Table: observations_table

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

Description: table defining elements in main observations table

Source:

element_number	element_name	kind	external_table	wigos (mco)	Description
1	report_id	bigint (pk)		NA	Unique ID for report (unique ID given by combination of RecordID and ObservationID)
2	region	int (fk)	region	3-01 (c)	Region (WMO region / Ocean basin)
3	sub_region	int (fk)	sub_region	3-02 (c)	Country / regional sea
4	application_area	int[] (fk)	application_area	2-01 (m)	WMO application area(s)
5	observing_programme	int (fk)	observing_programme	2-02 (m)	Observing programme, e.g. VOS
6	report_type	int (fk)	report_type	NA	e.g. SYNOP, TEMP, CLIMAT, etc
7	station_name	varchar		3-03 (m)	e.g. GRUAN station name, ship name, site name etc
8	station_type	int (fk)	station_type	3-04 (m)	Type of station, e.g. land station, sea station etc
9	platform_type	int (fk)	platform_type	NA	Structure upon which sensor is mounted, e.g. ship, drifting buoy, tower etc
10	platform_sub_type	int (fk)	platform_sub_type	NA	Sub-type for platform, e.g. 3m discuss buoy
11	primary_station_id	varchar		3-06 (m)	Unique (WMO) station identifier, e.g. WIGOS ID
12	primary_station_id_scheme	int (fk)	id_scheme	NA	Scheme used for unique station ID
13	secondary_station_id	varchar			Alternate (local) ID for station, e.g. Network ID
14	secondary_station_id_scheme	int (fk)	id_scheme		Alternate ID Scheme, e.g. Network ID
15	station_location_longitude	numeric		3-07 (m)	Longitude of station, -180.0 to 180.0 (or other as defined by StationCRS)
16	station_location_latitude	numeric		3-07 (m)	Latitude of station, -90 to 90 (or other as defined by StationCRS)
17	station_location_accuracy	numeric		NA	Accuracy to which station location recorded (radius in km)
18	station_location_method				
19	station_location_quality	int (fk)	location_quality	NA	Quality flag for station location
20	station_crs	int (fk)	crs	11-02	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	4-01 (c)	e.g. rolling hills
25	surface_type_scheme	int (fk)	surface_type_scheme	4-02 (c)	Scheme used to classify surface cover
26	site_topography	int (fk)	site_topography	4-03 (c)	Description of local topography and broader context
27	station_configuration	bigint (fk)	station_configuration	NA	Link to station metadata / configuration
28	height_of_station_above_local_ground	numeric		3-07 (m)	Height of station above local ground (m)
29	height_of_station_above_sea_level	numeric		3-07 (m)	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	11-03 (m)	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		NA	Precision to which time was recorded (s)
41	report_time_quality	int (fk)	time_quality	NA	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	bigint (fk)	profile_configuration	NA	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	4-04 (o)	e.g. ship hove to, crop burning etc.
45	report_quality	int (fk)	quality_flag	NA	Overall quality of report
46	duplicate_status	int (fk)	duplicate_status	NA	E.g. no duplicates, best duplicate, duplicate, not checked.
47	duplicates	bigint [] (fk)	observations_table	NA	Array of reportIDs for duplicates
48	maintenance_and_update_frequency	int (fk)	update_frequency	NA	Frequency with which modifications and deletions are made to the data after it is first produced
49	history	bigint (fk)	report_history	NA	Sequence of processing steps – link to table
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		NA	Seconds of revision of this record (UTC)
56	processing_level	int	report_processing_level		Level of processing applied to this report
57	processing_code	int[]	report_processing_code		Processing applied to this report
58	source_id	int (fk)	source_configuration	NA	Original source of data – link to table
59	source_record_id	varchar		NA	Record ID in source data, e.g. ID of event from GRUAN meta database
60	data_policy_licence	int (fk)	data_policy_licence	9-02 (m)	WMOessential, WMOadditional, WMOother
61	observation_id	int (pk)			Together with RecordID forms unique ID for observation / record
62	observed_variable	int (fk)	observed_variable	1-01 (m)	The variable being observed / measured
63	units	int (fk)	units	1-02 (m)	Units for the observed variable
64	code_table	int (fk)	observation_code_table	NA	Encode / decode table for variable (if encoded)
65	observation_value	numeric		NA	The observed value
66	observation_value_significance	int (fk)	observation_value_significance	NA	e.g. min, max, mean, sum
67	observation_timestamp_meaning	int (fk)	meaning_of_time_stamp	11-03 (m)	beginning, middle, end
68	observation_year	int		1-03 (m)	Year ofobservation (UTC)
69	observation_month	int		1-03 (m)	Month of observation (UTC)
70	obvservation_day	int		1-03 (m)	Day of observation (UTC)
71	observation_hour	int		1-03 (m)	Hour of observation (UTC)
72	observation_minute	int		1-03 (m)	Minutes of observation (UTC)
73	observation_seconds	int		1-03 (m)	Seconds of observation (UTC)
74	observation_duration	int		7-09 (m)	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		1-04 (m)	Latitude of the observed value, -90 to 90 (or other as defined by CRS)
77	observation_location_method	int (fk)	location_method	11-01	Method of determining location,
78	observation_location_precision	numeric			Precision to which location is reported (radius km)
