
Subject: contour plots on map with Coyote Graphics System in postscript

Posted by [Alexandra Laeng](#) on Tue, 02 Oct 2012 13:30:27 GMT

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Hi, everybody,

did anyone ever tried to adopt the second (Coyote Graphics) example from this post

http://www.idlcoyote.com/cg_tips/compcont.php

so that it draws directly into Postscript? To draw into a graphic window and then save it as a postscript works fine for me, but I need to do it 27x4 times, would be nice to have a way to plot it directly into postscript file.

Thanks!

Alex

Subject: Re: contour plots on map with Coyote Graphics System in postscript

Posted by [Alexandra Laeng](#) on Thu, 04 Oct 2012 21:52:19 GMT

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Ok, here is what I'm doing (after defining data, lon, lat and nlevels) in order to simply plot a data projected on map directly into PostScript file:

```
=====
```

```
set_plot, 'PS'
```

```
PageParam = PSWINDOW(/LANDSCAPE, /CM, PAGESIZE='A4')
```

```
PS_START, filename = work_path+'profiles_correlation_on_map.ps'
```

```
levels = cgConLevels(Float(data), NLevels=nlevels+1, MinValue=Floor(Min(data)), STEP=step, Factor=1)
```

```
LoadCT, 0
```

```
cgLoadCT, 2, /Reverse, /Brewer, NColors=nlevels-1, Bottom=1
```

```
TVLCT, cgColor('white', /Triple), nlevels
```

```
map = Obj_New('cgMap', 'Equirectangular', Ellipsoid=19, $
```

```
  XRange=xrange, YRange=yrange, /LatLon_Ranges, CENTER_LON=center_lon, $
```

```
  Position=[0.1, 0.1, 0.9, 0.8], Limit=[Min(lat), Min(lon), Max(lat), Max(lon)])
```

```
map -> AddCmd, Method='Erase'
```

```
map -> AddCmd, Method='Draw'
```

```
cgContour, data, lon, lat, /Cell_Fill, /Overplot, /Outline, C_Colors=Indgen(nlevels)+1,
```

```
Levels=levels, Map=map, OutColor='White', /AddCmd
```

```
cgMap_Grid, Map=map, /Box, /AddCmd
```

```
cgMap_Continents, Map=map, Color='tomato', /AddCmd
```

```
cgColorbar, Range=[Min(levels), Max(levels)-step], OOB_High=nlevels, $
```

```
  NColors=nlevels-1, Bottom=1, /Discrete, $
```

```
  Title='Temperature ' + cgSymbol('deg') + 'K', $
```

```
  Position=[0.1, 0.91, 0.9, 0.95], /AddCmd
```

```
cgControl, Execute=1
```

```
PS_END  
set_plot, 'X'  
=====
```

and here is what I get:

CGMDWINDOW::INIT-> WSET: Routine is not defined for current graphics device

Do you by any chance see what am I doing wrong?

Alex

Subject: Re: contour plots on map with Coyote Graphics System in postscript
Posted by [David Fanning](#) on Thu, 04 Oct 2012 22:33:00 GMT
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sasha.mozgova@gmail.com writes:

> Do you by any chance see what am I doing wrong?

I would do it like this:

```
PS_START, filename = work_path+'profiles_correlation_on_map.ps', $  
  /LANDSCAPE, /EUROPEAN
```

```
levels = cgConLevels(Float(data), NLevels=nlevels+1, $  
  MinValue=Floor(Min(data)), STEP=step, Factor=1)  
LoadCT, 0  
cgLoadCT, 2, /Reverse, /Brewer, NColors=nlevels-1, Bottom=1  
TVLCT, cgColor('white', /Triple), nlevels
```

```
map = Obj_New('cgMap', 'Equirectangular', Ellipsoid=19, $  
  XRange=xrange, YRange=yrange, /LatLon_Ranges, $  
  CENTER_LON=center_lon, $  
  Position=[0.1, 0.1, 0.9, 0.8], $  
  Limit=[Min(lat), Min(lon), Max(lat), Max(lon)])  
map -> Draw
```

```
cgContour, data, lon, lat, /Cell_Fill, /Overplot, /Outline, $  
  C_Colors=Indgen(nlevels)+1, Levels=levels, $  
  Map=map, OutColor='White'
```

```
cgMap_Grid, Map=map, /Box  
cgMap_Continents, Map=map, Color='tomato'
```

```
cgColorbar, Range=[Min(levels), Max(levels)-step], OOB_High=nlevels, $
  NColors=nlevels-1, Bottom=1, /Discrete, $
  Title='Temperature $\deg$') + 'K', $
  Position=[0.1, 0.91, 0.9, 0.95]
```

PS_END

Cheers,

David

--

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

Subject: Re: contour plots on map with Coyote Graphics System in postscript
Posted by [David Fanning](#) on Thu, 04 Oct 2012 22:37:30 GMT
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David Fanning writes:

Whoops!

This line:

```
> Title='Temperature $\deg$') + 'K', $
```

Should be this:

```
Title='Temperature $\deg$K', $
```

Cheers,

David

--

David Fanning, Ph.D.
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Subject: Re: contour plots on map with Coyote Graphics System in postscript

Posted by [Alexandra Laeng](#) on Wed, 10 Oct 2012 11:48:07 GMT

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>> 2. Ideally, I need multiple panels, each on its own copy of the map. Would >>your procedure work by just setting !p.Multi variables?

