /box cgMap_Continents, map=mapCoord, /continents, /countries, /usa cgplotS, locx, locy, color='blue', thick=4 end
```

; Run the program in a cgWindow. cgWindow, 'Plot6PanelTraj\_MOZAICPaper', WXSize=800, WYSize=400, WBackground='White'

Subject: Re: Multiple plot with mapCoord Posted by David Fanning on Thu, 03 Jul 2014 13:46:28 GMT View Forum Message <> Reply to Message

## Morgan Silverman writes:

- > I'm sorry for all the trouble but I tried modifying your code
- > to work with my data and I get both a black background IDL window
- > (which didn't happen in your Map\_Test) and a white background
- > resizable graphics window that creates an infinite number of windows
- > until I hard quite IDL. I think this is because Avg2000Lon=float(73)
- > so my code is trying to create 73 windows. Map\_Test is based on 6
- > discrete city lat/lons. How do I modify this to work with my array of
- > values. I'm plotting trajectories so each window has several different
- > trajectories plotted in each graph.

The DRAW method of the cgMap object doesn't "erase" the display before it draws, in the way, for example, a cgPlot command would. So, it draws in whatever window is currently open and in the "opposite" color. If you want to draw into a white background window, create one:

```
cgDisplay, 800, 400
```

No one who has read this newsgroup for any length of time can not know by now that the first thing to do when you have a problem with a Coyote Graphic routine is to update your library:

http://www.idlcoyote.com/code tips/fixcoyoteprogram.php

So, I presume you have done that and this is not why you are generating multiple windows.

I think it is more likely that you still have an ADDCMD keyword on one of the commands you are using that you haven't shown us.

I drew points in my example, but if converting that cgPlotS command to draw lines takes more than 10 seconds it is taking way too long. :-)

If you would like to purchase some consulting time and send me the code, the Coyote Store is always open. :-)

http://www.idlcoyote.com/coyotestore/

Cheers,

David

--

>

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: http://www.idlcoyote.com/

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Multiple plot with mapCoord Posted by morganisilverman on Thu, 03 Jul 2014 14:24:50 GMT View Forum Message <> Reply to Message

On Thursday, July 3, 2014 9:46:28 AM UTC-4, David Fanning wrote: > Morgan Silverman writes: > > >> I'm sorry for all the trouble but I tried modifying your code to work with my data and I get both a black background IDL window >> (which didn't happen in your Map\_Test) and a white background >> resizable graphics window that creates an infinite number of windows >> until I hard quite IDL. I think this is because Avg2000Lon=float(73) > >> so my code is trying to create 73 windows. Map\_Test is based on 6 >> discrete city lat/lons. How do I modify this to work with my array of >> values. I'm plotting trajectories so each window has several different >> trajectories plotted in each graph. > >

```
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>
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  in whatever window is currently open and in the "opposite" color. If you
>
  want to draw into a white background window, create one:
>
>
>
>
    cgDisplay, 800, 400
>
>
>
  No one who has read this newsgroup for any length of time can not know
 by now that the first thing to do when you have a problem with a Coyote
  Graphic routine is to update your library:
>
>
>
>
    http://www.idlcoyote.com/code_tips/fixcoyoteprogram.php
>
>
>
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> multiple windows.
>
  I think it is more likely that you still have an ADDCMD keyword on one
  of the commands you are using that you haven't shown us.
>
>
  I drew points in my example, but if converting that cgPlotS command to
  draw lines takes more than 10 seconds it is taking way too long. :-)
>
>
  If you would like to purchase some consulting time and send me the code,
> the Coyote Store is always open. :-)
```

```
>
>
   http://www.idlcoyote.com/coyotestore/
>
>
>
  Cheers,
>
>
>
>
  David
>
>
>
  David Fanning, Ph.D.
  Fanning Software Consulting, Inc.
>
  Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")
```

Thank you for all your help. Just wanted to let you know that I figured the problem out. I was missing an end statement before the cgWindow command to close the procedure. Now only 1 resizable window created!!