Table: ObservationsTable

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

Descripion: table defining elements in main observations table

Source:

ElementNumber	ElementName	Kind	ExternalTable	WIGOS (MCO)	Description
1	ReportID	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	SubRegion	int (fk)	SubRegion	3-02 (C)	Country / regional sea
4	ApplicationArea	int[] (fk)	ApplicationArea	2-01 (M)	WMO application area(s)
5	ObservingProgramme	int (fk)	ObservingProgramme	2-02 (M)	Observing programme, e.g. VOS
6	ReportType	int (fk)	ReportType	NA	e.g. SYNOP, TEMP, CLIMAT, etc
7	StationName	varchar		3-03 (M)	e.g. GRUAN station name, ship name, site name etc
8	StationType	int (fk)	StationType	3-04 (M)	Type of station, e.g, land station, sea station etc
9	PlatformType	int (fk)	PlatformType	NA	Structure upon which sensor is mounted, e.g. ship, drifting buoy, tower etc
10	PlatformSubType	int (fk)	PlatformSubType	NA	Sub-type for platform, e.g. 3m discuss buoy
11	PrimaryStationId	varchar		3-06 (M)	Unique (WMO) station identifier, e.g. WIGOS ID
12	PrimaryStationIdScheme	int (fk)	IDScheme	NA	Scheme used for unique station ID
13	SecondaryStationId	varchar			Alternate (local) ID for station, e.g. Network ID
14	SecondaryStationIdScheme	int (fk)	IDScheme		Alternate ID Scheme, e.g. Network ID
15	StationLocation_Longitude	numeric		3-07 (M)	Longitude of station, -180.0 to 180.0 (or other as defined by StationCRS)
16	StationLocation_Latitude	numeric		3-07 (M)	Latitude of station, -90 to 90 (or other as defined by StationCRS)
17	StationLocationAccuracy	numeric		NA	Accuracy to which station location recorded (radius in km)
18	StationLocationMethod				
19	StationLocationQuality	int (fk)	LocationQuality	NA	Quality flag for station location
20	StationCRS	int (fk)	CRS	11-Feb	Coordinate reference scheme for station location
21	StationSpeed	numeric			Station speed over ground if mobile (m/s)
22	StationCourse	numeric			Station course over ground if mobile (degree true)
23	StationHeading	numeric			Station heading if mobile
24	SurfaceType	int (fk)	SurfaceType	4-01 (C)	e.g. rolling hills
25	SurfaceTypeScheme	int (fk)	SurfaceTypeScheme	4-02 (C)	Scheme used to classify surface cover
26	SiteTopography	int (fk)	SiteTopography	4-03 (C)	Description of local topography and broader context
27	StationConfiguration	bigint (fk)	StationConfiguration	NA	Link to station metadata / configuration
28	HeightOfStationAboveLocalGround	numeric		3-07 (M)	Height of station above local ground (m)
29	HeightOfStationAboveSeaLevel	numeric		3-07 (M)	Height of station above mean sea level (m), negative values for below sea level.
30	HeightOfStationAboveSeaLevelAccuracy	numeric			Accuracy to which height of station known (m)
31	SeaLevelDatum	int (fk)	SeaLevelDatum		Datum used for sea level
32	ReportMeaningOfTimeStamp	int (fk)	MeaningOfTimeStamp	11-03 (M)	Report time - beginning, middle or end of reporting period
33	ReportYear	int			Year of report (UTC)
34	ReportMonth	int			Month of report (UTC)
35	ReportDay	int			Day of report (UTC)
36	ReportHour	int			Hour of report (UTC)
37	ReportMinutes	int			Minute of report (UTC)
38	ReportSeconds	int			Seconds of report (UTC)
39	ReportDuration	int			Report duration (s), e.g. 86400 = daily obs, 3600 hourly etc
40	ReportTimeAccuracy	numeric		NA	Precision to which time was recorded (s)
41	ReportTimeQuality	int (fk)	TimeQuality	NA	Quality flag for ReportDateTime
42	ReportTimeReference	int (fk)	TimeReference		Reference Time (e.g. referenced to time server, atomic clock, radio clock etc)
43	ProfileConfiguration	bigint (fk)	ProfileConfiguration	NA	Information on profile (atmospheric / oceanographic) configuration. Set to Record ID for profile data or missing (NULL) otherwise.
44	EventsAtStation	int (fk)	EventsAtStation	4-04 (O)	e.g. ship hove to, crop burning etc.
45	ReportQuality	int (fk)	QualityFlag	NA	Overall quality of report
46	DuplicateStatus	int (fk)	DuplicateStatus	NA	E.g. no duplicates, best duplicate, duplicate, not checked.
47	Duplicates	bigint [] (fk)	ObservationsTable	NA	Array of reportIDs for duplicates
48	MaintenanceAndUpdateFrequency	int (fk)	UpdateFrequency	NA	Frequency with which modifications and deletions are made to the data after it is first produced
49	History	bigint (fk)	ReportHistory	NA	Sequence of processing steps – link to table
50	RecordYear	int			Year of revision of this record (UTC)
51	RecordMonth	int			Month of revision of this record (UTC)
52	RecordDay	int			Day of revision of this record (UTC)
53	RecordHour	int			Hour of revision of this record (UTC)
54	RecordMinute	int			Minute of revision of this record (UTC)
55	RecordSeconds	int		NA	Seconds of revision of this record (UTC)
56	ProcessingLevel	int	ReportProcessingLevel		Level of processing applied to this report
57	ProcessingCode(s)	int[]	ReportProcessingCode		Processing applied to this report
58	SourceID	int (fk)	SourceConfiguration	NA	Original source of data – link to table
