Subject: Map Projected Contour plot - function graphics - how to change the contoured data....
Posted by Geo on Tue, 01 Dec 2015 22:03:52 GMT
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Hi there,

OK so I have set up a map-projected contour plot by doing this:

```
mp1 = map('Equirectangular', CENTER_LONGITUDE=0, $
  POSITION=[0.1,0.1,0.90,0.75], $
  LABEL_POSITION = 0, /BOX_AXES, $
  /box_antialias, $
  GRID_LATITUDE = 30, GRID_LONGITUDE = 45, $
  /CURRENT, ASPECT_RATIO=0, LIMIT=[-89.99, -180, 89.99, 180])
```

etc., etc.

and then the contour plot....

```
cn = contour(data1, lon, lat, overplot = overplot, name='the_contour_plot',$ GRID_UNITS=2,
MAP_PROJECTION='Equirectangular', $
  RGB_TABLE=rgb, /CURRENT, RGB_INDICES=Indgen(nlevels), $
  C_VALUE=levels, /FILL)
```

So I'm contour plotting 'data1' on a standard equirectangular map. So far, fine.

Now I want to change the contour plot to the show the next dataset in the sequence (lets call it data2 - it has the same dimensions as data1)

This looks to be simple:

```
cn.setdata, data2
```

But this doesn't work - I get:
% Not supported for MAPPROJECTION graphics.
So obviously, when the contour plot is 'map projected' it won't do an update
to the contour plot data itself.

Any idea how I can get around this? In general I am wanting to do lots of contour plotting with different map projections - but I need to be able to change the data (like when you go from time T to time T+1).

Thanks for any help,

Geo

Subject: Re: Map Projected Contour plot - function graphics - how to change the contoured data....
Posted by chris_torrence@NOSPAM on Wed, 02 Dec 2015 19:24:49 GMT
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On Tuesday, December 1, 2015 at 3:03:56 PM UTC-7, Geo wrote:
> Hi there,
>
> OK so I have set up a map-projected contour plot by doing this:
>
> mp1 = map('Equirectangular', CENTER_LONGITUDE=0, $
> POSITION=[0.1,0.1,0.90,0.75], $
> LABEL_POSITION = 0, /BOX_AXES, $
> /box_antialias, $
> GRID_LATITUDE = 30, GRID_LONGITUDE = 45, $
> /CURRENT, ASPECT_RATIO=0, LIMIT=[-89.99, -180, 89.99, 180])
>
> etc., etc.
>
> and then the contour plot....
>
> cn = contour(data1, lon, lat, overplot = overplot, name='the_contour_plot',$ GRID_UNITS=2, MAP_PROJECTION='Equirectangular', $
> RGB_TABLE=rgb, /CURRENT, RGB_INDICES=Indgen(nlevels), $
> C_VALUE=levels, /FILL)
>
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>
> Now I want to change the contour plot to the show the next dataset in the sequence (lets call it data2 - it has the same dimensions as data1)
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> This looks to be simple:
>
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> But this doesn't work - I get:
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> So obviously, when the contour plot is 'map projected' it won't do an update
> to the contour plot data itself.
>
> Any idea how I can get around this? In general I am wanting to do lots of contour plotting with different map projections - but I need to be able to change the data (like when you go from time T to time T+1).
>
> Thanks for any help,
>
> Geo

Hi Geo,

I just found & fixed a bug in the graphics code, where it was giving the same "name" to both the contour plot and the map projection. So the "cn" reference that was being returned was actually the map projection instead of the contour.

As a workaround, you can simply remove 'name="the_contour_plot"' and the problem should go away.

Cheers,
Chris
p.s. here's a simple reproduce:

```
mp1 = map('Equirectangular', CENTER_LONGITUDE=0, /DEBUG, $
  POSITION=[0.1,0.1,0.90,0.75], $
  LABEL_POSITION = 0, /BOX_AXES, $
  /box_antialias, $
  GRID_LATITUDE = 30, GRID_LONGITUDE = 45, $
  /CURRENT, ASPECT_RATIO=0, LIMIT=[-89.99, -180, 89.99, 180])
data1 = dist(50)
lon = findgen(50)*3
lat = findgen(50)*2 - 50
cn = contour(data1, lon, lat, overplot = 1,$
  GRID_UNITS=2, MAP_PROJECTION='Equirectangular', $
  RGB_TABLE=33, /CURRENT, /FILL)
help, cn
cn.setdata, 35*hanning(50,50)
```

Subject: Re: Map Projected Contour plot - function graphics - how to change the contoured data....
Posted by Geo on Wed, 02 Dec 2015 19:34:35 GMT
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Chris,

Thanks for replying. Yes, I was wondering why the object reference for cn was that is was a 'map projection' rather than a contour plot.

