

Source: Gulf of Mexico Coastal Ocean Observing System

netcdf NCEI_TimeSeries_Orthogonal {

dimensions:

time = < dim1 >	REQUIRED	Number of time steps in the time series
timeSeries = <dim2>	REQUIRED	Number of time series (=1 for single time series or can be removed)

variables:

int timeSeries(timeSeries)	RECOMMENDED	If using the attribute below: cf_role. Data type can be whatever is appropriate for the unique feature type.
timeSeries:long_name= "Unique identifier for each feature instance"		RECOMMENDED
timeSeries:cf_role = "timeseries_id"	RECOMMENDED	

double time(time)		Depending on the precision used for the variable, the data type could be int or double instead of float.
time:long_name = ""	RECOMMENDED	Provide a descriptive, long name for this variable.
time:standard_name = "time"	REQUIRED	Do not change.
time:units = "seconds since 1970-01-01 00:00:00 0:00"	REQUIRED	Use approved CF convention with approved UDUNITS.
time:calendar = "julian"	REQUIRED	IF the calendar is not default calendar, which is "gregorian".
time:axis = "T"	REQUIRED	Do not change.
time:ancillary_variables = ""	RECOMMENDED	List other variables providing information about this variable.
time:comment = ""	RECOMMENDED	Add useful, additional information here.

float lat(timeSeries)		Depending on the precision used for the variable, the data type could be int or double instead of float.
lat:long_name = ""	RECOMMENDED	Provide a descriptive, long name for this variable.
lat:standard_name = "latitude"	REQUIRED	Do not change.
lat:units = "degrees_north"	REQUIRED	CF recommends degrees_north, but at least must use UDUNITS.
lat:axis = "Y"	REQUIRED	Do not change.
lat:valid_min = 0.0f	RECOMMENDED	Replace with correct value.
lat:valid_max = 0.0f	RECOMMENDED	Replace with correct value.
lat:_FillValue = 0.0f	REQUIRED	<u>If</u> there could be missing values in the data.
lat:ancillary_variables = ""	RECOMMENDED	List other variables providing information about this variable.
lat:comment = ""	RECOMMENDED	Add useful, additional information here.

float lon(timeSeries) ;		Depending on the precision used for the variable, the data type could be int or double instead of float.
lon:long_name = ""	RECOMMENDED	Provide a descriptive, long name for this variable.
lon:standard_name = "longitude"	REQUIRED	Do not change.
lon:units = "degrees_east"	REQUIRED	CF recommends degrees_east, but at least use UDUNITS.
lon:axis = "X"	REQUIRED	Do not change.
lon:valid_min = 0.0f	RECOMMENDED	Replace this with correct value.
lon:valid_max = 0.0f	RECOMMENDED	Replace this with correct value.
lon:_FillValue = 0.0f	REQUIRED	<u>If</u> there could be missing values in the data.
lon:ancillary_variables = ""	RECOMMENDED	List other variables providing information about this variable.
lon:comment = ""	RECOMMENDED	Add useful, additional information here.

float z(timeSeries)		Depending on the precision used for the variable, the data type could be int or double instead of float. Also the variable "z" could be substituted with a more descriptive name like "depth", "altitude", "pressure", etc.
z:long_name = ""	RECOMMENDED	Provide a descriptive, long name for this variable.
z:standard_name = ""	REQUIRED	Usually "depth" or "altitude" is used.
z:units = ""	REQUIRED	Use UDUNITS.
z:axis = "Z"	REQUIRED	Do not change.
z:positive = ""	REQUIRED	Use "up" or "down".
z:valid_min = 0.0f	RECOMMENDED	Replace with correct value.
z:valid_max = 0.0f	RECOMMENDED	Replace with correct value.
z:_FillValue = 0.0f	REQUIRED	<u>If</u> there could be missing values in the data.

