(8 May 2013)

BUFR Table D – *List of common sequences*

F	X	Category of sequences	Status

NONE

Category 02 – Meteorological sequences common to surface data

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(SHIP "instantaneous" data from VOS)		
3 02 062	3 02 001	Pressure and 3-hour pressure change		Validation
	3 02 052	Ship temperature and humidity data		
	3 02 053	Ship visibility data		
	0 07 033	Height of sensor above water surface	Set to missing (cancel)	
	1 01 000	Delayed replication of 1 descriptor		
	0 31 000	Short delayed descriptor replication factor		
	3 02 034	Precipitation past 24 hours	R24R24R24R24	
	0 07 032	Height of sensor above local ground (or deck of marine platform)	Set to missing (cancel)	
	0 20 010	Cloud cover (total)	N	
	0 08 002	Vertical significance (surface observations)		
	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	Low or middle clouds Nh	
	0 20 012	Cloud type	Low clouds CL	
	0 20 012	Cloud type	Middle clouds CM	
	0 20 012	Cloud type	High clouds CH	
	1 01 000	Delayed replication of 1 descriptor		
	0 31 001	Delayed descriptor replication factor		
	3 02 005	Cloud layer		
	0 08 002	Vertical significance (surface observations)	Set to missing (cancel)	
	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 and swell 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	Ship extreme temperature data		
	3 02 064	Wind data from VOS		

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Wind data from VOS)		
3 02 064	0 07 032	Height of sensor above local ground (or deck of marine platform)	Wind measurement	Validation
	0 07 033	Height of sensor above water surface	Wind measurement	
	0 02 002	Type of instrumentation for wind measurement	iw	
	0 08 021	Time significance	= 2 Time averaged	
	0 04 025	Time period or displacement	= –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	Set to missing	
	1 03 000	Delayed replication of 3 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 04 025	Time period or displacement	Minutes	
	0 11 043	Maximum wind gust direction		
	0 11 041	Maximum wind gust speed	910fmfm, 911fxfx	

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Additional synoptical parameters)		
3 02 067	0 01 023	Observation sequence number		Validation
	0 04 025	Time period or displacement	= 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 (cancel)	
	1 01 000	Delayed replication of 1 descriptor		
	0 31 000	Short delayed descriptor replication factor		
	3 02 056	Sea/water temperature	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	980VsVs	
	0 22 061	State of the sea	924SVs	
	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 04 000	Delayed replication of 4 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 20 054	True direction from which a phenomenon or clouds are moving	Da, Dp	
	0 20 137	Evolution of clouds	940Cn3	
	0 20 012	Cloud type	941CDp, 943CLDp	
	0 20 090	Special clouds	993CsDa	
	0 20 136	Supplementary cloud type	948C0Da, 949CaDa, 950Nmn3, 951Nvn4	
	0 04 025	Time period or displacement	Reference period of fresh fallen snow	
	0 13 012	Depth of fresh snow		
	0 04 025	Time period or displacement	= –60 minutes	
	0 11 042	Maximum wind speed (10-minute 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, = 17 Start of phenomenon	
	0 04 025	Time period or displacement	= –xx | 902tt	

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
	0 11 042	Maximum wind speed (10-minute mean wind)	912ff	
	0 08 021	Time significance	Set to missing (cancel)	
	1 15 000	Delayed replication of 15 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 08 021	Time significance	= 30 Time of occurrence, = 17 Start of phenomenon	
	0 04 015	Time increment	= –xx1	
	0 08 021	Time significance	= 2 Time averaged	
	0 04 025	Time period or displacement	= –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 or displacement	= –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 (cancel)	
	0 04 025	Time period or 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 or displacement	= –xx, i.e. from	
	0 04 025	Time period or displacement	= –xx, i.e. to	
	0 20 003	Present weather	962ww, 963w1w1, 964ww, 965w1w1, 966ww, 967w1w1	
	1 10 000	Delayed replication of 10 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 04 025	Time period or displacement	= –xx, i.e. from	
	0 04 025	Time period or displacement	= –xx, i.e. to	
	0 05 021	Bearing or azimuth	Da, Dp	
	0 05 021	Bearing or azimuth	Da, Dp	
	0 20 054	True direction from which a phenomenon or clouds are moving	Da, Dp	
	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	Phenomena occurrence		
	0 20 063	Special phenomena		

