

BUFR TABLES RELATIVE TO SECTION 3

BUFR Table B - *Classification of elements*

F	X	Class	Comments	Status
0	41	BUFR/CREX Marine bio-geochemical data		Validation

Class 01 – BUFR/CREX Identification

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		DATA WIDTH (Bits)	UNIT	CREX		Status
				REFERENCE VALUE				SCALE	DATA WIDTH (Characters)	
0 01 097	Star catalog number	Numeric	0	0		13	Numeric	0	4	Validation
0 01 098	Type of product	Code table	0	0		12	Code table	0	4	Validation
0 01 114	Encrypted ship or mobile land station identifier (see Note x)	CCITT IA5	0	0		352	Character	0	44	Validation

Notes:

(x) Encrypted value is encoded in RFC 4648 Base 64.

Class 02 – BUFR/CREX Instrumentation

TABLE REFERENCE F X Y	ELEMENT NAME	BUFR				CREX			Status
		UNIT	SCALE	REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	SCALE	DATA WIDTH (Characters)	
0 02 006	Data obtained by	Code table	0	0	3	Code table	0	1	Validation
0 02 008	Type of offshore platform	Code table	0	0	4	Code table	0	2	Validation
0 02 098	Type of wave sensor	Code table	0	0	4	Code table	0	2	Validation

Class 03 – BUFR/CREX Instrumentation

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		UNIT	CREX		Status
				REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 03 001	Surface station type	Code table	0	0	4	Code table	0	2	Validation
0 03 002	Generic type of humidity instrument	Code table	0	0	4	Code table	0	2	Validation
0 03 003	Configuration of sensors	Code table	0	0	3	Code table	0	1	Validation
0 03 004	Type of shield or screen	Code table	0	0	5	Code table	0	2	Validation
0 03 005	Horizontal width of screen or shield (x)	m	2			m	2		Validation
0 03 006	Horizontal depth of screen or shield (y)	m	2			m	2		Validation
0 03 007	Vertical height of screen or shield (z)	m	2			m	2		Validation
0 03 008	Artificially ventilated screen or shield	Code table	0	0	3	Code table	0	1	Validation
0 03 009	Amount of forced ventilation at time of reading	m-3 s-1	1			m-3 s-1	1		Validation
0 03 013	Type of marine thermometer	Code table	0	0	3	Code table	0	1	Validation
0 03 014	Type of marine hygrometer	Code table	0	0	4	Code table	0	2	Validation
0 03 015	Exposure of marine thermometer/hygrometer	Code table	0	0	4	Code table	0	2	Validation

Class 04 – BUFR/CREX Location (time)

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		DATA WIDTH (Bits)	UNIT	CREX		Status
				REFERENCE VALUE				SCALE	DATA WIDTH (Characters)	
0 04 008	Seconds within a minute (high accuracy)	s	7	0		30				Validation

Class 05 – BUFR/CREX Location (horizontal–1)

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		UNIT	CREX		Status
				REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 05 062	Horizontal width of sampled volume	m	-1	0	20	m	-1	7	Validation

Class 06 – BUFR/CREX Location (horizontal–2)

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		UNIT	CREX		Status
				REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	

Class 07 – BUFR/CREX Location (vertical)

TABLE REFERENCE F X Y			ELEMENT NAME		BUFR			DATA WIDTH (Bits)		UNIT		CREX		DATA WIDTH (Characters)		Status
					UNIT	SCALE	REFERENCE VALUE			UNIT		SCALE				
0	07	011	Pressure (high precision)		Pa	0	0	30		Pa		0		10		Validation

Class 08 – BUFR/CREX Significance qualifiers

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		UNIT	CREX		Status
				REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 08 027	Matrix geometry	Code table	0	0	6	Code table	0	2	Validation
0 08 034	Type of temperature/salinity measurement	Code table	0	0	4	Code table	0	2	Validation
0 08 045	Particulate matter characterization	Code table	0	0	8	Code table	0	3	Validation

Class 10 – BUFR/CREX Non-coordinate location (vertical)

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		UNIT	CREX		Status
				REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 10 015	Maximum height of deck cargo above summer load line	m	0	0	6	m	0	2	Validation
0 10 016	Departure of reference level (summer maximum load line) from actual sea level	m	0	-32	6	m	0	3	Validation
0 10 071	Vertical resolution	m	0	0	14	m	0	5	Validation

Class 11 – BUFR/CREX Wind and turbulence

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	BUFR			UNIT	CREX		Status
			SCALE	REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 11 007	Relative wind direction (in degrees off bow)	°	0	0	9	°	0	3	Validation
0 11 008	Relative wind speed	m s-1	1	0	12	m s-1	1	4	Validation
0 11 110	Uncertainty in u-component	m s-1	-1	0	10	m s-1	-1	4	Validation
0 11 111	Uncertainty in v-component	m s-1	-1	0	10	m s-1	-1	4	Validation
0 11 112	Uncertainty in w-component	m s-1	-2	0	10	m s-1	-2	4	Validation
0 11 113	Tracking correlation of vector	Numeric	3	-1000	12	Numeric	3	4	Validation
0 11 114	NWP vertical wind shear	m s-1	2	-8192	14	m s-1	2	5	Validation

