

Category 00 - BUFR table entries sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
none			

Category 01 - Location and identification sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

Category 02 - Meteorological sequences common to surface data

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
		(SHIP "instantaneous" data from VOS)	
3 02 062	3 02 001	Pressure data	Validation
	3 02 052	Temperature and humidity data	
	3 02 053	Horizontal visibility	
	0 07 033	Height of sensor above water surface (set to missing to cancel the previous value)	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 034	Total precipitation past 24 hours R24R24R24R24	
	0 07 032	Height of sensor above marine deck platform (set to missing to cancel the previous value)	
	0 20 010	Cloud cover (total) N	
	0 08 002	Vertical significance	
	0 20 013	Height of base of cloud h	
	1 04 000	Delayed replication of 4 descriptors	
	0 31 000	Short delayed descriptor replication factor	
	0 20 011	Cloud amount (of low or middle clouds) N _h	
	0 20 012	Cloud type (low clouds) C _L	
	0 20 012	Cloud type (middle clouds) C _M	
	0 20 012	Cloud type (high clouds) C _H	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 001	Delayed descriptor replication factor	
	3 02 005	Cloud data	
	0 08 002	Vertical significance (set to missing to cancel the previous value)	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 055	Icing and ice	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 056	Sea/water temperature	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 021	Waves	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 024	Wind waves	
		(SHIP "period" data from VOS)	
3 02 063	3 02 038	Present and past weather	Validation
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 040	Precipitation measurement	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 058	Extreme temperature data	
	3 02 064	Wind data	

(Wind data from VOS)		
3 02 064	0 07 032	Height of sensor above marine deck platform (for wind measurement) Validation
	0 07 033	Height of sensor above water surface (for wind measurement)
	0 02 002	Type of instrumentation for wind measurement i_w
	0 08 021	Time significance (= 2 (time averaged))
	0 04 025	Time period (= -10 minutes, or number of minutes after a significant change of wind)
	0 11 001	Wind direction dd
	0 11 002	Wind speed ff
	0 08 021	Time significance (= missing value)
	1 03 000	Delayed replication of 3 descriptors
	0 31 001	Delayed descriptor replication factor
	0 04 025	Time period in minutes
	0 11 043	Maximum wind gust direction
	0 11 041	Maximum wind gust speed $910f_m f_m, 911f_x f_x$
(Additional synoptical parameters)		
3 02 067	0 01 023	Observation sequence number Validation
	0 04 025	Time period (= 0 minutes)
	0 02 177	Method of snow depth measurement 0 = Manual observation, 1 = Ultrasonic method, 2 = Video camera method, 3-13 = Reserved, 14 = Others, 15 = Missing value
	1 01 000	Delayed replication of 1 descriptor
	0 31 001	Delayed descriptor replication factor
	0 20 003	Present weather $960ww, 961ww$
	1 02 000	Delayed replication of 2 descriptors
	0 31 001	Delayed descriptor replication factor
	0 05 021	Bearing or azimuth $981VV-988VV$
	0 20 001	Horizontal visibility VV
	0 05 021	Bearing or azimuth (=set to missing to cancel previous entry)
	1 01 000	Delayed replication of 1 descriptor
	0 31 000	Short delayed descriptor replication factor
	3 02 056	Sea surface temperature, method of measurement, and depth below sea surface
	1 03 000	Delayed replication of 3 descriptors
	0 31 000	Short delayed descriptor replication factor
	0 33 041	Attribute of following value
	0 20 058	Visibility seawards from a coastal station $980V_s V_s$
	0 22 061	State of the sea $924SV_s$
	1 01 000	Delayed replication of 1 descriptor
	0 31 000	Short delayed descriptor replication factor
	3 02 022	Wind waves
	1 01 000	Delayed replication of 1 descriptor
	0 31 001	Delayed descriptor replication factor
	3 02 023	Swell waves
	1 05 000	Delayed replication of 5 descriptors
	0 31 001	Delayed descriptor replication factor
	0 20 054	True direction from which a phenomenon or clouds are moving D_a, D_p
	0 20 137	Evolution of clouds $940Cn_3$
	0 20 012	Cloud type (C) $941CD_p, 943C_L D_p$
	0 20 090	Special clouds $993C_s D_a$
	0 20 136	Supplementary cloud type $948C_0 D_a, 949C_a D_a, 950N_m n_3, 951N_r n_4$