59	SourceRecordId	varchar		NA	Record ID in source data, e.g. ID of event from GRUAN meta database
60	DataPolicyLicence	int (fk)	DataPolicyLicence	9-02 (M)	WMOessential, WMOadditional, WMOother
61	ObservationID	int (pk)			Together with RecordID forms unique ID for observation / record
62	ObservedVariable	int (fk)	ObservedVariable	1-01 (M)	The variable being observed / measured
63	Units	int (fk)	Units	1-02 (M)	Units for the observed variable
64	CodeTable	int (fk)	ObservationCodeTable	NA	Encode / decode table for variable (if encoded)
65	ObservationValue	numeric		NA	The observed value
66	ObservationValueSignificance	int (fk)	ObservationValueSignificance	NA	e.g. min, max, mean, sum
67	ObservationTimestampMeaning	int (fk)	MeaningOfTimeStamp	11-03 (M)	beginning, middle, end
68	ObservationYear	int		1-03 (M)	Year ofobservation (UTC)
69	ObservationMonth	int		1-03 (M)	Month of observation (UTC)
70	ObsvervationDay	int		1-03 (M)	Day of observation (UTC)
71	ObservationHour	int		1-03 (M)	Hour of observation (UTC)
72	ObservationMinute	int		1-03 (M)	Minutes of observation (UTC)
73	ObservationSeconds	int		1-03 (M)	Seconds of observation (UTC)
74	ObservationDuration	int		7-09 (M)	Duration/period over which observation was made (s)
75	ObservationLongitude	numeric			Longitude of the observed value, -180 to 180 (or other as defined by CRS)
76	ObservationLatitude	numeric		1-04 (M)	Latitude of the observed value, -90 to 90 (or other as defined by CRS)
77	ObservationLocationMethod	int (fk)	LocationMethod	11-01	Method of determining location,
78	ObservationLocationPrecision	numeric			Precision to which location is reported (radius km)
79	ObservationBoundingBoxMinLongitude	numeric		1-04 (M)	Bounding box for observation, valid range given by CRS
80	ObservationBoundingBoxMaxLongitude	numeric		1-04 (M)	Bounding box for observation, valid range given by CRS
81	ObservationBoundingBoxMinLatitude	numeric		1-04 (M)	Bounding box for observation, valid range given by CRS
82	ObservationBoundingBoxMaxLatitude	numeric		1-04 (M)	Bounding box for observation, valid range given by CRS
83	ObservationSpatialRepresentativeness	int (fk)	SpatialRepresentativeness	1-05 (O)	Spatial representativeness of observation
84	ObservationHeightAboveStationSurface	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	ObservationZCoordinate	numeric		5-05 (C)	z coordinate of observation
86	ObservationZCoordinateType	int (fk)	ZCoordinateType	5-05 (C)	Type of z coordinate
87	ObservationZCoordinateMethod	int (fk)	ZCoordinateMethod		Method of determining z coordinate
88	QualityFlag	int (fk)	QualityFlag	8-03 (M)	Quality flag for observation
89	NumericalPrecision	int		7-12 (O)	Reporting precision of observation in units given by 'Units' variable. Equivalent to BUFR scale factor
90	StandardUncertainty	numeric		8-01 (C)	Standard uncertainty in reported value
91	MethodOfEstimatingStandardUncertainty	int (fk)	MethodOfEstimatingUncertainty	8-02 (C)	Method of estimating the standard uncertainty
92	UncertaintyDueToCorrelatedErrors	numeric		8-01 (C)	Uncertainty due to errors in the observation that are correlated between observations
93	MethodOfEstimatingUncertaintyDueToCorrelatedErrors	int (fk)	MethodOfEstimatingUncertainty	8-02 (C)	
94	UncertaintyDueToUncorrelatedErrors	numeric		8-01 (C)	Uncertainty due to errors in the observation that are uncorrelated between observations
95	MethodOfEstimatingUncertaintyDueToUncorrelatedErrors	int (fk)	MethodOfEstimatingUncertainty	8-02 (C)	
96	UncertaintyDueToSystematicErrors	numeric		8-01 (C)	Uncertainty due to errors in the observations that are correlated under similar observing conditions
97	MethodOfEstimatingUncertaintyDueToSystematicErrors	int (fk)	MethodOfEstimatingUncertainty	8-02 (C)	
98	TotalUncertainty	numeric		8-01 (C)	
99	MethodOfEstimatingTotalUncertainty	int (fk)	MethodOfEstimatingUncertainty	8-02 (C)	
100	SensorConfiguration	int (fk)	SensorConfiguration		
101	SensorAutomationStatus	int (fk)	AutomationStatus	5-01 (M)	Automated, manual, mixed or visual observation
102	ExposureOfSensor	int (fk)	InstrumentExposureQuality	5-15 (C)	Whether the exposure of the instrument will impact on the quality of the measurement
103	OriginalPrecision	int		NA	Original reporting precision in units given by 'OriginalUnits'
104	OriginalUnits	int (fk)	Units	NA	Original units
105	OriginalValue	numeric		NA	Original value as reported or recorded in log book.
106	ConversionFactor	int (fk)	ConversionFactor	7-01 (O)	Link to table describing conversion process
107	ProcessingCode	int (fk)	ProcessingCode	7-01 (O)	e.g. TRC (temperature radiation corrections) etc. Encoded in table.
108	ProcessingLevel	int (fk)	ProcessingLevel	7-06 (O)	Level of processing applied to observation.
109	AdjustmentID	int (fk)	Adjustment		
110	Traceability	int (fk)	Traceability	8-05 (C)	Whether observation can be traced to international standards.