79	observation_bounding_box_min_longitude	numeric		1-04 (m)	Bounding box for observation, valid range given by CRS
80	observation_bounding_box_max_longitude	numeric		1-04 (m)	Bounding box for observation, valid range given by CRS
81	observation_bounding_box_min_latitude	numeric		1-04 (m)	Bounding box for observation, valid range given by CRS
82	observation_bounding_box_max_latitude	numeric		1-04 (m)	Bounding box for observation, valid range given by CRS
83	observation_spatial_representativeness	int (fk)	spatial_representativeness	1-05 (o)	Spatial representativeness of observation
84	observation_height_above_station_surface	numeric		5-05 (c)	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		5-05 (c)	z coordinate of observation
86	observation_z_coordinate_type	int (fk)	z_coordinate_type	5-05 (c)	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	8-03 (m)	Quality flag for observation
89	numerical_precision	int		7-12 (o)	Reporting precision of observation in units given by 'Units' variable. Equivalent to BUFR scale factor
90	standard_uncertainty	numeric		8-01 (c)	Standard uncertainty in reported value
91	method_of_estimating_standard_uncertainty	int (fk)	method_of_estimating_uncertainty	8-02 (c)	Method of estimating the standard uncertainty
92	uncertainty_due_to_correlated_errors	numeric		8-01 (c)	Uncertainty due to errors in the observation that are correlated between observations
93	method_of_estimating_uncertainty_due_to_correlated_errors	int (fk)	method_of_estimating_uncertainty	8-02 (c)	
94	uncertainty_due_to_uncorrelated_errors	numeric		8-01 (c)	Uncertainty due to errors in the observation that are uncorrelated between observations
95	method_of_estimating_uncertainty_due_to_uncorrelated_errors	int (fk)	method_of_estimating_uncertainty	8-02 (c)	
96	uncertainty_due_to_systematic_errors	numeric		8-01 (c)	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	8-02 (c)	
98	total_uncertainty	numeric		8-01 (c)	
99	method_of_estimating_total_uncertainty	int (fk)	method_of_estimating_uncertainty	8-02 (c)	
100	sensor_configuration	int (fk)	sensor_configuration		
101	sensor_automation_status	int (fk)	automation_status	5-01 (m)	Automated, manual, mixed or visual observation
102	exposure_of_sensor	int (fk)	instrument_exposure_quality	5-15 (c)	Whether the exposure of the instrument will impact on the quality of the measurement
103	original_precision	int		NA	Original reporting precision in units given by 'OriginalUnits'
104	original_units	int (fk)	units	NA	Original units
105	original_value	numeric		NA	Original value as reported or recorded in log book.
106	conversion_factor	int (fk)	conversion_factor	7-01 (o)	Link to table describing conversion process
107	processing_code	int (fk)	processing_code	7-01 (o)	e.g. TRC (temperature radiation corrections) etc. Encoded in table.
108	processing_level	int (fk)	processing_level	7-06 (o)	Level of processing applied to observation.
109	adjustment_id	int (fk)	adjustment		
110	traceability	int (fk)	traceability	8-05 (c)	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 (WMO) ID for station
1	station_primary_id_scheme	int (fk)	id_scheme	Scheme used for primary ID
2	station_secondary_id	varchar		Secondary (local) ID for station
3	station_secondary_id_scheme	int (fk)	id_scheme	Scheme used for secondary ID
4	station_name	varchar		Name of station (e.g. Tateno)
5	station_abbreviation	varchar		Abbreviation of station name (e.g. TAT)
6	start_date			Date that the station first started reporting
7	end_date			Last data the station reported
8	station_type	int (fk)	station_type	Type of reporting station
9	platform_type	int (fk)	platform_type	Generic type of observing platform
10	platform_sub_type	int (fk)	platform_sub_type	Specific type of observing platform
11	operating_institute	int (fk)	institute	Institute operating the station
12	operating_territory	int (fk)	sub_region	Sub-region where station is located or country of registry for mobile station
13	observing_frequency		observing_frequency	Typical frequency of observations for this station
14	telecommunication_method	int (fk)	communication_method	Method used to report observations
15	station_automation	int (fk)	automation_status	Whether station is automated, manual or mixed
16	measuring_system_model	int (fk)	measuring_system_model	Station / AWS model type
17	measuring_system_id	varchar		ID or serial number of measuring system
18	metadata_source	int (fk)	metadata_source	Source of metadata for this station
19	metadata_version	varchar		Version of metadata source
20	metadata_id	varchar		Record number in metadata source (or other unique ID)
21	metadata_report_date			Date metadata record was prepared
22	number_of_fields	numeric		Number of additional fields
23	field	int[]	station_configuration_fields	Field to which following values correspond
24	value	numeric[]		Values for specified fields
25	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		
1	report_id	varchar		
2	standard_time	int (fk)		e.g. Standard / scheduled time for launch or report, e.g. 00, 06, 12, 18 UTC
3	actual_time			Actual report / launch time
4	processing_codes	int (fk)	processing_code	
5	profile_number	numeric		e.g. Balloon Number
6	number_of_fields	numeric		
7	field	int[]	profile_configuration_fields	Fields to which the following values apply
8	value	numeric[]		
9	comment	varchar		