0 04 025	Time period in minutes (= reference period of fresh fallen snow)	
0 13 012	Depth of fresh snow	
0 04 025	Time period in minutes (=-60)	
0 11 042	Maximum wind gust speed (10 min mean wind)	912ff
1 04 000	Delayed replication of 4 descriptors	
0 31 001	Delayed descriptor replication factor	
0 08 021	Time significance (=30 time of occurrence or =17 start of phenomenon)	
0 04 025	Time displacement (=xx)	902tt
0 11 042	Maximum wind gust speed (10 min mean wind)	912ff
0 08 021	Time significance (=set to missing to cancel previous entry)	
1 15 000	Delayed replication of 15 descriptors	
0 31 001	Delayed descriptor replication factor	
0 08 021	Time significance (= 30 time of occurrence or = 17 start of phenomenon)	
0 04 015	Time increment (= - xx1)	
0 08 021	Time significance (= 2 (time averaged)	
0 04 025	Time period (= -10 minutes, or number of minutes after a significant change of wind)	
0 11 001	Wind direction	915dd
0 11 002	Wind speed	913ff
0 08 021	Time significance (= 22 time of occurrence of wind shift)	
0 04 015	Time increment (= +xx2)	
0 08 021	Time significance (= 2 (time averaged))	
0 04 025	Time period (= -10 minutes, or number of minutes after a significant change of wind)	
0 11 001	Wind direction	915dd
0 11 002	Wind speed	913ff
0 08 021	Time significance (= set to missing to cancel previous entry)	
0 04 025	Time displacement (= 0 minutes)	
0 04 015	Time increment (= +(xx1-xx2), non negative to reset the time to the actual time)	
1 03 000	Delayed replication of 3 descriptors	
0 31 001	Delayed descriptor replication factor	
0 04 025	Time period in minutes (= -xx i.e. from)	
0 04 025	Time period in minutes (= -xx i.e. to)	
0 20 003	Present weather	962ww, 963w ₁ w ₁ , 964ww, 965w ₁ w ₁ , 966ww, 967w ₁ w ₁
1 10 000	Delayed replication of 10 descriptors	
0 31 001	Delayed descriptor replication factor	
0 04 025	Time period in minutes (= -xx i.e. from)	
0 04 025	Time period in minutes (-xx i.e. to)	
0 05 021	Bearing or azimuth	D _a , D _p
0 05 021	Bearing or azimuth	D _a , D _p
0 20 054	True direction from which a phenomenon or clouds are moving	D _a , D _p
0 20 024	Intensity of phenomena (1= Light, 2 = Moderate, 3 = Heavy, 4 = Violent, 5 = Severe)	
0 20 025	Obscuration	
0 20 026	Character of obscuration	
0 20 027	Phenomenon occurrence	
0 20 063	Special phenomena	
3 02 090	0 02 038 (Sea/water temperature high precision) Method of sea/water temperature measurement	Validation

0 07 063 *Depth below sea/water surface (cm). For sea surface temperature measurement*

0 22 045 *Sea/water temperature*

0 07 063 *Depth below sea/water surface (cm). Set to missing value to cancel the previous value.*

