
Subject: Re: divide image envi-idl

Posted by [jeanh](#) on Tue, 18 May 2010 16:15:40 GMT

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Hi tonino_nestor

> I try to write a batch to divide my image but apparently, the values
> of the loop are wrong... could someone explain me what is wrong ?

what error do you get?

```
>  envi_open_file, image, r_fid=fidimage, /NO_REALIZE
>
>  if (fidimage eq -1) then begin
>    print, 'error nestor'
>  endif
```

at times, the r_fid can be an array... it works better to test if
(fidimage[0] eq -1)

```
>  result = dblarr(NSimage/5, NLimage/2, NBimage)
```

result is of type double

```
>  for i = 0, (NSimage-NSimage/5), NSimage/5 do begin
>    for j = 0, (NLimage-NLimage/2), NLimage/2 do begin
>
>      result = image[i:i+((NSimage/5)-1),j:j+((NLimage/2)-1),
> 0:NBimage-1]
```

result is of the type of image (float? double? int?)

```
>  envi_write_envi_file, result, data_type=4
>  outname = STRCOMPRESS('C:\Documents and Settings\Administrateur
> \Mesdocume'+string(i/(NSimage/5))+string(j/(NLimage/2)),/RE MOVE_ALL)
>  openw, lun, outname, /Get_lun
>  close, lun
>  free_lun, lun
```

here is your problem...

1) the output is of type float. So, if image is a double, your problem
is here!, change the data_type.

2) you need to specify more argument than that to envi_write_envi_file,
including the outname (if you don't want to have the output only in
memory), ns, nl, nb... see the help file.

3) you open and close the file... this is useless.

4) don't use STRCOMPRESS this way. The output would be, for the

begining: C:\DocumentsandSettings\ which is, I believe, not the directory you are looking for. Instead, use strtrim ==> +string(i/(NSimage/5)) becomes +strtrim(i/(NSimage/5),2)

Jean

```
>   endfor
>   endfor
>
> end
```

Subject: Re: divide image envi-idl
Posted by [tonino](#) on Tue, 18 May 2010 17:50:11 GMT
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Thank you very much Jean,

I'm sure those advices will be useful for the next step. For now, the problem concerns the line :

```
result = image[i:i+((NSimage/5)-1),j:j+((NLimage/2)-1),0:NBimage-1]
```

the error message is :

Subscript range values of the form low:high must be >= 0, < size, with low <= high: IMAGE.
% Execution halted at: TUILAGE 18 C:\Documents and Settings
\Administrateur\Mes documents\tuilage.pro

and it still comes if I change the data type or if I transform the variable 'result' into a float array...

I think I don't write the terms of the loop properly

... if you have an idea.

thanks again for your answer
nestonino

Subject: Re: divide image envi-idl
Posted by [jeanh](#) on Tue, 18 May 2010 19:03:07 GMT
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On 18/05/2010 1:50 PM, tonino wrote:

```
> Thank you very much Jean,  
>  
> I'm sure those advices will be useful for the next step. For now, the  
> problem concerns the line :  
>  
> result = image[i:i+((NSimage/5)-1),j:j+((NLimage/2)-1),0:NBimage-1]  
>  
> the error message is :  
>  
> Subscript range values of the form low:high must be >= 0, < size, with  
> low <= high: IMAGE.  
> % Execution halted at: TUILAGE      18 C:\Documents and Settings  
> \Administrateur\Mes documents\tuilage.pro
```

try to print these values... It is probably happening for your last i
and/or j in the loop. Are you sure that NS is a multiple of 5 and NL of
2? if not, you can prepare your index before doing the subscript:

```
subNS = (i+((NSimage/5)-1)) < (NSimage-1)  
subNL = (j+((NLimage/2)-1)) < (NLimage-1)  
result = image[i:subNS,j:subNL,0:NBimage-1]
```

be sure, when you save the result with `envi_write_envi_file`, to compute
the proper ns and nl!

