WMO=36 code-flag table

Elements Sequences

BUFR code-flag tables for WMO master table version 36

Edition details

Master table	Master table version	Centre	Subcentre	Local table version
0	36	0	0	0

Classification of code-flag tables

1	Identification
2	Instrumentation 2
3	Instrumentation
4	Location (time)
5	Location (horizontal - 1)
8	Significance qualifiers
10	Non-coordinate location (vertical)
11	Wind and turbulence
13	Hydrographic and hydrological elements
15	Physical/chemical constituents
19	Synoptic features
20	Observed phenomena
21	Radar data
22	Oceanographic elements
23	Dispersal and transport
24	Radiological elements
25	Processing information
26	Non-coordinate location (time)
29	Map data
30	Image
31	Data description operator qualifiers
33	Quality information
35	Data monitoring information
40	Satellite data
42	42

Class 1 - Identification - code-flag tables

Code table for element 001003 (WMO REGION NUMBER/GEOGRAPHICAL AREA)

Value	Description
0	ANTARCTICA
1	REGION I

2	REGION II
3	REGION III
4	REGION IV
5	REGION V
6	REGION VI
7	MISSING VALUE

Code table for element 001007 (SATELLITE IDENTIFIER)

Value	Description
0	RESERVED
1	ERS 1
2	ERS 2
3	METOP-1 (METOP-B)
4	METOP-2 (METOP-A)
5	METOP-3 (METOP-C)
20	SPOT1
21	SPOT2
22	SPOT3
23	SPOT4
40	OERSTED
41	CHAMP
42	TERRASAR-X
43	TANDEM-X
44	PAZ
46	SMOS
47	CRYOSAT-2
48	AEOLUS
50	METEOSAT 3
51	METEOSAT 4
52	METEOSAT 5
53	METEOSAT 6
54	METEOSAT 7
55	METEOSAT 8
56	METEOSAT 9
57	METEOSAT 10
58	METEOSAT 1
59	METEOSAT 2
60	ENVISAT
61	SENTINEL 3A
62	SENTINEL 1A
63	SENTINEL 1B

64	SENTINEL 5P
65	SENTINEL 3B
66	SENTINEL-6A
67	SENTINEL-6B
70	METEOSAT 11
120	ADEOS
121	ADEOS II
122	GCOM-W1
140	GOSAT
150	GMS 3
151	GMS 4
152	GMS 5
153	GMS
154	GMS 2
171	MTSAT-1R
172	MTSAT-2
173	HIMAWARI-8
174	HIMAWARI-9
200	NOAA 8
201	NOAA 9
202	NOAA 10
203	NOAA 11
204	NOAA 12
205	NOAA 14
206	NOAA 15
207	NOAA 16
208	NOAA 17
209	NOAA 18
220	LANDSAT 5
221	LANDSAT 4
222	LANDSAT 7
223	NOAA 19
224	NPP
225	NOAA 20
226	NOAA 21
240	DMSP 7
241	DMSP 8
242	DMSP 9
243	DMSP 10
244	DMSP 11
245	DMSP 12

246	DMSP 13
247	DMSP 14
248	DMSP 15
249	DMSP 16
250	GOES 6
251	GOES 7
252	GOES 8
253	GOES 9
254	GOES 10
255	GOES 11
256	GOES 12
257	GOES 13
258	GOES 14
259	GOES 15
260	JASON 1
261	JASON 2
262	JASON 3
265	GEOOPTICS CICERO OP1
266	GEOOPTICS CICERO OP2
267	PLANETIQ GNOMES-A
268	PLANETIQ GNOMES-B
269	SPIRE LEMUR 3U CUBESAT
270	GOES 16
271	GOES 17
272	GOES 18
273	GOES 19
281	QUIKSCAT
282	TRMM
283	CORIOLIS
285	DMSP 17
286	DMSP 18
287	DMSP 19
288	GPM-CORE
289	ORBITING CARBON OBSERVATORY - 2 (OCO-2, NASA)
310	GOMS 1
311	GOMS 2
320	METEOR 2-21
321	METEOR 3-5
322	METEOR 3M-1
323	METEOR 3M-2
324	METEOR-M N2

325	METEOR-M N2 2
341	RESURS 01-4
410	KALPANA-1
421	OCEANSAT-2
422	SCATSAT-1
423	OCEANSAT-3
430	INSAT 1B
431	INSAT 1C
432	INSAT 1D
440	MEGHA-TROPIQUES
441	SARAL
450	INSAT 2A
451	INSAT 2B
452	INSAT 2E
470	INSAT 3A
471	INSAT 3D
472	INSAT 3E
473	INSAT 3DR
474	INSAT 3DS
500	FY-1C
501	FY-1D
502	HAI YANG 2A (HY-2A, SOA/NSOAS CHINA)
503	HAI YANG 2B (HY-2B, SOA/NSOAS CHINA)
504	HAI YANG 2C (HY-2C, SOA/NSOAS CHINA)
510	FY-2
512	FY-2B
513	FY-2C
514	FY-2D
515	FY-2E
516	FY-2F
517	FY-2G
518	FY-2H
520	FY-3A
521	FY-3B
522	FY-3C
523	FY-3D
530	FY-4A
700	TIROS M (ITOS 1)
701	NOAA 1
702	NOAA 2
703	NOAA 3

704	NOAA 4
705	NOAA 5
706	NOAA 6
707	NOAA 7
708	TIROS-N
710	GOES (SMS 1)
711	GOES (SMS 2)
720	TOPEX
721	GFO (GEOSAT FOLLOW ON)
722	GRACE A
723	GRACE B
724	COSMIC-2 P1
725	COSMIC-2 P2
726	COSMIC-2 P3
727	COSMIC-2 P4
728	COSMIC-2 P5
729	COSMIC-2 P6
731	GOES 1
732	GOES 2
733	GOES 3
734	GOES 4
735	GOES 5
740	COSMIC-1
741	COSMIC-2
742	COSMIC-3
743	COSMIC-4
744	COSMIC-5
745	COSMIC-6
750	COSMIC-2 E1
751	COSMIC-2 E2
752	COSMIC-2 E3
753	COSMIC-2 E4
754	COSMIC-2 E5
755	COSMIC-2 E6
763	NIMBUS 3
764	NIMBUS 4
765	NIMBUS 5
766	NIMBUS 6
767	NIMBUS 7
780	ERBS
781	UARS

782	EARTH PROBE
783	TERRA
784	AQUA
785	AURA
786	C/NOFS
787	CALIPSO
788	CLOUDSAT
800	SUNSAT
801	INTERNATIONAL SPACE STATION (ISS)
802	CFOSAT
803	GRACE C (GRACE-FO)
804	GRACE D (GRACE-FO)
810	COMS
811	GEO-KOMPSAT-2A
812	SCISAT-1
813	ODIN
820	SAC-C
821	SAC-D
825	KOMPSAT-5
850	COMBINATION OF TERRA AND AQUA
851	COMBINATION OF NOAA 16 TO NOAA 19
852	COMBINATION OF METOP-1 TO METOP-3
853	COMBINATION OF METEOSAT AND DMSP
854	NON-SPECIFIC MIXTURE OF GEOSTATIONARY AND LOW EARTH-ORBITING SATELLITES
855	COMBINATION OF INSAT 3D AND INSAT 3DR
856	COMBINATION OF SENTINEL-3 SATELLITES
1023	MISSING VALUE

Code table for element 001024 (WIND SPEED SOURCE)

Value	Description
0	NO WIND SPEED DATA AVAILABLE
1	AMSR-E DATA
2	TMI DATA
3	NWP: ECMWF
4	NWP: UK MET OFFICE
5	NWP: NCEP
6	REFERENCE CLIMATOLOGY
7	ERS_SCATTEROMETER
31	MISSING VALUE

Code table for element 001028 (AEROSOL OPTICAL DEPTH (AOD) SOURCE)

Value	Description
0	NO AOD DATA AVAILABLE
1	NESDIS
2	NAVOCEANO
3	NAAPS
4	MERIS
5	AATSR
31	MISSING VALUE

Code table for element 001029 (SSI SOURCE)

Value	Description
0	NO SSI DATA AVAILABLE
1	MSG_SEVIRI
2	GOES EAST
3	GOES WEST
4	ECMWF
5	NCEP
6	UK MET OFFICE
31	MISSING VALUE

Code table for element 001033 (IDENTIFICATION OF ORIGINATING/GENERATING CENTRE)

Value	Description
0	WMO SECRETARIAT
1	MELBOURNE
2	MELBOURNE
3	)
4	MOSCOW
5	MOSCOW
6	)
7	US NATIONAL WEATHER SERVICE - NATIONAL CENTRES FOR ENVIRONMENTAL PREDICTION (NCEP)
8	US NATIONAL WEATHER SERVICE TELECOMMUNICATIONS GATEWAY (NWSTG)
9	US NATIONAL WEATHER SERVICE - OTHER
10	CAIRO (RSMC)
11	)
12	DAKAR (RSMC)
13	)
14	NAIROBI (RSMC)
15	)
16	CASABLANCA (RSMC)
17	TUNIS (RSMC)
18	TUNIS - CASABLANCA (RSMC)

19	)
20	LAS PALMAS
21	ALGIERS (RSMC)
22	ACMAD
23	MOZAMBIQUE (NMC)
24	PRETORIA (RSMC)
25	LA RéUNION (RSMC)
26	KHABAROVSK (RSMC)
27	)
28	NEW DELHI (RSMC)
29	)
30	NOVOSIBIRSK (RSMC)
31	)
32	TASHKENT (RSMC)
33	JEDDAH (RSMC)
34	TOKYO (RSMC), JAPAN METEOROLOGICAL AGENCY
35	)
36	BANGKOK
37	ULAANBAATAR
38	BEIJING (RSMC)
39	)
40	SEOUL
41	BUENOS AIRES (RSMC)
42	)
43	BRASILIA (RSMC)
44	)
45	SANTIAGO
46	BRAZILIAN SPACE AGENCY - INPE
47	COLOMBIA (NMC)
48	ECUADOR (NMC)
49	PERU (NMC)
50	VENEZUELA (BOLIVARIAN REPUBLIC OF) (NMC)
51	MIAMI (RSMC)
52	MIAMI (RSMC), NATIONAL HURRICANE CENTRE
53	MSC MONITORING
54	MONTREAL (RSMC)
55	SAN FRANCISCO
56	ARINC CENTRE
57	US AIR FORCE - AIR FORCE GLOBAL WEATHER CENTRAL
58	FLEET NUMERICAL METEOROLOGY AND OCEANOGRAPHY CENTER, MONTEREY, CA, UNITED STATES
59	THE NOAA FORECAST SYSTEMS LABORATORY, BOULDER, CO, UNITED STATES

60	UNITED STATES NATIONAL CENTER FOR ATMOSPHERIC RESEARCH (NCAR)
61	SERVICE ARGOS - LANDOVER
62	US NAVAL OCEANOGRAPHIC OFFICE
63	INTERNATIONAL RESEARCH INSTITUTE FOR CLIMATE AND SOCIETY (IRI)
64	HONOLULU (RSMC)
65	DARWIN (RSMC)
66	)
67	MELBOURNE (RSMC)
68	RESERVED
69	WELLINGTON (RSMC)
70	)
71	NADI (RSMC)
72	SINGAPORE
73	MALAYSIA (NMC)
74	UK METEOROLOGICAL OFFICE - EXETER (RSMC)
75	)
76	MOSCOW (RSMC)
77	RESERVED
78	OFFENBACH (RSMC)
79	)
80	ROME (RSMC)
81	)
82	NORRKöPING
83	)
84	TOULOUSE (RSMC)
85	TOULOUSE (RSMC)
86	HELSINKI
87	BELGRADE
88	OSLO
89	PRAGUE
90	EPISKOPI
91	ANKARA
92	FRANKFURT/MAIN
93	LONDON (WAFC)
94	COPENHAGEN
95	ROTA
96	ATHENS
97	EUROPEAN SPACE AGENCY (ESA)
98	EUROPEAN CENTRE FOR MEDIUM-RANGE WEATHER FORECASTS (ECMWF) (RSMC)
99	DE BILT
100	BRAZZAVILLE

101	ABIDJAN
102	LIBYA (NMC)
103	MADAGASCAR (NMC)
104	MAURITIUS (NMC)
105	NIGER (NMC)
106	SEYCHELLES (NMC)
107	UGANDA (NMC)
108	UNITED REPUBLIC OF TANZANIA (NMC)
109	ZIMBABWE (NMC)
110	HONG-KONG, CHINA
111	AFGHANISTAN (NMC)
112	BAHRAIN (NMC)
113	BANGLADESH (NMC)
114	BHUTAN (NMC)
115	CAMBODIA (NMC)
116	DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (NMC)
117	ISLAMIC REPUBLIC OF IRAN (NMC)
118	IRAQ (NMC)
119	KAZAKHSTAN (NMC)
120	KUWAIT (NMC)
121	KYRGYZSTAN (NMC)
122	LAO PEOPLE'S DEMOCRATIC REPUBLIC (NMC)
123	MACAO, CHINA
124	MALDIVES (NMC)
125	MYANMAR (NMC)
126	NEPAL (NMC)
127	OMAN (NMC)
128	PAKISTAN (NMC)
129	QATAR (NMC)
130	YEMEN (NMC)
131	SRI LANKA (NMC)
132	TAJIKISTAN (NMC)
133	TURKMENISTAN (NMC)
134	UNITED ARAB EMIRATES (NMC)
135	UZBEKISTAN (NMC)
136	VIET NAM (NMC)
140	BOLIVIA (PLURINATIONAL STATE OF) (NMC)
141	GUYANA (NMC)
142	PARAGUAY (NMC)
143	SURINAME (NMC)
144	URUGUAY (NMC)

145	FRENCH GUIANA
146	BRAZILIAN NAVY HYDROGRAPHIC CENTRE
147	NATIONAL COMMISSION ON SPACE ACTIVITIES (CONAE) - ARGENTINA
148	BRAZILIAN DEPARTMENT OF AIRSPACE CONTROL - DECEA
149	RESERVED FOR OTHER CENTRES
150	ANTIGUA AND BARBUDA (NMC)
151	BAHAMAS (NMC)
152	BARBADOS (NMC)
153	BELIZE (NMC)
154	BRITISH CARIBBEAN TERRITORIES CENTRE
155	SAN JOSé
156	CUBA (NMC)
157	DOMINICA (NMC)
158	DOMINICAN REPUBLIC (NMC)
159	EL SALVADOR (NMC)
160	US NOAA/NESDIS
161	US NOAA OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH
162	GUATEMALA (NMC)
163	HAITI (NMC)
164	HONDURAS (NMC)
165	JAMAICA (NMC)
166	MEXICO CITY
167	CURAçAO AND SINT MAARTEN (NMC)
168	NICARAGUA (NMC)
169	PANAMA (NMC)
170	SAINT LUCIA (NMC)
171	TRINIDAD AND TOBAGO (NMC)
172	FRENCH DEPARTMENTS IN RA IV
173	US NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
174	INTEGRATED SCIENCE DATA MANAGEMENT/MARINE ENVIRONMENTAL DATA SERVICE (ISDM/MEDS) - CANADA
175	UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH (UCAR) - UNITED STATES
176	COOPERATIVE INSTITUTE FOR METEOROLOGICAL SATELLITE STUDIES (CIMSS) - UNITED STATES
177	NOAA NATIONAL OCEAN SERVICE - UNITED STATES
178	SPIRE GLOBAL, INC.
179	GEOOPTICS, INC.
180	PLANETIQ
190	COOK ISLANDS (NMC)
191	FRENCH POLYNESIA (NMC)
192	TONGA (NMC)
193	VANUATU (NMC)
194	BRUNEI DARUSSALAM (NMC)

195	INDONESIA (NMC)
196	KIRIBATI (NMC)
197	FEDERATED STATES OF MICRONESIA (NMC)
198	NEW CALEDONIA (NMC)
199	NIUE
200	PAPUA NEW GUINEA (NMC)
201	PHILIPPINES (NMC)
202	SAMOA (NMC)
203	SOLOMON ISLANDS (NMC)
204	NATIONAL INSTITUTE OF WATER AND ATMOSPHERIC RESEARCH (NIWA - NEW ZEALAND)
210	FRASCATI (ESA/ESRIN)
211	LANNION
212	LISBON
213	REYKJAVIK
214	MADRID
215	ZURICH
216	SERVICE ARGOS - TOULOUSE
217	BRATISLAVA
218	BUDAPEST
219	LJUBLJANA
220	WARSAW
221	ZAGREB
222	ALBANIA (NMC)
223	ARMENIA (NMC)
224	AUSTRIA (NMC)
225	AZERBAIJAN (NMC)
226	BELARUS (NMC)
227	BELGIUM (NMC)
228	BOSNIA AND HERZEGOVINA (NMC)
229	BULGARIA (NMC)
230	CYPRUS (NMC)
231	ESTONIA (NMC)
232	GEORGIA (NMC)
233	DUBLIN
234	ISRAEL (NMC)
235	JORDAN (NMC)
236	LATVIA (NMC)
237	LEBANON (NMC)
238	LITHUANIA (NMC)
239	LUXEMBOURG
240	MALTA (NMC)

241	MONACO
242	ROMANIA (NMC)
243	SYRIAN ARAB REPUBLIC (NMC)
244	THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA (NMC)
245	UKRAINE (NMC)
246	REPUBLIC OF MOLDOVA (NMC)
247	OPERATIONAL PROGRAMME FOR THE EXCHANGE OF WEATHER RADAR INFORMATION (OPERA) - EUMETNET
248	MONTENEGRO (NMC)
249	BARCELONA DUST FORECAST CENTER
250	CONSORTIUM FOR SMALL SCALE MODELLING (COSMO)
251	METEOROLOGICAL COOPERATION ON OPERATIONAL NWP (METCOOP)
252	MAX PLANCK INSTITUTE FOR METEOROLOGY (MPI-M)
253	RESERVED FOR OTHER CENTRES
254	EUMETSAT OPERATION CENTRE
255	MISSING VALUE

Code table for element 001034 (IDENTIFICATION OF ORIGINATING/GENERATING SUB-CENTRE)

Value	Description
0	NO SUB-CENTRE
1	LUXEMBOURG (NMC)
2	FUCINO
3	GATINEAU
4	MASPALOMAS (SPAIN)
5	ESA ERS CENTRAL FACILITY
6	PRINCE ALBERT
7	WEST FREUGH
8	LANGLEY RESEARCH CENTER
9	MARSHALL SPACE FLIGHT CENTER
10	TROMSO (NORWAY)
11	MCMURDO (ANTARCTICA)
12	SODANKYLA (FINLAND)
13	TROMSO
14	BARROW (UNITED STATES)
15	ROTHERA (ANTARCTICA)
16	SPACE WEATHER PREDICTION CENTER
17	ESRL GLOBAL SYSTEMS DIVISION
18	SIPAM-PORTO VELHO-RO
19	SIPAM-BELéM-PA
20	MASPALOMAS (SPAIN)
21	AGENZIA SPAZIALE ITALIANA (ITALY)
22	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (FRANCE)

23	GEOFORSCHUNGS ZENTRUM (GERMANY)
24	GEODETIC OBSERVATORY PECNY (CZECHIA)
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	KANGERLUSSUAQ (GREENLAND)
31	INSTITUTE OF ENGINEERING SATELLITE SURVEYING AND GEODESY (UNITED KINGDOM)
32	JOINT OPERATIONAL METEOROLOGY AND OCEANOGRAPHY CENTRE (JOMOC)
33	KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUT (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)
40	EDMONTON (CANADA)
50	BEDFORD (CANADA)
60	GANDER (CANADA)
64	BUNDESWEHR GEOINFORMATION OFFICE (BGIO)
70	MONTEREY (UNITED STATES)
76	ROSHYDROMET (RUSSIAN FEDERATION)
78	DEUTSCHER WETTERDIENST (GERMANY)
80	WALLOPS ISLAND (UNITED STATES)
90	GILMOR CREEK (UNITED STATES)
96	HELLENIC NATIONAL METEOROLOGICAL SERVICE (GREECE)
100	ATHENS (GREECE)
101	ALBANIA (NMC)
102	NATIONAL RESEARCH COUNCIL/INSTITUTE OF ATMOSPHERIC SCIENCES AND CLIMATE (CNR-ISAC)
110	NOWCAST MOBILE (LIGHTNING DATA)
120	EWA BEACH, HAWAII
125	FORD ISLAND, HAWAII
130	MIAMI, FLORIDA
140	LANNION (FRANCE)
150	SVALBARD (NORWAY)
170	ST DENIS (LA RéUNION)
180	MOSCOW
190	MUSCAT
200	KHABAROVSK
201	RHEINISCHES INSTITUT FüR UMWELTFORSCHUNG AN DER UNIVERSITäT ZU KöLN E.V. (GERMANY)
202	INSTITUT FRANçAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER
203	AARHUS UNIVERSITY (DENMARK)

204	INSTITUTE OF ENVIRONMENTAL PROTECTION - NATIONAL RESEARCH INSTITUTE (POLAND)
205	NIUE
206	RAROTONGA (COOK ISLANDS)
207	APIA (SAMOA)
208	TONGA
209	TUVALU
210	NOVOSIBIRSK
211	TOKELAU
214	DARWIN
215	METEOSWISS (SWITZERLAND)
217	PERTH
219	TOWNSVILLE
220	INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT (POLAND)
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
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
240	KIYOSE
241	REANALYSIS PROJECT
242	NATIONAL METEOROLOGICAL ADMINISTRATION (ROMANIA)
243	KELBURN
245	JINCHEON
249	SINGAPORE
250	VLADIVOSTOCK
251	GUAM
252	HONOLULU
254	EUMETSAT

Code table for element 001036 (AGENCY IN CHARGE OF OPERATING THE OBSERVING PLATFORM)

Value	Description
36001	AUSTRALIA, BUREAU OF METEOROLOGY (BOM)
36002	AUSTRALIA, JOINT AUSTRALIAN FACILITY FOR OCEAN OBSERVING SYSTEMS (JAFOOS)
36003	AUSTRALIA, THE COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION (CSIRO)
124001	CANADA, MARINE ENVIRONMENTAL DATA SERVICE (MEDS)
124002	CANADA, INSTITUTE OF OCEAN SCIENCES (IOS)
124173	CANADA, ENVIRONMENT CANADA
124174	CANADA, DEPARTMENT OF NATIONAL DEFENCE
124175	CANADA, NAV CANADA
156001	CHINA, THE STATE OCEANIC ADMINISTRATION
156002	CHINA, SECOND INSTITUTE OF OCEANOGRAPHY, STATE OCEANIC ADMINISTRATION
156003	CHINA, INSTITUTE OF OCEAN TECHNOLOGY
250001	FRANCE, INSTITUT DE RECHERCHE POUR LE DéVELOPPEMENT (IRD)
250002	FRANCE, INSTITUT FRANçAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER (IFREMER)
276001	GERMANY, BUNDESAMT FUER SEESCHIFFAHRT UND HYDROGRAPHIE (BSH)
276002	GERMANY, INSTITUT FUER MEERESKUNDE, KIEL
356001	INDIA, NATIONAL INSTITUTE OF OCEANOGRAPHY (NIO)
356002	INDIA, NATIONAL INSTITUTE FOR OCEAN TECHNOLOGY (NIOT)
356003	INDIA, NATIONAL CENTRE FOR OCEAN INFORMATION SERVICE
392001	JAPAN, JAPAN METEOROLOGICAL AGENCY (JMA)
392002	JAPAN, FRONTIER OBSERVATIONAL RESEARCH SYSTEM FOR GLOBAL CHANGE
392003	JAPAN, JAPAN MARINE SCIENCE AND TECHNOLOGY CENTRE (JAMSTEC)
410001	REPUBLIC OF KOREA, SEOUL NATIONAL UNIVERSITY
410002	REPUBLIC OF KOREA, KOREA OCEAN RESEARCH AND DEVELOPMENT INSTITUTE (KORDI)
410003	REPUBLIC OF KOREA, METEOROLOGICAL RESEARCH INSTITUTE
540001	NEW CALEDONIA, INSTITUT DE RECHERCHE POUR LE DéVELOPPEMENT (IRD)
554001	NEW ZEALAND, NATIONAL INSTITUTE OF WATER AND ATMOSPHERIC RESEARCH (NIWA)
643001	RUSSIAN FEDERATION, STATE OCEANOGRAPHIC INSTITUTE OF ROSHYDROMET
643002	RUSSIAN FEDERATION, FEDERAL SERVICE FOR HYDROMETEOROLOGY AND ENVIRONMENTAL MONITORING
724001	SPAIN, INSTITUTO ESPAñOL DE OCEANOGRAFIA
826001	UNITED KINGDOM, HYDROGRAPHIC OFFICE
826002	UNITED KINGDOM, SOUTHAMPTON OCEANOGRAPHY CENTRE (SOC)
840001	USA, NOAA ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES (AOML)
840002	USA, NOAA PACIFIC MARINE ENVIRONMENTAL LABORATORIES (PMEL)
840003	USA, SCRIPPS INSTITUTION OF OCEANOGRAPHY (SIO)
840004	USA, WOODS HOLE OCEANOGRAPHIC INSTITUTION (WHOI)
840005	USA, UNIVERSITY OF WASHINGTON
840006	USA, NAVAL OCEANOGRAPHIC OFFICE
1048575	MISSING VALUE

Code table for element 001038 (SOURCE OF SEA ICE FRACTION)

Value	Description
0	NO SEA ICE SET
1	NSIDC SSM/I CAVALIERI ET AL (1992)
2	AMSR-E
3	ECMWF
4	CMS (FRANCE) CLOUD MASK USED BY MEDSPIRATION
5	EUMETSAT OSI-SAF
31	MISSING VALUE

Code table for element 001044 (STANDARD GENERATING APPLICATION)

Value	Description
0	RESERVED
1	FULL WEIGHTED MIXTURE OF INDIVIDUAL QUALITY TESTS
2	WEIGHTED MIXTURE OF INDIVIDUAL TESTS, BUT EXCLUDING FORECAST COMPARISON
3	RECURSIVE FILTER FUNCTION
4	COMMON QUALITY INDEX (QI) WITHOUT FORECAST
5	QI WITHOUT FORECAST
6	QI WITH FORECAST
7	ESTIMATED ERROR IN M/S CONVERTED TO A PERCENT CONFIDENCE
255	MISSING VALUE

Code table for element 001052 (PLATFORM TRANSMITTER ID)

Value	Description
0	PRIMARY
1	SECONDARY
2	RESERVED
3	MISSING VALUE

Code table for element 001090 (TECHNIQUE FOR MAKING UP INITIAL PERTURBATIONS)

Value	Description
0	LAGGED-AVERAGE FORECASTING (LAF)
1	BREEDING
2	SINGULAR VECTORS
3	MULTIPLE ANALYSIS CYCLES
255	MISSING VALUE

Code table for element 001092 (TYPE OF ENSEMBLE FORECAST)

Value	Description
0	UNPERTURBED HIGH-RESOLUTION CONTROL FORECAST
1	UNPERTURBED LOW-RESOLUTION CONTROL FORECAST

2	NEGATIVELY PERTURBED FORECAST
3	POSITIVELY PERTURBED FORECAST
4	PERTURBED FORECAST
255	MISSING VALUE

Code table for element 001101 (STATE IDENTIFIER)

Value	Description
100	ALGERIA
101	ANGOLA
102	BENIN
103	BOTSWANA
104	BURKINA FASO
105	BURUNDI
106	CAMEROON
107	CABO VERDE
108	CENTRAL AFRICAN REPUBLIC
109	CHAD
110	COMOROS
111	CONGO
112	CôTE D'IVOIRE
113	DEMOCRATIC REPUBLIC OF THE CONGO
114	DJIBOUTI
115	EGYPT
116	ERITREA
117	ETHIOPIA
118	FRANCE (RA I)
119	GABON
120	GAMBIA
121	GHANA
122	GUINEA
123	GUINEA-BISSAU
124	KENYA
125	LESOTHO
126	LIBERIA
127	LIBYA
128	MADAGASCAR
129	MALAWI
130	MALI
131	MAURITANIA
132	MAURITIUS
133	MOROCCO

134	MOZAMBIQUE
135	NAMIBIA
136	NIGER
137	NIGERIA
138	PORTUGAL (RA I)
139	RWANDA
140	SAO TOME AND PRINCIPE
141	SENEGAL
142	SEYCHELLES
143	SIERRA LEONE
144	SOMALIA
145	SOUTH AFRICA
146	SPAIN (RA I)
147	SUDAN
148	ESWATINI
149	TOGO
150	TUNISIA
151	UGANDA
152	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (RA I)
153	UNITED REPUBLIC OF TANZANIA
154	ZAMBIA
155	ZIMBABWE
200	AFGHANISTAN
201	BAHRAIN
202	BANGLADESH
203	BHUTAN
204	CAMBODIA
205	CHINA
206	DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA
207	HONG KONG, CHINA
208	INDIA
209	IRAN, ISLAMIC REPUBLIC OF
210	IRAQ
211	JAPAN
212	KAZAKHSTAN
213	KUWAIT
214	KYRGYZSTAN
215	LAO PEOPLE'S DEMOCRATIC REPUBLIC
216	MACAO, CHINA
217	MALDIVES
218	MONGOLIA

219	MYANMAR
220	NEPAL
221	OMAN
222	PAKISTAN
223	QATAR
224	REPUBLIC OF KOREA
225	YEMEN
226	RUSSIAN FEDERATION (RA II)
227	SAUDI ARABIA
228	SRI LANKA
229	TAJIKISTAN
230	THAILAND
231	TURKMENISTAN
232	UNITED ARAB EMIRATES
233	UZBEKISTAN
234	VIET NAM
300	ARGENTINA
301	BOLIVIA (PLURINATIONAL STATE OF)
302	BRAZIL
303	CHILE
304	COLOMBIA
305	ECUADOR
306	FRANCE (RA III)
307	GUYANA
308	PARAGUAY
309	PERU
310	SURINAME
311	URUGUAY
312	VENEZUELA (BOLIVARIAN REPUBLIC OF)
400	ANTIGUA AND BARBUDA
401	BAHAMAS
402	BARBADOS
403	BELIZE
404	BRITISH CARIBBEAN TERRITORIES
405	CANADA
406	COLOMBIA
407	COSTA RICA
408	CUBA
409	DOMINICA
410	DOMINICAN REPUBLIC
411	EL SALVADOR

412	FRANCE (RA IV)
413	GUATEMALA
414	HAITI
415	HONDURAS
416	JAMAICA
417	MEXICO
418	CURAçAO AND SINT MAARTEN
419	NICARAGUA
420	PANAMA
421	SAINT LUCIA
422	TRINIDAD AND TOBAGO
423	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (RA IV)
424	UNITED STATES OF AMERICA (RA IV)
425	VENEZUELA (BOLIVARIAN REPUBLIC OF)
500	AUSTRALIA
501	BRUNEI DARUSSALAM
502	COOK ISLANDS
503	FIJI
504	FRENCH POLYNESIA
505	INDONESIA
506	KIRIBATI
507	MALAYSIA
508	MICRONESIA, FEDERATED STATES OF
509	NEW CALEDONIA
510	NEW ZEALAND
511	NIUE
512	PAPUA NEW GUINEA
513	PHILIPPINES
514	SAMOA
515	SINGAPORE
516	SOLOMON ISLANDS
517	TONGA
518	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (RA V)
519	UNITED STATES OF AMERICA (RA V)
520	VANUATU
600	ALBANIA
601	ARMENIA
602	AUSTRIA
603	AZERBAIJAN
604	BELARUS
605	BELGIUM

606	BOSNIA AND HERZEGOVINA
607	BULGARIA
608	CROATIA
609	CYPRUS
610	CZECHIA
611	DENMARK
612	ESTONIA
613	FINLAND
614	FRANCE (RA VI)
615	GEORGIA
616	GERMANY
617	GREECE
618	HUNGARY
619	ICELAND
620	IRELAND
621	ISRAEL
622	ITALY
623	JORDAN
624	KAZAKHSTAN
625	LATVIA
626	LEBANON
627	LITHUANIA
628	LUXEMBOURG
629	MALTA
630	MONACO
631	MONTENEGRO
632	NETHERLANDS
633	NORWAY
634	POLAND
635	PORTUGAL (RA VI)
636	REPUBLIC OF MOLDOVA
637	ROMANIA
638	RUSSIAN FEDERATION (RA VI)
639	SERBIA
640	SLOVAKIA
641	SLOVENIA
642	SPAIN (RA VI)
643	SWEDEN
644	SWITZERLAND
645	SYRIAN ARAB REPUBLIC
646	THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

647	TURKEY
648	UKRAINE
649	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (RA VI)
1023	MISSING VALUE

Code table for element 001150 (COORDINATE REFERENCE SYSTEM)

Value	Description
0	WGS84, AS USED BY ICAO SINCE 1998
1	ETRS89, AS DEFINED BY EPSG:4258
2	NAD83, AS DEFINED BY EPSG:4269
3	DHDN, AS DEFINED BY EPSG:4314
4	ELLIPSOIDAL DATUM USING THE INTERNATIONAL REFERENCE MERIDIAN AND THE INTERNATIONAL REFERENCE POLE AS THE PRIME MERIDIAN AND PRIME POLE, RESPECTIVELY, AND THE ORIGIN OF THE INTERNATIONAL TERRESTRIAL REFERENCE SYSTEM (ITRS) (SEE NOTE 2). THE INTERNATIONAL REFERENCE MERIDIAN, INTERNATIONAL REFERENCE POLE AND ITRS ARE MAINTAINED BY THE INTERNATIONAL EARTH ROTATION AND REFERENCE SYSTEMS SERVICE (IERS)
5	EARTH-CENTERED, EARTH-FIXED (ECEF) COORDINATE SYSTEM OR EARTH-CENTRED ROTATIONAL (ECR) SYSTEM. THIS IS A RIGHT-HANDED CARTESIAN COORDINATE SYSTEM (X, Y, Z) ROTATING WITH THE EARTH. THE ORIGIN IS DEFINED BY THE CENTRE OF MASS OF THE EARTH. (FOOTNOTE (5) OF CLASS 27 DOES NOT APPLY IF ECEF COORDINATES ARE SPECIFIED.)
65535	MISSING VALUE

Code table for element 001151 (FIXED MEAN SEA-LEVEL REFERENCE DATUM)

Value	Description
0	EARTH GRAVITATIONAL MODEL 1996
1	BALTIC HEIGHT SYSTEM 1977
4095	MISSING VALUE

Class 2 - Instrumentation 2 - code-flag tables

Code table for element 002001 (TYPE OF STATION)

Value	Description
0	AUTOMATIC
1	MANNED
2	HYBRID: BOTH MANNED AND AUTOMATIC
3	MISSING VALUE

Flag table for element 002002 (TYPE OF INSTRUMENTATION FOR WIND MEASUREMENT)

Total number of bits: **4**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8	CERTIFIED INSTRUMENTS
2	4	ORIGINALLY MEASURED IN KNOTS
3	2	ORIGINALLY MEASURED IN KM H-1

Code table for element 002003 (TYPE OF MEASURING EQUIPMENT USED)

Value	Description
0	PRESSURE INSTRUMENT ASSOCIATED WITH WIND MEASURING EQUIPMENT

1	OPTICAL THEODOLITE
2	RADIO THEODOLITE
3	RADAR
4	VLF-OMEGA
5	LORAN C
6	WIND PROFILER
7	SATELLITE NAVIGATION
8	RADIO-ACOUSTIC SOUNDING SYSTEM (RASS)
9	SODAR
10	LIDAR
14	PRESSURE INSTRUMENT ASSOCIATED WITH WIND MEASURING EQUIPMENT BUT PRESSURE ELEMENT FAILED DURING ASCENT
15	MISSING VALUE

Code table for element 002004 (TYPE OF INSTRUMENTATION FOR EVAPORATION MEASUREMENT OR TYPE OF CROP FOR WHICH EVAPOTRANSPIRATION IS REPORTED)

Value	Description
0	USA OPEN PAN EVAPORIMETER (WITHOUT COVER)
1	USA OPEN PAN EVAPORIMETER (MESH COVERED)
2	GGI-3000 EVAPORIMETER (SUNKEN)
3	20 M2 TANK
4	OTHERS
5	RICE
6	WHEAT
7	MAIZE
8	SORGHUM
9	OTHER CROPS
15	MISSING VALUE

Code table for element 002006 (UPPER AIR REMOTE SENSING INSTRUMENT TYPE)

Value	Description
0	RESERVED
1	ELASTIC BACKSCATTER LIDAR
2	RAMAN BACKSCATTER LIDAR
3	RADAR WIND PROFILER
4	LIDAR WIND PROFILER
5	SODAR WIND PROFILER
6	WIND PROFILER
7	LIDAR
63	MISSING VALUE