Category 03 - Meteorological sequences common to vertical soundings data

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
none			

Category 04 - Meteorological sequences common to
satellite observations

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

**Category 05 - Meteorological or hydrological sequences
common to hydrological observations**

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

**Category 06 - Meteorological or oceanographic sequences
common to oceanographic observations**

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
		<i>(Sequence for representation of tide station identification, method of transmission, time the message is transmitted and reference time for reports in a time series)</i>	
3 06 011	3 01 021	Latitude, longitude (high accuracy)	Validation
	0 01 075	Tide station alphanumeric ID (5 characters)	
	0 02 147	Method of transmission to collection centre	
	3 01 011	Year, month, day (Time the message is transmitted to the collection centre)	
	3 01 013	Hour, minute, second	
		<i>(Sequence for representation of sensor type, significance qualifier for sensor and status of operation)</i>	
3 06 012	0 02 007	Type of sensor for water level measuring instrument	Validation
	0 08 015	significance qualifier for sensor	
	0 08 032	Status of operation	
	3 06 029	Sample (interval, period, numbers)	
		<i>(Sequence for representation of water level and residual in the time series)</i>	
3 06 013	3 06 012	sensor type, significance qualifier for sensor and status of operation	Validation
	3 01 011	Year, month, day (Reference date/time for the time series)	
	3 01 013	Hour, minute, second	
	0 22 120	Tide station automated water level check	
	0 22 121	Tide station manual water level check	
	0 04 015	Time increment added to reset the reference time	
	0 04 065	Time increment added to each data value in the time series	
	1 02 000	Delayed replication of 2 descriptors	
	0 31 001	Delayed replication factor	
	0 22 038	Tidal elevation with respect to local chart datum	
	0 22 040	Meteorological residual tidal elevation (surge or offset)	
		<i>(Sequence for representation of water level in the time series, similar to 306013 but with no residual)</i>	
3 06 014	3 06 012	Sensor type, significance qualifier for sensor and status of operation	Validation
	3 01 011	Year, month, day (Reference date/time for the time series)	
	3 01 013	Hour, minute, second	
	0 22 120	Tide station automated water level check	
	0 22 121	Tide station manual water level check	
	0 04 015	Time increment added to reset the reference time	
	0 04 065	Time increment added to each data value in the time series	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 001	Delayed replication factor	
	0 22 038	Tidal elevation with respect to local chart datum	

		<i>(Sequence for representation of ancillary meteorological data associated with water level data)</i>	
3 06 016	3 01 011	Year, month, day (Reference date/time for the time series)	Validation
	3 01 013	Hour, minute, second	
	0 10 004	Station level pressure	
	0 10 051	Mean sea level pressure	
	3 02 032	Temperature, humidity, wind	
		<i>(Buoy data including directional and non-directional wave data)</i>	
3 06 032	0 02 032	Indicator for digitization	Validation
	0 02 033	Method of salinity/depth measurement	
	1 03 000	Delayed replication of 3 descriptors	
	0 31 001	Replication factor	
	0 07 062	Depth below sea surface	
	0 22 043	Subsurface sea temperature	
	0 22 062	Salinity	
	0 22 066	Water Conductivity	

Category 07 - Surface report sequences (land)

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
		<i>(BUFR template for surface observations from n-minute period with national and WMO station identification)</i>	
3 07 092	3 01 089	National station identification	Validation
	3 01 090	Fixed surface station identification; time, horizontal and vertical co-ordinates	
	0 08 010	Surface qualifier (for temperature data)	
	3 01 091	Surface station instrumentation	
	0 04 015	Time increment (= -n minutes)	
	0 04 065	Short time increment (= 1 minute)	
	1 30 000	Delayed replication of 30 descriptors	
	0 31 001	Delayed descriptor replication factor (= n)	
	0 10 004	Pressure	
	3 02 070	Wind data	
	3 02 072	Temperature and humidity data	
	1 03 000	Delayed replication of 3 descriptors	
	0 31 001	Delayed descriptor replication factor	
	0 07 032	Height of sensor above local ground	
	0 08 010	Surface qualifier	
	0 12 120	Ground temperature	
	0 07 032	Height of sensor above local ground (set to missing to cancel the previous value)	
	0 08 010	Surface qualifier (set to missing to cancel the previous value)	
	1 03 000	Delayed replication of 3 descriptors	
	0 31 000	Short delayed descriptor replication factor	
	1 01 005	Replicate 1 descriptor 5 times	
	3 07 063	Depth below land surface and soil temperature	
	0 07 061	Depth below land surface (set to missing to cancel the previous value)	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 069	Visibility data	
	0 07 032	Height of sensor above local ground (set to missing to cancel the previous value)	
	0 07 033	Height of sensor above water surface (set to missing to cancel the previous value)	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 073	Cloud data	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 000	Short delayed descriptor replication factor	
	3 02 076	Precipitation, obscuration and other phenomena	
	1 02 000	Delayed replication of 2 descriptors	
	0 31 000	Short delayed descriptor replication factor	
	0 13 155	Intensity of precipitation	
	0 13 058	Size of precipitation element	
	1 02 000	Delayed replication of 2 descriptors	
	0 31 000	Short delayed descriptor replication factor	
	0 20 031	Ice deposit (thickness)	
	0 20 032	Rate of ice accretion	
	1 01 000	Delayed replication of 1 descriptor	