Table: StationConfiguration

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

Description:

Source:

ElementNumber	ElementName	Type	ExternalTable	Description
0	StationPrimaryID	varchar		Primary (WMO) ID for station
1	StationPrimaryIDScheme	int (fk)	IDScheme	Scheme used for primary ID
2	StationSecondaryID	varchar		Secondary (local) ID for station
3	StationSecondaryIDScheme	int (fk)	IDScheme	Scheme used for secondary ID
4	StationName	varchar		Name of station (e.g. Tateno)
5	StationAbbreviation	varchar		Abbreviation of station name (e.g. TAT)
6	StartDate			Date that the station first started reporting
7	EndDate			Last data the station reported
8	StationType	int (fk)	StationType	Type of reporting station
9	PlatformType	int (fk)	PlatformType	Generic type of observing platform
10	PlatformSubType	int (fk)	PlatformSubType	Specific type of observing platform
11	OperatingInstitute	int (fk)	Institute	Institute operating the station
12	OperatingTerritory	int (fk)	SubRegion	Sub-region where station is located or country of registry for mobile station
13	ObservingFrequency		ObservingFrequency	Typical frequency of observations for this station
14	TelecommunicationMethod	int (fk)	CommunicationMethod	Method used to report observations
15	StationAutomation	int (fk)	AutomationStatus	Whether station is automated, manual or mixed
16	MeasuringSystemModel	int (fk)	MeasuringSystemModel	Station / AWS model type
17	MeasuringSystemID	varchar		ID or serial number of measuring system
18	MetadataSource	int (fk)	MetadataSource	Source of metadata for this station
19	MetadataVersion	varchar		Version of metadata source
20	MetadataID	varchar		Record number in metadata source (or other unique ID)
21	MetadataReportDate			Date metadata record was prepared
22	Number of Fields	numeric		Number of additional fields
23	Field	int[]	StationConfigurationFields	Field to which following values correspond
24	Value	numeric[]		Values for specified fields
25	Comment	varchar		Any other comments / footnotes

