Subject: Re: Help with code for hyperspectral image analysis
Posted by Kel on Thu, 21 Jun 2012 20:37:58 GMT
View Forum Message <> Reply to Message

I'm testing code on a tiny file now, and it's getting really close! Still not quite what I need though. I've simplified the operations that I want to do on the image data just to get the basic code set up, because something is going weird in writing the output file. Masking high-magnitude pixels was the original goal, now I'm just trying to increase the magnitude of each band by 2.

Goal: open an ENVI image file, use a for-loop to do a simple math operation (add 2), create a new ENVI output image that looks just like the old one but with a slightly higher magnitude across all bands.

Result: The output image file displays the expected samples, lines, and bands, but the band values have no relationship to the band values of the input file, as far as I can tell. How did they get so crazy?

Thanks again for the help, I would never have managed this on my own!

```
;select your image file
image=filepath('tinyfile', root_dir='d:', subdirectory=['idl'])

output=filepath('tiny2', root_dir='d:', subdirectory=['idl'])

;check to see if valid for ENVI
envi_open_file, image, r_fid=fid

;learn about the image
ENVI_FILE_QUERY, fid, ns=ns, nl=nl, nb=nb, data_type=data_type, interleave=interleave,
map_info=map_info
help, data_type

;build array based on data type
data_holder=intarr(ns, nb, nl)
help, data_holder

;open a new file for reading as IDL file unit number 1
openr, 1, image

;write the data in my image file to the file 'data_array'
readu, 1, data_holder
close, 1

dims = [-1, 0, ns-1, 0, nl-1]

OpenW, lun, output, /Get_Lun
   for i=0,nb-1 do begin
     data = ENVI_GET_DATA(fid=fid, dims=dims, pos=i)
```

```
      newdata = data+2
      writeu, lun, newdata

   endfor

   ; close binary file
close, lun
free_lun, lun

; write out an envi header file
envi_setup_head, Data_Type=data_type, /Open, R_FID=masked_fid, /WRITE, FNAME=output,
Interleave=1, ns=ns, nl=nl, nb=nb
```

On Wednesday, June 20, 2012 4:24:54 PM UTC-4, Kel wrote:
> Update: Still running out of memory. I've already changed the values in the idlde.ini file, as
recommended in other posts, but now I'm stuck. Google is suggesting that I increase the virtual
memory of my pc, so I will give that a try.
>
> On Wednesday, June 20, 2012 3:59:36 PM UTC-4, Kel wrote:
>> Thanks you both so much! I had just gotten an out-of-memory error on Klemen's code, which
seemed to be going ok up until that point, so I will try this modification now and hope it helps.
>>
>> On Wednesday, June 20, 2012 3:55:08 PM UTC-4, Brian J. Daniel wrote:
>>> See my adjustments to Klemen's code below. This way you don't have to load the entire
image, masked or otherwise, into memory. Also, untested.
>>>
>>> pro envi_masking_image
>>>
>>> ;select your image file
>>>
>>> ;Get your file
>>> image=dialog_pickfile()
>>>
>>> ; Pick an output filename
>>> output = dialog_pickfile()
>>>
>>> ;check to see if valid for ENVI
>>> envi_open_file, image, r_fid=fid
>>> IF fid[0] EQ -1 THEN Message,'Invalid file name: '+image
>>>
>>> ;learn about the image
>>> ENVI_FILE_QUERY, fid, ns=ns, nl=nl, nb=nb, data_type=data_type,Interleave=interleave

```
>>>  help, data_type
>>>
>>>  ;build array based on data type
>>>  ;data_holder=Make_Array(ns, nb, nl, Type=data_type) ; memory intensive
>>>
>>>  ;make a mask
>>>  f = ENVI_GET_DATA(fid=fid, dims=dims, pos=140)
>>>  indx = where(f LT 40, count)
>>>  f[indx] = 0 ; now f is your mask
>>>
>>>  ;apply the mask to all bands and save
>>>  OpenW, lun, output, /Get_Lun
>>>   if count gt 0 then begin
>>>     for i=0,nl-1 do begin
>>>       data = ENVI_GET_DATA(fid=fid, dims=dims, pos=i)
>>>       writeu,lun,data*f
>>>
>>>     endfor
>>>   endif
>>>
>>>  ; close binary file
>>>  close,lun
>>>  free_lun, lun
>>>
>>>  ; write out an envi header file
>>>  envi_setup_head, Data_Type=data_type, /Open, R_FID=masked_fid, $
>>>    /WRITE, FNAME=output, Interleave=2 ; BIP
>>>
>>>  end
```