

**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
3 02 062		(SHIP "instantaneous" data from VOS)		
	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		
3 02 063		(SHIP "period" data from VOS)		
	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		

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TABLE REFERENCE F X Y			ELEMENT NAME	ELEMENT DESCRIPTION	Status
3 02 064	0 07 032		(Wind data from VOS)		
			Height of sensor above local ground (or deck of marine platform)	Wind measurement	Validation
			Height of sensor above water surface	Wind measurement	
			Type of instrumentation for wind measurement	iw	
			Time significance	= 2 Time averaged	
			Time period or displacement	= -10 minutes, or number of minutes after a significant change of wind	
				dd	
			Wind direction	ff	
			Wind speed	Set to missing	
			Time significance		
			Delayed replication of 3 descriptors		
			Delayed descriptor replication factor		
			Time period or displacement	Minutes	
			Maximum wind gust direction		
			Maximum wind gust speed	910fmfm, 911fxfx	

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TABLE REFERENCE F X Y	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
3 02 067		(Additional synoptical parameters)		
	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	

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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)		

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TABLE REFERENCE F X Y			ELEMENT NAME	ELEMENT DESCRIPTION	Status
3 06 014	3 06 012		(Sequence for representation of water level in the time series, similar to 306013 but with no residual)		Validation
			Sequence for representation of sensor type, significance qualifier for sensor and status of operation		
		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		
3 06 016	3 01 011		(Sequence for representation of ancillary meteorological data associated with water level data)		Validation
			Year, month, day	Reference date/time for the time series	
		3 01 013	Hour, minute, second		
		0 10 004	Pressure	Station level	
		0 10 051	Pressure reduced to mean sea level		
3 06 032	0 02 032		(Buoy data including directional and non-directional wave data)		Validation
			Indicator for digitization		
			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			ELEMENT NAME	ELEMENT DESCRIPTION	Status
F	X	Y			
			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	

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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	TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
3 08 008		(Report from a buoy observation)		
	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		
3 08 014		(Synoptic report from a sea station suitable for SHIP observation data from VOS station)		
	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		

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TABLE REFERENCE F X Y			ELEMENT NAME	ELEMENT DESCRIPTION	Status
(Template for WAVEOB data expressed as frequency (la=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)		
	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	
	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		

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TABLE REFERENCE			TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
F	X	Y				
			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		

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TABLE REFERENCE F X Y			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	0 01 003	WMO Region number/geographical area		
			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		
			Year, month, day		
			Hour, minute		
			Latitude/longitude (high accuracy)		
			Total water depth	m	Validation
			Replicate 5 descriptors 2 times		
			Wave measurement instrumentation		
			Significant wave height	m	
			Spectral peak wave length	m	
			Maximum wave height		
			Average wave length	m	
			Wave measurement instrumentation		
			Direction from which dominant waves are coming	deg	
			Directional spread of dominant wave	deg	
			Total number of wave bands		
			Wave sampling interval (space)	m	
			Length of wave record	m	
			Delayed replication of 21 descriptors		
			Delayed descriptor replication factor		
			Wave measurement instrumentation		
			Maximum non-directional spectral wave number	m3	
			Band containing maximum non-directional spectral wave density		
			Delayed replication of 16 descriptors		
			Delayed descriptor replication factor		
			Waveband central wave number	1/m	
			Spectral wave density ratio		
			Mean direction from which waves are coming	deg	
			Principal direction from which waves are coming	deg	
			First normalized polar coordinate from Fourier coefficients		
			Second normalized polar coordinate from Fourier coefficients		
			Delayed replication of 3 descriptors		
			Delayed descriptor replication factor		
			Non-directional spectral estimate by wave number	m3	
			Direction from which waves are coming	deg	
			Directional spread of wave	deg	
			Delayed replication of 3 descriptors		
			Delayed descriptor replication factor		

TABLE REFERENCE			ELEMENT NAME	ELEMENT DESCRIPTION	Status
F	X	Y			
			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		



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TABLE REFERENCE F X Y			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		TABLE REFERENCE	ELEMENT NAME	ELEMENT DESCRIPTION	Status
3 15 006			(Typically reported underwater sounding without optional fields)		
	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	