Subject: Re: Changing values of one image from ENVI
Posted by Jonathan Greenberg on Sun, 31 Aug 2008 18:37:49 GMT
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Again, the question is do you need to use a full image to do spatial analysis? There are *some* analyses that really require in the entire image, but local neighborhood spatial analyses are not one of the ones that need ENVI_GET_DATA -- its much more scalable to simply pull a set of lines using ENVI_GET_SLICE the size of your window into an array rather than running on the entire dataset. If you have the memory and small enough images, ENVI_GET_DATA can work fine, but with increasing image sizes (I routinely work with images that range from 1gb to 100gb), I come across a lot of code that does not scale because of that one command, when it only takes a few more lines of code to perform tiled analyses.

Is the overhead incurred by repeated use of ENVI_GET_SLICE vs. ENVI_GET_DATA significant as compared to the total time of processing an image (assuming memory issues are not an issue)? Has anyone done any tests on this?

--j

On Aug 31, 8:30 am, "devin.wh...@gmail.com" <devin.wh...@gmail.com> wrote:
> On Aug 29, 8:15 pm, Jonathan Greenberg <jgrn...@gmail.com> wrote:
>
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>
>> Txomin:
>
>> I need to write a thread at some point extolling how much I hate
>> "ENVI_GET_DATA" -- its one of the most useless commands in the ENVI
>> language. I am a HUGE fan of ENVI_GET_SLICE and, if you want to get
>> more complicated, use the built-in envi tiling routines (which are
>> really just envi_get_slice x a number of lines dependent on memory).
>> The idea is, you read one line at a time, process it, write the output
>> one line at a time... No memory issues, fast read/write, all good.
>
>> --j
>
>> On Aug 29, 8:20 am, txominher...@gmail.com wrote:
>
>>> Hello,
>>> I would like to change some pixel values of one image loaded with
>>> ENVI_OPEN_FILE, but I cannot load the entire image in memory (this is
>>> a very big image).
>>> What I do is to access and process some specific regions of the image

>>> using ENVI_GET_DATA, by defining subsets in DIMS.
>>> I really wonder if there is any keyword in the procedure
>>> ENVI_WRITE_ENVI_FILE, or other procedure (something inverse to
>>> ENVI_GET_DATA) to perform this, because the only choice that I know is
>>> to load the whole image in memory in IDL and write it again.
>
>>> Thanks
>
>>> Txomin- Hide quoted text -
>
>> - Show quoted text -
>
> ENVI_GET_DATA, ENVI_GET_SLICE, and the ENVI tiling mechanism represent
> three different ways to access image data. I sometimes will use all
> three in the same program--depending on what kind of processing I need
> to do. They each have their strengths and weaknesses. For example,
> if I was interested in multi-scale spatial processing (not spectral),
> ENVI_GET_SLICE would be pretty useless since I can only retrieve one
> line at a time at full spatal resolution and the data is ordered in
> BIL or BIP. ENVI_GET_DATA is perfect for that task. The tiling
> mechanism is very flexible and can go either way, but requires more
> programming overhead and is often overkill for the task at hand.
> However, there are times when it is the best option. I wouldn't
> recommend it for this task, though.
