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Subject: Re: Solve memory problems

Posted by [Jean H.](#) on Wed, 14 Jan 2009 14:53:54 GMT

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Corinne,

setting `var=0` or `*ptr_var = 0` will have the same effect on memory.  
Now, let's say you have 10 bands, 4000\*5000. If you try to create an array like this `data = bytarr(4000,5000,10)`, you might run out of memory, or, for the same reason, can not create any other variable (not enough contiguous space in memory). With this example, you would need about  $8 \text{ bits} * 4000 * 5000 * 10 = 1\,600\,000\,000$  bits of contiguous memory. Now, if you use points, you can create an array of 10 pointers, each holding a band.

```
ptr_data = ptrarr(10)
ptr_data[0] = ptr_new(bytarr(4000,5000))
ptr_data[1] = ptr_new(bytarr(4000,5000))
....
```

so now, the contiguous memory you need is only  $8 \text{ bits} * 4000 * 5000 = 160\,000\,000$  bits.

If band 2 has a different size, no problem:

```
ptr_data[2] = ptr_new(bytarr(12,25))
```

Jean

Corinne wrote:

> hi jean,

>

> i have never used pointers, so my question is: do you use separate

> pointers or whole pointer-arrays for your bands? what do you do, if

> your bands have different sizes due to different spatial resolutions

> (which you might interpolate later in the programme)?

>

> i'm still trying to figure out, what the advantage of pointers is.

>

> example: i have created an float array a with 4000x5000 elements and

> don't need it anymore. so i want to get rid of it. does it make a

> difference, if i put `a=0` or if i set the value of the pointer of the

> array to zero?

>

> regards,

> corinne

>

>

>> In my own program, I do all the analysis on a modified version of my

>> original image (a classified land-use map, with the background values

>> removed so the data is a 1D array), then, at the very end, I  
>> re-transform it to save and display it. I save a lot of memory!  
>> Moreover, all bands are saved in pointers, allowing the program to run  
>> on almost any computer, while the original version, which did not use  
>> much pointer, was making my work-beast run out of memory fairly quickly!  
>>  
>> Jean  
>

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