

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 |
|-----------------------------|--------------------|--------------|--------|
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None

Category 02 - Meteorological sequences common to surface data

| TABLE REFERENCE F X Y | TABLE REFERENCE | ELEMENT NAME | Status |
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| | | <i>(SHIP "instantaneous" data from VOS)</i> | |
| 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 | |
| | | <i>(SHIP "period" data from VOS)</i> | |
| 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 | |

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| (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 _v n ₄ |

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| 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 | |
| | (Sea/water temperature high precision) | |
| 3 02 090 | 0 02 038 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 | |

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| | | <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 | |

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| | 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 (Ia=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 | |

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| | 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 ($l_a=1$ in FM-65 WAVEOB)) | |
| | | Identification | |
| 3 08 016 | 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 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 | |

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| 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 F X Y | TABLE REFERENCE | ELEMENT NAME | Status |
|-----------------------------|--------------------|--------------|--------|
| None | | | |

Category 10 - Vertical sounding sequences (satellite data)

| TABLE REFERENCE F X Y | TABLE REFERENCE | ELEMENT NAME | Status |
|-----------------------------|--------------------|--|------------|
| 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) | 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 | |

| | |
|----------|---|
| 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 |
|-----------------------------|--------------------|--|------------|
| 3 12 071 | 0 01 007 | (CryoSat-2 SIRAL altimeter) 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) | |

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

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

| | | | |
|----------|----------|--|------------|
| | 0 25 061 | Data acquisition software type (or name) and version number | |
| | 0 01 036 | Agency in charge of operating the observing platform | |
| | | (Water temperature profile (Temperature profile observed by XBT or buoy) | |
| 3 15 005 | 1 06 000 | Delayed replication of 6 descriptors | Validation |
| | 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 | |
| | 0 33 050 | GTSP quality class | |
| | | (Typically reported underwater sounding without optional fields) | |
| 3 15 006 | 0 01 011 | Ship's call sign | Validation |
| | 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 | | | |