> It is as simple as that! :-)

Does not work for me: when setting !p.multipi=[0, 2, 2, 0, 0] and running it for just one panel, I get the contour plot on the first panel, empty second panel, the grid on the third one, and the map - on the fourth. When I try to go through cgControl (put it = 0 before this three commands, add them as /AddCnd and set it 1 at the end), it accept /AddCmd in cgContour, but crashes ("X connection to localhost:11.0 broken (explicit kill or server shutdown)") when I try to add /AddCmd to cgMap_Grid and cgMap_Continents.

In plus, in grid, among [-180,180] longitudes only the positive ones are labeled, and the latitude lines are missing.

Would I also be damned by some IDL Gods?..

Subject: Re: contour plots on map with Coyote Graphics System in postscript

Posted by [Alexandra Laeng](#) on Wed, 10 Oct 2012 11:56:16 GMT

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Ooups, forgot the code producing all that from the previous post.

=====

set_plot, 'PS'

PageParam = PSWINDOW(/LANDSCAPE, /CM, PAGESIZE='A4')

PS_START, filename = 'name.ps', /LANDSCAPE, /EUROPEAN

!P.MULTI=[0, 2, 2, 0, 0]

step = 1.0

levels = cgConLevels(NLevels=nlevels, MinValue=minimum, MaxValue=maximum)

LoadCT, 0

cgLoadCT, 25, /Reverse, /Brewer, NColors=nlevels-1, Bottom=1

TVLCT, cgColor('white', /Triple), nlevels

map = Obj_New('cgMap', 'Equirectangular', Ellipsoid=19, \$

XRange=xrange, YRange=yrange, /LatLon_Ranges, \$

Position=[0.1, 0.1, 0.9, 0.8], \$

Limit=[Min(lat), Min(lon), Max(lat), Max(lon)])

;map -> Erase

map -> Draw

cgContour, data, lon, lat, /Fill, /Overplot, /Outline, \$

```
missingvalue=!Values.F_NAN, C_Colors=Indgen(nlevels)+1, label =0, Levels=levels,  
Title='title.ps', Map=map, OutColor='white'
```

```
cgMap_Grid, Map=map, /Box  
cgMap_Continents, Map=map, Color='black', thick=5  
cgColorbar, Range=[Min(levels), Max(levels)+step], OOB_High=nlevels, $  
NColors=nlevels-1, Bottom=1, /Discrete, /Top, $  
Tlocation='TOP', Position=[0.1, 0.96, 0.9, 0.99]
```

PS_END

Subject: Re: contour plots on map with Coyote Graphics System in postscript
Posted by [David Fanning](#) on Wed, 10 Oct 2012 12:04:34 GMT
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sasha.mozgova@gmail.com writes:

> Does not work for me: when setting !p.multipi=[0, 2, 2, 0, 0] and running it for just one panel, I
get the contour plot on the first panel, empty second panel, the grid on the third one, and the map
- on the fourth. When I try to go through cgControl (put it = 0 before this three commands, add
them as /AddCmd and set it 1 at the end), it accept /AddCmd in cgContour, but crashes ("X
connection to localhost:11.0 broken (explicit kill or server shutdown)") when
I try to add /AddCmd to cgMap_Grid and cgMap_Continents.
>
> In plus, in grid, among [-180,180] longitudes only the positive ones are labeled, and the latitude
lines are missing.
>
> Would I also be damned by some IDL Gods?..

Well, this is the first I've heard about !P.Multi.
It helps to write code if you have all the pertinent
informaton when you start. :-)

I'm teaching a class for the next couple of days, so
I have limited time, but I'll see if I can get to
this. You will have to remove all POSITION keywords
if you are going to use !P.Multi, though, or all will
be confusion of the type you are experiencing. :-)

Cheers,

David

--
David Fanning, Ph.D.

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Subject: Re: contour plots on map with Coyote Graphics System in postscript
Posted by [Alexandra Laeng](#) on Wed, 10 Oct 2012 12:34:27 GMT
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Thank you for he quick answer, David.
There is always a way to work-around the machine when you are not educated enough:
I will create the plots one by one, then combine them with convert +/-append into 2x2 panels. :)

The missing longitude grid labels and latitude lines have however nothing to do with !p.multi. Is it possible that it only works for [0,360] and not [-180,180] longitudes?

Subject: Re: contour plots on map with Coyote Graphics System in postscript
Posted by [David Fanning](#) on Thu, 11 Oct 2012 02:03:30 GMT
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sasha.mozgova@gmail.com writes:

> The missing longitude grid labels and latitude lines have however nothing to do with !p.multi. Is it possible that it only works for [0,360] and not [-180,180] longitudes?

No, this is a long story and involves what I think is a bug in the Map_Grid program, that I have been unable to fix successfully so far. It rears its ugly head often when working with global map projections in projected meter space. I should write an article about it. I've been struggling with it for a long time. I have been trying to avoid writing my own Map_Grid program, but I'm thinking that may be the only way out of this problem.

As far as doing map projections as multi-plots is concerned, there are some definite problems with my code, that I am not going to be able to solve until who knows when. I am WAY behind on my real work, and need to get some of that done before I lose my job. :-(

I'll work on this as I can.

Cheers,

David

--

David Fanning, Ph.D.

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