z:ancillary_variables = "" z:comment = ""	RECOMMENDED RECOMMENDED	List other variables providing information about this variable. Add useful, additional information here.
float geophysical_variable_1(timeSeries,time)		This is an example of how each and every geophysical variable in the file should be represented. Replace the name of the variable("geophysical_variable_1") with a suitable name. Replace "float" by data type which is appropriate for the variable.
geophysical_variable_1:long_name = "" geophysical_variable_1:standard_name = "" geophysical_variable_1:ncei_name = "" geophysical_variable_1:units = "" geophysical_variable_1:scale_factor = 0.0f geophysical_variable_1:add_offset = 0.0f geophysical_variable_1:_FillValue = 0.0f geophysical_variable_1:missing_value = 0.0f geophysical_variable_1:valid_min = 0.0f geophysical_variable_1:valid_max = 0.0f geophysical_variable_1:coordinates = "time lat lon z"	RECOMMENDED REQUIRED RECOMMENDED REQUIRED REQUIRED REQUIRED REQUIRED RECOMMENDED RECOMMENDED RECOMMENDED REQUIRED	Provide a descriptive, long name for this variable. If using a CF standard name and a suitable name exists in the CF standard name table. From the NCEI variables vocabulary, if standard_name does not exist. Use UDUNITS compatible units. if the data uses a scale_factor other than 1.The data type should be the data type of the variable. if the data uses an add_offset other than 0. The data type should be the data type of the variable. if there could be undefined values in the data. if there could be missing values in the data. Not necessary if there is only one value which is the same as _FillValue. Replace with correct value. Replace with correct value. Include the auxiliary coordinate variables and optionally coordinate variables in the list. The order itself does not matter. Also, note that whenever any auxiliary coordinate variable contains a missing value, all other coordinate, auxiliary coordinate and data values corresponding to that element should also contain missing values. An ISO 19115-1 code to indicate the source of the data (image, thematicClassification, physicalMeasurement, auxiliaryInformation, qualityInformation, referenceInformation, modelResult, or coordinate). (ACDD) It is highly recommended that the data provider put the data in a well known geographic coordinate system and provide the details of the coordinate system.
geophysical_variable_1:coverage_content_type = ""	RECOMMENDED	The method of production of the original data Published or web-based references that describe the data or methods used to produce it.
geophysical_variable_1:grid_mapping = "crs"	RECOMMENDED	Use the coordinate variables to define the cell values (ex., "time: point lon: point lat: point z: point").
geophysical_variable_1:source = "" geophysical_variable_1:references = "" geophysical_variable_1: cell_methods = "" geophysical_variable_1:ancillary_variables = "instrument_parameter_variable platform_variable boolean_flag_variable enumerated_flag_variable"	RECOMMENDED RECOMMENDED RECOMMENDED RECOMMENDED	Identify the variable name(s) of the flag(s) and other ancillary variables relevant to this variable. Use a space-separated list.
geophysical_variable_1:platform = "platform_variable" geophysical_variable_1:instrument = "instrument_variable" geophysical_variable_1:comment = ""	RECOMMENDED RECOMMENDED RECOMMENDED	Refers to name of variable containing information on the platform from which this variable was collected. Refers to name of variable containing information on the instrument from which this variable was collected. Add useful, additional information here.
byte boolean_flag_variable(timeSeries,time)		A boolean flag variable, in which each bit of the flag can be a 1 or 0.
boolean_flag_variable:standard_name= ""	RECOMMENDED	This attribute should include the standard name of the variable which this flag contributes plus the modifier: "status_flag" (for example, "sea_water_temperature status_flag"). See CF standard name modifiers.
boolean_flag_variable:long_name = "" boolean_flag_variable:flag_masks = "" boolean_flag_variable:flag_meanings = "" boolean_flag_variable:references = "" boolean_flag_variable:comment = ""	RECOMMENDED REQUIRED REQUIRED RECOMMENDED RECOMMENDED	Provide a descriptive, long name for this variable. Provide a comma-separated list describing the binary condition of the flags. Provide a comma-separated list of flag values that map to the flag_masks. Published or web-based references that describe the data or methods used to produce it. Add useful, additional information here.
int enumerated_flag_variable(timeSeries,time)		An enumerated flag variable, in which numeric values refer to defined, exclusive conditions.
enumerated_flag_variable:standard_name= ""	RECOMMENDED	This attribute should include the standard name of the variable which this flag contributes plus the modifier: "status_flag" (for example, "sea_water_temperature status_flag"). See CF standard name modifiers.
enumerated_flag_variable:long_name = "" enumerated_flag_variable:flag_values = "" enumerated_flag_variable:flag_meanings = "" enumerated_flag_variable:references = "" enumerated_flag_variable:comment = ""	RECOMMENDED REQUIRED REQUIRED RECOMMENDED RECOMMENDED	Provide a descriptive, long name for this variable. Provide a comma-separated list of flag values that map to the flag_meanings. Provide a space-separated list of meanings corresponding to each of the flag_values Published or web-based references that describe the data or methods used to produce it. Add useful, additional information here.
int platform_variable	RECOMMENDED	A container variable storing information about the platform. If more than one, can expand each attribute into a variable. For example, platform_call_sign and platform_ncei_code. See instrument_parameter_variable for an example.