Category 06 – Meteorological or oceanographic sequences common to oceanographic observations

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Sequence for representation of tide station identification, method of transmission, time the message is transmitted and reference time for reports in a time series)		
3 06 011	3 01 021	Latitude/longitude (high accuracy)		Validation
	0 01 075	Tide station identification	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		
		(Sequence for representation of sensor type, significance qualifier for sensor and status of operation)		
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	Sequence for representation of tsunameter sampling information for water column heights in the time series report		
		(Sequence for representation of water level and residual in the time series)		
3 06 013	3 06 012	Sequence for representation of 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	Short time increment	Added to each data value in the time series	
	1 02 000	Delayed replication of 2 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 22 038	Tidal elevation with respect to local chart datum		
	0 22 040	Meteorological residual tidal elevation (surge or offset)		

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Sequence for representation of water level in the time series, similar to 306013 but with no residual)		
3 06 014	3 06 012	Sequence for representation of 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	Short time increment	Added to each data value in the time series	
	1 01 000	Delayed replication of 1 descriptor		
	0 31 001	Delayed descriptor replication factor		
	0 22 038	Tidal elevation with respect to local chart datum		
		(Sequence for representation of ancillary meteorological data associated with water level data)		
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	Pressure	Station level	
	0 10 051	Pressure reduced to mean sea level		
	3 02 032	Temperature and humidity data		
		(Buoy data including directional and non-directional wave data)		
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	Delayed descriptor replication factor		
	0 07 062	Depth below sea/water surface		
	0 22 043	Sea/water 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	ELEMENT DESCRIPTION	Status
		(BUFR template for surface observations from n-minute period with national and WMO station identification)		
3 07 092	3 01 089	National station identification		Validation
	3 01 090	Surface station identification; time, horizontal and vertical coordinates		
	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 32 000	Delayed replication of 32 descriptors		
	0 31 001	Delayed descriptor replication factor	= n	
	0 10 004	Pressure		
	1 02 000	Delayed replication of 2 descriptors		
	0 31 001	Delayed descriptor replication factor		
	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 (or deck of marine platform)		
	0 08 010	Surface qualifier (for temperature data)		
	0 12 120	Ground temperature		
	0 07 032	Height of sensor above local ground (or deck of marine platform)	Set to missing (cancel)	
	0 08 010	Surface qualifier (for temperature data)	Set to missing (cancel)	
	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 (cancel)	
	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 (or deck of marine platform)	Set to missing (cancel)	
	0 07 033	Height of sensor above water surface	Set to missing (cancel)	
	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 (high accuracy)		
	0 13 058	Size of precipitating element		
	1 02 000	Delayed replication of 2 descriptors		

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
	0 31 000	Short delayed descriptor replication factor		
	0 20 031	Ice deposit (thickness)		
	0 20 032	Rate of ice accretion (estimated)		
	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 (or deck of marine platform)	Set to missing (cancel)	
	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 or displacement	= –n (minutes)	
	0 13 059	Number of flashes (thunderstorm)		
	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	Define data present 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	Identification 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 marker operator		
	1 08 000	Delayed replication of 8 descriptors		
	0 31 001	Delayed descriptor replication factor		
	2 23 000	Substituted values operator		
	2 37 000	Use defined data present bit-map		
	0 01 033	Identification of originating/generating centre		
	0 01 032	Generating application		
	0 08 083	Nominal value indicator		

