Table: observations_table

URL: https://github.com/DavidBerryNOC/C3S_311a_CDM/blob/master/tables/tsv/observations_table.tsv

Descripion: table defining elements in main observations table

Source:

element_number	element_name	kind	external_table	description
1	report_id	bigint (pk)		Unique ID for report (unique ID given by combination of RecordID and ObservationID)
2	region	int (fk)	region	Region (WMO region / Ocean basin)
3	sub_region	int (fk)	sub_region	Country / regional sea
4	application_area	int[] (fk)	application_area	WMO application area(s)
5	observing_programme	int[] (fk)	observing_programme	Observing programme, e.g. VOS
6	report_type	int (fk)	report_type	e.g. SYNOP, TEMP, CLIMAT, etc
7	station_name	varchar		e.g. GRUAN station name, ship name, site name etc
8	station_type	int (fk)	station_type	Type of station, e.g. land station, sea station etc
9	platform_type	int (fk)	platform_type	Structure upon which sensor is mounted, e.g. ship, drifting buoy, tower etc
10	platform_sub_type	int (fk)	platform_sub_type	Sub-type for platform, e.g. 3m discuss buoy
11	primary_station_id	varchar		Primary station identifier, e.g. WIGOS ID
12	primary_station_id_scheme	int (fk)	id_scheme	Scheme used for station ID
13	secondary_station_id	varchar		Alternate (e.g. local) ID for station
14	secondary_station_id_scheme	int (fk)	id_scheme	Alternate ID Scheme, e.g. Network ID
15	station_location_longitude	numeric		Longitude of station, -180.0 to 180.0 (or other as defined by station_crs)
16	station_location_latitude	numeric		Latitude of station, -90 to 90 (or other as defined by station_crs)
17	station_location_accuracy	numeric		Accuracy to which station location recorded (radius in km)
18	station_location_method	int(fk)	location_method	Method by which location determined
19	station_location_quality	int (fk)	location_quality	Quality flag for station location
20	station_crs	int (fk)	crs	Coordinate reference scheme for station location
21	station_speed	numeric		Station speed over ground if mobile (m/s)
22	station_course	numeric		Station course over ground if mobile (degree true)
23	station_heading	numeric		Station heading if mobile
24	surface_type	int (fk)	surface_type	e.g. rolling hills
25	surface_type_scheme	int (fk)	surface_type_scheme	Scheme used to classify surface cover
26	site_topography	int (fk)	site_topography	Description of local topography and broader context
27	station_configuration	int (fk)	station_configuration	Link to station metadata / configuration
28	height_of_station_above_local_ground	numeric		Height of station above local ground (m)
29	height_of_station_above_sea_level	numeric		Height of station above mean sea level (m), negative values for below sea level.
30	height_of_station_above_sea_level_accuracy	numeric		Accuracy to which height of station known (m)
31	sea_level_datum	int (fk)	sea_level_datum	Datum used for sea level
32	report_meaning_of_time_stamp	int (fk)	meaning_of_time_stamp	Report time - beginning, middle or end of reporting period
33	report_year	int		Year of report (UTC)
34	report_month	int		Month of report (UTC)
35	report_day	int		Day of report (UTC)
36	report_hour	int		Hour of report (UTC)
37	report_minutes	int		Minute of report (UTC)
38	report_seconds	int		Seconds of report (UTC)
39	report_duration	int		Report duration (s), e.g. 86400 = daily obs, 3600 hourly etc
40	report_time_accuracy	numeric		Precision to which time was recorded (s)
41	report_time_quality	int (fk)	time_quality	Quality flag for ReportDateTime
42	report_time_reference	int (fk)	time_reference	Reference Time (e.g. referenced to time server, atomic clock, radio clock etc)
43	profile_configuration	int (fk)	profile_configuration	Information on profile (atmospheric / oceanographic) configuration. Set to Record ID for profile data or missing (NULL) otherwise.
44	events_at_station	int[] (fk)	events_at_station	e.g. ship hove to, crop burning etc.
45	report_quality	int (fk)	quality_flag	Overall quality of report
46	duplicate_status	int (fk)	duplicate_status	E.g. no duplicates, best duplicate, duplicate, not checked.
47	duplicates	int[] (fk)	observations_table	Array of report_id's for duplicates
48	maintenance_and_update_frequency	int (fk)	update_frequency	Frequency with which modifications and deletions are made to the data after it is first produced
49	history	varchar		Sequence of processing steps. Free text with timestamp 1 : history 1; timestamp 2 : history 2 etc.
50	record_year	int		Year of revision of this record (UTC)
51	record_month	int		Month of revision of this record (UTC)
52	record_day	int		Day of revision of this record (UTC)
53	record_hour	int		Hour of revision of this record (UTC)
54	record_minute	int		Minute of revision of this record (UTC)
55	record_seconds	int		Seconds of revision of this record (UTC)
56	processing_level	int (fk)	report_processing_level	Level of processing applied to this report
57	processing_codes	int[] (fk)	report_processing_codes	Processing applied to this report
58	source_id	int (fk)	source_configuration	Original source of data – link to table