Code table for element 002007 (TYPE OF SENSOR FOR WATER LEVEL MEASURING INSTRUMENT)

Value	Description
0	RESERVED
1	SHAFT ENCODER FLOAT SYSTEM
2	ULTRASONIC
3	RADAR
4	PRESSURE (SINGLE TRANSDUCER)
5	PRESSURE (MULTIPLE TRANSDUCER)
6	PRESSURE (IN STILLING WELL)
7	BUBBLER PRESSURE
8	ACOUSTIC (WITH SOUNDING TUBE)
9	ACOUSTIC (IN OPEN AIR)
63	MISSING VALUE

Code table for element 002008 (TYPE OF OFFSHORE PLATFORM)

Value	Description
0	FIXED PLATFORM
1	MOBILE OFFSHORE DRILL SHIP
2	JACK-UP RIG
3	SEMI-SUBMERSIBLE PLATFORM
4	FLOATING PRODUCTION STORAGE AND OFFLOADING (FPSO) UNIT
5	LIGHT VESSEL
15	MISSING VALUE

Code table for element 002011 (RADIOSONDE TYPE)

Value	Description
0	RESERVED
1	NOT VACANT
2	NO RADIOSONDE - PASSIVE TARGET (E.G. REFLECTOR)
3	NO RADIOSONDE - ACTIVE TARGET (E.G. TRANSPONDER)
4	NO RADIOSONDE - PASSIVE TEMPERATURE-HUMIDITY PROFILER
5	NO RADIOSONDE - ACTIVE TEMPERATURE-HUMIDITY PROFILER
6	NO RADIOSONDE - RADIO-ACOUSTIC SOUNDER
7	NOT VACANT
8	NO RADIOSONDE -... (RESERVED)
9	NO RADIOSONDE - SYSTEM UNKNOWN OR NOT SPECIFIED
10	SIPPICAN LMS5 W/CHIP THERMISTOR, DUCT MOUNTED CAPACITANCE RELATIVE HUMIDITY SENSOR AND DERIVED PRESSURE FROM GPS HEIGHT
11	SIPPICAN LMS6 W/CHIP THERMISTOR, EXTERNAL BOOM MOUNTED CAPACITANCE RELATIVE HUMIDITY SENSOR, AND DERIVED PRESSURE FROM GPS HEIGHT
12	JIN YANG RSG-20A WITH DERIVED PRESSURE FROM GPS HEIGHT/GL-5000P (REPUBLIC OF KOREA)
13	VAISALA RS92/MARWIN MW32 (FINLAND)
14	VAISALA RS92/DIGICORA MW41 (FINLAND)

15	PAZA-12M/RADIOTHEODOLITE-UL (UKRAINE)
16	PAZA-22/AVK-1 (UKRAINE)
17	GRAW DFM-09 (GERMANY)
18	NOT VACANT
19	POLUS-MRZ-N1 (RUSSIAN FEDERATION)
20	NOT VACANT
21	JIN YANG 1524LA LORAN-C/GL5000 (REPUBLIC OF KOREA)
22	MEISEI RS-11G GPS RADIOSONDE W/THERMISTOR, CAPACITANCE RELATIVE HUMIDITY SENSOR, AND DERIVED PRESSURE FROM GPS HEIGHT (JAPAN)
23	VAISALA RS41/DIGICORA MW41 (FINLAND)
24	VAISALA RS41/AUTOSONDE (FINLAND)
25	VAISALA RS41/MARWIN MW32 (FINLAND)
26	METEOLABOR SRS-C34/ARGUS 37 (SWITZERLAND)
27	NOT VACANT
28	AVK - AK2-02 (RUSSIAN FEDERATION)
29	MARL-A OR VEKTOR-M - AK2-02 (RUSSIAN FEDERATION)
30	MEISEI RS-06G (JAPAN)
31	TAIYUAN GTS1-1/GFE(L) (CHINA)
32	SHANGHAI GTS1/GFE(L) (CHINA)
33	NANJING GTS1-2/GFE(L) (CHINA)
34	IMET-4 GPS RADIOSONDE (USA)
35	MEISEI IMS-100 GPS RADIOSONDE W/THERMISTOR SENSOR, CAPACITANCE RELATIVE HUMIDITY SENSOR, AND DERIVED PRESSURE FROM GPS HEIGHT (JAPAN)
36	MEISEI IMDS-17 GPS DROPSONDE W/THERMISTOR SENSOR, CAPACITANCE RELATIVE HUMIDITY SENSOR, AND CAPACITANCE PRESSURE SENSOR (JAPAN)
37	NOT VACANT
38	VIZ LOCATE LORAN-C (UNITED STATES)
39	SPRENGER E076 (GERMANY)
40	SPRENGER E084 (GERMANY)
41	VAISALA RS41 WITH PRESSURE DERIVED FROM GPS HEIGHT/DIGICORA MW41 (FINLAND)
42	VAISALA RS41 WITH PRESSURE DERIVED FROM GPS HEIGHT/AUTOSONDE (FINLAND)
43	NANJING DAQIAO XGP-3G (CHINA)*
44	TIANJIN HUAYUNTIANYI GTS(U)1 (CHINA)*
45	BEIJING CHANGFENG CF-06 (CHINA)*
46	SHANGHAI CHANGWANG GTS3 (CHINA)*
47	NOT VACANT
48	PAZA-22M/MARL-A
49	NOT VACANT
50	METEOLABOR SRS-C50/ARGUS (SWITZERLAND)
51	NOT VACANT
52	VAISALA RS92-NGP/INTERMET IMS-2000 (UNITED STATES)
53	AVK - I-2012 (RUSSIAN FEDERATION)

54	GRAW DFM-17 (GERMANY)
55	MEISEI RS-01G (JAPAN)
56	M2K2 (FRANCE)
57	MODEM M2K2-DC (FRANCE)
58	AVK-BAR (RUSSIAN FEDERATION)
59	MODEM M2K2-R 1680 MHZ RDF RADIOSONDE WITH PRESSURE SENSOR CHIP (FRANCE)
60	MARL-A OR VEKTOR-M - I-2012 (RUSSIAN FEDERATION)
61	NOT VACANT
62	MARL-A OR VEKTOR-M - MRZ-3MK (RUSSIAN FEDERATION)
63	MODEM M20 RADIOSONDE W/THERMISTOR SENSOR, CAPACITANCE RELATIVE HUMIDITY SENSOR, AND DERIVED PRESSURE FROM GPS HEIGHT (FRANCE)
64	MODEM PILOTSONDE GPS RADIOSONDE (FRANCE)
65	VIZ TRANSPONDER RADIOSONDE, MODEL NUMBER 1499-520 (UNITED STATES)
66	VAISALA RS80 /AUTOSONDE (FINLAND)
67	VAISALA RS80/DIGICORA III (FINLAND)
68	AVK-RZM-2 (RUSSIAN FEDERATION)
69	MARL-A OR VEKTOR-M-RZM-2 (RUSSIAN FEDERATION)
70	VAISALA RS92/STAR (FINLAND)
71	VAISALA RS90/LORAN/DIGICORA I, II OR MARWIN (FINLAND)
72	VAISALA RS90/PC-CORA (FINLAND)
73	VAISALA RS90/AUTOSONDE (FINLAND)
74	VAISALA RS90/STAR (FINLAND)
75	AVK-MRZ-ARMA (RUSSIAN FEDERATION)
76	AVK-RF95-ARMA (RUSSIAN FEDERATION)
77	MODEM GPSONDE M10 (FRANCE)
78	VAISALA RS90/DIGICORA III (FINLAND)
79	VAISALA RS92/DIGICORA I,II OR MARWIN (FINLAND)
80	VAISALA RS92/DIGICORA III (FINLAND)
81	VAISALA RS92/AUTOSONDE (FINLAND)
82	LOCKHEED MARTIN LMS-6 W/CHIP THERMISTOR; EXTERNAL BOOM MOUNTED POLYMER CAPACITIVE RELATIVE HUMIDITY SENSOR; CAPACITIVE PRESSURE SENSOR AND GPS WIND
83	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	IMET-54/IMET-3200/3400 GPS RADIOSONDE WITH DERIVED PRESSURE FROM GPS HEIGHT (SOUTH AFRICA)
85	SIPPICAN MARK IIA WITH CHIP THERMISTOR, CARBON ELEMENT AND DERIVED PRESSURE FROM GPS HEIGHT
86	SIPPICAN MARK II WITH CHIP THERMISTOR, PRESSURE AND CARBON ELEMENT
87	SIPPICAN MARK IIA WITH CHIP THERMISTOR, PRESSURE AND CARBON ELEMENT
88	MARL-A OR VEKTOR-M-MRZ (RUSSIAN FEDERATION)
89	MARL-A OR VEKTOR-M-BAR (RUSSIAN FEDERATION)
90	RADIOSONDE NOT SPECIFIED OR UNKNOWN
91	PRESSURE ONLY RADIOSONDE
92	PRESSURE ONLY RADIOSONDE PLUS TRANSPONDER

93	PRESSURE ONLY RADIOSONDE PLUS RADAR REFLECTOR
94	NO PRESSURE RADIOSONDE PLUS TRANSPONDER
95	NO PRESSURE RADIOSONDE PLUS RADAR REFLECTOR
96	DESCENDING RADIOSONDE
97	IMET-2/IMET-1500 RDF RADIOSONDE WITH PRESSURE SENSOR CHIP (SOUTH AFRICA)
98	IMET-2/IMET-1500 GPS RADIOSONDE WITH DERIVED PRESSURE FROM GPS HEIGHT (SOUTH AFRICA)
99	IMET-2/IMET-3200 GPS RADIOSONDE WITH DERIVED PRESSURE FROM GPS HEIGHT (SOUTH AFRICA)

Code table for element 002013 (SOLAR AND INFRARED RADIATION CORRECTION)

Value	Description
0	NO CORRECTION
1	CIMO SOLAR CORRECTED AND CIMO INFRARED CORRECTED
2	CIMO SOLAR CORRECTED AND INFRARED CORRECTED
3	CIMO SOLAR CORRECTED ONLY
4	SOLAR AND INFRARED CORRECTED AUTOMATICALLY BY RADIOSONDE SYSTEM
5	SOLAR CORRECTED AUTOMATICALLY BY RADIOSONDE SYSTEM
6	SOLAR AND INFRARED CORRECTED AS SPECIFIED BY COUNTRY
7	SOLAR CORRECTED AS SPECIFIED BY COUNTRY
8	SOLAR AND INFRARED CORRECTED AS SPECIFIED BY GRUAN
9	SOLAR CORRECTED AS SPECIFIED BY GRUAN
15	MISSING VALUE

Code table for element 002014 (TRACKING TECHNIQUE/STATUS OF SYSTEM USED)

Value	Description
0	NO WIND FINDING
1	AUTOMATIC WITH AUXILIARY OPTICAL DIRECTION FINDING
2	AUTOMATIC WITH AUXILIARY RADIO DIRECTION FINDING
3	AUTOMATIC WITH AUXILIARY RANGING
4	NOT USED
5	AUTOMATIC WITH MULTIPLE VLF-OMEGA SIGNALS
6	AUTOMATIC CROSS CHAIN LORAN-C
7	AUTOMATIC WITH AUXILIARY WIND PROFILER
8	AUTOMATIC SATELLITE NAVIGATION
19	TRACKING TECHNIQUE NOT SPECIFIED
20	VESSEL STOPPED
21	VESSEL DIVERTED FROM ORIGINAL DESTINATION
22	VESSEL'S ARRIVAL DELAYED
23	CONTAINER DAMAGED
24	POWER FAILURE TO CONTAINER
29	OTHER PROBLEMS
30	MAJOR POWER PROBLEMS

31	UPS INOPERATIVE
32	RECEIVER HARDWARE PROBLEMS
33	RECEIVER SOFTWARE PROBLEMS
34	PROCESSOR HARDWARE PROBLEMS
35	PROCESSOR SOFTWARE PROBLEMS
36	NAVAID SYSTEM DAMAGED
37	SHORTAGE OF LIFTING GAS
38	RESERVED
39	OTHER PROBLEMS
40	MECHANICAL DEFECT
41	MATERIAL DEFECT (HAND LAUNCHER)
42	POWER FAILURE
43	CONTROL FAILURE
44	PNEUMATIC/HYDRAULIC FAILURE
45	OTHER PROBLEMS
46	COMPRESSOR PROBLEMS
47	BALLOON PROBLEMS
48	BALLOON RELEASE PROBLEMS
49	LAUNCHER DAMAGED
50	R/S RECEIVER ANTENNA DEFECT
51	NAVAID ANTENNA DEFECT
52	R/S RECEIVER CABLING (ANTENNA) DEFECT
53	NAVAID ANTENNA CABLING DEFECT
59	OTHER PROBLEMS
60	ASAP COMMUNICATIONS DEFECT
61	COMMUNICATIONS FACILITY REJECTED DATA
62	NO POWER AT TRANSMITTING ANTENNA
63	ANTENNA CABLE BROKEN
64	ANTENNA CABLE DEFECT
65	MESSAGE TRANSMITTED POWER BELOW NORMAL
69	OTHER PROBLEMS
70	ALL SYSTEMS IN NORMAL OPERATION
99	STATUS OF SYSTEM AND ITS COMPONENTS NOT SPECIFIED
127	MISSING VALUE

Code table for element 002015 (RADIOSONDE COMPLETENESS)

Value	Description
0	RESERVED
1	PRESSURE ONLY RADIOSONDE
2	PRESSURE ONLY RADIOSONDE PLUS TRANSPONDER
3	PRESSURE ONLY RADIOSONDE PLUS RADAR REFLECTOR

4	NO-PRESSURE RADIOSONDE PLUS TRANSPONDER
5	NO-PRESSURE RADIOSONDE PLUS RADAR REFLECTOR
15	MISSING VALUE

Flag table for element 002016 (RADIOSONDE CONFIGURATION)

Total number of bits: **5**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16	TRAIN REGULATOR
2	8	LIGHT UNIT
3	4	PARACHUTE
4	2	ROOFTOP RELEASE

Code table for element 002017 (CORRECTION ALGORITHMS FOR HUMIDITY MEASUREMENTS)

Value	Description
0	NO CORRECTIONS
1	TIME LAG CORRECTION PROVIDED BY THE MANUFACTURER
2	SOLAR RADIATION CORRECTION PROVIDED BY THE MANUFACTURER
3	SOLAR RADIATION AND TIME LAG CORRECTION PROVIDED BY THE MANUFACTURER
7	GRUAN SOLAR RADIATION AND TIME LAG CORRECTION
31	MISSING VALUE

Code table for element 002019 (SATELLITE INSTRUMENTS)

Value	Description
10	AATSR
11	ATSR
12	ATSR-2
13	MWR
14	PMR
30	ARGOS
40	LASER REFLECTORS
41	DORIS
42	DORIS-NG
47	POSEIDON-1 (SSALT1)
48	POSEIDON-2 (SSALT2)
49	POSEIDON-3 (SSALT3)
50	ATSR/M
51	HRG
52	HRV
53	HRVIR
54	SCARAB/MV2
55	POLDER

56	IIR
57	POSEIDON-4
60	VEGETATION
61	WINDII
62	ALTIKA
80	RADARSAT DTT
81	RADARSAT TTC
85	SAR (CSA)
90	MOPITT
91	OSIRIS
92	ACE-FTS
97	PANCHROMATIC IMAGER
98	GPS RECEIVER
102	CHAMP GPS SOUNDER
103	IGOR
104	TRI-G
116	CHAMP GRAVITY PACKAGE (ACCELEROMETER+GPS)
117	CHAMP MAGNETOMETRY PACKAGE (1 SCALAR+2 VECTOR MAGNETOMETER)
120	ENVISAT COMMS
121	ERS COMMS
130	ALADIN
131	ATLID
140	AMI/SAR/IMAGE
141	AMI/SAR/WAVE
142	AMI/SCATTEROMETER
143	ASAR
144	ASAR
145	ASAR
146	CPR
147	RA-2/MWR
148	RA/MWR
150	SCATTEROMETER
151	SAR-C
152	SW
161	MIPAS
162	MWR-2
163	SOPRANO
170	GOME
172	GOMOS
174	MERIS
175	SCIAMACHY

176	MIRAS
177	SIRAL
178	SRAL
179	OLCI
180	SLSTR
181	METEOSAT COMMS
182	MSG COMMS
190	ASCAT
200	GERB
202	GRAS
203	MHS
205	MVIRI
207	SEVIRI
208	VIRI
220	GOME-2
221	IASI
240	DCP
245	CCD
246	HSB
248	OBA
250	WFI
255	IRMSS
260	BSS & FSS TRANSPONDERS
261	DRT-S&R
262	INSAT COMMS
268	HR-PAN
269	MSMR
270	VHRR
271	WIFS
275	AWIFS
276	LISS-I
277	LISS-II
278	LISS-III
279	LISS-IV
284	PAN
285	MOS
286	OCM
287	ROSA
288	SCAT
289	IMG
290	MTSAT COMMS

291	HIMAWARI COMMS
294	JAMI
295	IMAGER/MTSAT-2
296	VISSR
297	AHI
300	GLAS
301	LRA
302	MBLA
303	CALIOP
309	CPR (CLOUDSAT)
312	NSCAT
313	SEAWINDS
314	RAPIDSCAT
330	ACRIM
334	BUV
336	ALI
347	ASTER
348	CERES-2
351	GPSDR
353	HIRDLS
354	HRDI
356	LIS
358	PEM
359	SEAWIFS
360	SUSIM (UARS)
363	SBUV/1
365	TMI
366	JMR
367	AMR
369	LIMS
370	LRIR
371	EPIC
372	NISTAR
373	PLASMA-MAG
374	XPS
375	VIRS
376	POLDER II
377	TIM
379	WFC
382	CLAES
383	HALOE

384	ISAMS
385	MISR
386	MLS
387	MLS (EOS-AURA)
389	MODIS
393	HAIRS
394	OMI
395	ATMOSPHERIC CORRECTOR
396	HYPERION
397	HRIR
398	MRIR
399	SAGE I
400	SAGE II
401	SAGE III
402	SAMS
403	SAM-II
404	IRIS
405	GIFTS
420	AIRS
421	SIRS-A
422	SIRS-B
426	SOLSTICE
430	TES
431	TOMS
432	OCO
450	ADEOS COMMS
451	DCS (JAXA)
453	GMS COMMS
454	JERS-1 COMMS
460	RIS
461	PR
462	SAR
470	PALSAR
478	AMSR2
479	AMSR-E
480	PRISM (ALOS)
481	AMSR
482	AVNIR
483	AVNIR-2
484	GLI
485	MESSR

486	MSR
487	OCTS
488	OPS
489	VISSR (GMS-5)
490	VTIR
510	ILAS-I
511	ILAS-II
512	IMG
514	SEM
515	SOFIS
516	TANSO-FTS
517	TANSO-CAI
518	DPR
519	GMI
526	CION-A
527	CION-B
528	CION-C
529	CION-D
530	SGNOS-A
531	SGNOS-B
532	SGNOS-C
533	SGNOS-D
534	PYXIS-A
535	PYXIS-B
540	DCS (NOAA)
541	GOES COMMS
542	LANDSAT COMMS
543	NOAA COMMS
544	S&R (GOES)
545	S&R (NOAA)
546	WEFAX
547	SEM (GOES)
550	SSM
551	SSJ/4
552	SSIES-2
553	SSB/X-2
570	AMSU-A
574	AMSU-B
580	ATOVS (HIRS/3 + AMSU + AVHRR/3)
590	AVHRR/2
591	AVHRR/3

592	AVHRR/4
600	ERBE
601	ETM+
604	HIRS/1
605	HIRS/2
606	HIRS/3
607	HIRS/4
615	IMAGER
616	VIIRS
617	ABI
618	GLM
620	CRIRS/NP
621	ATMS
622	MSS
623	MSU
624	SBUV/2
625	SBUV/3
626	SOUNDER
627	SSU
628	TM
629	TOVS (HIRS/2 + MSU + SSU)
630	VAS
631	SSZ
645	SEM
650	MVIRSR (10 CHANNEL)
651	MVIRSR (3 CHANNEL)
652	MVIRSR (5 CHANNEL)
670	RLSBO
680	MSU-EU
681	MSU-UM
682	RM-08
683	SU-UMS
684	SU-VR
685	TRASSER
686	SCAT
687	ALT
688	MWI
700	KONDOR-2
701	BRK
710	ALISSA
712	BALKAN-2 LIDAR

715	MK-4
716	MK-4M
730	GREBEN
731	SAR-10
732	SAR-3
733	SAR-70
740	SLR-3
745	TRAVERS SAR
750	174-K
751	BTVK
752	CHAIKA
753	DELTA-2
755	IKAR-D
756	IKAR-N
757	IKAR-P
760	ISP
761	KFA-1000
762	KFA-200
763	KFA-3000
770	KLIMAT
771	KLIMAT-2
775	MIRAS
776	MIVZA
777	MIVZA-M
780	MR-2000
781	MR-2000M
785	MR-900
786	MR-900B
790	MSU-E
791	MSU-E1
792	MSU-E2
793	MSU-M
794	MSU-S
795	MSU-SK
796	MSU-V
810	MTZA
815	MZOAS
820	R-225
821	R-400
822	R-600
830	RMS

835	TV CAMERA
836	SILVA
840	SROSMO
850	BUFS-2
851	BUFS-4
855	ISTOK-1
856	SFM-2
857	DOPI
858	KGI-4
859	OZON-M
860	RMK-2
861	MTVZA-GY
862	IKFS-2
900	MAXIE
901	OLS
905	SSM/I
906	SSM/T-1
907	SSM/T-2
908	SSMIS
909	VTPR
910	SXI
930	EHIC
931	X-RAY ASTRONOMY PAYLOAD
932	IVISSR (FY-2)
933	IRAS
934	MWAS
935	IMWAS
936	MWHS
937	MVIRS
938	MWRI
940	MTVZA-OK
941	SAPHIR
942	MADRAS
943	SCAT (ON CFOSAT)
944	ALT
945	TSIS
946	CMIS
947	OMPS
948	GPSOS
949	SESS
950	VIRR

951	TOM
952	OP
953	MWHS-2
954	MWTS-2
955	HIRAS
956	SBUS
957	TOU
958	GNOS
959	SMR
961	AGRI
962	GIIRS
963	LMI
964	SEP
980	AMI
981	MI
982	KSEM
990	SMMR
991	THIR

Code table for element 002020 (SATELLITE CLASSIFICATION)

Value	Description
0	NIMBUS
1	VTPR
2	TIROS 1 (TIROS, NOAA-6 TO NOAA-13)
3	TIROS 2 (NOAA-14 ONWARDS)
10	EOS
20	GPM-CORE
31	DMSP
61	EUMETSAT POLAR SYSTEM (EPS)
91	ERS
92	SENTINEL-3
121	ADEOS
122	GCOM
241	GOES
261	JASON
271	GMS
272	MTSAT
273	HIMAWARI
281	COMS
301	INSAT
331	METEOSAT OPERATIONAL PROGRAMME (MOP)

332	METEOSAT TRANSITIONAL PROGRAMME (MTP)
333	METEOSAT SECOND GENERATION PROGRAMME (MSG)
351	GOMS
380	FY-1
381	FY-2
382	FY-3
383	FY-4
401	GPS
402	GLONASS
403	GALILEO
404	BDS (BEIDOU NAVIGATION SATELLITE SYSTEM)
511	MISSING VALUE

Flag table for element 002021 (SATELLITE INSTRUMENT DATA USED IN PROCESSING)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	HIGH-RESOLUTION INFRARED SOUNDER (HIRS)
2	128	MICROWAVE SOUNDING UNIT (MSU)
3	64	STRATOSPHERIC SOUNDING UNIT (SSU)
4	32	AMI (ADVANCED MICROWAVE INSTRUMENT) WIND MODE
5	16	AMI (ADVANCED MICROWAVE INSTRUMENT) WAVE MODE
6	8	AMI (ADVANCED MICROWAVE INSTRUMENT) IMAGE MODE
7	4	RADAR ALTIMETER
8	2	ATSR (ALONG-TRACK SCANNING RADIOMETER)

Flag table for element 002022 (SATELLITE DATA-PROCESSING TECHNIQUE USED)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	PROCESSING TECHNIQUE NOT DEFINED
2	64	AUTOMATED STATISTICAL REGRESSION
3	32	CLEAR PATH
4	16	PARTLY CLOUDY PATH
5	8	CLOUDY PATH

Code table for element 002023 (SATELLITE-DERIVED WIND COMPUTATION METHOD)

Value	Description
0	RESERVED
1	WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE INFRARED CHANNEL
2	WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE VISIBLE CHANNEL
3	WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE WATER VAPOUR CHANNEL
4	WIND DERIVED FROM MOTION OBSERVED IN A COMBINATION OF SPECTRAL CHANNELS
5	WIND DERIVED FROM MOTION OBSERVED IN THE WATER VAPOUR CHANNEL IN CLEAR AIR

6	WIND DERIVED FROM MOTION OBSERVED IN THE OZONE CHANNEL
7	WIND DERIVED FROM MOTION OBSERVED IN WATER VAPOUR CHANNEL (CLOUD OR CLEAR AIR NOT SPECIFIED)
13	ROOT-MEAN-SQUARE
14	RESERVED
15	MISSING VALUE

Code table for element 002024 (INTEGRATED MEAN HUMIDITY COMPUTATIONAL METHOD)

Value	Description
0	RESERVED
1	TABLE WITH FULL RANGE OF HUMIDITY VARIATION IN LAYER
2	REGRESSION TECHNIQUE ON 2 HUMIDITY VALUES IN LAYER
15	MISSING VALUE

Flag table for element 002025 (SATELLITE CHANNEL(S) USED IN COMPUTATION)
Total number of bits: **25**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16777216	RESERVED
2	8388608	HIRS
3	4194304	MSU
6	524288	HIRS
7	262144	MSU
10	32768	HIRS (1, 2, 3, 8, 9, 16, 17)
11	16384	HIRS (1, 2, 3, 9, 17)
12	8192	MSU
15	1024	HIRS
16	512	HIRS
17	256	MSU
18	128	SKINTK (OCEAN ONLY)
21	16	HIRS
22	8	SSU
23	4	MSU (3, 4)
24	2	RESERVED

Code table for element 002030 (METHOD OF CURRENT MEASUREMENT)

Value	Description
0	RESERVED
1	ADCP (ACOUSTIC DOPPLER CURRENT PROFILER)
2	GEK (GEOMAGNETIC ELECTROKINETOGRAPH)
3	SHIP'S SET AND DRIFT DETERMINED BY FIXES 3-6 HOURS APART
4	SHIP'S SET AND DRIFT DETERMINED BY FIXES MORE THAN 6 HOURS BUT LESS THAN 12 HOURS APART
5	DRIFT OF BUOY

6	ADCP (ACOUSTIC DOPPLER CURRENT PROFILER)
7	MISSING VALUE

Code table for element 002031 (DURATION AND TIME OF CURRENT MEASUREMENT)

Value	Description
0	RESERVED
1	INSTANTANEOUS
2	AVERAGED OVER 3 MIN OR LESS
3	AVERAGED OVER MORE THAN 3 MIN, BUT 6 MIN AT THE MOST
4	AVERAGED OVER MORE THAN 6 MIN, BUT 12 MIN AT THE MOST
5	INSTANTANEOUS
6	AVERAGED OVER 3 MIN OR LESS
7	AVERAGED OVER MORE THAN 3 MIN, BUT 6 MIN AT THE MOST
8	AVERAGED OVER MORE THAN 6 MIN, BUT 12 MIN AT THE MOST
9	VECTOR OR DOPPLER CURRENT PROFILING METHOD NOT USED
10	RESERVED
11	1 HOUR OR LESS
12	MORE THAN 1 HOUR BUT 2 HOURS AT THE MOST
13	MORE THAN 2 HOURS BUT 4 HOURS AT THE MOST
14	MORE THAN 4 HOURS BUT 8 HOURS AT THE MOST
15	MORE THAN 8 HOURS BUT 12 HOURS AT THE MOST
16	MORE THAN 12 HOURS BUT 18 HOURS AT THE MOST
17	MORE THAN 18 HOURS BUT 24 HOURS AT THE MOST
18	RESERVED
19	DRIFT METHOD NOT USED
31	MISSING VALUE

Code table for element 002032 (INDICATOR FOR DIGITIZATION)

Value	Description
0	VALUES AT SELECTED DEPTHS (DATA POINTS FIXED BY THE INSTRUMENT OR SELECTED BY ANY OTHER METHOD)
1	VALUES AT SELECTED DEPTHS (DATA POINTS TAKEN FROM TRACES AT SIGNIFICANT DEPTHS)
2	RESERVED
3	MISSING VALUE

Code table for element 002033 (METHOD OF SALINITY/DEPTH MEASUREMENT)

Value	Description
0	NO SALINITY MEASURED
1	IN SITU SENSOR, ACCURACY BETTER THAN 0.02 ‰
2	IN SITU SENSOR, ACCURACY LESS THAN 0.02 ‰
3	SAMPLE ANALYSIS
7	MISSING VALUE

Code table for element 002034 (DROGUE TYPE)

Value	Description
0	UNSPECIFIED DROGUE
1	HOLEY SOCK
2	TRISTAR
3	WINDOW SHADE
4	PARACHUTE
5	NON-LAGRANGIAN SEA ANCHOR
31	MISSING VALUE

Code table for element 002036 (BUOY TYPE)

Value	Description
0	DRIFTING BUOY
1	FIXED BUOY
2	SUBSURFACE FLOAT (MOVING)
3	MISSING VALUE

Code table for element 002037 (METHOD OF TIDAL OBSERVATION)

Value	Description
0	RESERVED
1	MANUAL READING FROM VERTICAL TIDE STAFF
2	MANUAL READING FROM SINGLE AUTOMATIC RECORDER AT STATION
3	MANUAL READING FROM MULTIPLE AUTOMATIC RECORDERS AT STATION
4	AUTOMATIC READING FROM SINGLE AUTOMATIC RECORDER AT STATION WITHOUT LEVEL REFERENCE CHECK
5	AUTOMATIC READING FROM SINGLE AUTOMATIC RECORDER AT STATION WITH LEVEL REFERENCE CHECK, OR FROM MULTIPLE AUTOMATIC RECORDERS
6	RESERVED
7	MISSING VALUE

Code table for element 002038 (METHOD OF WATER TEMPERATURE AND/OR SALINITY MEASUREMENT)

Value	Description
0	SHIP INTAKE
1	BUCKET
2	HULL CONTACT SENSOR
3	REVERSING THERMOMETER
4	STD/CTD SENSOR
5	MECHANICAL BT
6	EXPENDABLE BT
7	DIGITAL BT
8	THERMISTOR CHAIN
9	INFRARED SCANNER

10	MICROWAVE SCANNER
11	INFRARED RADIOMETER
12	IN-LINE THERMOSALINOGRAPH
13	TOWED BODY
14	OTHER
15	MISSING VALUE

Code table for element 002039 (METHOD OF WET-BULB TEMPERATURE MEASUREMENT)

Value	Description
0	MEASURED WET-BULB TEMPERATURE
1	ICED BULB MEASURED WET-BULB TEMPERATURE
2	COMPUTED WET-BULB TEMPERATURE
3	ICED BULB COMPUTED WET-BULB TEMPERATURE
7	MISSING VALUE

Code table for element 002040 (METHOD OF REMOVING VELOCITY AND MOTION OF PLATFORM FROM CURRENT)

Value	Description
0	SHIP'S MOTION REMOVED BY AVERAGING
1	SHIP'S MOTION REMOVED BY MOTION COMPENSATION
2	SHIP'S MOTION NOT REMOVED
3	SHIP'S MOTION REMOVED BY AVERAGING
4	SHIP'S MOTION REMOVED BY MOTION COMPENSATION
5	SHIP'S MOTION NOT REMOVED
6	DOPPLER CURRENT PROFILING METHOD NOT USED
15	MISSING VALUE

Code table for element 002041 (METHOD FOR ESTIMATING REPORTS RELATED TO SYNOPTIC FEATURES)

Value	Description
0	INFORMATION BASED ON MANUAL ANALYSIS
1	INFORMATION BASED ON COMPUTER ANALYSIS
2	INFORMATION BASED ON DATA ASSIMILATION
3	INFORMATION BASED ON COMPUTER ANALYSIS OR DATA ASSIMILATION MANUALLY MODIFIED
10	INFORMATION BASED ON THE NUMERICAL WEATHER PREDICTION
63	MISSING VALUE

Code table for element 002042 (INDICATOR FOR SEA-SURFACE CURRENT SPEED)

Value	Description
0	VALUE ORIGINALLY REPORTED IN M/S
1	VALUE ORIGINALLY REPORTED IN KNOTS
2	NO SEA CURRENT DATA AVAILABLE
3	MISSING VALUE

Code table for element 002044 (INDICATOR FOR METHOD OF CALCULATING SPECTRAL WAVE DATA)

Value	Description
0	RESERVED FOR FUTURE USE
1	LONGUET-HIGGINS (1964)
2	LONGUET-HIGGINS (F3 METHOD)
3	MAXIMUM LIKELIHOOD METHOD
4	MAXIMUM ENTROPY METHOD
15	MISSING VALUE

Code table for element 002045 (INDICATOR FOR TYPE OF PLATFORM)

Value	Description
0	SEA STATION
1	AUTOMATIC DATA BUOY
2	AIRCRAFT
3	SATELLITE
15	MISSING VALUE

Code table for element 002046 (WAVE MEASUREMENT INSTRUMENTATION)

Value	Description
0	RESERVED FOR FUTURE USE
1	HEAVE SENSOR
2	SLOPE SENSOR
15	MISSING VALUE

Code table for element 002047 (DEEP-OCEAN TSUNAMETER TYPE)

Value	Description
0	RESERVED
1	DART II (PMEL)
2	DART ETD
3	SAIC TSUNAMI BUOY (STB)
4	GFZ - POTSDAM
5	INCOIS (INDIA)
6	INABUOY (INDONESIA)
7	ENVIRTECH
127	MISSING VALUE

Code table for element 002048 (SATELLITE SENSOR INDICATOR)

Value	Description
0	HIRS
1	MSU
2	SSU

3	AMSU-A
4	AMSU-B
5	AVHRR
6	SSMI
7	NSCAT
8	SEAWINDS
9	POSEIDON ALTIMETER
10	JMR (JASON MICROWAVE RADIOMETER)
11	MHS
12	ASCAT
13	OSCAT2
14	RESERVED
15	MISSING VALUE

Flag table for element 002049 (GEOSTATIONARY SATELLITE DATA-PROCESSING TECHNIQUE USED)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	PROCESSING TECHNIQUE NOT DEFINED
2	64	SIMULTANEOUS PHYSICAL RETRIEVAL
3	32	CLEAR SOUNDING
4	16	CLOUDY SOUNDING

Flag table for element 002050 (GEOSTATIONARY SOUNDER SATELLITE CHANNELS USED)

Total number of bits: **20**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	524288	1
2	262144	2
3	131072	3
4	65536	4
5	32768	5
6	16384	6
7	8192	7
8	4096	8
9	2048	9
10	1024	10
11	512	11
12	256	12
13	128	13
14	64	14
15	32	15
16	16	16
17	8	17

18	4	18
19	2	19

Code table for element 002051 (INDICATOR TO SPECIFY OBSERVING METHOD FOR EXTREME TEMPERATURES)

Value	Description
0	RESERVED
1	MAXIMUM/MINIMUM THERMOMETERS
2	AUTOMATED INSTRUMENTS
3	THERMOGRAPH
15	MISSING VALUE

Flag table for element 002052 (GEOSTATIONARY IMAGER SATELLITE CHANNELS USED)

Total number of bits: **6**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32	1
2	16	2
3	8	3
4	4	4
5	2	5

Code table for element 002053 (GOES-I/M BRIGHTNESS TEMPERATURE CHARACTERISTICS)

Value	Description
0	OBSERVED BRIGHTNESS TEMPERATURE
1	BRIGHTNESS TEMPERATURE WITH BIAS CORRECTION APPLIED
2	BRIGHTNESS TEMPERATURE CALCULATED FROM FIRST GUESS
3	BRIGHTNESS TEMPERATURE CALCULATED FROM SOUNDING
15	MISSING VALUE

Code table for element 002054 (GOES-I/M SOUNDINGS PARAMETER CHARACTERISTICS)

Value	Description
0	PARAMETER DERIVED USING OBSERVED SOUNDER BRIGHTNESS TEMPERATURES
1	PARAMETER DERIVED USING OBSERVED IMAGER BRIGHTNESS TEMPERATURES
2	PARAMETER DERIVED USING FIRST GUESS INFORMATION
3	PARAMETER DERIVED USING NMC ANALYSIS INFORMATION
4	PARAMETER DERIVED USING RADIOSONDE INFORMATION
15	MISSING VALUE

