
Subject: Re: NetCDF and empty variables

Posted by [renaud.dussurget](#) on Fri, 17 Apr 2009 19:34:47 GMT

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On 17 avr, 17:55, liamgum...@gmail.com wrote:

> On Apr 17, 8:18 am, renaud.dussur...@gmail.com wrote:

>

>

>

>> IDL>ncid = NCDF_OPEN('myFile.nc')

>> IDL>varId = NCDF_VARID(ncid,'HISTORY_INSTITUTION')

>> IDL>out=NCDF_VARINQ(ncid, VarId)

>> IDL>help, out, /str

>> ** Structure <a9c098>, 5 tags, length=56, data length=52, refs=1:

>> NAME STRING 'HISTORY_INSTITUTION'

>> DATATYPE STRING 'CHAR'

>> NDIMS LONG 3

>> NATTS LONG 3

>> DIM LONG Array[3]

>

>> IDL>print, out.dim

>> 6 8 12

>

>> IDL>NCDF_VARGET, ncid, varId, data, COUNT=cnt

>> % Array dimensions must be greater than 0.

>

> Where is the array CNT defined?

>

> Have you tried something like this?

>

> PRO TEST

> ncid = ncdf_open('myfile.nc')

> varid = ncdf_varid(ncid, 'HISTORY_INSTITUTION')

> if (varid eq -1) then message, 'Variable does not exist'

> ncdf_varget, ncid, varid, value

> help, value

> END

>

> If the code gets past the check for (varid eq -1) and it still

> crashes, then something very odd is going on, and I think you have a

> reason to contact ITTVIS technical support.

>

> Liam.

> Practical IDL Programming<http://www.gumley.com/>

Hello

Well, as I've said, it is much nastier than this.

varid returned by NCDF_VARID is correct (the variable exists in the netcdf file and this is its ID)
The return of NCDF_VARINQ also suppose that this variable should have 3 dimensions (as, I think, the creator of this file intended it...)
But there is simply NO DATA within this variable, and there is no way to check this before trying to get the data from the file.

When I do a ncdump of this file I get this

```
netcdf 69003_prof {
dimensions:
    DATE_TIME = 14 ;
    STRING256 = 256 ;
    STRING64 = 64 ;
    STRING32 = 32 ;
    STRING16 = 16 ;
    STRING8 = 8 ;
    STRING4 = 4 ;
    STRING2 = 2 ;
    N_PROF = 16 ;
    N_PARAM = 2 ;
    N_LEVELS = 94 ;
    N_CALIB = 1 ;
    N_HISTORY = UNLIMITED ; // (0 currently)
variables:
[...]
    char HISTORY_INSTITUTION(N_HISTORY, N_PROF, STRING4) ;
        HISTORY_INSTITUTION:long_name = "Institution which
performed action" ;
        HISTORY_INSTITUTION:conventions = "Argo reference
table 4" ;
        HISTORY_INSTITUTION:_FillValue = " " ;
[...]
data:
}
```

-> so there is no data within this variable.
It seems that all "HISTORY_*" variables within this file have been forgotten... We cannot think that NetCDF file will always be perfectly defined as they should be, so here is our problem...

If I repeat this operation with Matlab, using the nload command, I have this:

```
>> nload 'myFile.nc'
>> whos
[...]
```

HISTORY_INSTITUTION	0x0	0 double
---------------------	-----	----------

```
[...]
```

So Matlab is able to detect that the variable exists, even if it is empty, and does not crash reading it.

But, anyway, the EXECUTE() trick works well, as I've been able to read my whole data set without any problem.

I think I'll write a mail to ITT tech support to work around this bug.

Bye
