Subject: Re: mapcontinents with /hires option failing
Posted by David Fanning on Fri, 22 Feb 2013 14:41:53 GMT
View Forum Message <> Reply to Message

Paul Mallas writes:

> I have found a problem with mapcontinents using the /hires option (running IDL 8.2.2 on Windows 7 64 bit)
>
> I seem to recall it working fine before if prior IDL versions, so I am not sure if it actually a bug in the code or perhaps the data is just corrupted in the location where I am looking (like the vertices are in the wrong order in a shapefile and the order determines the what is inside the shape and what is outside). But it appears that the for this case, the continent is mapped incorrectly and the Mediterranean Sea is mapped as land

I'm guessing it probably has more to do with the Map or MapContinents functions not working properly, because there doesn't seem to be anything wrong with the HIRES data. These commands work correctly:

```
mapCoord = cgMap('Equirectangular', LIMIT=[35, -6 , 37 , -4], $
   Position=[0.1, 0.1, 0.9, 0.9])
cgDisplay
mapCoord ->draw
cgColorFill, Position=[0.1, 0.1, 0.9, 0.9], color='sky blue'
cgMap_Continents, color='tan', MAP=mapCoord, /Fill, /HiRes
cgMap_Grid, /Box_Axes, /Label, Map=mapCoord
```

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: mapcontinents with /hires option failing
Posted by David Fanning on Fri, 22 Feb 2013 15:22:54 GMT
View Forum Message <> Reply to Message

David Fanning writes:

> I'm guessing it probably has more to do with the Map or MapContinents
> functions not working properly, because there doesn't seem to be
> anything wrong with the HIRES data. These commands work correctly:

>
>   mapCoord = cgMap('Equirectangular', LIMIT=[35, -6 , 37 , -4], $
>   Position=[0.1, 0.1, 0.9, 0.9])
>   cgDisplay
>   mapCoord ->draw
>   cgColorFill, Position=[0.1, 0.1, 0.9, 0.9], color='sky blue'
>   cgMap_Continents, color='tan', MAP=mapCoord, /Fill, /HiRes
>   cgMap_Grid, /Box_Axes, /Label, Map=mapCoord

It occurs to me that the MapContinents function might be using GSHHS shoreline data, and that might be the problem. So, I tried the same thing with high resolution GSHHS data:

```
  mapCoord = cgMap('Equirectangular', LIMIT=[35, -6 , 37 , -4], $
    Position=[0.1, 0.1, 0.9, 0.9])
  cgDisplay
  mapCoord ->draw
  cgColorFill, Position=[0.1, 0.1, 0.9, 0.9], color='sky blue'
  cgMap_GSHHS, 'C:\IDL\data\gshhs\gshhs_2.2\gshhs\gshhs_h.b', $
     Map=mapCoord, Color='tan', /Fill,
  cgMap_Grid, /Box_Axes, /Label, Map=mapCoord
```

This works perfectly, too. So, I don't think there is anything wrong with the HIRES data. I think the problem must be in MapContinents.

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: mapcontinents with /hires option failing
Posted by chris_torrence@NOSPAM on Fri, 22 Feb 2013 17:37:38 GMT
View Forum Message <> Reply to Message

Hi Paul & David,

It looks like there are a couple of things going on. By default, the MAP() function is assigning the center_longitude of the projection to the center of the map, instead of 0 degrees. I'm not sure if this is correct or not, but regardless, the map_proj_forward is then having trouble clipping the polygon.

I'll look into both issues, but in the meantime, if you specify CENTER_LONGITUDE=0 in your

map() call, it should give you a nice looking map.

Cheers,
Chris
ExelisVIS

Subject: Re: mapcontinents with /hires option failing
Posted by David Fanning on Fri, 22 Feb 2013 17:51:15 GMT
View Forum Message <> Reply to Message

Chris Torrence writes:

> It looks like there are a couple of things going on. By default, the MAP() function is assigning the center_longitude of the projection to the center of the map, instead of 0 degrees. I'm not sure if this is correct or not, but regardless, the map_proj_forward is then having trouble clipping the polygon.
>
> I'll look into both issues, but in the meantime, if you specify CENTER_LONGITUDE=0 in your map() call, it should give you a nice looking map.

Yes, I think the problem is that Map_Proj_Init returns incorrect UV coordinates if the center longitude is anything other than zero. I've had to correct this myself in my cgMap object because I haven't been able to get anyone at ExcelisVis to understand what the hell I was going on about. :-)

Here is the article that describes the problem:

http://www.idlcoyote.com/map_tips/uvrange.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: mapcontinents with /hires option failing
Posted by PMan on Fri, 22 Feb 2013 18:00:08 GMT
View Forum Message <> Reply to Message

On Friday, February 22, 2013 9:28:21 AM UTC-5, Paul Mallas wrote:

> I have found a problem with mapcontinents using the /hires option (running IDL 8.2.2 on Windows 7 64 bit)
>
>
>
> I seem to recall it working fine before if prior IDL versions, so I am not sure if it actually a bug in the code or perhaps the data is just corrupted in the location where I am looking (like the vertices are in the wrong order in a shapefile and the order determines the what is inside the shape and what is outside). But it appears that the for this case, the continent is mapped incorrectly and the Mediterranean Sea is mapped as land. See the example below:
>
>
>
> ~~~~~~
>
>
>
> pro mapTest
>
> compile_opt idl2
>
>
>
> map1 = MAP('Geographic', $
>
> LIMIT=[35, -6 , 37 , -4], $
>
> FILL_COLOR='light_blue', $
>
> WINDOW_TITLE='Straits of Gibraltar')
>
>
>
> grid1 = map1.MAPGRID
>
> grid1.LINESTYLE = 'dotted'
>
> grid1.LABEL_SHOW = 0
>
>
>
> m1 = MAPCONTINENTS(FILL_COLOR='beige')
>
> wait, 3
>
> m1 = MAPCONTINENTS(FILL_COLOR='green', /hires)
>
>

>
> end

David, thanks for the taking a look. Chris, thanks for the tip.

Regards,
Paul
