Ed Hyer writes:

> I am still confused. The first line of code in your article uses a
> keyword to MAP_PROJ_INIT, "ELLIPSOID='wgs84'", which I can find
> nowhere in the documentation of MAP_PROJ_INIT. I see a DATUM keyword
> (that doesn't solve the problem described-- map parameters are still
> spherical when I specify DATUM=8). Was this ELLIPSOID keyword
> introduced in a recent version?

I don't know. It works in both IDL 7.1 and IDL 8.1. I guess I have
been using it for awhile.

> Anyway, perusing the group archive, I see that Andrew Cool in 2004
> said "I suspect that there is an inherent problem in IDL's mapping
> routines in the way they handle Transverse Mercator and rotation."
>
> Might be worth updating this page with new information:
> http://www.idlcoyote.com/map_tips/utm_to_ll.html

Yeah. I just received acknowledgment from the support folks
at (whatever the company is named now, can't remember) that the
WGS84 ellipsoid is broken. They suggest using the WALBACK
ellipsoid, which is nearly identical. In some tests I have
just conducted, the error is less than a meter using this
ellipsoid. (I'll update my article in just a couple of minutes.)

There are still some things about the UTM projection I don't
understand, but this seems to get around the major problem
I was having with it. They tell me the WGS84 ellipsoid problem
is fixed in the next version of IDL. (The semi-major axis and
eccentricity values in the map structure that is returned from
Map_Proj_Init for a UTM projection also contains the values
6370997.0 and 0.000, respectively. These are clearly values
for a sphere. So, be careful if you use map structure values
directly.)

> proj.4 is nice any everything, but one of the strongest points
> remaining in IDL's favor is that it does not use external libraries
> and thus does not have dependency troubles that plague other
> solutions. In the short-term, they should just fix the bug-- I
> seriously doubt that there was ever a version of the GCTP software
> that couldn't handle UTM.

Well, I would think. :-)

Cheers,

David

P.S. Is it just my imagination, or does the name of this
company change more than the name of the latest "new"
graphics system?

--
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.")