0 31 000 Short delayed descriptor replication factor
 3 02 078 State of ground and snow depth measurement
 1 02 000 Delayed replication of 2 descriptors
 0 31 000 Short delayed descriptor replication factor
 3 02 079 Precipitation measurement
 0 07 032 Height of sensor above local ground (set to missing to cancel the previous value)
 1 01 000 Delayed replication of 1 descriptor
 0 31 000 Short delayed descriptor replication factor
 3 02 080 Evaporation measurement
 1 01 000 Delayed replication of 1 descriptor
 0 31 000 Short delayed descriptor replication factor
 3 02 081 Total sunshine data
 1 01 000 Delayed replication of 1 descriptor
 0 31 000 Short delayed descriptor replication factor
 3 02 082 Radiation data
 1 02 000 Delayed replication of 2 descriptors
 0 31 000 Short delayed descriptor replication factor
 0 04 025 Time period (= -n minutes)
 0 13 059 Number of flashes
 1 01 000 Delayed replication of 1 descriptor
 0 31 000 Short delayed descriptor replication factor
 3 02 083 First-order statistics of P, W, T, U data
 0 33 005 Quality information (AWS data)
 0 33 006 Internal measurement status information (AWS)

		(Nominal values)	
3 07 093	2 23 000	Substituted values operator	Validation
	2 36 000	Backward reference bit map	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 001	Delayed descriptor replication factor = number of element descriptors	
	0 31 031	Data present indicator	
	0 01 033	Indication of originating/generating centre	
	0 01 032	Generating application	
	0 08 083	Nominal value indicator	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 001	Delayed descriptor replication factor	
	2 23 255	Substituted values	
	1 08 000	Delayed replication of 8 descriptor	
	0 31 001	Delayed descriptor replication factor	
	2 23 000	Substituted values operator	
	2 37 000	Use previously defined bit map	
	0 01 033	Indication of originating/generating centre	
	0 01 032	Generating application	
	0 08 083	Nominal value indicator	
	1 01 000	Delayed replication of 1 descriptor	
	0 31 001	Delayed descriptor replication factor	
	2 23 255	Substituted values	

Category 08 - Surface report sequences (sea)

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
		<i>(Report from a buoy observation)</i>	
3 08 008	3 01 093		Validation
	3 02 062		
	3 02 063		
		<i>(Synoptic report from a sea station suitable for SHIP observation data from VOS station)</i>	
3 08 014	3 01 093	Ship identification, movement, type, date/time, horizontal and vertical coordinates	Validation
	3 02 062	SHIP "instantaneous" data from VOS	
	3 02 063	SHIP "period" data from VOS	
		<i>(Template for WAVEOB data expressed as frequency (la=0 in FM-65 WAVEOB)</i>	
		Identification	
3 08 015	0 01 003	WMO region	Validation
	0 01 020	WMO region sub-area	
	0 01 005	Buoy/platform identifier	
	0 01 011	Ship or mobile land station identifier	
	0 01 007	Satellite identifier	
	0 01 001	WMO block number	
	0 01 002	WMO station number	
	0 02 044	Indicator for method of calculating spectral wave data	
	0 02 045	Indicator for type of platform	
	3 01 011	Date	
	3 01 012	Time	
	3 01 021	Latitude and longitude (high accuracy)	
		Basic data (WAVEOB Section 0)	
	0 22 063	Total water depth (m)	
	1 05 002	Replication 5 descriptors 2 times	
	0 02 046	Type of wave sensor	
	0 22 070	Significant wave height (m)	
	0 22 071	Spectral peak wave period (s)	
	0 22 073	Maximum wave height	
	0 22 074	Average wave period (s)	
	0 02 046	Type of wave sensor	
	0 22 076	Direction of coming dominant waves (deg)	
	0 22 077	Directional spread of dominant wave (deg)	
	0 22 094	Total number of wave bands	
	0 25 043	Wave sampling interval (time, s)	
	0 22 078	Duration of wave record (s)	
		Spectral data (WAVEOB Section 1 - 5)	
	1 21 000	Replication 21 descriptors	
	0 31 001	Replication factor	
	0 02 046	Type of wave sensor	
	0 22 082	Maximum non-directional spectral wave density (m ² /Hz)	
	0 22 084	Band containing maximum non-directional spectral wave density	

