

## **c. COMMON CODE TABLES TO BINARY AND ALPHANUMERIC CODES**

### **COMMON CODE TABLE C-1:    *Identification of originating/generating centre***

F<sub>1</sub>F<sub>2</sub> for alphanumeric codes

F<sub>3</sub>F<sub>3</sub>F<sub>3</sub> for alphanumeric codes

Code table 0 in GRIB Edition 1/Code table 0 01 033 for BUFR Edition 3

Octet 5 in Section 1 of GRIB Edition 1/Octet 6 in Section 1 of BUFR Edition 3

### **COMMON CODE TABLE C-2:    Radiosonde/sounding system used**

Code table 3685 – r<sub>a</sub>r<sub>a</sub> (Radiosonde/sounding system used) – for alphanumeric codes

Code table 0 02 011 (Radiosonde type) in BUFR

### **COMMON CODE TABLE C-3:    *Instrument make and type for water temperature profile measurement with fall rate equation coefficients***

Code table 1770 – I<sub>X</sub>I<sub>X</sub>I<sub>X</sub> (Instrument type for XBT, with fall rate equation coefficients) – for alphanumeric codes

Code table 0 22 067 (Instrument type for water temperature profile measurement) in BUFR

### **COMMON CODE TABLE C-4:    *Water temperature profile recorder types***

Code table 4770 – X<sub>R</sub>X<sub>R</sub> (Recorder type) – for alphanumeric codes

Code table 0 22 068 (Water temperature profile recorder types) in BUFR

### **COMMON CODE TABLE C-5:    *Satellite identifier***

I<sub>6</sub>I<sub>6</sub>I<sub>6</sub> for alphanumeric codes

Code table 0 01 007 in BUFR

Code used in GRIB Edition 2

### **COMMON CODE TABLE C-6:    *List of units for TDCFs***

(Used only in Volume I.2, Part B and C)

### **COMMON CODE TABLE C-7:    *Tracking technique/status of system used***

Code table 3872 – s<sub>a</sub>s<sub>a</sub> for alphanumeric code

Code table 0 02 014 in BUFR

### **COMMON CODE TABLE C-8:    *Satellite Instruments***

Code table 0 02 019 in BUFR

### **COMMON CODE TABLE C-11: *Originating/generating centres***

BUFR 0 01 035

CREX Edition 2, 00000 in Group P00000ppp in Section 1

GRIB Edition 2, Octets 6–7 in Section 1

BUFR Edition 4, Octets 5–6 in Section 1

**COMMON CODE TABLE C-12: *Sub-centres of originating centres defined by entries in Common Code tables C-1 or C-11***

BUFR 0 01 034

BUFR Edition 3, Octet 5 in Section 1

BUFR Edition 4, Octets 7–8 in Section 1

GRIB Edition 1, Octet 26 in Section 1

GRIB Edition 2, Octets 8–9 in Section 1

CREX Edition 2, ppp in Group Pooooopp in Section 1

**COMMON CODE TABLE C-13: *Data sub-categories of categories defined by entries in BUFR Table A***

BUFR Edition 4, Octet 12 in Section 1 (if = 255, it means other sub-category or undefined)

CREX Edition 2, mmm in Group Annnmmm of Section 1

**COMMON CODE TABLE C-14: *Atmospheric chemical or physical constituent type***

Code Table 4.230 in GRIB 2

**COMMON CODE TABLE C-1: Identification of originating/generating centre**

Common Code table { F<sub>1</sub>F<sub>2</sub> for alphanumeric codes  
 F<sub>3</sub>F<sub>3</sub>F<sub>3</sub> for alphanumeric codes  
 Code table 0 in GRIB Edition 1/Code table 0 01 033 in BUFR Edition 3  
 Octet 5 in Section 1 of GRIB Edition 1/Octet 6 in Section 1 of BUFR Edition 3

Code figure for F <sub>1</sub> F <sub>2</sub>	Code figure for F <sub>3</sub> F <sub>3</sub> F <sub>3</sub>	Octet 5 in Section 1 of GRIB Edition 1 Octet 6 in Section 1 of BUFR Edition 3	
00	000	0	WMO Secretariat
<b>01–09: WMCs</b>			
01	001	1	Melbourne
02	002	2	Melbourne
03	003	3	)
04	004	4	Moscow
05	005	5	Moscow
06	006	6	)
07	007	7	US National Weather Service – National Centres for Environmental Prediction (NCEP)
08	008	8	US National Weather Service Telecommunications Gateway (NWSTG)
09	009	9	US National Weather Service – Other
<b>10–25: Centres in Region I</b>			
10	010	10	Cairo (RSMC)
11	011	11	)
12	012	12	Dakar (RSMC)
13	013	13	)
14	014	14	Nairobi (RSMC)
15	015	15	)
16	016	16	Casablanca (RSMC)
17	017	17	Tunis (RSMC)
18	018	18	Tunis – Casablanca (RSMC)
19	019	19	)
20	020	20	Las Palmas
21	021	21	Algiers (RSMC)
22	022	22	ACMAD
23	023	23	Mozambique (NMC)
24	024	24	Pretoria (RSMC)
25	025	25	La Réunion (RSMC)
<b>26–40: Centres in Region II</b>			
26	026	26	Khabarovsk (RSMC)
27	027	27	)
28	028	28	New Delhi (RSMC)
29	029	29	)
30	030	30	Novosibirsk (RSMC)
31	031	31	)
32	032	32	Tashkent (RSMC)
33	033	33	Jeddah (RSMC)
34	034	34	Tokyo (RSMC), Japan Meteorological Agency

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Code figure for F <sub>1</sub> F <sub>2</sub>	Code figure for F <sub>3</sub> F <sub>3</sub> F <sub>3</sub>	Octet 5 in Section 1 of GRIB Edition 1 Octet 6 in Section 1 of BUFR Edition 3	
35	035	35	)
36	036	36	Bangkok
37	037	37	Ulaanbaatar
38	038	38	Beijing (RSMC)
39	039	39	)
40	040	40	Seoul
<b>41–50: Centres in Region III</b>			
41	041	41	Buenos Aires (RSMC)
42	042	42	)
43	043	43	Brasilia (RSMC)
44	044	44	)
45	045	45	Santiago
46	046	46	Brazilian Space Agency - INPE
47	047	47	Colombia (NMC)
48	048	48	Ecuador (NMC)
49	049	49	Peru (NMC)
50	050	50	Venezuela (Bolivarian Republic of) (NMC)
<b>51–63: Centres in Region IV</b>			
51	051	51	Miami (RSMC)
52	052	52	Miami (RSMC), National Hurricane Centre
53	053	53	Montreal (RSMC)
54	054	54	)
55	055	55	San Francisco
56	056	56	ARINC Centre
57	057	57	US Air Force – Air Force Global Weather Central
58	058	58	Fleet Numerical Meteorology and Oceanography Center, Monterey, CA, United States
59	059	59	The NOAA Forecast Systems Laboratory, Boulder, CO, United States
60	060	60	United States National Center for Atmospheric Research (NCAR)
61	061	61	Service ARGOS – Landover
62	062	62	US Naval Oceanographic Office
63	063	63	International Research Institute for Climate and Society (IRI)
<b>64–73: Centres in Region V</b>			
64	064	64	Honolulu (RSMC)
65	065	65	Darwin (RSMC)
66	066	66	)
67	067	67	Melbourne (RSMC)
68	068	68	Reserved
69	069	69	Wellington (RSMC)
70	070	70	)
71	071	71	Nadi (RSMC)
72	072	72	Singapore
73	073	73	Malaysia (NMC)

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Code figure for F <sub>1</sub> F <sub>2</sub>	Code figure for F <sub>3</sub> F <sub>3</sub> F <sub>3</sub>	Octet 5 in Section 1 of GRIB Edition 1 Octet 6 in Section 1 of BUFR Edition 3	
			<b>74–99: Centres in Region VI</b>
74	074	74	UK Meteorological Office - Exeter (RSMC)
75	075	75	)
76	076	76	Moscow (RSMC)
77	077	77	Reserved
78	078	78	Offenbach (RSMC)
79	079	79	)
80	080	80	Rome (RSMC)
81	081	81	)
82	082	82	Norrköping
83	083	83	)
84	084	84	Toulouse (RSMC)
85	085	85	Toulouse (RSMC)
86	086	86	Helsinki
87	087	87	Belgrade
88	088	88	Oslo
89	089	89	Prague
90	090	90	Episkopi
91	091	91	Ankara
92	092	92	Frankfurt/Main
93	093	93	London (WAFB)
94	094	94	Copenhagen
95	095	95	Rota
96	096	96	Athens
97	097	97	European Space Agency (ESA)
98	098	98	European Centre for Medium-Range Weather Forecasts (ECMWF) (RSMC)
99	099	99	De Bilt
			<b>Additional Centres</b>
Not applicable	100	100	Brazzaville
Not applicable	101	101	Abidjan
Not applicable	102	102	Libya (NMC)
Not applicable	103	103	Madagascar (NMC)
Not applicable	104	104	Mauritius (NMC)
Not applicable	105	105	Niger (NMC)
Not applicable	106	106	Seychelles (NMC)
Not applicable	107	107	Uganda (NMC)
Not applicable	108	108	United Republic of Tanzania (NMC)
Not applicable	109	109	Zimbabwe (NMC)
Not applicable	110	110	Hong-Kong, China
Not applicable	111	111	Afghanistan (NMC)
Not applicable	112	112	Bahrain (NMC)
Not applicable	113	113	Bangladesh (NMC)
Not applicable	114	114	Bhutan (NMC)
Not applicable	115	115	Cambodia (NMC)
Not applicable	116	116	Democratic People's Republic of Korea (NMC)

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Code figure for F <sub>1</sub> F <sub>2</sub>	Code figure for F <sub>3</sub> F <sub>3</sub> F <sub>3</sub>	Octet 5 in Section 1 of GRIB Edition 1 Octet 6 in Section 1 of BUFR Edition 3	
Not applicable	117	117	Islamic Republic of Iran (NMC)
Not applicable	118	118	Iraq (NMC)
Not applicable	119	119	Kazakhstan (NMC)
Not applicable	120	120	Kuwait (NMC)
Not applicable	121	121	Kyrgyzstan (NMC)
Not applicable	122	122	Lao People's Democratic Republic (NMC)
Not applicable	123	123	Macao, China
Not applicable	124	124	Maldives (NMC)
Not applicable	125	125	Myanmar (NMC)
Not applicable	126	126	Nepal (NMC)
Not applicable	127	127	Oman (NMC)
Not applicable	128	128	Pakistan (NMC)
Not applicable	129	129	Qatar (NMC)
Not applicable	130	130	Yemen (NMC)
Not applicable	131	131	Sri Lanka (NMC)
Not applicable	132	132	Tajikistan (NMC)
Not applicable	133	133	Turkmenistan (NMC)
Not applicable	134	134	United Arab Emirates (NMC)
Not applicable	135	135	Uzbekistan (NMC)
Not applicable	136	136	Viet Nam (NMC)
Not applicable	137–139	137–139	Reserved for other centres
Not applicable	140	140	Bolivia (Plurinational State of) (NMC)
Not applicable	141	141	Guyana (NMC)
Not applicable	142	142	Paraguay (NMC)
Not applicable	143	143	Suriname (NMC)
Not applicable	144	144	Uruguay (NMC)
Not applicable	145	145	French Guiana
Not applicable	146	146	Brazilian Navy Hydrographic Centre
Not applicable	147	147	National Commission on Space Activities (CONAE) – Argentina
Not applicable	148–149	148–149	Reserved for other centres
Not applicable	150	150	Antigua and Barbuda (NMC)
Not applicable	151	151	Bahamas (NMC)
Not applicable	152	152	Barbados (NMC)
Not applicable	153	153	Belize (NMC)
Not applicable	154	154	British Caribbean Territories Centre
Not applicable	155	155	San José
Not applicable	156	156	Cuba (NMC)
Not applicable	157	157	Dominica (NMC)
Not applicable	158	158	Dominican Republic (NMC)
Not applicable	159	159	El Salvador (NMC)
Not applicable	160	160	US NOAA/NESDIS
Not applicable	161	161	US NOAA Office of Oceanic and Atmospheric Research
Not applicable	162	162	Guatemala (NMC)
Not applicable	163	163	Haiti (NMC)
Not applicable	164	164	Honduras (NMC)
Not applicable	165	165	Jamaica (NMC)
Not applicable	166	166	Mexico City

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Code figure for F <sub>1</sub> F <sub>2</sub>	Code figure for F <sub>3</sub> F <sub>3</sub> F <sub>3</sub>	Octet 5 in Section 1 of GRIB Edition 1 Octet 6 in Section 1 of BUFR Edition 3	
Not applicable	167	167	Curaçao and Sint Maarten (NMC)
Not applicable	168	168	Nicaragua (NMC)
Not applicable	169	169	Panama (NMC)
Not applicable	170	170	Saint Lucia (NMC)
Not applicable	171	171	Trinidad and Tobago (NMC)
Not applicable	172	172	French Departments in RA IV
Not applicable	173	173	US National Aeronautics and Space Administration (NASA)
Not applicable	174	174	Integrated Science Data Management/Marine Environmental Data Service (ISDM/MEDS) – Canada
Not applicable	175	175	University Corporation for Atmospheric Research (UCAR) - United States
Not applicable	176	176	Cooperative Institute for Meteorological Satellite Studies (CIMSS) – United States
Not applicable	177	177	NOAA National Ocean Service – United States
Not applicable	178–189	178–189	Reserved for other centres
Not applicable	190	190	Cook Islands (NMC)
Not applicable	191	191	French Polynesia (NMC)
Not applicable	192	192	Tonga (NMC)
Not applicable	193	193	Vanuatu (NMC)
Not applicable	194	194	Brunei Darussalam (NMC)
Not applicable	195	195	Indonesia (NMC)
Not applicable	196	196	Kiribati (NMC)
Not applicable	197	197	Federated States of Micronesia (NMC)
Not applicable	198	198	New Caledonia (NMC)
Not applicable	199	199	Niue
Not applicable	200	200	Papua New Guinea (NMC)
Not applicable	201	201	Philippines (NMC)
Not applicable	202	202	Samoa (NMC)
Not applicable	203	203	Solomon Islands (NMC)
Not applicable	204	204	National Institute of Water and Atmospheric Research (NIWA – New Zealand)
Not applicable	205–209	205–209	Reserved
Not applicable	210	210	Frascati (ESA/ESRIN)
Not applicable	211	211	Lannion
Not applicable	212	212	Lisbon
Not applicable	213	213	Reykjavik
Not applicable	214	214	Madrid
Not applicable	215	215	Zurich
Not applicable	216	216	Service ARGOS – Toulouse
Not applicable	217	217	Bratislava
Not applicable	218	218	Budapest
Not applicable	219	219	Ljubljana
Not applicable	220	220	Warsaw
Not applicable	221	221	Zagreb
Not applicable	222	222	Albania (NMC)
Not applicable	223	223	Armenia (NMC)
Not applicable	224	224	Austria (NMC)
Not applicable	225	225	Azerbaijan (NMC)
Not applicable	226	226	Belarus (NMC)
Not applicable	227	227	Belgium (NMC)

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Code figure for F <sub>1</sub> F <sub>2</sub>	Code figure for F <sub>3</sub> F <sub>3</sub> F <sub>3</sub>	Octet 5 in Section 1 of GRIB Edition 1 Octet 6 in Section 1 of BUFR Edition 3	
Not applicable	228	228	Bosnia and Herzegovina (NMC)
Not applicable	229	229	Bulgaria (NMC)
Not applicable	230	230	Cyprus (NMC)
Not applicable	231	231	Estonia (NMC)
Not applicable	232	232	Georgia (NMC)
Not applicable	233	233	Dublin
Not applicable	234	234	Israel (NMC)
Not applicable	235	235	Jordan (NMC)
Not applicable	236	236	Latvia (NMC)
Not applicable	237	237	Lebanon (NMC)
Not applicable	238	238	Lithuania (NMC)
Not applicable	239	239	Luxembourg
Not applicable	240	240	Malta (NMC)
Not applicable	241	241	Monaco
Not applicable	242	242	Romania (NMC)
Not applicable	243	243	Syrian Arab Republic (NMC)
Not applicable	244	244	The former Yugoslav Republic of Macedonia (NMC)
Not applicable	245	245	Ukraine (NMC)
Not applicable	246	246	Republic of Moldova (NMC)
Not applicable	247	247	Operational Programme for the Exchange of weather RADar information (OPERA) – EUMETNET
Not applicable	248	248	Montenegro (NMC)
Not applicable	249	249	Reserved for other centres
Not applicable	250	250	COnsortium for Small scale MOdelling (COSMO)
Not applicable	251	251	Meteorological Cooperation on Operational NWP (MetCoOp)
Not applicable	252	252	Max Planck Institute for Meteorology (MPI-M)
Not applicable	253	253	Reserved for other centres
Not applicable	254	254	EUMETSAT Operation Centre
Not applicable	255	255	Missing value
Not applicable	256–999	Not applicable	Not used

## Notes:

- (1) The closed bracket sign ) indicates that the corresponding code figure is reserved for the previously named centre.
- (2) With GRIB or BUFR, to indicate whether the originating/generating centre is a sub-centre or not, the following procedure should be applied:  
In GRIB edition 1, use octet 26 of section 1, or in BUFR edition 3, use octet 5 of section 1, with the following meaning:  
Code figure
 

0	Not a sub-centre, the originating/generating centre is the centre defined by Octet 5 in section 1 of GRIB Edition 1, or by octet 6 in section 1 of BUFR edition 3.
1 to 254	Identifier of the sub-centre which is the originating/generating centre. The identifier of the sub-centre is allocated by the associated centre which is defined by octet 5 in section 1 of GRIB edition 1, or octet 6 in section 1 of BUFR edition 3. The sub-centre identifiers should be supplied to the WMO Secretariat by the associated centre(s) for publication.
- (3) For the definitions of sub-centres provided to the WMO Secretariat, see Common Code table C–12.



