## Subject: Coyote Graphics Map Projection Software Posted by David Fanning on Wed, 16 Nov 2011 22:21:14 GMT

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Folks.

I've spent most of my spare time in the past month or so (when not finding bugs in the IDL 8.1 function graphics commands) finding and fixing bugs in the IDL map projection software. There are a number of them, especially related to using Map\_Grid on map projections created with Map\_Proj\_Init. My impression is that the IDL software developers don't use Map\_Proj\_Init much, or some of these bugs would have been fixed by now.

In any case, I've fixed them, if I could, and I have updated them to work with other Coyote Graphics routines. They now work in a device independent and color-aware way, and can be added to resizeable graphics windows in exactly the same way other Coyote Graphics commands can be added.

You can read more about them here:

http://www.idlcoyote.com/documents/cg\_maps.php

As part of my testing procedure for these commands I have created some new programs and refurbished others. For example, cgGeoMap will now take the name of a GeoTiff file and will automatically display the GeoTiff image in a resizeable graphics window with continental outlines and map grid lines, if requested. I have another program, not yet released, that will allow you to use my active contour program on GeoTiff images and create ROIs that will automatically calculate the area and perimeter, produce output for ENVI, etc. I have ideas for other applications I would like to develop.

One program I have refurbished is the Terminator\_Map program that draws a day/night terminator on a map projection. A new algorithm is used that better preserves the map colors in the dark region of the

map.

I expect these map programs are not bug free. But, I am working on a book about map projections in IDL, and it was important that I had software that actually worked. So I developed the software first. I'm sure as I write about these programs, and use them in my examples, they will change in both functionality and quality. You can help in this effort if you write me with any problems you experience with them.

I have made numerous changes and additions to the Coyote Library to support this recent work. In fact, you will have to update your Coyote Library programs to run this software. Even if you don't use map projections, this would be a good time to update your Coyote Library, as the changes will also be used in upcoming updates to important programs.

http://www.idlcoyote.com/programs/zip\_files/coyoteprograms.z ip

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.")