1 16 000 Delayed replication 16 descriptors
 0 31 001 Replication factor
 0 22 080 Waveband central frequency (Hz)
 0 22 085 Spectral wave density ratio
 0 22 086 Mean direction from which waves are coming (deg)
 0 22 087 Principal direction from which waves are coming (deg)
 0 22 088 First normalized polar coordinate from fourier coefficients
 0 22 089 Second normalized polar coordinate from fourier coefficients
 1 03 000 Delayed replication 3 descriptors
 0 31 001 Replication factor
 0 22 090 Non-directional spectral estimate by wave frequency (m^2/Hz)
 0 22 186 Direction from which waves are coming (deg)
 0 22 187 Directional spread of wave (deg)
 1 03 000 Delayed replication 3 descriptors
 0 31 001 Replication factor
 0 22 092 Directional spectral estimate by wavefrequency ($m^2/Hz/radian$)
 0 22 186 Direction from which waves are coming (deg)
 0 22 187 Directional spread of wave (deg)
 0 02 046 Type of wave sensor

(Template for WAVEOB data expressed as the wave number ($I_a=1$ in FM-65 WAVEOB))

Identification

3 08 016	0 01 003 0 01 020 0 01 005 0 01 011 0 01 007 0 01 001 0 01 002 0 02 044 0 02 045 3 01 011 3 01 012 3 01 021	WMO region WMO region sub-area Buoy/platform identifier Ship or mobile land station identifier Satellite identifier WMO block number WMO station number Indicator for method of calculating spectral wave data Indicator for type of platform Date Time Latitude and longitude (high accuracy)	Validation
----------	--	---	------------

Basic data (WAVEOB Section 0)

0 22 063 Total water depth (m)
 1 05 002 Replication 5 desc 2 times
 0 02 046 Type of wave sensor
 0 22 070 Significant wave height (m)
 0 22 072 Spectral peak wave length (m)
 0 22 073 Maximum wave height
 0 22 075 Average wave length (m)
 0 02 046 Type of wave sensor
 0 22 076 Direction of coming dominant waves (deg)
 0 22 077 Directional spread of dominant wave (deg)
 0 22 094 Total number of wave bands
 0 25 044 Wave sampling interval (space, m)
 0 22 079 Length of wave record (m)

Spectral data (WAVEOB Section 1 - 5)

1 21 000 Replication 21 descriptors
 0 31 001 Replication factor
 0 02 046 Type of wave sensor

0 22 083	Maximum non-directional spectral wave number (m^3)
0 22 084	Band containing maximum non-directional spectral wave density
1 16 000	Delayed replication 16 descriptors
0 31 001	Replication factor
0 22 081	Waveband central wave number ($1/m$)
0 22 085	Spectral wave density ratio
0 22 086	Mean direction from which waves are coming (deg)
0 22 087	Principal direction from which waves are coming (deg)
0 22 088	First normalized polar coordinate from fourier coefficients
0 22 089	Second normalized polar coordinate from fourier coefficients
1 03 000	Delayed replication 3 descriptors
0 31 001	Replication factor
0 22 091	Non-directional spectral estimate by wave number (m^3)
0 22 186	Direction from which waves are coming (deg)
0 22 187	Directional spread of wave (deg)
1 03 000	Delayed replication 3 descriptors
0 31 001	Replication factor
0 22 093	Directional spectral estimate by wave number (m^4)
0 22 186	Direction from which waves are coming (deg)
0 22 187	Directional spread of wave (deg)
0 02 046	Type of wave sensor

Category 09 - Vertical sounding sequences (conventional data)

TABLE REFERENCE	TABLE REFERENCE	ELEMENT NAME	Status
F X Y			
None			

Category 10 - Vertical sounding sequences (satellite data)

