Subject: Re: Changing values of one image from ENVI
Posted by Jonathan Greenberg on Sat, 30 Aug 2008 00:15:56 GMT
View Forum Message <> Reply to Message

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

Subject: Re: Changing values of one image from ENVI
Posted by jeffnettles4870 on Sat, 30 Aug 2008 23:17:19 GMT
View Forum Message <> Reply to Message

On Aug 29, 8:15 pm, Jonathan Greenberg <jgrn...@gmail.com> wrote:
> 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
>
>

ENVI_GET_DATA is really built for accessing a single band of an image cube. Neither it nor ENVI_GET_SLICE seems appropriate to me for what you're trying to do, if i'm reading your problem correctly. The best way to look at the difference between the two routines is to think about an image cube's interleave. If your cube is in BSQ interleave, ENVI_GET_DATA should be fast b/c it returns full bands, and for BSQ interleave, bands are contiguous on disk. If your cube is in a BIP or BIL interleave, ENVI_GET_SLICE is probably the better choice b/c, again, that's the way the data are arranged on disk, and accessing the data in contiguous chunks is faster. ENVI_GET_SLICE is also of course the way to go if you want entire spectra for any number of pixels, including subsets that are complete slices through the cube (ie, you only want 10 pixels out of a line rather than the entire line).

However, all that said, both of those routines are for *loading* data into memory only. If you want to be able to read in a few pixel values, change them, and write those pixels back out without changing the rest of the file, I'd forget both of those routines and have a look at the IDL routine ASSOC().

Jeff

Subject: Re: Changing values of one image from ENVI
Posted by devin.white on Sun, 31 Aug 2008 15:30:53 GMT
View Forum Message <> Reply to Message

On Aug 29, 8:15 pm, Jonathan Greenberg <jgrn...@gmail.com> wrote:
> 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.