59	source_record_id	varchar		Record ID in source data, e.g. ID of event from GRUAN meta database
60	data_policy_licence	int (fk)	data_policy_licence	WMOessential, WMOadditional, WMOother
61	observation_id	int (pk)		Together with RecordID forms unique ID for observation / record
62	observed_variable	int (fk)	observed_variable	The variable being observed / measured
63	units	int (fk)	units	Units for the observed variable
64	code_table	int (fk)	observation_code_table	Encode / decode table for variable (if encoded)
65	observation_value	numeric		The observed value
66	observation_value_significance	int (fk)	observation_value_significance	e.g. min, max, mean, sum
67	observation_timestamp_meaning	int (fk)	meaning_of_time_stamp	beginning, middle, end
68	observation_year	int		Year ofobservation (UTC)
69	observation_month	int		Month of observation (UTC)
70	obvservation_day	int		Day of observation (UTC)
71	observation_hour	int		Hour of observation (UTC)
72	observation_minute	int		Minutes of observation (UTC)
73	observation_seconds	int		Seconds of observation (UTC)
74	observation_duration	int		Duration/period over which observation was made (s)
75	observation_longitude	numeric		Longitude of the observed value, -180 to 180 (or other as defined by CRS)
76	observation_latitude	numeric		Latitude of the observed value, -90 to 90 (or other as defined by CRS)
77	observation_location_method	int (fk)	location_method	Method of determining location,
78	observation_location_precision	numeric		Precision to which location is reported (radius km)
79	observation_bounding_box_min_longitude	numeric		Bounding box for observation, valid range given by CRS
80	observation_bounding_box_max_longitude	numeric		Bounding box for observation, valid range given by CRS
81	observation_bounding_box_min_latitude	numeric		Bounding box for observation, valid range given by CRS
82	observation_bounding_box_max_latitude	numeric		Bounding box for observation, valid range given by CRS
83	observation_spatial_representativeness	int (fk)	spatial_representativeness	Spatial representativeness of observation
84	observation_height_above_station_surface	numeric		Height of sensor above local ground or sea surface. Positive values for above surface (e.g. sondes), negative for below (e.g. xbt). For visual observations, height of the visual observing platform.
85	observation_z_coordinate	numeric		z coordinate of observation
86	observation_z_coordinate_type	int (fk)	z_coordinate_type	Type of z coordinate
87	observation_z_coordinate_method	int (fk)	z_coordinate_method	Method of determining z coordinate
88	quality_flag	int (fk)	quality_flag	Quality flag for observation
89	numerical_precision	int		Reporting precision of observation in units given by 'units' variable. Equivalent to BUFR scale factor
90	standard_uncertainty	numeric		Standard uncertainty in reported value
91	method_of_estimating_standard_uncertainty	int (fk)	method_of_estimating_uncertainty	Method of estimating the standard uncertainty
92	uncertainty_due_to_correlated_errors	numeric		Uncertainty due to errors in the observation that are correlated between observations, e.g. due to sensor housing
93	method_of_estimating_uncertainty_due_to_correlated_errors	int (fk)	method_of_estimating_uncertainty	NA
94	uncertainty_due_to_uncorrelated_errors	numeric		Uncertainty due to errors in the observation that are uncorrelated between observations, e.g. due to sensor noise / small scale variability
95	method_of_estimating_uncertainty_due_to_uncorrelated_errors	int (fk)	method_of_estimating_uncertainty	NA
96	uncertainty_due_to_systematic_errors	numeric		Uncertainty due to errors in the observations that are correlated under similar observing conditions
97	method_of_estimating_uncertainty_due_to_systematic_errors	int (fk)	method_of_estimating_uncertainty	NA
98	total_uncertainty	numeric		Sum of uncertainty terms added in quadrature
99	method_of_estimating_total_uncertainty	int (fk)	method_of_estimating_uncertainty	NA
100	sensor_id	int (fk)	sensor_configuration	NA
101	sensor_automation_status	int (fk)	automation_status	Automated, manual, mixed or visual observation
102	exposure_of_sensor	int (fk)	instrument_exposure_quality	Whether the exposure of the instrument will impact on the quality of the measurement
103	original_precision	int		Original reporting precision in units given by 'original_units'
104	original_units	int (fk)	units	Original units
105	original_value	numeric		Original value as reported or recorded in log book.
106	conversion_method	int (fk)	conversion_method	Link to table describing conversion process
107	processing_code	int[] (fk)	processing_code	e.g. TRC (temperature radiation corrections) etc. Encoded in table.
108	processing_level	int (fk)	processing_level	Level of processing applied to observation.
109	adjustment_id	int (fk)	adjustment	Adjustment applied to observation reported in observation value (observation_value = original + adjustment)
110	traceability	int (fk)	traceability	Whether observation can be traced to international standards.