Code table for element 002055 (GEOSTATIONARY SOUNDINGS STATISTICAL PARAMETERS)

Value	Description
0	STATISTICS GENERATED COMPARING RETRIEVAL VERSUS RADIOSONDE
1	STATISTICS GENERATED COMPARING RETRIEVAL VERSUS FIRST GUESS
2	STATISTICS GENERATED COMPARING RADIOSONDE VERSUS FIRST GUESS

3	STATISTICS GENERATED COMPARING OBSERVED VERSUS RETRIEVAL
4	STATISTICS GENERATED COMPARING OBSERVED VERSUS FIRST GUESS
5	STATISTICS GENERATED COMPARING RADIOSONDE VERSUS IMAGER
6	STATISTICS GENERATED COMPARING RADIOSONDE VERSUS SOUNDER
7	STATISTICS GENERATED FOR RADIOSONDE
8	STATISTICS GENERATED FOR FIRST GUESS
15	MISSING VALUE

Code table for element 002056 (GEOSTATIONARY SOUNDINGS ACCURACY STATISTICS)

Value	Description
0	SUMS OF DIFFERENCES
1	SUMS OF SQUARED DIFFERENCES
2	SAMPLE SIZE
3	MINIMUM DIFFERENCE
4	MAXIMUM DIFFERENCE
15	MISSING VALUE

Code table for element 002057 (ORIGIN OF FIRST-GUESS INFORMATION FOR GOES-I/M SOUNDINGS)

Value	Description
0	NESTED GRID MODEL (NGM)
1	AVIATION MODEL (AVN)
2	MEDIUM RANGE FORECAST (MRF) MODEL
3	GLOBAL DATA ASSIMILATION SYSTEM (GDAS) FORECAST MODEL
4	PRIOR SOUNDINGS (WITHIN 3 HOURS OF CURRENT TIME)
5	CLIMATOLOGY
15	MISSING VALUE

Code table for element 002058 (VALID TIMES OF FIRST-GUESS INFORMATION FOR GOES-I/M SOUNDINGS)

Value	Description
0	12 HOUR AND 18 HOUR
1	18 HOUR AND 24 HOUR
2	6 HOUR AND 12 HOUR
3	GREATER THAN 24 HOURS
15	MISSING VALUE

Code table for element 002059 (ORIGIN OF ANALYSIS INFORMATION FOR GOES-I/M SOUNDINGS)

Value	Description
0	NCEP NESTED GRID MODEL (NGM) ANALYSIS
1	NCEP AVIATION MODEL (AVN) ANALYSIS
2	NCEP MEDIUM RANGE FORECAST (MRF) MODEL ANALYSIS
3	NCEP GLOBAL DATA ASSIMILATION SYSTEM (GDAS) FORECAST MODEL ANALYSIS

15	MISSING VALUE

Code table for element 002060 (ORIGIN OF SURFACE INFORMATION FOR GOES-I/M SOUNDINGS)

Value	Description
0	CURRENT SURFACE HOURLY REPORTS
1	CURRENT SHIP REPORTS
2	CURRENT BUOY REPORTS
3	ONE HOUR OLD SURFACE HOURLY REPORTS
4	ONE HOUR OLD SHIP REPORTS
5	ONE HOUR OLD BUOY REPORTS
15	MISSING VALUE

Code table for element 002061 (AIRCRAFT NAVIGATIONAL SYSTEM)

Value	Description
0	INERTIAL NAVIGATION SYSTEM
1	OMEGA
7	MISSING VALUE

Code table for element 002062 (TYPE OF AIRCRAFT DATA RELAY SYSTEM)

Value	Description
0	ASDAR
1	ASDAR (ACARS ALSO AVAILABLE BUT NOT OPERATIVE)
2	ASDAR (ACARS ALSO AVAILABLE AND OPERATIVE)
3	ACARS
4	ACARS (ASDAR ALSO AVAILABLE BUT NOT OPERATIVE)
5	ACARS (ASDAR ALSO AVAILABLE AND OPERATIVE)
15	MISSING VALUE

Code table for element 002064 (AIRCRAFT ROLL ANGLE QUALITY)

Value	Description
0	GOOD
1	BAD
2	RESERVED
3	MISSING VALUE

Code table for element 002066 (RADIOSONDE GROUND RECEIVING SYSTEM)

Value	Description
0	INTERMET IMS 2000
1	INTERMET IMS 1500C
2	SHANGHAI GTC1
3	NANJING GTC2

4	NANJING GFE(L)1
5	MARL-A RADAR
6	VEKTOR-M RADAR
62	OTHER
63	MISSING VALUE

Code table for element 002070 (ORIGINAL SPECIFICATION OF LATITUDE/LONGITUDE)

Value	Description
0	ACTUAL LOCATION IN SECONDS
1	ACTUAL LOCATION IN MINUTES
2	ACTUAL LOCATION IN DEGREES
3	ACTUAL LOCATION IN DECIDEGREES
4	ACTUAL LOCATION IN CENTIDEGREES
5	REFERENCED TO CHECKPOINT IN SECONDS
6	REFERENCED TO CHECKPOINT IN MINUTES
7	REFERENCED TO CHECKPOINT IN DEGREES
8	REFERENCED TO CHECKPOINT IN DECIDEGREES
9	REFERENCED TO CHECKPOINT IN CENTIDEGREES
10	ACTUAL LOCATION IN TENTHS OF A MINUTE
11	REFERENCED TO CHECKPOINT IN TENTHS OF A MINUTE
15	MISSING VALUE

Code table for element 002080 (BALLOON MANUFACTURER)

Value	Description
0	KAYSAM
1	TOTEX
2	KKS
3	GUANGZHOU SHUANGYI (CHINA)
4	CHEMCHINA ZHUZHOU (CHINA)
62	OTHER
63	MISSING VALUE

Code table for element 002081 (TYPE OF BALLOON)

Value	Description
0	GP26
1	GP28
2	GP30
3	HM26
4	HM28
5	HM30
6	SV16

7	TOTEX TA TYPE BALLOONS
8	TOTEX TX TYPE BALLOONS
30	OTHER
31	MISSING VALUE

Code table for element 002083 (TYPE OF BALLOON SHELTER)

Value	Description
0	HIGH BAY
1	LOW BAY
2	BALLOON-INFLATED LAUNCH SYSTEM (BILS)
3	ROOF-TOP BILS
4	AUTOMATED UNMANNED SOUNDING SYSTEM
14	OTHER
15	MISSING VALUE

Code table for element 002084 (TYPE OF GAS USED IN BALLOON)

Value	Description
0	HYDROGEN
1	HELIUM
2	NATURAL GAS
14	OTHER
15	MISSING VALUE

Code table for element 002092 (OZONE PROFILE COMPUTATION METHOD)

Value	Description
0	UV CHANNEL BASED RETRIEVAL
1	VISIBLE CHANNEL BASED RETRIEVAL
2	COMBINED UV BASED RETRIEVAL AND VISIBLE BASED RETRIEVAL
7	MISSING VALUE

Code table for element 002095 (TYPE OF PRESSURE SENSOR)

Value	Description
0	CAPACITANCE ANEROID
1	DERIVED FROM GPS
2	RESISTIVE STRAIN GAUGE
3	SILICON CAPACITOR
4	DERIVED FROM RADAR HEIGHT
30	OTHER
31	MISSING VALUE

Code table for element 002096 (TYPE OF TEMPERATURE SENSOR)

Value	Description
0	ROD THERMISTOR
1	BEAD THERMISTOR
2	CAPACITANCE BEAD
3	CAPACITANCE WIRE
4	RESISTIVE SENSOR
5	CHIP THERMISTOR
6	MERCURY
7	ALCOHOL/GLYCOL
31	MISSING VALUE

Code table for element 002097 (TYPE OF HUMIDITY SENSOR)

Value	Description
0	VIZ MARK II CARBON HYGRISTOR
1	VIZ B2 HYGRISTOR
2	VAISALA A-HUMICAP
3	VAISALA H-HUMICAP
4	CAPACITANCE SENSOR
5	VAISALA RS90
6	SIPPICAN MARK IIA CARBON HYGRISTOR
7	TWIN ALTERNATIVELY HEATED HUMICAP CAPACITANCE SENSOR
8	HUMICAP CAPACITANCE SENSOR WITH ACTIVE DE-ICING METHOD
9	CARBON HYGRISTOR
10	PSYCHROMETER
11	CAPACITIVE (POLYMER)
12	CAPACITIVE (CERAMIC, INCLUDING METAL OXIDE)
13	RESISTIVE (GENERIC)
14	RESISTIVE (SALT POLYMER)
15	RESISTIVE (CONDUCTIVE POLYMER)
16	THERMAL CONDUCTIVITY
17	GRAVIMETRIC
18	PAPER-METAL COIL
19	ORDINARY HUMAN HAIR
20	ROLLED HAIR (TORSION)
21	GOLDBEATER'S SKIN
22	CHILLED MIRROR HYGROMETER
23	DEW CELL
24	OPTICAL ABSORPTION SENSOR
31	MISSING VALUE

Code table for element 002099 (POLARIZATION)

Value	Description
0	HH POLARIZATION
1	VV POLARIZATION
2	HV POLARIZATION REAL VALUED COMPONENT
3	HV POLARIZATION IMAGINARY VALUED COMPONENT
7	MISSING VALUE

Code table for element 002101 (TYPE OF ANTENNA)

Value	Description
0	CENTRE FRONT-FED PARABOLOID
1	OFFSET FRONT-FED PARABOLOID
2	CENTRE CASSEGRAIN PARABOLOID
3	OFFSET CASSEGRAIN PARABOLOID
4	PLANAR ARRAY
5	COAXIAL-COLLINEAR ARRAY
6	YAGI ELEMENTS ARRAY
7	MICROSTRIP
14	OTHER
15	MISSING VALUE

Flag table for element 002103 (RADOME)

Total number of bits: **2**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2	RADAR ANTENNA IS PROTECTED BY A RADOME

Code table for element 002104 (ANTENNA POLARIZATION)

Value	Description
0	HORIZONTAL POLARIZATION
1	VERTICAL POLARIZATION
2	RIGHT CIRCULAR POLARIZATION
3	LEFT CIRCULAR POLARIZATION
4	HORIZONTAL AND VERTICAL POLARIZATION
5	RIGHT AND LEFT CIRCULAR POLARIZATION
6	QUASI-HORIZONTAL POLARIZATION
7	QUASI-VERTICAL POLARIZATION
15	MISSING VALUE

Code table for element 002115 (TYPE OF SURFACE OBSERVING EQUIPMENT)

Value	Description
0	PDB
1	RSOIS

2	ASOS
3	PSYCHROMETER
4	F420
30	OTHER
31	MISSING VALUE

Code table for element 002119 (RA-2 INSTRUMENT OPERATIONS)

Value	Description
0	INTERMEDIATE FREQUENCY CALIBRATION MODE (IF CAL)
1	BUILT-IN TEST EQUIPMENT DIGITAL (BITE DGT)
2	BUILT-IN TEST EQUIPMENT RADIO FREQUENCY (BITE RF)
3	PRESET TRACKING (PSET TRK)
4	PRESET LOOP OUT
5	ACQUISITION
6	TRACKING
7	MISSING VALUE

Flag table for element 002131 (SENSITIVITY TIME CONTROL (STC))

Total number of bits: **2**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2	STC OPERATIONAL

Code table for element 002137 (RADAR DUAL PRF RATIO)

Value	Description
1	3:2
2	4:3
3	5:4
15	MISSING VALUE

Code table for element 002138 (ANTENNA ROTATION DIRECTION)

Value	Description
1	CLOCKWISE ROTATION
2	COUNTERCLOCKWISE ROTATION
3	MISSING VALUE

Code table for element 002139 (SIRAL INSTRUMENT CONFIGURATION)

Value	Description
0	SIRAL NOMINAL
1	SIRAL REDUNDANT
2	MISSING VALUE

Code table for element 002143 (OZONE INSTRUMENT TYPE)

Value	Description
0	RESERVED
1	BREWER SPECTROPHOTOMETER
2	CAVER TEICHERT
3	DOBSON
4	DOBSON (JAPAN)
5	EHMET
6	FECKER TELESCOPE
7	HOELPER
8	JODMETER
9	FILTER OZONOMETER M-83
10	MAST
11	OXFORD
12	PAETZOLD
13	REGENER
14	RESERVED FOR FUTURE USE
15	VASSY FILTER OZONOMETER
16	CARBON IODIDE
17	SURFACE OZONE BUBBLER
18	FILTER OZONOMETER M-124
19	ECC SONDE
127	MISSING VALUE

Code table for element 002144 (LIGHT SOURCE TYPE FOR BREWER SPECTROPHOTOMETER)

Value	Description
0	DIRECT SUN
1	DIRECT SUN, ATTENUATOR #1
2	DIRECT SUN, ATTENUATOR #2
3	FOCUSED MOON
4	FOCUSED SUN
5	FOCUSED SUN CORRECTED WITH ADJACENT SKY MEASUREMENTS
6	ZENITH SKY
15	MISSING VALUE

Code table for element 002145 (WAVELENGTH SETTING FOR DOBSON INSTRUMENTS)

Value	Description
0	WAVELENGTHS AD ORDINARY SETTING
1	WAVELENGTHS BD ORDINARY SETTING
2	WAVELENGTHS CD ORDINARY SETTING
3	WAVELENGTHS CC' ORDINARY SETTING
4	WAVELENGTHS AD FOCUSED IMAGE

5	WAVELENGTHS BD FOCUSED IMAGE
6	WAVELENGTHS CD FOCUSED IMAGE
7	WAVELENGTHS CC' FOCUSED IMAGE
15	MISSING VALUE

Code table for element 002146 (SOURCE CONDITIONS FOR DOBSON INSTRUMENTS)

Value	Description
0	ON DIRECT SUN
1	ON DIRECT MOON
2	ON BLUE ZENITH SKY
3	ON ZENITH CLOUD (UNIFORM STRATIFIED LAYER OF SMALL OPACITY)
4	ON ZENITH CLOUD (UNIFORM OR MODERATELY VARIABLE LAYER OF MEDIUM OPACITY)
5	ON ZENITH CLOUD (UNIFORM OR MODERATELY VARIABLE LAYER OF LARGE OPACITY)
6	ON ZENITH CLOUD (HIGHLY VARIABLE OPACITY, WITH OR WITHOUT PRECIPITATION)
7	ON ZENITH CLOUD (FOG)
8	ON ZENITH HAZE
9	ON DIRECT SUN THROUGH THIN CLOUD, FOG OR HAZE
15	MISSING VALUE

Code table for element 002147 (METHOD OF TRANSMISSION TO COLLECTION CENTRE)

Value	Description
0	RESERVED
1	DIRECT LEASED CIRCUIT
2	DIALLED UP CONNECTION
3	INTERNET ISP
4	DCP VIA SATELLITE (MTSAT, METEOSAT, ETC.)
5	VSAT
6	GAN,* BGAN**
7	THISS TERMINAL
8	IRIDIUM SATELLITES
9	MOBILE TELEPHONY
63	MISSING VALUE

Code table for element 002148 (DATA COLLECTION AND/OR LOCATION SYSTEM)

Value	Description
0	RESERVED
1	ARGOS
2	GPS
3	GOES DCP
4	METEOSAT DCP
5	ORBCOMM

6	INMARSAT
7	IRIDIUM
8	IRIDIUM AND GPS
9	ARGOS-3
10	ARGOS-4
31	MISSING VALUE

Code table for element 002149 (TYPE OF DATA BUOY)

Value	Description
0	UNSPECIFIED DRIFTING BUOY
1	STANDARD LAGRANGIAN DRIFTER (GLOBAL DRIFTER PROGRAMME)
2	STANDARD FGGE TYPE DRIFTING BUOY (NON-LAGRANGIAN METEOROLOGICAL DRIFTING BUOY)
3	WIND MEASURING FGGE TYPE DRIFTING BUOY (NON-LAGRANGIAN METEOROLOGICAL DRIFTING BUOY)
4	ICE DRIFTER
5	SVPG STANDARD LAGRANGIAN DRIFTER WITH GPS
6	SVP-HR DRIFTER WITH HIGH-RESOLUTION TEMPERATURE OR THERMISTOR STRING
7	RESERVED
8	UNSPECIFIED SUBSURFACE FLOAT
9	SOFAR
10	ALACE
11	MARVOR
12	RAFOS
13	PROVOR
14	SOLO
15	APEX
16	UNSPECIFIED MOORED BUOY
17	NOMAD
18	3-METRE DISCUS
19	10-12-METRE DISCUS
20	ODAS 30 SERIES
21	ATLAS (E.G. TAO AREA)
22	TRITON BUOY
23	FLEX MOORING (E.G. TIP AREA)
24	OMNIDIRECTIONAL WAVERIDER
25	DIRECTIONAL WAVERIDER
26	SUBSURFACE ARGO FLOAT
27	PALACE
28	NEMO
29	NINJA
30	ICE BUOY/FLOAT (POPS OR ITP)
34	MOORING OCEANOGRAPHIC

35	MOORING METEOROLOGICAL
36	MOORING MULTIDISCIPLINARY (OCEANSITES)
37	MOORING TIDE GAUGE OR TSUNAMI BUOY
38	ICE BEACON
39	ICE MASS BALANCE BUOY
63	MISSING VALUE

Code table for element 002150 (TOVS/ATOVS/AVHRR INSTRUMENTATION CHANNEL NUMBER)

Value	Description
0	RESERVED
1	HIRS 1
2	HIRS 2
3	HIRS 3
4	HIRS 4
5	HIRS 5
6	HIRS 6
7	HIRS 7
8	HIRS 8
9	HIRS 9
10	HIRS 10
11	HIRS 11
12	HIRS 12
13	HIRS 13
14	HIRS 14
15	HIRS 15
16	HIRS 16
17	HIRS 17
18	HIRS 18
19	HIRS 19
20	HIRS 20
21	MSU 1
22	MSU 2
23	MSU 3
24	MSU 4
25	SSU 1
26	SSU 2
27	SSU 3
28	AMSU-A 1
29	AMSU-A 2
30	AMSU-A 3
31	AMSU-A 4

32	AMSU-A 5
33	AMSU-A 6
34	AMSU-A 7
35	AMSU-A 8
36	AMSU-A 9
37	AMSU-A 10
38	AMSU-A 11
39	AMSU-A 12
40	AMSU-A 13
41	AMSU-A 14
42	AMSU-A 15
43	AMSU-B 1 / MHS 1
44	AMSU-B 2 / MHS 2
45	AMSU-B 3 / MHS 3
46	AMSU-B 4 / MHS 4
47	AMSU-B 5 / MHS 5
48	AVHRR 1
49	AVHRR 2
50	AVHRR 3A
51	AVHRR 3B
52	AVHRR 4
53	AVHRR 5
63	MISSING VALUE

Code table for element 002151 (RADIOMETER IDENTIFIER)

Value	Description
0	HIRS
1	MSU
2	SSU
3	AMSU-A1-1
4	AMSU-A1-2
5	AMSU-A2
6	AMSU-B
7	AVHRR
8	RESERVED
9	MHS
2047	MISSING VALUE

Flag table for element 002152 (SATELLITE INSTRUMENT USED IN DATA PROCESSING)

Total number of bits: **31**

Bit position (from left to right)	Value (if only the given bit is set)	Description

1	1073741824	HIGH-RESOLUTION INFRARED SOUNDER (HIRS)
2	536870912	MICROWAVE SOUNDING UNIT (MSU)
3	268435456	STRATOSPHERIC SOUNDING UNIT (SSU)
4	134217728	AMI WIND MODE
5	67108864	AMI WAVE MODE
6	33554432	AMI IMAGE MODE
7	16777216	RADAR ALTIMETER
8	8388608	ATSR
9	4194304	GEOSTATIONARY IMAGER
10	2097152	GEOSTATIONARY SOUNDER
11	1048576	GEOSTATIONARY EARTH RADIATION (GERB)
12	524288	MULTI-CHANNEL SCANNING RADIOMETER
13	262144	POLAR-ORBITING IMAGER

Flag table for element 002158 (RA-2 INSTRUMENT)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	MISMATCH IN RED VEC HPA
2	128	MISMATCH IN RED VEC RFSS
3	64	PTR CALIBRATION BAND 320 MHZ (KU)
4	32	PTR CALIBRATION BAND 80 MHZ (KU)
5	16	PTR CALIBRATION BAND 20 MHZ (KU)
6	8	PTR CALIBRATION BAND 160 MHZ (S)
7	4	KU FLIGHT CALIBRATION PARAMETERS AVAILABLE
8	2	S FLIGHT CALIBRATION PARAMETERS AVAILABLE

Flag table for element 002159 (MWR INSTRUMENT)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	TEMPERATURE INCONSISTENCY
2	64	DATA IS MISSING
3	32	REDUNDANCY CHANNEL
4	16	POWER BUS PROTECTION
5	8	OVERVOLTAGE/OVERLOAD PROTECTION
6	4	RESERVED
7	2	RESERVED

Code table for element 002160 (WAVELENGTH OF THE RADAR)

Value	Description
0	RESERVED
1	10 TO LESS THAN 20 MM
2	RESERVED

3	20 TO LESS THAN 40 MM
4	RESERVED
5	40 TO LESS THAN 60 MM
6	RESERVED
7	60 TO LESS THAN 90 MM
8	90 TO LESS THAN 110 MM
9	110 MM AND GREATER
15	MISSING VALUE

Flag table for element 002161 (WIND PROCESSING METHOD)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
11	32	WIND HEIGHT CALCULATED FROM MEDIAN CLOUD-TOP PRESSURE OF TARGET
12	16	TARGET IS CLOUDY
13	8	LOW-LEVEL INVERSION
14	4	CROSS CORRELATION CONTRIBUTION (CCC) METHOD
15	2	NESTED TRACKING

Code table for element 002162 (EXTENDED HEIGHT ASSIGNMENT METHOD)

Value	Description
0	AUTO EDITOR
1	IRW HEIGHT ASSIGNMENT
2	WV HEIGHT ASSIGNMENT
3	H2O INTERCEPT HEIGHT ASSIGNMENT
4	CO2 SLICING HEIGHT ASSIGNMENT
5	LOW PIXEL MAX GRADIENT
6	HIGHER PIXEL MAX GRADIENT
7	PRIMARY HEIGHT ASSIGNMENT
8	LAYER THICKNESS ASSIGNMENT
9	CUMULATIVE CONTRIBUTION FUNCTION - 10 PER CENT HEIGHT
10	CUMULATIVE CONTRIBUTION FUNCTION - 50 PER CENT HEIGHT
11	CUMULATIVE CONTRIBUTION FUNCTION - 90 PER CENT HEIGHT
12	CUMULATIVE CONTRIBUTION FUNCTION - HEIGHT OF MAXIMUM GRADIENT
13	IR/TWO WV CHANNEL RATIONING METHOD
14	COMPOSITE HEIGHT ASSIGNMENT
15	OPTIMAL ESTIMATION
16	INVERSION CORRECTION
17	GEOMETRIC HEIGHT ASSIGNMENT
63	MISSING VALUE

Code table for element 002163 (HEIGHT ASSIGNMENT METHOD)

Value	Description
0	AUTO EDITOR
1	IRW HEIGHT ASSIGNMENT
2	WV HEIGHT ASSIGNMENT
3	H2O INTERCEPT HEIGHT ASSIGNMENT
4	CO2 SLICING HEIGHT ASSIGNMENT
5	LOW PIXEL MAX GRADIENT
6	HIGHER PIXEL MAX GRADIENT
7	PRIMARY HEIGHT ASSIGNMENT
8	LAYER THICKNESS ASSIGNMENT
9	CUMULATIVE CONTRIBUTION FUNCTION - 10 PER CENT HEIGHT
10	CUMULATIVE CONTRIBUTION FUNCTION - 50 PER CENT HEIGHT
11	CUMULATIVE CONTRIBUTION FUNCTION - 90 PER CENT HEIGHT
12	CUMULATIVE CONTRIBUTION FUNCTION - HEIGHT OF MAXIMUM GRADIENT
13	IR / TWO WV CHANNEL RATIOING METHOD
14	COMPOSITE HEIGHT ASSIGNMENT
15	MISSING VALUE

Code table for element 002164 (TRACER CORRELATION METHOD)

Value	Description
0	LP - NORMS LEAST SQUARE MINIMUM
1	EN - EUCLIDEAN NORM WITH RADIANCE CORRELATION
2	CC - CROSS CORRELATION
3	STEREO MATCHING
7	MISSING VALUE

Flag table for element 002165 (RADIANCE TYPE FLAGS)

Total number of bits: **15**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16384	CLEAR PATH
2	8192	PARTLY CLOUDY PATH
3	4096	CLOUDY PATH
4	2048	APODIZED
5	1024	UNAPODIZED
6	512	RECONSTRUCTED
7	256	CLOUD CLEARED

Code table for element 002166 (RADIANCE TYPE)

Value	Description
0	TYPE NOT DEFINED
1	AUTOMATED STATISTICAL REGRESSION

2	CLEAR PATH
3	PARTLY CLOUDY PATH
4	CLOUDY PATH
15	MISSING VALUE

Code table for element 002167 (RADIANCE COMPUTATIONAL METHOD)

Value	Description
0	METHOD NOT DEFINED
1	1B RAW RADIANCE
2	PROCESSED RADIANCE
15	MISSING VALUE

Code table for element 002169 (ANEMOMETER TYPE)

Value	Description
0	CUP ROTOR
1	PROPELLER ROTOR
2	WIND OBSERVATION THROUGH AMBIENT NOISE (WOTAN)
3	SONIC
15	MISSING VALUE

Code table for element 002170 (AIRCRAFT HUMIDITY SENSORS)

Value	Description
0	SPECTRASENSORS WVSS-II, VERSION 1
1	SPECTRASENSORS WVSS-II, VERSION 2
2	SPECTRASENSORS WVSS-II, VERSION 3
62	OTHER
63	MISSING VALUE

Code table for element 002172 (PRODUCT TYPE FOR RETRIEVED ATMOSPHERIC GASES)

Value	Description
0	RESERVED
1	RETRIEVAL FROM A NADIR SOUNDING
2	RETRIEVAL FROM A LIMB SOUNDING
255	MISSING VALUE

Code table for element 002175 (METHOD OF PRECIPITATION MEASUREMENT)

Value	Description
0	MANUAL MEASUREMENT
1	TIPPING BUCKET METHOD
2	WEIGHING METHOD
3	OPTICAL METHOD

4	PRESSURE METHOD
5	FLOAT METHOD
6	DROP COUNTER METHOD
14	OTHERS
15	MISSING VALUE

Code table for element 002176 (METHOD OF STATE OF GROUND MEASUREMENT)

Value	Description
0	MANUAL OBSERVATION
1	VIDEO CAMERA METHOD
2	INFRARED METHOD
3	LASER METHOD
14	OTHERS
15	MISSING VALUE

Code table for element 002177 (METHOD OF SNOW DEPTH MEASUREMENT)

Value	Description
0	MANUAL OBSERVATION
1	ULTRASONIC METHOD
2	VIDEO CAMERA METHOD
3	LASER METHOD
14	OTHERS
15	MISSING VALUE

Code table for element 002178 (METHOD OF LIQUID CONTENT MEASUREMENT OF PRECIPITATION)

Value	Description
0	MANUAL OBSERVATION
1	OPTICAL METHOD
2	CAPACITIVE METHOD
14	OTHERS
15	MISSING VALUE

Code table for element 002179 (TYPE OF SKY CONDITION ALGORITHM)

Value	Description
0	MANUAL OBSERVATION
1	VAISALA ALGORITHM
2	ASOS (FAA) ALGORITHM
3	AWOS (CANADA) ALGORITHM
14	OTHERS
15	MISSING VALUE

Code table for element 002180 (MAIN PRESENT WEATHER DETECTING SYSTEM)

Value	Description
0	MANUAL OBSERVATION
1	OPTICAL SCATTER SYSTEM COMBINED WITH PRECIPITATION OCCURRENCE SENSING SYSTEM
2	FORWARD AND/OR BACKSCATTER SYSTEM OF VISIBLE LIGHT
3	FORWARD AND/OR BACKSCATTER SYSTEM OF INFRARED LIGHT
4	INFRARED LIGHT EMITTING DIODE (IRED) SYSTEM
5	DOPPLER RADAR SYSTEM
14	OTHERS
15	MISSING VALUE

Flag table for element 002181 (SUPPLEMENTARY PRESENT WEATHER SENSOR)

Total number of bits: **21**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	1048576	RAIN DETECTOR
2	524288	FREEZING RAIN SENSOR
3	262144	ICE DETECTION SENSOR
4	131072	HAIL AND ICE PELLET SENSOR
20	2	OTHERS

Code table for element 002182 (VISIBILITY MEASUREMENT SYSTEM)

Value	Description
0	MANUAL MEASUREMENT
1	TRANSMISSOMETER SYSTEM (BASE > 25 M)
2	TRANSMISSOMETER SYSTEM (BASE < 25 M)
3	FORWARD SCATTER SYSTEM
4	BACKSCATTER SYSTEM
14	OTHERS
15	MISSING VALUE

Code table for element 002183 (CLOUD DETECTION SYSTEM)

Value	Description
0	MANUAL OBSERVATION
1	CEILOMETER SYSTEM
2	INFRARED CAMERA SYSTEM
3	MICROWAVE VISUAL CAMERA SYSTEM
4	SKY IMAGER SYSTEM
5	VIDEO TIME-LAPSED CAMERA SYSTEM
6	MICROPULSE LIDAR (MPL) SYSTEM
14	OTHERS
15	MISSING VALUE

Code table for element 002184 (TYPE OF LIGHTNING DETECTION SENSOR)

Value	Description
0	MANUAL OBSERVATION
1	LIGHTNING IMAGING SENSOR
2	ELECTRICAL STORM IDENTIFICATION SENSOR
3	MAGNETIC FINDER SENSOR
4	LIGHTNING STRIKE SENSOR
5	FLASH COUNTER
6	ATDNET VLF WAVEFORM CORRELATED SENSOR
14	OTHERS
15	MISSING VALUE

Code table for element 002185 (METHOD OF EVAPORATION MEASUREMENT)

Value	Description
0	MANUAL MEASUREMENT
1	BALANCED FLOATING METHOD
2	PRESSURE METHOD
3	ULTRASONIC METHOD
4	HYDRAULIC METHOD
14	OTHERS
15	MISSING VALUE

Flag table for element 002186 (CAPABILITY TO DETECT PRECIPITATION PHENOMENA)

Total number of bits: **30**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	536870912	PRECIPITATION-UNKNOWN TYPE
2	268435456	LIQUID PRECIPITATION NOT FREEZING
3	134217728	LIQUID FREEZING PRECIPITATION
4	67108864	DRIZZLE
5	33554432	RAIN
6	16777216	SOLID PRECIPITATION
7	8388608	SNOW
8	4194304	SNOW GRAINS
9	2097152	SNOW PELLETS
10	1048576	ICE PELLETS
11	524288	ICE CRYSTALS
12	262144	DIAMOND DUST
13	131072	SMALL HAIL
14	65536	HAIL
15	32768	GLAZE
16	16384	RIME
17	8192	SOFT RIME

18	4096	HARD RIME
19	2048	CLEAR ICE
20	1024	WET SNOW
21	512	HOAR FROST
22	256	DEW
23	128	WHITE DEW
24	64	CONVECTIVE PRECIPITATION

Flag table for element 002187 (CAPABILITY TO DETECT OTHER WEATHER PHENOMENA)

Total number of bits: **18**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	131072	DUST/SAND WHIRL
2	65536	SQUALLS
3	32768	SAND STORM
4	16384	DUST STORM
5	8192	LIGHTNING - CLOUD TO SURFACE
6	4096	LIGHTNING - CLOUD TO CLOUD
7	2048	LIGHTNING - DISTANT
8	1024	THUNDERSTORM
9	512	FUNNEL CLOUD NOT TOUCHING SURFACE
10	256	FUNNEL CLOUD TOUCHING SURFACE
11	128	SPRAY

Flag table for element 002188 (CAPABILITY TO DETECT OBSCURATION)

Total number of bits: **21**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	1048576	FOG
2	524288	ICE FOG
3	262144	STEAM FOG
7	16384	MIST
8	8192	HAZE
9	4096	SMOKE
10	2048	VOLCANIC ASH
11	1024	DUST
12	512	SAND
13	256	SNOW

Flag table for element 002189 (CAPABILITY TO DISCRIMINATE LIGHTNING STRIKES)

Total number of bits: **12**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2048	MANUAL OBSERVATION
2	1024	ALL LIGHTNING STRIKES WITHOUT DISCRIMINATION

3	512	LIGHTNING STRIKES CLOUD TO GROUND ONLY
4	256	ALL LIGHTNING STRIKES WITH DISCRIMINATION BETWEEN CLOUD TO GROUND AND CLOUD TO CLOUD

Code table for element 002191 (GEOPOTENTIAL HEIGHT CALCULATION)

Value	Description
0	GEOPOTENTIAL HEIGHT CALCULATED FROM PRESSURE
1	GEOPOTENTIAL HEIGHT CALCULATED FROM GPS HEIGHT
2	GEOPOTENTIAL HEIGHT CALCULATED FROM RADAR HEIGHT
15	MISSING VALUE

Class 3 - Instrumentation - code-flag tables

Code table for element 003001 (SURFACE STATION TYPE)

Value	Description
0	LAND STATION (SYNOPTIC NETWORK)
1	SHALLOW WATER STATION (FIXED TO SEA/LAKE FLOOR)
2	SHIP
3	RIG/PLATFORM
4	MOORED BUOY
5	DRIFTING BUOY (OR DRIFTER)
6	ICE BUOY
7	LAND STATION (LOCAL NETWORK)
8	LAND VEHICLE
9	AUTONOMOUS MARINE VEHICLE
10	TAG ATTACHED TO MARINE ANIMAL
31	MISSING VALUE

Code table for element 003003 (THERMOMETER/HYGROMETER HOUSING)

Value	Description
0	SCREEN
1	SLING/WHIRLING
2	UNSCREENED
3	RADIATION SHIELD
4	ASPIRATED (E.G. ASSMANN)
5	OTHER SHELTER
6	HANDHELD
15	MISSING VALUE

Code table for element 003004 (TYPE OF SCREEN/SHELTER/RADIATION SHIELD)

Value	Description
0	STEVENSON SCREEN

1	MARINE STEVENSON SCREEN
2	CYLINDRICAL SECTION PLATE SHIELD
3	CONCENTRIC TUBE
4	RECTANGULAR SECTION SHIELD
5	SQUARE SECTION SHIELD
6	TRIANGULAR SECTION SHIELD
7	OPEN COVERED LEAN-TO
8	OPEN COVERED INVERTED V ROOF
9	INTEGRATED (E.G. CHILLED MIRROR)
15	MISSING VALUE

Code table for element 003008 (ARTIFICIALLY VENTILATED SCREEN OR SHIELD)

Value	Description
0	NATURAL VENTILATION IN USE
1	ARTIFICIAL ASPIRATION IN USE: CONSTANT FLOW AT TIME OF READING
2	ARTIFICIAL ASPIRATION IN USE: VARIABLE FLOW AT TIME OF READING
7	MISSING VALUE

Code table for element 003010 (METHOD OF SEA/WATER CURRENT MEASUREMENT)

Value	Description
0	RESERVED
1	ADCP
2	GEK (GEOMAGNETIC ELECTROKINETOGRAPH)
3	SHIP'S SET AND DRIFT DETERMINED BY FIXES 3-6 HOURS APART
4	SHIP'S SET AND DRIFT DETERMINED BY FIXES MORE THAN 6 HOURS BUT LESS THAN 12 HOURS APART
5	DRIFT OF BUOY
6	ADCP
7	ADCP BOTTOM TRACKING MODE
8	ELECTROMAGNETIC SENSOR
9	ROTOR AND VANE
10	LOWERED ADCP
15	MISSING VALUE

Code table for element 003011 (METHOD OF DEPTH CALCULATION)

Value	Description
0	DEPTH CALCULATED USING FALL RATE EQUATION
1	DEPTH CALCULATED FROM WATER PRESSURE/EQUATION OF STATE
2	RESERVED
3	MISSING VALUE

Code table for element 003012 (INSTRUMENT TYPE/SENSOR FOR DISSOLVED OXYGEN MEASUREMENT)

Value	Description
0	ANDERRAA OXYGEN OPTODE
1	WINKLER BOTTLE
15	MISSING VALUE

Code table for element 003016 (POSITION OF ROAD SENSORS)