**COMMON CODE TABLE C-2: Radiosonde/sounding system used**

Common Code table { Code table 3685 –  $r_a r_a$  (Radiosonde/sounding system used) – for alphanumeric codes  
 { Code table 0 02 011 (Radiosonde type) in BUFR

Date of assignment of number (necessary after 30/06/2007)	Code figure for $r_a r_a$ (Code table 3685)	Code figure for BUFR (Code table 0 02 011)	
Not applicable	00	0	Reserved
Before	01	1	iMet-1-BB (United States)
Not applicable	02	2	No radiosonde – passive target (e.g. reflector)
Not applicable	03	3	No radiosonde – active target (e.g. transponder)
Not applicable	04	4	No radiosonde – passive temperature-humidity profiler
Not applicable	05	5	No radiosonde – active temperature-humidity profiler
Not applicable	06	6	No radiosonde – radio-acoustic sounder
Before	07	7	iMet-1-AB (United States)
Not applicable	08	8	No radiosonde –... (reserved)
Not applicable	09	9	No radiosonde – system unknown or not specified
Before	10	10	VIZ type A pressure-commutated (United States)
Before	11	11	VIZ type B time-commutated (United States)
Before	12	12	RS SDC (Space Data Corporation – United States)
Before	13	13	Astor (no longer made – Australia)
Before	14	14	VIZ MARK I MICROSONDE (United States)
Before	15	15	EEC Company type 23 (United States)
Before	16	16	Elin (Austria)
Before	17	17	Graw G. (Germany)
Before	18	18	Graw DFM-06 (Germany)
Before	19	19	Graw M60 (Germany)
Before	20	20	Indian Meteorological Service MK3 (India)
Before	21	21	VIZ/Jin Yang MARK I MICROSONDE (Republic of Korea)
Before	22	22	Meisei RS2-80 (Japan)
Before	23	23	Mesural FMO 1950A (France)
Before	24	24	Mesural FMO 1945A (France)
Before	25	25	Mesural MH73A (France)
Before	26	26	Meteolabor Basora (Switzerland)
Before	27	27	AVK-MRZ (Russian Federation)
Before	28	28	Meteorit MARZ2-1 (Russian Federation)
Before	29	29	Meteorit MARZ2-2 (Russian Federation)
Before	30	30	Oki RS2-80 (Japan)
Before	31	31	VIZ/Valcom type A pressure-commutated (Canada)
Before	32	32	Shanghai Radio (China)
Before	33	33	UK Met Office MK3 (UK)
Before	34	34	Vinohrady (Czech Republic)
Before	35	35	Vaisala RS18 (Finland)
Before	36	36	Vaisala RS21 (Finland)

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Date of assignment of number (necessary after 30/06/2007)	Code figure for rafa (Code table 3685)	Code figure for BUFR (Code table 0 02 011)	
Before	37	37	Vaisala RS80 (Finland)
Before	38	38	VIZ LOCATE Loran-C (United States)
Before	39	39	Sprenger E076 (Germany)
Before	40	40	Sprenger E084 (Germany)
Before	41	41	Sprenger E085 (Germany)
Before	42	42	Sprenger E086 (Germany)
Before	43	43	AIR IS - 4A - 1680 (United States)
Before	44	44	AIR IS - 4A - 1680 X (United States)
Before	45	45	RS MSS (United States)
Before	46	46	AIR IS - 4A - 403 (United States)
Before	47	47	Meisei RS2-91 (Japan)
Before	48	48	VALCOM (Canada)
Before	49	49	VIZ MARK II (United States)
Before	50	50	Graw DFM-90 (Germany)
Before	51	51	VIZ-B2 (United States)
Before	52	52	Vaisala RS80-57H
Before	53	53	AVK-RF95 (Russian Federation)
Before	54	54	Graw DFM-97 (Germany)
Before	55	55	Meisei RS-01G (Japan)
Before	56	56	M2K2 (France)
Before	57	57	Modem M2K2-DC (France)
Before	58	58	AVK-BAR (Russian Federation)
Before	59	59	Modem M2K2-R 1680 MHz RDF radiosonde with pressure sensor chip (France)
Before	60	60	Vaisala RS80/MicroCora (Finland)
Before	61	61	Vaisala RS80/Loran/Digicora I, II or Marwin (Finland)
Before	62	62	Vaisala RS80/PCCora (Finland)
Before	63	63	Vaisala RS80/Star (Finland)
Before	64	64	Orbital Sciences Corporation, Space Data Division, transponder radiosonde, type 909-11-XX, where XX corresponds to the model of the instrument (United States)
Before	65	65	VIZ transponder radiosonde, model number 1499–520 (United States)
Before	66	66	Vaisala RS80 /Autosonde (Finland)
Before	67	67	Vaisala RS80/Digicora III (Finland)
Before	68	68	AVK-RZM-2 (Russian Federation)
Before	69	69	MARL-A or Vektor-M-RZM-2 (Russian Federation)
Before	70	70	Vaisala RS92/Star (Finland)
Before	71	71	Vaisala RS90/Loran/Digicora I, II or Marwin (Finland)
Before	72	72	Vaisala RS90/PC-Cora (Finland)
Before	73	73	Vaisala RS90/Autosonde (Finland)
Before	74	74	Vaisala RS90/Star (Finland)

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Date of assignment of number (necessary after 30/06/2007)	Code figure for rafa (Code table 3685)	Code figure for BUFR (Code table 0 02 011)	
Before	75	75	AVK-MRZ-ARMA (Russian Federation)
Before	76	76	AVK-RF95-ARMA (Russian Federation)
Before	77	77	GEOLINK GPSonde GL98 (France)
Before	78	78	Vaisala RS90/Digicora III (Finland)
Before	79	79	Vaisala RS92/Digicora I, II or Marwin (Finland)
Before	80	80	Vaisala RS92/Digicora III (Finland)
Before	81	81	Vaisala RS92/Autosonde (Finland)
Before	82	82	Sippican MK2 GPS/STAR (United States) with rod thermistor, carbon element and derived pressure
Before	83	83	Sippican MK2 GPS/W9000 (United States) with rod thermistor, carbon element and derived pressure
Needed	84	84	Vacant
Before	85	85	Sippican MARK IIA with chip thermistor, carbon element and derived pressure from GPS height
Before	86	86	Sippican MARK II with chip thermistor, pressure and carbon element
Before	87	87	Sippican MARK IIA with chip thermistor, pressure and carbon element
Before	88	88	MARL-A or Vektor-M-MRZ (Russian Federation)
Before	89	89	MARL-A or Vektor-M-BAR (Russian Federation)
Not applicable	90	90	Radiosonde not specified or unknown
Not applicable	91	91	Pressure only radiosonde
Not applicable	92	92	Pressure only radiosonde plus transponder
Not applicable	93	93	Pressure only radiosonde plus radar reflector
Not applicable	94	94	No pressure radiosonde plus transponder
Not applicable	95	95	No pressure radiosonde plus radar reflector
Not applicable	96	96	Descending radiosonde
Before	97	97	BAT-16P (South Africa)
Before	98	98	BAT-16G (South Africa)
Before	99	99	BAT-4G (South Africa)
	Not available	100	Reserved for BUFR only
	01	101	Not vacant
	Not available	102–106	Reserved for BUFR only
	07	107	Not vacant
	Not available	108–109	Reserved for BUFR only
01/01/2008	10	110	Sippican LMS5 w/Chip Thermistor, duct mounted capacitance relative humidity sensor and derived pressure from GPS height
01/01/2008	11	111	Sippican LMS6 w/Chip Thermistor, external boom mounted capacitance relative humidity sensor, and derived pressure from GPS height
	12	112	Not vacant
15/09/2010	13	113	Vaisala RS92/MARWIN MW32 (Finland)
03/11/2011	14	114	Vaisala RS92/DigiCORA MW41 (Finland)
01/12/2011	15	115	PAZA-12M/Radiotheodolite-UL (Ukraine)

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Date of assignment of number (necessary after 30/06/2007)	Code figure for r <sub>a</sub> r <sub>a</sub> (Code table 3685)	Code figure for BUFR (Code table 0 02 011)	
01/12/2011	16	116	PAZA-22/AVK-1 (Ukraine)
02/05/2012	17	117	Graw DFM-09 (Germany)
	18	118	Not vacant
Needed	19	119	Vacant
	20–21	120–121	Not vacant
02/05/2012	22	122	Meisei RS-11G GPS radiosonde w/thermistor, capacitance relative humidity sensor, and derived pressure from GPS height (Japan)
03/11/2011	23	123	Vaisala RS41/DigiCORA MW41 (Finland)
03/11/2011	24	124	Vaisala RS41/AUTOSONDE (Finland)
03/11/2011	25	125	Vaisala RS41/MARWIN MW32 (Finland)
	26–27	126–127	Not vacant
15/09/2011	28	128	AVK - AK2-02 (Russian Federation)
15/09/2011	29	129	MARL-A or Vektor-M - AK2-02 (Russian Federation)
01/01/2010	30	130	Meisei RS-06G (Japan)
03/11/2011	31	131	Taiyuan GTS1-1/GFE(L) (China )
03/11/2011	32	132	Shanghai GTS1/GFE(L) (China)
03/11/2011	33	133	Nanjing GTS1-2/GFE(L) (China)
Needed	34–36	134–136	Vacant
	37	137	Not vacant
Needed	38–40	138–140	Vacant
03/11/2011	41	141	Vaisala RS41 with pressure derived from GPS height/ DigiCORA MW41 (Finland)
03/11/2011	42	142	Vaisala RS41 with pressure derived from GPS height/ AUTOSONDE (Finland)
Needed	43–46	143–146	Vacant
	47	147	Not vacant
02/05/2012	48	148	PAZA-22M/MARL-A
	49	149	Not vacant
Needed	50	150	Vacant
	51	151	Not vacant
03/11/2011	52	152	Vaisala RS92-NGP/Intermet IMS-2000 (United States)
	53–59	153–159	Not vacant
Needed	60	160	Vacant
	61	161	Not vacant
Needed	62–66	162–166	Vacant
	67–72	167–172	Not vacant
Needed	73	173	Vacant
	74–76	174–176	Not vacant
15/03/2010	77	177	Modem GPSonde M10 (France)
	78–81	178–181	Not vacant

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Date of assignment of number (necessary after 30/06/2007)	Code figure for rafa (Code table 3685)	Code figure for BUFR (Code table 0 02 011)	
07/11/2012	82	182	Lockheed Martin LMS-6 w/chip thermistor; external boom mounted polymer capacitive relative humidity sensor; capacitive pressure sensor and GPS wind
07/11/2012	83	183	Vaisala RS92-D/Intermet IMS 1500 w/silicon capacitive pressure sensor, capacitive wire temperature sensor, twin thin-film heated polymer capacitive relative humidity sensor and RDF wind
	84–89	184–189	Not vacant
	Not available	190–196	Reserved for BUFR only
	97–99	197–199	Not vacant
	Not available	200–254	Reserved for BUFR only
		255	Missing value

## Notes:

- (1) References to countries in brackets indicate the manufacturing location rather than the country using the instrument.
- (2) Some of the radiosondes listed are no longer in use but are retained for archiving purposes.
- (3) The alphanumeric code format reports only 2 digits, and the first digit for BUFR is identified from the date: the first digit is 0 if the introduction of the radiosonde for observation was before 30 June 2007, or 1 otherwise. Entries in the second part of the table (after 99), which are declared "Vacant" can be used for new radiosondes because the 2-digit number was originally attributed to sondes, which are no longer used. *This system has been adopted to accommodate reporting in TEMP traditional alphanumeric code format up to the time BUFR is fully used for radiosonding reports.*



**COMMON CODE TABLE C-3: Instrument make and type for water temperature profile measurement with fall rate equation coefficients**

Common Code table { Code table 1770 – I<sub>X</sub>I<sub>X</sub>I<sub>X</sub> (Instrument type for XBT, with fall rate equation coefficients)  
 – for alphanumeric codes  
 Code table 0 22 067 (Instrument type for water temperature profile measurement) in BUFR

Code figure for I <sub>X</sub> I <sub>X</sub> I <sub>X</sub>	Code figure for BUFR (Code table 0 22 067)	Instrument make and type	Meaning	
			Equation Coefficients	
			<i>a</i>	<i>b</i>
001	1	Sippican T-4	6.472	-2.16
002	2	Sippican T-4	6.691	-2.25
011	11	Sippican T-5	6.828	-1.82
021	21	Sippican Fast Deep	6.346	-1.82
031	31	Sippican T-6	6.472	-2.16
032	32	Sippican T-6	6.691	-2.25
041	41	Sippican T-7	6.472	-2.16
042	42	Sippican T-7	6.691	-2.25
051	51	Sippican Deep Blue	6.472	-2.16
052	52	Sippican Deep Blue	6.691	-2.25
061	61	Sippican T-10	6.301	-2.16
071	71	Sippican T-11	1.779	-0.255
081	81	Sippican AXBT (300 m probes)	1.52	0.0
201	201	TSK T-4	6.472	-2.16
202	202	TSK T-4	6.691	-2.25
211	211	TSK T-6	6.472	-2.16
212	212	TSK T-6	6.691	-2.25
221	221	TSK T-7	6.472	-2.16
222	222	TSK T-7	6.691	-2.25
231	231	TSK T-5	6.828	-1.82
241	241	TSK T-10	6.301	-2.16
251	251	TSK Deep Blue	6.472	-2.16
252	252	TSK Deep Blue	6.691	-2.25
261	261	TSK AXBT		
401	401	Sparton XBT-1	6.301	-2.16
411	411	Sparton XBT-3	5.861	-0.0904
421	421	Sparton XBT-4	6.472	-2.16
431	431	Sparton XBT-5	6.828	-1.82
441	441	Sparton XBT-5DB	6.828	-1.82
451	451	Sparton XBT-6	6.472	-2.16
461	461	Sparton XBT-7	6.472	-2.16
462	462	Sparton XBT-7	6.705	-2.28
471	471	Sparton XBT-7DB	6.472	-2.16
481	481	Sparton XBT-10	6.301	-2.16
491	491	Sparton XBT-20	6.472	-2.16
501	501	Sparton XBT-20DB	6.472	-2.16
510	510	Sparton 536 AXBT	1.524	0
700	700	Sippican XCTD Standard		
710	710	Sippican XCTD Deep		
720	720	Sippican AXCTD		
730	730	Sippican SXCTD		

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Code figure for I <sub>X</sub> I <sub>X</sub> I <sub>X</sub>	Code figure for BUFR (Code table 0 22 067)	Instrument make and type	Meaning	
			Equation Coefficients	
			<i>a</i>	<i>b</i>
741	741	TSK XCTD/XCTD-1	3.42543	-0.47
742	742	TSK XCTD-2	3.43898	-0.31
743	743	TSK XCTD-2F	3.43898	-0.31
744	744	TSK XCTD-3	5.07598	-0.72
745	745	TSK XCTD-4	3.68081	-0.47
751	751	TSK AXCTD		
780	780	Sea-Bird SBE21 SEACAT Thermosalinograph	Not applicable	
781	781	Sea-Bird SBE45 MicroTSG Thermosalinograph	Not applicable	
800	800	Mechanical BT	Not applicable	
810	810	Hydrocast	Not applicable	
820	820	Thermistor chain	Not applicable	
825	825	Temperature (sonic) and pressure probes	Not applicable	
830	830	CTD	Not applicable	
831	831	CTD-P-ALACE float	Not applicable	
840	840	PROVOR, no conductivity sensor	Not applicable	
841	841	PROVOR, Sea-Bird conductivity sensor	Not applicable	
842	842	PROVOR, FSI conductivity sensor	Not applicable	
843	843	Polar Ocean Profiling System (POPS), PROVOR, SBE CTD		
844	844	Profiling float, ARVOR, Sea-Bird conductivity sensor		
845	845	Webb Research, no conductivity sensor	Not applicable	
846	846	Webb Research, Sea-Bird conductivity sensor	Not applicable	
847	847	Webb Research, FSI conductivity sensor	Not applicable	
850	850	SOLO, no conductivity sensor	Not applicable	
851	851	SOLO, Sea-Bird conductivity sensor	Not applicable	
852	852	SOLO, FSI conductivity sensor	Not applicable	
853	853	Profiling float, SOLO2 (SCRIPPS), Sea-Bird conductivity sensor		
854	854	Reserved		
855	855	Profiling float, NINJA, no conductivity sensor	Not applicable	
856	856	Profiling float, NINJA, SBE conductivity sensor	Not applicable	
857	857	Profiling float, NINJA, FSI conductivity sensor	Not applicable	
858	858	Profiling float, NINJA, TSK conductivity sensor	Not applicable	
859	859	Profiling float, NEMO, no conductivity sensor	Not applicable	
860	860	Profiling float, NEMO, SBE conductivity sensor	Not applicable	
861	861	Profiling float, NEMO, FSI conductivity sensor	Not applicable	



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Code figure for I <sub>X</sub> I <sub>X</sub> I <sub>X</sub>	Code figure for BUFR (Code table 0 22 067)	Instrument make and type	Meaning	
			Equation Coefficients	
			<i>a</i>	<i>b</i>
862–899	862–899	Reserved		
900	900	Sippican LMP-5 XBT	9.727	–0.0000473
901	901	Ice-tethered Profiler (ITP), SBE CTD		
902–994	902–994	Reserved		
995	995	Instrument attached to marine mammals		Not applicable
996	996	Instrument attached to animals other than marine mammals		Not applicable
997–999	997–999	Reserved		
	1000–1022	Reserved		
	1023	Missing value		

## Notes:

- (1) The depth is calculated from coefficients *a* and *b* and the time *t* as follows:  $z = at + 10^{-3} bt^2$
- (2) All unassigned numbers are reserved for future use.
- (3) The values of *a* and *b* are supplied for information only.

