
Subject: Re: ENVI Navigating GeoTiff Image Incorrectly?
Posted by [David Fanning](#) on Sun, 30 Oct 2011 17:31:29 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning writes:

> I feel 99.9% confident that ENVI is doing this calculation
> incorrectly. This may be a moot point, however, since
> ENVI has moved on to ESRI map projection code, and my
> client is thinking of upgrading from ENVI 4.5.

Whew! Glad I didn't say 100%!

Because now I am convinced it is IDL that is at fault
and that the IDL UTM map projection produces incorrect
results. (In all versions of IDL, as far as I know,
including IDL 8.1) :-(

Here is a copy of a note I sent to IDL technical support:

http://www.idlcoyote.com/map_tips/map_utm_bug.txt

I'll let you know if I hear something from them.

The bottom line is that the UTM projection *only* allows
a spherical datum to be used. I thought at first this
was because the UTM projection is set up incorrectly in
some of the map projection files distributed in IDL,
but after correcting these files, I obtain identical
(incorrect) results. So, I now believe the problem
is that the GCTP software itself only supports a
sphere as the datum in this projection. This is a
problem because most satellite data is gridded using
a WGS84 datum. Without a datum transformation, the
results can be several hundreds of meters off. Not
a problem, usually, on a global scale, but extremely
significant on a local scale, where these UTM projections
are often used.

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.")
