Subject: Re: ENVI ; My Question(s)
Posted by Aaron Birenboim on Fri, 12 Oct 2001 16:44:26 GMT
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Monchaya Piboon wrote:
>
> 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 latitude.
> (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.

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.

> (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 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.
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Aaron Birenboim | Black holes are where G-d divided
Albuquerque, NM | by zero.
aaron@boim.com |
boim.com/~aaron | -Steven Wright