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**COMMON CODE TABLE C-4: Water temperature profile recorder types**

Common Code table { Code table 4770 – X<sub>R</sub>X<sub>R</sub> (Recorder type) – for alphanumeric codes  
 { Code table 0 22 068 (Water temperature profile recorder types) in BUFR

Code figure for X <sub>R</sub> X <sub>R</sub>	Code figure for BUFR (Code table 0 22 068)	Meaning
01	1	Sippican Strip Chart Recorder
02	2	Sippican MK2A/SSQ-61
03	3	Sippican MK-9
04	4	Sippican AN/BHQ-7/MK8
05	5	Sippican MK-12
06	6	Sippican MK-21
07	7	Sippican MK-8 Linear Recorder
08	8	Sippican MK-10
10	10	Sparton SOC BT/SV Processor Model 100
11	11	Lockheed-Sanders Model OL5005
20	20	ARGOS XBT-ST
21	21	CLS-ARGOS/Protecno XBT-ST Model-1
22	22	CLS-ARGOS/Protecno XBT-ST Model-2
30	30	BATHY Systems SA-810
31	31	Scripps Metrobyte Controller
32	32	Murayama Denki Z-60-16 III
33	33	Murayama Denki Z-60-16 II
34	34	Protecno ETSM2
35	35	Nautilus Marine Service NMS-XBT
40	40	TSK MK-2A
41	41	TSK MK-2S
42	42	TSK MK-30
43	43	TSK MK-30N
45	45	TSK MK-100
46	46	TSK MK-130 Compatible recorder for both XBT and XCTD
47	47	TSK MK-130A XCTD recorder
48	48	TSK AXBT RECEIVER MK-300
49	49	TSK MK-150/MK-150N Compatible recorder for both XBT and XCTD
50	50	JMA ASTOS
60	60	ARGOS communications, sampling on up transit
61	61	ARGOS communications, sampling on down transit
62	62	Orbcomm communications, sampling on up transit
63	63	Orbcomm communications, sampling on down transit
64	64	Iridium communications, sampling on up transit
65	65	Iridium communications, sampling on down transit
70	70	CSIRO Devil-1 XBT acquisition system
71	71	CSIRO Devil-2 XBT acquisition system
72	72	TURO/CSIRO Quoll XBT acquisition system
80	80	Applied Microsystems Ltd., MICRO-SVT&P
81	81	Sea Mammal Research Unit, Univ. St. Andrews, UK, uncorrected salinity from a sea mammal mounted instrument
82	82	Sea Mammal Research Unit, Univ. St. Andrews, UK, corrected salinity from a sea mammal mounted instrument
99	99	Unknown
	127	Missing value

Note: All unassigned numbers are reserved for future use.



**COMMON CODE TABLE C-5: Satellite identifier**

Common Code table { I<sub>6</sub>I<sub>6</sub>I<sub>6</sub> for alphanumeric codes  
Code table 0 01 007 in BUFR  
Code used in GRIB Edition 2

(EVEN DECILES INDICATE POLAR-ORBITING SATELLITES AND ODD DECILES INDICATE GEOSTATIONARY SATELLITES.)

Code figure for I <sub>6</sub> I <sub>6</sub> I <sub>6</sub>	Code figure for BUFR (Code table 0 01 007)	Code figure for GRIB Edition 2	
000	0	0	Reserved
<b>001–099: Numbers allocated to Europe</b>			
001	1	1	ERS 1
002	2	2	ERS 2
003	3	3	METOP-1 (Metop-B)
004	4	4	METOP-2 (Metop-A)
005	5	5	METOP-3 (Metop-C)
020	20	20	SPOT1
021	21	21	SPOT2
022	22	22	SPOT3
023	23	23	SPOT4
040	40	40	OERSTED
041	41	41	CHAMP
042	42	42	TerraSAR-X
043	43	43	TanDEM-X
044	44	44	PAZ
046	46	46	SMOS
047	47	47	CryoSat-2
048	48	48	AEOLUS
050	50	50	METEOSAT 3
051	51	51	METEOSAT 4
052	52	52	METEOSAT 5
053	53	53	METEOSAT 6
054	54	54	METEOSAT 7
055	55	55	METEOSAT 8
056	56	56	METEOSAT 9
057	57	57	METEOSAT 10
058	58	58	METEOSAT 1
059	59	59	METEOSAT 2
060	60	60	ENVISAT
070	70	70	METEOSAT 11
<b>100–199: Numbers allocated to Japan</b>			
120	120	120	ADEOS
121	121	121	ADEOS II
122	122	122	GCOM-W1
140	140	140	GOSAT
150	150	150	GMS 3
151	151	151	GMS 4
152	152	152	GMS 5

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Code figure for I <sub>6</sub> I <sub>6</sub> I <sub>6</sub>	Code figure for BUFR (Code table 0 01 007)	Code figure for GRIB Edition 2	
171	171	171	MTSAT-1R
172	172	172	MTSAT-2
173	173	173	Himawari-8
174	174	174	Himawari-9
<b>200–299: Numbers allocated to the United States</b>			
200	200	200	NOAA 8
201	201	201	NOAA 9
202	202	202	NOAA 10
203	203	203	NOAA 11
204	204	204	NOAA 12
205	205	205	NOAA 14
206	206	206	NOAA 15
207	207	207	NOAA 16
208	208	208	NOAA 17
209	209	209	NOAA 18
220	220	220	LANDSAT 5
221	221	221	LANDSAT 4
222	222	222	LANDSAT 7
223	223	223	NOAA 19
224	224	224	NPP
240	240	240	DMSP 7
241	241	241	DMSP 8
242	242	242	DMSP 9
243	243	243	DMSP 10
244	244	244	DMSP 11
245	245	245	DMSP 12
246	246	246	DMSP 13
247	247	247	DMSP 14
248	248	248	DMSP 15
249	249	249	DMSP 16
250	250	250	GOES 6
251	251	251	GOES 7
252	252	252	GOES 8
253	253	253	GOES 9
254	254	254	GOES 10
255	255	255	GOES 11
256	256	256	GOES 12
257	257	257	GOES 13
258	258	258	GOES 14
259	259	259	GOES 15
260	260	260	JASON 1
261	261	261	JASON 2
281	281	281	QUIKSCAT

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Code figure for I <sub>6</sub> I <sub>6</sub> I <sub>6</sub>	Code figure for BUFR (Code table 0 01 007)	Code figure for GRIB Edition 2	
282	282	282	TRMM
283	283	283	CORIOLIS
285	285	285	DMSP17
286	286	286	DMSP18
<b>300–399: Numbers allocated to the Russian Federation</b>			
310	310	310	GOMS 1
311	311	311	GOMS 2
320	320	320	METEOR 2-21
321	321	321	METEOR 3-5
322	322	322	METEOR 3M-1
323	323	323	METEOR 3M-2
341	341	341	RESURS 01-4
<b>400–499: Numbers allocated to India</b>			
410	410	410	KALPANA-1
421	421	421	Oceansat-2
430	430	430	INSAT 1B
431	431	431	INSAT 1C
432	432	432	INSAT 1D
440	440	440	Megha-Tropiques
441	441	441	SARAL
450	450	450	INSAT 2A
451	451	451	INSAT 2B
452	452	452	INSAT 2E
470	470	470	INSAT 3A
471	471	471	INSAT 3D
472	472	472	INSAT 3E
<b>500–599: Numbers allocated to China</b>			
500	500	500	FY-1C
501	501	501	FY-1D
510	510	510	FY-2
512	512	512	FY-2B
513	513	513	FY-2C
514	514	514	FY-2D
515	515	515	FY-2E
520	520	520	FY-3A
521	521	521	FY-3B
<b>600–699: Numbers allocated to Europe</b>			
<b>700–799: Numbers allocated to the United States</b>			
700	700	700	TIROS M (ITOS 1)
701	701	701	NOAA 1
702	702	702	NOAA 2
703	703	703	NOAA 3
704	704	704	NOAA 4
705	705	705	NOAA 5

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Code figure for I <sub>6</sub> I <sub>6</sub> I <sub>6</sub>	Code figure for BUFR (Code table 0 01 007)	Code figure for GRIB Edition 2	
706	706	706	NOAA 6
707	707	707	NOAA 7
708	708	708	TIROS-N
710	710	710	GOES (SMS 1)
711	711	711	GOES (SMS 2)
720	720	720	TOPEX
721	721	721	GFO (GEOSAT follow on)
722	722	722	GRACE A
723	723	723	GRACE B
731	731	731	GOES 1
732	732	732	GOES 2
733	733	733	GOES 3
734	734	734	GOES 4
735	735	735	GOES 5
740	740	740	COSMIC-1
741	741	741	COSMIC-2
742	742	742	COSMIC-3
743	743	743	COSMIC-4
744	744	744	COSMIC-5
745	745	745	COSMIC-6
763	763	763	NIMBUS 3
764	764	764	NIMBUS 4
765	765	765	NIMBUS 5
766	766	766	NIMBUS 6
767	767	767	NIMBUS 7
780	780	780	ERBS
781	781	781	UARS
782	782	782	EARTH PROBE
783	783	783	TERRA
784	784	784	AQUA
785	785	785	AURA
786	786	786	C/NOFS
787	787	787	CALIPSO
788	788	788	CloudSat
<b>800–849 Numbers allocated to other satellite operators</b>			
800	800	800	SUNSAT
810	810	810	COMS-1
811	811	811	COMS-2
820	820	820	SAC-C
821	821	821	SAC-D
825	825	825	KOMPSAT-5
850	850	850	Combination of TERRA and AQUA
851	851	851	Combination of NOAA 16 to NOAA 19
852	852	852	Combination of Metop-1 to Metop-3
853	853	853	Combination of METEOSAT and DMSP



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Code figure for I <sub>6</sub> I <sub>6</sub> I <sub>6</sub>	Code figure for BUFR (Code table 0 01 007)	Code figure for GRIB Edition 2	
854	854	854	Non specific mixture of geostationary and low earth orbiting satellites
870–998	870–998	870–998	Reserved
999 Missing value	999–1022	999–65534	Reserved
	1023	65535	Missing value

Note: Within the ranges 000 to 849 and 870 to 998, even deciles indicate polar orbiting satellites and odd deciles indicate geostationary satellites. The range from 850 to 869 shall be used to indicate combinations of satellites, so the aforementioned decile rule does not apply to values in this range.



**COMMON CODE TABLE C-6: List of units for TDCFs**

Code figure		Conventional abbreviation	Abbreviation in IA5/ASCII (5)	Abbreviation in ITA2 (5)	Definition in base units (2)
<b>Base SI units (1)</b>					
001	metre	m	m	M	
002	kilogram	kg	kg	KG	
003	second	s	s	S	
004	ampere	A	A	A	
005	kelvin	K	K	K	
006	mole	mol	mol	MOL	
007	candela	cd	cd	CD	
<b>Supplementary SI Units (1)</b>					
021	radian	rad	rad	RAD	
022	steradian	sr	sr	SR	
<b>Derived SI Units with special names (1)</b>					
030	hertz	Hz	Hz	HZ	$s^{-1}$
031	newton	N	N	N	$kg\ m\ s^{-2}$
032	pascal	Pa	Pa	PAL	$kg\ m^{-1}\ s^{-2}$
033	joule	J	J	J	$kg\ m^2\ s^{-2}$
034	watt	W	W	W	$kg\ m^2\ s^{-3}$
035	coulomb	C	C	C	A s
036	volt	V	V	V	$kg\ m^2\ s^{-3}\ A^{-1}$
037	farad	F	F	F	$kg^{-1}\ m^{-2}\ s^4\ A^2$
038	ohm	$\Omega$	Ohm	OHM	$kg\ m^2\ s^{-3}\ A^{-2}$
039	siemens	S	S	SIE	$kg^{-1}\ m^{-2}\ s^3\ A^2$
040	weber	Wb	Wb	WB	$kg\ m^2\ s^{-2}\ A^{-1}$
041	tesla	T	T	T	$kg\ s^{-2}\ A^{-1}$
042	henry	H	H	H	$kg\ m^2\ s^{-2}\ A^{-2}$
060	degree Celsius	$^{\circ}C$	Cel	CEL	K+273.15
070	lumen	lm	lm	LM	cd sr
071	lux	lx	lx	LX	cd sr $m^{-2}$
080	becquerel	Bq	Bq	BQ	$s^{-1}$
081	gray	Gy	Gy	GY	$m^2\ s^{-2}$
082	sievert	Sv	Sv	SV	$m^2\ s^{-2}$
<b>SI Unit prefixes (1) (3) (4)</b>					
no	(yotta)	(Y)	(Y)	(Y)	
no	(zetta)	(Z)	(Z)	(Z)	
no	exa	E	E	E	
no	peta	P	P	PE	
no	tera	T	T	T	
no	giga	G	G	G	
no	mega	M	M	MA	
no	kilo	k	k	K	
no	hecto	h	h	H	
no	deca	da	da	DA	
no	deci	d	d	D	
no	centi	c	c	C	
no	milli	m	m	M	
no	micro	$\mu$	u	U	

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Code figure		Conventional abbreviation	Abbreviation in IA5/ASCII (5)	Abbreviation in ITA2 (5)	Definition in base units (2)
no	nano	n	n	N	
no	pico	p	p	P	
no	femto	f	f	F	
no	atto	a	a	A	
no	(zepto)	(z)	(z)		
no	(yocto)	(y)	(y)		
<b>Other, non-SI, units recognized by CGPM (4)</b>					
110	degree (angle)	°	deg	DEG	
111	minute (angle)	'	'	MNT	
112	second (angle)	"	"	SEC	
120	litre	l or L	l or L	L	
130	minute (time)	min	min	MIN	
131	hour	h	h	HR	
132	day	d	d	D	
150	tonne	t	t	TNE	
160	electron volt	eV	eV	EV	
161	atomic mass unit	u	u	U	
170	astronomic unit	AU	AU	ASU	
171	parsec	pc	pc	PRS	
<b>Non-SI Units tolerated because of widespread use</b>					
200	nautical mile				
201	knot	kt	kt	KT	
210	decibel (6)	dB	dB	DB	
220	hectare	ha	ha	HAR	
230	week				
231	year	a	a	ANN	
<b>Other Units as used by WMO (7)</b>					
300	per cent	%	%	PERCENT	
301	parts per thousand	‰	0/00	PERTHOU	
310	eighths of cloud	okta	okta	OKTA	
320	degrees true	°	deg	DEG	
321	degrees per second	degree/s	deg/s	DEG/S	
350	degrees Celsius (8)	°C	C	C	
351	degrees Celsius per metre	°C/m	C/m	C/M	
352	degrees Celsius per 100 metres	°C/100 m	C/100 m	C/100 M	
360	Dobson Unit (9)	DU	DU	DU	
430	month	mon	mon	MON	
441	per second (same as hertz)	s <sup>-1</sup>	/s	/S	
442	per second squared	s <sup>-2</sup>	s-2		
501	knots per 1000 metres	kt/1000 m	kt/km	KT/KM	
510	foot	ft	ft	FT	
511	inch	in	in	IN	
520	decipascals per second (microbar per second)	dPa s <sup>-1</sup>	dPa/s	DPAL/S	
521	centibars per second	cb s <sup>-1</sup>	cb/s	CB/S	
522	centibars per 12 hours	cb/12 h	cb/12 h	CB/12 HR	
523	dekapascal	daPa	daPa	DAPAL	

