Subject: Re: netCDF adding variable to an existing file
Posted by David Fanning on Tue, 16 Apr 2013 20:35:31 GMT
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operator writes:

> I have been attempting to use some of the information I have gathered in this group (From Paul V. on 10/25/2011) to add a couple of variables to my netCDF file (it is a CFradial format, if that matters). I'm running into problems, and I believe the root of it all are the dimensions -- getting them and adding one more.

I can't tell you exactly what is wrong with your code, but I do remember how frustrating it was to learn how to create a netCDF file, or copy data from one netCDF file to another. So frustrating that I eventually wrote my own code to do it, with much better error handling!

You can read about my programs here:

http://www.idlcoyote.com/fileio_tips/ncdf_browser.html

Pay particular attention to the "Further Updates" section at the bottom of that page. The code I am talking about is the code I wrote for the ncdf_file object. There is an example program there, NCDF_File_Examples, that shows you how to create a new file from scratch, copy data from one file to another, and read data out of a netCDF file. It is possible you may find that helpful.

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.")

Subject: Re: netCDF adding variable to an existing file
Posted by armor.uah on Wed, 17 Apr 2013 21:45:25 GMT
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Thank you David, that code is helpful.

I'm worried about having to create a new file and copy things over because this is a "real-time" system, so every second counts. I didn't want to introduce any delays by closing the file, creating a new file, and copying all the variables over including the new variables. I don't know how much of a delay that would introduce though, so I'll find out when I implement it!

Subject: Re: netCDF adding variable to an existing file
Posted by David Fanning on Wed, 17 Apr 2013 21:50:28 GMT
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armor.uah@gmail.com writes:

> I'm worried about having to create a new file and copy things over because this is a "real-time" system, so every second counts. I didn't want to introduce any delays by closing the file, creating a new file, and copying all the variables over including the new variables. I don't know how much of a delay that would introduce though, so I'll find out when I implement it!

I'm not suggesting that you have to create a new file and copy things over. The example just hows how to do either operation. In the application for which I wrote the code I had a file containing a lot of information I wanted in a new file. It was far easier to copy it into the new file than it was to create it de novo every time.

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.")

Subject: Re: netCDF adding variable to an existing file
Posted by armor.uah on Fri, 26 Apr 2013 17:48:27 GMT
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All,
I finally figured out what was going wrong and the ways to fix it.
What was going wrong: Even though the appending procedures would fail, some data was getting appended to the file. This is where the "already defined" errors came from. The way to fix this was to remove the netCDF file and replace the file with an unmodified file every time you run the program while troubleshooting.

About getting dimension information to append to the file: I was not aware of the NCDF_DIMID call and it is required. Here is the correct code in case someone needs it in the future:

;1) Put the netcdf file in DEFINE mode (NCDF_CONTROL)
NCDF_CONTROL, netid, /REDEF

;2) If required, define new dimensions (NCDF_DIMDEF)
te_dim=NCDF_DIMDEF(netid, 'elev', three_elev)

```
;GET THE CURRENT DIMENSION INFORMATION IF NEEDED TO DEFINE VARIABLE(S):
tim_id = NCDF_DIMID( netid, 'time' )
ran_id = NCDF_DIMID( netid, 'range' )

;3) Define the new variable (NCDF_VARDEF). Repeat as necessary for multiple
dimensions/variables.
my_var_id = NCDF_VARDEF(netid, 'My_variable', [ran_id, tim_id], /FLOAT)
other_var_id = NCDF_VARDEF(netid, 'Other_New_Variable', [ran_id, te_dim], /FLOAT)

NCDF_ATTPUT, netid, my_var_id, 'standard_name','Variable na.e'
.
.
.
;4) Put the netcdf in DATA mode (NCDF_CONTROL)
NCDF_CONTROL, netid, /ENDEF
;5) Write the new variable data to the file (NCDF_VARPUT). Repeat 6 as necessary for multiple
variables.
NCDF_VARPUT, netid, my_var_id, actual_variable_values
NCDF_VARPUT, netid, other_var_id, actual_variable_values

;6) Close the file (NCDF_CLOSE)
NCDF_CLOSE, netid
```