Value	Description
0	FAST LANE BETWEEN THE WHEEL TRACKS
1	FAST LANE BETWEEN THE WHEEL TRACKS IN THE OPPOSITE DIRECTION
2	FAST LANE IN THE WHEEL TRACKS
3	FAST LANE IN THE WHEEL TRACKS IN THE OPPOSITE DIRECTION
4	SLOW LANE BETWEEN THE WHEEL TRACKS
5	SLOW LANE BETWEEN THE WHEEL TRACKS IN THE OPPOSITE DIRECTION
6	SLOW LANE IN THE WHEEL TRACKS
7	SLOW LANE IN THE WHEEL TRACKS IN THE OPPOSITE DIRECTION
15	MISSING VALUE

Flag table for element 003017 (EXTENDED TYPE OF STATION)

Total number of bits: **6**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32	AUTOMATIC
2	16	MANNED
3	8	EVENT TRIGGERED
4	4	LONGER TIME PERIOD THAN THE STANDARD
5	2	RESERVED

Code table for element 003018 (TYPE OF ROAD)

Value	Description
0	FREE TRACK WITHOUT FURTHER INFORMATION
1	FREE TRACK, EMBANKMENT
2	FREE TRACK, FLAT RELATIVE TO SURROUNDINGS
3	FREE TRACK, WATER BASIN(S) IN VICINITY
4	FREE TRACK, FOREST
5	FREE TRACK, CLEFT
6	FREE TRACK, ON HILLTOP
7	FREE TRACK, ON HILLTOP, FOREST
8	FREE TRACK, IN VALLEY
9	FREE TRACK, IN VALLEY, FOREST
10	FREE TRACK, NORTH INCLINATION
11	FREE TRACK, NORTH INCLINATION, FOREST
12	FREE TRACK, SOUTH INCLINATION

13	FREE TRACK, SOUTH INCLINATION, FOREST
20	BRIDGE WITHOUT FURTHER INFORMATION
21	BRIDGE ACROSS A VALLEY IN AN URBAN AREA
22	BRIDGE ACROSS A VALLEY WITH FOREST/MEADOWS/FIELDS
23	BRIDGE ACROSS STREET/TRACK
24	BRIDGE ACROSS BIG RIVER/CANAL
25	BRIDGE ACROSS RIVER/CANAL OF MEDIUM SIZE
26	BRIDGE ACROSS A SMALL STREAM/LOADING CANAL
31	MISSING VALUE

Code table for element 003019 (TYPE OF CONSTRUCTION)

Value	Description
0	ASPHALT
1	CONCRETE
2	CONCRETE CONSTRUCTION
3	STEEL-GIRDER CONSTRUCTION
4	BOX GIRDER BRIDGE
5	ORTHOTROPIC SLAB
6	DRAIN ASPHALT
15	MISSING VALUE

Code table for element 003020 (MATERIAL FOR THERMOMETER/HYGROMETER HOUSING)

Value	Description
0	WOOD
1	METAL ALLOY
2	PLASTIC/GRP
3	REED/GRASS/LEAF
7	MISSING VALUE

Code table for element 003021 (HYGROMETER HEATING)

Value	Description
0	UNHEATED
1	HEATED
2	NOT APPLICABLE
3	MISSING VALUE

Code table for element 003022 (INSTRUMENT OWNER)

Value	Description
0	NATIONAL HYDROMETEOROLOGICAL/WEATHER SERVICE
1	OTHER
2	STANDARDS INSTITUTE

7	MISSING VALUE

Code table for element 003023 (CONFIGURATION OF LOUVERS FOR THERMOMETER/HYGROMETER SCREEN)

Value	Description
0	SINGLE V-SECTION LOUVERS
1	OVERLAPPING LOUVERS
2	DOUBLE V-SECTION LOUVERS
3	NON-OVERLAPPING LOUVERS
4	VENTED, NON-LOUVERED
5	NOT APPLICABLE
6	RESERVED FOR FUTURE USE
7	MISSING VALUE

Code table for element 003027 (TYPE OF FLIGHT RIG)

Value	Description
0	SOLO (SINGLE RADIOSONDE)
1	BLOCK
2	BAR
3	CROSS
4	T-RIG
5	DOUBLE T-RIG
6	COMPLEX
15	MISSING VALUE

Code table for element 003028 (METHOD OF SNOW WATER EQUIVALENT MEASUREMENT)

Value	Description
0	MULTI POINT MANUAL SNOW SURVEY
1	SINGLE POINT MANUAL SNOW WATER EQUIVALENT MEASUREMENT
2	SNOW PILLOW OR SNOW SCALE
3	PASSIVE GAMMA
4	GNSS/GPS METHODS
5	COSMIC RAY ATTENUATION
6	TIME DOMAIN REFLECTOMETRY
63	MISSING VALUE

Class 4 - Location (time) - code-flag tables

Flag table for element 004059 (TIMES OF OBSERVATION USED TO COMPUTE THE REPORTED MEAN VALUES)
Total number of bits: **6**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32	0000 UTC
2	16	0600 UTC

3	8	1200 UTC
4	4	1800 UTC
5	2	OTHER HOURS

Code table for element 004080 (AVERAGING PERIOD FOR FOLLOWING VALUE)

Value	Description
0	SPOT VALUES
1	LESS THAN 15 MINUTES
2	FROM 15 TO 45 MINUTES
3	MORE THAN 45 MINUTES
9	DATA NOT AVAILABLE
15	MISSING VALUE

Class 5 - Location (horizontal - 1) - code-flag tables

Code table for element 005069 (RECEIVER CHANNEL)

Value	Description
0	MIE
1	RAYLEIGH
2	RESERVED
3	MISSING VALUE

Class 8 - Significance qualifiers - code-flag tables

Flag table for element 008001 (VERTICAL SOUNDING SIGNIFICANCE)

Total number of bits: **7**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	64	SURFACE
2	32	STANDARD LEVEL
3	16	TROPOPAUSE LEVEL
4	8	MAXIMUM WIND LEVEL
5	4	SIGNIFICANT LEVEL, TEMPERATURE AND/OR RELATIVE HUMIDITY
6	2	SIGNIFICANT LEVEL, WIND

Code table for element 008002 (VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS))

Value	Description
0	OBSERVING RULES FOR BASE OF LOWEST CLOUD AND CLOUD TYPES OF FM 12 SYNOP AND FM 13 SHIP APPLY
1	FIRST NON-CUMULONIMBUS SIGNIFICANT LAYER
2	SECOND NON-CUMULONIMBUS SIGNIFICANT LAYER
3	THIRD NON-CUMULONIMBUS SIGNIFICANT LAYER
4	CUMULONIMBUS LAYER
5	CEILING
6	CLOUDS NOT DETECTED BELOW THE FOLLOWING HEIGHT(S)

7	LOW CLOUD
8	MIDDLE CLOUD
9	HIGH CLOUD
10	CLOUD LAYER WITH BASE BELOW AND TOP ABOVE THE STATION
11	CLOUD LAYER WITH BASE AND TOP BELOW THE STATION LEVEL
20	NO CLOUDS DETECTED BY THE CLOUD DETECTION SYSTEM
21	FIRST INSTRUMENT DETECTED CLOUD LAYER
22	SECOND INSTRUMENT DETECTED CLOUD LAYER
23	THIRD INSTRUMENT DETECTED CLOUD LAYER
24	FOURTH INSTRUMENT DETECTED CLOUD LAYER
62	VALUE NOT APPLICABLE
63	MISSING VALUE

Code table for element 008003 (VERTICAL SIGNIFICANCE (SATELLITE OBSERVATIONS))

Value	Description
0	SURFACE
1	BASE OF SATELLITE SOUNDING
2	CLOUD TOP
3	TROPOPAUSE
4	PRECIPITABLE WATER
5	SOUNDING RADIANCES
6	MEAN TEMPERATURES
7	OZONE
8	LOW CLOUD
9	MED CLOUD
10	HIGH CLOUD
63	MISSING VALUE

Code table for element 008004 (PHASE OF AIRCRAFT FLIGHT)

Value	Description
2	UNSTEADY (UNS)
3	LEVEL FLIGHT, ROUTINE OBSERVATION (LVR)
4	LEVEL FLIGHT, HIGHEST WIND ENCOUNTERED (LVW)
5	ASCENDING (ASC)
6	DESCENDING (DES)
7	MISSING VALUE

Code table for element 008005 (METEOROLOGICAL ATTRIBUTE SIGNIFICANCE)

Value	Description
0	RESERVED
1	STORM CENTRE

2	OUTER LIMIT OR EDGE OF STORM
3	LOCATION OF MAXIMUM WIND
4	LOCATION OF THE STORM IN THE PERTURBED ANALYSIS
5	LOCATION OF THE STORM IN THE ANALYSIS
15	MISSING VALUE

Flag table for element 008006 (OZONE VERTICAL SOUNDING SIGNIFICANCE)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	SURFACE
2	128	STANDARD LEVEL
3	64	TROPOPAUSE LEVEL
4	32	PROMINENT MAXIMUM LEVEL
5	16	PROMINENT MINIMUM LEVEL
6	8	MINIMUM PRESSURE LEVEL
7	4	RESERVED
8	2	LEVEL OF UNDETERMINED SIGNIFICANCE

Code table for element 008007 (DIMENSIONAL SIGNIFICANCE)

Value	Description
0	POINT
1	LINE
2	AREA
3	VOLUME
15	MISSING VALUE

Flag table for element 008008 (RADIATION VERTICAL SOUNDING SIGNIFICANCE)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	SURFACE
2	128	STANDARD LEVEL
3	64	TROPOPAUSE LEVEL
4	32	LEVEL OF BETA RADIATION MAXIMUM
5	16	LEVEL OF GAMMA RADIATION MAXIMUM
6	8	MINIMUM PRESSURE LEVEL
7	4	RESERVED
8	2	LEVEL OF UNDETERMINED SIGNIFICANCE

Code table for element 008009 (DETAILED PHASE OF FLIGHT)

Value	Description
0	LEVEL FLIGHT, ROUTINE OBSERVATION, UNSTEADY
1	LEVEL FLIGHT, HIGHEST WIND ENCOUNTERED, UNSTEADY

2	UNSTEADY (UNS)
3	LEVEL FLIGHT, ROUTINE OBSERVATION (LVR)
4	LEVEL FLIGHT, HIGHEST WIND ENCOUNTERED (LVW)
5	ASCENDING (ASC)
6	DESCENDING (DES)
7	ASCENDING, OBSERVATION INTERVALS SELECTED BY TIME INCREMENTS
8	ASCENDING, OBSERVATION INTERVALS SELECTED BY TIME INCREMENTS, UNSTEADY
9	ASCENDING, OBSERVATION INTERVALS SELECTED BY PRESSURE INCREMENTS
10	ASCENDING, OBSERVATION INTERVALS SELECTED BY PRESSURE INCREMENTS, UNSTEADY
11	DESCENDING, OBSERVATION INTERVALS SELECTED BY TIME INCREMENTS
12	DESCENDING, OBSERVATION INTERVALS SELECTED BY TIME INCREMENTS, UNSTEADY
13	DESCENDING, OBSERVATION INTERVALS SELECTED BY PRESSURE INCREMENTS
14	DESCENDING, OBSERVATION INTERVALS SELECTED BY PRESSURE INCREMENTS, UNSTEADY
15	MISSING VALUE

Code table for element 008010 (SURFACE QUALIFIER (TEMPERATURE DATA))

Value	Description
0	RESERVED
1	BARE SOIL
2	BARE ROCK
3	LAND GRASS COVER
4	WATER (LAKE, SEA)
5	FLOOD WATER UNDERNEATH
6	SNOW
7	ICE
8	RUNWAY OR ROAD
9	SHIP OR PLATFORM DECK IN STEEL
10	SHIP OR PLATFORM DECK IN WOOD
11	SHIP OR PLATFORM DECK PARTLY COVERED WITH RUBBER MAT
12	BUILDING ROOF
31	MISSING VALUE

Code table for element 008011 (METEOROLOGICAL FEATURE)

Value	Description
0	QUASI-STATIONARY FRONT AT THE SURFACE
1	QUASI-STATIONARY FRONT ABOVE THE SURFACE
2	WARM FRONT AT THE SURFACE
3	WARM FRONT ABOVE THE SURFACE
4	COLD FRONT AT THE SURFACE
5	COLD FRONT ABOVE THE SURFACE
6	OCCLUSION

7	INSTABILITY LINE
8	INTERTROPICAL FRONT
9	CONVERGENCE LINE
10	JET STREAM
11	CLOUD CLEAR
12	CLOUD
13	TURBULENCE
14	STORM
15	AIRFRAME ICING
16	PHENOMENON
17	VOLCANO
18	ATMOSPHERICS
19	RESERVED
20	SPECIAL CLOUDS
21	THUNDERSTORM
22	TROPICAL CYCLONE
23	MOUNTAIN WAVE
24	DUSTSTORM
25	SANDSTORM
63	MISSING VALUE

Code table for element 008012 (LAND/SEA QUALIFIER)

Value	Description
0	LAND
1	SEA
2	COAST
3	MISSING VALUE

Code table for element 008013 (DAY/NIGHT QUALIFIER)

Value	Description
0	NIGHT
1	DAY
2	TWILIGHT
3	MISSING VALUE

Code table for element 008014 (QUALIFIER FOR RUNWAY VISUAL RANGE)

Value	Description
0	10-MINUTE MEAN VALUE - NORMAL VALUE
1	10-MINUTE MEAN VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENTS OF RVR (P)
2	10-MINUTE MEAN VALUE - BELOW THE LOWER LIMIT FOR ASSESSMENTS OF RVR (M)
3	ONE-MINUTE MINIMUM VALUE - NORMAL VALUE

4	ONE-MINUTE MINIMUM VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENTS OF RVR (P)
5	ONE-MINUTE MINIMUM VALUE - BELOW THE LOWER LIMIT FOR ASSESSMENTS OF RVR (M)
6	ONE-MINUTE MAXIMUM VALUE - NORMAL VALUE
7	ONE-MINUTE MAXIMUM VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENTS OF RVR (P)
8	ONE-MINUTE MAXIMUM VALUE - BELOW THE LOWER LIMIT FOR ASSESSMENTS OF RVR (M)
15	MISSING VALUE

Code table for element 008015 (SIGNIFICANT QUALIFIER FOR SENSOR)

Value	Description
0	SINGLE SENSOR
1	PRIMARY SENSOR
2	SECONDARY SENSOR (BACKUP)
7	MISSING VALUE

Code table for element 008016 (CHANGE QUALIFIER OF A TREND-TYPE FORECAST OR AN AERODROME FORECAST)

Value	Description
0	NOSIG
1	BECMG
2	TEMPO
3	FM
7	MISSING VALUE

Code table for element 008017 (QUALIFIER OF THE TIME WHEN THE FORECAST CHANGE IS EXPECTED)

Value	Description
0	FM
1	TL
2	AT
3	MISSING VALUE

Flag table for element 008018 (SEAWINDS LAND/ICE SURFACE TYPE)

Total number of bits: **17**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	65536	LAND IS PRESENT
2	32768	SURFACE ICE MAP INDICATES ICE IS PRESENT
11	64	ICE MAP DATA NOT AVAILABLE
12	32	ATTENUATION MAP DATA NOT AVAILABLE

Code table for element 008019 (QUALIFIER FOR FOLLOWING CENTRE IDENTIFIER)

Value	Description
0	RESERVED
1	ATS (AIR TRAFFIC SERVICE) UNIT SERVING FIR (FLIGHT INFORMATION REGION)
2	FIR (FLIGHT INFORMATION REGION)

3	UIR (UPPER FLIGHT INFORMATION REGION)
4	CTA (CONTROL AREA)
5	VAAC (VOLCANIC ASH ADVISORY CENTRE)
6	MWO (METEOROLOGICAL WATCH OFFICE) ISSUING SIGMET
15	MISSING VALUE

Code table for element 008021 (TIME SIGNIFICANCE)

Value	Description
0	RESERVED
1	TIME SERIES
2	TIME AVERAGED (SEE NOTE 1)
3	ACCUMULATED
4	FORECAST
5	FORECAST TIME SERIES
6	FORECAST TIME AVERAGED
7	FORECAST ACCUMULATED
8	ENSEMBLE MEAN (SEE NOTE 2)
9	ENSEMBLE MEAN TIME SERIES
10	ENSEMBLE MEAN TIME AVERAGED
11	ENSEMBLE MEAN ACCUMULATED
12	ENSEMBLE MEAN FORECAST
13	ENSEMBLE MEAN FORECAST TIME SERIES
14	ENSEMBLE MEAN FORECAST TIME AVERAGED
15	ENSEMBLE MEAN FORECAST ACCUMULATED
16	ANALYSIS
17	START OF PHENOMENON
18	RADIOSONDE LAUNCH TIME
19	START OF ORBIT
20	END OF ORBIT
21	TIME OF ASCENDING NODE
22	TIME OF OCCURRENCE OF WIND SHIFT
23	MONITORING PERIOD
24	AGREED TIME LIMIT FOR REPORT RECEPTION
25	NOMINAL REPORTING TIME
26	TIME OF LAST KNOWN POSITION
27	FIRST GUESS
28	START OF SCAN
29	END OF SCAN OR TIME OF ENDING
30	TIME OF OCCURRENCE
31	MISSING VALUE

Code table for element 008023 (FIRST-ORDER STATISTICS)

Value	Description
2	MAXIMUM VALUE
3	MINIMUM VALUE
4	MEAN VALUE
5	MEDIAN VALUE
6	MODAL VALUE
7	MEAN ABSOLUTE ERROR
8	RESERVED
9	BEST ESTIMATE OF STANDARD DEVIATION (N-1)
10	STANDARD DEVIATION (N)
11	HARMONIC MEAN
12	ROOT-MEAN-SQUARE VECTOR ERROR
13	ROOT-MEAN-SQUARE
32	VECTOR MEAN
63	MISSING VALUE

Code table for element 008024 (DIFFERENCE STATISTICS)

Value	Description
2	OBSERVED MINUS MAXIMUM
3	OBSERVED MINUS MINIMUM
4	OBSERVED MINUS MEAN
5	OBSERVED MINUS MEDIAN
6	OBSERVED MINUS MODE
11	OBSERVED MINUS CLIMATOLOGY (ANOMALY)
12	OBSERVED MINUS ANALYSED VALUE
13	OBSERVED MINUS INITIALIZED ANALYSED VALUE
14	OBSERVED MINUS FORECAST VALUE
21	OBSERVED MINUS INTERPOLATED VALUE
22	OBSERVED MINUS HYDROSTATICALLY CALCULATED VALUE
63	MISSING VALUE

Code table for element 008025 (TIME DIFFERENCE QUALIFIER)

Value	Description
0	UNIVERSAL TIME COORDINATED (UTC) MINUS LOCAL STANDARD TIME (LST)
1	LOCAL STANDARD TIME
2	UNIVERSAL TIME COORDINATED (UTC) MINUS SATELLITE CLOCK
5	TIME DIFFERENCE FROM EDGE OF PROCESSING SEGMENT
15	MISSING VALUE

Code table for element 008026 (MATRIX SIGNIFICANCE)

Value	Description
0	AVERAGING KERNEL MATRIX
1	CORRELATION MATRIX (C)
2	LOWER TRIANGULAR CORRELATION MATRIX SQUARE ROOT (L FROM C=LLT)
3	INVERSE OF LOWER TRIANGULAR CORRELATION MATRIX SQUARE ROOT (L-1)
63	MISSING OR UNDEFINED SIGNIFICANCE

Code table for element 008029 (SURFACE TYPE)

Value	Description
0	OPEN OCEAN OR SEMI-ENCLOSED SEA
1	ENCLOSED SEA OR LAKE
2	CONTINENTAL ICE
3	LAND
4	LOW INLAND (BELOW SEA LEVEL)
5	MIX OF LAND AND WATER
6	MIX OF LAND AND LOW INLAND
11	RIVER
12	LAKE
13	SEA
14	GLACIER
15	URBAN LAND
16	RURAL LAND
17	SUBURBAN LAND
18	SEA ICE
255	MISSING VALUE

Code table for element 008032 (STATUS OF OPERATION)

Value	Description
0	ROUTINE OPERATION
1	EVENT TRIGGERED BY STORM SURGE
2	EVENT TRIGGERED BY TSUNAMI
3	EVENT TRIGGERED MANUALLY
4	INSTALLATION TESTING
5	MAINTENANCE TESTING
15	MISSING VALUE

Code table for element 008033 (METHOD OF DERIVATION OF PERCENTAGE CONFIDENCE)

Value	Description
0	RESERVED
1	PERCENTAGE CONFIDENCE CALCULATED USING CLOUD FRACTION
2	PERCENTAGE CONFIDENCE CALCULATED USING STANDARD DEVIATION OF TEMPERATURE

3	PERCENTAGE CONFIDENCE CALCULATED USING PROBABILITY OF CLOUD CONTAMINATION
4	PERCENTAGE CONFIDENCE CALCULATED USING NORMALITY OF DISTRIBUTION
127	MISSING VALUE

Code table for element 008034 (TEMPERATURE/SALINITY MEASUREMENT QUALIFIER)

Value	Description
0	SECONDARY SAMPLING: AVERAGED
1	SECONDARY SAMPLING: DISCRETE
2	SECONDARY SAMPLING: MIXED
3	NEAR-SURFACE SAMPLING: AVERAGED, PUMPED
4	NEAR-SURFACE SAMPLING: AVERAGED, UNPUMPED
5	NEAR-SURFACE SAMPLING: DISCRETE, PUMPED
6	NEAR-SURFACE SAMPLING: DISCRETE, UNPUMPED
7	NEAR-SURFACE SAMPLING: MIXED, PUMPED
8	NEAR-SURFACE SAMPLING: MIXED, UNPUMPED
15	MISSING VALUE

Code table for element 008035 (TYPE OF MONITORING EXERCISE)

Value	Description
0	GLOBAL
1	REGIONAL
2	NATIONAL
3	SPECIAL
4	BILATERAL
5	RESERVED
6	RESERVED
7	MISSING VALUE

Code table for element 008036 (TYPE OF CENTRE OR STATION PERFORMING MONITORING)

Value	Description
0	WMO SECRETARIAT
1	WMO
2	RSMC
3	NMC
4	RTH
5	OBSERVING SITE
6	OTHER
7	MISSING VALUE

Code table for element 008037 (BASELINE CHECK SIGNIFICANCE)

Value	Description

0	MANUFACTURER'S BASELINE CHECK UNIT
1	WEATHER SCREEN
2	GRUAN STANDARD HUMIDITY CHAMBER
31	MISSING VALUE

Code table for element 008038 (INSTRUMENT DATA SIGNIFICANCE)

Value	Description
0	VERIFIED INSTRUMENT READING
1	REFERENCE INSTRUMENT READING
255	MISSING VALUE

Code table for element 008039 (TIME SIGNIFICANCE (AVIATION FORECAST))

Value	Description
0	ISSUE TIME OF FORECAST
1	TIME OF COMMENCEMENT OF PERIOD OF THE FORECAST
2	TIME OF ENDING OF PERIOD OF THE FORECAST
3	FORECAST TIME OF MAXIMUM TEMPERATURE
4	FORECAST TIME OF MINIMUM TEMPERATURE
5	TIME OF BEGINNING OF THE FORECAST CHANGE
6	TIME OF ENDING OF THE FORECAST CHANGE
63	MISSING VALUE

Code table for element 008040 (FLIGHT LEVEL SIGNIFICANCE)

Value	Description
0	HIGH-RESOLUTION DATA SAMPLE
1	WITHIN 20 HPA OF SURFACE
2	PRESSURE LESS THAN 10 HPA (I.E., 9, 8, 7, ETC.) WHEN NO OTHER REASON APPLIES
3	BASE PRESSURE LEVEL FOR STABILITY INDEX
4	BEGIN DOUBTFUL TEMPERATURE, HEIGHT DATA
5	BEGIN MISSING DATA (ALL ELEMENTS)
6	BEGIN MISSING RELATIVE HUMIDITY DATA
7	BEGIN MISSING TEMPERATURE DATA
8	HIGHEST LEVEL REACHED BEFORE BALLOON DESCENT BECAUSE OF ICING OR TURBULENCE
9	END DOUBTFUL TEMPERATURE, HEIGHT DATA
10	END MISSING DATA (ALL ELEMENTS)
11	END MISSING RELATIVE HUMIDITY DATA
12	END MISSING TEMPERATURE DATA
13	ZERO DEGREES CELSIUS CROSSING(S) FOR RADAT
14	STANDARD PRESSURE LEVEL
15	OPERATOR-ADDED LEVEL
16	OPERATOR-DELETED LEVEL

17	BALLOON RE-ASCENDED BEYOND PREVIOUS HIGHEST ASCENT LEVEL
18	SIGNIFICANT RELATIVE HUMIDITY LEVEL
19	RELATIVE HUMIDITY LEVEL SELECTION TERMINATED
20	SURFACE LEVEL
21	SIGNIFICANT TEMPERATURE LEVEL
22	MANDATORY TEMPERATURE LEVEL
23	FLIGHT TERMINATION LEVEL
24	TROPOPAUSE(S)
25	AIRCRAFT REPORT
26	INTERPOLATED (GENERATED) LEVEL
27	MANDATORY WIND LEVEL
28	SIGNIFICANT WIND LEVEL
29	MAXIMUM WIND LEVEL
30	INCREMENTAL WIND LEVEL (FIXED REGIONAL)
31	INCREMENTAL HEIGHT LEVEL (GENERATED)
32	WIND TERMINATION LEVEL
33	PRESSURE 100 TO 110 HPA, WHEN NO OTHER REASON APPLIES
34	FREEZING LEVEL BASE
35	FREEZING LEVEL TOP
36	FLIGHT LEVEL BASE
37	FLIGHT LEVEL TOP
38	TOP OF WIND SOUNDING
39	BOTTOM OF WIND SOUNDING
40	SIGNIFICANT THERMODYNAMIC LEVEL (INVERSION)
41	SIGNIFICANT RELATIVE HUMIDITY LEVEL (ACCORDING TO NCDC CRITERIA)
42	SIGNIFICANT TEMPERATURE LEVEL (ACCORDING TO NCDC)
43	BEGIN MISSING WIND DATA
44	END MISSING WIND DATA
60	LEVEL OF 80-KNOT ISOTACH ABOVE JET
61	LEVEL OF 80-KNOT ISOTACH BELOW JET
62	OTHER
63	MISSING VALUE

Code table for element 008041 (DATA SIGNIFICANCE)

Value	Description
0	PARENT SITE
1	OBSERVATION SITE
2	BALLOON MANUFACTURE DATE
3	BALLOON LAUNCH POINT
4	SURFACE OBSERVATION
5	SURFACE OBSERVATION DISPLACEMENT FROM LAUNCH POINT

6	FLIGHT LEVEL OBSERVATION
7	FLIGHT LEVEL TERMINATION POINT
8	IFR CEILING AND VISIBILITY
9	MOUNTAIN OBSCURATION
10	STRONG SURFACE WIND
11	FREEZING LEVEL
12	MULTIPLE FREEZING LEVEL
13	INSTRUMENT MANUFACTURE DATE
31	MISSING VALUE

Flag table for element 008042 (EXTENDED VERTICAL SOUNDING SIGNIFICANCE)

Total number of bits: **18**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	131072	SURFACE
2	65536	STANDARD LEVEL
3	32768	TROPOPAUSE LEVEL
4	16384	MAXIMUM WIND LEVEL
5	8192	SIGNIFICANT TEMPERATURE LEVEL
6	4096	SIGNIFICANT HUMIDITY LEVEL
7	2048	SIGNIFICANT WIND LEVEL
8	1024	BEGINNING OF MISSING TEMPERATURE DATA
9	512	END OF MISSING TEMPERATURE DATA
10	256	BEGINNING OF MISSING HUMIDITY DATA
11	128	END OF MISSING HUMIDITY DATA
12	64	BEGINNING OF MISSING WIND DATA
13	32	END OF MISSING WIND DATA
14	16	TOP OF WIND SOUNDING
15	8	LEVEL DETERMINED BY REGIONAL DECISION
16	4	FREEZING LEVEL
17	2	PRESSURE LEVEL ORIGINALLY INDICATED BY HEIGHT AS THE VERTICAL COORDINATE

Code table for element 008043 (ATMOSPHERIC CHEMICAL OR PHYSICAL CONSTITUENT TYPE)

Value	Description
0	OZONE
1	WATER VAPOUR
2	METHANE
3	CARBON DIOXIDE
4	CARBON MONOXIDE
5	NITROGEN DIOXIDE
6	NITROUS OXIDE

7	FORMALDEHYDE
8	SULPHUR DIOXIDE
25	PARTICULATE MATTER < 1.0 MICRONS
26	PARTICULATE MATTER < 2.5 MICRONS
27	PARTICULATE MATTER < 10 MICRONS
28	AEROSOLS (GENERIC)
29	SMOKE (GENERIC)
30	CRUSTAL MATERIAL (GENERIC DUST)
31	VOLCANIC ASH
255	MISSING VALUE

Code table for element 008050 (QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATISTIC)

Value	Description
0	RESERVED
1	PRESSURE
2	TEMPERATURE
3	EXTREME TEMPERATURE
4	VAPOUR PRESSURE
5	PRECIPITATION
6	SUNSHINE DURATION
7	MAXIMUM TEMPERATURE
8	MINIMUM TEMPERATURE
9	WIND
15	MISSING VALUE

Code table for element 008051 (QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATISTIC)

Value	Description
1	PRESSURE
2	TEMPERATURE
3	EXTREME TEMPERATURE
4	VAPOUR PRESSURE
5	PRECIPITATION
6	SUNSHINE DURATION
7	MISSING VALUE

Code table for element 008052 (CONDITION FOR WHICH NUMBER OF DAYS OF OCCURRENCE FOLLOWS)

Value	Description
0	MEAN WIND SPEED OVER A 10-MINUTE PERIOD OBSERVED OR RECORDED EQUAL TO OR MORE THAN 10 M S-1 OR 20 KNOTS
1	MEAN WIND SPEED OVER A 10-MINUTE PERIOD OBSERVED OR RECORDED EQUAL TO OR MORE THAN 20 M S-1 OR 40 KNOTS
2	MEAN WIND SPEED OVER A 10-MINUTE PERIOD OBSERVED OR RECORDED EQUAL TO OR MORE THAN 30 M S-1 OR 60 KNOTS
3	MAXIMUM TEMPERATURE LESS THAN 273.15 K

4	MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 298.15 K
5	MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 303.15 K
6	MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 308.15 K
7	MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 313.15 K
8	MINIMUM TEMPERATURE LESS THAN 273.15 K
9	MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 273.15 K
10	PRECIPITATION EQUAL TO OR MORE THAN 1.0 KG M-2
11	PRECIPITATION EQUAL TO OR MORE THAN 5.0 KG M-2
12	PRECIPITATION EQUAL TO OR MORE THAN 10.0 KG M-2
13	PRECIPITATION EQUAL TO OR MORE THAN 50.0 KG M-2
14	PRECIPITATION EQUAL TO OR MORE THAN 100.0 KG M-2
15	PRECIPITATION EQUAL TO OR MORE THAN 150.0 KG M-2
16	SNOW DEPTH MORE THAN 0.00 M
17	SNOW DEPTH MORE THAN 0.01 M
18	SNOW DEPTH MORE THAN 0.10 M
19	SNOW DEPTH MORE THAN 0.50 M
20	HORIZONTAL VISIBILITY LESS THAN 50 M
21	HORIZONTAL VISIBILITY LESS THAN 100 M
22	HORIZONTAL VISIBILITY LESS THAN 1000 M
23	HAIL
24	THUNDERSTORM
31	MISSING VALUE

Code table for element 008053 (DAY OF OCCURRENCE QUALIFIER)

Value	Description
0	VALUE OCCURRED ON ONLY ONE DAY IN THE MONTH
1	VALUE OCCURRED ON MORE THAN ONE DAY IN THE MONTH
2	RESERVED
3	MISSING VALUE

Code table for element 008054 (QUALIFIER FOR WIND SPEED OR WIND GUSTS)

Value	Description
0	WIND SPEED OR GUST IS AS REPORTED
1	WIND SPEED IS GREATER THAN THAT REPORTED (P IN METAR/TAF/SPECI)
7	MISSING VALUE

Code table for element 008060 (SAMPLE SCANNING MODE SIGNIFICANCE)

Value	Description
0	RESERVED
1	RANGE
2	AZIMUTH

3	HORIZONTAL
4	VERTICAL
5	NORTH/SOUTH
6	EAST/WEST
15	MISSING VALUE

Code table for element 008065 (SUN-GLINT INDICATOR)

Value	Description
0	NO SUN-GLINT
1	SUN-GLINT
2	RESERVED
3	MISSING VALUE

Code table for element 008066 (SEMI-TRANSPARENCY INDICATOR)

Value	Description
0	OPAQUE
1	SEMI-TRANSPARENT
2	RESERVED
3	MISSING VALUE

Code table for element 008070 (VERTICAL SOUNDING PRODUCT QUALIFIER)

Value	Description
0	RESERVED
1	RESERVED
2	EARTH LOCATED INSTRUMENT COUNTS, CALIBRATION COEFFICIENTS AND HOUSEKEEPING (LEVEL 1B)
3	EARTH LOCATED CALIBRATED RADIANCES (LEVEL 1C)
4	MAPPED TO A COMMON FOOTPRINT, EARTH LOCATED CALIBRATED RADIANCES (LEVEL 1D)
15	MISSING VALUE

Code table for element 008072 (PIXEL(S) TYPE)

Value	Description
0	MIXED
1	CLEAR
2	CLOUDY
3	PROBABLY CLEAR
4	PROBABLY CLOUDY
7	MISSING VALUE

Code table for element 008074 (ALTIMETER ECHO TYPE)

Value	Description
0	OPEN OCEAN OR SEMI-ENCLOSED SEA

1	NON-OCEAN LIKE
2	RESERVED
3	MISSING VALUE

Code table for element 008075 (ASCENDING/DESCENDING ORBIT QUALIFIER)

Value	Description
0	ASCENDING ORBIT
1	DESCENDING ORBIT
2	RESERVED
3	MISSING VALUE

Code table for element 008076 (TYPE OF BAND)

Value	Description
0	KU
1	C
2	LONG-WAVE INFRARED
3	MEDIUM-WAVE INFRARED
4	SHORT-WAVE INFRARED
5	M
6	I
7	DAY/NIGHT
63	MISSING VALUE

Code table for element 008077 (RADIOMETER SENSED SURFACE TYPE)

Value	Description
0	LAND
1	SEA
2	COASTAL
3	OPEN OCEAN OR SEMI-ENCLOSED SEA
4	ENCLOSED SEA OR LAKE
5	CONTINENTAL ICE
127	MISSING VALUE

Code table for element 008079 (PRODUCT STATUS)

Value	Description
0	NORMAL ISSUE
1	CORRECTION TO A PREVIOUSLY ISSUED PRODUCT (COR)
2	AMENDMENT TO A PREVIOUSLY ISSUED PRODUCT (AMD)
3	CORRECTION TO A PREVIOUSLY ISSUED AMENDED PRODUCT (COR AMD)
4	CANCELLATION OF A PREVIOUSLY ISSUED PRODUCT (CNL)
5	NO PRODUCT AVAILABLE (NIL)

6	SPECIAL REPORT (SPECI)
7	CORRECTED SPECIAL REPORT (SPECI COR)
15	MISSING OR NOT APPLICABLE

Code table for element 008080 (QUALIFIER FOR GTSPP QUALITY FLAG)

Value	Description
0	TOTAL WATER PRESSURE PROFILE
1	TOTAL WATER TEMPERATURE PROFILE
2	TOTAL WATER SALINITY PROFILE
3	TOTAL WATER CONDUCTIVITY PROFILE
4	TOTAL WATER DEPTH
10	WATER PRESSURE AT A LEVEL
11	WATER TEMPERATURE AT A LEVEL
12	SALINITY AT A LEVEL
13	WATER DEPTH AT A LEVEL
14	SEA/WATER CURRENT SPEED AT A LEVEL
15	SEA/WATER CURRENT DIRECTION AT A LEVEL
16	DISSOLVED OXYGEN AT A LEVEL
20	POSITION
63	MISSING VALUE

Code table for element 008081 (TYPE OF EQUIPMENT)

Value	Description
0	SENSOR
1	TRANSMITTER
2	RECEIVER
3	OBSERVING PLATFORM
63	MISSING VALUE

Code table for element 008082 (MODIFICATION OF SENSOR HEIGHT TO ANOTHER VALUE)

Value	Description
0	SENSOR HEIGHT IS NOT MODIFIED
1	SENSOR HEIGHT IS MODIFIED TO STANDARD LEVEL
7	MISSING VALUE

Flag table for element 008083 (NOMINAL VALUE INDICATOR)