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Code figure		Conventional abbreviation	Abbreviation in IA5/ASCII (5)	Abbreviation in ITA2 (5)	Definition in base units (2)
530	hectopascal	hPa	hPa	HPAL	
531	hectopascals per second	$\text{hPa s}^{-1}$	hPa/s	HPAL/S	
532	hectopascals per hour	$\text{hPa h}^{-1}$	hPa/h	HPAL/HR	
533	hectopascals per 3 hours	$\text{hPa/3 h}$	$\text{hPa/3 h}$	HPAL/3 HR	
535	nanobar = $\text{hPa } 10^{-6}$	nbar	nbar	NBAR	
620	grams per kilogram	$\text{g kg}^{-1}$	g/kg	G/KG	
621	grams per kilogram per second	$\text{g kg}^{-1} \text{ s}^{-1}$	$\text{g kg}^{-1} \text{ s}^{-1}$		
622	kilograms per kilogram	$\text{kg kg}^{-1}$	kg/kg	KG/KG	
623	kilograms per kilogram per second	$\text{kg kg}^{-1} \text{ s}^{-1}$	$\text{kg kg}^{-1} \text{ s}^{-1}$		
624	kilograms per square metre	$\text{kg m}^{-2}$	$\text{kg m}^{-2}$		
630	acceleration due to gravity	g	g		
631	geopotential metre	gpm	gpm		
710	millimetre	mm	mm	MM	
711	millimetres per second	$\text{mm s}^{-1}$	mm/s	MM/S	
712	millimetres per hour	$\text{mm h}^{-1}$	mm/h	MM/HR	
713	millimetres to the sixth power per cubic metre	$\text{mm}^6 \text{ m}^{-3}$	$\text{mm}^6 \text{ m}^{-3}$		
715	centimetre	cm	cm	CM	
716	centimetres per second	$\text{cm s}^{-1}$	cm/s	CM/S	
717	centimetres per hour	$\text{cm h}^{-1}$	cm/h	CM/HR	
720	decimetre	dm	dm	DM	
731	metres per second	$\text{m s}^{-1}$	m/s	M/S	
732	metres per second per metre	$\text{m s}^{-1}/\text{m}$	$\text{m s}^{-1}/\text{m}$		
733	metres per second per 1000 metres	$\text{m s}^{-1}/1000 \text{ m}$	$\text{m s}^{-1}/\text{km}$		
734	square metres	$\text{m}^2$	$\text{m}^2$	M2	
735	square metres per second	$\text{m}^2 \text{ s}^{-1}$	$\text{m}^2/\text{s}$	M2/S	
740	kilometre	km	km	KM	
741	kilometres per hour	$\text{km h}^{-1}$	km/h	KM/HR	
742	kilometres per day	km/d	km/d	KM/D	
743	per metre	$\text{m}^{-1}$	$\text{m}^{-1}$	/M	
750	becquerels per litre	$\text{Bq l}^{-1}$	Bq/l	BQ/L	
751	becquerels per square metre	$\text{Bq m}^{-2}$	$\text{Bq m}^{-2}$	BQ/M2	
752	becquerels per cubic metre	$\text{Bq m}^{-3}$	$\text{Bq m}^{-3}$	BQ/M3	
753	millisievert	mSv	mSv	MSV	
760	metres per second squared	$\text{m s}^{-2}$	$\text{m s}^{-2}$		
761	square metres second	$\text{m}^2 \text{ s}$	$\text{m}^2 \text{ s}$		
762	square metres per second squared	$\text{m}^2 \text{ s}^{-2}$	$\text{m}^2 \text{ s}^{-2}$		
763	square metres per radian second	$\text{m}^2 \text{ rad}^{-1} \text{ s}$	$\text{m}^2 \text{ rad}^{-1} \text{ s}$		
764	square metres per hertz	$\text{m}^2 \text{ Hz}^{-1}$	$\text{m}^2/\text{Hz}$		
765	cubic metres	$\text{m}^3$	$\text{m}^3$		
766	cubic metres per second	$\text{m}^3 \text{ s}^{-1}$	$\text{m}^3/\text{s}$		
767	cubic metres per cubic metre	$\text{m}^3 \text{ m}^{-3}$	$\text{m}^3 \text{ m}^{-3}$		
768	metres to the fourth power	$\text{m}^4$	$\text{m}^4$		
769	metres to the two thirds power per second	$\text{m}^{2/3} \text{ s}^{-1}$	$\text{m}^{2/3} \text{ s}^{-1}$		
772	logarithm per metre	$\log(\text{m}^{-1})$	$\log(\text{m}^{-1})$		
773	logarithm per square metre	$\log(\text{m}^{-2})$	$\log(\text{m}^{-2})$		
775	kilograms per metre	$\text{kg m}^{-1}$	kg/m		

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Code figure		Conventional abbreviation	Abbreviation in IA5/ASCII (5)	Abbreviation in ITA2 (5)	Definition in base units (2)
776	kilograms per square metre per second	$\text{kg m}^{-2} \text{s}^{-1}$	$\text{kg m-2 s-1}$		
777	kilograms per cubic metre	$\text{kg m}^{-3}$	$\text{kg m-3}$		
778	per square kilogram per second	$\text{kg}^{-2} \text{s}^{-1}$	$\text{kg-2 s-1}$		
779	seconds per metre	$\text{s m}^{-1}$	$\text{s/m}$		
785	kelvin metres per second	$\text{K m s}^{-1}$	$\text{K m s-1}$		
786	kelvins per metre	$\text{K m}^{-1}$	$\text{K/m}$		
787	kelvin square metres per kilogram per second	$\text{K m}^2 \text{kg}^{-1} \text{s}^{-1}$	$\text{K m2 kg-1 s-1}$		
788	moles per mole	$\text{mol mol}^{-1}$	$\text{mol/mol}$		
790	radians per metre	$\text{rad m}^{-1}$	$\text{rad/m}$		
795	newtons per square metre	$\text{N m}^{-2}$	$\text{N m-2}$		
800	pascals per second	$\text{Pa s}^{-1}$	$\text{Pa/s}$		
801	kilopascal	$\text{kPa}$	$\text{kPa}$		
805	joules per square metre	$\text{J m}^{-2}$	$\text{J m-2}$		
806	joules per kilogram	$\text{J kg}^{-1}$	$\text{J/kg}$		
810	watts per metre per steradian	$\text{W m}^{-1} \text{sr}^{-1}$	$\text{W m-1 sr-1}$		
811	watts per square metre	$\text{W m}^{-2}$	$\text{W m-2}$		
812	watts per square metre per steradian	$\text{W m}^{-2} \text{sr}^{-1}$	$\text{W m-2 sr-1}$		
813	watts per square metre per steradian centimetre	$\text{W m}^{-2} \text{sr}^{-1} \text{cm}$	$\text{W m-2 sr-1 cm}$		
814	watts per square metre per steradian metre	$\text{W m}^{-2} \text{sr}^{-1} \text{m}$	$\text{W m-2 sr-1 m}$		
815	watts per cubic metre per steradian	$\text{W m}^{-3} \text{sr}^{-1}$	$\text{W m-3 sr-1}$		
820	siemens per metre	$\text{S m}^{-1}$	$\text{S/m}$		
825	square degrees	$\text{degree}^2$	$\text{deg}^2$		
830	becquerel seconds per cubic metre	$\text{Bq s m}^{-3}$	$\text{Bq s m-3}$		
835	decibels per metre	$\text{dB m}^{-1}$	$\text{dB/m}$		
836	decibels per degree	$\text{dB degree}^{-1}$	$\text{dB/deg}$		
841	pH unit	$\text{pH unit}$	$\text{pH unit}$		
842	N units	$\text{N units}$	$\text{N units}$		

## Notes:

- (1) The international system of units, *Système International d'Unités* (SI), was established by the eleventh General Conference on Weights and Measures in 1960, and extended at the 1980 Conference. There are seven base units, two dimensionless supplementary units and a set of prefixes for decimal scaling. These may be combined to give compound units. Some compound units have special names, and are called derived Units.
- (2) When documenting compound SI units, each symbol for each base unit has been separated from the others by a space. There is no space between the unit and any prefix or exponent. Any prefix establishes a new unit to which any exponent applies (e.g.  $\text{km}^2 = (\text{km})^2 = \text{m}^6$  not  $\text{k}(\text{m}^2) = \text{m}^5$ ). Prefixes must be in the case specified. The full name of the unit must not start with an upper case letter. If the solidus (/) is used, there must be only one. There is no space before or after it.
- (3) Prefixes beyond exa and atto have been proposed but not yet adopted. Use of the prefixes hecto, deca, deci and centi is discouraged.
- (4) Prefixes generally should not be used with units having non-decimal multiples and sub-multiples, such as units of time and angle, or with knots and nautical miles.
- (5) Non-WMO abbreviations with limited character sets taken from ISO 2955-1983. Other abbreviations try to be consistent with this.
- (6) The decibel is one tenth of a bel, which is the decimal logarithm of a ratio of two powers. Frequently, suffixes are supplied to indicate information about one of the quantities in the ratio, such as  $\text{dB(mW)}$ ,  $\text{dBm}$ ,  $\text{dBZ}$ ,  $\text{dBW}$ ,  $\text{dBmW}$ ,  $\text{dB}(\mu\text{V/m})$ . It is recommended that only  $\text{dB}$  is used, with the full meaning of the ratio explained, including reference levels.
- (7) This list consists of the units not mentioned previously that occur in existing WMO Manuals.
- (8) The abbreviation for degrees Celsius proposed for WMO use,  $\text{C}$ , could be confused with Coulombs. In this case, Amperes second should be used instead.
- (9) Dobson Unit = DU. One Dobson Unit corresponds to a layer of 0.01 mm of pure ozone, if the whole column of atmosphere were compressed at  $P = 1013 \text{ hPa}$  and  $T = 0^\circ\text{C}$ .

**COMMON CODE TABLE C-7: Tracking technique/status of system used**

Common Code table { Code table 3872 – s<sub>a</sub>s<sub>a</sub> for alphanumeric codes  
 { Code table 0 02 014 in BUFR

Code figure for s <sub>a</sub> s <sub>a</sub>	Code figure for BUFR (Code table 0 02 014)	
00	0	No wind finding
01	1	Automatic with auxiliary optical direction finding
02	2	Automatic with auxiliary radio direction finding
03	3	Automatic with auxiliary ranging
04	4	Not used
05	5	Automatic with multiple VLF-Omega signals
06	6	Automatic cross chain Loran-C
07	7	Automatic with auxiliary wind profiler
08	8	Automatic satellite navigation
09–18	9–18	Reserved
19	19	Tracking technique not specified
TRACKING TECHNIQUES/STATUS OF ASAP SYSTEM		
STATUS OF SHIP SYSTEM		
20	20	Vessel stopped
21	21	Vessel diverted from original destination
22	22	Vessel's arrival delayed
23	23	Container damaged
24	24	Power failure to container
25–28	25–28	Reserved for future use
29	29	Other problems
SOUNDING SYSTEM		
30	30	Major power problems
31	31	UPS inoperative
32	32	Receiver hardware problems
33	33	Receiver software problems
34	34	Processor hardware problems
35	35	Processor software problems
36	36	NAVAID system damaged
37	37	Shortage of lifting gas
38	38	Reserved
39	39	Other problems
LAUNCH FACILITIES		
40	40	Mechanical defect
41	41	Material defect (hand launcher)
42	42	Power failure
43	43	Control failure
44	44	Pneumatic/hydraulic failure

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Code figure for SaSa	Code figure for BUFR (Code table 0 02 014)	
45	45	Other problems
46	46	Compressor problems
47	47	Balloon problems
48	48	Balloon release problems
49	49	Launcher damaged
DATA ACQUISITION SYSTEM		
50	50	R/S receiver antenna defect
51	51	NAVAID antenna defect
52	52	R/S receiver cabling (antenna) defect
53	53	NAVAID antenna cabling defect
54–58	54–58	Reserved
59	59	Other problems
COMMUNICATIONS		
60	60	ASAP communications defect
61	61	Communications facility rejected data
62	62	No power at transmitting antenna
63	63	Antenna cable broken
64	64	Antenna cable defect
65	65	Message transmitted power below normal
66–68	66–68	Reserved
69	69	Other problems
70	70	All systems in normal operation
71–98	71–98	Reserved
99	99	Status of system and its components not specified
Not available	100–126	Reserved
Not available	127	Missing value



**COMMON CODE TABLE C–8: *Satellite instruments***

Common Code table      Code table 0 02 019 in BUFR

Code	Agency	Type	Instrument short name	Instrument long name
10	BNSC	Radiometer	AATSR	Advanced along track scanning radiometer
11	BNSC	Radiometer	ATSR	Along track scanning radiometer
12	BNSC	Radiometer	ATSR-2	Along track scanning radiometer-2
13	BNSC	Radiometer	MWR	Microwave radiometer
30	CNES	Communications	ARGOS	
40	CNES	Lidar	Laser reflectors	
41	CNES	Lidar	DORIS	Doppler orbitography and radio-positioning integrated by satellite
42	CNES	Lidar	DORIS-NG	Doppler orbitography and radio-positioning integrated by satellite-NG
47	CNES	Radar altimeter	POSEIDON-1 (SSALT1)	Positioning ocean solid Earth ice dynamics orbiting navigator (single frequency solid state radar altimeter)
48	CNES	Radar altimeter	POSEIDON-2 (SSALT2)	Positioning ocean solid Earth ice dynamics orbiting navigator (double frequency solid state radar altimeter)
49	CNES	Radar altimeter	POSEIDON-3 (SSALT3)	Advanced microwave radiometer
50	CNES	Imaging radiometer	ATSR/M	ATSR/M
51	CNES	High-resolution optical imager	HRG	
52	CNES	Radiometer	HRV	High-resolution visible
53	CNES	Radiometer	HRVIR	High-resolution visible and infrared
54	CNES	Radiometer	ScaRaB/MV2	Scanner for Earth's radiation budget
55	CNES	Radiometer	POLDER	POLDER
56	CNES	Imaging multi-spectral radiometer	IIR	Imaging Infrared Radiometer
60	CNES	Spectrometer	VEGETATION	VEGETATION
61	CNES	Spectrometer	WINDII	WINDII
62	CNES	Altimeter	AltiKa	Ka band Radar Altimeter
80	CSA	Communications	RADARSAT DTT	
81	CSA	Communications	RADARSAT TTC	
85	CSA	Radar	SAR (CSA)	Synthetic aperture radar (CSA)
90	CSA	Radiometer	MOPITT	Measurements of pollution in the troposphere
91	CSA	Atmospheric chemistry instrument	OSIRIS	Optical spectrograph and Infrared imaging system
97	CSIRO	Radiometer	Panchromatic imager	
98	CRCSS	Atmospheric temperature and humidity sounder	GPS receiver	
102	DLR	Radiometer	CHAMP GPS sounder	GPS turborogue space receiver (TRSR)
103	DLR	Radiometer	IGOR	Integrated GPS and Occultation Receiver
116	DLR	Magnetometer	CHAMP gravity package (Accelerometer+GPS)	STAR accelerometer

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Code	Agency	Type	Instrument short name	Instrument long name
117	DLR	Magnetometer	CHAMP magnetometry package (1 scalar+ 2 vector magnetometer)	Overhauser magnetometer (OVM) and fluxgate magnetometer (FGM)
120	ESA	Communications	ENVISAT Comms	Communications package on ENVISAT
121	ESA	Communications	ERS Comms	Communication package for ERS
130	ESA	Lidar	ALADIN	Atmospheric laser Doppler instrument
131	ESA	Lidar	ATLID	Atmospheric lidar
140	ESA	Radar	AMI/SAR/image	Active microwave instrumentation image mode
141	ESA	Radar	AMI/SAR/wave	Active microwave instrumentation wave mode
142	ESA	Radar	AMI/scatterometer	Active microwave instrumentation wind mode
143	ESA	Radar	ASAR	ASAR
144	ESA	Imaging microwave	ASAR	Advanced synthetic aperture radar (image mode)
145	ESA	Imaging microwave	ASAR	Advanced synthetic aperture radar (wave mode)
146	ESA	Cloud profile and rain radar	CPR	Cloud radar
147	ESA	Radar	RA-2/MWR	Radar altimeter-2
148	ESA	Radar	RA/MWR	Radar altimeter
150	ESA	Scatterometer	SCATTEROMETER	Scatterometer
161	ESA	Radiometer	MIPAS	Michelson interferometric passive atmosphere sounder
162	ESA	Imaging multi-spectral radiometer (passive microwave)	MWR-2	Microwave radiometer-2
163	ESA	Atmospheric chemistry instrument	SOPRANO	Sub-millimetre observation of processes in the absorption noteworthy for ozone
170	ESA	Atmospheric chemistry instrument	GOME	Global ozone monitoring experiment
172	ESA	Spectrometer	GOMOS	Global ozone monitoring by occultation of stars
174	ESA	Spectrometer	MERIS	Medium resolution imaging spectrometer
175	ESA	Spectrometer	SCIAMACHY	Scanning imaging absorption spectrometer for atmospheric cartography
176	ESA	Radiometer	MIRAS	Microwave imaging radiometer using aperture synthesis
177	ESA	Radar Altimeter	SIRAL	SAR/Interferometric Radar Altimeter
181	EUMETSAT	Communications	METEOSAT Comms	Communications package for METEOSAT
182	EUMETSAT	Communications	MSG Comms	Communications package for MSG
190	ESA/ EUMETSAT	Scatterometer	ASCAT	Advanced scatterometer
200	EUMETSAT	Radiometer	GERB	Geostationary Earth radiation budget
202	ESA/ EUMETSAT	Radiometer	GRAS	GNSS receiver for atmospheric sounding
203	EUMETSAT	Radiometer	MHS	Microwave humidity sounder
205	EUMETSAT	Radiometer	MVIRI	METEOSAT visible and infrared imager
207	EUMETSAT	Radiometer	SEVIRI	Spinning enhanced visible and infrared imager

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Code	Agency	Type	Instrument short name	Instrument long name
208	EUMETSAT	Imaging multi-spectral radiometer (vis/IR)	VIRI	VIRI
220	ESA/ EUMETSAT	Spectrometer	GOME-2	Global ozone monitoring experiment-2
221	CNES/ EUMETSAT	Atmospheric temperature and humidity sounder	IASI	Infrared atmospheric sounding interferometer
240	CAST	Communications	DCP	Data-collection platform transponder
245	CAST	Radiometer	CCD	High-resolution CCD camera
246	INPE	Atmospheric temperature and humidity sounder	HSB	Humidity sounder/Brazil
248	INPE	Imaging multi-spectral radiometer (vis/IR)	OBA	Observador Brasileiro da Amazonia
250	CAST	Radiometer	WFI	Wide field imager
255	CAST	Spectrometer	IRMSS	Infrared multispectral scanner
260	ISRO	Precision orbit	BSS & FSS transponders	
261	ISRO	Precision orbit	DRT-S&R	
262	ISRO	Communications	INSAT Comms	Communications package for INSAT
268	ISRO	High-resolution optical imager	HR-PAN	High-resolution panchromatic camera
269	ISRO	Imaging multi-spectral radiometer (passive microwave)	MSMR	Multifrequency scanning microwave radiometer
270	ISRO	Imaging multi-spectral radiometer (vis/IR)	VHRR	Very high-resolution radiometer
271	ISRO	Imaging multi-spectral radiometer (vis/IR)	WiFS	Wide field sensor
275	ISRO	High-resolution optical imager	AWiFS	Advanced wide field sensor
276	ISRO	High-resolution optical imager	LISS-I	Linear imaging self scanner-I
277	ISRO	High-resolution optical imager	LISS-II	Linear imaging self scanner-II
278	ISRO	High-resolution optical imager	LISS-III	Linear imaging self scanner-III
279	ISRO	High-resolution optical imager	LISS-IV	Linear imaging self scanner-IV
284	ISRO	High-resolution optical imager	PAN	Panchromatic sensor
285	ISRO	Imaging multi-spectral radiometer (vis/IR)	MOS	Modular opto-electronic scanner