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	wigos (_m_c_o)	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		
10	source_format	int [fk]	source_format	7-07 (_m)	Original format for data
11	source_format_version	varchar		7-08 (_m)	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]	data_centre	9-01 (_m)	Data centre from which data sourced
15	data_centre_url	varchar		9-01 (_m)	URL for data centre
16	data_policy_licence	int [fk]	data_policy_licence	9-02 (_m)	Data policy / licence
17	pi_name	varchar		10-01 (_m)	Name of PI responsible for dataset
18	pi_email	varchar		10-01 (_m)	Email address of PI
19	pi_url	varchar		10-01 (_m)	URL for PI
20	number_of_fields	numeric			Number of additional fields
21	field	int[]	source_configuration_fields		Fields to which following values apply
22	value	numeric[]			additional values
23	history	varchar			History of source
24	comments	varchar			Additional comments / footnotes
25	timestamp				Date record 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	parameter	int (fk)		The observed variable that this instrument measures (one entry per parameter if more than one)
2	manufacturer	int (fk)	manufacturer	Manufacturer of sensor / instrument
3	sensor_type	int (fk)	sensor_type	Type of sensor, e.g. RS92 or anemometer
4	sensor_model	int (fk)	sensor_model	Manufacturers designation / model number
5	serial_number	varchar		Serial number
6	observing_method	int (fk)	observing_method	Estimate, measured or computed value
7	sampling_strategy	int (fk)	sampling_strategy	Continuous, discrete, event
8	last_calibration_date	timestamp		Date sensor last calibrated
9	calibration_status	int (fk)	calibration_status	Calibration status
10	number_of_elements	int		Number of metadata fields for this instrument
11	field	int []	sensor_configuration_fields	Field(s) for which next value applies
12	value	numeric []		Value(s) of field(s) indicated
13	comment	varchar		Comments on sensor