Total number of bits: **15**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16384	ADJUSTED TO OR WITH RESPECT TO REPRESENTATIVE HEIGHT OF SENSOR ABOVE LOCAL GROUND (OR DECK OF MARINE PLATFORM)
2	8192	ADJUSTED TO OR WITH RESPECT TO REPRESENTATIVE HEIGHT OF SENSOR ABOVE WATER SURFACE

3	4096	ADJUSTED WITH RESPECT TO STANDARD SURFACE ROUGHNESS
4	2048	ADJUSTED WITH RESPECT TO WIND SPEED
5	1024	ADJUSTED WITH RESPECT TO TEMPERATURE
6	512	ADJUSTED WITH RESPECT TO PRESSURE
7	256	ADJUSTED WITH RESPECT TO HUMIDITY
8	128	ADJUSTED WITH RESPECT TO EVAPORATION
9	64	ADJUSTED WITH RESPECT TO WETTING LOSSES

Code table for element 008085 (BEAM IDENTIFIER)

Value	Description
0	FORE BEAM
1	MID BEAM
2	AFT BEAM
7	MISSING VALUE

Flag table for element 008086 (VERTICAL SIGNIFICANCE FOR NWP)

Total number of bits: **12**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2048	MODEL GROUND SURFACE
2	1024	STANDARD LEVEL
3	512	TROPOPAUSE LEVEL
4	256	MAXIMUM WIND LEVEL
5	128	SIGNIFICANT TEMPERATURE LEVEL
6	64	SIGNIFICANT HUMIDITY LEVEL
7	32	SIGNIFICANT WIND LEVEL
8	16	VERTICALLY INTERPOLATED LEVEL (THIS SHOULD BE SET TO 1 FOR POINTS ON THE VERTICAL PROFILE THAT FALL BETWEEN THE MODEL'S NATIVE VERTICAL LEVELS.)
9	8	VIRTUAL STATION HEIGHT
10	4	LEVEL OF BEST FIT
11	2	RESERVED

Code table for element 008087 (CORNER POSITION OF OBSERVATION)

Value	Description
0	UPPER LEFT
1	UPPER RIGHT
2	LOWER RIGHT
3	LOWER LEFT
7	MISSING VALUE

Code table for element 008088 (MAP SIGNIFICANCE)

Value	Description

0	TOP VIEW (GEOGRAPHICAL LONGITUDE ON X-AXIS AND LATITUDE ON Y-AXIS)
1	NORTH-SOUTH VIEW (TRANSECT WITH GEOGRAPHICAL LONGITUDE ON X-AXIS AND VERTICAL HEIGHT ON Y-AXIS)
2	EAST-WEST VIEW (TRANSECT WITH GEOGRAPHICAL LATITUDE ON X-AXIS AND VERTICAL HEIGHT ON Y-AXIS)
63	MISSING

Code table for element 008091 (COORDINATES SIGNIFICANCE)

Value	Description
0	SATELLITE COORDINATES
1	OBSERVATION COORDINATES
2	START OF OBSERVATION
3	END OF OBSERVATION
4	HORIZONTAL CENTRE OF GRAVITY OF THE OBSERVATION
5	VERTICAL CENTRE OF GRAVITY OF THE OBSERVATION
6	TOP OF THE OBSERVATION
7	BOTTOM OF THE OBSERVATION
8	PROJECTION ORIGIN
9	COORDINATES OF TRUE SCALE
255	MISSING VALUE

Code table for element 008092 (MEASUREMENT UNCERTAINTY EXPRESSION)

Value	Description
0	STANDARD UNCERTAINTY
31	MISSING VALUE

Code table for element 008093 (MEASUREMENT UNCERTAINTY SIGNIFICANCE)

Value	Description
0	TOTAL UNCERTAINTY
1	SYSTEMATIC COMPONENT OF UNCERTAINTY
2	RANDOM COMPONENT OF UNCERTAINTY
31	MISSING VALUE

Class 10 - Non-coordinate location (vertical) - code-flag tables

Code table for element 010063 (CHARACTERISTIC OF PRESSURE TENDENCY)

Value	Description
0	INCREASING, THEN DECREASING; ATMOSPHERIC PRESSURE THE SAME OR HIGHER THAN THREE HOURS AGO
1	INCREASING, THEN STEADY; OR INCREASING, THEN INCREASING MORE SLOWLY
2	INCREASING (STEADILY OR UNSTEADILY)
3	DECREASING OR STEADY, THEN INCREASING; OR INCREASING, THEN INCREASING MORE RAPIDLY
4	STEADY; ATMOSPHERIC PRESSURE THE SAME AS THREE HOURS AGO
5	DECREASING, THEN INCREASING; ATMOSPHERIC PRESSURE THE SAME OR LOWER THAN THREE HOURS AGO
6	DECREASING, THEN STEADY; OR DECREASING, THEN DECREASING MORE SLOWLY

7	DECREASING (STEADILY OR UNSTEADILY)
8	STEADY OR INCREASING, THEN DECREASING; OR DECREASING, THEN DECREASING MORE RAPIDLY
15	MISSING VALUE

Code table for element 010064 (SIGMET CRUISING LEVEL)

Value	Description
0	SUBSONIC
1	TRANSONIC
2	SUPERSONIC
7	MISSING VALUE

Class 11 - Wind and turbulence - code-flag tables

Code table for element 011030 (EXTENDED DEGREE OF TURBULENCE)

Value	Description
0	NIL
1	LIGHT
2	MODERATE
3	SEVERE
4	NIL
5	LIGHT
6	MODERATE
7	SEVERE
8	NIL
9	LIGHT
10	MODERATE
11	SEVERE
12	EXTREME, IN CLEAR AIR
13	EXTREME, IN CLOUD
14	EXTREME, CLOUD/CLEAR AIR NOT SPECIFIED
15	LIGHT, ISOLATED MODERATE
16	LIGHT, OCCASIONAL MODERATE
17	LIGHT, FREQUENTLY MODERATE
18	MODERATE, ISOLATED SEVERE
19	MODERATE, OCCASIONAL SEVERE
20	MODERATE, FREQUENTLY SEVERE
21	SEVERE, ISOLATED EXTREME
22	SEVERE, OCCASIONAL EXTREME
23	SEVERE, FREQUENTLY EXTREME
63	MISSING VALUE

Code table for element 011031 (DEGREE OF TURBULENCE)

Value	Description
0	NIL
1	LIGHT
2	MODERATE
3	SEVERE
4	NIL
5	LIGHT
6	MODERATE
7	SEVERE
8	NIL
9	LIGHT
10	MODERATE
11	SEVERE
12	EXTREME, IN CLEAR AIR
13	EXTREME, IN CLOUD
14	EXTREME, CLOUD/CLEAR AIR NOT SPECIFIED
15	MISSING VALUE

Code table for element 011037 (TURBULENCE INDEX)

Value	Description
0	AVE < 0.1
1	AVE < 0.1
2	0.1 =< AVE < 0.2
3	AVE <0.1
4	0.1 =< AVE < 0.2
5	0.2 =< AVE < 0.3
6	AVE < 0.1
7	0.1 =< AVE < 0.2
8	0.2 =< AVE < 0.3
9	0.3 =< AVE < 0.4
10	AVE < 0.1
11	0.1 =< AVE < 0.2
12	0.2 =< AVE < 0.3
13	0.3 =< AVE < 0.4
14	0.4 =< AVE < 0.5
15	AVE < 0.1
16	0.1 =< AVE < 0.2
17	0.2 =< AVE < 0.3
18	0.3 =< AVE < 0.4
19	0.4 =< AVE < 0.5

20	0.5 =< AVE < 0.8
21	AVE < 0.1
22	0.1 =< AVE < 0.2
23	0.2 =< AVE < 0.3
24	0.3 =< AVE < 0.4
25	0.4 =< AVE < 0.5
26	0.5 =< AVE < 0.8
27	0.8 =< AVE
28	NIL
63	MISSING VALUE

Code table for element 011038 (TIME OF OCCURRENCE OF PEAK EDDY DISSIPATION RATE)

Value	Description
0	MIN < 1
1	1 =< MIN < 2
2	2 =< MIN < 3
3	3 =< MIN < 4
4	4 =< MIN < 5
5	5 =< MIN < 6
6	6 =< MIN < 7
7	7 =< MIN < 8
8	8 =< MIN < 9
9	9 =< MIN < 10
10	10 =< MIN < 11
11	11 =< MIN < 12
12	12 =< MIN < 13
13	13 =< MIN < 14
14	14 =< MIN < 15
15	NO TIMING INFORMATION AVAILABLE
31	MISSING VALUE

Code table for element 011039 (EXTENDED TIME OF OCCURRENCE OF PEAK EDDY DISSIPATION RATE)

Value	Description
0	MIN < 1
1	1 =< MIN < 2
2	2 =< MIN < 3
3	3 =< MIN < 4
4	4 =< MIN < 5
5	5 =< MIN < 6
6	6 =< MIN < 7
7	7 =< MIN < 8

8	8 =< MIN < 9
9	9 =< MIN < 10
10	10 =< MIN < 11
11	11 =< MIN < 12
12	12 =< MIN < 13
13	13 =< MIN < 14
14	14 =< MIN < 15
60	NO TIMING INFORMATION AVAILABLE
63	MISSING VALUE

Class 13 - Hydrographic and hydrological elements - code-flag tables

Code table for element 013038 (SUPERADIABATIC INDICATOR)

Value	Description
0	NOT SUPERADIABATIC
1	SUPERADIABATIC
2	RESERVED
3	MISSING VALUE

Code table for element 013039 (TERRAIN TYPE (ICE/SNOW))

Value	Description
0	SEA ICE
1	SNOW ON LAND
7	MISSING VALUE

Code table for element 013040 (SURFACE FLAG)

Value	Description
0	LAND
1	RESERVED
2	NEAR COAST
3	ICE
4	POSSIBLE ICE
5	OCEAN
6	COAST
7	INLAND WATER
8	SNOW COVER
9	SEA ICE
10	STANDING WATER
11	SNOW
15	MISSING VALUE

Code table for element 013041 (PASQUILL-GIFFORD STABILITY CATEGORY)

Value	Description
1	A
2	A - B
3	B
4	B - C
5	C
6	D
7	E
8	F
9	G
15	MISSING VALUE

Code table for element 013051 (FREQUENCY GROUP, PRECIPITATION)

Value	Description
0	SMALLER THAN ANY VALUE IN THE 30-YEAR PERIOD
1	IN THE FIRST QUINTILE
2	IN THE SECOND QUINTILE
3	IN THE THIRD QUINTILE
4	IN THE FOURTH QUINTILE
5	IN THE FIFTH QUINTILE
6	GREATER THAN ANY VALUE IN THE 30-YEAR PERIOD
15	MISSING VALUE

Code table for element 013056 (CHARACTER AND INTENSITY OF PRECIPITATION)

Value	Description
0	NO PRECIPITATION
1	LIGHT INTERMITTENT
2	MODERATE INTERMITTENT
3	HEAVY INTERMITTENT
4	VERY HEAVY INTERMITTENT
5	LIGHT CONTINUOUS
6	MODERATE CONTINUOUS
7	HEAVY CONTINUOUS
8	VERY HEAVY CONTINUOUS
9	VARIABLE - ALTERNATIVELY LIGHT AND HEAVY
15	MISSING VALUE

Code table for element 013057 (TIME OF BEGINNING OR END OF PRECIPITATION)

Value	Description
0	NO PRECIPITATION
1	WITHIN THE LAST HOUR

2	1 TO 2 HOURS AGO
3	2 TO 3 HOURS AGO
4	3 TO 4 HOURS AGO
5	4 TO 5 HOURS AGO
6	5 TO 6 HOURS AGO
7	6 TO 8 HOURS AGO
8	8 TO 10 HOURS AGO
9	MORE THAN 10 HOURS AGO
15	MISSING VALUE

Class 15 - Physical/chemical constituents - code-flag tables

Code table for element 015025 (TYPE OF POLLUTANT)

Value	Description
0	OZONE
11	FINE PARTICULATE MATTER (DIAMETER < 2.5 MICRONS)
12	FINE PARTICULATE MATTER (DIAMETER < 10 MICRONS)
15	MISSING VALUE

Class 19 - Synoptic features - code-flag tables

Code table for element 019001 (TYPE OF SYNOPTIC FEATURE)

Value	Description
0	DEPRESSION OR LOW (EXTRATROPLCAL)
1	TROPICAL DEPRESSION
2	TROPICAL STORM
3	SEVERE TROPICAL STORM
4	TYPHOON
10	DUST/SANDSTORM
63	MISSING VALUE

Code table for element 019008 (VERTICAL EXTENT OF CIRCULATION)

Value	Description
0	RESERVED
1	SHALLOW (TOP OF CIRCULATION BELOW 700-HPA LEVEL)
2	MEDIUM (TOP BETWEEN 700-HPA AND 400-HPA LEVEL)
3	DEEP (TOP ABOVE 400-HPA LEVEL)
7	MISSING VALUE

Code table for element 019010 (METHOD FOR TRACKING THE CENTRE OF SYNOPTIC FEATURE)

Value	Description
1	MINIMUM VALUE OF SEA LEVEL PRESSURE

2	MAXIMUM VALUE OF 850 HPA RELATIVE VORTICITY
15	MISSING VALUE

Code table for element 019100 (TIME INTERVAL TO CALCULATE THE MOVEMENT OF THE TROPICAL CYCLONE)

Value	Description
3	DURING THE PRECEDING 15 MINUTES
4	DURING THE PRECEDING 30 MINUTES
5	DURING THE PRECEDING 1 HOUR
6	DURING THE PRECEDING 2 HOURS
7	DURING THE PRECEDING 3 HOURS
8	DURING THE PRECEDING 6 HOURS
9	DURING A PERIOD OF MORE THAN 6 HOURS
10	UNDETERMINED
15	MISSING VALUE

Code table for element 019101 (ACCURACY OF THE POSITION OF THE CENTRE OF THE TROPICAL CYCLONE)

Value	Description
0	RESERVED
1	EYE VISIBLE ON RADAR SCOPE, ACCURACY GOOD (WITHIN 10 KM)
2	EYE VISIBLE ON RADAR SCOPE, ACCURACY FAIR (WITHIN 30 KM)
3	EYE VISIBLE ON RADAR SCOPE, ACCURACY POOR (WITHIN 50 KM)
4	POSITION OF THE CENTRE WITHIN THE AREA COVERED BY THE RADAR SCOPE, DETERMINATION BY MEANS OF THE SPIRAL-BAND OVERLAY, ACCURACY GOOD (WITHIN 10 KM)
5	POSITION OF THE CENTRE WITHIN THE AREA COVERED BY THE RADAR SCOPE, DETERMINATION BY MEANS OF THE SPIRAL-BAND OVERLAY, ACCURACY FAIR (WITHIN 30 KM)
6	POSITION OF THE CENTRE WITHIN THE AREA COVERED BY THE RADAR SCOPE, DETERMINATION BY MEANS OF THE SPIRAL-BAND OVERLAY, ACCURACY POOR (WITHIN 50 KM)
7	POSITION OF THE CENTRE OUTSIDE THE AREA COVERED BY THE RADAR SCOPE, EXTRAPOLATION BY MEANS OF THE SPIRAL-BAND OVERLAY
10	ACCURACY UNDETERMINED
15	MISSING VALUE

Code table for element 019102 (SHAPE AND DEFINITION OF THE EYE OF THE TROPICAL CYCLONE)

Value	Description
0	CIRCULAR
1	ELLIPTICAL - THE MINOR AXIS IS AT LEAST 3/4 THE LENGTH OF THE MAJOR AXIS
2	ELLIPTICAL - THE MINOR AXIS IS LESS THAN 3/4 THE LENGTH OF THE MAJOR AXIS
3	APPARENT DOUBLE EYE
4	OTHER SHAPE
5	ILL DEFINED
6	UNDETERMINED
7	MISSING VALUE

Code table for element 019103 (DIAMETER OF MAJOR AXIS OF THE EYE OF THE TROPICAL CYCLONE)

Value	Description
0	LESS THAN 5 KM
1	5 TO LESS THAN 10 KM
2	10 TO LESS THAN 15 KM
3	15 TO LESS THAN 20 KM
4	20 TO LESS THAN 25 KM
5	25 TO LESS THAN 30 KM
6	30 TO LESS THAN 35 KM
7	35 TO LESS THAN 40 KM
8	40 TO LESS THAN 50 KM
9	50 KM AND GREATER
10	UNDETERMINED
15	MISSING VALUE

Code table for element 019104 (CHANGE IN CHARACTER OF THE EYE DURING THE 30 MINUTES)

Value	Description
0	EYE HAS FIRST BECOME VISIBLE DURING THE PAST 30 MINUTES
1	NO SIGNIFICANT CHANGE IN THE CHARACTERISTICS OR SIZE OF THE EYE
2	EYE HAS BECOME SMALLER WITH NO OTHER SIGNIFICANT CHANGE IN CHARACTERISTICS
3	EYE HAS BECOME LARGER WITH NO OTHER SIGNIFICANT CHANGE IN CHARACTERISTICS
4	EYE HAS BECOME LESS DISTINCT WITH NO SIGNIFICANT CHANGE IN SIZE
5	EYE HAS BECOME LESS DISTINCT AND DECREASED IN SIZE
6	EYE HAS BECOME LESS DISTINCT AND INCREASED IN SIZE
7	EYE HAS BECOME MORE DISTINCT WITH NO SIGNIFICANT CHANGE IN SIZE
8	EYE HAS BECOME MORE DISTINCT AND DECREASED IN SIZE
9	EYE HAS BECOME MORE DISTINCT AND INCREASED IN SIZE
10	CHANGE IN CHARACTER AND SIZE OF EYE CANNOT BE DETERMINED
15	MISSING VALUE

Code table for element 019105 (DISTANCE BETWEEN THE END OF SPIRAL BAND AND THE CENTRE)

Value	Description
0	0 TO LESS THAN 100 KM
1	100 TO LESS THAN 200 KM
2	200 TO LESS THAN 300 KM
3	300 TO LESS THAN 400 KM
4	400 TO LESS THAN 500 KM
5	500 TO LESS THAN 600 KM
6	600 TO LESS THAN 800 KM
7	800 KM OR MORE
10	DOUBTFUL OR UNDETERMINED

15	MISSING VALUE

Code table for element 019107 (TIME INTERVAL OVER WHICH THE MOVEMENT OF THE TROPICAL CYCLONE HAS BEEN CALCULATED)

Value	Description
0	LESS THAN 1 HOUR
1	1 TO LESS THAN 2 HOURS
2	2 TO LESS THAN 3 HOURS
3	3 TO LESS THAN 6 HOURS
4	6 TO LESS THAN 9 HOURS
5	9 TO LESS THAN 12 HOURS
6	12 TO LESS THAN 15 HOURS
7	15 TO LESS THAN 18 HOURS
8	18 TO LESS THAN 21 HOURS
9	21 TO LESS THAN 30 HOURS
15	MISSING VALUE

Code table for element 019108 (ACCURACY OF GEOGRAPHICAL POSITION OF THE TROPICAL CYCLONE)

Value	Description
0	CYCLONE CENTRE WITHIN 10 KM OF THE TRANSMITTED POSITION
1	CYCLONE CENTRE WITHIN 20 KM OF THE TRANSMITTED POSITION
2	CYCLONE CENTRE WITHIN 50 KM OF THE TRANSMITTED POSITION
3	CYCLONE CENTRE WITHIN 100 KM OF THE TRANSMITTED POSITION
4	CYCLONE CENTRE WITHIN 200 KM OF THE TRANSMITTED POSITION
5	CYCLONE CENTRE WITHIN 300 KM OF THE TRANSMITTED POSITION
6	CYCLONE CENTRE UNDETERMINED
7	MISSING VALUE

Code table for element 019109 (MEAN DIAMETER OF THE OVERCAST CLOUD OF THE TROPICAL CYCLONE)

Value	Description
0	LESS THAN 1° OF LATITUDE
1	1° TO LESS THAN 2° OF LATITUDE
2	2° TO LESS THAN 3° OF LATITUDE
3	3° TO LESS THAN 4° OF LATITUDE
4	4° TO LESS THAN 5° OF LATITUDE
5	5° TO LESS THAN 6° OF LATITUDE
6	6° TO LESS THAN 7° OF LATITUDE
7	7° TO LESS THAN 8° OF LATITUDE
8	8° TO LESS THAN 9° OF LATITUDE
9	9° OF LATITUDE OR MORE
10	UNDETERMINED

15	MISSING VALUE

Code table for element 019110 (APPARENT 24-HOUR CHANGE IN INTENSITY OF THE TROPICAL CYCLONE)

Value	Description
0	MUCH WEAKENING
1	WEAKENING
2	NO CHANGE
3	INTENSIFICATION
4	STRONG INTENSIFICATION
9	NOT OBSERVED PREVIOUSLY
10	UNDETERMINED
15	MISSING VALUE

Code table for element 019113 (CLOUD PATTERN TYPE OF THE DT-NUMBER)

Value	Description
1	CURVED BAND
2	SHEAR
3	EYE
4	BANDING EYE
5	CENTRAL DENSE OVERCAST (CDO)
6	EMBEDDED CENTRE
7	CENTRE COLD COVER (CCC)
15	MISSING VALUE

Code table for element 019117 (CLOUD PICTURE TYPE OF THE PT-NUMBER)

Value	Description
1	A (CURVED BAND)
2	B (CDO)
3	C (SHEAR)
7	MISSING VALUE

Code table for element 019119 (TYPE OF THE FINAL T-NUMBER)

Value	Description
1	DT-NUMBER
2	PT-NUMBER
3	MET-NUMBER
7	MISSING VALUE

Class 20 - Observed phenomena - code-flag tables

Code table for element 020003 (PRESENT WEATHER)

Value	Description

0	CLOUD DEVELOPMENT NOT OBSERVED OR NOT OBSERVABLE
1	CLOUDS GENERALLY DISSOLVING OR BECOMING LESS DEVELOPED
2	STATE OF SKY ON THE WHOLE UNCHANGED
3	CLOUDS GENERALLY FORMING OR DEVELOPING
4	VISIBILITY REDUCED BY SMOKE, E.G. VELDT OR FOREST FIRES, INDUSTRIAL SMOKE OR VOLCANIC ASHES
5	HAZE
6	WIDESPREAD DUST IN SUSPENSION IN THE AIR, NOT RAISED BY WIND AT OR NEAR THE STATION AT THE TIME OF OBSERVATION
7	DUST OR SAND RAISED BY WIND AT OR NEAR THE STATION AT THE TIME OF OBSERVATION, BUT NO WELL-DEVELOPED DUST WHIRL(S) OR SAND WHIRL(S), AND NO DUSTSTORM OR SANDSTORM SEEN; OR, IN THE CASE OF SEA STATIONS AND COASTAL STATIONS, BLOWING SPRAY AT THE STATION
8	WELL-DEVELOPED DUST WHIRL(S) OR SAND WHIRL(S) SEEN AT OR NEAR THE STATION DURING THE PRECEDING HOUR OR AT THE SAME TIME OF OBSERVATION, BUT NO DUSTSTORM OR SANDSTORM
9	DUSTSTORM OR SANDSTORM WITHIN SIGHT AT THE TIME OF OBSERVATION, OR AT THE STATION DURING THE PRECEDING HOUR
10	MIST
11	PATCHES
12	MORE OR LESS CONTINUOUS
13	LIGHTNING VISIBLE, NO THUNDER HEARD
14	PRECIPITATION WITHIN SIGHT, NOT REACHING THE GROUND OR THE SURFACE OF THE SEA
15	PRECIPITATION WITHIN SIGHT, REACHING THE GROUND OR THE SURFACE OF THE SEA, BUT DISTANT, I.E. ESTIMATED TO BE MORE THAN 5 KM FROM THE STATION
16	PRECIPITATION WITHIN SIGHT, REACHING THE GROUND OR THE SURFACE OF THE SEA, NEAR TO, BUT NOT AT THE STATION
17	THUNDERSTORM, BUT NO PRECIPITATION AT THE TIME OF OBSERVATION
18	SQUALLS
19	FUNNEL CLOUD(S)
20	DRIZZLE (NOT FREEZING) OR SNOW GRAINS
21	RAIN (NOT FREEZING)
22	SNOW
23	RAIN AND SNOW OR ICE PELLETS
24	FREEZING DRIZZLE OR FREEZING RAIN
25	SHOWER(S) OF RAIN
26	SHOWER(S) OF SNOW, OR OF RAIN AND SNOW
27	SHOWER(S) OF HAIL*, OR OF RAIN AND HAIL*
28	FOG OR ICE FOG
29	THUNDERSTORM (WITH OR WITHOUT PRECIPITATION)
30	SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM
31	SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM
32	SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM
33	SEVERE DUSTSTORM OR SANDSTORM
34	SEVERE DUSTSTORM OR SANDSTORM
35	SEVERE DUSTSTORM OR SANDSTORM
36	SLIGHT OR MODERATE DRIFTING SNOW

37	HEAVY DRIFTING SNOW
38	SLIGHT OR MODERATE BLOWING SNOW
39	HEAVY BLOWING SNOW
40	FOG OR ICE FOG AT A DISTANCE AT THE TIME OF OBSERVATION, BUT NOT AT THE STATION DURING THE PRECEDING HOUR, THE FOG OR ICE FOG EXTENDING TO A LEVEL ABOVE THAT OF THE OBSERVER
41	FOG OR ICE FOG IN PATCHES
42	FOG OR ICE FOG, SKY VISIBLE
43	FOG OR ICE FOG, SKY INVISIBLE
44	FOG OR ICE FOG, SKY VISIBLE
45	FOG OR ICE FOG, SKY INVISIBLE
46	FOG OR ICE FOG, SKY VISIBLE
47	FOG OR ICE FOG, SKY INVISIBLE
48	FOG, DEPOSITING RIME, SKY VISIBLE
49	FOG, DEPOSITING RIME, SKY INVISIBLE
50	DRIZZLE, NOT FREEZING, INTERMITTENT
51	DRIZZLE, NOT FREEZING, CONTINUOUS
52	DRIZZLE, NOT FREEZING, INTERMITTENT
53	DRIZZLE, NOT FREEZING, CONTINUOUS
54	DRIZZLE, NOT FREEZING, INTERMITTENT
55	DRIZZLE, NOT FREEZING, CONTINUOUS
56	DRIZZLE, FREEZING, SLIGHT
57	DRIZZLE, FREEZING, MODERATE OR HEAVY (DENSE)
58	DRIZZLE AND RAIN, SLIGHT
59	DRIZZLE AND RAIN, MODERATE OR HEAVY
60	RAIN, NOT FREEZING, INTERMITTENT
61	RAIN, NOT FREEZING, CONTINUOUS
62	RAIN, NOT FREEZING, INTERMITTENT
63	RAIN, NOT FREEZING, CONTINUOUS
64	RAIN, NOT FREEZING, INTERMITTENT
65	RAIN, NOT FREEZING, CONTINUOUS
66	RAIN, FREEZING, SLIGHT
67	RAIN, FREEZING, MODERATE OR HEAVY
68	RAIN OR DRIZZLE AND SNOW, SLIGHT
69	RAIN OR DRIZZLE AND SNOW, MODERATE OR HEAVY
70	INTERMITTENT FALL OF SNOWFLAKES
71	CONTINUOUS FALL OF SNOWFLAKES
72	INTERMITTENT FALL OF SNOWFLAKES
73	CONTINUOUS FALL OF SNOWFLAKES
74	INTERMITTENT FALL OF SNOWFLAKES
75	CONTINUOUS FALL OF SNOWFLAKES
76	DIAMOND DUST (WITH OR WITHOUT FOG)

77	SNOW GRAINS (WITH OR WITHOUT FOG)
78	ISOLATED STAR-LIKE SNOW CRYSTALS (WITH OR WITHOUT FOG)
79	ICE PELLETS
80	RAIN SHOWER(S), SLIGHT
81	RAIN SHOWER(S), MODERATE OR HEAVY
82	RAIN SHOWER(S), VIOLENT
83	SHOWER(S) OF RAIN AND SNOW MIXED, SLIGHT
84	SHOWER(S) OF RAIN AND SNOW MIXED, MODERATE OR HEAVY
85	SNOW SHOWER(S), SLIGHT
86	SNOW SHOWER(S), MODERATE OR HEAVY
87	SHOWER(S) OF SNOW PELLETS OR SMALL HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIXED
88	SHOWER(S) OF SNOW PELLETS OR SMALL HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIXED
89	SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIXED, NOT ASSOCIATED WITH THUNDER
90	SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIXED, NOT ASSOCIATED WITH THUNDER
91	SLIGHT RAIN AT TIME OF OBSERVATION
92	MODERATE OR HEAVY RAIN AT TIME OF OBSERVATION
93	SLIGHT SNOW, OR RAIN AND SNOW MIXED OR HAIL* AT TIME OF OBSERVATION
94	MODERATE OR HEAVY SNOW, OR RAIN AND SNOW MIXED OR HAIL* AT TIME OF OBSERVATION
95	THUNDERSTORM, SLIGHT OR MODERATE, WITHOUT HAIL*, BUT WITH RAIN AND/OR SNOW AT TIME OF OBSERVATION
96	THUNDERSTORM, SLIGHT OR MODERATE, WITH HAIL* AT TIME OF OBSERVATION
97	THUNDERSTORM, HEAVY, WITHOUT HAIL*, BUT WITH RAIN AND/OR SNOW AT TIME OF OBSERVATION
98	THUNDERSTORM COMBINED WITH DUSTSTORM OR SANDSTORM AT TIME OF OBSERVATION
99	THUNDERSTORM, HEAVY, WITH HAIL* AT TIME OF OBSERVATION
100	NO SIGNIFICANT WEATHER OBSERVED
101	CLOUDS GENERALLY DISSOLVING OR BECOMING LESS DEVELOPED DURING THE PAST HOUR
102	STATE OF SKY ON THE WHOLE UNCHANGED DURING THE PAST HOUR
103	CLOUDS GENERALLY FORMING OR DEVELOPING DURING THE PAST HOUR
104	HAZE OR SMOKE, OR DUST IN SUSPENSION IN THE AIR, VISIBILITY EQUAL TO, OR GREATER THAN, 1 KM
105	HAZE OR SMOKE, OR DUST IN SUSPENSION IN THE AIR, VISIBILITY LESS THAN 1 KM
110	MIST
111	DIAMOND DUST
112	DISTANT LIGHTNING
118	SQUALLS
119	RESERVED
120	FOG
121	PRECIPITATION
122	DRIZZLE (NOT FREEZING) OR SNOW GRAINS
123	RAIN (NOT FREEZING)
124	SNOW
125	FREEZING DRIZZLE OR FREEZING RAIN
126	THUNDERSTORM (WITH OR WITHOUT PRECIPITATION)

127	BLOWING OR DRIFTING SNOW OR SAND
128	BLOWING OR DRIFTING SNOW OR SAND, VISIBILITY EQUAL TO, OR GREATER THAN, 1 KM
129	BLOWING OR DRIFTING SNOW OR SAND, VISIBILITY LESS THAN 1 KM
130	FOG
131	FOG OR ICE FOG IN PATCHES
132	FOG OR ICE FOG, HAS BECOME THINNER DURING THE PAST HOUR
133	FOG OR ICE FOG, NO APPRECIABLE CHANGE DURING THE PAST HOUR
134	FOG OR ICE FOG, HAS BEGUN OR BECOME THICKER DURING THE PAST HOUR
135	FOG, DEPOSITING RIME
140	PRECIPITATION
141	PRECIPITATION, SLIGHT OR MODERATE
142	PRECIPITATION, HEAVY
143	LIQUID PRECIPITATION, SLIGHT OR MODERATE
144	LIQUID PRECIPITATION, HEAVY
145	SOLID PRECIPITATION, SLIGHT OR MODERATE
146	SOLID PRECIPITATION, HEAVY
147	FREEZING PRECIPITATION, SLIGHT OR MODERATE
148	FREEZING PRECIPITATION, HEAVY
149	RESERVED
150	DRIZZLE
151	DRIZZLE, NOT FREEZING, SLIGHT
152	DRIZZLE, NOT FREEZING, MODERATE
153	DRIZZLE, NOT FREEZING, HEAVY
154	DRIZZLE, FREEZING, SLIGHT
155	DRIZZLE, FREEZING, MODERATE
156	DRIZZLE, FREEZING, HEAVY
157	DRIZZLE AND RAIN, SLIGHT
158	DRIZZLE AND RAIN, MODERATE OR HEAVY
159	RESERVED
160	RAIN
161	RAIN, NOT FREEZING, SLIGHT
162	RAIN, NOT FREEZING, MODERATE
163	RAIN, NOT FREEZING, HEAVY
164	RAIN, FREEZING, SLIGHT
165	RAIN, FREEZING, MODERATE
166	RAIN, FREEZING, HEAVY
167	RAIN (OR DRIZZLE) AND SNOW, SLIGHT
168	RAIN (OR DRIZZLE) AND SNOW, MODERATE OR HEAVY
169	RESERVED
170	SNOW
171	SNOW, SLIGHT

172	SNOW, MODERATE
173	SNOW, HEAVY
174	ICE PELLETS, SLIGHT
175	ICE PELLETS, MODERATE
176	ICE PELLETS, HEAVY
177	SNOW GRAINS
178	ICE CRYSTALS
179	RESERVED
180	SHOWER(S) OR INTERMITTENT PRECIPITATION
181	RAIN SHOWER(S) OR INTERMITTENT RAIN, SLIGHT
182	RAIN SHOWER(S) OR INTERMITTENT RAIN, MODERATE
183	RAIN SHOWER(S) OR INTERMITTENT RAIN, HEAVY
184	RAIN SHOWER(S) OR INTERMITTENT RAIN, VIOLENT
185	SNOW SHOWER(S) OR INTERMITTENT SNOW, SLIGHT
186	SNOW SHOWER(S) OR INTERMITTENT SNOW, MODERATE
187	SNOW SHOWER(S) OR INTERMITTENT SNOW, HEAVY
188	RESERVED
189	HAIL
190	THUNDERSTORM
191	THUNDERSTORM, SLIGHT OR MODERATE, WITH NO PRECIPITATION
192	THUNDERSTORM, SLIGHT OR MODERATE, WITH RAIN SHOWERS AND/OR SNOW SHOWERS
193	THUNDERSTORM, SLIGHT OR MODERATE, WITH HAIL
194	THUNDERSTORM, HEAVY, WITH NO PRECIPITATION
195	THUNDERSTORM, HEAVY, WITH RAIN SHOWERS AND/OR SNOW SHOWERS
196	THUNDERSTORM, HEAVY, WITH HAIL
199	TORNADO
204	VOLCANIC ASH SUSPENDED IN THE AIR ALOFT
205	NOT USED
206	THICK DUST HAZE, VISIBILITY LESS THAN 1 KM
207	BLOWING SPRAY AT THE STATION
208	DRIFTING DUST (SAND)
209	WALL OF DUST OR SAND IN DISTANCE (LIKE HABOOB)
210	SNOW HAZE
211	WHITEOUT
212	NOT USED
213	LIGHTNING, CLOUD TO SURFACE
217	DRY THUNDERSTORM
218	NOT USED
219	TORNADO CLOUD (DESTRUCTIVE) AT OR WITHIN SIGHT OF THE STATION DURING PRECEDING HOUR OR AT THE TIME OF OBSERVATION
220	DEPOSITION OF VOLCANIC ASH

221	DEPOSITION OF DUST OR SAND
222	DEPOSITION OF DEW
223	DEPOSITION OF WET SNOW
224	DEPOSITION OF SOFT RIME
225	DEPOSITION OF HARD RIME
226	DEPOSITION OF HOAR FROST
227	DEPOSITION OF GLAZE
228	DEPOSITION OF ICE CRUST (ICE SLICK)
229	NOT USED
230	DUSTSTORM OR SANDSTORM WITH TEMPERATURE BELOW 0 °C
239	BLOWING SNOW, IMPOSSIBLE TO DETERMINE WHETHER SNOW IS FALLING OR NOT
240	NOT USED
241	FOG ON SEA
242	FOG IN VALLEYS
243	ARCTIC OR ANTARCTIC SEA SMOKE
244	STEAM FOG (SEA, LAKE OR RIVER)
245	STEAM LOG (LAND)
246	FOG OVER ICE OR SNOW COVER
247	DENSE FOG, VISIBILITY 60-90 M
248	DENSE FOG, VISIBILITY 30-60 M
249	DENSE FOG, VISIBILITY LESS THAN 30 M
250	DRIZZLE, RATE OF FALL - LESS THAN 0.10 MM H-1
251	DRIZZLE, RATE OF FALL - 0.10-0.19 MM H-1
252	DRIZZLE, RATE OF FALL - 0.20-0.39 MM H-1
253	DRIZZLE, RATE OF FALL - 0.40-0.79 MM H-1
254	DRIZZLE, RATE OF FALL - 0.80-1.59 MM H-1
255	DRIZZLE, RATE OF FALL - 1.60-3.19 MM H-1
256	DRIZZLE, RATE OF FALL - 3.20-6.39 MM H-1
257	DRIZZLE, RATE OF FALL - 6.4 MM H-1 OR MORE
258	NOT USED
259	DRIZZLE AND SNOW
260	RAIN, RATE OF FALL - LESS THAN 1.0 MM H-1
261	RAIN, RATE OF FALL - 1.0-1.9 MM H-1
262	RAIN, RATE OF FALL - 2.0-3.9 MM H-1
263	RAIN, RATE OF FALL - 4.0-7.9 MM H-1
264	RAIN, RATE OF FALL - 8.0-15.9 MM H-1
265	RAIN, RATE OF FALL - 16.0-31.9 MM H-1
266	RAIN, RATE OF FALL - 32.0-63.9 MM H-1
267	RAIN, RATE OF FALL - 64.0 MM H-1 OR MORE
270	SNOW, RATE OF FALL - LESS THAN 1.0 CM H-1
271	SNOW, RATE OF FALL - 1.0-1.9 CM H-1

