Subject: Shapefiles Gone Wild
Posted by David Fanning on Fri, 02 Mar 2012 20:03:22 GMT
View Forum Message <> Reply to Message

Folks,

Andrew Cool, an always reliable breaker of my well-written programs, sent me an interesting shapefile problem yesterday. In this case my programs were (mostly!) well-enough written, but Andrew was making a common false assumption about the shapefile he was using. Since I've run into this a couple of times, I thought I might write an article about it.

The assumption Andrew made (and which I have made many times myself!) is that shapefiles always contain latitude and longitude information. In fact, the polygons of this particular shapefile were specified in projected meter space. This is a bit of a problem because shapefiles do not, generally, contain the map projection information you need to set up a projected meter map space properly. You have to find this map projection information elsewhere.

It is also a problem because if you wanted to set up a projected meter map space and draw on top of it, the normal IDL routines (i.e., Map_Continents and Map_Grid) don't always do a very good job of that. (And, I see evidence that the problems in this area are being propagated into the Function Graphics map projection routines, as well.)

Since I think most map projection programs only make sense if you are working in projected meter space, nearly all of my Coyote Graphics map projection routines allow you to work in this space.

Anyway, if you are interested in why your shapefile appears to go berserk when you open it in a shapefile viewer that you may have obtained from someone, this article might go a long way toward explaining the problem. In any case, you can see how I would use Coyote Graphics routines to solve the problem:

http://www.idlcoyote.com/map_tips/berserk.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 thui. ("Perhaps thou speakest truth.")