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Code	Agency	Type	Instrument short name	Instrument long name
286	ISRO	Ocean colour Instrument	OCM	Ocean colour monitor
287	ASI		ROSA	Radio Occultation Sounder of the Atmosphere
288	ISRO	Scatterometer	SCAT	Scatterometer
290	JMA	Communications	MTSAT Comms	Communications package for MTSAT
291	JMA	Communications	Himawari Comms	Communications package for Himawari
294	JMA	Imaging multi- spectral radiometer	JAMI	Japanese Advanced Meteorological Imager
295	JMA	Imaging multi- spectral radiometer	IMAGER/MTSAT-2	Imager/MTSAT-2
296	JMA	Imaging multi- spectral radiometer	VISSR	Visible and infrared spin scan radiometer
297	JMA	Imaging multi- spectral radiometer	AHI	Advanced Himawari Imager
300	NASA	Lidar	GLAS	Geoscience laser altimeter system
301	NASA	Precision orbit	LRA	Laser retroreflector array
302	NASA	Lidar	MBLA	Multi-beam laser altimeter
303	NASA	Lidar	CALIOP	Cloud-aerosol lidar with orthogonal polarization
309	NASA	Cloud profile and rain radar	CPR (Cloudsat)	Cloud profiling radar
312	NASA	Radar	NSCAT	NASA scatterometer
313	NASA	Radar	SeaWinds	ADEOS II – NASA scatterometer
330	NASA	Earth radiation budget radiometer	ACRIM	Active cavity radiometer irradiance monitor
334	NASA	Total and profile ozone	BUV	Backscatter ultraviolet instrument
336	NASA	High-resolution optical imager	ALI	Advanced land imager
347	NASA	High-resolution optical imager	ASTER	Advanced spaceborne thermal emission and reflection radiometer
348	NASA	Earth radiation budget radiometer	CERES-2	Cloud and the Earth's radiant energy system
351	NASA	Atmospheric temperature and humidity sounder	GPSDR	GPS demonstration receiver
353	NASA	Total and profile ozone	HiRDLS	High-resolution dynamics limb sounder
354	NASA	Total and profile ozone	HRDI	High-resolution Doppler imager
356	NASA	Radiometer	LIS	Lightning imaging sensor
358	NASA	Magnetic field, auroral imagery scintillation boundary	PEM	Particle environment monitor
359	NASA	Ocean colour instrument	SeaWiFS	Sea-viewing wide field-of-view sensor
360	NASA	Earth radiation budget radiometer	SUSIM (UARS)	Solar ultraviolet irradiance monitor
363	NASA	Total and profile ozone	SBUV/1	Solar backscatter ultraviolet 1 instrument

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Code	Agency	Type	Instrument short name	Instrument long name
365	NASA	Imaging multi-spectral radiometer (passive microwave)	TMI	TRMM microwave imager
366	NASA	Imaging multi-spectral radiometer (passive microwave)	JMR	JASON-1 microwave radiometer
367	NASA	Imaging multi-spectral radiometer	AMR	Positioning ocean solid Earth ice dynamics orbiting navigator (double frequency solid state radar altimeter)
369	NASA	Total and profile ozone	LIMS	Limb infrared monitor of the stratosphere
370	NASA	Total and profile ozone	LRIR	Limb radiance inversion radiometer instrument
371	NASA	Total and profile ozone	EPIC	Earth polychromatic imaging camera
372	NASA	Earth radiation budget radiometer	NISTAR	NIST advanced radiometer
373	NASA	Magnetic field, auroal imagery scintillation boundary	Plasma-Mag	
374	NASA	Other	XPS	XUV photometer system
375	NASA	Imaging multi-spectral radiometer (vis/IR)	VIRS	Visible infrared scanner
376	CNES	Multiple direction/polarization radiometer	POLDER II	Polarization and directionality of the Earth's reflectance-II
377	NASA	Earth radiation budget radiometer	TIM	Total irradiance monitor
379	NASA	Imaging multi-spectral radiometer (vis/IR)	WFC	Wide field camera
382	NASA	Spectro-radiometer	CLAES	Cryogenic limb array etalon spectrometer
383	NASA	Spectro-radiometer	HALOE	Halogen occultation experiment
384	NASA	Spectro-radiometer	ISAMS	Improved stratospheric and mesospheric sounder
385	NASA	Spectro-radiometer	MISR	Multi-angle imaging spectroradiometer
386	NASA	Spectro-radiometer	MLS	Microwave limb sounder
387	NASA	Spectro-radiometer	MLS (EOS-Aura)	Microwave limb sounder (EOS-Aura)
389	NASA	Spectro-radiometer	MODIS	Moderate-resolution imaging spectroradiometer
393	NASA	Gravity	HAIRS	High accuracy inter-satellite ranging system
394	NASA	Total and profile ozone	OMI	Ozone measuring instrument
395	NASA	Radiometer	Atmospheric corrector	Atmospheric corrector
396	NASA	Radiometer	Hyperion	Hyperspectral imager
399	NASA	Spectro-radiometer	SAGE I	Stratospheric aerosol and gas experiment-I

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Code	Agency	Type	Instrument short name	Instrument long name
400	NASA	Spectro-radiometer	SAGE II	Stratospheric aerosol and gas experiment-II
401	NASA	Spectro-radiometer	SAGE III	Stratospheric aerosol and gas experiment-III
402	NASA	Spectro-radiometer	SAMS	Stratospheric and mesospheric sounder
403	NASA	Spectro-radiometer	SAM-II	Stratospheric aerosol measurement-II
404	NASA	Spectro-radiometer	IRIS	Infrared interferometer spectrometer
405	NASA	Atmospheric temperature and Humidity sounder	GIFTS	Geosynchronous imaging Fourier transform spectrometer
420	NASA	Spectrometer	AIRS	Atmospheric Infrared sounder
426	NASA	Spectrometer	SOLSTICE	Solar stellar irradiance comparison experiment
430	NASA	Spectrometer	TES	Tropospheric emission spectrometer
431	NASA	Spectrometer	TOMS	Total ozone mapping spectrometer
450	JAXA	Communications	ADEOS Comms	Communications package for ADEOS
451	JAXA	Communications	DCS (JAXA)	Data-collection system (JAXA)
453	NASDA	Communications	GMS Comms	Communications package on GMS
454	NASDA	Communications	JERS-1 Comms	Communications package for JERS-1
460	NASDA	Lidar	RIS	Retroreflector in space
461	NASDA	Radar	PR	Precipitation radar
462	NASDA	Imaging microwave radar	SAR	Synthetic aperture radar
470	JAXA	Imaging microwave radar	PALSAR	Phased array type L-band synthetic aperture radar
478	JAXA	Imaging multi-spectral radiometer (passive microwave)	AMSR2	Advanced microwave scanning radiometer 2
479	JAXA	Imaging multi-spectral radiometer (passive microwave)	AMSR-E	Advanced microwave scanning radiometer – EOS
480	JAXA	High-resolution optical imager	PRISM (ALOS)	Panchromatic remote-sensing instrument for stereo mapping
481	JAXA	Radiometer	AMSR	Advanced microwave scanning radiometer
482	NASDA	High-resolution optical imager	AVNIR	Advanced visible and near infrared radiometer
483	JAXA	High-resolution optical imager	AVNIR-2	Advanced visible and near infrared radiometer type 2
484	JAXA	Imager	GLI	Global imager
485	NASDA	Radiometer	MESSR	Multispectral electronic self scanning radiometer
486	NASDA	Radiometer	MSR	Microwave scanning radiometer
487	NASDA	Radiometer	OCTS	Ocean colour and temperature scanner
488	NASDA	Radiometer	OPS	Optical sensor
489	NASDA	Radiometer	VISSR (GMS-5)	Visible and infrared spin scan radiometer (GMS-5)
490	NASDA	Radiometer	VTIR	Visible and thermal infrared radiometer
510	NASDA	Spectrometer	ILAS-I	Improved limb atmospheric spectrometer
511	NASDA	Spectrometer	ILAS-II	Improved limb atmospheric spectrometer

## COMMON CODE TABLES - 8 May 2013

Code	Agency	Type	Instrument short name	Instrument long name
512	NASDA	Spectrometer	IMG	Inferometric monitor of greenhouse gases
514	NASDA	Space environment	SEM	Space environment monitor (NASDA)
515	JAXA	Total and profile ozone	SOFIS	Solar occultation Fourier transform spectrometer for inclined orbit satellite
516	JAXA	Spectrometer	TANSO-FTS	Thermal and Near infrared Sensor for carbon Observations (TANSO) Fourier Transform Spectrometer (FTS)
517	JAXA	Imager	TANSO-CAI	Thermal and Near infrared Sensor for carbon Observations (TANSO) Cloud and Aerosol Imager (CAI)
540	NOAA	Communications	DCS (NOAA)	Data-collection system (NOAA)
541	NOAA	Communications	GOES Comms	Communications package on GOES
542	NOAA	Communications	LANDSAT Comms	Communications package for LANDSAT
543	NOAA	Communications	NOAA Comms	Communications package for NOAA
Code	Agency	Type	Instrument short name	Instrument long name
544	NOAA	Communications	S&R (GOES)	Search and rescue
545	NOAA	Communications	S&R (NOAA)	Search and rescue
546	NOAA	Communications	WEFAX	Weather facsimile
547	NOAA	Spectrometer	SEM (GOES)	Space environment monitor
550	NOAA	Magnetic field	SSM	Special sensor magnetometer
551	NOAA	Magnetic field	SSJ/4	Special sensor precipitating plasma monitor
552	NOAA	Space environment	SSIES-2	Special sensor ionospheric plasma drift/scintillation meter
553	NOAA	Space environment	SSB/X-2	Special sensor gamma ray particle detector
570	NOAA	Radiometer	AMSU-A	Advanced microwave sounding unit-A
574	NOAA	Radiometer	AMSU-B	Advanced microwave sounding unit-B
580	NOAA	Radiometer	ATOVS (HIRS/3 + AMSU + AVHRR/3)	Advanced TIROS operational vertical sounder
590	NOAA	Radiometer	AVHRR/2	Advanced very high-resolution radiometer/2
591	NOAA	Radiometer	AVHRR/3	Advanced very high-resolution radiometer/3
592	NOAA	Radiometer	AVHRR/4	Advanced very high-resolution radiometer/4
600	NOAA	Radiometer	ERBE	Earth's radiation budget experiment
601	NOAA	Radiometer	ETM+	Enhanced thematic mapper
605	NOAA	Radiometer	HIRS/2	High-resolution infrared sounder/2
606	NOAA	Radiometer	HIRS/3	High-resolution infrared sounder/3
607	NOAA	Radiometer	HIRS/4	High-resolution infrared sounder/4
615	NOAA	Radiometer	IMAGER	Imager
616	NOAA	Imaging multi- spectral radiometer (vis/IR)	VIIRS	Visible/infrared imager radiometer suite
620	NOAA	Atmospheric temperature and humidity sounder	CrIRS/NP	Cross-track infrared sounder/NPOESS
621	NOAA	Atmospheric temperature and humidity sounder	ATMS	Advanced technology microwave sounder
622	NOAA	Radiometer	MSS	Multispectral scanning system
623	NOAA	Radiometer	MSU	Microwave sounding unit
624	NOAA	Radiometer	SBUV/2 instrument/2	Solar backscatter ultraviolet

## COMMON CODE TABLES - 8 May 2013

Code	Agency	Type	Instrument short name	Instrument long name
625	NOAA	Radiometer	SBUV/3 instrument/3	Solar backscatter ultraviolet
626	NOAA	Radiometer	SOUNDER	SOUNDER
627	NOAA	Radiometer	SSU	Stratospheric sounding unit
628	NOAA	Radiometer	TM	Thematic mapper
629	NOAA	Radiometer	TOVS (HIRS/2 + MSU + SSU)	TIROS operational vertical sounder
630	NOAA	Radiometer	VAS	VISSR atmospheric sounder
631	NOAA	Radiometer	SSZ	
645	NOAA	Spectrometer	SEM	Space environment monitor
650	NRSCC	Radiometer	MVIRSR (10 channel)	Multispectral visible and infrared scan radiometer
651	NRSCC	Radiometer	MVIRSR (3 channel)	Multispectral visible and infrared scan radiometer
652	NRSCC	Radiometer	MVIRSR (5 channel)	Multispectral visible and infrared scan radiometer
670	NSAU	Radar	RLSBO	Side looking microwave radar
680	NSAU	High-resolution optical imager	MSU-EU	Multispectral radiometer with high resolution
681	NSAU	Imaging multi- spectral radio- meter (vis/IR)	MSU-UM	Visible multispectral radiometer
682	NSAU	Radiometer	RM-08	Imaging microwave radiometer
683	NSAU	High-resolution optical imager	SU-UMS	Stereo radiometer with high resolution
684	NSAU	High-resolution optical imager	SU-VR	Visible radiometer with high resolution
685	NSAU	Radiometer	TRASSER	
700	ROSCOSMOS	Communications	KONDOR-2	Data-collection and transmission system
701	ROSCOSMOS	Communications	BRK	
710	ROSCOSMOS	Lidar	ALISSA	Backscatter lidar
712	ROSCOSMOS	Lidar	Balkan-2 lidar	
715	ROSCOSMOS	Lidar	MK-4	
716	ROSCOSMOS	Lidar	MK-4M	
730	ROSCOSMOS	Radar	Greben	Radar altimeter
731	ROSCOSMOS	Radar	SAR-10	Synthetic aperture radar
732	ROSCOSMOS	Radar	SAR-3	Synthetic aperture radar
733	ROSCOSMOS	Radar	SAR-70	Synthetic aperture radar
740	ROSCOSMOS	Radar	SLR-3	Side looking radar
745	ROSCOSMOS	Radar	Travers SAR	
750	ROSCOSMOS	Radiometer	174-K	Temperature and humidity profiler
751	ROSCOSMOS	Radiometer	BTVK	Scanning television radiometer
752	ROSCOSMOS	Radiometer	Chaika	Scanning infrared radiometer
753	ROSCOSMOS	Radiometer	DELTA-2	Multispectral microwave scanner
755	ROSCOSMOS	Radiometer	IKAR-D	Multispectral microwave scanner
756	ROSCOSMOS	Radiometer	IKAR-N	Multispectral microwave scanner
757	ROSCOSMOS	Radiometer	IKAR-P	Multispectral microwave scanner
760	ROSCOSMOS	Radiometer	ISP	
761	ROSCOSMOS	Radiometer	KFA-1000	Photographic camera
762	ROSCOSMOS	Radiometer	KFA-200	Photographic camera
763	ROSCOSMOS	Radiometer	KFA-3000	Photographic camera



## COMMON CODE TABLES - 8 May 2013

Code	Agency	Type	Instrument short name	Instrument long name
770	ROSCOSMOS	Radiometer	Klimat	Scanning infrared radiometer
771	ROSCOSMOS	Radiometer	Klimat-2	Scanning infrared radiometer
775	ROSCOSMOS	Radiometer	MIRAS	
776	ROSCOSMOS	Radiometer	MIVZA	
777	ROSCOSMOS	Radiometer	MIVZA-M	Microwave scanning radiometer
780	ROSCOSMOS	Radiometer	MR-2000	
781	ROSCOSMOS	Radiometer	MR-2000M	
785	ROSCOSMOS	Radiometer	MR-900	Scanning telephotometer
786	ROSCOSMOS	Radiometer	MR-900B	Scanning visual band telephotometer
790	ROSCOSMOS	Radiometer	MSU-E	Multispectral high-resolution electronic scanner
791	ROSCOSMOS	Radiometer	MSU-E1	Multispectral high-resolution electronic scanner
792	ROSCOSMOS	Radiometer	MSU-E2	Multispectral high-resolution electronic scanner
793	ROSCOSMOS	Radiometer	MSU-M	
794	ROSCOSMOS	Radiometer	MSU-S	Multispectral medium-resolution scanner
795	ROSCOSMOS	Radiometer	MSU-SK	Multispectral medium-resolution conical scanner
796	ROSCOSMOS	Radiometer	MSU-V	Multispectral high-resolution conical scanner
810	ROSCOSMOS	Radiometer	MTZA	Scanning microwave radiometer
815	ROSCOSMOS	Imaging multi- spectral radiometer (passive microwave)	MZOAS	Scanning microwave radiometer
820	ROSCOSMOS	Imaging multi- spectral radiometer (passive microwave)	R-225	Single channel microwave radiometer
821	ROSCOSMOS	Radiometer	R-400	
822	ROSCOSMOS	Radiometer	R-600	Single channel microwave radiometer
830	ROSCOSMOS	Radiometer	RMS	Radiation measurement system
835	ROSCOSMOS	Radiometer	TV camera	
836	ROSCOSMOS	Radiometer	SILVA	
840	ROSCOSMOS	Spectro-radiometer	SROSMO	Spectroradiometer for ocean monitoring
850	ROSCOSMOS	Spectrometer	BUFS-2	Backscatter spectrometer/2
851	ROSCOSMOS	Spectrometer	BUFS-4	Backscatter spectrometer/4
855	ROSCOSMOS	Spectrometer	ISTOK-1	Infrared spectrometer
856	ROSCOSMOS	Spectrometer	SFM-2	Spectrometer to measure direct solar radiation
857	ROSCOSMOS	Spectrometer	DOPI	
858	ROSCOSMOS	Spectrometer	KGI-4	
859	ROSCOSMOS	Spectrometer	Ozon-M	
860	ROSCOSMOS	Spectrometer	RMK-2	
900	NOAA	Radiometer	MAXIE	Magnetospheric atmospheric X-ray imaging experiment
901	NOAA	Radiometer	OLS	Operational linescan system
905	NOAA	Radiometer	SSM/I	Mission sensor microwave imager
906	NOAA	Radiometer	SSM/T-1	Mission sensor microwave temperature sounder
907	NOAA	Radiometer	SSM/T-2	Mission sensor microwave water vapour sounder