272	SNOW, RATE OF FALL - 2.0-3.9 CM H-1
273	SNOW, RATE OF FALL - 4.0-7.9 CM H-1
274	SNOW, RATE OF FALL - 8.0-15.9 CM H-1
275	SNOW, RATE OF FALL - 16.0-31.9 CM H-1
276	SNOW, RATE OF FALL - 32.0-63.9 CM H-1
277	SNOW, RATE OF FALL - 64.0 CM H-1 OR MORE
278	SNOW OR ICE CRYSTAL PRECIPITATION FROM A CLEAR SKY
279	WET SNOW, FREEZING ON CONTACT
280	PRECIPITATION OF RAIN
281	PRECIPITATION OF RAIN, FREEZING
282	PRECIPITATION OF RAIN AND SNOW MIXED
283	PRECIPITATION OF SNOW
284	PRECIPITATION OF SNOW PELLETS OR SMALL HALL
285	PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH RAIN
286	PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH RAIN AND SNOW MIXED
287	PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH SNOW
288	PRECIPITATION OF HAIL
289	PRECIPITATION OF HAIL, WITH RAIN
290	PRECIPITATION OF HALL, WITH RAIN AND SNOW MIXED
291	PRECIPITATION OF HAIL, WITH SNOW
292	SHOWER(S) OR THUNDERSTORM OVER SEA
293	SHOWER(S) OR THUNDERSTORM OVER MOUNTAINS
508	NO SIGNIFICANT PHENOMENON TO REPORT, PRESENT AND PAST WEATHER OMITTED
509	NO OBSERVATION, DATA NOT AVAILABLE, PRESENT AND PAST WEATHER OMITTED
510	PRESENT AND PAST WEATHER MISSING, BUT EXPECTED
511	MISSING VALUE

Code table for element 020004 (PAST WEATHER (1))

Value	Description
0	CLOUD COVERING 1/2 OR LESS OF THE SKY THROUGHOUT THE APPROPRIATE PERIOD
1	CLOUD COVERING MORE THAN 1/2 OF THE SKY DURING PART OF THE APPROPRIATE PERIOD AND COVERING 1/2 OR LESS DURING PART OF THE PERIOD
2	CLOUD COVERING MORE THAN 1/2 OF THE SKY THROUGHOUT THE APPROPRIATE PERIOD
3	SANDSTORM, DUSTSTORM OR BLOWING SNOW
4	FOG OR ICE FOG OR THICK HAZE
5	DRIZZLE
6	RAIN
7	SNOW, OR RAIN AND SNOW MIXED
8	SHOWER(S)
9	THUNDERSTORM(S) WITH OR WITHOUT PRECIPITATION
10	NO SIGNIFICANT WEATHER OBSERVED

11	VISIBILITY REDUCED (SEE NOTE)
12	BLOWING PHENOMENA, VISIBILITY REDUCED
13	FOG (SEE NOTE)
14	PRECIPITATION (SEE NOTE)
15	DRIZZLE
16	RAIN
17	SNOW OR ICE PELLETS
18	SHOWERS OR INTERMITTENT PRECIPITATION
19	THUNDERSTORM
31	MISSING VALUE

Code table for element 020005 (PAST WEATHER (2))

Value	Description
0	CLOUD COVERING 1/2 OR LESS OF THE SKY THROUGHOUT THE APPROPRIATE PERIOD
1	CLOUD COVERING MORE THAN 1/2 OF THE SKY DURING PART OF THE APPROPRIATE PERIOD AND COVERING 1/2 OR LESS DURING PART OF THE PERIOD
2	CLOUD COVERING MORE THAN 1/2 OF THE SKY THROUGHOUT THE APPROPRIATE PERIOD
3	SANDSTORM, DUSTSTORM OR BLOWING SNOW
4	FOG OR ICE FOG OR THICK HAZE
5	DRIZZLE
6	RAIN
7	SNOW, OR RAIN AND SNOW MIXED
8	SHOWER(S)
9	THUNDERSTORM(S) WITH OR WITHOUT PRECIPITATION
10	NO SIGNIFICANT WEATHER OBSERVED
11	VISIBILITY REDUCED (SEE NOTE)
12	BLOWING PHENOMENA, VISIBILITY REDUCED
13	FOG (SEE NOTE)
14	PRECIPITATION (SEE NOTE)
15	DRIZZLE
16	RAIN
17	SNOW OR ICE PELLETS
18	SHOWERS OR INTERMITTENT PRECIPITATION
19	THUNDERSTORM
31	MISSING VALUE

Code table for element 020006 (FLIGHT RULES)

Value	Description
0	LOW INSTRUMENT FLIGHT RULES - CEILING < 500 FEET AND/OR VISIBILITY < 1 MILE
1	INSTRUMENT FLIGHT RULES - CEILING < 1000 FEET AND/OR VISIBILITY < 3 MILES
2	MARGINAL VISUAL FLIGHT RULES - 1000 FEET =< CEILING < 3000 FEET AND/OR 3 MILES =< VISIBILITY < 5 MILES

3	VISUAL FLIGHT RULES - CEILING >= 3000 FEET AND/OR VISIBILITY >= 5 MILES
7	MISSING VALUE

Code table for element 020008 (CLOUD DISTRIBUTION FOR AVIATION)

Value	Description
0	SKY CLEAR
1	FEW
2	SCATTERED
3	BROKEN
4	OVERCAST
5	RESERVED
6	SCATTERED/BROKEN
7	BROKEN/OVERCAST
8	ISOLATED
9	ISOLATED EMBEDDED
10	OCCASIONAL
11	OCCASIONAL EMBEDDED
12	FREQUENT
13	DENSE
14	LAYERS
15	OBSCURED (OBSC)
16	EMBEDDED (EMBD)
17	FREQUENT EMBEDDED
31	MISSING VALUE

Code table for element 020009 (GENERAL WEATHER INDICATOR (TAF/METAR))

Value	Description
0	RESERVED
1	NSC NIL SIGNIFICANT CLOUD
2	CAVOK
3	SKC SKY CLEAR
4	NSW NIL SIGNIFICANT WEATHER
15	MISSING VALUE

Code table for element 020011 (CLOUD AMOUNT)

Value	Description
0	0
1	1 OKTA OR LESS, BUT NOT ZERO
2	2 OKTAS
3	3 OKTAS
4	4 OKTAS

5	5 OKTAS
6	6 OKTAS
7	7 OKTAS OR MORE, BUT NOT 8 OKTAS
8	8 OKTAS
9	SKY OBSCURED BY FOG AND/OR OTHER METEOROLOGICAL PHENOMENA
10	SKY PARTIALLY OBSCURED BY FOG AND/OR OTHER METEOROLOGICAL PHENOMENA
11	SCATTERED
12	BROKEN
13	FEW
14	RESERVED
15	CLOUD COVER IS INDISCERNIBLE FOR REASONS OTHER THAN FOG OR OTHER METEOROLOGICAL PHENOMENA, OR OBSERVATION IS NOT MADE

Code table for element 020012 (CLOUD TYPE)

Value	Description
0	CIRRUS (CI)
1	CIRROCUMULUS (CC)
2	CIRROSTRATUS (CS)
3	ALTOCUMULUS (AC)
4	ALTOSTRATUS (AS)
5	NIMBOSTRATUS (NS)
6	STRATOCUMULUS (SC)
7	STRATUS (ST)
8	CUMULUS (CU)
9	CUMULONIMBUS (CB)
10	NO CH CLOUDS
11	CIRRUS FIBRATUS, SOMETIMES UNCINUS, NOT PROGRESSIVELY INVADING THE SKY
12	CIRRUS SPISSATUS, IN PATCHES OR ENTANGLED SHEAVES, WHICH USUALLY DO NOT INCREASE AND SOMETIMES SEEM TO BE THE REMAINS OF THE UPPER PART OF A CUMULONIMBUS; OR CIRRUS CASTELLANUS OR FLOCCUS
13	CIRRUS SPISSATUS CUMULONIMBOGENITUS
14	CIRRUS UNCINUS OR FIBRATUS, OR BOTH, PROGRESSIVELY INVADING THE SKY; THEY GENERALLY THICKEN AS A WHOLE
15	CIRRUS (OFTEN IN BANDS) AND CIRROSTRATUS, OR CIRROSTRATUS ALONE, PROGRESSIVELY INVADING THE SKY; THEY GENERALLY THICKEN AS A WHOLE, BUT THE CONTINUOUS VEIL DOES NOT REACH 45 DEGREES ABOVE THE HORIZON
16	CIRRUS (OFTEN IN BANDS) AND CIRROSTRATUS, OR CIRROSTRATUS ALONE, PROGRESSIVELY INVADING THE SKY; THEY GENERALLY THICKEN AS A WHOLE; THE CONTINUOUS VEIL EXTENDS MORE THAN 45 DEGREES ABOVE THE HORIZON, WITHOUT THE SKY BEING TOTALLY COVERED
17	CIRROSTRATUS COVERING THE WHOLE SKY
18	CIRROSTRATUS NOT PROGRESSIVELY INVADING THE SKY AND NOT ENTIRELY COVERING IT
19	CIRROCUMULUS ALONE, OR CIRROCUMULUS PREDOMINANT AMONG THE CH CLOUDS
20	NO CM CLOUDS
21	ALTOSTRATUS TRANSLUCIDUS
22	ALTOSTRATUS OPACUS OR NIMBOSTRATUS
23	ALTOCUMULUS TRANSLUCIDUS AT A SINGLE LEVEL

24	PATCHES (OFTEN LENTICULAR) OF ALTOCUMULUS TRANSLUCIDUS, CONTINUALLY CHANGING AND OCCURRING AT ONE OR MORE LEVELS
25	ALTOCUMULUS TRANSLUCIDUS IN BANDS, OR ONE OR MORE LAYERS OF ALTOCUMULUS TRANSLUCIDUS OR OPACUS, PROGRESSIVELY INVADING THE SKY; THESE ALTOCUMULUS CLOUDS GENERALLY THICKEN AS A WHOLE
26	ALTOCUMULUS CUMULOGENITUS (OR CUMULONIMBOGENITUS)
27	ALTOCUMULUS TRANSLUCIDUS OR OPACUS IN TWO OR MORE LAYERS, OR ALTOCUMULUS OPACUS IN A SINGLE LAYER, NOT PROGRESSIVELY INVADING THE SKY, OR ALTOCUMULUS WITH ALTOSTRATUS OR NIMBOSTRATUS
28	ALTOCUMULUS CASTELLANUS OR FLOCCUS
29	ALTOCUMULUS OF A CHAOTIC SKY, GENERALLY AT SEVERAL LEVELS
30	NO CL CLOUDS
31	CUMULUS HUMILIS OR CUMULUS FRACTUS OTHER THAN OF BAD WEATHER,* OR BOTH
32	CUMULUS MEDIOCRIS OR CONGESTUS, TOWERING CUMULUS (TCU), WITH OR WITHOUT CUMULUS OF SPECIES FRACTUS OR HUMILIS OR STRATOCUMULUS, ALL HAVING THEIR BASES AT THE SAME LEVEL
33	CUMULONIMBUS CALVUS, WITH OR WITHOUT CUMULUS, STRATOCUMULUS OR STRATUS
34	STRATOCUMULUS CUMULOGENITUS
35	STRATOCUMULUS OTHER THAN STRATOCUMULUS CUMULOGENITUS
36	STRATUS NEBULOSUS OR STRATUS FRACTUS OTHER THAN OF BAD WEATHER,* OR BOTH
37	STRATUS FRACTUS OR CUMULUS FRACTUS OF BAD WEATHER,* OR BOTH (PANNUS), USUALLY BELOW ALTOSTRATUS OR NIMBOSTRATUS
38	CUMULUS AND STRATOCUMULUS OTHER THAN STRATOCUMULUS CUMULOGENITUS, WITH BASES AT DIFFERENT LEVELS
39	CUMULONIMBUS CAPILLATUS (OFTEN WITH AN ANVIL), WITH OR WITHOUT CUMULONIMBUS CALVUS, CUMULUS, STRATOCUMULUS, STRATUS OR PANNUS
40	CH
41	CM
42	CL
43	CLEAR
44	LIQUID WATER
45	SUPERCOOLED LIQUID WATER
46	MIXED PHASE
47	OPTICALLY THICK ICE
48	OPTICALLY THIN ICE
49	MULTILAYERED ICE
59	CLOUD NOT VISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDSTORM, OR OTHER ANALOGOUS PHENOMENA
60	CH CLOUDS INVISIBLE OWING TO DARKNESS, FOG, BLOWING DUST OR SAND, OR OTHER SIMILAR PHENOMENA, OR BECAUSE OF A CONTINUOUS LAYER OF LOWER CLOUDS
61	CM CLOUDS INVISIBLE OWING TO DARKNESS, FOG, BLOWING DUST OR SAND, OR OTHER SIMILAR PHENOMENA, OR BECAUSE OF CONTINUOUS LAYER OF LOWER CLOUDS
62	CL CLOUDS INVISIBLE OWING TO DARKNESS, FOG, BLOWING DUST OR SAND, OR OTHER SIMILAR PHENOMENA
63	MISSING VALUE

Code table for element 020017 (CLOUD TOP DESCRIPTION)

Value	Description
0	ISOLATED CLOUD FRAGMENTS OF CLOUDS
1	CONTINUOUS CLOUD
2	BROKEN CLOUD - SMALL BREAKS

3	BROKEN CLOUD - LARGE BREAKS
4	CONTINUOUS CLOUD
5	BROKEN CLOUD - SMALL BREAKS
6	BROKEN CLOUD - LARGE BREAKS
7	CONTINUOUS OR ALMOST CONTINUOUS WAVES WITH TOWERING CLOUDS ABOVE THE TOP OF THE LAYER
8	GROUPS OF WAVES WITH TOWERING CLOUDS ABOVE THE TOP OF THE LAYER
9	TWO OR MORE LAYERS AT DIFFERENT LEVELS
15	MISSING VALUE

Code table for element 020018 (TENDENCY OF RUNWAY VISUAL RANGE)

Value	Description
0	INCREASING (U)
1	DECREASING (D)
2	NO DISTINCT CHANGE (N)
3	MISSING VALUE

Flag table for element 020021 (TYPE OF PRECIPITATION)

Total number of bits: **30**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	536870912	PRECIPITATION - UNKNOWN TYPE
2	268435456	LIQUID PRECIPITATION NOT FREEZING
3	134217728	LIQUID FREEZING PRECIPITATION
4	67108864	DRIZZLE
5	33554432	RAIN
6	16777216	SOLID PRECIPITATION
7	8388608	SNOW
8	4194304	SNOW GRAINS
9	2097152	SNOW PELLETS
10	1048576	ICE PELLETS
11	524288	ICE CRYSTALS
12	262144	DIAMOND DUST
13	131072	SMALL HAIL
14	65536	HAIL
15	32768	GLAZE
16	16384	RIME
17	8192	SOFT RIME
18	4096	HARD RIME
19	2048	CLEAR ICE
20	1024	WET SNOW
21	512	HOAR FROST
22	256	DEW

23	128	WHITE DEW

Code table for element 020022 (CHARACTER OF PRECIPITATION)

Value	Description
0	NO PRECIPITATION
1	CONTINUOUS
2	INTERMITTENT
3	SHOWER
4	NOT REACHING GROUND
5	DEPOSITION
15	MISSING VALUE

Flag table for element 020023 (OTHER WEATHER PHENOMENA)

Total number of bits: **18**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	131072	DUST/SAND WHIRL
2	65536	SQUALLS
3	32768	SANDSTORM
4	16384	DUSTSTORM
5	8192	LIGHTNING - CLOUD TO SURFACE
6	4096	LIGHTNING - CLOUD TO CLOUD
7	2048	LIGHTNING - DISTANT
8	1024	THUNDERSTORM
9	512	FUNNEL CLOUD NOT TOUCHING SURFACE
10	256	FUNNEL CLOUD TOUCHING SURFACE
11	128	SPRAY
12	64	WATERSPOUT
13	32	WIND SHEAR
14	16	DUST DEVILS

Code table for element 020024 (INTENSITY OF PHENOMENA)

Value	Description
0	NO PHENOMENA
1	LIGHT
2	MODERATE
3	HEAVY
4	VIOLENT
5	SEVERE
6	VERY SEVERE
7	MISSING VALUE

Flag table for element 020025 (OBSCURATION)

Total number of bits: **21**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	1048576	FOG
2	524288	ICE FOG
3	262144	STEAM FOG
7	16384	MIST
8	8192	HAZE
9	4096	SMOKE
10	2048	VOLCANIC ASH
11	1024	DUST
12	512	SAND
13	256	SNOW
14	128	CLOUD
15	64	PRECIPITATION
16	32	IMPOSSIBLE TO DETERMINE WHETHER SNOW IS FALLING OR NOT

Code table for element 020026 (CHARACTER OF OBSCURATION)

Value	Description
0	NO CHANGE
1	SHALLOW
2	PATCHES
3	PARTIAL
4	FREEZING
5	LOW DRIFTING
6	BLOWING
7	INCREASING
8	DECREASING
9	IN SUSPENSION IN THE AIR
10	WALL
11	DENSE
12	WHITEOUT
13	DRIFTING AND BLOWING
14	RESERVED
15	MISSING VALUE

Flag table for element 020027 (PHENOMENA OCCURRENCE)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	AT TIME OF OBSERVATION
2	128	IN PAST HOUR
3	64	IN TIME PERIOD FOR PAST WEATHER W1W2
4	32	IN TIME PERIOD SPECIFIED

5	16	RESERVED
6	8	BELOW STATION LEVEL
7	4	AT THE STATION
8	2	IN THE VICINITY

Code table for element 020028 (EXPECTED CHANGE IN INTENSITY)

Value	Description
0	NO CHANGE (NC)
1	FORECAST TO WEAKEN (WKN)
2	FORECAST TO INTENSIFY (INTSF)
7	MISSING VALUE

Code table for element 020029 (RAIN FLAG)

Value	Description
0	NO RAIN
1	RAIN
2	RESERVED
3	MISSING VALUE

Code table for element 020032 (RATE OF ICE ACCRETION (ESTIMATED))

Value	Description
0	ICE NOT BUILDING UP
1	ICE BUILDING UP SLOWLY
2	ICE BUILDING UP RAPIDLY
3	ICE MELTING OR BREAKING UP SLOWLY
4	ICE MELTING OR BREAKING UP RAPIDLY
7	MISSING VALUE

Flag table for element 020033 (CAUSE OF ICE ACCRETION)

Total number of bits: **4**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8	ICING FROM OCEAN SPRAY
2	4	ICING FROM FOG
3	2	ICING FROM RAIN

Code table for element 020034 (SEA ICE CONCENTRATION)

Value	Description
0	NO SEA ICE IN SIGHT
1	SHIP IN OPEN LEAD MORE THAN 1.0 NAUTICAL MILE WIDE, OR SHIP IN FAST ICE WITH BOUNDARY BEYOND LIMIT OF VISIBILITY
2	SEA ICE PRESENT IN CONCENTRATIONS LESS THAN 3/10 (3/8), OPEN WATER OR VERY OPEN PACK ICE
3	4/10 TO 6/10 (3/8 TO LESS THAN 6/8), OPEN PACK ICE
4	7/10 TO 8/10 (6/8 TO LESS THAN 7/8), CLOSE PACK ICE

5	9/10 OR MORE, BUT NOT 10/10 (7/8 TO LESS THAN 8/8), VERY CLOSE PACK ICE
6	STRIPS AND PATCHES OF PACK ICE WITH OPEN WATER BETWEEN
7	STRIPS AND PATCHES OF CLOSE OR VERY CLOSE PACK ICE WITH AREAS OF LESSER CONCENTRATION BETWEEN
8	FAST ICE WITH OPEN WATER, VERY OPEN OR OPEN PACK ICE TO SEAWARD OF THE ICE BOUNDARY
9	FAST ICE WITH CLOSE OR VERY CLOSE PACK ICE TO SEAWARD OF THE BOUNDARY
14	UNABLE TO REPORT, BECAUSE OF DARKNESS, LACK OF VISIBILITY, OR BECAUSE SHIP IS MORE THAN 0.5 NAUTICAL MILE AWAY FROM ICE EDGE
31	MISSING VALUE

Code table for element 020035 (AMOUNT AND TYPE OF ICE)

Value	Description
0	NO ICE OF LAND ORIGIN
1	1-5 ICEBERGS, NO GROWLERS OR BERGY BITS
2	6-10 ICEBERGS, NO GROWLERS OR BERGY BITS
3	11-20 ICEBERGS, NO GROWLERS OR BERGY BITS
4	UP TO AND INCLUDING 10 GROWLERS AND BERGY BITS - NO ICEBERGS
5	MORE THAN 10 GROWLERS AND BERGY BITS - NO ICEBERGS
6	1-5 ICEBERGS, WITH GROWLERS AND BERGY BITS
7	6-10 ICEBERGS, WITH GROWLERS AND BERGY BITS
8	11-20 ICEBERGS, WITH GROWLERS AND BERGY BITS
9	MORE THAN 20 ICEBERGS, WITH GROWLERS AND BERGY BITS - A MAJOR HAZARD TO NAVIGATION
14	UNABLE TO REPORT, BECAUSE OF DARKNESS, LACK OF VISIBILITY OR BECAUSE ONLY SEA ICE IS VISIBLE
15	MISSING VALUE

Code table for element 020036 (ICE SITUATION)

Value	Description
0	SHIP IN OPEN WATER WITH FLOATING ICE IN SIGHT
1	SHIP IN EASILY PENETRABLE ICE; CONDITIONS IMPROVING
2	SHIP IN EASILY PENETRABLE ICE; CONDITIONS NOT CHANGING
3	SHIP IN EASILY PENETRABLE ICE; CONDITIONS WORSENING
4	SHIP IN ICE DIFFICULT TO PENETRATE; CONDITIONS IMPROVING
5	SHIP IN ICE DIFFICULT TO PENETRATE; CONDITIONS NOT CHANGING
6	SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING. ICE FORMING AND FLOES FREEZING TOGETHER
7	SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING. ICE UNDER SLIGHT PRESSURE
8	SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING. ICE UNDER MODERATE OR SEVERE PRESSURE
9	SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING. SHIP BESET
30	UNABLE TO REPORT, BECAUSE OF DARKNESS OR LACK OF VISIBILITY
31	MISSING VALUE

Code table for element 020037 (ICE DEVELOPMENT)

Value	Description

0	NEW ICE ONLY (FRAZIL ICE, GREASE ICE, SLUSH, SHUGA)
1	NILAS OR ICE RIND, LESS THAN 10 CM THICK
2	YOUNG ICE (GREY ICE, GREY-WHITE ICE), 10-30 CM THICK
3	PREDOMINANTLY NEW AND/OR YOUNG ICE WITH SOME FIRST-YEAR ICE
4	PREDOMINANTLY THIN FIRST-YEAR ICE WITH SOME NEW AND/OR YOUNG ICE
5	ALL THIN FIRST-YEAR ICE (30-70 CM THICK)
6	PREDOMINANTLY MEDIUM FIRST-YEAR ICE (70-120 CM THICK) AND THICK FIRST-YEAR ICE (>120 CM THICK) WITH SOME THINNER (YOUNGER) FIRST-YEAR ICE
7	ALL MEDIUM AND THICK FIRST-YEAR ICE
8	PREDOMINANTLY MEDIUM AND THICK FIRST-YEAR ICE WITH SOME OLD ICE (USUALLY MORE THAN 2 METRES THICK)
9	PREDOMINANTLY OLD ICE
30	UNABLE TO REPORT, BECAUSE OF DARKNESS, LACK OF VISIBILITY OR BECAUSE ONLY ICE OF LAND ORIGIN IS VISIBLE OR BECAUSE SHIP IS MORE THAN 0.5 NAUTICAL MILE AWAY FROM ICE EDGE
31	MISSING VALUE

Code table for element 020040 (EVOLUTION OF DRIFT SNOW)

Value	Description
0	DRIFT SNOW ENDED BEFORE THE HOUR OF OBSERVATION
1	INTENSITY DIMINISHING
2	NO CHANGE
3	INTENSITY INCREASING
4	CONTINUES, APART FROM INTERRUPTION LASTING LESS THAN 30 MINUTES
5	GENERAL DRIFT SNOW HAS BECOME DRIFT SNOW NEAR THE GROUND
6	DRIFT SNOW NEAR THE GROUND HAS BECOME GENERAL DRIFT SNOW
7	DRIFT SNOW HAS STARTED AGAIN AFTER AN INTERRUPTION OF MORE THAN 30 MINUTES
15	MISSING VALUE

Code table for element 020041 (AIRFRAME ICING)

Value	Description
0	NO ICING
1	LIGHT ICING
2	LIGHT ICING IN CLOUD
3	LIGHT ICING IN PRECIPITATION
4	MODERATE ICING
5	MODERATE ICING IN CLOUD
6	MODERATE ICING IN PRECIPITATION
7	SEVERE ICING
8	SEVERE ICING IN CLOUD
9	SEVERE ICING IN PRECIPITATION
10	TRACE OF ICING
11	TRACE OF ICING IN CLOUD
12	TRACE OF ICING IN PRECIPITATION

15	MISSING VALUE

Code table for element 020042 (AIRFRAME ICING PRESENT)

Value	Description
0	NO ICING
1	ICING PRESENT
2	RESERVED
3	MISSING VALUE

Code table for element 020045 (SUPERCOOLED LARGE DROPLET (SLD) CONDITIONS)

Value	Description
0	NO SLD CONDITIONS PRESENT
1	SLD CONDITIONS PRESENT
2	RESERVED
3	MISSING VALUE

Code table for element 020048 (EVOLUTION OF FEATURE)

Value	Description
0	STABILITY
1	DIMINUTION
2	INTENSIFICATION
3	UNKNOWN
15	MISSING VALUE

Code table for element 020050 (CLOUD INDEX)

Value	Description
0	RESERVED
1	1ST LOW CLOUD
2	2ND LOW CLOUD
3	3RD LOW CLOUD
4	1ST MEDIUM CLOUD
5	2ND MEDIUM CLOUD
6	3RD MEDIUM CLOUD
7	1ST HIGH CLOUD
8	2ND HIGH CLOUD
255	MISSING VALUE

Code table for element 020055 (STATE OF SKY IN THE TROPICS)

Value	Description
0	CUMULUS, IF ANY, ARE QUITE SMALL; GENERALLY LESS THAN 2/8 COVERAGE, EXCEPT ON WINDWARD SLOPES OF ELEVATED TERRAIN; AVERAGE WIDTH OF CLOUD IS AT LEAST AS GREAT AS ITS VERTICAL THICKNESS

1	CUMULUS OF INTERMEDIATE SIZE WITH CLOUD COVER LESS THAN 5/8; AVERAGE CLOUD WIDTH IS MORE THAN ITS VERTICAL THICKNESS; TOWERS ARE VERTICAL WITH LITTLE OR NO EVIDENCE OF PRECIPITATION, EXCEPT ALONG SLOPES OF ELEVATED TERRAIN; A GENERAL ABSENCE OF MIDDLE AND UPPER CLOUDS
2	SWELLING CUMULUS WITH RAPIDLY GROWING TALL TURRETS WHICH DECREASE IN SIZE WITH HEIGHT AND WHOSE TOPS TEND TO SEPARATE FROM THE LONGER CLOUD BODY AND EVAPORATE WITHIN MINUTES OF THE SEPARATION
3	SWELLING CUMULUS WITH TOWERS HAVING A PRONOUNCED TILT IN A DOWNWIND DIRECTION; VERTICAL CLOUD THICKNESS IS MORE THAN ONE AND A HALF TIMES THAT OF ITS AVERAGE WIDTH
4	SWELLING CUMULUS WITH TOWERS HAVING A PRONOUNCED TILT IN AN UPWIND DIRECTION; VERTICAL CLOUD THICKNESS IS MORE THAN ONE AND A HALF TIMES THAT OF ITS AVERAGE WIDTH
5	TALL CUMULUS CONGESTUS WITH VERTICAL THICKNESS MORE THAN TWICE THE AVERAGE WIDTH; NOT ORGANIZED IN CLUSTERS OR LINES; ONE OR MORE LAYERS OF CLOUDS EXTEND OUT FROM THE CLOUD TOWERS, ALTHOUGH NO CONTINUOUS CLOUD LAYERS EXIST
6	ISOLATED CUMULONIMBUS OR LARGE CLUSTERS OF CUMULUS TURRETS SEPARATED BY WIDE AREAS IN WHICH CLOUDS ARE ABSENT; CLOUD BASES ARE GENERALLY DARK WITH SHOWERS OBSERVED IN MOST CELLS; SOME SCATTERED MIDDLE AND UPPER CLOUDS MAY BE PRESENT; INDIVIDUAL CUMULUS CELLS ARE ONE TO TWO TIMES HIGHER THAN THEY ARE WIDE
7	NUMEROUS CUMULUS EXTENDING THROUGH THE MIDDLE TROPOSPHERE WITH BROKEN TO OVERCAST SHEETS OF MIDDLE CLOUDS AND/OR CIRROSTRATUS; CUMULUS TOWERS DO NOT DECREASE GENERALLY IN SIZE WITH HEIGHT; RAGGED DARK CLOUD BASES WITH SOME SHOWERS PRESENT
8	CONTINUOUS DENSE MIDDLE CLOUDS AND/OR CIRROSTRATUS CLOUD SHEETS WITH SOME LARGE ISOLATED CUMULONIMBUS OR CUMULUS CONGESTUS CLOUDS PENETRATING THESE SHEETS; LIGHT RAIN OCCASIONALLY OBSERVED FROM THE ALTOSTRATUS; CUMULONIMBUS BASES RAGGED AND DARK WITH SHOWERS VISIBLE
9	CONTINUOUS SHEETS OF MIDDLE CLOUDS AND/OR CIRROSTRATUS WITH CUMULONIMBUS AND CUMULUS CONGESTUS IN ORGANIZED LINES OR CLOUD BANDS; RAIN IS GENERALLY OBSERVED FROM ALTOSTRATUS SHEETS AND HEAVY SHOWERS FROM CUMULONIMBUS; WIND HAS A SQUALLY CHARACTER
10	STATE OF SKY UNKNOWN OR NOT DESCRIBED BY ANY OF THE ABOVE
15	MISSING VALUE

Code table for element 020056 (CLOUD PHASE)

Value	Description
0	UNKNOWN
1	WATER
2	ICE
3	MIXED
4	CLEAR
5	SUPERCOOLED LIQUID WATER
6	RESERVED
7	MISSING VALUE

Code table for element 020062 (STATE OF THE GROUND (WITH OR WITHOUT SNOW))

Value	Description
0	SURFACE OF GROUND DRY (WITHOUT CRACKS AND NO APPRECIABLE AMOUNT OF DUST OR LOOSE SAND)
1	SURFACE OF GROUND MOIST
2	SURFACE OF GROUND WET (STANDING WATER IN SMALL OR LARGE POOLS ON SURFACE)
3	FLOODED
4	SURFACE OF GROUND FROZEN
5	GLAZE ON GROUND
6	LOOSE DRY DUST OR SAND NOT COVERING GROUND COMPLETELY
7	THIN COVER OF LOOSE DRY DUST OR SAND COVERING GROUND COMPLETELY

8	MODERATE OR THICK COVER OF LOOSE DRY DUST OR SAND COVERING GROUND COMPLETELY
9	EXTREMELY DRY WITH CRACKS
10	GROUND PREDOMINANTLY COVERED BY ICE
11	COMPACT OR WET SNOW (WITH OR WITHOUT ICE) COVERING LESS THAN ONE HALF OF THE GROUND
12	COMPACT OR WET SNOW (WITH OR WITHOUT ICE) COVERING AT LEAST ONE HALF OF THE GROUND BUT GROUND NOT COMPLETELY COVERED
13	EVEN LAYER OF COMPACT OR WET SNOW COVERING GROUND COMPLETELY
14	UNEVEN LAYER OF COMPACT OR WET SNOW COVERING GROUND COMPLETELY
15	LOOSE DRY SNOW COVERING LESS THAN ONE HALF OF THE GROUND
16	LOOSE DRY SNOW COVERING AT LEAST ONE HALF OF THE GROUND BUT GROUND NOT COMPLETELY COVERED
17	EVEN LAYER OF LOOSE DRY SNOW COVERING GROUND COMPLETELY
18	UNEVEN LAYER OF LOOSE DRY SNOW COVERING GROUND COMPLETELY
19	SNOW COVERING GROUND COMPLETELY; DEEP DRIFTS
31	MISSING VALUE

Code table for element 020063 (SPECIAL PHENOMENA)

Value	Description
0	RESERVED
1	HIGHEST WIND SPEED GUSTS GREATER THAN 11.5 M/S
2	HIGHEST MEAN WIND SPEED GREATER THAN 17.5 M/S
7	VISIBILITY GREATER THAN 100 000 M
10	MIRAGE - NO SPECIFICATION
11	MIRAGE - IMAGE OF DISTANT OBJECT RAISED (LOOMING)
13	MIRAGE - INVERTED IMAGE OF DISTANT OBJECT
14	MIRAGE - COMPLEX, MULTIPLE IMAGES OF DISTANT OBJECT (IMAGES NOT INVERTED)
15	MIRAGE - COMPLEX, MULTIPLE IMAGES OF DISTANT OBJECT (SOME IMAGES BEING INVERTED)
16	MIRAGE - SUN OR MOON SEEN APPRECIABLY DISTORTED
17	MIRAGE - SUN VISIBLE, ALTHOUGH ASTRONOMICALLY BELOW THE HORIZON
18	MIRAGE - MOON VISIBLE, ALTHOUGH ASTRONOMICALLY BELOW THE HORIZON
19	RESERVED
20	DAY DARKNESS, BAD, WORST IN DIRECTION SPECIFIED
21	DAY DARKNESS, VERY BAD, WORST IN DIRECTION SPECIFIED
22	DAY DARKNESS, BLACK, WORST IN DIRECTION SPECIFIED
31	SLIGHT COLORATION OF CLOUDS AT SUNRISE ASSOCIATED WITH A TROPICAL DISTURBANCE
32	DEEP-RED COLORATION OF CLOUDS AT SUNRISE ASSOCIATED WITH A TROPICAL DISTURBANCE
33	SLIGHT COLORATION OF CLOUDS AT SUNSET ASSOCIATED WITH A TROPICAL DISTURBANCE
34	DEEP-RED COLORATION OF CLOUDS AT SUNSET ASSOCIATED WITH A TROPICAL DISTURBANCE
35	CONVERGENCE OF CH CLOUDS AT A POINT BELOW 45° FORMING OR INCREASING AND ASSOCIATED WITH A TROPICAL DISTURBANCE
36	CONVERGENCE OF CH CLOUDS AT A POINT ABOVE 45° ASSOCIATED WITH A TROPICAL DISTURBANCE
37	CONVERGENCE OF CH CLOUDS AT A POINT BELOW 45° DISSOLVING OR DIMINISHING AND ASSOCIATED WITH A TROPICAL DISTURBANCE

