
Subject: Re: ENVI ; My Question(s)

Posted by [Monchaya Piboon](#) on Wed, 10 Oct 2001 05:05:15 GMT

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Hello all,

Thanks for replying me, Mark.

Here are my questions.

First, I'm using ENVI to analyze AVHRR images (HRPT format level 1b). The images are downloaded from www.saa.noaa.gov. I need to do some analysis over a small area (about 2x2 degree), with specific latitude and longitude.

(1) The website always yields images larger than your search area, so I need to find a way to narrow the image down to that specific area.

(2) The problem is I need to know how the pixels are corresponding to latitude and longitude values. When I read the header file using AVHRR utilities, the header showed correct 4 geographic corner values. But I could not find a way to use those values to correctly rectify the images.

(3) How do I georeference the images? Is there any way to georeference, using only geographic corner values? I don't have to get absolutely correct map projections.

As long as I can estimate the average pixel values over that small area, it's fine.

If you have any suggestions, please let me know.

Mon

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Subject: Re: ENVI ; My Question(s)

Monchaya Piboon wrote:

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> header
> showed correct 4 geographic corner values. But I could not find a way to
> use those
> values to correctly rectify the images.

I used to do this for a living.

There was a NOAA publication that described the mathematics. It is rather involved.

We used SGP4 ephemeris to locate the satellite by time,
the used attitude information and time to draw a Line of Sight (LOS)
from the satellite to the geosphere, and solved for lat/lon.

Do they give you pixel numbers in addition to corner lat/lon values?

If so, you could reverse-engineer to satellite position and
viewing angles.

It all depends on how accurate you want it.

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> georeference, using only
> geographic corner values? I don't have to get absolutely correct map
> projections.
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> it's fine.

If they give you corner locations... perhaps they are re-sampling
the data to a standard map projection. If this is the case,
you can simple invert the map projection.

Transverse mercator would be a good choice for AVHRR, since

its fairly close to the way the data is actually collected.

--

Aaron Birenboim | Black holes are where G-d divided

Albuquerque, NM | by zero.

aaron@boim.com |

boim.com/~aaron | -Steven Wright
