

Installing NetCDF - Prerequisites

- MPI
- Zstandard develop package.
- HDF5-1.14.1

```
sudo apt install libzstd-dev
```

```
CC=mpicc ./configure --prefix=/usr/local/hdf5-1.14.1_mpich --enable-parallel  
make -j && sudo make -j install
```

Installing NetCDF - The C Library

- netcdf-c-4.9.2
- Use `--enable-parallel-tests` to turn on parallel I/O tests with `mpiexec`.
- Use `--with-plugin-dir` to get zstandard HDF5 plugin correctly installed.
- For FISMA disable DAP, byterange, and ncZarr. (Though these are great features!)

```
export CC=mpicc
```

```
export CPPFLAGS=-I/usr/local/hdf5-1.14.1_mpich/include
```

```
export LDFLAGS=-L/usr/local/hdf5-1.14.1_mpich/lib
```

```
./configure --prefix=/usr/local/netcdf-c-4.9.2_hdf5-1.14.1_mpich --enable-parallel-tests --with-plugin-dir  
--disable-dap --disable-byterange --disable-nczarr
```

NetCDF C Configuration Summary

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General

NetCDF Version: 4.9.2
Dispatch Version: 5
Configured On: Thu Jun 1 12:06:34 MDT 2023
Host System: x86_64-pc-linux-gnu
Build Directory: /home/ed/Downloads/netcdf-c-4.9.2
Install Prefix: /usr/local/netcdf-c-4.9.2_hdf5-1.14.1_mpich
Plugin Install Prefix: /usr/local/hdf5/lib/plugin

Compiling Options

C Compiler: /usr/bin/mpicc
CFLAGS: -fno-strict-aliasing
CPPFLAGS: -I/usr/local/hdf5-1.14.1_mpich/include
LDFLAGS: -L/usr/local/hdf5-1.14.1_mpich/lib
AM_CFLAGS:
AM_CPPFLAGS:
AM_LDFLAGS:
Shared Library: yes
Static Library: yes
Extra libraries: -lhdf5_hl -lhdf5 -lm -lz -ldl -lzstd -lxml2
XML Parser: libxml2

Features

Benchmarks: no
NetCDF-2 API: yes
HDF4 Support: no
HDF5 Support: yes
NetCDF-4 API: yes
CDF5 Support: yes
NC-4 Parallel Support: yes
PnetCDF Support: no

DAP2 Support: no
DAP4 Support: no
Byte-Range Support: no

S3 Support: no

NCZarr Support: no
NCZarr Zip Support: no

Diskless Support: yes
MMap Support: no
JNA Support: no
ERANGE Fill Support: no
Relaxed Boundary Check: yes

Multi-Filter Support: yes
Quantization: yes
Logging: no
SZIP Write Support: no
Standard Filters: deflate bz2 zstd
ZSTD Support: yes
Parallel Filters: yes

Installing NetCDF - The Fortran Libraries

- netcdf-fortran-4.6.1
- Must set env var HDF5_PLUGIN_PATH

```
export HDF5_PLUGIN_PATH=/usr/local/hdf5/lib/plugin
```

```
export FC=mpifort
```

```
export FCFLAGS=-I/usr/local/netcdf-c-4.9.2_hdf5-1.14.1_mpich/include
```

```
export CPPFLAGS=-I/usr/local/netcdf-c-4.9.2_hdf5-1.14.1_mpich/include
```

```
export LDFLAGS=-L/usr/local/netcdf-c-4.9.2_hdf5-1.14.1_mpich/lib
```

```
./configure --prefix=/usr/local/netcdf-fortran-4.6.1_mpich --enable-parallel-tests
```

NetCDF Fortran Configuration Summary

=====

General

Library Version: 4.6.1
Configured On: Thu Jun 1 12:42:55 MDT 2023
Host System: x86_64-pc-linux-gnu
Build Directory: /home/ed/Downloads/netcdf-fortran-4.6.1
Install Prefix: /usr/local/netcdf-fortran-4.6.1_mpich

Compiling Options

Fortran Compiler: /usr/bin/mpifort
FFLAGS: -g -O2
LDFLAGS: -L/usr/local/netcdf-c-4.9.2_hdf5-1.14.1_mpich/lib
C Compiler: gcc
CPPFLAGS: -I/usr/local/netcdf-c-4.9.2_hdf5-1.14.1_mpich/include
CFLAGS: -g -O2 -DLONGLONG_IS_LONG
Shared Library: yes
Static Library: yes
Extra libraries: -lnetcdf -ldl -lm

Features

F03: yes
Dap Support: no
Logging Support: yes
NetCDF-2 API: yes
NetCDF-4 API: yes
CDF5 Support: yes
Parallel IO: yes
NetCDF4 Parallel IO: yes
PnetCDF Parallel IO: no
SZIP Write Support: no
Zstandard Support: yes (HDF5_PLUGIN_PATH: /usr/local/hdf5/lib/plugin)
Quantize: yes