38	CONVERGENCE OF CH CLOUDS AT A POINT ABOVE 45° ASSOCIATED WITH A TROPICAL DISTURBANCE
39	RESERVED
40	HOAR FROST ON HORIZONTAL SURFACES
41	HOAR FROST ON HORIZONTAL AND VERTICAL SURFACES
42	PRECIPITATION CONTAINING SAND OR DESERT DUST
43	PRECIPITATION CONTAINING VOLCANIC ASH
50	CALM OR LIGHT WIND FOLLOWED BY A SQUALL
51	CALM OR LIGHT WIND FOLLOWED BY A SUCCESSION OF SQUALLS
52	GUSTY WEATHER FOLLOWED BY A SQUALL
53	GUSTY WEATHER FOLLOWED BY A SUCCESSION OF SQUALLS
54	SQUALL FOLLOWED BY GUSTY WEATHER
55	GENERAL GUSTY WEATHER WITH SQUALL AT INTERVALS
56	SQUALL APPROACHING STATION
57	LINE SQUALL
58	SQUALL WITH DRIFTING OR BLOWING DUST OR SAND
59	LINE SQUALL WITH DRIFTING OR BLOWING DUST OR SAND
60	TEMPERATURE STEADY
61	TEMPERATURE FALLING, WITHOUT GOING BELOW 0°C
62	TEMPERATURE RISING, WITHOUT GOING ABOVE 0°C
63	TEMPERATURE FALLING TO A VALUE BELOW 0°C
64	TEMPERATURE RISING TO A VALUE ABOVE 0°C
65	IRREGULAR VARIATION, OSCILLATIONS OF TEMPERATURE PASSING THROUGH 0°C
66	IRREGULAR VARIATION, OSCILLATIONS OF TEMPERATURE NOT PASSING THROUGH 0°C
67	VARIATION OF TEMPERATURE NOT OBSERVED
68	NOT ALLOCATED
69	VARIATION OF TEMPERATURE UNKNOWN OWING TO LACK OF THERMOGRAPH
70	VISIBILITY HAS NOT VARIED (SUN* VISIBLE) TOWARDS DIRECTION SPECIFIED
71	VISIBILITY HAS NOT VARIED (SUN* INVISIBLE) TOWARDS DIRECTION SPECIFIED
72	VISIBILITY HAS INCREASED (SUN* VISIBLE) TOWARDS DIRECTION SPECIFIED
73	VISIBILITY HAS INCREASED (SUN* INVISIBLE) TOWARDS DIRECTION SPECIFIED
74	VISIBILITY HAS DECREASED (SUN* VISIBLE) TOWARDS DIRECTION SPECIFIED
75	VISIBILITY HAS DECREASED (SUN* INVISIBLE) TOWARDS DIRECTION SPECIFIED
76	FOG COMING FROM DIRECTION SPECIFIED
77	FOG HAS LIFTED, WITHOUT DISSIPATING
78	FOG HAS DISPERSED WITHOUT REGARD TO DIRECTION
79	MOVING PATCHES OR BANKS OF FOG
80	BROCKEN SPECTRE
81	RAINBOW
82	SOLAR OR LUNAR HALO
83	PARHELIA OR ANTHELIA
84	SUN PILLAR

85	CORONA
86	TWILIGHT GLOW
87	TWILIGHT GLOW ON THE MOUNTAINS (ALPENGLüHEN)
88	MIRAGE
89	ZODIACAL LIGHT
90	ST ELMO'S FIRE
1023	MISSING VALUE

Code table for element 020071 (ACCURACY OF FIX AND RATE OF ATMOSPHERICS)

Value	Description
0	NO ASSESSMENT
1	LESS THAN 50 KM
2	BETWEEN 50 AND 200 KM
3	MORE THAN 200 KM
4	LESS THAN 50 KM
5	BETWEEN 50 AND 200 KM
6	MORE THAN 200 KM
7	LESS THAN 50 KM
8	BETWEEN 50 AND 200 KM
9	MORE THAN 200 KM
15	MISSING VALUE

Code table for element 020085 (GENERAL CONDITION OF RUNWAY)

Value	Description
0	CLEARED (CLRD//)
1	ALL RUNWAYS CLOSED (SNOCLO)
15	MISSING VALUE

Code table for element 020086 (RUNWAY DEPOSITS)

Value	Description
0	CLEAR AND DRY
1	DAMP
2	WET WITH WATER PATCHES
3	RIME AND FROST COVERED (DEPTH NORMALLY LESS THAN 1 MM)
4	DRY SNOW
5	WET SNOW
6	SLUSH
7	ICE
8	COMPACTED OR ROLLED SNOW
9	FROZEN RUTS OR RIDGES
15	MISSING OR NOT REPORTED (E.G. DUE TO RUNWAY CLEARANCE IN PROGRESS)

Code table for element 020087 (RUNWAY CONTAMINATION)

Value	Description
0	RESERVED
1	LESS THAN 10% OF RUNWAY COVERED
2	11% TO 25% OF RUNWAY COVERED
5	26% TO 50% OF RUNWAY COVERED
9	51% TO 100% OF RUNWAY COVERED
15	MISSING OR NOT REPORTED (E.G. DUE TO RUNWAY CLEARANCE IN PROGRESS)

Code table for element 020089 (RUNWAY FRICTION COEFFICIENT)

Value	Description
0	0.00
1	0.01
89	0.89
90	0.90
91	BRAKING ACTION POOR
92	BRAKING ACTION MEDIUM TO POOR
93	BRAKING ACTION MEDIUM
94	BRAKING ACTION MEDIUM TO GOOD
95	BRAKING ACTION GOOD
99	UNRELIABLE
127	MISSING, NOT REPORTED AND/OR RUNWAY NOT OPERATIONAL

Code table for element 020090 (SPECIAL CLOUDS)

Value	Description
0	RESERVED
1	NACREOUS CLOUDS
2	NOCTILUCENT CLOUDS
3	CLOUDS FROM WATERFALLS
4	CLOUDS FROM FIRES
5	CLOUDS FROM VOLCANIC ERUPTIONS
15	MISSING VALUE

Code table for element 020101 (LOCUST (ACRIDIAN) NAME)

Value	Description
0	RESERVED
1	SCHISTOCERCA GREGARIA
2	LOCUSTA MIGRATORIA
3	NOMADACRIS SEPTEMFASCIATA
4	OEDALEUS SENEGALENSIS

5	ANRACRIDIUM SPP
6	OTHER LOCUSTS
7	OTHER GRASSHOPPERS
8	OTHER CRICKETS
9	SPODOPTERA EXEMPTA
15	MISSING VALUE

Code table for element 020102 (LOCUST (MATURITY) COLOUR)

Value	Description
0	GREEN
1	GREEN OR BLACK
2	BLACK
3	YELLOW AND BLACK
4	STRAW/GREY
5	PINK
6	DARK RED/BROWN
7	MIXED RED AND YELLOW
8	YELLOW
9	OTHER
15	MISSING VALUE

Code table for element 020103 (STAGE OF DEVELOPMENT OF LOCUSTS)

Value	Description
0	HOPPERS (NYMPHS, LARVAE), STAGE 1
1	HOPPERS (NYMPHS, LARVAE), STAGE 2 OR MIXED 1, 2 INSTARS (STAGES)
2	HOPPERS (NYMPHS, LARVAE), STAGE 3 OR MIXED 2, 3 INSTARS
3	HOPPERS (NYMPHS, LARVAE), STAGE 4 OR MIXED 3, 4 INSTARS
4	HOPPERS (NYMPHS, LARVAE), STAGE 5 OR MIXED 4, 5 INSTARS
5	HOPPERS (NYMPHS, LARVAE), STAGE MIXED, ALL OR MANY INSTARS
6	FLEDGLINGS (WINGS TOO SOFT FOR SUSTAINED FLIGHT)
7	IMMATURE ADULTS
8	MIXED MATURITY ADULTS
9	MATURE ADULTS
15	MISSING VALUE

Code table for element 020104 (ORGANIZATION STATE OF SWARM OR BAND OF LOCUSTS)

Value	Description
0	HOPPERS ONLY, MAINLY IN BANDS OR CLUSTERS
1	WINGED ADULTS IN THE VICINITY MORE THAN 10 KILOMETRES FROM POINT OF OBSERVATION
2	LOCUSTS IN FLIGHT, A FEW SEEN AT THE STATION
3	LOCUSTS AT THE STATION, MOST OF THEM ON THE GROUND

4	LOCUSTS, SOME ON GROUND AND OTHERS IN FLIGHT AT A HEIGHT LESS THAN 10 METRES
5	LOCUSTS, SOME ON GROUND AND OTHERS IN FLIGHT AT A HEIGHT GREATER THAN 10 METRES
6	LOCUSTS, MOST IN FLIGHT AT A HEIGHT LESS THAN 10 METRES
7	LOCUSTS, MOST IN FLIGHT AT A HEIGHT GREATER THAN 10 METRES
8	LOCUSTS, ALL OVER INFLICTING SEVERE DAMAGE TO VEGETATION, NO EXTERMINATION OPERATION
9	LOCUSTS, ALL OVER INFLICTING SEVERE DAMAGE TO VEGETATION, EXTERMINATION OPERATION IN PROGRESS
15	MISSING VALUE

Code table for element 020105 (SIZE OF SWARM OR BAND OF LOCUSTS AND DURATION OF PASSAGE OF SWARM)

Value	Description
0	SMALL SWARM LESS THAN 1 KM2 OR ADULTS IN GROUND, TENS OR HUNDREDS OF INDIVIDUALS VISIBLE SIMULTANEOUSLY, DURATION OF PASSAGE LESS THAN 1 HOUR AGO
1	SMALL SWARM LESS THAN 1 KM2 OR ADULTS IN GROUND, TENS OR HUNDREDS OF INDIVIDUALS VISIBLE SIMULTANEOUSLY, DURATION OF PASSAGE 1 TO 6 HOURS AGO
2	SMALL SWARM LESS THAN 1 KM2 OR ADULTS IN GROUND, TENS OR HUNDREDS OF INDIVIDUALS VISIBLE SIMULTANEOUSLY, DURATION OF PASSAGE OVER 6 HOURS AGO
3	MEDIUM SWARM OR SCATTERED ADULTS, SEVERAL VISIBLE SIMULTANEOUSLY, DURATION OF PASSAGE LESS THAN 1 HOUR AGO
4	MEDIUM SWARM OR SCATTERED ADULTS, SEVERAL VISIBLE SIMULTANEOUSLY, DURATION OF PASSAGE 1 TO 6 HOURS AGO
5	MEDIUM SWARM OR SCATTERED ADULTS, SEVERAL VISIBLE SIMULTANEOUSLY, DURATION OF PASSAGE OVER 6 HOURS AGO
6	LARGE SWARM OR ISOLATED ADULTS, SEEN SINGLY, DURATION OF PASSAGE LESS THAN 1 HOUR AGO
7	LARGE SWARM OR ISOLATED ADULTS, SEEN SINGLY, DURATION OF PASSAGE 1 TO 6 HOURS AGO
8	LARGE SWARM OR ISOLATED ADULTS, SEEN SINGLY, DURATION OF PASSAGE OVER 6 HOURS AGO
9	MORE THAN ONE SWARM OF LOCUSTS
10	SIZE OF SWARM AND/OR DURATION OF PASSAGE NOT DETERMINED OWING TO DARKNESS OR SIMILAR PHENOMENA
15	MISSING VALUE

Code table for element 020106 (LOCUST POPULATION DENSITY)

Value	Description
0	RESERVED
1	THIN DENSITY SWARM (SWARM VISIBLE ONLY WHEN NEAR ENOUGH FOR INDIVIDUAL LOCUSTS TO BE DISCERNED)
2	MEDIUM DENSITY SWARM
3	DENSE SWARM (OBSCURING NEARBY FEATURES, E.G. TREES)
4	ISOLATED HOPPERS SEEN SINGLY
5	SCATTERED HOPPERS, SEVERAL VISIBLE SIMULTANEOUSLY
15	MISSING VALUE

Code table for element 020107 (DIRECTION OF MOVEMENTS OF LOCUST SWARM)

Value	Description
0	RESERVED
1	GENERALLY IN THE DIRECTION NE
2	GENERALLY IN THE DIRECTION E
3	GENERALLY IN THE DIRECTION SE

4	GENERALLY IN THE DIRECTION S
5	GENERALLY IN THE DIRECTION SW
6	GENERALLY IN THE DIRECTION W
7	GENERALLY IN THE DIRECTION NW
8	GENERALLY IN THE DIRECTION N
9	SPECIFIC DIRECTION INDETERMINABLE
15	MISSING VALUE

Code table for element 020108 (EXTENT OF VEGETATION)

Value	Description
0	BARE GROUND
1	DRY, PRESENCE OF FEW AND ISOLATED SHRUBS
2	SPARSE VEGETATION (SPROUTING)
3	DENSE VEGETATION (SPROUTING)
4	SPARSE VEGETATION (GROWING)
5	DENSE VEGETATION (GROWING)
6	SPARSE VEGETATION IN FLOWER
7	DENSE VEGETATION IN FLOWER
15	MISSING VALUE

Code table for element 020119 (LIGHTNING DISCHARGE POLARITY)

Value	Description
0	NOT DEFINED
1	POSITIVE
2	NEGATIVE
3	MISSING VALUE

Code table for element 020124 (LIGHTNING STROKE OR FLASH)

Value	Description
0	NOT DEFINED
1	LIGHTNING STROKE
2	LIGHTNING FLASH, BY MANUAL OBSERVATION, OR IF EQUIPMENT INSENSITIVE TO STROKE RESOLUTION
3	MISSING VALUE

Code table for element 020136 (SUPPLEMENTARY CLOUD TYPE)

Value	Description
0	ISOLATED CUMULUS HUMILIS AND/OR CUMULUS MEDIOCRIS OF VERTICAL DEVELOPMENT
1	NUMEROUS CUMULUS HUMILIS AND/OR CUMULUS MEDIOCRIS OF VERTICAL DEVELOPMENT
2	ISOLATED CUMULUS CONGESTUS OF VERTICAL DEVELOPMENT
3	NUMEROUS CUMULUS CONGESTUS OF VERTICAL DEVELOPMENT
4	ISOLATED CUMULONIMBUS OF VERTICAL DEVELOPMENT

5	NUMEROUS CUMULONIMBUS OF VERTICAL DEVELOPMENT
6	ISOLATED CUMULUS AND CUMULONIMBUS OF VERTICAL DEVELOPMENT
7	NUMEROUS CUMULUS AND CUMULONIMBUS OF VERTICAL DEVELOPMENT
10	RESERVED
11	ISOLATED OROGRAPHIC CLOUDS, PILEUS, INCUS, FORMING
12	ISOLATED OROGRAPHIC CLOUDS, PILEUS, INCUS, NOT CHANGING
13	ISOLATED OROGRAPHIC CLOUDS, PILEUS, INCUS, DISSOLVING
14	IRREGULAR BANKS OF OROGRAPHIC CLOUD, FöHN BANK, ETC., FORMING
15	IRREGULAR BANKS OF OROGRAPHIC CLOUD, FöHN BANK, ETC., NOT CHANGING
16	IRREGULAR BANKS OF OROGRAPHIC CLOUD, FöHN BANK, ETC., DISSOLVING
17	COMPACT LAYER OF OROGRAPHIC CLOUD, FöHN BANK, ETC., FORMING
18	COMPACT LAYER OF OROGRAPHIC CLOUD, FöHN BANK, ETC., NOT CHANGING
19	COMPACT LAYER OF OROGRAPHIC CLOUD, FöHN BANK, ETC., DISSOLVING
20	ALL MOUNTAINS OPEN, ONLY SMALL AMOUNTS OF CLOUD PRESENT
21	MOUNTAINS PARTLY COVERED WITH DETACHED CLOUDS (NOT MORE THAN HALF THE PEAKS CAN BE SEEN)
22	ALL MOUNTAIN SLOPES COVERED, PEAKS AND PASSES FREE
23	MOUNTAINS OPEN ON OBSERVER'S SIDE (ONLY SMALL AMOUNTS OF CLOUD PRESENT), BUT A CONTINUOUS WALL OF CLOUD ON THE OTHER SIDE
24	CLOUDS LOW ABOVE THE MOUNTAINS, BUT ALL SLOPES AND MOUNTAINS OPEN (ONLY SMALL AMOUNTS OF CLOUD ON THE SLOPES)
25	CLOUDS LOW ABOVE THE MOUNTAINS, PEAKS PARTLY COVERED BY PRECIPITATION TRAILS OR CLOUDS
26	ALL PEAKS COVERED BUT PASSES OPEN, SLOPES EITHER OPEN OR COVERED
27	MOUNTAINS GENERALLY COVERED BUT SOME PEAKS FREE, SLOPES WHOLLY OR PARTIALLY COVERED
28	ALL PEAKS, PASSES AND SLOPES COVERED
29	MOUNTAINS CANNOT BE SEEN OWING TO DARKNESS, FOG, SNOWSTORM, PRECIPITATION, ETC.
35	NON-PERSISTENT CONDENSATION TRAILS
36	PERSISTENT CONDENSATION TRAILS COVERING LESS THAN 1/8 OF THE SKY
37	PERSISTENT CONDENSATION TRAILS COVERING 1/8 OF THE SKY
38	PERSISTENT CONDENSATION TRAILS COVERING 2/8 OF THE SKY
39	PERSISTENT CONDENSATION TRAILS COVERING 3/8 OR MORE OF THE SKY
40	NO CLOUD OR MIST OBSERVED FROM A HIGHER LEVEL
41	MIST, CLEAR ABOVE OBSERVED FROM A HIGHER LEVEL
42	FOG PATCHES OBSERVED FROM A HIGHER LEVEL
43	LAYER OF SLIGHT FOG OBSERVED FROM A HIGHER LEVEL
44	LAYER OF THICK FOG OBSERVED FROM A HIGHER LEVEL
45	SOME ISOLATED CLOUDS OBSERVED FROM A HIGHER LEVEL
46	ISOLATED CLOUDS AND FOG BELOW OBSERVED FROM A HIGHER LEVEL
47	MANY ISOLATED CLOUDS OBSERVED FROM A HIGHER LEVEL
48	SEA OF CLOUDS OBSERVED FROM A HIGHER LEVEL
49	BAD VISIBILITY OBSCURING THE DOWNWARD VIEW OBSERVED FROM A HIGHER LEVEL
511	MISSING VALUE

Code table for element 020137 (EVOLUTION OF CLOUDS)

Value	Description
0	NO CHANGE
1	CUMULIFICATION
2	SLOW ELEVATION
3	RAPID ELEVATION
4	ELEVATION AND STRATIFICATION
5	SLOW LOWERING
6	RAPID LOWERING
7	STRATIFICATION
8	STRATIFICATION AND LOWERING
9	RAPID CHANGE
15	MISSING VALUE

Code table for element 020138 (ROAD SURFACE CONDITION)

Value	Description
0	DRY
1	MOIST
2	WET
3	RIME
4	SNOW
5	ICE
6	GLAZE
7	NOT DRY
15	MISSING VALUE

Class 21 - Radar data - code-flag tables

Flag table for element 021066 (WAVE SCATTEROMETER PRODUCT CONFIDENCE DATA)

Total number of bits: **12**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2048	PROCESSING EQUIPMENT NOT WORKING
2	1024	EQUIPMENT FAILED
3	512	PRF CODE CHANGED DURING IMAGE GENERATION
4	256	SAMPLING WINDOW CHANGED DURING IMAGE GENERATION
5	128	GAIN CHANGED DURING IMAGE GENERATION
6	64	CHIRP REPLICA EXCEEDS SPECIFIED VALUE
7	32	INPUT DATA MEAN AND STANDARD DEVIATION OF IN-PHASE AND QUADRATURE OUT OF RANGE
8	16	DOPPLER CENTROID CONFIDENCE > MMCC VALUE
9	8	DOPPLER CENTROID ABSOLUTE VALUE > PRF/2
10	4	DOPPLER AMBIGUITY CONFIDENCE < MMCC VALUE

11	2	OUTPUT DATA MEAN AND STANDARD DEVIATION =< MMCC VALUE

Flag table for element 021067 (WIND PRODUCT CONFIDENCE DATA)

Total number of bits: **13**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	4096	NO FOREBEAM CALCULATION
2	2048	NO MIDBEAM CALCULATION
3	1024	NO AFTBEAM CALCULATION
4	512	FOREBEAM ARCING DETECTED
5	256	MIDBEAM ARCING DETECTED
6	128	AFTBEAM ARCING DETECTED
7	64	ANY BEAM NOISE CONTENT ABOVE OR EQUAL TO THRESHOLD
8	32	LAND (ANY LAND IN CELL FOOTPRINT)
9	16	AUTONOMOUS AMBIGUITY REMOVAL NOT USED
10	8	METEOROLOGICAL BACKGROUND NOT USED
11	4	MINIMUM RESIDUAL EXCEEDED THRESHOLD
12	2	FRAME CHECKSUM ERROR DETECTED

Flag table for element 021068 (RADAR ALTIMETER PRODUCT CONFIDENCE DATA)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	STANDARD DEVIATION OF WIND SPEED OUTSIDE MMCC LIMIT
2	64	STANDARD DEVIATION OF SIGNIFICANT WAVE HEIGHT OUTSIDE MMCC LIMIT
3	32	STANDARD DEVIATION OF ALTITUDE OUTSIDE MMCC LIMIT
4	16	MEAN PEAKINESS OUTSIDE MMCC LIMIT
5	8	FRAME CHECKSUM ERROR DETECTED
6	4	HEIGHT-TIME LOOP TIME CONSTANT CORRECTION NOT PERFORMED
7	2	NOT ENOUGH MEASUREMENTS (N < 10)

Flag table for element 021069 (SST PRODUCT CONFIDENCE DATA)

Total number of bits: **10**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	512	12.0 µM CHANNEL PRESENT IN SOURCE DATA
2	256	11.0 µM CHANNEL PRESENT IN SOURCE DATA
3	128	3.7 µM CHANNEL PRESENT IN SOURCE DATA
4	64	1.6 µM CHANNEL PRESENT IN SOURCE DATA
5	32	CLOUD IDENTIFICATION USED 1.6 µM HISTOGRAM REFLECTANCE CLOUD TEST
6	16	1.6 µM HISTOGRAM REFLECTANCE CLOUD TEST USED DYNAMIC THRESHOLD
7	8	SUN GLINT DETECTED BY 1.6 µM REFLECTANCE CLOUD TEST
8	4	3.7 µM CHANNEL USED IN SEA-SURFACE TEMPERATURE RETRIEVAL

9	2	SEA-SURFACE TEMPERATURE DERIVATION USED DAYTIME DATA (NIGHT-TIME IF ZERO)

Flag table for element 021070 (SST PRODUCT CONFIDENCE DATA (SADIST-2))

Total number of bits: **23**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	4194304	CELL 1: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
2	2097152	CELL 2: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
3	1048576	CELL 3: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
4	524288	CELL 4: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
5	262144	CELL 5: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
6	131072	CELL 6: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
7	65536	CELL 7: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
8	32768	CELL 8: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
9	16384	CELL 9: NADIR-ONLY VIEW SST USED 3.7 MICRON CHANNEL
10	8192	CELL 1: DUAL VIEW SST USED 3.7 MICRON CHANNEL
11	4096	CELL 2: DUAL VIEW SST USED 3.7 MICRON CHANNEL
12	2048	CELL 3: DUAL VIEW SST USED 3.7 MICRON CHANNEL
13	1024	CELL 4: DUAL VIEW SST USED 3.7 MICRON CHANNEL
14	512	CELL 5: DUAL VIEW SST USED 3.7 MICRON CHANNEL
15	256	CELL 6: DUAL VIEW SST USED 3.7 MICRON CHANNEL
16	128	CELL 7: DUAL VIEW SST USED 3.7 MICRON CHANNEL
17	64	CELL 8: DUAL VIEW SST USED 3.7 MICRON CHANNEL
18	32	CELL 9: DUAL VIEW SST USED 3.7 MICRON CHANNEL
19	16	NADIR VIEW CONTAINS DAY-TIME DATA (NIGHT IF ZERO)
20	8	FORWARD VIEW CONTAINS DAY-TIME DATA (NIGHT IF ZERO)
21	4	RECORD CONTAINS CONTRIBUTIONS FROM INSTRUMENT SCANS ACQUIRED WHEN ERS PLATFORM NOT IN YAW-STEERING MODE
22	2	RECORD CONTAINS CONTRIBUTIONS FROM INSTRUMENT SCANS FOR WHICH PRODUCT CONFIDENCE DATA SHOW QUALITY IS POOR OR UNKNOWN

Flag table for element 021072 (SATELLITE ALTIMETER CALIBRATION STATUS)

Total number of bits: **4**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8	HEIGHT ERROR CORRECTION APPLIED INSTEAD OF OPEN LOOP CALIBRATION
2	4	MICROWAVE SOUNDER USED FOR TROPOSPHERE CORRECTION
3	2	AGC OUTPUT CORRECTION APPLIED INSTEAD OF OPEN LOOP CALIBRATION

Flag table for element 021073 (SATELLITE ALTIMETER INSTRUMENT MODE)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description

1	256	BLANK DATA RECORD
2	128	TEST
3	64	CALIBRATION (CLOSED LOOP)
4	32	BITE
5	16	ACQUISITION ON ICE
6	8	ACQUISITION ON OCEAN
7	4	TRACKING ON ICE
8	2	TRACKING ON OCEAN

Code table for element 021076 (REPRESENTATION OF INTENSITIES)

Value	Description
0	LINEAR
1	LOGARITHMIC (BASE E)
2	LOGARITHMIC (BASE 10)
7	MISSING VALUE

Flag table for element 021109 (SEAWINDS WIND VECTOR CELL QUALITY)

Total number of bits: **17**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	65536	NOT ENOUGH GOOD SIGMA-0 AVAILABLE FOR WIND RETRIEVAL
2	32768	POOR AZIMUTH DIVERSITY AMONG SIGMA-0 FOR WIND RETRIEVAL
8	512	SOME PORTION OF WIND VECTOR CELL IS OVER LAND
9	256	SOME PORTION OF WIND VECTOR CELL IS OVER ICE
10	128	WIND RETRIEVAL NOT PERFORMED FOR WIND VECTOR CELL
11	64	REPORTED WIND SPEED IS GREATER THAN 30 M S-1
12	32	REPORTED WIND SPEED IS LESS THAN OR EQUAL TO 3 M S-1

Flag table for element 021115 (SEAWINDS SIGMA-0 QUALITY)

Total number of bits: **17**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	65536	SIGMA-0 MEASUREMENT IS NOT USABLE
2	32768	SIGNAL TO NOISE RATIO IS LOW
3	16384	SIGMA-0 IS NEGATIVE
4	8192	SIGMA-0 IS OUTSIDE OF ACCEPTABLE RANGE
5	4096	SCATTEROMETER PULSE QUALITY IS NOT ACCEPTABLE
6	2048	SIGMA-0 CELL LOCATION ALGORITHM DOES NOT CONVERGE
7	1024	FREQUENCY SHIFT LIES BEYOND THE RANGE OF THE X FACTOR TABLE
8	512	SPACECRAFT TEMPERATURE IS BEYOND CALIBRATION COEFFICIENT RANGE
9	256	NO APPLICABLE ALTITUDE RECORDS WERE FOUND FOR THIS SIGMA-0
10	128	INTERPOLATED EPHEMERIS DATA ARE NOT ACCEPTABLE FOR THIS SIGMA-0

Flag table for element 021116 (SEAWINDS SIGMA-0 MODE)

Total number of bits: **17**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	65536	CALIBRATION/MEASUREMENT PULSE FLAG (1)
2	32768	CALIBRATION/MEASUREMENT PULSE FLAG (2)
3	16384	OUTER ANTENNA BEAM
4	8192	SIGMA-0 CELL IS AFT OF SPACECRAFT
5	4096	CURRENT MODE (1)
6	2048	CURRENT MODE (2)
7	1024	EFFECTIVE GATE WIDTH - SLICE RESOLUTION (1)
8	512	EFFECTIVE GATE WIDTH - SLICE RESOLUTION (2)
9	256	EFFECTIVE GATE WIDTH - SLICE RESOLUTION (3)
10	128	LOW RESOLUTION MODE - WHOLE PULSE DATA
11	64	SCATTEROMETER ELECTRONIC SUBSYSTEM B
12	32	ALTERNATE SPIN RATE - 19.8 RPM
13	16	RECEIVER PROTECTION ON
14	8	SLICES PER COMPOSITE FLAG (1)
15	4	SLICES PER COMPOSITE FLAG (2)
16	2	SLICES PER COMPOSITE FLAG (3)

Code table for element 021119 (WIND SCATTEROMETER GEOPHYSICAL MODEL FUNCTION)

Value	Description
0	RESERVED
1	SASS
2	SASS2
3	NSCAT0
4	NSCAT1
5	NSCAT2
6	QSCAT0
7	QSCAT1
31	CMOD1
32	CMOD2
33	CMOD3
34	CMOD4
35	CMOD5
63	MISSING VALUE

Flag table for element 021144 (ALTIMETER RAIN FLAG)

Total number of bits: **2**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2	RAIN

Flag table for element 021148 (TRAILING EDGE VARIATION FLAG)
Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	NON SHORT SCALE VARIATION
2	128	SHORT SCALE VARIATION

Code table for element 021150 (BEAM CO-LOCATION)

Value	Description
0	DATA FROM SINGLE GROUND STATION (NO CO-LOCATION)
1	DATA FROM MULTIPLE GROUND STATION (CO-LOCATED DATA)
2	RESERVED
3	MISSING VALUE

Flag table for element 021155 (WIND VECTOR CELL QUALITY)
Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8388608	NOT ENOUGH GOOD SIGMA-0 AVAILABLE FOR WIND RETRIEVAL
2	4194304	POOR AZIMUTH DIVERSITY AMONG SIGMA-0 FOR WIND RETRIEVAL
3	2097152	ANY BEAM NOISE CONTENT ABOVE THRESHOLD
4	1048576	PRODUCT MONITORING NOT USED
5	524288	PRODUCT MONITORING FLAG
6	262144	KNMI QUALITY CONTROL FAILS
7	131072	VARIATIONAL QUALITY CONTROL FAILS
8	65536	SOME PORTION OF WIND VECTOR CELL IS OVER LAND
9	32768	SOME PORTION OF WIND VECTOR CELL IS OVER ICE
10	16384	WIND RETRIEVAL NOT PERFORMED FOR WIND VECTOR CELL
11	8192	REPORTED WIND SPEED IS GREATER THAN 30 M/S
12	4096	REPORTED WIND SPEED IS LESS THAN OR EQUAL TO 3 M/S
13	2048	RAIN FLAG FOR THE WIND VECTOR CELL IS NOT USABLE
14	1024	RAIN FLAG ALGORITHM DETECTS RAIN
15	512	NO METEOROLOGICAL BACKGROUND USED
16	256	DATA ARE REDUNDANT

Code table for element 021158 (ASCAT KP ESTIMATE QUALITY)

Value	Description
0	ACCEPTABLE
1	NOT ACCEPTABLE
2	RESERVED
3	MISSING VALUE

Code table for element 021159 (ASCAT SIGMA-0 USABILITY)

Value	Description

0	GOOD
1	USABLE
2	BAD
3	MISSING VALUE

Code table for element 021169 (ICE PRESENCE INDICATOR)

Value	Description
0	NO ICE PRESENT
1	ICE PRESENT
2	RESERVED
3	MISSING VALUE

Class 22 - Oceanographic elements - code-flag tables

Code table for element 022056 (DIRECTION OF PROFILE)

Value	Description
0	UPWARDS PROFILE
1	DOWNWARDS PROFILE
2	HORIZONTAL
3	MISSING VALUE

Code table for element 022060 (LAGRANGIAN DRIFTER DROGUE STATUS)

Value	Description
0	DROGUE IS DETACHED
1	DROGUE IS ATTACHED
2	DROGUE STATUS UNKNOWN
7	MISSING VALUE

Code table for element 022061 (STATE OF THE SEA)

Value	Description
0	CALM (GLASSY)
1	CALM (RIPPLED)
2	SMOOTH (WAVELETS)
3	SLIGHT
4	MODERATE
5	ROUGH
6	VERY ROUGH
7	HIGH
8	VERY HIGH
9	PHENOMENAL
15	MISSING VALUE

Code table for element 022067 (INSTRUMENT TYPE FOR WATER TEMPERATURE/SALINITY PROFILE MEASUREMENT)

Value	Description
1	SIPPICAN T-4
2	SIPPICAN T-4
11	SIPPICAN T-5
21	SIPPICAN FAST DEEP
31	SIPPICAN T-6
32	SIPPICAN T-6
41	SIPPICAN T-7
42	SIPPICAN T-7
51	SIPPICAN DEEP BLUE
52	SIPPICAN DEEP BLUE
61	SIPPICAN T-10
71	SIPPICAN T-11
81	SIPPICAN AXBT (300 M PROBES)
201	TSK T-4
202	TSK T-4
211	TSK T-6
212	TSK T-6
221	TSK T-7
222	TSK T-7
231	TSK T-5
241	TSK T-10
251	TSK DEEP BLUE
252	TSK DEEP BLUE
261	TSK AXBT
401	SPARTON XBT-1
411	SPARTON XBT-3
421	SPARTON XBT-4
431	SPARTON XBT-5
441	SPARTON XBT-5DB
451	SPARTON XBT-6
461	SPARTON XBT-7
462	SPARTON XBT-7
471	SPARTON XBT-7DB
481	SPARTON XBT-10
491	SPARTON XBT-20
501	SPARTON XBT-20DB
510	SPARTON 536 AXBT
700	SIPPICAN XCTD STANDARD

710	SIPPICAN XCTD DEEP
720	SIPPICAN AXCTD
730	SIPPICAN SXCTD
741	TSK XCTD/XCTD-1/XCTD-1N
742	TSK XCTD-2/XCTD-2N
743	TSK XCTD-2F
744	TSK XCTD-3/XCTD-3N
745	TSK XCTD-4/XCTD-4N
751	TSK AXCTD
780	SEA-BIRD SBE21 SEACAT THERMOSALINOGRAPH
781	SEA-BIRD SBE45 MICROTSG THERMOSALINOGRAPH
800	MECHANICAL BT
810	HYDROCAST
820	THERMISTOR CHAIN
825	TEMPERATURE (SONIC) AND PRESSURE PROBES
830	CTD
831	CTD-P-ALACE FLOAT
834	PROVOR V SBE
835	PROVOR IV
836	PROVOR III
837	ARVOR_C, SBE CONDUCTIVITY SENSOR
838	ARVOR_D, SBE CONDUCTIVITY SENSOR
839	PROVOR-II, SBE CONDUCTIVITY SENSOR
840	PROVOR, NO CONDUCTIVITY SENSOR
841	PROVOR, SEA-BIRD CONDUCTIVITY SENSOR
842	PROVOR, FSI CONDUCTIVITY SENSOR
843	POLAR OCEAN PROFILING SYSTEM (POPS), PROVOR, SBE CTD
844	PROFILING FLOAT, ARVOR, SEA-BIRD CONDUCTIVITY SENSOR
845	WEBB RESEARCH, NO CONDUCTIVITY SENSOR
846	WEBB RESEARCH, SEA-BIRD CONDUCTIVITY SENSOR
847	WEBB RESEARCH, FSI CONDUCTIVITY SENSOR
848	APEX-EM, SBE CONDUCTIVITY SENSOR
849	APEX_D, SBE CONDUCTIVITY SENSOR
850	SOLO, NO CONDUCTIVITY SENSOR
851	SOLO, SEA-BIRD CONDUCTIVITY SENSOR
852	SOLO, FSI CONDUCTIVITY SENSOR
853	PROFILING FLOAT, SOLO2 (SCRIPPS), SEA-BIRD CONDUCTIVITY SENSOR
854	S2A, SBE CONDUCTIVITY SENSOR
855	PROFILING FLOAT, NINJA, NO CONDUCTIVITY SENSOR
856	PROFILING FLOAT, NINJA, SBE CONDUCTIVITY SENSOR
857	PROFILING FLOAT, NINJA, FSI CONDUCTIVITY SENSOR

858	PROFILING FLOAT, NINJA, TSK CONDUCTIVITY SENSOR
859	PROFILING FLOAT, NEMO, NO CONDUCTIVITY SENSOR
860	PROFILING FLOAT, NEMO, SBE CONDUCTIVITY SENSOR
861	PROFILING FLOAT, NEMO, FSI CONDUCTIVITY SENSOR
862	SOLO_D, SBE CONDUCTIVITY SENSOR
863	NAVIS-A, SBE CONDUCTIVITY SENSOR
864	NINJA_D, SBE CONDUCTIVITY SENSOR
865	NOVA, SBE CONDUCTIVITY SENSOR
866	ALAMO, NO CONDUCTIVITY SENSOR
867	ALAMO, RBR CONDUCTIVITY SENSOR
868	ALAMO, SBE CONDUCTIVITY SENSOR
869	RESERVED
870	HM2000
871	COPEX
872	S2X
873	ALTO
874	SOLO_D_MRV
875	ALTO RBR
876	ALTO SBE
877	APEX RBR
878	ARVOR RBR
879	SOLO II RBR
880	S2A RBR
900	SIPPICAN LMP-5 XBT
901	ICE-TETHERED PROFILER (ITP), SBE CTD
902	BROOKE OCEAN MOVING VESSEL PROFILER (MVP)
903	SEA-BIRD CTD
904	AML OCEANOGRAPHIC CTD
905	FALMOUTH SCIENTIFIC CTD
906	OCEAN SENSORS CTD
907	VALEPORT CTD
908	OCEANSCIENCE MVP
909	IDRONAUT CTD
910	SEA-BIRD SBE 38
995	INSTRUMENT ATTACHED TO MARINE MAMMALS
996	INSTRUMENT ATTACHED TO ANIMALS OTHER THAN MARINE MAMMALS
1023	MISSING VALUE