Table: ProfileConfiguration

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

Description: table containing information on individual profiles

Source:

ElementNumber	ElementName	Kind	ExternalTable	Description
0	ProfileID	varchar		
1	ReportID	varchar		
2	StandardTime	int (fk)		e.g. Standard / scheduled time for launch or report, e.g. 00, 06, 12, 18 UTC
3	ActuatTime			Actual report / launch time
4	Processing codes	int (fk)	ProcessingCode	
5	ProfileNumber	numeric		e.g. Balloon Number
6	Number of fields	numeric		
7	Field	int[]	ProfileConfigurationFields	Fields to which the following values apply
8	Value	numeric[ ]		
9	Comment	varchar		

Table: SourceConfiguration

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

Description: Table defining additional information on data sources

Source:

ElementNumber	ElementName	type	ExternalTable	WIGOS (MCO)	Description
0	SourceID	int			Unique record ID for dataset
1	ProductID	varchar			ID for product
2	ProductName	varchar		Name of source, e.g. International Comprehensive Ocean Atmosphere Data Set, RS92 GRUAN Data Product	
3	ProductCode	varchar			Abbreviations / product code, e.g. ICOADS, RS92-GDP
4	ProductVersion	varchar			Version number for dataset, e.g. Release 3.0.0
5	ProductLevel	int (fk)	ProductLevel		Level of product
6	Description	varchar			Description of dataset / comments
7	ProductReferences	varchar[ ]			References describing the dataset
8	ProductCitation	varchar			Citation to use when using this product
9	ProductStatus	int (fk)	ProductStatus		
10	SourceFormat	int [fk]	SourceFormat	7-07 (M)	Original format for data
11	SourceFormatVersion	varchar		7-08 (M)	Version of original data format
12	SourceFile	varchar			Filename for data from source
13	SourceFileChecksum	varchar			Checksum of source datafile
14	DataCentre	int [fk]	DataCentre	9-01 (M)	Data centre from which data sourced
15	DataCentreURL	varchar		9-01 (M)	URL for data centre
16	DataPolicyLicence	int [fk]	DataPolicyLicence	9-02 (M)	Data policy / licence
17	PIName	varchar		10-01 (M)	Name of PI responsible for dataset
18	PIemail	varchar		10-01 (M)	Email address of PI
19	PIurl	varchar		10-01 (M)	URL for PI
20	NumberOfFileds	numeric			Number of additional fields
21	Field	int[]	SourceConfigurationFields		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: SensorConfiguration

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

Description: definition of table specifying sensor configuration

Source:

ElementNumber	ElementName	Type	ExternalTable	Description
0	InstrumentID	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	SensorType	int (fk)	SensorType	Type of sensor, e.g. RS92 or anemometer
4	SensorModel	int (fk)	SensorModel	Manufacturers designation / model number
5	Serial number	varchar		Serial number
6	ObservingMethod	int (fk)	ObservingMethod	Estimate, measured or computed value
7	SamplingStrategy	int (fk)	SamplingStrategy	Continuous, discrete, event
8	LastCalibrationDate	timestamp		Date sensor last calibrated
9	CalibrationStatus	int (fk)	CalibrationStatus	Calibration status
10	NumberOfElements	int		Number of metadata fields for this instrument
11	Field	int []	SensorConfigurationFields	Field(s) for which next value applies
12	Value	numeric []		Value(s) of field(s) indicated
13	Comment	varchar		Comments on sensor