
README for CCMVal Reformatting Tool

Contact for questions:

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The purpose of this reformatting tool is to convert an arbitrary netCDF file to a CF1.1 netCDF file, using the name convention of the CCMVal Data Request. For more information on the CF attributes (e.g. calendar, coordinates definition), please <http://cf-pcmdi.llnl.gov/>.

The reformatting tool is not a data processing routine, but ensures that the output that is submitted to BADC is compliant with the CCMVal CF naming convention.

Structure of the CCMVal Reformatting Tool









1. c-shell script (CCMVal_Reformattingtool.csh) that calls NCL and NCO. NCL and NCO is freely available software (please see www.ncl.ucar.edu and <http://nco.sourceforge.net/>)
2. Main program written in ncl (attribute.ncl)
3. Four additional functions written in ncl (att_function.ncl, coord_function.ncl, global_attribute.ncl, time_conform.ncl)

All programs must to be in the same directory.


Running the Reformatting Tool

1. Please choose the corresponding CCMVal Fields defined in the CCMVal-2 data request at http://www.pa.op.dlr.de/CCMVal/DataRequests/CCMVal_Datarequest_FINAL.pdf.
2. The time coordinate in the input file could be either 'yyyymm' or 'yyyymmdd' or "days since". The reformatting tool will convert this to the CF convention "days since 1950".
3. Changes must be done only done in PART A and Part B of the c-shell script (CCMVal_Reformattingtool.csh)









a. Changes in Part A: provide information on the input file; Please provide

```
 setenv CCMVal_field 'TO2Ms'    # Name of the CCMVal field as defined in
                                the CCMVal Data Request (e.g. T2Ms, T3M etc).
 setenv inputdir    '/data/cion_ir/header/'    #dir input name
 set  inputfile     = CMAM_1_totalozone.nc    #input file name
 set  var           = totalozone             #input variable name
 set  lat_name      = lat                    # e.g. latitude (if exists)
 set  lon_name      = lon                    # e.g. longitude (if exists)
 set  lev_name      = lev                    # e.g. pressure (if exists)
 set  time_name     = time                   #e.g. time (if exists)
```


b. Changes in Part B provide information on the output file; Please provide:

```
 setenv var_name    'tos'                #name of the output variable as defined in
                                CCMVal Data Request
```

```

 setenv MODEL      'CMAM'           #name of the model
 setenv outputdir  '/data/cion_ir/header/' #name of the output directory
 setenv source     'CCMVal. Method of production of the original data'
 setenv contact    'University of X; Name of model PI or/and group members;
Email addresses'
 setenv REF        'REF-B1'          # Name of the CCMVal-2 simulation
 setenv exp_id     '1'               # ID ensemble number
 setenv history    'List of the applications that have modified the original data'
# comment about of the history of the file
 setenv comment    'Miscellaneous information about the data or methods used
to produce it'                      #comment about the data

```

2. Run the c-shell script by typing in the name of the script (*CCMVal_Reformattingtool.csh*)
3. The main program *attribute.ncl*
 - a. reads the settings in PART A and PART B and the input netCDF file
 - b. transforms the time coordinates to "days since 1950-01-01 00:00:0.0" by calling using the *time_conform.ncl* function
 -  Original time coordinates unit must be : “yyyymm” or “yyyymmdd” or "days since"
 - c. writes the coordinate attributes by calling the *coord_function.ncl* function
 - d. writes the variable attributes by calling the *att_function.ncl* function
 - e. writes the global attributes by calling the *global_attribute.ncl* function
 - f. produces the new file that follows the CF1.1 and CCMVal naming convention with the filename as defined in CCMVal Request