## COMMON CODE TABLES - 8 May 2013

Code	Agency	Type	Instrument short name	Instrument long name
908	NOAA	Radiometer	SSMIS	Special sensor microwave imager sounder
910	NOAA	Radiometer	SXI	Solar X-ray imager
930	NOAA	Spectrometer	EHIC	Energetic heavy ion composition experiment
931	NOAA	Spectrometer	X-ray astronomy payload	
932	NRSCC	Imaging multi-spectral radiometer (vis/IR)	IVISSR (FY-2)	Improved multispectral visible and Infrared scan radiometer (5 channels)
933	NRSCC	Atmospheric temperature and humidity sounder	IRAS	Infrared atmospheric sounder
934	NRSCC	Atmospheric temperature and humidity sounder	MWAS	Microwave atmospheric sounder
935	NRSCC	Atmospheric temperature and humidity sounder	IMWAS	Improved Microwave atmospheric sounder
936	NRSCC	Atmospheric temperature and humidity sounder	MWHS	Microwave humidity sounder
937	NRSCC	Imaging multi-spectral radiometer (vis/IR)	MVIRS	Moderate resolution visible and infrared imaging spectroradiometer
938	NRSCC	Imaging multi-spectral radiometer (passive microwave)	MWRI	Microwave radiation imager
940	ROSCOSMOS	Atmospheric temperature and humidity sounder	MTVZA-OK	Scanning microwave radiometer
941	CNES	Atmospheric temperature and humidity sounder	SAPHIR	
942	CNES	Microwave imager	MADRAS	Microwave Analysis and Detection of Rain and Atmospheric Structures
944	NOAA	Radar altimeter	ALT	Altimeter
945	NOAA	Earth radiation budget radiometer	TSIS	Total solar irradiance sensor
946	NOAA	Imaging multi-spectral radiometer (passive microwave)	CMIS	Conical-scanning microwave imager/sounder
947	NOAA	Total and profile ozone	OMPS	Ozone mapping and profiler suite
948	NOAA	Space environment atmospheric temperature and humidity sounder	GPSOS	Global positioning system occultation sensor
949	NOAA	Magnetic field, auroral imagery scintillation boundary	SESS	Space environmental sensor suite
950	NRSCC	Imaging multi-spectral radiometer (vis/IR)	VIRR	Multispectral visible and infrared scan radiometer (10 channels)

COMMON CODE TABLES - 8 May 2013

Code	Agency	Type	Instrument short name	Instrument long name
951	NRSCC	Total and profile ozone	TOM	Total ozone mapper
952	NRSCC	Total and profile ozone	OP	Ozone profiler
953–999		Reserved		
1000–2046		Reserved for long-term future use		
2047		Missing value		



**COMMON CODE TABLE C-11: *Originating/generating centres***

Common Code table { BUFR 0 01 035  
 CREX Edition 2, 00000 in Group Pooooopp in Section 1  
 GRIB Edition 2, Octets 6–7 in Section 1  
 BUFR Edition 4, Octets 5–6 in Section 1

CREX Edition 2  
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 and Group 3  
 in Section 1

GRIB Edition 2  
 Octets 6–7 in Section 1  
 BUFR Edition 4  
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 and Octets 5–6 in Section 1

00000	0	WMO Secretariat
<b>00001–00009: WMCs</b>		
00001	1	Melbourne
00002	2	Melbourne
00003	3	)
00004	4	Moscow
00005	5	Moscow
00006	6	)
00007	7	US National Weather Service, National Centres for Environmental Prediction (NCEP)
00008	8	US National Weather Service Telecommunications Gateway (NWSTG)
00009	9	US National Weather Service – Other
<b>00010–00025: Centres in Region I</b>		
00010	10	Cairo (RSMC)
00011	11	)
00012	12	Dakar (RSMC)
00013	13	)
00014	14	Nairobi (RSMC)
00015	15	)
00016	16	Casablanca (RSMC)
00017	17	Tunis (RSMC)
00018	18	Tunis–Casablanca (RSMC)
00019	19	)
00020	20	Las Palmas
00021	21	Algiers (RSMC)
00022	22	ACMAD
00023	23	Mozambique (NMC)
00024	24	Pretoria (RSMC)
00025	25	La Réunion (RSMC)
<b>00026–00040: Centres in Region II</b>		
00026	26	Khabarovsk (RSMC)
00027	27	)
00028	28	New Delhi (RSMC)
00029	29	)

## COMMON CODE TABLES - 8 May 2013

CREX Edition 2 B 01 035 (5 characters) and Group 3 in Section 1	GRIB Edition 2 Octets 6–7 in Section 1 BUFR Edition 4 0 01 035 (16 bits) and Octets 5–6 in Section 1	
00030	30	Novosibirsk (RSMC)
00031	31	)
00032	32	Tashkent (RSMC)
00033	33	Jeddah (RSMC)
00034	34	Tokyo (RSMC), Japan Meteorological Agency
00035	35	)
00036	36	Bangkok
00037	37	Ulaanbaatar
00038	38	Beijing (RSMC)
00039	39	)
00040	40	Seoul
<b>00041–00050: Centres in Region III</b>		
00041	41	Buenos Aires (RSMC)
00042	42	)
00043	43	Brasilia (RSMC)
00044	44	)
00045	45	Santiago
00046	46	Brazilian Space Agency - INPE
00047	47	Colombia (NMC)
00048	48	Ecuador (NMC)
00049	49	Peru (NMC)
00050	50	Venezuela (Bolivarian Republic of) (NMC)
<b>00051–00063: Centres in Region IV</b>		
00051	51	Miami (RSMC)
00052	52	Miami RSMC, National Hurricane Centre
00053	53	Montreal (RSMC)
00054	54	)
00055	55	San Francisco
00056	56	ARINC Centre
00057	57	US Air Force – Air Force Global Weather Central
00058	58	Fleet Numerical Meteorology and Oceanography Center, Monterey, CA, United States
00059	59	The NOAA Forecast Systems Laboratory, Boulder, CO, United States
00060	60	United States National Center for Atmospheric Research (NCAR)
00061	61	Service ARGOS – Landover
00062	62	US Naval Oceanographic Office
00063	63	International Research Institute for Climate and Society (IRI)

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CREX Edition 2  
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(5 characters)  
and Group 3  
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GRIB Edition 2  
Octets 6–7 in Section 1  
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**00064–00073: Centres in Region V**

00064	64	Honolulu (RSMC)
00065	65	Darwin (RSMC)
00066	66	)
00067	67	Melbourne (RSMC)
00068	68	Reserved
00069	69	Wellington (RSMC)
00070	70	)
00071	71	Nadi (RSMC)
00072	72	Singapore
00073	73	Malaysia (NMC)

**00074–00099: Centres in Region VI**

00074	74	UK Meteorological Office – Exeter (RSMC)
00075	75	)
00076	76	Moscow (RSMC)
00077	77	Reserved
00078	78	Offenbach (RSMC)
00079	79	)
00080	80	Rome (RSMC)
00081	81	)
00082	82	Norrköping
00083	83	)
00084	84	Toulouse (RSMC)
00085	85	Toulouse (RSMC)
00086	86	Helsinki
00087	87	Belgrade
00088	88	Oslo
00089	89	Prague
00090	90	Episkopi
00091	91	Ankara
00092	92	Frankfurt/Main
00093	93	London (WAFC)
00094	94	Copenhagen
00095	95	Rota
00096	96	Athens
00097	97	European Space Agency (ESA)
00098	98	European Centre for Medium Range Weather Forecasts (ECMWF) (RSMC)
00099	99	De Bilt

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CREX Edition 2  
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(5 characters)  
and Group 3  
in Section 1

GRIB Edition 2  
Octets 6–7 in Section 1  
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**Additional Centres**

00100	100	Brazzaville
00101	101	Abidjan
00102	102	Libya (NMC)
00103	103	Madagascar (NMC)
00104	104	Mauritius (NMC)
00105	105	Niger (NMC)
00106	106	Seychelles (NMC)
00107	107	Uganda (NMC)
00108	108	United Republic of Tanzania (NMC)
00109	109	Zimbabwe (NMC)
00110	110	Hong Kong, China
00111	111	Afghanistan (NMC)
00112	112	Bahrain (NMC)
00113	113	Bangladesh (NMC)
00114	114	Bhutan (NMC)
00115	115	Cambodia (NMC)
00116	116	Democratic People's Republic of Korea (NMC)
00117	117	Islamic Republic of Iran (NMC)
00118	118	Iraq (NMC)
00119	119	Kazakhstan (NMC)
00120	120	Kuwait (NMC)
00121	121	Kyrgyzstan (NMC)
00122	122	Lao People's Democratic Republic (NMC)
00123	123	Macao, China
00124	124	Maldives (NMC)
00125	125	Myanmar (NMC)
00126	126	Nepal (NMC)
00127	127	Oman (NMC)
00128	128	Pakistan (NMC)
00129	129	Qatar (NMC)
00130	130	Yemen (NMC)
00131	131	Sri Lanka (NMC)
00132	132	Tajikistan (NMC)
00133	133	Turkmenistan (NMC)
00134	134	United Arab Emirates (NMC)
00135	135	Uzbekistan (NMC)
00136	136	Viet Nam (NMC)
00137–00139	137–139	Reserved for other centres
00140	140	Bolivia (Plurinational State of) (NMC)



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CREX Edition 2 B 01 035 (5 characters) and Group 3 in Section 1	GRIB Edition 2 Octets 6–7 in Section 1 BUFR Edition 4 0 01 035 (16 bits) and Octets 5–6 in Section 1	
00141	141	Guyana (NMC)
00142	142	Paraguay (NMC)
00143	143	Suriname (NMC)
00144	144	Uruguay (NMC)
00145	145	French Guiana
00146	146	Brazilian Navy Hydrographic Centre
00147	147	National Commission on Space Activities (CONAE) – Argentina
00148–00149	148–149	Reserved for other centres
00150	150	Antigua and Barbuda (NMC)
00151	151	Bahamas (NMC)
00152	152	Barbados (NMC)
00153	153	Belize (NMC)
00154	154	British Caribbean Territories Centre
00155	155	San José
00156	156	Cuba (NMC)
00157	157	Dominica (NMC)
00158	158	Dominican Republic (NMC)
00159	159	El Salvador (NMC)
00160	160	US NOAA/NESDIS
00161	161	US NOAA Office of Oceanic and Atmospheric Research
00162	162	Guatemala (NMC)
00163	163	Haiti (NMC)
00164	164	Honduras (NMC)
00165	165	Jamaica (NMC)
00166	166	Mexico
00167	167	Curaçao and Sint Maarten (NMC)
00168	168	Nicaragua (NMC)
00169	169	Panama (NMC)
00170	170	Saint Lucia (NMC)
00171	171	Trinidad and Tobago (NMC)
00172	172	French Departments in RA IV
00173	173	US National Aeronautics and Space Administration (NASA)
00174	174	Integrated Science Data Management/Marine Environmental Data Service (ISDM/MEDS – Canada)
00175	175	University Corporation for Atmospheric Research (UCAR) - United States
00176	176	Cooperative Institute for Meteorological Satellite Studies (CIMSS) – United States
00177	177	NOAA National Ocean Service – United States
00178–00189	178–189	Reserved for other centres

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CREX Edition 2 B 01 035 (5 characters) and Group 3 in Section 1	GRIB Edition 2 Octets 6–7 in Section 1 BUFR Edition 4 0 01 035 (16 bits) and Octets 5–6 in Section 1	
00190	190	Cook Islands (NMC)
00191	191	French Polynesia (NMC)
00192	192	Tonga (NMC)
00193	193	Vanuatu (NMC)
00194	194	Brunei Darussalam (NMC)
00195	195	Indonesia (NMC)
00196	196	Kiribati (NMC)
00197	197	Federated States of Micronesia (NMC)
00198	198	New Caledonia (NMC)
00199	199	Niue
00200	200	Papua New Guinea (NMC)
00201	201	Philippines (NMC)
00202	202	Samoa (NMC)
00203	203	Solomon Islands (NMC)
00204	204	National Institute of Water and Atmospheric Research (NIWA – New Zealand)
00205–00209	205–209	Reserved for other centres
00210	210	Frascati (ESA/ESRIN)
00211	211	Lannion
00212	212	Lisboa
00213	213	Reykjavik
00214	214	Madrid
00215	215	Zurich
00216	216	Service ARGOS Toulouse
00217	217	Bratislava
00218	218	Budapest
00219	219	Ljubljana
00220	220	Warsaw
00221	221	Zagreb
00222	222	Albania (NMC)
00223	223	Armenia (NMC)
00224	224	Austria (NMC)
00225	225	Azerbaijan (NMC)
00226	226	Belarus (NMC)
00227	227	Belgium (NMC)
00228	228	Bosnia and Herzegovina (NMC)
00229	229	Bulgaria (NMC)
00230	230	Cyprus (NMC)
00231	231	Estonia (NMC)
00232	232	Georgia (NMC)

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CREX Edition 2 B 01 035 (5 characters) and Group 3 in Section 1	GRIB Edition 2 Octets 6–7 in Section 1 BUFR Edition 4 0 01 035 (16 bits) and Octets 5–6 in Section 1	
00233	233	Dublin
00234	234	Israel (NMC)
00235	235	Jordan (NMC)
00236	236	Latvia (NMC)
00237	237	Lebanon (NMC)
00238	238	Lithuania (NMC)
00239	239	Luxembourg
00240	240	Malta (NMC)
00241	241	Monaco
00242	242	Romania (NMC)
00243	243	Syrian Arab Republic (NMC)
00244	244	The former Yugoslav Republic of Macedonia (NMC)
00245	245	Ukraine (NMC)
00246	246	Republic of Moldova (NMC)
00247	247	Operational Programme for the Exchange of weather RADar information (OPERA) – EUMETNET
00248	248	Montenegro (NMC)
00249	249	Reserved for other centres
00250	250	COnsortium for Small scale MOdelling (COSMO)
00251	251	Meteorological Cooperation on Operational NWP (MetCoOp)
00252	252	Max Planck Institute for Meteorology (MPI-M)
00253	253	Reserved for other centres
00251–00253	251–253	Reserved for other centres
00254	254	EUMETSAT Operation Centre
00255	255	Not to be used
00256	256	Angola (NMC)
00257	257	Benin (NMC)
00258	258	Botswana (NMC)
00259	259	Burkina Faso (NMC)
00260	260	Burundi (NMC)
00261	261	Cameroon (NMC)
00262	262	Cape Verde (NMC)
00263	263	Central African Republic (NMC)
00264	264	Chad (NMC)
00265	265	Comoros (NMC)
00266	266	Democratic Republic of the Congo (NMC)
00267	267	Djibouti (NMC)
00268	268	Eritrea (NMC)
00269	269	Ethiopia (NMC)

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CREX Edition 2 B 01 035 (5 characters) and Group 3 in Section 1	GRIB Edition 2 Octets 6–7 in Section 1 BUFR Edition 4 0 01 035 (16 bits) and Octets 5–6 in Section 1	
00270	270	Gabon (NMC)
00271	271	Gambia (NMC)
00272	272	Ghana (NMC)
00273	273	Guinea (NMC)
00274	274	Guinea-Bissau (NMC)
00275	275	Lesotho (NMC)
00276	276	Liberia (NMC)
00277	277	Malawi (NMC)
00278	278	Mali (NMC)
00279	279	Mauritania (NMC)
00280	280	Namibia (NMC)
00281	281	Nigeria (NMC)
00282	282	Rwanda (NMC)
00283	283	Sao Tome and Principe (NMC)
00284	284	Sierra Leone (NMC)
00285	285	Somalia (NMC)
00286	286	Sudan (NMC)
00287	287	Swaziland (NMC)
00288	288	Togo (NMC)
00289	289	Zambia (NMC)
00290–65534	290–65534	Reserved for other centres
65535	65535	Missing value
65536–99999	Not applicable	Not used

## Notes:

- (1) The closed bracket sign ")" indicates that the corresponding code figure is reserved for the previously named centre.
- (2) With GRIB or BUFR, to indicate whether the originating/generating centre is a sub-centre or not, the following procedure should be applied:

In GRIB edition 2, use octets 8–9 of section 1, or in BUFR edition 4, use octets 7–8 of section 1, with the following meaning:

## Code figure

- |          |   |
|----------|---|
| 0        | Not a sub-centre, the originating/generating centre is the centre defined by octets 6–7 in section 1 of GRIB edition 2, or by octets 5–6 in section 1 of BUFR edition 4.  |
| 1 to 254 | Identifier of the sub-centre which is the originating/generating centre. The identifier of the sub-centre is allocated by the associated centre, which is defined by octets 6–7 in section 1 of GRIB edition 2 or by octets 5–6 in section 1 of BUFR edition 4. The sub-centre identifiers should be supplied to the WMO Secretariat by the associated centre(s) for publication. |

- (3) For the definitions of sub-centres provided to the WMO Secretariat, see Common Code table C–12.

