
Subject: Re: reading netcdf-4 ubyte datatype
Posted by [Fabzou](#) on Fri, 28 Jan 2011 11:39:11 GMT
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Hi,

Which version of IDL are you using?

IDL 7.1 does not support netCDF 4 files unless you use a patch for new data formats (I think it is included in IDL 7.1.1 but I am not sure)

Fabz

On 01/28/2011 02:33 AM, alison wrote:

> Hi,
> I'm having trouble reading a netcdf-4 file with "ubyte" type data in
> it. I believe that "ubyte" is a valid netcdf-4 datatype (unsigned
> byte) and should just correspond to IDL "byte" type, but `ncdf_varget`
> tells me that datatype is "unknown". I get this error msg:
>
> % NCDF_VARGET: File format error. Varid 5 has a unknown type
>
> I don't think it is a file format problem, as I can read this file
> just fine with Fortran, and it also passes the CF conventions checker
> cleanly. Does anyone know how to read the "ubyte" datatype from a
> netcdf-4 file using IDL?
> Thanks,
> Alison Walker
>
>

Subject: Re: reading netcdf-4 ubyte datatype
Posted by [alison](#) on Fri, 28 Jan 2011 17:35:24 GMT
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Hi,

I am using IDL 8.0 for Linux. I also notice that if I write an IDL "byte" variable (which is unsigned) to a netcdf file, it is written as a netcdf "byte" type (signed), when it should be "ubyte" (unsigned). There doesn't appear to be any way to control the datatype which IDL is automatically choosing when reading/writing from netcdf file. Is there a way to represent my 8-bit unsigned data so that it is handled properly in both IDL and netcdf-4?

Thanks,
Alison

On Jan 28, 4:39 am, Fabzou <fabien.mauss...@tu-berlin.de> wrote:

> Hi,
>
> Which version of IDL are you using?
>
> IDL 7.1 does not support netCDF 4 files unless you use a patch for new
> data formats (I think it is included in IDL 7.1.1 but I am not sure)
>
> Fabz
>
> On 01/28/2011 02:33 AM, alison wrote:
>
>> Hi,
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>> netcdf-4 file using IDL?
>> Thanks,
>> Alison Walker
>
>

Subject: Re: reading netcdf-4 ubyte datatype
Posted by [David Fanning](#) on Fri, 28 Jan 2011 17:44:43 GMT
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Alison writes:

> I am using IDL 8.0 for Linux. I also notice that if I write an IDL
> "byte" variable (which is unsigned) to a netcdf file, it is written as
> a netcdf "byte" type (signed), when it should be "ubyte" (unsigned).
> There doesn't appear to be any way to control the datatype which IDL
> is automatically choosing when reading/writing from netcdf file. Is
> there a way to represent my 8-bit unsigned data so that it is handled
> properly in both IDL and netcdf-4?

Do you have an example of such a file we can test with?

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: reading netcdf-4 ubyte datatype
Posted by [alison](#) on Fri, 28 Jan 2011 19:08:22 GMT
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David,
I don't see a way off-hand to attach a file to this post, so here is the content of a "test_read.cdl" file which can be used to create a netcdf4 file with "ncgen -k 3 test_read.cdl".

```
netcdf test_read {  
variables:  
  ubyte myvar;  
data:  
    myvar = 255;  
}
```

This creates a little netcdf4 file containing a single variable of type ubyte (unsigned byte) whose value is 255. Trying to read this file in IDL I get this:

```
IDL> ncid = ncd_f_open('test_read.nc')  
% Loaded DLM: NCDF.  
IDL> varid = ncd_f_varid(ncid,'myvar')  
IDL> ncd_f_varget, ncid, varid, x  
% NCDF_VARGET: File format error. Varid 0 has a unknown type  
% Execution halted at: $MAIN$  
IDL>
```

Conversely, if I try to create a netcdf4 file from within IDL and store an unsigned byte into it, there is not a "ubyte" option available to the ncd_f_vardef command, and if I use the "byte" option, like this:

```
x = 255b  
ncid = ncd_f_create('test_write.nc',/netcdf4_format,/clobber)  
varid = ncd_f_vardef(ncid,'myvar',/byte)  
ncd_f_varput, ncid, varid, x
```

Then, "ncdump test_write.nc" shows that the resulting netcdf4 file contains this:

```
netcdf test_write {  
variables:  
  byte myvar ;  
data:  
  
  myvar = -1 ;  
}
```

This is not the desired result, as the 255 has become -1. It seems that IDL just doesn't support unsigned bytes in netcdf. Can you verify this? or am I missing something here?
Alison

On Jan 28, 10:44 am, David Fanning <n...@dfanning.com> wrote:

```
> Alison writes:  
>> I am using IDL 8.0 for Linux. I also notice that if I write an IDL  
>> "byte" variable (which is unsigned) to a netcdf file, it is written as  
>> a netcdf "byte" type (signed), when it should be "ubyte" (unsigned).  
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>> is automatically choosing when reading/writing from netcdf file. Is  
>> there a way to represent my 8-bit unsigned data so that it is handled  
>> properly in both IDL and netcdf-4?  
>  
> Do you have an example of such a file we can test with?  
>  
> Cheers,  
>  
> David  
>  
> --  
> David Fanning, Ph.D.  
> Fanning Software Consulting, Inc.  
> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/  
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
```

Subject: Re: reading netcdf-4 ubyte datatype
Posted by [David Fanning](#) on Fri, 28 Jan 2011 19:22:50 GMT
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Alison writes:

```
> This is not the desired result, as the 255 has become -1. It seems  
> that IDL just doesn't support unsigned bytes in netcdf. Can you
```

> verify this? or am I missing something here?

Despite outward appearances, I'm not the authority on what IDL supports. :-)

Have you contacted the folks at ITTVIS? I would assume (hope, really!) this is a question they could answer quite easily.

But, I would say, you certainly appear to be correct.

Cheers,

David

--

David Fanning, Ph.D.

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Subject: Re: reading netcdf-4 ubyte datatype

Posted by [alison](#) on Thu, 03 Feb 2011 21:27:29 GMT

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On Jan 28, 12:22 pm, David Fanning <n...@dfanning.com> wrote:

> Alison writes:

>> This is not the desired result, as the 255 has become -1. It seems
>> that IDL just doesn't support unsigned bytes in netcdf. Can you
>> verify this? or am I missing something here?

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> Despite outward appearances, I'm not the authority on
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>

> Have you contacted the folks at ITTVIS? I would
> assume (hope, really!) this is a question they
> could answer quite easily.

>

> But, I would say, you certainly appear to be correct.

>

> Cheers,

>

> David

>

> --

- > David Fanning, Ph.D.
- > Fanning Software Consulting, Inc.
- > Coyote's Guide to IDL Programming:<http://www.idlcoyote.com/>
- > Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Update: I reported this issue to ittviz tech support. Josh confirmed it is a bug and will file a bug report.
Alison
