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:

- > 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.
>> 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
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>> 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 David Fanning on Fri, 28 Jan 2011 17:44:43 GMT View Forum Message <> Reply to Message

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 View Forum Message <> Reply to Message

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 = ncdf_open('test_read.nc')
% Loaded DLM: NCDF.
IDL> varid = ncdf_varid(ncid,'myvar')
IDL> ncdf_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 ncdf_vardef command, and if I use the "byte" option, like this:

```
x = 255b
ncid = ncdf_create('test_write.nc',/netcdf4_format,/clobber)
varid = ncdf_vardef(ncid,'myvar',/byte)
ncdf_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).
- >> There doesn't appear to be any way to control the datatype which IDL
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- >> there a way to represent my 8-bit unsigned data so that it is handled
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>

> 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 View Forum Message <> Reply to Message

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.

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 Thu, 03 Feb 2011 21:27:29 GMT View Forum Message <> Reply to Message

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?

>

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

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- > Have you contacted the folks at ITTVIS? I would
- > assume (hope, really!) this is a question they
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>

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