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
3 10 063	0 01 007	(SST (Sea surface temperature) data) Satellite identifier	Validation
	0 01 033	Identification of originating/generating centre	
	0 01 034	Identification of originating/generating sub-centre	
	0 02 019	Satellite instruments	
	0 02 020	Satellite classification	
	3 01 011	Year, month, day	
	3 01 012	Hour, minute	
	2 07 003	Increase scale and bit width	
	0 04 006	Second	
	2 07 000	Cancel increase scale and bit width	
	0 05 040	Orbit number	
	2 01 133	Increase bit width	
	0 05 041	Scan line number	
	0 05 043	Field of view number	
	2 01 000	Cancel increase bit width	
	0 33 082	Geolocation quality flags	
	3 01 021	Latitude, longitude (high accuracy)	
	2 01 129	Increase bit width	
	0 07 002	Height or altitude	
	2 01 000	Cancel increase bit width	
	0 07 024	Satellite zenith angle	
	0 05 021	Bearing or azimuth	
	0 07 025	Solar zenith angle	
	0 05 022	Solar azimuth	
	0 08 075	Ascending/descending orbit qualifier	
	0 08 013	Day/night qualifier	
	0 08 072	Pixel(s) type	
	0 33 084	Pixel level quality flag	
	0 07 062	Depth below sea surface	
	0 33 086	Quality of pixel level retrieval	
	0 22 043	Sea/water temperature	
	0 07 062	Depth below sea surface (top of layer)	
	0 07 062	Depth below sea surface (bottom of layer)	
	0 33 086	Quality of pixel level retrieval	
	0 22 043	Sea/water temperature	
3 10 064		(AOT (Aerosol optical thickness) data)	Validation
	0 01 007	Satellite identifier	
	0 01 033	Identification of originating/generating centre	
	0 01 034	Identification of originating/generating sub-centre	
	0 02 019	Satellite instruments	
	0 02 020	Satellite classification	
	3 01 011	Year, month, day	
	3 01 012	Hour, minute	
	2 07 003	Increase scale and bit width	
	0 04 006	Second	

2 07 000 Cancel increase scale and bit width
 0 05 040 Orbit number
 2 01 133 Increase bit width
 0 05 041 Scan line number
 0 05 043 Field of view number
 2 01 000 Cancel increase bit width
 0 33 082 Geolocation quality flags
 3 01 021 Latitude, longitude (high accuracy)
 2 01 129 Increase bit width
 0 07 002 Height or altitude
 2 01 000 Cancel increase bit width
 0 07 024 Satellite zenith angle
 0 05 021 Bearing or azimuth
 0 07 025 Solar zenith angle
 0 05 022 Solar azimuth
 0 08 075 Ascending/descending orbit qualifier
 0 33 086 Quality of pixel level retrieval
 0 08 029 Surface type
 0 08 046 Atmospheric chemical or physical constituent type
 0 33 085 Aerosol optical thickness quality flags
 0 15 049 Aerosol Angstrom wavelength exponent
 1 02 011 Repeat the following 2 descriptors 11 times
 0 02 155 Satellite channel wavelength
 0 15 024 Optical depth

3 10 065		(OMPS (Ozone mapping and profiler suite) nadir profile data)	
	0 01 007	Satellite identifier	Validation
	0 01 033	Identification of originating/generating centre	
	0 01 034	Identification of originating/generating sub-centre	
	0 02 019	Satellite instruments	
	0 02 020	Satellite classification	
	3 01 011	Year, month, day	
	3 01 012	Hour, minute	
	2 07 003	Increase scale and bit width	
	0 04 006	Second	
	2 07 000	Cancel increase scale and bit width	
	0 05 040	Orbit number	
	0 33 082	Geolocation quality flags	
	3 01 021	Latitude, longitude (high accuracy)	
	2 01 129	Increase bit width	
	0 07 002	Height or altitude	
	2 01 000	Cancel increase bit width	
	0 07 024	Satellite zenith angle	
	0 05 021	Bearing or azimuth	
	0 07 025	Solar zenith angle	
	0 05 022	Solar azimuth	
	0 08 075	Ascending/descending orbit qualifier	
	0 33 071	Profile ozone quality	
	0 33 070	Total ozone quality	
	0 20 021	Type of precipitation	
	0 15 045	Sulfur dioxide	
	0 15 046	Volcano contamination index	
	0 08 065	Sun-glint indicator	

