
Subject: Re: Map Projection Bug
Posted by [cgpadwick](#) on Thu, 15 Jan 2009 17:01:59 GMT
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Everytime Map_Proj_Init is called it modifies the internal !MAP structure. So your second call is modifying !MAP and that's why it's behaving the way it is.

Subject: Re: Map Projection Bug
Posted by [David Fanning](#) on Thu, 15 Jan 2009 17:55:06 GMT
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cgpadwick@gmail.com writes:

> Everytime Map_Proj_Init is called it modifies the internal !MAP
> structure. So your second call is modifying !MAP and that's why it's
> behaving the way it is.

That was my first thought, too, but there is no evidence of it. Since I am using the GCTC map projections, I am not touching !MAP, and its values are all zero throughout my example.

It is likely that there is an (undocumented) internal configuration that gets set with MAP_PROJ_INIT, but I have no idea what it is or how to reset it.

Cheers,

David

--

David Fanning, Ph.D.
Coyote's Guide to IDL Programming (www.dfanning.com)
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Map Projection Bug
Posted by [Mariolncandenza](#) on Thu, 15 Jan 2009 20:27:47 GMT
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David,

Wow, this is really a tough one. Out of curiosity, I just did a quick scan through all the map_* routines in /idl/lib/, and I'm pretty confident that whatever is getting modified by the call to map_proj_init(), it's not a ! system variable. There was one

suspicious line, 'suspicious' in that "I don't understand it." When creating a new MapStruct, it starts from !MAP, but does it like this:

```
sMap = {!MAP}
```

What means the curly braces?

Subject: Re: Map Projection Bug
Posted by [pgrigis](#) on Thu, 15 Jan 2009 20:43:49 GMT
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Ed Hyer wrote:

> David,
>
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> creating a new MapStruct, it starts from !MAP, but does it like this:
>
> sMap = {!MAP}
>
> What means the curly braces?

It copies a structure, setting to 0 (or empty strings)
all the values of its tags.

Paolo

Subject: Re: Map Projection Bug
Posted by [cgpadwick](#) on Thu, 15 Jan 2009 21:21:54 GMT
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David,

I see what you are getting at now. !MAP indeed does not change during the successive calls. I think your theory that there is an undocumented internal variable is sound. thanks for posting this, I'll keep this in mind when working with the map stuff.

Chris

Subject: Re: Map Projection Bug
Posted by [David Fanning](#) on Thu, 15 Jan 2009 22:25:56 GMT
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cgpadwick@gmail.com writes:

> I see what you are getting at now. !MAP indeed does not change during
> the successive calls. I think your theory that there is an
> undocumented internal variable is sound. thanks for posting this,
> I'll keep this in mind when working with the map stuff.

In a discussion today among NSIDC programmers it was pointed out that the reason we built some of our own map re-gridding software was that the GCTP map projection software was not re-entrant. That is to say, this problem is built directly into the GCTP software and not necessarily something ITTVIS has introduced. Of course, the GCTP software is **extremely** old now, and anyone doing map projections professionally is probably using some version of the proj4 software.

My personal belief is that the map projection software in IDL has exceeded its shelf life. Useful map projections (equal area cylindrical, for example) are missing, others use only spherical projections, when most of the world is using ellipsoid projections, etc.

I really hate to admit this, but more and more of IDL is becoming irrelevant to me. It's always good for a quick one-off, but there are better tools for doing particular jobs, and I'm becoming increasingly motivated to learn them.

Cheers,

David

--

David Fanning, Ph.D.
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Subject: Re: Map Projection Bug
Posted by [David Fanning](#) on Thu, 15 Jan 2009 23:47:00 GMT
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Ed Hyer writes:

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> creating a new MapStruct, it starts from !MAP, but does it like this:
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> sMap = {!MAP}
>
> What means the curly braces?

Curly braces are how you create a structure. When IDL creates a structure like this, it doesn't save the instance data, rather it saves the *definition* of the structure. So, the sMap variable is a structure of the same type as the !MAP structure. This is what you would expect.

What you *wouldn't* expect is that this variable, created in one program, would change because of something you did in some completely unrelated program!

Cheers,

David

--

David Fanning, Ph.D.
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Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Map Projection Bug
Posted by [R.Bauer](#) on Fri, 16 Jan 2009 12:00:34 GMT
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completely FOSS

<http://www.scipy.org/Cookbook/Matplotlib/Maps>
<http://matplotlib.sourceforge.net/gallery.html>

and not java ;)

cheers
Reimar

David Fanning schrieb:
> cgpadwick@gmail.com writes:
>

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> David