**COMMON CODE TABLE C-12: *Sub-centres of originating centres defined by entries in Common Code tables C-1 or C-11***

ORIGINATING CENTRES C-1, C-11 or C-12		SUB-CENTRES	
		BUFR 0 01 034 BUFR Edition 3, Octet 5 in Section 1 BUFR Edition 4, Octets 7-8 in Section 1 GRIB Edition 1, Octet 26 in Section 1 GRIB Edition 2, Octets 8-9 in Section 1 CREX Edition 2, ppp in Group Poooooppp in Section 1	
Code figure	Name	Code figure	Name
<b>REGION II</b>		0	No sub-centre
34	Tokyo (RSMC), Japan Meteorological Agency	207	Syowa
		240	Kiyose
39	Beijing (RSMC)	225	Beijing
		226	Guangzhou
		228	Urumuqi
40	Seoul	243	Seoul
		245	Jincheon
110	Hong-Kong, China	229	Hong-Kong
<b>REGION III</b>		10	Cachoeira Paulista (INPE)
46	Brazilian Space Agency - INPE	11	Cuiaba (INPE)
		12	Brasilia (INMET)
		13	Fortaleza (FUNCEME)
		14	Natal (Navy Hygrog. Centre)
		15	Manaus (SIVAM)
		16	Natal (INPE)
		17	Boa Vista
147	National Commission on Space Activities (CONAE) – Argentina	10	Córdoba
		15	Ushuaia
		20	Marambio
		30	Santiago de Chile
		40	Punta Arenas
		50	Base Presidente Frei
		60	Cotopaxi
<b>REGION IV</b>		1	NCEP Reanalysis Project
7	US National Weather Service, NCEP	2	NCEP Ensemble Products
		3	NCEP Central Operations
		4	Environmental Modeling Center
		5	Hydrometeorological Prediction Center
		6	Ocean Prediction Center
		7	Climate Prediction Center
		8	Aviation Weather Center
		9	Storm Prediction Center
		10	National Hurricane Center
		11	NWS Techniques Development Laboratory
		12	NESDIS Office of Research and Applications
		13	Federal Aviation Administration
		14	NWS Meteorological Development Laboratory
		15	North American Regional Reanalysis Project
		16	Space Weather Prediction Center
		17	ESRL Global Systems Division

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ORIGINATING CENTRES C-1, C-11 or C-12		SUB-CENTRES	
		BUFR 0 01 034 BUFR Edition 3, Octet 5 in Section 1 BUFR Edition 4, Octets 7-8 in Section 1 GRIB Edition 1, Octet 26 in Section 1 GRIB Edition 2, Octets 8-9 in Section 1 CREX Edition 2, ppp in Group Poooooppp in Section 1	
Code figure	Name	Code figure	Name
<b>REGION IV</b> ( <i>continued</i> )			
160	United States NOAA/NESDIS	10	Tromso (Norway)
		11	McMurdo (Antarctica)
161	United States NOAA Office of Oceanic and Atmospheric Research (NOAA/OAR)	1	Great Lakes Environmental Research Laboratory
		2	Earth System Research Laboratory
173	United States National Aeronautics and Space Administration (NASA)	1	Ames Research Center
		2	Dryden Flight Research Center
		3	Glenn Research Center
		4	Goddard Space Flight Center
		5	Jet Propulsion Laboratory
		6	Johnson Space Center
		7	Kennedy Space Center
		8	Langley Research Center
		9	Marshall Space Flight Center
		10	Stennis Space Center
		11	Goddard Institute for Space Studies
		12	Independent Verification and Validation Facility
		13	NASA Shared Service Center
		14	Wallops Flight Facility
176	Cooperative Institute for Meteorological Satellite Studies (CIMSS) – United States	10	Tromso (Norway)
		11	McMurdo (Antarctica)
		12	Sodankyla (Finland)
		13	Fairbanks (United States)
		14	Barrow (United States)
		15	Rothera (Antarctica)
177	NOAA National Ocean Service – United States	1	Centre for Operational Oceanographic Products and Services
		2	Coastal Survey Development Laboratory
<b>REGION V</b>			
2	Melbourne	201	Casey
		203	Davis
		211	Melbourne Crib Point 1
		214	Darwin
		217	Perth
		219	Townsville
		232	Fiji
		235	Noumea
		237	Papeete
		250	Vladivostock
		251	Guam
		252	Honolulu
69	Wellington (RSMC)	243	Kelburn
72	Singapore	249	Singapore

ORIGINATING CENTRES C–1, C–11 or C–12		SUB-CENTRES	
		BUFR 0 01 034 BUFR Edition 3, Octet 5 in Section 1 BUFR Edition 4, Octets 7–8 in Section 1 GRIB Edition 1, Octet 26 in Section 1 GRIB Edition 2, Octets 8–9 in Section 1 CREX Edition 2, ppp in Group Pooooopp in Section 1	
Code figure	Name	Code figure	Name
<b>REGION V</b> ( <i>continued</i> )			
204	National Institute of Water and Atmospheric Research (NIWA –New Zealand)	101	Maupia
		102	Lauder
<b>REGION VI</b>			
74	UK Met Office, Exeter (RSMC)	1	Shanwick Oceanic Area Control Centre
		2	Fucino
		3	Gatineau
		4	Maspalomas (Spain)
		5	ESA ERS Central Facility
		6	Prince Albert
		7	West Freugh
		13	Tromso
		21	Agenzia Spaziale Italiana (Italy)
		22	Centre National de la Recherche Scientifique (France)
		23	GeoForschungs Zentrum (Germany)
		24	Geodetic Observatory Pecny (Czech Republic)
		25	Institut d'Estudis Espacials de Catalunya (Spain)
		26	Federal Office of Topography (Switzerland)
		27	Nordic Commission of Geodesy (Norway)
		28	Nordic Commission of Geodesy (Sweden)
		29	Institute Géographique National (France) – Service de géodésie
		30	Bundesamt für Kartographie und Geodäsie (Germany)
		31	Institute of Engineering Satellite Surveying and Geodesy (United Kingdom)
		32	Joint Operational Meteorology and Oceanography Centre (JOMOC)
		33	Koninklijk Nederlands Meteorologisch Instituut (Netherlands)
		34	Nordic GPS Atmospheric Analysis centre (Sweden)
		35	Instituto Geografico Nacional de España (Spain)
		36	Met Éireann (Ireland)
		37	Royal Observatory of Belgium (Belgium)
78	Offenbach (RSMC)	10	POLARA (Polarimetric Radar Algorithms instance)
		64	Bundeswehr Geoinformation Office (BGIO)
		110	NowCast mobile (Lightning data)
		221	Schleswig-Holstein, Traffic Operations Computing Centre (TOCC)
			Kiel/Neumünster
		222	Hamburg, TOCC Hamburg
		223	Niedersachsen, TOCC Hannover
		224	Austria (NMC)
		225	Nordrhein-Westfalen, TOCC Kamen
			Leverkusen

ORIGINATING CENTRES C-1, C-11 or C-12		SUB-CENTRES BUFR 0 01 034 BUFR Edition 3, Octet 5 in Section 1 BUFR Edition 4, Octets 7-8 in Section 1 GRIB Edition 1, Octet 26 in Section 1 GRIB Edition 2, Octets 8-9 in Section 1 CREX Edition 2, ppp in Group Poooooppp in Section 1	
Code figure	Name	Code figure	Name
<b>Region VI (continued)</b>			
78	Offenbach (RSMC) (continued)	226	Hessen, TOCC Rüsselsheim
		227	Rheinland-Pfalz, TOCC Koblenz
		228	Baden-Württemberg, TOCC Ludwigsburg
		229	Bayern, TOCC Freimann
		230	Saarland, TOCC Rohrbach
		231	Bayern, Autobahn directorate Nordbayern
		232	Brandenburg, TOCC Stolpe
		233	Mecklenburg-Vorpommern, TOCC Malchow
		234	Sachsen, TOCC Dresden
		235	Sachsen-Anhalt, TOCC Halle
		236	Thüringen, TOCC Erfurt
		237	EasyWay – Meteotrans
		254	EUMETSAT
80	Rome (RSMC)	101	Albania (NMC)
89	Prague (RTH)	1	Solar and Ozone Observatory Hradec Kralove
96	Athens	1	Cyprus (NMC)
227	Belgium NMC	1	Luxembourg NMC
250	COSMO (CONsortium for Small scale MOdelling)	76	Roshydromet (Russian Federation)
		78	Deutscher Wetterdienst (Germany)
		80	Ufficio Generale Spazio Aereo e Meteorologia (Italy)
		96	Hellenic National Meteorological Service (Greece)
		215	MeteoSwiss (Switzerland)
		220	Institute of Meteorology and Water Management (Poland)
		242	National Meteorological Administration (Romania)
254	EUMETSAT Operation Centre	10	Tromsø (Norway)
		20	Maspalomas (Spain)
		30	Kangerlussuaq (Greenland)
		40	Edmonton (Canada)
		50	Bedford (Canada)
		60	Gander (Canada)
		70	Monterey (United States)
		80	Wallops Island (United States)
		90	Gilmor Creek (United States)
		100	Athens (Greece)
		120	Ewa Beach, Hawaii
		130	Miami, Florida
		140	Lannion (France)
		150	Svalbard (Norway)
		170	St Denis (La Réunion)
		180	Moscow
		190	Muscat
		200	Khabarovsk



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ORIGINATING CENTRES C-1, C-11 or C-12		SUB-CENTRES BUFR 0 01 034 BUFR Edition 3, Octet 5 in Section 1 BUFR Edition 4, Octets 7-8 in Section 1 GRIB Edition 1, Octet 26 in Section 1 GRIB Edition 2, Octets 8-9 in Section 1 CREX Edition 2, ppp in Group Poooooppp in Section 1	
Code figure	Name	Code figure	Name
254	EUMETSAT Operation Centre (continued)	210	Novosibirsk



**COMMON CODE TABLE C–13: *Data sub-categories of categories defined by entries in BUFR Table A***

DATA CATEGORIES		INTERNATIONAL DATA SUB-CATEGORIES	
BUFR Edition 4, Octet 11 in Section 1		BUFR Edition 4, Octet 12 (if = 255, it means other sub-category or undefined)	
CREX Edition 2, nnn in Group Annnmmm of Section 1		CREX Edition 2, mmm in Group Annnmmm of Section 1	
Code figure	Name	Code figure	Name (corresponding traditional alphanumeric codes are in brackets)
0	Surface data – land	0	Hourly synoptic observations from fixed-land stations (SYNOP)
		1	Intermediate synoptic observations from fixed-land stations (SYNOP)
		2	Main synoptic observations from fixed-land stations (SYNOP)
		3	Hourly synoptic observations from mobile-land stations (SYNOP MOBIL)
		4	Intermediate synoptic observations from mobile-land stations (SYNOP MOBIL)
		5	Main synoptic observations from mobile-land stations (SYNOP MOBIL)
		6	One-hour observations from automated stations
		7	n-minute observations from AWS stations
		10	Routine aeronautical observations (METAR)
		11	Special aeronautical observations (SPECI)
		14	Ground-based GPS humidity observations (GPSIWV)
		20	Climatological observations (CLIMAT)
		30	Sferics locations
		40	Hydrologic reports
		50	Hourly synoptic observations with supplementary one-hour data
		51	Intermediate synoptic observations with supplementary one-hour data
		52	Main synoptic observations with supplementary one-hour data
1	Surface data – sea	0	Synoptic observations (SHIP)
		6	One-hour observations from automated stations
		7	n-minute observations from AWS stations
		20	Climatological observations (CLIMAT SHIP)
		25	Buoy observation (BUOY)
		30	Tide gauge
		31	Observed water level time series
2	Vertical soundings (other than satellite)	1	Upper-wind reports from fixed-land stations (PILOT)
		2	Upper-wind reports from ships (PILOT SHIP)
		3	Upper-wind reports from mobile land stations (PILOT MOBIL)
		4	Upper-level temperature/humidity/wind reports from fixed-land stations (TEMP)
		5	Upper-level temperature/humidity/wind reports from ships (TEMP SHIP)
		6	Upper-level temperature/humidity/wind report from Mobile land stations (TEMP MOBIL)

DATA CATEGORIES BUFR Edition 4, Octet 11 in Section 1  CREX Edition 2, nnn in Group Annnmmm of Section 1		INTERNATIONAL DATA SUB-CATEGORIES BUFR Edition 4, Octet 12 (if = 255, it means other sub-category or undefined) CREX Edition 2, mmm in Group Annnmmm of Section 1	
Code figure	Name	Code figure	Name (corresponding traditional alphanumeric codes are in brackets)
2	Vertical soundings (other than satellite) (continued)	7	Upper-level temperature/humidity/wind reports from dropwindsondes (TEMP DROP)
		10	Wind profiler reports
		11	RASS temperature profiles
		20	ASDAR/ACARS profiles (AMDAR)
		21	Profiles of atmospheric constituents concentrations
		25	Climatological observations from fixed-land stations (CLIMAT TEMP)
		26	Climatological observations from ships (CLIMAT TEMP SHIP)
3	Vertical soundings (satellite)	0	Temperature (SATEM)
		1	TIROS (TOVS)
		2	ATOVS
		3	AMSU-A
		4	AMSU-B
		5	HIRS
		6	MHS
		7	IASI
		20	IR temperature/humidity sounding
		30	Hyperspectral temperature/humidity sounding
		40	MW temperature/humidity sounding
		50	Radio occultation sounding
4	Single level upper-air data (other than satellite)	0	ASDAR/ACARS (AMDAR)
		1	Manual (AIREP, PIREP)
5	Single level upper-air data (satellite)	0	Cloud wind data (SATOBS)
		1	Cloud properties
6	Radar data	0	Reflectivity data
		1	Doppler wind profiles
		2	Derived products
		3	Ground radar weather (RADOBS)
7	Synoptic features	0	Forecast tropical cyclone tracks from EPS
		1	Squall line
8	Physical/chemical constituents	0	Surface ozone
		1	Ozone vertical sounding
		2	Total ozone
9	Dispersal and transport	0	Trajectories, analysis or forecast
10	Radiological data	1	Observation (RADREP)
		2	Forecast (RADOFS)
12	Surface data (satellite)	0	ERS-uwa
		1	ERS-uwi
		2	ERS-ura

DATA CATEGORIES		INTERNATIONAL DATA SUB-CATEGORIES	
BUFR Edition 4, Octet 11 in Section 1		BUFR Edition 4, Octet 12 (if = 255, it means other sub-category or undefined)	
CREX Edition 2, nnn in Group Annnmmm of Section 1		CREX Edition 2, mmm in Group Annnmmm of Section 1	
Code figure	Name	Code figure	Name (corresponding traditional alphanumeric codes are in brackets)
12	Surface data (satellite) (continued)	3	ERS-uat
		4	SSM/I radiometer
		5	Quikscat
		6	Surface temp./radiation (SATO)
		7	ASCAT data
		8	Soil moisture
		9	Normalized differential vegetation index (NDVI)
		10	Normalized radar backscatter
		11	Surface emissivity
		12	Sea-surface temperature
21	Radiances (satellite measured)	0	Earth radiation budget
		5	Cross-track infrared sounder
		6	Advanced technology microwave sounder
		7	Visible/infrared imager radiometer suite
22	Radar (satellite) but not altimeter and scatterometer	0	Cloud and precipitation radar
		1	Synthetic aperture radar
23	Lidar (satellite)	0	Lidar based missions (for wind, for cloud/aerosol, for water vapour, for altimetry)
24	Scatterometry (satellite)	0	Wind scatterometry
25	Altimetry (satellite)	0	Radar altimetry
26	Spectrometry (satellite)	0	Cross nadir shortwave spectrometry (for chemistry)
		1	Cross nadir IR spectrometry (for chemistry)
		2	Limb sounding shortwave spectrometry
		3	Limb sounding IR spectrometry
		4	Limb sounding sub-millimetre wave spectrometry
30	Calibration dataset (satellite)	0	Subsetted data
		1	Collocated data
		2	On-board calibration data
		3	Bias Monitoring
		4	Near-real-time correction
		5	Re-analysis correction
31	Oceanographic data	0	Surface observation
		1	Surface observation along track (TRACKOB)
		2	Spectral wave observation (WAVEOB)
		3	Bathothermal observation (BATHY)
		4	Sub-surface floats (profile)
		5	XBT/XCTD profiles (TESAC)
		6	Waves reports
		7	Tsunameter data

DATA CATEGORIES		INTERNATIONAL DATA SUB-CATEGORIES	
BUFR Edition 4, Octet 11 in Section 1		BUFR Edition 4, Octet 12 (if = 255, it means other sub-category or undefined)	
CREX Edition 2, nnn in Group Annnmmm of Section 1		CREX Edition 2, mmm in Group Annnmmm of Section 1	
Code figure	Name	Code figure	Name (corresponding traditional alphanumeric codes are in brackets)
101	Image data (satellite)	0	Multi-purpose VIS/IR imagery
		1	Conical scanning MW imagery (intermediate frequencies)
		2	Low frequency MW imagery
		3	Ocean colour imagery
		4	Imagery with special viewing geometry
		5	Lightning imagery
		6	High-resolution shortwave imagery for land observation
		7	SMOS data

