
Subject: Map Projection Bug

Posted by [David Fanning](#) on Wed, 14 Jan 2009 23:39:23 GMT

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Folks,

Does anyone have a discount coupon for MatLab? I've nearly had it with IDL, and it's only Wednesday. I may not make it to Friday.

I spent the better part of the day absolutely confused about map projections. That in itself is not unusual, map projections are pretty hard, but I've been thinking recently that I've been getting my head around the darn things pretty well.

But then I started working on a new project today and I kept seeing something that looked like some kind of spooky action at a distance, and I got totally freaked out. *Finally* I remembered that I had seen this once before, and I tracked it down to a May 2007 article in this newsgroup.

It turns out MAP_PROJ_INIT is a one-way street. You can use it to create a map structure, and you can use that map structure to do things with maps. But when you make a *second* map structure, you lose all ability to do anything useful with the first map structure. You can't go home again.

Here is a short program that demonstrates the problem.

PRO MapProjInit_Bug

```
; Here is the map projection I want to set up.
```

```
Window, XSIZE=350, YSIZE=350, XPOS=0, YPOS=0, TITLE='What I expect'  
mapStruct = Map_Proj_Init(111, /GCTP, DATUM=8, CENTER_LATITUDE=90, $  
    CENTER_LONGITUDE=0, LIMIT=[0, -180, 90, 180])  
plot, mapStruct.uv_box[[0,2]], $  
    mapStruct.uv_box[[1,3]], $  
    /NoData, XSTYLE=5, YSTYLE=5  
Map_Continents, MAP_STRUCTURE=mapStruct, /FILL
```

```
; I create another map projection. Rotated in this case.
```

```
; But I don't even save the map structure! I map the continents
```

```
; again and it uses the 2nd map projection. Huh!?
```

```
Print, Ptr_New(Map_Proj_Init(111, /GCTP, DATUM=8, CENTER_LATITUDE=90, $  
    CENTER_LONGITUDE=135, LIMIT=[0, -180, 90, 180]))
```

```
window, 1, XSIZE=350, YSIZE=350, XPOS=375, YPOS=0, $  
  TITLE='What happened!!'  
Map_Continents, MAP_STRUCTURE=mapStruct, /FILL
```

END

Guess I'll write this up. I can't afford to waste 5 hours every
time I try to do something useful with map projections. :-(

Cheers,

David

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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