Subject: NetCDF Attribute Inquiry
Posted by Alex Schuster on Tue, 20 Mar 2001 16:56:31 GMT

Hi!

I am reading NetCDF files. I do not know for sure which of the
attributes are really stored in the file, so I use NCDF_ATTINQ() to
check before.

With missing attributes, there are two problems:

1) I always get a message like that:
% NCDF_ATTINQ: Attribute inquiry failed, name "somthing" already in use.
This doesn't look good, but I can live with that. No idea why it it
tells me that the name is already being used, because it is not.

2) This one is worse: sometimes the result structure of NCDF_ATTINQ()
does not have a datatype of 'UNKNOWN', but of 'BYTE'. With a random
length. Another NCDF_ATTINQ() gives a different result. Any idea what's
happening here?

My workaround so far is the usage of this function:

```
function attribute_there, id, varid, name
 result = ncdf_attinq( id, varid, name )
  if ( result.datatype ne 'UNKNOWN'  $
  and  result.length gt 0  $
  and  result.length lt 1000 ) then begin
   result = ncdf_attinq( id, varid, name )
   if ( result.datatype ne 'UNKNOWN'  $
  and  result.length gt 0  $
  and  result.length lt 1000 ) then begin
     return, 1
   endif
  endif
return, 0
end
```

I check two times, and I also check for not-too-crazy length fields. I
guess this will work most of the time, but it's not perfect and will
fail some time.

        Alex
--
 Alex Schuster   Wonko@weird.cologne.de   PGP Key available
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Subject: Re: NetCDF Attribute Inquiry
Posted by Liam E. Gumley on Thu, 22 Mar 2001 15:09:51 GMT

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Alex Schuster wrote:
>
> "Liam E. Gumley" wrote:
>
>> Alex Schuster wrote:
>
> [How to check for available attributes without using NCDF_ATTINQ(),
> which sometimes gives bad results]
>
>> Here is a function which returns a list of attribute names for a given
>> variable name. If the variable name is set to the null string '', a list
>> of global attribute names is returned.
>>
>> FUNCTION NCDF_ATTDIR, CDFID, VARNAME
> [...]
>
> Thanks! That's what I needed.
>
> As I also don't know for sure beforehand which variables are in the
> file, I modified your routine so it returns this info. I guess you also
> already have a NCDF_VARDIR() function, but here it is anyway:
>
> FUNCTION NCDF_VARDIR, CDFID
>
> ;- Check arguments
> if n_params() ne 1 then message, 'Usage: RESULT = NCDF_VARDIR(CDFID)'
> if n_elements(cdfid) eq 0 then message, 'CDFID is undefined'
>
> ;- Set default return value
> varnames = ''
>
> fileinfo = ncdf_inquire(cdfid)
> nvars = fileinfo.nvars
>
> ;- If variables were found, get attribute names
> if nvars gt 0 then begin
>   varnames = strarr(nvars)
>   for index = 0, nvars - 1 do $
>   varnames[index] = (ncdf_varinq(cdfid,index)).name
> endif
>
> ;- Return the result
> return, varnames
>
> END

Alex, you just about read my mind. Here is my NCDF_VARDIR function:

```
FUNCTION NCDF_VARDIR, CDFID

;- Check arguments
if n_params() ne 1 then message, 'Usage: RESULT = NCDF_VARDIR(CDFID)'
if n_elements(cdfid) eq 0 then message, 'CDFID is undefined'

;- Set default return value
varnames = ''

;- Get file information
fileinfo = ncdf_inquire(cdfid)
nvars = fileinfo.nvars

;- If variables were found, get variable names
if nvars gt 0 then begin
  varnames = strarr(nvars)
  for index = 0, nvars - 1 do begin
    varinfo = ncdf_varinq(cdfid, index)
    varnames[index] = varinfo.name
  endfor
endif

;- Return the result
return, varnames

END
```

Cheers,
Liam.
http://cimss.ssec.wisc.edu/~gumley