**COMMON CODE TABLE C-14: Atmospheric chemical or physical constituent type**

Common Code table      Code table 4.230 in GRIB Edition 2

Code figure	Meaning	Chemical formula
0	Ozone	O <sub>3</sub>
1	Water vapour	H <sub>2</sub> O
2	Methane	CH <sub>4</sub>
3	Carbon dioxide	CO <sub>2</sub>
4	Carbon monoxide	CO
5	Nitrogen dioxide	NO <sub>2</sub>
6	Nitrous oxide	N <sub>2</sub> O
7	Formaldehyde	HCHO
8	Sulphur dioxide	SO <sub>2</sub>
9	Ammonia	NH <sub>3</sub>
10	Ammonium	NH <sub>4</sub> <sup>+</sup>
11	Nitrogen monoxide	NO
12	Atomic oxygen	O
13	Nitrate radical	NO <sub>3</sub>
14	Hydroperoxyl radical	HO <sub>2</sub>
15	Dinitrogen pentoxide	N <sub>2</sub> O <sub>5</sub>
16	Nitrous acid	HONO
17	Nitric acid	HNO <sub>3</sub>
18	Peroxynitric acid	HO <sub>2</sub> NO <sub>2</sub>
19	Hydrogen peroxide	H <sub>2</sub> O <sub>2</sub>
20	Molecular hydrogen	H
21	Atomic nitrogen	N
22	Sulphate	SO <sub>4</sub> <sup>2-</sup>
23	Radon	Rn
24	Elemental mercury	Hg (0)
25	Divalent mercury	Hg <sup>2+</sup>
26	Atomic chlorine	Cl
27	Chlorine monoxide	ClO
28	Dichlorine peroxide	Cl <sub>2</sub> O <sub>2</sub>
29	Hypochlorous acid	HClO
30	Chlorine nitrate	ClONO <sub>2</sub>
31	Chlorine dioxide	ClO <sub>2</sub>
32	Atomic bromine	Br
33	Bromine monoxide	BrO
34	Bromine chloride	BrCl
35	Hydrogen bromide	HBr
36	Hypobromous acid	HBrO
37	Bromine nitrate	BrONO <sub>2</sub>
38	Oxygen	O <sub>2</sub>
39-9999	Reserved	
10000	Hydroxyl radical	OH
10001	Methyl peroxy radical	CH <sub>3</sub> O <sub>2</sub>
10002	Methyl hydroperoxide	CH <sub>3</sub> O <sub>2</sub> H
10004	Methanol	CH <sub>3</sub> OH
10005	Formic acid	CH <sub>3</sub> OOH
10006	Hydrogen cyanide	HCN
10007	Aceto nitrile	CH <sub>3</sub> CN
10008	Ethane	C <sub>2</sub> H <sub>6</sub>
10009	Ethene (= Ethylene)	C <sub>2</sub> H <sub>4</sub>
10010	Ethyne (= Acetylene)	C <sub>2</sub> H <sub>2</sub>
10011	Ethanol	C <sub>2</sub> H <sub>5</sub> OH
10012	Acetic acid	C <sub>2</sub> H <sub>5</sub> OOH
10013	Peroxyacetyl nitrate	CH <sub>3</sub> C(O)OONO <sub>2</sub>
10014	Propane	C <sub>3</sub> H <sub>8</sub>
10015	Propene	C <sub>3</sub> H <sub>6</sub>

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Code figure	Meaning	Chemical formula
10016	Butanes	$C_4H_{10}$
10017	Isoprene	$C_5H_{10}$
10018	Alpha pinene	$C_{10}H_{16}$
10019	Beta pinene	$C_{10}H_{16}$
10020	Limonene	$C_{10}H_{16}$
10021	Benzene	$C_6H_6$
10022	Toluene	$C_7H_8$
10023	Xylene	$C_8H_{10}$
10024–10499	Reserved for other simple organic molecules (e.g. higher aldehydes, alcohols, peroxides,...)	
10500	Dimethyl sulphide	$CH_3SCH_3$ (DMS)
10501–20000	Reserved	
20001	Hydrogen chloride	
20002	CFC-11	
20003	CFC-12	
20004	CFC-113	
20005	CFC-113a	
20006	CFC-114	
20007	CFC-115	
20008	HCFC-22	
20009	HCFC-141b	
20010	HCFC-142b	
20011	Halon-1202	
20012	Halon-1211	
20013	Halon-1301	
20014	Halon-2402	
20015	Methyl chloride (HCC-40)	
20016	Carbon tetrachloride (HCC-10)	
20017	HCC-140a	$CH_3CCl_3$
20018	Methyl bromide (HBC-40B1)	
20019	Hexachlorocyclohexane (HCH)	
20020	Alpha hexachlorocyclohexane	
20021	Hexachlorobiphenyl (PCB-153)	
20022–29999	Reserved	
30000	Radioactive pollutant (tracer, defined by originating centre)	
30001–30009	Reserved	
30010	Hydrogen	H-3
30011	Hydrogen organic bounded	H-3o
30012	Hydrogen inorganic	H-3a
30013	Beryllium 7	Be-7
30014	Beryllium 10	Be-10
30015	Carbon 14	C-14
30016	Carbon 14 $CO_2$	$C-14CO_2$
30017	Carbon 14 other gases	C-14og
30018	Nitrogen 13	N-13
30019	Nitrogen 16	N-16
30020	Fluorine 18	F-18
30021	Sodium 22	Na-22
30022	Phosphate 32	P-32
30023	Phosphate 33	P-33
30024	Sulphur 35	S-35
30025	Chlorine 36	Cl-36
30026	Potassium 40	K-40
30027	Argon 41	Ar-41
30028	Calcium 41	Ca-41
30029	Calcium 45	Ca-45
30030	Titanium 44	Ti-44



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Code figure	Meaning	Chemical formula
30031	Scandium 46	Sc-46
30032	Vanadium 48	V-48
30033	Vanadium 49	V-49
30034	Chrome 51	Cr-51
30035	Manganese 52	Mn-52
30036	Manganese 54	Mn-54
30037	Iron 55	Fe-55
30038	Iron 59	Fe-59
30039	Cobalt 56	Co-56
30040	Cobalt 57	Co-57
30041	Cobalt 58	Co-58
30042	Cobalt 60	Co-60
30043	Nickel 59	Ni-59
30044	Nickel 63	Ni-63
30045	Zinc 65	Zn-65
30046	Gallium 67	Ga-67
30047	Gallium 68	Ga-68
30048	Germanium 68	Ge-68
30049	Germanium 69	Ge-69
30050	Arsenic 73	As-73
30051	Selenium 75	Se-75
30052	Selenium 79	Se-79
30053	Rubidium 81	Rb-81
30054	Rubidium 83	Rb-83
30055	Rubidium 84	Rb-84
30056	Rubidium 86	Rb-86
30057	Rubidium 87	Rb-87
30058	Rubidium 88	Rb-88
30059	Krypton 85	Kr-85
30060	Krypton 85 metastable	Kr-85m
30061	Krypton 87	Kr-87
30062	Krypton 88	Kr-88
30063	Krypton 89	Kr-89
30064	Strontium 85	Sr-85
30065	Strontium 89	Sr-89
30066	Strontium 89/90	Sr-8990
30067	Strontium 90	Sr-90
30068	Strontium 91	Sr-91
30069	Strontium 92	Sr-92
30070	Yttrium 87	Y-87
30071	Yttrium 88	Y-88
30072	Yttrium 90	Y-90
30073	Yttrium 91	Y-91
30074	Yttrium 91 metastable	Y-91m
30075	Yttrium 92	Y-92
30076	Yttrium 93	Y-93
30077	Zirconium 89	Zr-89
30078	Zirconium 93	Zr-93
30079	Zirconium 95	Zr-95
30080	Zirconium 97	Zr-97
30081	Niobium 93 metastable	Nb-93m
30082	Niobium 94	Nb-94
30083	Niobium 95	Nb-95
30084	Niobium 95 metastable	Nb-95m
30085	Niobium 97	Nb-97
30086	Niobium 97 metastable	Nb-97m
30087	Molybdenum 93	Mo-93
30088	Molybdenum 99	Mo-99

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Code figure	Meaning	Chemical formula
30089	Technetium 95 metastable	Tc-95m
30090	Technetium 96	Tc-96
30091	Technetium 99	Tc-99
30092	Technetium 99 metastable	Tc-99m
30093	Rhodium 99	Rh-99
30094	Rhodium 101	Rh-101
30095	Rhodium 102 metastable	Rh-102m
30096	Rhodium 103 metastable	Rh-103m
30097	Rhodium 105	Rh-105
30098	Rhodium 106	Rh-106
30099	Palladium 100	Pd-100
30100	Palladium 103	Pd-103
30101	Palladium 107	Pd-107
30102	Ruthenium 103	Ru-103
30103	Ruthenium 105	Ru-105
30104	Ruthenium 106	Ru-106
30105	Silver 108 metastable	Ag-108m
30106	Silver 110 metastable	Ag-110m
30107	Cadmium 109	Cd-109
30108	Cadmium 113 metastable	Cd-113m
30109	Cadmium 115 metastable	Cd-115m
30110	Indium 114 metastable	In-114m
30111	Tin 113	Sn-113
30112	Tin 119 metastable	Sn-119m
30113	Tin 121 metastable	Sn-121m
30114	Tin 122	Sn-122
30115	Tin 123	Sn-123
30116	Tin 126	Sn-126
30117	Antimony 124	Sb-124
30118	Antimony 125	Sb-125
30119	Antimony 126	Sb-126
30120	Antimony 127	Sb-127
30121	Antimony 129	Sb-129
30122	Tellurium 123 metastable	Te-123m
30123	Tellurium 125 metastable	Te-125m
30124	Tellurium 127	Te-127
30125	Tellurium 127 metastable	Te-127m
30126	Tellurium 129	Te-129
30127	Tellurium 129 metastable	Te-129m
30128	Tellurium 131 metastable	Te-131m
30129	Tellurium 132	Te-132
30130	Iodine 123	I-123
30131	Iodine 124	I-124
30132	Iodine 125	I-125
30133	Iodine 126	I-126
30134	Iodine 129	I-129
30135	Iodine 129 elementary gaseous	I-129g
30136	Iodine 129 organic bounded	I-129o
30137	Iodine 131	I-131
30138	Iodine 131 elementary gaseous	I-131g
30139	Iodine 131 organic bounded	I-131o
30140	Iodine 131 gaseous elementary and organic bounded	I-131go
30141	Iodine 131 aerosol	I-131a
30142	Iodine 132	I-132
30143	Iodine 132 elementary gaseous	I-132g
30144	Iodine 132 organic bounded	I-132o
30145	Iodine 132 gaseous elementary and organic bounded	I-132go

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Code figure	Meaning	Chemical formula
30146	Iodine 132 aerosol	I-132a
30147	Iodine 133	I-133
30148	Iodine 133 elementary gaseous	I-133g
30149	Iodine 133 organic bounded	I-133o
30150	Iodine 133 gaseous elementary and organic bounded	I-133go
30151	Iodine 133 aerosol	I-133a
30152	Iodine 134	I-134
30153	Iodine 134 elementary gaseous	I-134g
30154	Iodine 134 organic bounded	I-134o
30155	Iodine 135	I-135
30156	Iodine 135 elementary gaseous	I-135g
30157	Iodine 135 organic bounded	I-135o
30158	Iodine 135 gaseous elementary and organic bounded	I-135go
30159	Iodine 135 aerosol	I-135a
30160	Xenon 131 metastable	Xe-131m
30161	Xenon 133	Xe-133
30162	Xenon 133 metastable	Xe-133m
30163	Xenon 135	Xe-135
30164	Xenon 135 metastable	Xe-135m
30165	Xenon 137	Xe-137
30166	Xenon 138	Xe-138
30167	Xenon sum of all Xenon isotopes	Xe-sum
30168	Caesium 131	Cs-131
30169	Caesium 134	Cs-134
30170	Caesium 135	Cs-135
30171	Caesium 136	Cs-136
30172	Caesium 137	Cs-137
30173	Barium 133	Ba-133
30174	Barium 137 metastable	Ba-137m
30175	Barium 140	Ba-140
30176	Cerium 139	Ce-139
30177	Cerium 141	Ce-141
30178	Cerium 143	Ce-143
30179	Cerium 144	Ce-144
30180	Lanthanum 140	La-140
30181	Lanthanum 141	La-141
30182	Praseodymium 143	Pr-143
30183	Praseodymium 144	Pr-144
30184	Praseodymium 144 metastable	Pr-144m
30185	Samarium 145	Sm-145
30186	Samarium 147	Sm-147
30187	Samarium 151	Sm-151
30188	Neodymium 147	Nd-147
30189	Promethium 146	Pm-146
30190	Promethium 147	Pm-147
30191	Promethium 151	Pm-151
30192	Europium 152	Eu-152
30193	Europium 154	Eu-154
30194	Europium 155	Eu-155
30195	Gadolinium 153	Gd-153
30196	Terbium 160	Tb-160
30197	Holmium 166 metastable	Ho-166m
30198	Thulium 170	Tm-170
30199	Ytterbium 169	Yb-169
30200	Hafnium 175	Hf-175
30201	Hafnium 181	Hf-181
30202	Tantalum 179	Ta-179

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Code figure	Meaning	Chemical formula
30203	Tantalum 182	Ta-182
30204	Rhenium 184	Re-184
30205	Iridium 192	Ir-192
30206	Mercury 203	Hg-203
30207	Thallium 204	Tl-204
30208	Thallium 207	Tl-207
30209	Thallium 208	Tl-208
30210	Thallium 209	Tl-209
30211	Bismuth 205	Bi-205
30212	Bismuth 207	Bi-207
30213	Bismuth 210	Bi-210
30214	Bismuth 211	Bi-211
30215	Bismuth 212	Bi-212
30216	Bismuth 213	Bi-213
30217	Bismuth 214	Bi-214
30218	Polonium 208	Po-208
30219	Polonium 210	Po-210
30220	Polonium 212	Po-212
30221	Polonium 213	Po-213
30222	Polonium 214	Po-214
30223	Polonium 215	Po-215
30224	Polonium 216	Po-216
30225	Polonium 218	Po-218
30226	Lead 209	Pb-209
30227	Lead 210	Pb-210
30228	Lead 211	Pb-211
30229	Lead 212	Pb-212
30230	Lead 214	Pb-214
30231	Astatine 217	At-217
30232	Radon 219	Rn-219
30233	Radon 220	Rn-220
30234	Radon 222	Rn-222
30235	Francium 221	Fr-221
30236	Francium 223	Fr-223
30237	Radium 223	Ra-223
30238	Radium 224	Ra-224
30239	Radium 225	Ra-225
30240	Radium 226	Ra-226
30241	Radium 228	Ra-228
30242	Actinium 225	Ac-225
30243	Actinium 227	Ac-227
30244	Actinium 228	Ac-228
30245	Thorium 227	Th-227
30246	Thorium 228	Th-228
30247	Thorium 229	Th-229
30248	Thorium 230	Th-230
30249	Thorium 231	Th-231
30250	Thorium 232	Th-232
30251	Thorium 234	Th-234
30252	Protactinium 231	Pa-231
30253	Protactinium 233	Pa-233
30254	Protactinium 234 metastable	Pa-234m
30255	Uranium 232	U-232
30256	Uranium 233	U-233
30257	Uranium 234	U-234
30258	Uranium 235	U-235
30259	Uranium 236	U-236

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Code figure	Meaning	Chemical formula
30260	Uranium 237	U-237
30261	Uranium 238	U-238
30262	Plutonium 236	Pu-236
30263	Plutonium 238	Pu-238
30264	Plutonium 239	Pu-239
30265	Plutonium 240	Pu-240
30266	Plutonium 241	Pu-241
30267	Plutonium 242	Pu-242
30268	Plutonium 244	Pu-244
30269	Neptunium 237	Np-237
30270	Neptunium 238	Np-238
30271	Neptunium 239	Np-239
30272	Americium 241	Am-241
30273	Americium 242	Am-242
30274	Americium 242 metastable	Am-242m
30275	Americium 243	Am-243
30276	Curium 242	Cm-242
30277	Curium 243	Cm-243
30278	Curium 244	Cm-244
30279	Curium 245	Cm-245
30280	Curium 246	Cm-246
30281	Curium 247	Cm-247
30282	Curium 248	Cm-248
30283	Curium 243/244	Cm-243244
30284	Plutonium 238/Americium 241	Pu-238Am-241
30285	Plutonium 239/240	Pu-239240
30286	Berkelium 249	Bk-249
30287	Californium 249	Cf-249
30288	Californium 250	Cf-250
30289	Californium 252	Cf-252
30290	Sum aerosol particulates	SumAer
30291	Sum Iodine	SumIod
30292	Sum noble gas	SumNG
30293	Activation gas	ActGas
30294	Cs-137 Equivalent	EquCs137
30295–59999	Reserved	
60000	HO <sub>x</sub> radical (OH+HO <sub>2</sub> )	
60001	Total inorganic and organic peroxy radicals (HO <sub>2</sub> + RO <sub>2</sub> )	RO <sub>2</sub>
60002	Passive Ozone	
60003	NO <sub>x</sub> expressed as nitrogen	NO <sub>x</sub>
60004	All nitrogen oxides (NO <sub>y</sub> ) expressed as nitrogen	NO <sub>y</sub>
60005	Total inorganic chlorine	Cl <sub>x</sub>
60006	Total inorganic bromine	Br <sub>x</sub>
60007	Total inorganic chlorine except HCl, ClONO <sub>2</sub> : ClO <sub>x</sub>	
60008	Total inorganic bromine except HBr, BrONO <sub>2</sub> : BrO <sub>x</sub>	
60009	Lumped alkanes	
60010	Lumped alkenes	
60011	Lumped aromatic compounds	
60012	Lumped terpenes	
60013	Non-methane volatile organic compounds expressed as carbon	NMVOC
60014	Anthropogenic non-methane volatile organic compounds expressed as carbon	aNMVOC
60015	Biogenic non-methane volatile organic compounds expressed as carbon	bNMVOC
60016	Lumped oxygenated hydrocarbons	OVOC
60017–61999	Reserved	
62000	Total aerosol	

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Code figure	Meaning	Chemical formula
62001	Dust dry	
62002	Water in ambient	
62003	Ammonium dry	
62004	Nitrate dry	
62005	Nitric acid trihydrate	
62006	Sulphate dry	
62007	Mercury dry	
62008	Sea salt dry	
62009	Black carbon dry	
62010	Particulate organic matter dry	
62011	Primary particulate organic matter dry	
62012	Secondary particulate organic matter dry	
62013	Black carbon hydrophilic dry	
62014	Black carbon hydrophobic dry	
62015	Particulate organic matter hydrophilic dry	
62016	Particulate organic matter hydrophobic dry	
62017	Nitrate hydrophilic dry	
62018	Nitrate hydrophobic dry	
62019–65534	Reserved	
65535	Missing	

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