Class 12 – BUFR/CREX Temperature

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		CREX			Status
				REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	SCALE	DATA WIDTH (Characters)	
0 12 008	Uncertainty in virtual temperature	K	-1	0	10	K	-1	4	Validation
0 12 133	NWP vertical temperature gradient	K	2	0	16	°C	2	4	Validation
0 12 134	Low-level inversion flag	Code table	0	0	2	Code table	0	1	Validation

Class 13 – BUFR/CREX Hydrographic and hydrological elements

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	BUFR			UNIT	CREX		Status
			SCALE	REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 13 119	Snowfall amount	m	3	-10	14	m	3	5	Validation
0 13 120	Snow amount, water equivalent	kg m-2	1	-10	14	kg m-2	1	5	Validation

Class 14 – BUFR/CREX Radiation and radiance

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		UNIT	CREX		Status
				REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 14 071	Global UV spectral irradiance (see Note x)	W m-2 nm-1	6	-1048576	21	W m-2 nm-1	6	7	Validation
0 14 073	Global erythemal irradiation (see Note x+1)	J m-2	-3	-32	6	J m-2	-3	2	Validation

Class 15 – BUFR/CREX Physical/chemical constituents

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	BUFR			UNIT	CREX		Status
			SCALE	REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 15 007	Molecular mass	u	2	0	15	u	2	5	Validation
0 15 009	Integrated number density	m-2	0	0	10	m-2	0	4	Validation
0 15 010	Partial pressure	Pa	0	0	10	Pa	0	4	Validation
0 15 022	Integrated number density	m-3	0	0	10	m-3	0	4	Validation
0 15 023	Mass density	kg m-3	0	0	10	kg m-3	0	4	Validation
0 15 028	Photo dissociation rate	s-1	0	0	10	s-1	0	4	Validation
0 15 040	Particulate matter diameter	m	8	0	9	m	8	3	Validation
0 15 043	Number of averaging kernel layers	Numeric	0	0	10	Numeric	0	4	Validation
0 15 044	Averaging kernel value	Numeric	6	-5000000	24	Numeric	6	8	Validation

Class 20 – BUFR/CREX Observed phenomena

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR	DATA WIDTH (Bits)	UNIT	CREX	DATA WIDTH (Characters)	Status
				REFERENCE VALUE			SCALE		
0 20 079	Snow/Ice crystals indicator	Flag table	0	0	2	Flag table	0	1	Validation
0 20 080	Cloud amount percentage interval	Code table	0	0	3	Code table	0	1	Validation

Class 21 – BUFR/CREX Radar data

TABLE REFERENCE F X Y	ELEMENT NAME	BUFR			DATA WIDTH (Bits)	UNIT	CREX		Status
		UNIT	SCALE	REFERENCE VALUE			SCALE	DATA WIDTH (Characters)	
0 21 028	Specific differential phase	deg m-1	5	-200	11	deg m-1	2	4	Validation

Class 22 – BUFR/CREX Oceanographic elements

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		UNIT	CREX		Status
				REFERENCE VALUE	DATA WIDTH (Bits)		SCALE	DATA WIDTH (Characters)	
0 22 179	Software version of profile recorder	CCITT IA5	0	0	256	Character	0	256	Validation
0 22 180	Auto launcher software version number	CCITT IA5	0	0	256	Character	0	256	Validation
0 22 181	Instrument manufacturer's serial number	CCITT IA5	0	0	32	Character	0	32	Validation
0 22 186	Direction from which waves are coming	degree true	0	0	9	degree true	0	3	Validation
0 22 187	Directional spread of wave	°	0	0	9	°	0	3	Validation

Class 25 – BUFR/CREX Processing information

TABLE REFERENCE F X Y	ELEMENT NAME	UNIT	SCALE	BUFR		DATA WIDTH (Bits)	UNIT	CREX		Status
				REFERENCE VALUE				SCALE	DATA WIDTH (Characters)	
0 25 144	Matrix dimension (i-axis)	Numeric	0	0		9	Numeric	0	3	Validation
0 25 145	Matrix dimension (j-axis)	Numeric	0	0		9	Numeric	0	3	Validation
0 25 147	Size of largest cluster	Numeric	0	0		10	Numeric	0	4	Validation
0 25 151	Star relative magnitude	Numeric	3	-20000		14	Numeric	3	5	Validation
0 25 152	Star brightness temperature	K	0	0		17	K	0	6	Validation
0 25 153	Limb	Code table	0	0		2	Code table	0	1	Validation
0 25 185	Encryption method	Code table	0	0		8	Code table	0	3	Validation
0 25 186	Encryption key version	CCITT IA5	0	0		96	Character	0	12	Validation

Class 33 – BUFR/CREX Quality information

TABLE REFERENCE F X Y	ELEMENT NAME	BUFR				CREX			Status
		UNIT	SCALE	REFERENCE VALUE	DATA WIDTH (Bits)	UNIT	SCALE	DATA WIDTH (Characters)	
0 33 009	Relative error	%	2	0	14	%	2	5	Validation
0 33 029	Correlation coefficient	Numeric	2	-100	8	Numeric	2	3	Validation

Class 40 – BUFR/CREX Satellite data

TABLE REFERENCE F X Y	ELEMENT NAME	BUFR			DATA WIDTH (Bits)	UNIT	CREX		Status
		UNIT	SCALE	REFERENCE VALUE			SCALE	DATA WIDTH (Characters)	