platform_variable:long_name = ""	RECOMMENDED	Provide a descriptive, long name for this variable.
platform_variable:comment = ""	RECOMMENDED	Add useful, additional information here.
platform_variable:call_sign = ""	RECOMMENDED	This attribute identifies the call sign of the platform.
platform_variable:ncei_code = ""	RECOMMENDED	This attribute identifies the NCEI code of the platform. Look at http://www.nodc.noaa.gov/cgi-bin/OAS/prd/platform to find if NCEI codes are available.
platform_variable:wmo_code = ""	RECOMMENDED	This attribute identifies the wmo code of the platform. Information on getting WMO codes is available at http://www.wmo.int/pages/prog/amp/mmop/wmo-number-rules.html
platform_variable:imo_code = ""	RECOMMENDED	This attribute identifies the International Maritime Organization (IMO) number assigned by Lloyd's register.
int instrument_parameter_variable(timeSeries)	RECOMMENDED	An instrument variable storing information about a parameter of the instrument used in the measurement, the dimensions don't have to be specified if the same instrument is used for all the measurements.
instrument_parameter_variable:long_name = ""	RECOMMENDED	Provide a descriptive, long name for this variable.
instrument_parameter_variable:comment = ""	RECOMMENDED	Add useful, additional information here.
double crs;	RECOMMENDED	A container variable storing information about the grid_mapping. All the attributes within a grid_mapping variable are described in http://cfconventions.org/Data/cf-conventions/cf-conventions-1.6/build/cf-conventions.html#grid-mappings-and-projections. For all the measurements based on WSG84, the default coordinate system used for GPS measurements, the values shown here should be used.
crs:grid_mapping_name = "latitude_longitude"	RECOMMENDED	European Petroleum Survey Group code for the grid mapping name.
crs:epsg_code = "EPSG:4326"	RECOMMENDED	
crs:semi_major_axis = 6378137.0d	RECOMMENDED	
crs:inverse_flattening = 298.257223563d	RECOMMENDED	

