Subject: Re: Read _ tiff with Sub_Rect Keyword
Posted by raval.chintan on Tue, 26 Jul 2005 12:06:02 GMT
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Hi Chris,

Thank You for this valuable suggestion, it is working fine, and is more efficient. You can find the new code, for the opening the image, below:

```
pro read_geotiff
  file = dialog_pickfile(filter=['*.tif', '*.tif'])
  if file eq '' then return
  print,systime(0)
  res = query_tiff(file,info,geotiff=geostruct)
  samples = info.dimensions[0]
  lines = info.dimensions[1]
  xper = 25
  yper = 25
  ximg = samples/xper
  yimg = lines/yper
  print,samples,lines,ximg,yimg
  image = bytarr(3,ximg,yimg)
  j=0
  m=0
  for i = 0, lines-1, yper+1 do begin

     a = read_tiff(file,sub_rect=[0,i,samples,1])
     k=0
     for j =0 ,samples-1,xper+1 do begin
       image[0,k,m] = a[0,j]
       image[1,k,m] = a[1,j]
       image[2,k,m] = a[2,j]
       k++
     endfor
     m++

   endfor

  print,systime(0)
  window,0,xsize=ximg,ysize=yimg
  tv, image,/order,  /true

end
```

Any new suggestions are welcome.
With Regards,
Chintan

Chris Torrence wrote:
> Hi Chintan,
>
> Well, you might try reading in complete scanlines (rows) instead of just
> doing tiles. For many TIFF files, the tiles are actually stored using
> scanlines. So for example your tilesize in the file might be 14000x1. So if
> you are trying to read in 500x500 chunks, it is extremely inefficient
> because it needs to read in 500 of the 14000x1 tiles, and then throw away
> most of the information. Then you go on to the next tile and it *again*
> reads in the same 500 14000x1 tiles.
>
> Also, even if your TIFF tilesize isn't 14000x1, it is sometimes still more
> efficient to read in entire scanlines because your operating system will
> tend to cache contiguous blocks of the file in memory.
>
> I think ENVI reads using scanlines.
>
> Hope this helps.
>
> -Chris
> Research Systems, Inc.
>
>
> <raval.chintan@gmail.com> wrote in message
> news:1122287818.648388.298350@g14g2000cwa.googlegroups.com.. .
>> Hi Ben,
>>
>> Thank You for your answer.
>>
>> Over here you are right , for reading the image file which has small
>> dimension, But my image dimension is 14000x14000 or more than that, and
>> i want to display this image in the size of 500X500 window. Here is my
>> code, try out with the image which has dimension more than 6000 X 6000.
>>
>> pro read_geotiff
>> file = dialog_pickfile(filter=['*.tif', '*.tif'])
>> if file eq '' then return
>> print,systime(0)
>> res = query_tiff(file,info,geotiff=geostruct)
>> samples = info.dimensions[0]
>> lines = info.dimensions[1]
>> xper = 25
>> yper = 25
>> ximg = samples/xper
>> yimg = lines/yper
>> print,samples,lines,ximg,yimg

```
>>    image = bytarr(3,ximg,yimg)
>>
>>    for i = 0, yimg*(yper-1), yimg do begin
>>     for j = 0, ximg*(xper-1), ximg do begin
>>       a = read_tiff(file,sub_rect=[j,i,ximg,yimg])
>>       sx = j/xper
>>       sy = i/yper
>>       image[0:2,sx:sx+ximg/xper,sy:sy+yimg/yper] = a[0:2,$
>>  0:ximg-1:xper,0:yimg-1:yper]
>>     endfor
>>    endfor
>>
>>    print,systime(0)
>>    window,0,xsize=ximg,ysize=yimg
>>    tv, image, /order, /true
>>
>>  end
>>
>>  If you know the other methode apart from this then please let me know.
>>  Over here one solution is to make our program to read tiff file, but i
>>  do not want to do this. Because if ENVI is using this read_tiff
>>  function then there should be other method as I think ( Because envi is
>>  taking less time to display the big tiff image).
>>
>>  Regards
>>  Chintan
>>  Ben Tupper wrote:
>>>  raval.chintan@gmail.com wrote:
>>>>  Hi...
>>>>
>>>>  I have a geo tiff file which containing the 14000 X 14000 Pixels
>>>>  (Samples and Lines), I am reading it through the read_tiff function.
>>>>  Over here  i want to show  that image on to the 500 X 500 window Means
>>>>  by buffer for image will contain dimension [3,500,500]. For that I am
>>>>  reading with the help of read_tiff function with the sub_rect keyword.
>>>>  Where i m reading the pixels based on the ratio of 14000/500, but it is
>>>>  taking to much time. While the same thing in ENVI it is taking less
>>>>  time to read the image and display it. So is there any other method for
>>>>  read that image fast. for that  i have to write my own code in IDL to
>>>>  read the tiff file?
>>>>
>>>>  Regards,
>>>>  Chintan Raval
>>>>
>>>  Hello,
>>>
>>>  I don't think I understand what it is that you are trying to do, but I
>>>  would assume that IDL and ENVI are accessing the image using the same
```

>>> procedure. Here is an example of how to use the SUB_RECT keyword (which
>>> I use all the time on much smaller images with no problem.)
>>>
>>> file = FILE_SEARCH(!DIR, 'image.tif')
>>> whole = READ_TIFF(file[0])
>>> sub = READ_TIFF(file[0], sub_rect = [200, 200, 50, 100])
>>> TV, whole
>>> TV, sub, 100, 0
>>>
>>> Is this example similar to how you are using the SUB_RECT keyword?
>>>
>>> Ben
>>