Jean

```
>  
> and it still comes if I change the data type or if I transform the  
> variable 'result' into a float array...  
>  
> I think I don't write the terms of the loop properly  
>  
> ... if you have an idea.  
>  
> thanks again for your answer  
> nestonino
```

Subject: Re: divide image envi-idl

Posted by [jeffnetles4870](#) on Tue, 18 May 2010 19:22:39 GMT

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On May 18, 3:03 pm, jean h

<jghasb...@DELETETHIS.environmentalmodelers.ANDTHIS.com> wrote:

```
> On 18/05/2010 1:50 PM, tonino wrote:  
>
```

```

>> Thank you very much Jean,
>
>> I'm sure those advices will be useful for the next step. For now, the
>> problem concerns the line :
>
>> result = image[i:((NSimage/5)-1),j:j+((NLimage/2)-1),0:NBimage-1]
>
>> the error message is :
>
>> Subscript range values of the form low:high must be >= 0, < size, with
>> low <= high: IMAGE.
>> % Execution halted at: TUILAGE          18 C:\Documents and Settings
>> \Administrateur\Mes documents\tuilage.pro
>
> try to print these values... It it probably happening for your last i
> and/or j in the loop. Are you sure than NS is a multiple of 5 and NL of
> 2? if not, you can prepare your index before doing the subscript:
> subNS = (i+((NSimage/5)-1)) < (NSimage-1)
> subNL = (j+((NLimage/2)-1)) < (NLimage-1)
> result = image[i:subNS,j:subNL,0:NBimage-1]
>
> be sure, when you save the result with envi_write_envi_file, to compute
> the proper ns and nl!
>
> Jean
>
>
>
>> and it still comes if I change the data type or if I transform the
>> variable 'result' into a float array...
>
>> I think I don't write the terms of the loop properly
>
>> ... if you have an idea.
>
>> thanks again for your answer
>> nestonino
>
>

```

Also, the variable named 'image' is not actually holding image data, it's holding a string that's the path to the file. You need to read the image data into memory if you want to subscript it this way. You might eventually think about better ways to do what you want than a double for-loop like you're doing, but for now, your first problem is to get the data into memory.

Subject: Re: divide image envi-idl

Posted by [Antoine Cheula](#) on Wed, 19 May 2010 14:17:42 GMT

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"Jeff N.

"You need to read the image data into memory if you want to subscript it this way."

That was the problem. I still have a problem to save my divide images with the function `envi_write_envi_file...`

Now, my program look like this :

pro tuilage

```
ENVI, /RESTORE_BASE_SAVE_FILES
ENVI_BATCH_INIT
```

```
image = 'C:\Documents and Settings\Administrateur\Mes documents
\cooccurrence+1+2'
envi_open_file, image, r_fid=fidimage, /NO_REALIZE
```

```
if (fidimage eq -1) then begin
  print, 'error nestor'
endif
```

```
envi_file_query, fidimage, dims = dimimage, NB=NBimage, NL=NImage,
NS=NSimage, Bnames=Bnamesimage, data_type = data_type
pos = lindgen(NBimage)
```

```
openr, lun, image, /get_lun
espace = fltarr(NSimage, NImage, NBimage)
```

```
READU,lun, espace
```

```
result = fltarr(NSimage/5, NImage/2, NBimage)
```

```
for i = 0, (NSimage-NSimage/5), NSimage/5 do begin
  for j = 0, (NImage-NImage/2), NImage/2 do begin
```

```
    result = espace[i:i+((NSimage/5)-1),j:j+((NImage/2)-1),
0:NBimage-1]
```

```
    envi_write_envi_file, result, data_type=4, nb=NBimage,
nl=NImage/2, $
    ns=NSimage/5, BNames=BNamesimages, $
    outname = STRCOMPRESS('C:\Documents and Settings\Administrateur
```

```
\Mes documents\' +string(i/(NSImage/5))+string(j/(NLImage/2)),/  
REMOVE_ALL)
```

```
endfor  
endfor
```

```
end
```

Subject: Re: divide image envi-idl
Posted by [jeanh](#) on Wed, 19 May 2010 17:33:31 GMT
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outname is still wrong (you DO want to keep some space there... read my previous post)

