
Subject: Error opening netCDF file

Posted by [dan.westervelt](#) on Fri, 13 Dec 2013 22:55:53 GMT

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I am attempting to read in about ~100 or so netCDF files in a loop. I'm using `ncdf_read.pro` (http://acmg.seas.harvard.edu/gamap/doc/by_alphabet/gamap_n.html#NCDF_READ). My code looks like this:

```
; read in met variables
ncdf_read, result_meteo, filename = dir1+sim4+dir4+dir3+'atmos.' $
    +years(n)+'-'+string(fix(years(n))+4,format='(I4)')+'.ann.nc ', $
variables = ['netrad_toa']

;; assign variables
net_rad_85(*,*)=result_meteo.netrad_toa
Undefine, result_meteo
```

I am getting this error at the assignment line above:

% Expression must be a structure in this context: RESULT_METEO.

Strangely, if I reset everything, and run again, the code gets a little further in the loop, and more of my 100 or so files are read in. If I repeat it enough times, I can get through the entire program without error, but it can take hours, which is not good.

Each file is about 18M, so I don't think I'm approaching a memory limit? My first guess was memory error or memory leak, but I've tried undefining everything, calling `heap_gc`, etc, with no luck. Any idea what I'm doing wrong here?

Thanks

Dan

Subject: Re: Error opening netCDF file

Posted by [dan.westervelt](#) on Mon, 16 Dec 2013 23:58:46 GMT

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To follow up, this is with IDL 8.0.1 and `netcdf` 4.2. I define the `net_rad_85` array earlier in the program (not shown) to have the same dimensions as `netrad_toa` variable in the structure.

On Friday, December 13, 2013 5:55:53 PM UTC-5, Dan Westervelt wrote:

> I am attempting to read in about ~100 or so netCDF files in a loop. I'm using `ncdf_read.pro` (http://acmg.seas.harvard.edu/gamap/doc/by_alphabet/gamap_n.html#NCDF_READ). My code looks like this:

```
>
>
>
> ; read in met variables
>
```

```
> ncdf_read, result_meteo, filename = dir1+sim4+dir4+dir3+'atmos.' $
>
>      +years(n)+'-'+string(fix(years(n))+4,format='(l4)')+'.ann.nc ', $
>
> variables = ['netrad_toa']
>
>
>
> ; ; assign variables
>
>      net_rad_85(*,*)=result_meteo.netrad_toa
>
>      Undefine, result_meteo
>
>
>
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of my 100 or so files are read in. If I repeat it enough times, I can get through the entire program
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>
>
>
> Each file is about 18M, so I don't think I'm approaching a memory limit? My first guess was
memory error or memory leak, but I've tried undefining everything, calling heap_gc, etc, with no
luck. Any idea what I'm doing wrong here?
>
>
>
> Thanks
>
> Dan
```

Subject: Re: Error opening netCDF file
Posted by [Phillip Bitzer](#) on Tue, 17 Dec 2013 00:47:47 GMT
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Weird. I don't have ncdf_read (and am denied access when I try to clone the git repo), but do they close the file (NCDF_CLOSE) when finished reading it in? I seem to recall coming across something similar where this was the problem.

Perhaps setting some sort of debug "STOP" might help:

```
IF N_TAGS(result_meteo) EQ 0 THEN STOP ELSE net_rad_85=result_meteo.netrad_toa
```

(Notice I've gotten rid of the (*, *) on the LHS - see
http://www.idlcoyote.com/code_tips/asterisk.html)

When it stops, you might be able to look around and find if something has gone screwy.

Subject: Re: Error opening netCDF file

Posted by [dan.westervelt](#) on Tue, 17 Dec 2013 02:46:31 GMT

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Thanks for your response!

Someone has posted the code here:

http://coco.atmos.washington.edu/ion_script/tools/ncdf_read.pro

They do indeed call NCDF_CLOSE, it looks like.

I'm running in interactive mode (with the IDL prompt). Would the STOP really do anything in that case? I am able to print variables from the IDL prompt right after the code crashes. The only odd thing I found was the value of result_meteo = -1 and thus result_meteo.netrad_toa is non-existent.

Thanks for the tip on the asterisks - didn't know that!

On Monday, December 16, 2013 7:47:47 PM UTC-5, Phillip Bitzer wrote:

> Weird. I don't have ncdf_read (and am denied access when I try to clone the git repo), but do they close the file (NCDF_CLOSE) when finished reading it in? I seem to recall coming across something similar where this was the problem.

>

>

>

> Perhaps setting some sort of debug "STOP" might help:

>

> IF N_TAGS(result_meteo) EQ 0 THEN STOP ELSE net_rad_85=result_meteo.netrad_toa

>

>

>

> (Notice I've gotten rid of the (*, *) on the LHS - see
http://www.idlcoyote.com/code_tips/asterisk.html)

>

>

>

> When it stops, you might be able to look around and find if something has gone screwy.

Subject: Re: Error opening netCDF file
Posted by [Fabzi](#) on Tue, 17 Dec 2013 06:50:23 GMT
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On 13.12.2013 23:55, dan.westervelt@gmail.com wrote:
> read in about ~100 or so netCDF files in a loop. I'm using ncdf_read.pro

have you tried David's NCDF_FILE object? It is not very efficient in
opening many files but it is stable.

http://www.idlcoyote.com/programs/ncdf_file__define.pro

Cheers

Fab

Subject: Re: Error opening netCDF file
Posted by [dan.westervelt](#) on Tue, 17 Dec 2013 18:36:37 GMT
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Thanks for the suggestion. Just tried this - code crashes at the same point as with NCDF_READ.
Pops up a dialog box with NC_ERROR = -31.

Maybe the netCDF files themselves are corrupted somehow?

On Tuesday, December 17, 2013 1:50:23 AM UTC-5, Fabien wrote:
> On 13.12.2013 23:55, dan.westervelt@gmail.com wrote:
>
>> read in about ~100 or so netCDF files in a loop. I'm using ncdf_read.pro
>
>
>
> have you tried David's NCDF_FILE object? It is not very efficient in
>
> opening many files but it is stable.
>
>
>
> http://www.idlcoyote.com/programs/ncdf_file__define.pro
>
>
>
> Cheers
>
>
>
> Fab

Subject: Re: Error opening netCDF file
Posted by [David Fanning](#) on Tue, 17 Dec 2013 21:38:16 GMT
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Dan Westervelt writes:

> Thanks for the suggestion. Just tried this - code crashes at the same point as with
NCDF_READ. Pops up a dialog box with NC_ERROR = -31.
>
> Maybe the netCDF files themselves are corrupted somehow?

You can find nCDF_IsValidFile here:

http://www.idlcoyote.com/programs/ncdf_isvalidfile.pro

It might shed some light.

```
; CALLING SEQUENCE:
;
;   result = NCDF_IsValidFile(filename)
;
; INPUTS:
;
;   filename:   The name of a filename to open to see if it is a valid
netCDF file.
;
; RETURN VALUE:
;
;   result:   A 1 if the file can be opened as a netCDF file. A 0
otherwise.
```

Cheers,

David

--

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