global attributes:		
:ncei_template_version = "NCEI_NetCDF_TimeSeries_Orthogonal_Template_v2.0"	REQUIRED	(NCEI)
:featureType = "timeSeries"	REQUIRED	CF attribute for identifying the featureType. (CF)
:title = ""	HIGHLY RECOMMENDED	Provide a useful title for the data in the file. (ACDD)
:summary = ""	HIGHLY RECOMMENDED	Provide a useful summary or abstract for the data in the file. (ACDD)
:keywords = ""	HIGHLY RECOMMENDED	A comma separated list of keywords coming from the keywords_vocabulary. (ACDD)
:Conventions = "CF-1.6, ACDD-1.3"	HIGHLY RECOMMENDED	A comma separated list of the conventions being followed. Always try to use latest version. (CF/ACDD)
:id = ""	RECOMMENDED	Should be a human readable unique identifier for data set. (ACDD)
:naming_authority = ""	RECOMMENDED	Backward URL of institution (for example, gov.noaa.ncei). (ACDD)
:history = ""	RECOMMENDED	Provides an audit trail for modifications to the original data. (ACDD)
:source = ""	RECOMMENDED	The method of production of the original data. (CF)
:processing_level = ""	RECOMMENDED	Provide a description of the processing or quality control level of the data. (ACDD)
:comment = ""	RECOMMENDED	Provide useful additional information here. (CF)
:acknowledgment = ""	RECOMMENDED	A place to acknowledge various types of support for the project that produced this data. (ACDD)
:license = ""	RECOMMENDED	Describe the restrictions to data access and distribution. (ACDD)
:standard_name_vocabulary = "CF Standard Name Table vNN"	RECOMMENDED	If using CF standard name attribute for variables. Replace NN with the CF standard name table number (CF)
:date_created = ""	RECOMMENDED	Creation date of this version of the data(netCDF). Use ISO 8601:2004 for date and time. (ACDD)
:creator_name = ""	RECOMMENDED	The name of the person (or other creator type specified by the creator_type attribute) principally responsible for creating this data. (ACDD)
:creator_email = ""	RECOMMENDED	The email address of the person (or other creator type specified by the creator_type attribute) principally responsible for creating this data. (ACDD)
:creator_url = ""	RECOMMENDED	The URL of the person (or other creator type specified by the creator_type attribute) principally responsible for creating this data. (ACDD)
:institution = ""	RECOMMENDED	The name of the institution principally responsible for originating this data.. An institution attribute can be used for each variable if variables come from more than one institution. (CF/ACDD)
:project = ""	RECOMMENDED	The name of the project(s) principally responsible for originating this data. Multiple projects can be separated by commas. (ACDD)
:publisher_name = ""	RECOMMENDED	The name of the person (or other entity specified by the publisher_type attribute) responsible for publishing the data file or product to users, with its current metadata and format. (ACDD)