0 33 087 *Extent of satellite within South Atlantic anomaly*
0 08 003 *Vertical significance (satellite observations)*
0 10 004 *Pressure*
0 08 003 *Vertical significance (satellite observations)*
2 07 002 *Increase scale and bit width*
0 15 001 *Total ozone*
2 07 000 *Cancel increase scale and bit width*
1 05 012 *Repeat the following 5 descriptors 12 times*
0 10 040 *Number of retrieved layers*
0 10 004 *Pressure*
2 07 002 *Increase scale and bit width*
0 15 005 *Ozone p*
2 07 000 *Cancel increase scale and bit width*
0 08 046 *Atmospheric chemical or physical constituent type*
1 07 019 *Repeat the following 7 descriptors 19 times*
0 10 040 *Number of retrieved layers*
0 10 004 *Pressure*
0 08 090 *Decimal scale of following significand*
2 07 006 *Increase scale and bit width*
0 15 008 *Significand of volumetric mixing ratio*
2 07 000 *Cancel increase scale and bit width*
0 08 090 *Decimal scale of following significand ("Missing" = cancel)*

Category 11 - Single level report sequences (conventional data)

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
none			

Category 12 - Single level report sequences (satellite data)

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
		(CRYOSAT-2 <i>Siral altimeter</i>)	
3 12 199	0 01 007	Satellite id	Validation
	0 02 019	Satellite instrument	
	0 02 139	SIRAL instrument configuration	
	0 01 096	Acquisition station name	
	0 01 040	Processing centre	
	0 25 061	Software version	
	0 05 040	Orbit number	
	0 05 044	Satellite cycle number	
	0 08 075	Ascending flag	
	0 08 077	Altimeter surface type flag	
	0 04 001	Year	
	0 04 002	Month	
	0 04 003	Day	
	0 04 004	Hour	
	0 04 005	Minute	
	0 04 006	Second	
	0 05 001	Latitude	
	0 06 001	Longitude	
	0 10 081	Altitude of COG	
	0 22 156	Significant wave height	
	0 22 142	Square of significant wave height	
	1 01 020	Replicate 1 descriptor 20 times	
	0 22 149	20 Hz significant wave height squared	
	0 22 143	Std of 20 Hz SWH-squared	
	0 22 144	Number of 20 Hz valid points for SWH-squared	
	0 21 137	Corrected ocean backscatter coefficient	
	1 01 020	Replicate 1 descriptor 20 times	
	0 21 181	20 Hz ocean backscatter coefficient	
	0 21 138	Std corrected ocean backscatter coefficient	
	0 21 180	Number of 20 Hz valid points for ocean backscatter coefficient	
	0 21 177	Corrected OCOG backscatter coefficient	
	0 21 178	Std of 20 Hz OCOG backscatter coefficient	
	0 21 179	Number of 20 Hz valid points for OCOG backscatter coefficient	
	0 10 079	Off nadir angle of the satellite from platform data	
	0 10 085	Mean sea surface height	
	0 10 086	Geoid height	
	0 10 087	Ocean depth/land elevation	
	0 10 089	Total geocentric ocean tide height (solution 2)	
	0 10 090	Long period tide height	
	0 10 091	Tidal loading height	
	0 10 092	Solid earth tide height	
	0 10 093	Geocentric pole tide height	
	0 11 097	Altimeter wind speed	
	0 21 093	Peakiness (average of 20 Hz values)	
	1 01 020	Replicate 1 descriptor 20 times	
	0 21 182	20 Hz Ku band peakiness (20 values)	

Comment [AS1]: 192 and later are reserved for local use

0 33 053	Ocean retracking quality
0 22 151	Range to ocean surface
0 22 145	Std of 20 Hz ocean range
0 22 148	Number of 20 Hz valid points for ocean range
0 22 146	OCOG range
0 22 147	Std of 20 Hz OCOG range
0 25 126	Dry tropospheric correction
0 25 128	Model wet tropospheric correction
0 25 127	Inverse barometer correction
0 21 176	High frequency variability correction
0 25 132	Ionospheric correction
0 25 133	Sea state bias correction
0 25 182	L1 processing flag
0 25 183	L1 processing quality
0 25 180	LRM mode per cent
0 25 184	L2 product status
0 25 181	L2 processing flag
0 33 080	L2 processing quality

