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Subject: Re: Need help with map projection conversion in IDL or ENVI  
Posted by [Paul Levine](#) on Sat, 15 Mar 2014 02:00:44 GMT  
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On 2014-03-15 01:06:42 +0000, zcwjtt@gmail.com said:

- > I've been fighting with this problem for days and have finally given
- > up on solving it myself. I hope that someone with more experience
- > manipulating maps in IDL/ENVI can offer me some advice and guidance.
- >
- > I have a geostationary satellite image file (actually many such files)
- > that is written as an hdf. The data in the file only have latitude and
- > longitude values corresponding to the pixels in the image in the file,
- > but without projection parameters.
- >
- > I guess it is the "Satellite" projection, since the ranges of latitudes
- > and longitudes covers a sphere.
- >
- > I would like to read partial data and change them to another projection
- > type, such as Mercator.
- > But I don't have any good idea where to start with.
- >
- > Any suggestions would be most welcome.

Based on what you said, I'm guessing the data are in an equirectangular projection [https://en.wikipedia.org/wiki/Equirectangular\\_projection](https://en.wikipedia.org/wiki/Equirectangular_projection)

When selecting projections in ENVI, it is called "Geographic Lat/Lon". The only catch is, ENVI can only handle it if the latitude and longitudes between projections are equal (e.g., 1 degree by 1 degree). You need to know the latitude and longitude of any single pixel (what ENVI calls the "tie point") as well as where that single pixel is in the image. Usually, the bottom left pixel is used, so the image coordinates of the tie point are (1,1).

In IDL, you would need to create latitude and longitude vectors, which you can then use in e.g. the image or contour function along with "grid\_units = 2"

If you could provide more details, in particular, the latitude and longitude values that are delivered in the hdf file, I or others may be able to provide more specific instructions

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