:publisher_email = ""	RECOMMENDED	The email address of the person (or other entity specified by the publisher_type attribute) responsible for publishing the data file or product to users, with its current metadata and format. (ACDD)
:publisher_url = ""	RECOMMENDED	The URL of the person (or other entity specified by the publisher_type attribute) responsible for publishing the data file or product to users, with its current metadata and format. (ACDD)
:geospatial_bounds = ""	RECOMMENDED	Describes the data's 2D or 3D geospatial extent in OGC's Well-Known Text (WKT) Geometry format. (ACDD)
:geospatial_bounds_crs = ""	RECOMMENDED	The coordinate reference system (CRS) of the point coordinates in the geospatial_bounds attribute. (ACDD)
:geospatial_bounds_vertical_crs = ""	RECOMMENDED	The vertical coordinate reference system (CRS) for the Z axis of the point coordinates in the geospatial_bounds attribute. (ACDD)
:geospatial_lat_min = 0.0d	RECOMMENDED	Describes a simple lower latitude limit. (ACDD)
:geospatial_lat_max = 0.0d	RECOMMENDED	Describes a simple upper latitude limit. (ACDD)
:geospatial_lon_min = 0.0d	RECOMMENDED	Describes a simple lower longitude limit. (ACDD)
:geospatial_lon_max = 0.0d	RECOMMENDED	Describes a simple upper longitude limit. (ACDD)
:geospatial_vertical_min = 0.0d	RECOMMENDED	Describes the numerically smaller vertical limit. (ACDD)
:geospatial_vertical_max = 0.0d	RECOMMENDED	Describes the numerically larger vertical limit. (ACDD)
:geospatial_vertical_positive = ""	RECOMMENDED	Use "up" or "down". (ACDD)
:time_coverage_start = ""	RECOMMENDED	Describes the time of the first data point in the data set. Use ISO 8601:2004 for date and time. (ACDD)
:time_coverage_end = ""	RECOMMENDED	Describes the time of the last data point in the data set. Use ISO 8601:2004 for date and time. (ACDD)
:time_coverage_duration = ""	RECOMMENDED	Describes the duration of the data set. Use ISO 8601:2004 for date and time. (ACDD)
:time_coverage_resolution = ""	RECOMMENDED	Describes the targeted time period between each value in the data set. Use ISO 8601:2004 for date and time. (ACDD)
:uuid = ""	RECOMMENDED	Machine readable unique identifier for each file. A new uuid is created whenever the file is changed. (NCEI)
:sea_name = ""	RECOMMENDED	The names of the sea in which the data were collected. Use NCEI sea names table. (NCEI)
:creator_type = ""	SUGGESTED	Specifies type of creator with one of the following: 'person', 'group', 'institution', or 'position'. (ACDD)
:creator_institution = ""	SUGGESTED	The institution of the creator; should uniquely identify the creator's institution. (ACDD)
:publisher_type = ""	SUGGESTED	Specifies type of publisher with one of the following: 'person', 'group', 'institution', or 'position'. (ACDD)
:publisher_institution = ""	SUGGESTED	The institution that presented the data file or equivalent product to users; should uniquely identify the institution. (ACDD)
:program = ""	SUGGESTED	The overarching program(s) of which the dataset is a part. (ACDD)
:contributor_name = ""	SUGGESTED	The name of any individuals, projects, or institutions that contributed to the creation of this data. (ACDD)
:contributor_role = "" ;	SUGGESTED	The role of any individuals, projects, or institutions that contributed to the creation of this data. (ACDD)
:geospatial_lat_units = "degrees_north"	SUGGESTED	Units for the latitude axis described in "geospatial_lat_min" and "geospatial_lat_max" attributes. Use UDUNITS compatible units. (ACDD)
:geospatial_lon_units = "degrees_east"	SUGGESTED	Units for the longitude axis described in "geospatial_lon_min" and "geospatial_lon_max" attributes. Use UDUNITS compatible units. (ACDD)
:geospatial_vertical_units = ""	SUGGESTED	Units for the vertical axis described in "geospatial_vertical_min" and "geospatial_vertical_max" attributes. The default is EPSG:4979. (ACDD)
:date_modified = ""	SUGGESTED	The date on which the data was last modified. Note that this applies just to the data, not the metadata. Use ISO 8601:2004 for date and time. (ACDD)
:date_issued = ""	SUGGESTED	The date on which this data (including all modifications) was formally issued (i.e., made available to a wider audience). Note that these apply just to the data, not the metadata. Use ISO 8601:2004 for date and time. (ACDD)
:date_metadata_modified = ""	SUGGESTED	The date on which the metadata was last modified. Use ISO 8601:2004 for date and time. (ACDD)
:product_version = ""	SUGGESTED	Version identifier of the data file or product as assigned by the data creator. (ACDD)
:keywords_vocabulary = ""	SUGGESTED	Identifies the controlled keyword vocabulary used to specify the values within the attribute "keywords". Example: 'GCMD:GCMD Keywords' (ACDD)
:platform = ""	SUGGESTED	Name of the platform(s) that supported the sensor data used to create this data set or product. Platforms can be of any type, including satellite, ship, station, aircraft or other. (ACDD)
:platform_vocabulary = ""	SUGGESTED	Controlled vocabulary for the names used in the "platform" attribute. Example: 'NASA/GCMD Platform Keywords Version 8.1' (ACDD)
:instrument = ""	SUGGESTED	Name of the contributing instrument(s) or sensor(s) used to create this data set or product. (ACDD)
:instrument_vocabulary = ""	SUGGESTED	Controlled vocabulary for the names used in the "instrument" attribute. Example: 'NASA/GCMD Instrument Keywords Version 8.1' (ACDD)
:cdm_data_type = "Station"	SUGGESTED	The data type, as derived from Unidata's Common Data Model Scientific Data types and understood by THREDDS. (ACDD)
:metadata_link = ""	SUGGESTED	A URL that gives the location of more complete metadata. A persistent URL is recommended for this attribute. (ACDD)
:references = ""	SUGGESTED	Published or web-based references that describe the data or methods used to produce it. Recommend URIs (such as a URL or DOI) for papers or other references. (CF)