Category 13 - Sequences common to image data

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

Category 15 - Oceanographic report sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
3 15 004		<i>(XBT temperature profile data sequence)</i>	<i>Validation</i>
	0 01 079	<i>Unique identifier for the profile</i>	
	0 01 011	<i>Ship or mobile land station identifier</i>	
	0 01 103	<i>IMO Number. Unique Lloyd's registry</i>	
	0 01 087	<i>WMO Marine observing platform extended identifier</i>	
	0 01 019	<i>Long station or site name</i>	
	0 01 080	<i>Ship line number according to SOOP</i>	
	0 05 036	<i>Ship transect number according to SOOP</i>	
	0 01 013	<i>Speed of motion of moving observing platform</i>	
	0 01 012	<i>Direction of motion of moving observing platform</i>	
	3 01 011	<i>Date</i>	
	3 01 012	<i>Time</i>	
	3 01 021	<i>Latitude and longitude (high accuracy)</i>	
	0 07 032	<i>Height of sensor above local ground (or deck of marine platform)</i>	
	0 07 033	<i>Height of sensor above water surface</i>	
	0 02 002	<i>Type of instrumentation for wind measurement</i>	
	0 11 002	<i>Wind speed</i>	
	0 11 001	<i>Wind direction</i>	
	0 07 032	<i>Height of sensor above local ground (or deck of marine platform)</i>	
	0 07 033	<i>Height of sensor above water surface</i>	
	0 12 101	<i>Temperature/air temperature</i>	
	0 12 103	<i>Dew-point temperature</i>	
	0 07 032	<i>Height of sensor above local ground (or deck of marine platform) (set to missing to cancel previous value)</i>	
	0 07 033	<i>Height of sensor above water surface (set to missing to cancel previous value)</i>	
	3 02 021	<i>Waves</i>	
	0 02 171	<i>Instrument serial number for water temperature measurement</i>	
	3 02 056	<i>Sea surface temperature</i>	
	0 02 171	<i>Instrument serial number for water temperature measurement (set to missing to cancel the previous value)</i>	
	0 02 031	<i>Duration and time of current measurement</i>	
	0 02 030	<i>Method of current measurement</i>	
	0 22 005	<i>Direction of sea surface current</i>	
	0 22 032	<i>Speed of sea surface current</i>	
	0 02 032	<i>Indicator for digitization</i>	
	3 15 005	<i>Water temperature profile (temperature profile observed by XBT or buoy)</i>	
	0 22 063	<i>Total depth of water</i>	
	0 08 080	<i>Qualifier for GTSP quality class</i>	
	0 33 050	<i>Global GTSP quality class</i>	
	0 22 178	<i>XBT/XCTD launcher Type</i>	
	0 22 177	<i>Height of XBT/XCTD Launcher above sea level</i>	
	0 22 067	<i>Instrument type for water temperature profile measurement</i>	
	0 02 171	<i>Instrument serial number for water temperature profile measurement</i>	
	0 08 041	<i>Data significance</i>	
	0 26 021	<i>Year</i>	
	0 26 022	<i>Month</i>	
	0 26 023	<i>Day</i>	
	0 22 068	<i>Water temperature profile recorder type</i>	

3 15 005	1 06 000	(Water temperature profile (Temperature profile observed by XBT or buoy)	Validation
	0 31 002	Delayed replication of 6 descriptors	
	0 31 002	Extended delayed descriptor replication factor	
	0 07 063	Depth below sea surface	
	0 08 080	Qualifier for quality class. Note: set to qualifier = 13	
	0 33 050	GTSP quality class	
	0 22 043	Subsurface sea temperature	
	0 08 080	Qualifier for quality class. Note: set to qualifier = 11	
3 15 006	0 33 050	GTSP quality class	Validation
		(Typically reported underwater sounding without optional fields)	
	0 01 011	Ship's call sign	
	3 01 011	Date	
	3 01 012	Time	
	3 01 023	Latitude and longitude (coarse accuracy)	
	3 06 032	Depth, temperature, salinity	

Category 16 - Synoptic feature sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

Category 18 - Radiological report sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

Category 21 - Radar report sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

Category 22 - Chemical and aerosol sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			

Category 40 - Additional satellite report sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	Status
None			