Jean

On 19/05/2010 10:17 AM, Antoine Cheula wrote:

```
> "Jeff N.  
>  
> "You need to read the image data into memory if you want to subscript  
> it this way."  
>  
> That was the problem. I still have a problem to save my divide images  
> with the function envi_write_envi_file...  
>  
> Now, my program look like this :  
>  
> pro tuilage  
>  
>   ENVI, /RESTORE_BASE_SAVE_FILES  
>   ENVI_BATCH_INIT  
>  
>   image = 'C:\Documents and Settings\Administrateur\Mes documents  
> \cooccurrence+1+2'  
>   envi_open_file, image, r_fid=fidimage, /NO_REALIZE  
>  
>   if (fidimage eq -1) then begin  
>     print, 'error nestor'  
>   endif  
>  
>   envi_file_query, fidimage, dims = dimimage, NB=NBimage, NL=NLimage,  
>   NS=NSimage, Bnames=Bnamesimage, data_type = data_type  
>   pos = lindgen(NBimage)  
>  
>   openr, lun, image, /get_lun
```

```

> espace = fltarr(NSimage, NImage, NBimage)
>
> READU,lun, espace
>
> result = fltarr(NSimage/5, NImage/2, NBimage)
>
> for i = 0, (NSimage-NSimage/5), NSimage/5 do begin
>   for j = 0, (NImage-NImage/2), NImage/2 do begin
>
>     result = espace[i:i+((NSimage/5)-1),j:j+((NImage/2)-1),
> 0:NBimage-1]
>
>
>
>     envi_write_envi_file, result, data_type=4, nb=NBimage,
> nl=NImage/2, $
>   ns=NSimage/5, BNames=BNamesimages, $
>   outname = STRCOMPRESS('C:\Documents and Settings\Administrateur
> \Mes documents\' + string(i/(NSimage/5)) + string(j/(NImage/2)), /
> REMOVE_ALL)
>
>   endfor
> endfor
>
> end
>

```

Subject: Re: divide image envi-idl
 Posted by [tonino](#) on Thu, 20 May 2010 20:22:38 GMT
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Thank you all for your advices...

Now, my program is running. I can even write into my header (so nice).
 The last problem is that my images are not recognized when I try
 to open them with ENVI :

pro tuilage

```

;ENVI, /RESTORE_BASE_SAVE_FILES
ENVI_BATCH_INIT

```

```

image = 'C:\Documents and Settings\Administrateur\Mes documents
\cooccurrence+1+2'
envi_open_file, image, r_fid=fidimage, /NO_REALIZE

```

```

if (fidimage eq -1) then begin
  print, 'error nestor'

```

```

endif

envi_file_query, fidimage, dims = dimimage, NB=NBimage, NL=NLimage,
NS=NSimage, Bnames=Bnamesimage, data_type = data_type
pos = lindgen(NBimage)

openr, lun, image, /get_lun
espace = fltarr(NSimage, NLimage, NBimage)

READU,lun, espace

result = fltarr(NSimage/5, NLimage/2, NBimage)

for i = 0, (NSimage-NSimage/5), NSimage/5 do begin
  for j = 0, (NLimage-NLimage/2), NLimage/2 do begin

    result = espace[i:i+((NSimage/5)-1),j:j+((NLimage/2)-1),
0:NBimage-1]

    mc = [0, 0, 724295*i*(NSimage/5)*2.5, 1635835.0*j*(NLimage/
2)*2.5]
    ps=[2.5,2.5]

    map_info=envi_map_info_create(/UTM, datum=datum, zone=20, ps=ps,
mc=mc)

    outname='C:\Documents and Settings\Administrateur\Mes documents
\' +strtrim(i/(NSimage/5))+strtrim(j/(NLimage/2))+'.img'
    envi_write_envi_file, result, data_type=4, nb=NBimage,
nl=NLimage/2, $
    ns=NSimage/5, BNames=BNamesimages, out_name=outname,
byte_order=0, map_info=map_info

;   envi_setup_head, Bnames=Bnamesimage, data_type=4,
fname=strcompress(out_name+'.hdr', /REMOVE_ALL), $
;   NS=NSimage/5, NL=NLimage/2, NB=NBimage, $

    openw, unit, outname, /Get_lun
    writeu, unit, result
    free_lun, lun

  endfor
endfor

end

```

Subject: Re: divide image envi-idl
Posted by [tonino](#) on Thu, 20 May 2010 21:03:21 GMT
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Sorry for the last message. I found the solution. The problem was still the outname which must be written this way :

```
outname='C:\Documents and Settings\Administrateur\Mes documents  
' + strtrim(i/(NSimage/5),2) + strtrim(j/(NLimage/2),2) + '.img'
```

thank you very much
tonino
