

The authors should be complimented on their dataset, and their efforts to make the data open access and available. To work towards interoperability and common data standards, comments are provided here on the quality of the data file provided. I have not read through the accompanying paper, and hence there are no comments on the paper here.

The data set is supposed to be CF-1.7 compliant according to the global attribute 'conventions' in the file. It seems that the file was exported using ODV. After looking through the file, it appears that ODV does not export a completely CF-1.7 compliant file.

The following changes/additions would be required to make the data set truly CF-1.7 compliant:

- Unit 'Deg C' is not acceptable. It would be better to use 'degrees_celsius' (see: <https://docs.unidata.ucar.edu/udunits/current/udunits2-derived.xml>, <http://cfconventions.org/Data/cf-conventions/cf-conventions-1.8/cf-conventions.html#units>)
- The data set is missing the following global attributes:
 - Title
 - History
- The 'comment' attribute should not be empty for the following variables:
 - metavar1
 - metavar2
 - metavar3
 - metavar4
 - longitude
 - latitude

In general, more information is needed in the file and the variable naming is confusing. For example:

- 'PRES' and 'TEMP', or something similar, could be used instead of 'var1' and 'var2', respectively.
- 'CRUISE_IDENTIFIER', 'STATION_NUMBER', 'TYPE' (not sure what is stored in this variable?), and 'SERIAL_NUMBER', or something similar, could be used instead of 'metavar1...4', respectively.
- The addition of the global attributes would improve clarity, for example: 'abstract', 'quality_control', 'time_coverage_start/end', 'institution reference', geospatial information (e.g. 'lat_min').
- The file name '72848.nc' does not contain any useful information. The data user should be able to get some information from the file name for easier identification. For example, you could rename the NetCDF file: 'AdriFOOS_TEMP_PROFILES_2012-2020_C20230116.nc', or something similar.

Ideally, 'var2' (Temperature) would be gridded with dimensions 'N_STATIONS' or 'TIME' (date_time) versus 'PRES' (var1). The gridding of 'var2' in this way would be greatly beneficial but is not necessarily a requirement, as this can be overcome if the dataset user has good knowledge of a programming language.

An example of global attributes taken from a CF-1.7 compliant NetCDF file is copied below that could aid the authors in updating their dataset:

file_version: Level 1 - Quality Controlled Data

file_version_quality_control: Quality controlled data have been through quality assurance procedures such as automated routines and sensor calibration or visual inspection and flag of obvious errors. The data are in physical units using standard SI metric units with

calibration and other pre-processing routines applied, all time and location values are in absolute coordinates to comply with standards and datum. Data includes flags for each measurements to indicate the estimated quality of the measurement. Metadata exists for the data or for the higher level dataset that the data belongs to.

project: project_name

Conventions: CF-1.7

standard_name_vocabulary: NetCDF Climate and Forecast (CF) Metadata Convention Standard Name Table 27

title: title of the data set

institution: institution name

date_created: 2016-08-03T00:54:15Z

abstract: This data set contains data

comment: if required

source: type of instrumentation used for data collection

references: any website reference

featureType: timeSeries

cdm_data_type: Station

quality_control_log: ImpossibleDateQC(dateMin=01/01/2007, dateMax=03/08/2015) did not fail on any TIME sample.

ImpossibleLocationSetQC(distanceKmPlusMinusThreshold=2.5) did not fail on any LATITUDE sample.

ImpossibleLocationSetQC(distanceKmPlusMinusThreshold=2.5) did not fail on any LONGITUDE sample.

InOutWaterQC(in=29/10/09 02:55:00, out=23/12/09 00:05:00) flagged 1631 TEMP samples with flag Bad_data.

InOutWaterQC(in=29/10/09 02:55:00, out=23/12/09 00:05:00) flagged 1631 DEPTH samples with flag Bad_data.

GlobalRangeQC(min=-2.5, max=40) did not fail on any TEMP sample.

GlobalRangeQC(min=-5, max=12000) did not fail on any DEPTH sample.

ImpossibleDepthQC(zNominalMargin=15, maxAngle=70 => min=41, max=116.4006) did not fail on any DEPTH sample.

Author manually flagged 2 TEMP samples with flag Bad_data

Author manually flagged 2 DEPTH samples with flag Bad_data

geospatial_lat_min: -34.1202

geospatial_lat_max: -34.1202

geospatial_lon_min: 151.2245166667

geospatial_lon_max: 151.2245166667

geospatial_vertical_min: 56.0

geospatial_vertical_max: 56.0

geospatial_vertical_positive: down

time_coverage_start: 2009-10-28T13:00:00Z

time_coverage_end: 2009-12-28T02:05:00Z

data_centre: eMarine Information Infrastructure (eMII)

data_centre_email: info@emii.org.au

author_email: author@email.com

author: author name

principal_investigator: PI name

principal_investigator_email: PI@email.com

institution_references: website for institution

citation: The citation in a list of references is: "institution [year-of-data-download], [Title], [data-access-URL], accessed [date-of-access].".

acknowledgement: Any users of data are required to clearly acknowledge the source of the material derived .

disclaimer: Data, products and services are provided "as is" without any warranty as to fitness for a particular purpose.

license: <http://creativecommons.org/licenses/by/4.0/>

history: 2016-08-03T00:54:48Z - timeOffsetPP: TIME values and time_coverage_start/end global attributes have been applied the following offset : -10 hours.

2016-08-03T00:54:50Z - depthPP: Depth computed from the 2 nearest pressure sensors available, using the Gibbs-SeaWater toolbox (TEOS-10) v3.05 from latitude and absolute pressure measurements to which a nominal value for atmospheric pressure (10.1325 dbar) has been subtracted.

2016-08-11 04:33:01 UTC: passed compliance checks: cf (IOOS compliance checker version 2.2.0,