Subject: NCDF_VARGET and Insufficient number of indices in OFFSET array
Posted by andrewcool777 on Sun, 03 Jul 2016 07:59:25 GMT
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Hi All,

I'm in uncharted waters here, playing with ncdf routines for the first time,
trying to read some Numerical Weather mode data from an OPeNDAP system.

My call to the NCDF_VARGET routine is tripping up on variables defined as :-

FLOAT = Array[1088, 746, 70]

Of that 3D array, I want [*,*,0], the bottom layer of the atmosphere.

My fledging code is given in full below, but here's the problem call :-

```
  zw_id = ncdf_varid(file_id, 'zonal_wnd')
  ncdf_varget, file_id, zw_id, zonal_wind, COUNT = [391,391,1], OFFSET =
[428,191,0],STRIDE=[1,1,1]
```

According to the IDL Help, COUNT is a 1-based vector with an element for each dimension of the data to be written. OFFSET seems to be a normal 0 based vector,
and STRIDE is entirely optional.

If I don't provide any of the COUNT, OFFSET or STRIDE keywords, then the entire file is read in properly - no probs there.

If I leave off just the STRIDE keyword, there's no change. Still fails.

In short, I haven't been able to find any combination of the COUNT, OFFSET and STRIDE keywords that works. Remove them all, and I get the entire file, but that's very slow, and simply more data then I need by a factor of ~70!

My wife would say it's obviously because I'm doing something stupid. You may agree. I'm hoping someone out there can point out just what stupid thing it is that I'm doing...

Andrew

NB : This codes relies on wget in IDL v8.5.1 to find the latest dataset online.
If you don't have v8.5.1 you can either spawn a call to wget on your system, or
just just drop the base url into a browser to see what the latest year, month and day are.

```
PRO ADC_OPENDAP

  CLOSE,/ALL
```

```
  DEVICE,DECOMP=0

  base_url = ' http://opendap.bom.gov.au:8080/thredds/dodsC/nmoc_catalogs/A
CCESS-R/operational/model_level/latest/'

  text  = WGET(base_url,/STRING_ARRAY)
  first_file_line = text[20]
  Access_pos = strpos(first_file_line,'latest/ACCESS-R') + 16
  latest_model_run = STRMID(first_file_line,access_pos,10)
  print,'latest_model_run = ',latest_model_run

;  year =
;  month = 7
;  day = 3
;  hour = 0

  var_names =  ['lat','lon','lvl','zonal_wnd','merid_wnd','air_temp','verti
cal_wnd','pressure','dewpt','relhum']

  for forecast_hour = 9,9 Do Begin
    hour_file = 'ACCESS-R_' + latest_model_run + '_' + $   String(forecast_hour,form='(i3.3)') +
'_model.nc'

    this_url = base_url + hour_file

    file_id = ncdf_open(this_url)
    info = ncdf_inquire(file_id)

    Nvars = info.nvars
    var_ids = ncdf_varidsinq(file_id)

    t = systime(1)

; lat,lon and lvl are single dimension vectors , and are rad in AOK

    lat_id = ncdf_varid(file_id, 'lat')
    ncdf_varget, file_id, lat_id, lat, COUNT = [391], STRIDE=[1], OFFSET = [191]

    help,lat

 ; lon_id = ncdf_varid(file_id, 'lon')
 ; ncdf_varget, file_id, lon_id, lon, COUNT = [391], STRIDE=[1], OFFSET = [428]

;  lvl_id = ncdf_varid(file_id, 'lvl')
;  ncdf_varget, file_id, lvl_id, lvl;
;
```

; Here's the (first) problem child. The dimension of 70 is or various ;atmospheric heights.

;The error message:-
;% Insufficient number of indices in OFFSET array (<INT Array[3]>).

;ZONAL_WIND FLOAT = Array[1088, 746, 70]

```
  zw_id = ncdf_varid(file_id, 'zonal_wnd')
  ncdf_varget, file_id, zw_id, zonal_wind, COUNT = [391,391,1], OFFSET =
[428,191,0],STRIDE=[1,1,1]

  print,'zw ok'

  help,zonal_wind

  stop

  airtemp_id = ncdf_varid(file_id, 'air_temp')
  ncdf_varget, file_id, airtemp_id, air_temp

  vert_id = ncdf_varid(file_id, 'vertical_wnd')
  ncdf_varget, file_id, vert_id, vertical_wind

  merid_id = ncdf_varid(file_id, 'merid_wnd')
  ncdf_varget, file_id, merid_id, merid_wind

  pressure_id = ncdf_varid(file_id, 'pressure')
  ncdf_varget, file_id, pressure_id, pressure

  dewpt_id = ncdf_varid(file_id, 'dewpt')
  ncdf_varget, file_id, dewpt_id, dewpt

  relhum_id = ncdf_varid(file_id, 'relhum')
  ncdf_varget, file_id, relhum_id, relhum

  print,'time taken = ',systime(1) - t,' seconds'

  help,lat,lon,relhum

  ncdf_close, file_id

  END

  Window,xs=1190,ys=820
  LOADCT,39
```

```
!P.Position=[0.1,0.1,0.9,0.9]

map_set,-24,125,0,limit=[-65,65,16.95,185]

!ORDER = 1
TV,CONGRID(BYTSCL(relhum),1190*.8,820*.8),0.1,0.1,/NORM

END
```