
Subject: Re: More Map Projection Madness
Posted by [David Fanning](#) on Tue, 01 Nov 2011 20:20:41 GMT
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David Fanning writes:

```
> It seems the name "Albers Equal Area" is ambiguous.  
> In fact, it seems to choose the old MAP_SET routine  
> "Albers Equal Area Conic" as the map projection.  
> To make it choose the same projection as projection  
> 103, I have to set the CGTP keyword.  
>  
> alberMap = MAP_PROJ_INIT('albers equal area', /GCTP, $  
>   DATUM='WGS 84', $  
>   CENTER_LATITUDE=geotag.PROJNATORIGINLATGEOKEY, $  
>   CENTER_LONGITUDE=geotag.PROJNATORIGINLONGGEOKEY, $  
>   STANDARD_PAR1=geotag.PROJSTDPARALLEL1GEOKEY, $  
>   STANDARD_PAR2=geotag.PROJSTDPARALLEL2GEOKEY)  
>  
> Then, this behaves identically to the the projection when  
> I use the projection index 103.
```

This silent substitution of command thing is more pernicious than I first expected. Not only is the "albers equal area conic" map projection substituted for the "albers equal area" projection, but the sphere radius that is used for the conic map projection is set to the length of the semi-major axis of the WGS84 ellipse!

In other words, this command:

```
mapStruct = Map_Proj_Init('Albers Equal Area', $  
  ELLIPSOID='WGS 84', $  
  STANDARD_PAR1=21.0, STANDARD_PAR2=-19.0)
```

is silently substituted with this command:

```
mapStruct = Map_Proj_Init('Albers Equal Area Conic', $  
  SPHERE_RADIUS=6378137.0, $  
  STANDARD_PAR1=21.0, STANDARD_PAR2=-19.0)
```

Naturally, you get the wrong results if you don't realize this. You can find out more about this in this article:

http://www.idlcoyote.com/map_tips/choosemap.php

Cheers,

David

--

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

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