
Subject: Re: Is_netCDF Function

Posted by [Kenneth P. Bowman](#) on Fri, 26 Mar 2004 01:09:28 GMT

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In article <MPG.1acd1c3c46279728989715@news.frii.com>,
David Fanning <david@dfanning.com> wrote:

> Isn't there a function to tell if a file is a netCDF file or not?
> I've looked everywhere but the right place. :-(

There's the function NCDF_EXITS, which sounds like it ought to do what
you want, but it doesn't.

To tell if a file is a netCDF file, try opening it and be prepared to
handle the error.

```
IDL> id = ncdf_open('.tcshrc')  
% NCDF_OPEN: Unable to open the file ".tcshrc". (NC_ERROR=-51)  
% Execution halted at: $MAIN$
```

Ken

Subject: Re: Is_netCDF Function

Posted by [mmiller3](#) on Fri, 26 Mar 2004 14:56:27 GMT

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>>>> > "Kenneth" == Kenneth P Bowman <kpb@null.com> writes:

> To tell if a file is a netCDF file, try opening it and be
> prepared to handle the error.

We check for netcdf files like this:

```
header = bytarr(3)  
openr, lun, filename, /get_lun  
readu, lun, header  
free_lun, lun  
if string(header) eq 'CDF' then print, 'I think this might be a netcdf file...'
```

This is based on the file format specs from Unidata
(<http://www.unidata.ucar.edu/packages/netcdf/guidec/guidec-18.html>)

Mike

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Michael A. Miller

mmiller3@iupui.edu

Subject: Re: Is_netCDF Function

Posted by [Paul Van Delst\[1\]](#) on Fri, 26 Mar 2004 15:42:54 GMT

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Kenneth P. Bowman wrote:

```
> In article <MPG.1acd1c3c46279728989715@news.frii.com>,
> David Fanning <david@dfanning.com> wrote:
>
>
>> Isn't there a function to tell if a file is a netCDF file or not?
>> I've looked everywhere but the right place. :-(
>
>
> There's the function NCDF_EXITS, which sounds like it ought to do what
> you want, but it doesn't.
>
> To tell if a file is a netCDF file, try opening it and be prepared to
> handle the error.
>
> IDL> id = ncdf_open('tcsorc')
> % NCDF_OPEN: Unable to open the file "tcsorc". (NC_ERROR=-51)
> % Execution halted at: $MAIN$
```

That's what I do. I wrapped the above in an `is_ncdf()` function. The error value, -51, indicates that the file is not an netCDF format file. Here's the complete list, with a short description, from the `netcdf.h` file supplied with the `netcdf` library:

```
/*
 * The netcdf version 3 functions all return integer error status.
 * These are the possible values, in addition to certain
 * values from the system errno.h.
 */

#define NC_ISSYSERR(err)    ((err) > 0)

#define NC_NOERR           0    /* No Error */

#define NC_EBADID          (-33) /* Not a netcdf id */
#define NC_ENFILE          (-34) /* Too many netcdfs open */
#define NC_EEXIST          (-35) /* netcdf file exists && NC_NOCLOBBER */
#define NC_EINVAL          (-36) /* Invalid Argument */
#define NC_EPERM           (-37) /* Write to read only */
#define NC_ENOTINDEFINE     (-38) /* Operation not allowed in data mode */
#define NC_EINDEFINE       (-39) /* Operation not allowed in define mode */
#define NC_EINVALCOORDS    (-40) /* Index exceeds dimension bound */
```

```

#define NC_EMAXDIMS    (-41) /* NC_MAX_DIMS exceeded */
#define NC_ENAMEINUSE  (-42) /* String match to name in use */
#define NC_ENOTATT     (-43) /* Attribute not found */
#define NC_EMAXATTRS   (-44) /* NC_MAX_ATTRS exceeded */
#define NC_EBADTYPE    (-45) /* Not a netcdf data type */
#define NC_EBADDIM     (-46) /* Invalid dimension id or name */
#define NC_EUNLIMPOS   (-47) /* NC_UNLIMITED in the wrong index */
#define NC_EMAXVARS    (-48) /* NC_MAX_VARS exceeded */
#define NC_ENOTVAR     (-49) /* Variable not found */
#define NC_EGLOBAL     (-50) /* Action prohibited on NC_GLOBAL varid */
#define NC_ENOTNC      (-51) /* Not a netcdf file */
#define NC_ESTS        (-52) /* In Fortran, string too short */
#define NC_EMAXNAME    (-53) /* NC_MAX_NAME exceeded */
#define NC_EUNLIMIT    (-54) /* NC_UNLIMITED size already in use */
#define NC_ENORECVARS  (-55) /* nc_rec op when there are no record vars */
#define NC_ECHAR       (-56) /* Attempt to convert between text & numbers */
#define NC_EEDGE       (-57) /* Edge+start exceeds dimension bound */
#define NC ESTRIDE     (-58) /* Illegal stride */
#define NC_EBADNAME    (-59) /* Attribute or variable name
                                contains illegal characters */
/* N.B. following must match value in ncx.h */
#define NC_ERANGE      (-60) /* Math result not representable */
#define NC_ENOMEM      (-61) /* Memory allocation (malloc) failure */

```

Of course, one should really define these in a netcdf.pro include file since I'm sure the actual value associated with NC_ENOTNC, -51, could possibly change in future releases (of netcdf or IDL... or both!)

paulv