Table: station_configuration

URL: https://github.com/DavidBerryNOC/C3S_311a_CDM/blob/master/tables/tsv/station_configuration.tsv

Description:

Source:

element_number	element_name	type	external_table	description
0	station_primary_id	varchar		Primary (e.g. WMO) ID for station
1	station_primary_id_scheme	int (fk)	id_scheme	Scheme used for primary ID
2	station_record_number	int		Record number for this station entry
3	station_secondary_id	varchar		Secondary (e.g. local) ID for station
4	station_secondary_id_scheme	int (fk)	id_scheme	Scheme used for secondary ID
5	station_name	varchar		Name of station (e.g. Tateno)
6	station_abbreviation	varchar		Abbreviation of station name (e.g. TAT)
7	start_date	timestamp		Date that the station first started reporting in this configuration
8	end_date	timestamp		Last data the station reported in this configuration
9	station_type	int (fk)	station_type	Type of reporting station
10	platform_type	int (fk)	platform_type	Generic type of observing platform
11	platform_sub_type	int (fk)	platform_sub_type	Specific type of observing platform
12	operating_institute	int (fk)	institute	Institute operating the station
13	operating_territory	int (fk)	sub_region	Sub-region where station is located or country of registry for mobile station
14	observing_frequency		observing_frequency	Typical frequency of observations for this station
15	telecommunication_method	int (fk)	communication_method	Method used to report observations
16	station_automation	int (fk)	automation_status	Whether station is automated, manual or mixed
17	measuring_system_model	int (fk)	measuring_system_model	Station / AWS model type
18	measuring_system_id	varchar		ID or serial number of measuring system
19	field_numeric	int[] (fk)	station_configuration_fields	Field to which following values correspond
20	value_numeric	numeric[]		Values for specified fields
21	field_coded	int[] (fk)	station_configuration_fields	Field to which following values correspond
22	value_coded	int[] (fk)	station_configuration_codes	Values for specified fields
23	field_character	int[] (fk)	station_configuration_fields	Field to which following values correspond
24	value_character	varchar[]		Values for specified fields
25	field_timestamp	int[] (fk)	station_configuration_fields	Field to which following values correspond
26	value_timestamp	timestamp[]		Values for specified fields
27	comment	varchar		Any other comments / footnotes

Table: profile_configuration

URL: https://github.com/DavidBerryNOC/C3S_311a_CDM/blob/master/tables/tsv/profile_configuration.tsv