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
	1 01 000	Delayed replication of 1 descriptor		
	0 31 001	Delayed descriptor replication factor		
	2 23 255	Substituted values marker operator		
		(Synoptic data for national use (Canada))		
3 07 100	0 04 024	Time period	= –6 | Following values apply to the 6 hour period preceding reference time	Validation
	1 02 000	Delayed replication of 2 descriptors		
	0 31 000	Short delayed descriptor replication factor		
	0 13 057	Time of beginning/end of precipitation	909RtDc	
	0 26 020	Duration of precipitation		
	1 01 000	Depth of newly-fallen snow		
	0 31 000	Short delayed descriptor replication factor		
	0 13 012	Depth of Fresh Snow	931ss	
	3 01 012	Hour, minute		
	0 04 024	Time period	Hours | Set to –24 | Values apply to the 24 hour period ending at the last T = 06 Z	
	1 03 000	Delayed replication of 3 descriptors	Bright sunshine	
	0 31 000	Delayed descriptor replication factor		
	0 02 006	Data Obtained by	= 1 Obtained by derivation	
	0 14 031	Bright Sunshine	5SSSS	
	0 02 006	Data Obtained by	= 0 Obtained by measurement	
	1 04 000	Delayed replication of 4 descriptors	Snowfall amount/water equivalent	
	0 31 000	Short delayed descriptor replication factor		
	0 02 175	Method of precipitation measurement		
	0 13 119	Snowfall amount	1SSSS	
	0 02 175	Method of precipitation measurement		
	0 13 120	Amount of water equivalent of snow	2SwSwSwSw	
	1 07 000	Delayed replication of 7 descriptors	Max wind speed/direction	
	0 31 000	Short delayed replication factor		
	0 08 021	Time significance	= 30 Time of occurrence	
	0 04 004	Hour	4FhFTFTFI	
	0 04 005	Minutes	Time of occurrence minutes	
	0 11 001	Wind direction	3dmdm	
	0 08 023	First order statistics	= 2 Max, value	
	0 11 002	Wind Speed	fmfm	
	0 08 021		= 0 Cancel	
	0 04 024	Time period in hours	= 0 | Set to initial time value	
	3 01 012	Hour, minute		

Category 08 – Surface report sequences (sea)

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Report from a buoy observation)		
3 08 008	3 01 093	Ship identification, movement, date/time, horizontal and vertical coordinates		Validation
	3 02 062	SHIP "instantaneous" data from VOS		
	3 02 063	SHIP "period" data from VOS		
		(Synoptic report from a sea station suitable for SHIP observation data from VOS station)		
3 08 014	3 01 093	Ship identification, movement, date/time, horizontal and vertical coordinates		Validation
	3 02 062	SHIP "instantaneous" data from VOS		
	3 02 063	SHIP "period" data from VOS		

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Template for WAVEOB data expressed as frequency (Ia=0 in FM-65 WAVEOB)		
		Identification		
3 08 015	0 01 003	WMO Region number/geographical area		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	Year, month, day		
	3 01 012	Hour, minute		
	3 01 021	Latitude/longitude (high accuracy)		
		Basic data (WAVEOB Section 0)		
	0 22 063	Total water depth	m	
	1 05 002	Replicate 5 descriptors 2 times		
	0 02 046	Wave measurement instrumentation		
	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	Wave measurement instrumentation		
	0 22 076	Direction from which dominant waves are coming	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	Delayed replication of 21 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 02 046	Wave measurement instrumentation		
	0 22 082	Maximum non-directional spectral wave density	m2/Hz	
	0 22 084	Band containing maximum non-directional spectral wave density		
	1 16 000	Delayed replication of 16 descriptors		
	0 31 001	Delayed descriptor 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 of 3 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 22 090	Non-directional spectral estimate by wave frequency	m2/Hz	
	0 22 186	Direction from which waves are coming	deg	

0 22 187	Directional spread of wave	deg
1 03 000	Delayed replication of 3 descriptors	
0 31 001	Delayed descriptor replication factor	
0 22 092	Directional spectral estimate by wave frequency	m2/Hz/rad
0 22 186	Direction from which waves are coming	deg
0 22 187	Directional spread of wave	deg
0 02 046	Wave measurement instrumentation	