When you say "fixed a bug in the graphics code" - are you talking about a bug in my code snippet - or in IDL ?

Cheers

George.

On Wednesday, December 2, 2015 at 12:24:55 PM UTC-7, Chris Torrence wrote:
> On Tuesday, December 1, 2015 at 3:03:56 PM UTC-7, Geo wrote:
>> Hi there,
>>
>> OK so I have set up a map-projected contour plot by doing this:
>>
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>> POSITION=[0.1,0.1,0.90,0.75], $
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>> cn = contour(data1, lon, lat, overplot = overplot, name='the_contour_plot',$ GRID_UNITS=2, MAP_PROJECTION='Equirectangular', $
>> RGB_TABLE=rgb, /CURRENT, RGB_INDICES=Indgen(nlevels), $
>> C_VALUE=levels, /FILL)
>>
>> So I'm contour plotting 'data1' on a standard equirectangular map. So far, fine.
>>
>> Now I want to change the contour plot to the show the next dataset in the sequence (lets call it data2 - it has the same dimensions as data1)
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>>
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>> So obviously, when the contour plot is 'map projected' it won't do an update
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>>
>> Any idea how I can get around this? In general I am wanting to do lots of contour plotting with different map projections - but I need to be able to change the data (like when you go from time T to time T+1).
>>
>> Thanks for any help,
>>
>> Geo
>
> Hi Geo,
>
> I just found & fixed a bug in the graphics code, where it was giving the same "name" to both the contour plot and the map projection. So the "cn" reference that was being returned was actually

the map projection instead of the contour.
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> LABEL_POSITION = 0, /BOX_AXES, $
> /box_antialias, $
> GRID_LATITUDE = 30, GRID_LONGITUDE = 45, $
> /CURRENT, ASPECT_RATIO=0, LIMIT=[-89.99, -180, 89.99, 180])
> data1 = dist(50)
> lon = findgen(50)*3
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> cn = contour(data1, lon, lat, overplot = 1,$
> GRID_UNITS=2, MAP_PROJECTION='Equirectangular', $
> RGB_TABLE=33, /CURRENT, /FILL)
> help, cn
> cn.setdata, 35*hanning(50,50)

Subject: Re: Map Projected Contour plot - function graphics - how to change the contoured data....
Posted by Geo on Wed, 02 Dec 2015 19:41:13 GMT
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Incidentally

The reason I was using name="the_contour_plot" was because the contour data update I was wanting happens within a widget event.
So, here's my widget event code. I'm pulling back the reference to cn by using it's name. If I get rid of the name field - how else can I reference cn?

```
wDraw = WIDGET_INFO(event.top, FIND_BY_UNAME = 'DRAW')
WIDGET_CONTROL, wDraw, GET_VALUE = graphicWin
cn = graphicWin['the_contour_plot']
cn.setdata, data2
```

Cheers

George.

Subject: Re: Map Projected Contour plot - function graphics - how to change the contoured data....
Posted by chris_torrence@NOSPAM on Fri, 11 Dec 2015 16:47:30 GMT
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On Wednesday, December 2, 2015 at 12:41:15 PM UTC-7, Geo wrote:
> Incidentally
>
> The reason I was using name="the_contour_plot" was because the contour data update I was wanting happens within a widget event.
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> cn = graphicWin['the_contour_plot']
> cn.setdata, data2
>
> Cheers
>
> George.

Hi George,

I fixed a bug in the IDL code.

If you want to use the name, then the other way to workaround the problem is to not specify the map projection when you create the contour. You actually don't need to specify the map projection - as long as you say that the grid units are in degrees then contour will automatically use the current map projection.

Cheers,
Chris

Subject: Re: Map Projected Contour plot - function graphics - how to change the contoured data....
Posted by Geo on Thu, 17 Dec 2015 17:36:54 GMT
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On Friday, December 11, 2015 at 9:47:33 AM UTC-7, Chris Torrence wrote:
> On Wednesday, December 2, 2015 at 12:41:15 PM UTC-7, Geo wrote:
>> Incidentally
>>
>> The reason I was using name="the_contour_plot" was because the contour data update I was wanting happens within a widget event.
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>
> Cheers,
> Chris

Thanks Chris

I have it working now (by not using the 'name' feature)

Cheers

George.
