



# **NetCDF(CF) Compliance Checker**

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# What is the CF-Checker?



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A python script to check that the contents of a NetCDF file comply with the Climate and Forecasts (CF) Metadata Convention.

Can be run via a web interface

<http://puma.nerc.ac.uk/cgi-bin/cf-checker.pl>

<http://titania.badc.rl.ac.uk/cgi-bin/cf-checker.pl>

or

Installed locally and run on the command line



Checks against all the requirements & recommendations contained in the CF Requirements and Recommendations document. e.g. attributes are of the correct type and attached to the right type of variable, standard\_names are valid, etc

*(See [cfconventions.org/requirements-and-recommendations.html](http://cfconventions.org/requirements-and-recommendations.html))*

There are, however, a handful of checks that cannot be completed automatically. e.g. for ragged array representations it is impossible to check that the count variable has the instance dimension as its sole dimension.

*(See [puma.nerc.ac.uk/cf-checker-status.html](http://puma.nerc.ac.uk/cf-checker-status.html))*



## Web Interface:

Supply one NetCDF file at a time, and select which CF version to check against.

## Command Line:

More flexible. Better for larger NetCDF files. Can check multiple files at once and possible to specify different standard name table or area types table to use.

Output is currently textual, listing errors, warnings and information for each variable in the NetCDF file.

- Errors – CF requirement not met
- Warning – CF recommendation not met
- Info – Information message. E.g. where an attribute is being used in a non-standard way.



- Based on CDMS (part of CDAT package)
- A single rather big script
- Bug fixes and convention updates are the only changes being made in its current form.
- Grown organically and is becoming harder to maintain in its current state.
- Not NetCDF4 aware, problems with files containing HDF5 attributes.

So....



- Remove dependency on CDAT.  
A rewrite to use netcdf4-python.  
Making it much easier to distribute, install and maintain.
- Refactor of the code.  
Easier to maintain and develop.
- Incorporate a better test suite.
- Improve the output format & web interface.
- Move to github.
- Support for groups in hierarchical NetCDF4/HDF5 files?