Description: table containing information on individual profiles

Source:

element_number	element_name	kind	external_table	description
0	profile_id	varchar	NA	Unique ID for this profile entry
1	report_id	int (fk)	observations_table	Report to which this profile entry belongs
3	standard_time	int (fk)	standard_time	e.g. Standard / scheduled time for launch or report, e.g. 00, 06, 12, 18 UTC
4	actual_time	timestamp		Actual report / launch time
5	profile_number	numeric		e.g. Balloon Number
6	field_numeric	int[] (fk)	profile_configuration_fields	Fields to which the following values apply
7	value_numeric	numeric		Values for the additional fields
8	field_coded	int[] (fk)	profile_configuration_fields	Fields to which the following values apply
9	value_coded	int[] (fk)	profile_configuration_codes	Values for the additional fields
10	field_character	int[] (fk)	profile_configuration_fields	Fields to which the following values apply
11	value_character	varchar[]		Values for the additional fields
12	field_timestamp	int[] (fk)	profile_configuration_fields	Fields to which the following values apply
13	value_timestamp	timestamp[]		Values for the additional fields
14	comments	varchar		Any additional comments / footnotes

Table: source_configuration

URL: https://github.com/DavidBerryNOC/C3S_311a_CDM/blob/master/tables/tsv/source_configuration.tsv

Description: Table defining additional information on data sources

Source:

element_number	element_name	type	external_table	description
0	source_id	int		Unique record ID for dataset
1	product_id	varchar		ID for product
2	product_name	varchar		Name of source, e.g. International Comprehensive Ocean Atmosphere Data Set, RS92 GRUAN Data Product
3	product_code	varchar		Abbreviations / product code, e.g. ICOADS, RS92-GDP
4	product_version	varchar		Version number for dataset, e.g. Release 3.0.0
5	product_level	int (fk)	product_level	Level of product
6	description	varchar		Description of dataset / comments
7	product_references	varchar[]		References describing the dataset
8	product_citation	varchar[]		Citation to use when using this product
9	product_status	int (fk)	product_status	Status of product, draft, pre-release, release
10	source_format	int (fk)	source_format	Original format for data
11	source_format_version	varchar		Version of original data format
12	source_file	varchar		Filename for data from source
13	source_file_checksum	varchar		Checksum of source datafile
14	data_centre	int (fk)	institute	Data centre from which data sourced
15	data_centre_url	varchar		URL for data centre
16	data_policy_licence	int (fk)	data_policy_licence	Data policy / licence
17	pi_name	varchar		Name of PI responsible for dataset
18	pi_email	varchar		Email address of PI
19	pi_url	varchar		URL for PI
21	field_numeric	int[] (fk)	source_configuration_fields	Fields to which following values apply
22	value_numeric	numeric[]		additional values
21	field_coded	int[] (fk)	source_configuration_fields	Fields to which following values apply
22	value_coded	int[] (fk)	source_configuration_codes	additional values
21	field_character	int[] (fk)	source_configuration_fields	Fields to which following values apply
22	value_character	varchar[]		additional values
21	field_timestamp	int[] (fk)	source_configuration_fields	Fields to which following values apply
22	value_timestamp	timestamp[]		additional values
23	history	varchar		History of source
24	comments	varchar		Additional comments / footnotes
25	timestamp			Date record created / created

Table: sensor_configuration

URL: https://github.com/DavidBerryNOC/C3S_311a_CDM/blob/master/tables/tsv/sensor_configuration.tsv

Description: definition of table specifying sensor configuration

Source:

element_number	element_name	type	external_table	description
0	instrument_id	varchar		Unique ID for this instrument
1	station_id	varchar	station_configuration	Station associated with this instrument
2	observing_method	int (fk)	observing_method	Method (instrumental, estimated / visual, computed) by which observation made
3	sampling_strategy	int (fk)	sampling_strategy	Sampling strategy used by instrument
4	calibration_status	int (fk)	calibration_status	Whether the sensor is in / out of calibration
5	calibration_date	timestamp		Date of last calibration
6	field_numeric	int[] (fk)	sensor_configuration_fields	fields for which this entry is applicable
7	value_numeric	numeric[]		Numeric value for this entry (if numeric)
8	field_coded	int[] (fk)	sensor_configuration_fields	fields for which this entry is applicable
9	value_coded	int[] (fk)	sensor_configuration_codes	coded value for this entry
10	field_character	int[] (fk)	sensor_configuration_fields	fields for which this entry is applicable
11	value_character	varchar[]		Value for entry if not coded or numeric
12	field_timestamp	int[] (fk)	sensor_configuration_fields	fields for which this entry is applicable
13	value_timestamp	timestamp[]		time stamp entry
14	date_start	timestamp		start date for period of validity assoiciated with this entry
15	date_end	timestamp		end date for period of validity assoiciated with this entry