
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/ACCESS-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','vertical_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 = ',systemtime(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
```

Subject: Re: NCDF_VARGET and Insufficient number of indices in OFFSET array
Posted by [andrewcool777](#) on Mon, 04 Jul 2016 18:58:12 GMT

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OK, answering my own question...

The DDS descriptor for the file shows the Zonal Wind field defined as :-

```
ARRAY:
```

```
Float32 zonal_wnd[time = 1][lvl = 70][lat = 746][lon = 1088];
```

```
MAPS:
```

```
Float64 time[time = 1];
```

```
Float32 lvl[lvl = 70];
```

```
Float32 lat[lat = 746];
```

```
Float32 lon[lon = 1088];
```

```
} zonal_wnd;
```

However to read that data you need the following command :-

```
ncdf_varget, file_id, zw_id, zonal_wind, COUNT = [391,391,1,1], OFFSET = [428,191,0,0]
```

Who would have thought?

Another grey hair and another lesson learnt...

Andrew