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Template for WAVEOB data expressed as the wave number (Ia=1 in FM-65 WAVEOB)		
		Identification		
3 08 016	0 01 003	WMO Region number/geographical area		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	Year, month, day		
	3 01 012	Hour, minute		
	3 01 021	Latitude/longitude (high accuracy)		
		Basic data (WAVEOB Section 0)		
	0 22 063	Total water depth	m	
	1 05 002	Replicate 5 descriptors 2 times		
	0 02 046	Wave measurement instrumentation		
	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	Wave measurement instrumentation		
	0 22 076	Direction from which dominant waves are coming	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	Delayed replication of 21 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 02 046	Wave measurement instrumentation		
	0 22 083	Maximum non-directional spectral wave number	m3	
	0 22 084	Band containing maximum non-directional spectral wave density		
	1 16 000	Delayed replication of 16 descriptors		
	0 31 001	Delayed descriptor 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 of 3 descriptors		
	0 31 001	Delayed descriptor replication factor		
	0 22 091	Non-directional spectral estimate by wave number	m3	
	0 22 186	Direction from which waves are coming	deg	
	0 22 187	Directional spread of wave	deg	

1 03 000	Delayed replication of 3 descriptors	
0 31 001	Delayed descriptor replication factor	
0 22 093	Directional spectral estimate by wave number	m4
0 22 186	Direction from which waves are coming	deg
0 22 187	Directional spread of wave	deg
0 02 046	Wave measurement instrumentation	

Category 10 – Vertical sounding sequences (satellite data)

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(AOT (Aerosol optical thickness) data)		
3 10 064	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, reference value and data width		
	0 04 006	Second		
	2 07 000	Increase scale, reference value and data width	Cancel	
	0 05 040	Orbit number		
	2 01 133	Change data width	Increase bit width	
	0 05 041	Scan line number		
	0 05 043	Field of view number		
	2 01 000	Change data width	Cancel increase bit width	
	0 33 082	Geolocation quality flags		
	3 01 021	Latitude/longitude (high accuracy)		
	2 01 129	Change data width	Increase bit width	
	0 07 002	Height or altitude		
	2 01 000	Change data width	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	Replicate 2 descriptors 11 times		
	0 02 155	Satellite channel wavelength		
	0 15 024	Optical depth		

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(OMPS (Ozone mapping and profiler suite) nadir profile data)		
3 10 065	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, reference value and data width		
	0 04 006	Second		
	2 07 000	Increase scale, reference value and data width	Cancel	
	0 05 040	Orbit number		
	0 33 082	Geolocation quality flags		
	3 01 021	Latitude/longitude (high accuracy)		
	2 01 129	Change data width	Increase bit width	
	0 07 002	Height or altitude		
	2 01 000	Change data width	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 (based on climatological data)		
	0 08 003	Vertical significance (satellite observations)		
	0 10 004	Pressure		
	0 08 003	Vertical significance (satellite observations)		
	2 07 002	Increase scale, reference value and data width		
	0 15 001	Total ozone		
	2 07 000	Increase scale, reference value and data width	Cancel	
	1 05 012	Replicate 5 descriptors 12 times		
	0 10 040	Number of retrieved layers		
	0 10 004	Pressure		
	2 07 002	Increase scale, reference value and data width		
	0 15 005	Ozone p		
	2 07 000	Increase scale, reference value and data width	Cancel	
	0 08 046	Atmospheric chemical or physical constituent type		
	1 07 019	Replicate 7 descriptors 19 times		
	0 10 040	Number of retrieved layers		
	0 10 004	Pressure		
	0 08 090	Decimal scale of following significands		
	2 07 006	Increase scale, reference value and data width		
	0 15 008	Significand of volumetric mixing ratio		
	2 07 000	Increase scale, reference value and data width	Cancel	
	0 08 090	Decimal scale of following significands	Set to missing (cancel)	

Category 15 – Oceanographic report sequences

TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
		(Typically reported underwater sounding without optional fields)		
3 15 006	0 01 011	Ship or mobile land station identifier	Ship's call sign	Validation
	3 01 011	Year, month, day		
	3 01 012	Hour, minute		
	3 01 023	Latitude/longitude (coarse accuracy)		
	3 06 032	Buoy data including directional and non-directional wave data	Depth, temperature, salinity	