Subject: Re: Why is my code truncating my image dimensions?
Posted by Helder Marchetto on Tue, 14 Aug 2012 09:30:43 GMT
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On Tuesday, August 14, 2012 1:49:03 AM UTC+2, adh...@gmail.com wrote:
> Hi Helder,
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>
> Thanks for all the help!! Your explanation of the Format components was great and will hopefully guide me in the future!
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>
> Yes working with this code has been a nightmare. There are 5 programs that all run together to read in the NLDAS files (which come in GRIB format) and the Landsat image. It is always hard to try and take an established program, or set of programs, and adapt it to your own needs. This is what I have been working on and I find that there are often steps I would have done differently, unfortunately I am still quite a newbie with IDL and so I don't yet have the luxury to re-invent the wheel per-se.
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> Thanks also for the alternative way to read in the data, I am sure it will make this process much easier.
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> Best to you and Thanks Again!!
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> Allisyn
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> On Monday, August 13, 2012 4:56:18 PM UTC-4, Helder wrote:
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>> On Monday, August 13, 2012 8:52:00 PM UTC+2, adh...@gmail.com wrote:
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>
>>> Yes, I agree it is the format line. After I changed the text to read as you suggested, the first program worked great :) I am simply not accustomed to working with the format command and therefore I am having a hard time figuring out the context of all the values. I understand that 'F' is used for float, 'I' for integer, 'A' for characters. I also understand that if you have 'A100' then your file name (or whatever) can not exceed 100 characters.
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>>> However I am struggling with other inputs like:
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>>> '/'-- does this mean a new line or return?
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>>> ','-- does this mean the next command?
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>>> '()'-- why would you have some values in additional parenthesis while others not
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>>> 'F6.3'-- what is the relevance of the 6.3. I see (below) that there are 6 values for the number, but why the .3?

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>>> 'A100,5'-- what is the relevance of ,5?
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>>> Anyways this is the header information for the .ctl file that you requested:
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>>> E:\ET code\workassignment\NEWwork\workassignment\final_simple_meth
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>>> 33.0
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>>> 30.0
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>>> right now the format line is written as:
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>>> (I5,/,I5(/,I5),/,F6.3,/,F8.3,/,A100,5(/,F5.1))',nmx,nmy,nx,n y,lat1,lon1,fname1,$
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>>> TM_lat_ul,TM_lat_ll,TM_lon_ul,TM_lon_ll
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>>> Does that help you?
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>>> On Monday, August 13, 2012 2:19:48 PM UTC-4, Helder wrote:
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>>>> On Monday, August 13, 2012 6:27:58 PM UTC+2, adh...@gmail.com wrote:
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>>>> > Hi Helder,
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>>>> > Thank you for your response! I have inserted your suggested change, however this particular program works off of several separate programs. Another section of code follows. This one will also need to be changed as well and simply replacing the 3 with a 4 is not working. Do you have a suggestion as to how this line should be altered to accommodate the new text you suggested?
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>>>> > FORMAT =  '(I3,3(/,I3),/,F6.3,/,F8.3,/,A100,4(/,F5.1))',nmx,nmy,nx,ny, lat1,lon1,fname1,$
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>>>> > > although I have no experience with such images, my first guess is that you need to change the FORMAT in the READF command.
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>>>> > > Using '(I3)' will read 3 digits of integer numbers. I would put a I4. Can you check what comes up by doing that?
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>>>> > > Therefore try with: FORMAT = '(I4,/,I4,2(/,I4),25(/,A100),/,A100)'
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>>>> > > (I have not tested this...!!!)
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>>>> Sorry, I don't because I don't know how the file header actually looks like.
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>>>> But I do think that you're having a problem with truncation in the format line.
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>>>> If you send me the first four or five header lines I can have a go at it. I'm not into satellite images, therefore I can't find such information quickly.
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>> Hi,
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>> well, I'm not that good with formats and I personally don't like the way your code is written down because it is for people like me with a limited experience difficult to read.
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>
>> A few tips to make the code "understandable":
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>
>> 1) using a & is the same as writing two lines. When debugging, the & make your life hell
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>
>> 2) read one line at a time. This way you can look at what is in it and debugging will be a lot easier.
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>> That said, I would rewrite the code necessary for the image size this way:
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>> LandSatFileName = 'C:\YourDirectory\YourFile.txt'
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>
>> GET_LUN, LandSatUnit
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>>
>
>> OPENR, LandSatUnit, LandSatFileName
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>> nmx = 0L
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>> nmy = 0L
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>> nx = 0L
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>> ny = 0L
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>> READF,LandSatUnit, MyString
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>
>> nmx = FIX(MyString, TYPE=3)
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>>

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>
>>  READF,LandSatUnit, MyString
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>>
>
>>  nmy = FIX(MyString, TYPE=3)
>
>>
>
>>  READF,LandSatUnit, MyString
>
>>
>
>>  nx = FIX(MyString, TYPE=3)
>
>>
>
>>  READF,LandSatUnit, MyString
>
>>
>
>>  ny = FIX(MyString, TYPE=3)
>
>>
>
>>  PRINT, 'nmx=',nmx
>
>>
>
>>  PRINT, 'nmy=',nmy
>
>>
>
>>  PRINT, 'nx=',nx
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>
>>  PRINT, 'ny=',ny
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>>
>
>>  CLOSE, LandSatUnit
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>
>> If and when you have time you might look at the FORMAT keyword and you can learn a lot about it... however, the above code works fine. It occupies more lines, but it won't be dramatic in terms of CPU as compared to reading an image file of 7931x7001 pixel.
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>
>> Some quick answers to your format questions (only the things I know).
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>> - f6.3 represents a floating point number made out of 6 digits (dot included) of which 3 after the dot.
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>> - if the () have a number in front that represents the number of repetitions of what is in the parenthesis
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>> - the comma separates commands
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>> - I *think* that the / is indeed a new line
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>>> Does that help you?
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>> Well, I hope it helps you! ;-)
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>> For more info, look in the IDL help for "Format Codes" or follow:
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>
>> IDL Programming -> Concepts -> Format Codes
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>> It can get pretty complicated, but it is also very powerful.
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>> Cheers,
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Hi,
reinventing the wheel is not a good idea. I have no idea what NLDAS,GRIB and Landsat images are... I deal with small images (from microscopes) not with huge images of the earth!

I guess there is one more thing I personally don't like about using formatted input as in your case. Normally, I like using formatted output only to generate tables that look like this:

0123 0056 5392 0003
0005 4501 0893 0159
...

Where you can see that padding with zeros makes the tables "more" readable (Engrish funny) when opening the data as a text. It for sure looks better than this:

123 56 5392 3
5 4501 893 159

I normally use one of two ways to read such lines in. If I have a padded table, than it is okay to read it in using format because the number of characters per number are well defined.
In case I want to read a non-zero-padded table, than I rather read each line as a whole with the commands:
MyLine = ''
readf, MyUnit, MyLine

and then break up the line using the STRSPLIT function.
In case my array is made of 4 integer numbers x n-Lines, than I will define an array such as:

MyArr = INTARR(4,n)

And after each MyLine read add this to the array by using:

MyArr[*,i] = STRSPLIT(MyLine,/EXTRACT)

But this is no a general approach. It depends on how the data was written in the first place.

So, to conclude, I find the using of formated input quite tricky in a way that it works best only when the same person that wrote the output is also reading it... And that is most often not the case.

Anyway, I'm also fighting my way through programming and around here there are lots of people with lots of experience that can give you much more advice on how to manage you data, both in input and output.

Cheers and good luck,
Helder