Code table for element 022068 (WATER TEMPERATURE PROFILE RECORDER TYPES)

Value	Description
1	SIPPICAN STRIP CHART RECORDER

2	SIPPICAN MK2A/SSQ-61
3	SIPPICAN MK-9
4	SIPPICAN AN/BHQ-7/MK8
5	SIPPICAN MK-12
6	SIPPICAN MK-21
7	SIPPICAN MK-8 LINEAR RECORDER
8	SIPPICAN MK-10
10	SPARTON SOC BT/SV PROCESSOR MODEL 100
11	LOCKHEED-SANDERS MODEL OL5005
20	ARGOS XBT-ST
21	CLS-ARGOS/PROTECNO XBT-ST MODEL-1
22	CLS-ARGOS/PROTECNO XBT-ST MODEL-2
30	BATHY SYSTEMS SA-810
31	SCRIPPS METROBYTE CONTROLLER
32	MURAYAMA DENKI Z-60-16 III
33	MURAYAMA DENKI Z-60-16 II
34	PROTECNO ETSM2
35	NAUTILUS MARINE SERVICE NMS-XBT
40	TSK MK-2A
41	TSK MK-2S
42	TSK MK-30
43	TSK MK-30N
45	TSK MK-100
46	TSK MK-130 COMPATIBLE RECORDER FOR BOTH XBT AND XCTD
47	TSK MK-130A XCTD RECORDER
48	TSK AXBT RECEIVER MK-300
49	TSK MK-150/MK-150N COMPATIBLE RECORDER FOR BOTH XBT AND XCTD
50	JMA ASTOS
60	ARGOS COMMUNICATIONS, SAMPLING ON UP TRANSIT
61	ARGOS COMMUNICATIONS, SAMPLING ON DOWN TRANSIT
62	ORBCOMM COMMUNICATIONS, SAMPLING ON UP TRANSIT
63	ORBCOMM COMMUNICATIONS, SAMPLING ON DOWN TRANSIT
64	IRIDIUM COMMUNICATIONS, SAMPLING ON UP TRANSIT
65	IRIDIUM COMMUNICATIONS, SAMPLING ON DOWN TRANSIT
70	CSIRO DEVIL-1 XBT ACQUISITION SYSTEM
71	CSIRO DEVIL-2 XBT ACQUISITION SYSTEM
72	TURO/CSIRO QUOLL XBT ACQUISITION SYSTEM
80	APPLIED MICROSYSTEMS LTD., MICRO-SVT&P
81	SEA MAMMAL RESEARCH UNIT, UNIV. ST. ANDREWS, UK, UNCORRECTED SALINITY FROM A SEA MAMMAL MOUNTED INSTRUMENT
82	SEA MAMMAL RESEARCH UNIT, UNIV. ST. ANDREWS, UK, CORRECTED SALINITY FROM A SEA MAMMAL MOUNTED INSTRUMENT

99	UNKNOWN
127	MISSING VALUE

Code table for element 022120 (TIDE STATION AUTOMATED WATER LEVEL CHECK)

Value	Description
0	GOOD DATA
1	MAXIMUM (HIGH) WATER LEVEL LIMIT EXCEEDED
2	MINIMUM (LOW) WATER LEVEL LIMIT EXCEEDED
3	RATE OF CHANGE LIMIT FOR WATER LEVEL EXCEEDED
4	FLAT LIMIT FOR WATER LEVEL EXCEEDED
5	OBSERVED MINUS PREDICTED WATER LEVEL VALUE LIMIT EXCEEDED
6	OBSERVED VALUE FROM PRIMARY WATER LEVEL SENSOR MINUS BACKUP WATER LEVEL SENSOR
7	VALUE EXCEEDED SPECIFIED TOLERANCE FROM EXPECTED VALUE
8	WATER LEVEL QA PARAMETER (SIGMAS AND/OR OUTLIERS) LIMITS EXCEEDED
9	SEA TEMPERATURE OUTSIDE OF EXPECTED RANGE
10	MULTIPLE QC CHECKS (ABOVE) FAILED
11	NO AUTOMATED WATER LEVEL CHECKS PERFORMED
31	MISSING VALUE

Code table for element 022121 (TIDE STATION MANUAL WATER LEVEL CHECK)

Value	Description
0	OPERATIONAL
1	POSSIBLE CLOGGING PROBLEM OR OTHERWISE DEGRADED WATER LEVEL DATA
2	POSSIBLE DATUM SHIFT
3	UNKNOWN STATUS OF WATER LEVEL SENSOR
4	SUSPECTED OR KNOWN SEA TEMPERATURE SENSOR PROBLEM
5	MULTIPLE POSSIBLE PROBLEMS (ABOVE)
6	BAD DATA - DO NOT DISSEMINATE!
7	NO MANUAL WATER LEVEL CHECKS PERFORMED
31	MISSING VALUE

Code table for element 022122 (TIDE STATION AUTOMATED METEOROLOGICAL DATA CHECK)

Value	Description
0	GOOD DATA FROM ALL SENSORS
1	WIND DIRECTION OUTSIDE OF ALLOWABLE RANGE
2	WIND SPEED OUTSIDE OF EXPECTED RANGE
3	BAROMETRIC PRESSURE OUTSIDE OF EXPECTED RANGE
4	AIR TEMPERATURE OUTSIDE OF EXPECTED RANGE
5	MULTIPLE SENSORS FAILED QC CHECKS
6	NO AUTOMATED METEOROLOGICAL DATA CHECKS PERFORMED
31	MISSING VALUE

Code table for element 022123 (TIDE STATION MANUAL METEOROLOGICAL DATA CHECK)

Value	Description
0	OPERATIONAL
1	SUSPECTED OR KNOWN PROBLEM WITH WIND SENSOR
2	SUSPECTED OR KNOWN PROBLEM WITH BAROMETRIC PRESSURE SENSOR
3	SUSPECTED OR KNOWN PROBLEM WITH AIR TEMPERATURE SENSOR
4	UNKNOWN STATUS OF ALL SENSORS
5	SUSPECTED OR KNOWN PROBLEMS WITH MULTIPLE SENSORS
6	BAD DATA - DO NOT DISSEMINATE!
7	NO MANUAL METEOROLOGICAL DATA CHECKS PERFORMED
31	MISSING VALUE

Code table for element 022178 (XBT/XCTD LAUNCHER TYPE)

Value	Description
0	UNKNOWN
1	LM-2A DECK-MOUNTED
2	LM-3A HAND-HELD
3	LM-4A THRU-HULL
10	AL-12 TSK AUTOLAUNCHER (UP TO 12 PROBES)
20	SIO XBT AUTOLAUNCHER (UP TO 6 PROBES)
30	AOML XBT V6 AUTOLAUNCHER (UP TO 6 DEEP BLUE PROBES)
31	AOML XBT V8.0 AUTOLAUNCHER (UP TO 8 DEEP BLUE PROBES)
32	AOML XBT V8.1 AUTOLAUNCHER (UP TO 8 DEEP BLUE AND FAST DEEP PROBES)
90	CSIRO DEVIL AUTOLAUNCHER
100	MFSTEP AUTOLAUNCHER (MEDITERRANEAN)
255	MISSING VALUE

Class 23 - Dispersal and transport - code-flag tables

Code table for element 023001 (ACCIDENT EARLY NOTIFICATION - ARTICLE APPLICABLE)

Value	Description
0	RESERVED
1	ARTICLES 1 AND 2
2	ARTICLE 3
3	ARTICLE 5.2
7	MISSING VALUE

Code table for element 023002 (ACTIVITY OR FACILITY INVOLVED IN INCIDENT)

Value	Description
0	RESERVED
1	NUCLEAR REACTOR ON GROUND

2	NUCLEAR REACTOR AT SEA
3	NUCLEAR REACTOR IN SPACE
4	NUCLEAR FUEL FACILITY
5	RADIOACTIVE WASTE MANAGEMENT FACILITY
6	TRANSPORT OF NUCLEAR FUEL OR RADIOACTIVE WASTE
7	STORAGE OF NUCLEAR FUEL OR RADIOACTIVE WASTE
8	MANUFACTURE OF RADIO-ISOTOPES
9	USE OF RADIO-ISOTOPES
10	STORAGE OF RADIO-ISOTOPES
11	DISPOSAL OF RADIO-ISOTOPES
12	TRANSPORT OF RADIO-ISOTOPES
13	USE OF RADIO-ISOTOPES FOR POWER GENERATION
30	OTHER
31	MISSING VALUE

Code table for element 023003 (TYPE OF RELEASE)

Value	Description
0	NO RELEASE
1	RELEASE TO ATMOSPHERE
2	RELEASE TO WATER
3	RELEASE TO BOTH ATMOSPHERE AND WATER
4	EXPECTED RELEASE TO ATMOSPHERE
5	EXPECTED RELEASE TO WATER
6	EXPECTED RELEASE TO BOTH ATMOSPHERE AND WATER
7	MISSING VALUE

Code table for element 023004 (COUNTERMEASURES TAKEN NEAR BORDER)

Value	Description
0	NO COUNTERMEASURES
1	EVACUATION
2	SHELTERING
3	PROPHYLAXIS
4	WATER
7	MISSING VALUE

Code table for element 023005 (CAUSE OF INCIDENT)

Value	Description
0	INCIDENT STATE DOES NOT UNDERSTAND WHAT HAPPENED
1	INCIDENT STATE KNOWS THE CAUSE OF THE INCIDENT
2	RESERVED
3	MISSING VALUE

Code table for element 023006 (INCIDENT SITUATION)

Value	Description
0	NO IMPROVEMENT
1	UNSTABLE
2	NO DETERIORATION
3	IMPROVING
4	STABLE
5	DETERIORATING
6	RESERVED
7	MISSING VALUE

Code table for element 023007 (CHARACTERISTICS OF RELEASE)

Value	Description
0	NO RELEASE
1	RELEASE HAS STOPPED
2	RELEASE
3	RELEASE IS CONTINUING
7	MISSING VALUE

Code table for element 023008 (STATE OF CURRENT RELEASE)

Value	Description
0	GASEOUS
1	PARTICULATE
2	MIXTURE OF GASEOUS AND PARTICULATE
3	MISSING VALUE

Code table for element 023009 (STATE OF EXPECTED RELEASE)

Value	Description
0	GASEOUS
1	PARTICULATE
2	MIXTURE OF GASEOUS AND PARTICULATE
3	MISSING VALUE

Code table for element 023016 (POSSIBILITY OF SIGNIFICANT CHEMICAL TOXIC HEALTH EFFECT)

Value	Description
0	NO SIGNIFICANT CHEMICAL TOXIC HEALTH EFFECT
1	SIGNIFICANT CHEMICAL TOXIC HEALTH EFFECT POSSIBLE
2	RESERVED
3	MISSING VALUE

Code table for element 023018 (RELEASE BEHAVIOUR OVER TIME)

Value	Description
0	RELEASE NO LONGER OCCURRING
1	RELEASE STILL OCCURRING
2	RELEASE EXPECTED TO INCREASE IN NEXT SIX HOURS
3	RELEASE EXPECTED TO REMAIN CONSTANT IN NEXT SIX HOURS
4	RELEASE EXPECTED TO DECREASE IN NEXT SIX HOURS
7	MISSING VALUE

Code table for element 023031 (POSSIBILITY THAT PLUME WILL ENCOUNTER PRECIPITATION IN STATE IN WHICH INCIDENT OCCURRED)

Value	Description
0	PLUME WILL NOT ENCOUNTER RAIN IN INCIDENT STATE
1	PLUME WILL ENCOUNTER RAIN IN INCIDENT STATE
2	RESERVED
3	MISSING VALUE

Code table for element 023032 (PLUME WILL ENCOUNTER CHANGE IN WIND DIRECTION AND/OR SPEED FLAG)

Value	Description
0	NO SIGNIFICANT CHANGE EXPECTED WITHIN THE NEXT SIX HOURS
1	ANTICIPATED SIGNIFICANT CHANGE EXPECTED WITHIN THE NEXT SIX HOURS
2	RESERVED
3	MISSING VALUE

Class 24 - Radiological elements - code-flag tables

Code table for element 024003 (COMPOSITION OF RELEASE)

Value	Description
0	NOBLE GASES
1	IODINES
2	CAESIUMS
3	TRANSURANICS
31	MISSING VALUE

Class 25 - Processing information - code-flag tables

Code table for element 025004 (ECHO PROCESSING)

Value	Description
0	INCOHERENT
1	COHERENT (DOPPLER)
2	RESERVED
3	MISSING VALUE

Code table for element 025005 (ECHO INTEGRATION)

Value	Description
0	LOGARITHM - 2.5 DB
1	LINEAR
2	SPECIAL
3	MISSING VALUE

Code table for element 025006 (Z TO R CONVERSION)

Value	Description
0	ZH TO R CONVERSION
1	(ZH, ZDR) TO (NO, DO) TO R
2	(Z (F1), Z (F2)) TO ATTENUATION TO R
6	OTHER
7	MISSING VALUE

Flag table for element 025009 (CALIBRATION METHOD)

Total number of bits: **4**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8	NONE
2	4	CALIBRATION TARGET OR SIGNAL
3	2	AGAINST RAINGAUGES
4	1	AGAINST OTHER INSTRUMENTS (DISDROMETER - ATTENUATION)

Code table for element 025010 (CLUTTER TREATMENT)

Value	Description
0	NONE
1	MAP
2	INSERTION OF HIGHER ELEVATION DATA AND MAP
3	ANALYSIS OF THE FLUCTUATING LOGARITHM SIGNAL (CLUTTER DETECTION)
4	EXTRACTION OF THE FLUCTUATING PART OF LINEAR SIGNAL (CLUTTER SUPPRESSION)
5	CLUTTER SUPPRESSION - DOPPLER
6	MULTIPARAMETER ANALYSIS
15	MISSING VALUE

Code table for element 025011 (GROUND OCCULTATION CORRECTION (SCREENING))

Value	Description
0	NONE
1	MAP OF CORRECTION FACTORS
2	INTERPOLATION (AZIMUTH OR ELEVATION)
3	MISSING VALUE

Code table for element 025012 (RANGE ATTENUATION CORRECTION)

Value	Description
0	HARDWARE
1	SOFTWARE
2	HARDWARE AND SOFTWARE
3	MISSING VALUE

Flag table for element 025013 (BRIGHT-BAND CORRECTION)
Total number of bits: **2**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2	BRIGHT-BAND CORRECTION

Flag table for element 025015 (RADOME ATTENUATION CORRECTION)
Total number of bits: **2**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2	RADOME ATTENUATION CORRECTION

Flag table for element 025017 (PRECIPITATION ATTENUATION CORRECTION)
Total number of bits: **2**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2	PRECIPITATION ATTENUATION CORRECTION

Code table for element 025020 (MEAN SPEED ESTIMATION)

Value	Description
0	FFT (FAST FOURIER TRANSFORM)
1	PPP (PULSE-PAIR PROCESSING)
2	VPC (VECTOR-PHASE CHANGE)
3	MISSING VALUE

Flag table for element 025021 (WIND COMPUTATION ENHANCEMENT)
Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	SIMPLE AVERAGE
2	64	CONSENSUS AVERAGE
3	32	MEDIAN CHECK
4	16	VERTICAL CONSISTENCY CHECK
5	8	OTHER

Flag table for element 025022 (GHRSST* REJECTION FLAG)
Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	UNPROCESSED
2	128	LAND SUSPECTED
3	64	WIND SPEED TOO LARGE

4	32	ICE DETECTED
5	16	RAIN DETECTED (MICROWAVE RETRIEVALS ONLY)
6	8	CLOUDY DETECTED (INFRA-RED RETRIEVALS ONLY)
7	4	COSMETIC VALUE
8	2	SST OUT OF RANGE

Flag table for element 025023 (GHRSST CONFIDENCE FLAG)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	DEFAULT CONFIDENCE VALUE HAS BEEN USED
2	128	DEFAULT BIAS AND STANDARD DEVIATION HAVE BEEN USED
3	64	SUN GLINT SUSPECTED
4	32	SEA ICE RETRIEVAL FOR MICROWAVE DATA
5	16	HIGH WIND SPEED RETRIEVAL
6	8	INACCURATE SST DUE TO LOW SST (< 285K) (ONLY APPLIES TO THE TMI INSTRUMENT)
7	4	RELAXED RAIN CONTAMINATION SUSPECTED
8	2	POTENTIAL SIDE LOBE CONTAMINATION

Code table for element 025024 (GHRSST DATA QUALITY)

Value	Description
0	UNPROCESSED INFRARED RETRIEVAL
1	CLOUDY RETRIEVALS
2	BAD: DATA THAT ARE PROBABLY CONTAMINATED BY CLOUD
3	SUSPECT DATA
4	ACCEPTABLE DATA
5	EXCELLENT DATA
6	COOL SKIN SUSPECTED
10	UNPROCESSED MICROWAVE RETRIEVAL
11	QUESTIONABLE MICROWAVE RETRIEVAL THAT MAY BE CONTAMINATED
12	ACCEPTABLE MICROWAVE RETRIEVAL
13	HIGH PROBABILITY OF DIURNAL VARIABILITY
14	RESERVED
15	MISSING VALUE

Flag table for element 025029 (CALIBRATION METHOD)

Total number of bits: **6**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32	RESERVED
2	16	CALIBRATION TARGET OR SIGNAL
3	8	AGAINST RAINGAUGES
4	4	AGAINST OTHER INSTRUMENTS (DISDROMETER - ATTENUATION)

5	2	RESERVED

Code table for element 025030 (RUNNING MEAN SEA-SURFACE TEMPERATURE USAGE)

Value	Description
0	RUNNING MEAN SEA-SURFACE TEMPERATURE NOT USED BECAUSE USAGE CRITERIA NOT MET
1	RUNNING MEAN SEA-SURFACE TEMPERATURE NOT USED BECAUSE DATA NOT AVAILABLE
2	RUNNING MEAN SEA-SURFACE TEMPERATURE USED AS PREDICTOR
3	MISSING VALUE

Code table for element 025031 (NWP-GENERATED VERTICAL PROFILE THINNING METHOD)

Value	Description
0	RESERVED
1	NO THINNING APPLIED (ALL NATIVE MODEL LEVELS ARE INCLUDED FROM BASE TO TOP OF PSEUDO-SOUNDING)
2	NATIVE MODEL LEVELS ARE PRESENT ONLY IF THEY ARE SIGNIFICANT LEVELS AS PER REGULATIONS B/C 25 FOR CONVENTIONAL TEMP SOUNDINGS
3	A PREDEFINED SUBSET OF NATIVE MODEL LEVELS IS PRESENT
4	NO NATIVE MODEL LEVELS ARE PRESENT. ALL PROFILE LEVELS ARE INTERPOLATED TO A PREDEFINED SET OF PRESSURE COORDINATE LEVELS
7	MISSING VALUE

Code table for element 025032 (WIND PROFILER MODE INFORMATION)

Value	Description
0	RESERVED
1	DATA FROM LOW MODE
2	DATA FROM HIGH MODE
3	MISSING VALUE

Code table for element 025033 (WIND PROFILER SUBMODE INFORMATION)

Value	Description
0	WIND PROFILER OPERATING IN SUBMODE A
1	WIND PROFILER OPERATING IN SUBMODE B
2	RESERVED
3	MISSING VALUE

Flag table for element 025034 (WIND PROFILER QUALITY CONTROL TEST RESULTS)

Total number of bits: **4**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8	TEST A PERFORMED AND FAILED
2	4	TEST B PERFORMED AND FAILED
3	2	TEST RESULTS INCONCLUSIVE

Code table for element 025035 (DECISION METHOD FOR POLARITY)

Value	Description

0	NOT DEFINED
1	INDIVIDUAL VOLTAGE DEFLECTION
2	CURRENT BASED, ABOVE A THRESHOLD
3	VOLTAGE BASED, ABOVE A THRESHOLD
4	CONSENSUS OF SENSORS, CURRENT ABOVE A THRESHOLD
5	CONSENSUS OF SENSORS, VOLTAGE ABOVE A THRESHOLD
6	RESERVED
7	MISSING VALUE

Code table for element 025036 (ATMOSPHERICS LOCATION METHOD)

Value	Description
0	NETWORK OF SEVERAL DIRECTION-FINDERS OPERATING ON THE SAME INDIVIDUAL ATMOSPHERICS
1	NETWORK OF SEVERAL ARRIVAL-TIME STATIONS OPERATING ON THE SAME INDIVIDUAL ATMOSPHERICS
6	SINGLE STATION RANGE BEARING TECHNIQUE
15	MISSING VALUE

Code table for element 025040 (CO2 WIND PRODUCT DERIVATION)

Value	Description
0	NON-SPECIFIC MODE
1	FIRST GUESS DATA
2	CLOUD DATA
3	AVERAGE VECTOR DATA
4	PRIMARY DATA
5	GUESS DATA
6	VECTOR DATA
7	TRACER DATA; THIS IMAGE
8	TRACER DATA TO NEXT IMAGE
15	MISSING VALUE

Code table for element 025041 (MOVING PLATFORM DIRECTION REPORTING METHOD)

Value	Description
0	DIRECTION ORIGINALLY REPORTED IN TRUE DEGREES
1	DIRECTION ORIGINALLY REPORTED USING CODE TABLE 0700, FM 13
2	RESERVED
3	MISSING VALUE

Code table for element 025042 (MOVING PLATFORM SPEED REPORTING METHOD)

Value	Description
0	SPEED ORIGINALLY REPORTED IN METRES PER SECOND
1	SPEED ORIGINALLY REPORTED USING CODE TABLE 4451, FM 13
2	RESERVED

3	MISSING VALUE

Flag table for element 025053 (OBSERVATION QUALITY)
Total number of bits: **12**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2048	GOOD
2	1024	REDUNDANT
3	512	QUESTIONABLE
4	256	BAD
5	128	EXPERIMENTAL
6	64	PRECIPITATING

Code table for element 025063 (CENTRAL PROCESSOR OR SYSTEM IDENTIFIER)

Value	Description
0	NOT DEFINED
1	MAIN PROCESSOR
2	BACKUP PROCESSOR
255	MISSING VALUE

Flag table for element 025069 (FLIGHT LEVEL PRESSURE CORRECTIONS)
Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	SMOOTHED
2	64	BASELINE ADJUSTED
3	32	NORMALIZED TIME INTERVAL
4	16	OUTLIER CHECKED
5	8	PLAUSIBILITY CHECKED
6	4	CONSISTENCY CHECKED
7	2	INTERPOLATED

Code table for element 025086 (DEPTH CORRECTION INDICATOR)

Value	Description
0	DEPTHS ARE NOT CORRECTED
1	DEPTHS ARE CORRECTED
2	RESERVED
3	MISSING VALUE

Code table for element 025090 (ORBIT STATE FLAG)

Value	Description
0	ORBIT COMPUTED DURING A MANOEUVRE
1	ADJUSTED MISSION OPERATIONS ORBIT
2	EXTRAPOLATED MISSION OPERATIONS ORBIT

3	ADJUSTED (PRELIMINARY/PRECISE) ORBIT
4	(PRELIMINARY/PRECISE) ORBIT IS ESTIMATED DURING A MANOEUVRE PERIOD
5	(PRELIMINARY/PRECISE) ORBIT IS INTERPOLATED OVER A TRACKING DATA GAP
6	(PRELIMINARY/PRECISE) ORBIT IS EXTRAPOLATED FOR A DURATION LESS THAN 1 DAY
7	(PRELIMINARY/PRECISE) ORBIT IS EXTRAPOLATED FOR A DURATION THAT RANGES FROM 1 DAY TO 2 DAYS
8	(PRELIMINARY/PRECISE) ORBIT IS EXTRAPOLATED FOR A DURATION LARGER THAN 2 DAYS, OR THAT THE ORBIT IS EXTRAPOLATED JUST AFTER A MANOEUVRE
9	DORIS* DIODE** NAVIGATOR ORBIT
15	MISSING VALUE

Flag table for element 025093 (RASS COMPUTATION CORRECTION)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	NO CORRECTION
2	64	VERTICAL VELOCITY CORRECTION
7	2	ALL CORRECTIONS

Flag table for element 025095 (ALTIMETER STATE FLAG)

Total number of bits: **2**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	2	ALTIMETER OPERATING (0 IF NOMINAL, 1 IF BACKUP)

Flag table for element 025096 (RADIOMETER STATE FLAG)

Total number of bits: **5**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16	MODE INDICATOR (0 IF MODE 2, 1 IF MODE 1)
2	8	MODE 1 CALIBRATION SEQUENCE INDICATOR (0 IF NORMAL DATA TAKING EITHER MODE 1 OR 2, 1 IF MODE 1 CALIBRATION SEQUENCE) BITS 3 AND 4 INDICATE ACTIVE 23.8 GHZ CHANNEL(S):
3	4	CHANNEL 2 (0 IF ON, 1 IF OFF)
4	2	CHANNEL 3 (0 IF ON, 1 IF OFF)

Code table for element 025097 (THREE-DIMENSIONAL ERROR ESTIMATE OF THE NAVIGATOR ORBIT)

Value	Description
0	RANGES BETWEEN 0 AND 30 CM
1	RANGES BETWEEN 30 AND 60 CM
2	RANGES BETWEEN 60 AND 90 CM
3	RANGES BETWEEN 90 AND 120 CM
4	RANGES BETWEEN 120 AND 150 CM
5	RANGES BETWEEN 150 AND 180 CM
6	RANGES BETWEEN 180 AND 210 CM
7	RANGES BETWEEN 210 AND 240 CM
8	RANGES BETWEEN 240 AND 270 CM

9	RANGES LARGER THAN 270 CM
15	MISSING VALUE

Flag table for element 025098 (ALTIMETER DATA QUALITY FLAG)
Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	KU BAND RANGE
2	128	C BAND RANGE
3	64	KU BAND SWH*
4	32	C BAND SWH*
5	16	KU BAND BACKSCATTER COEFFICIENT
6	8	C BAND BACKSCATTER COEFFICIENT
7	4	OFF NADIR ANGLE FROM KU BAND WAVEFORM PARAMETERS
8	2	OFF NADIR ANGLE FROM PLATFORM

Flag table for element 025099 (ALTIMETER CORRECTION QUALITY FLAG)
Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	KU BAND RANGE INSTRUMENTAL CORRECTION
2	128	C BAND RANGE INSTRUMENTAL CORRECTION
3	64	KU BAND SWH* INSTRUMENTAL CORRECTION
4	32	C BAND SWH* INSTRUMENTAL CORRECTION
5	16	KU BAND BACKSCATTER COEFFICIENT INSTRUMENTAL CORRECTION
6	8	C BAND BACKSCATTER COEFFICIENT INSTRUMENTAL CORRECTION

Flag table for element 025110 (IMAGE PROCESSING SUMMARY)
Total number of bits: **10**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	512	RAW DATA ANALYSIS USED FOR RAW DATA CORRECTION. CORRECTION DONE USING DEFAULT PARAMETERS
2	256	RAW DATA ANALYSIS USED FOR RAW DATA CORRECTION. CORRECTION DONE USING RAW DATA ANALYSIS RESULTS
3	128	ANTENNA ELEVATION PATTERN CORRECTION APPLIED
4	64	NOMINAL CHIRP REPLICA USED
5	32	RECONSTRUCTED CHIRP USED
6	16	SLANT RANGE TO GROUND RANGE CONVERSION APPLIED

Flag table for element 025112 (BAND SPECIFIC ALTIMETER DATA QUALITY FLAG)
Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	BAND SPECIFIC RANGE
2	128	BAND SPECIFIC SIGNIFICANT WAVE HEIGHT

3	64	BAND SPECIFIC BACKSCATTER COEFFICIENT
4	32	OFF NADIR ANGLE FROM BAND SPECIFIC WAVEFORM PARAMETERS
5	16	OFF NADIR ANGLE FROM PLATFORM

Flag table for element 025113 (BAND SPECIFIC ALTIMETER CORRECTION QUALITY FLAG)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	BAND SPECIFIC RANGE INSTRUMENTAL CORRECTION
2	128	BAND SPECIFIC SIGNIFICANT WAVE HEIGHT INSTRUMENTAL CORRECTION
3	64	BAND SPECIFIC BACKSCATTER COEFFICIENT INSTRUMENTAL CORRECTION

Code table for element 025120 (RA2-L2-PROCESSING FLAG)

Value	Description
0	PERCENTAGE OF DSRS* FREE OF PROCESSING ERRORS DURING LEVEL 2 PROCESSING IS GREATER THAN THE ACCEPTABLE THRESHOLD
1	PERCENTAGE OF DSRS FREE OF PROCESSING ERRORS DURING LEVEL 2 PROCESSING IS LESS THAN THE ACCEPTABLE THRESHOLD
2	RESERVED
3	MISSING VALUE

Code table for element 025122 (HARDWARE CONFIGURATION FOR RF)

Value	Description
0	HARDWARE CONFIGURATION FOR RF IS A
1	HARDWARE CONFIGURATION FOR RF IS B
2	RESERVED
3	MISSING VALUE

Code table for element 025123 (HARDWARE CONFIGURATION FOR HPA)

Value	Description
0	HARDWARE CONFIGURATION FOR HPA IS A
1	HARDWARE CONFIGURATION FOR HPA IS B
2	RESERVED
3	MISSING VALUE

Code table for element 025124 (MWR-L2-PROCESSING FLAG)

Value	Description
0	PERCENTAGE OF DSRS** FREE OF PROCESSING ERRORS DURING LEVEL 2 PROCESSING IS GREATER THAN THE ACCEPTABLE THRESHOLD
1	PERCENTAGE OF DSRS** FREE OF PROCESSING ERRORS DURING LEVEL 2 PROCESSING IS LESS THAN THE ACCEPTABLE THRESHOLD
2	RESERVED
3	MISSING VALUE

Code table for element 025150 (METHOD OF TROPICAL CYCLONE INTENSITY ANALYSIS USING SATELLITE DATA)

Value	Description
1	THE DVORAK'S VIS (VISUAL IMAGERY) INTENSITY ANALYSIS
2	THE DVORAK'S EIR (ENHANCED INFRARED IMAGERY) INTENSITY ANALYSIS
15	MISSING VALUE

Flag table for element 025174 (SMOS INFORMATION FLAG)

Total number of bits: **14**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8192	PIXEL IS AFFECTED BY RFI EFFECTS
2	4096	PIXEL IS LOCATED IN THE HEXAGONAL ALIAS DIRECTION CENTRED ON SUN ALIAS
3	2048	PIXEL IS CLOSE TO THE BORDER DELIMITING THE EXTENDED ALIAS FREE ZONE
4	1024	PIXEL IS INSIDE THE EXTENDED ALIAS FREE ZONE
5	512	PIXEL IS INSIDE THE EXCLUSIVE OF ALIAS FREE ZONE
6	256	PIXEL IS LOCATED IN A ZONE WHERE A MOON ALIAS WAS RECONSTRUCTED
7	128	PIXEL IS LOCATED IN A ZONE WHERE SUN REFLECTION HAS BEEN DETECTED
8	64	PIXEL IS LOCATED IN A ZONE WHERE SUN ALIAS WAS RECONSTRUCTED
9	32	FLAT TARGET TRANSFORMATION HAS BEEN PERFORMED DURING IMAGE RECONSTRUCTION OF THIS PIXEL
10	16	SCENE HAS BEEN COMBINED WITH AN ADJUSTMENT SCENE IN OPPOSITE POLARIZATION DURING IMAGE RECONSTRUCTION TO ACCOUNT FOR CROSS-POLARIZATION LEAKAGE
11	8	DIRECT MOON CORRECTION HAS BEEN PERFORMED DURING IMAGE RECONSTRUCTION OF THIS PIXEL
12	4	REFLECTED SUN CORRECTION HAS BEEN PERFORMED DURING IMAGE RECONSTRUCTION OF THIS PIXEL
13	2	DIRECT SUN CORRECTION HAS BEEN PERFORMED DURING IMAGE RECONSTRUCTION OF THIS IMAGE

Code table for element 025181 (L2 PROCESSING FLAG)

Value	Description
0	OK
1	PERCENTAGE OF L2B RECORDS FREE OF PROCESSING ERRORS IS LESS THAN ACCEPTABLE THRESHOLD
2	MISSING VALUE

Code table for element 025182 (L1 PROCESSING FLAG)

Value	Description
0	OK
1	PERCENTAGE OF L1B RECORDS FREE OF PROCESSING ERRORS IS LESS THAN ACCEPTABLE THRESHOLD
2	MISSING VALUE

Code table for element 025184 (L2 PRODUCT STATUS)

Value	Description

0	OK
1	PRODUCT AS A DURATION SHORTER THAN THE INPUT PRODUCT
2	MISSING VALUE

Code table for element 025185 (ENCRYPTION METHOD)

Value	Description
0	AES 256
255	MISSING VALUE

Code table for element 025187 (CONFIDENCE FLAG)

Value	Description
0	VALID
1	INVALID
15	MISSING VALUE

Code table for element 025188 (METHOD FOR REDUCING PRESSURE TO SEA LEVEL)

Value	Description
0	PRESSURE ADJUSTED TO MEAN SEA LEVEL FOLLOWING WMO-NO. 8 FOR LOW LEVEL (< 50 M) STATIONS
1	PRESSURE ADJUSTED TO MEAN SEA LEVEL FOLLOWING WMO-NO. 8 FOR STATIONS BELOW 750 M
2	PRESSURE ADJUSTED TO SEA LEVEL FOLLOWING NATIONAL PRACTICE
3	PRESSURE ADJUSTED TO LOCAL WATER LEVEL FOLLOWING NATIONAL PRACTICE
4	PRESSURE NOT CORRECTED FOR HEIGHT
15	MISSING VALUE

Code table for element 025190 (ALTIMETER ECHO PROCESSING MODE)

Value	Description
0	LOW RESOLUTION MODE (LRM)
1	SYNTHETIC APERTURE RADAR (SAR)
2	LRM AND SAR (INTERLEAVED)
3	RESERVED
4	PSEUDO-LRM (PLRM)
5	SAR INTERFEROMETRIC MODE (SARIN)
255	MISSING VALUE

Code table for element 025191 (ALTIMETER TRACKING MODE)

Value	Description
0	OPEN LOOP
1	CLOSED LOOP
2	OPEN LOOP FIXED GAIN
255	MISSING VALUE

Class 26 - Non-coordinate location (time) - code-flag tables

Flag table for element 026010 (HOURS INCLUDED)

Total number of bits: **26**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	33554432	0100 INCLUDED
2	16777216	0200 INCLUDED
3	8388608	0300 INCLUDED
4	4194304	0400 INCLUDED
5	2097152	0500 INCLUDED
6	1048576	0600 INCLUDED
7	524288	0700 INCLUDED
8	262144	0800 INCLUDED
9	131072	0900 INCLUDED
10	65536	1000 INCLUDED
11	32768	1100 INCLUDED
12	16384	1200 INCLUDED
13	8192	1300 INCLUDED
14	4096	1400 INCLUDED
15	2048	1500 INCLUDED
16	1024	1600 INCLUDED
17	512	1700 INCLUDED
18	256	1800 INCLUDED
19	128	1900 INCLUDED
20	64	2000 INCLUDED
21	32	2100 INCLUDED
22	16	2200 INCLUDED
23	8	2300 INCLUDED
24	4	2400 INCLUDED
25	2	UNKNOWN MIXTURE OF HOURS

Class 29 - Map data - code-flag tables

Code table for element 029001 (PROJECTION TYPE)

Value	Description
0	GNOMONIC PROJECTION
1	POLAR STEREOGRAPHIC PROJECTION
2	LAMBERT'S CONFORMAL CONIC PROJECTION
3	MERCATOR'S PROJECTION
4	SCANNING CONE (RADAR)*
5	RESERVED
6	NO PROJECTION
7	MISSING VALUE

Code table for element 029002 (COORDINATE GRID TYPE)

Value	Description
0	CARTESIAN
1	POLAR
2	OTHER
7	MISSING VALUE

Class 30 - Image - code-flag tables

Code table for element 030031 (PICTURE TYPE)

Value	Description
0	PPI
1	COMPOSITE
2	CAPPL
3	VERTICAL SECTION
4	ALPHANUMERIC DATA
5	MAP OF SUBJECT CLUTTER
6	MAP
7	TEST PICTURE
8	COMMENTS
9	MAP OF GROUND OCCULTATION
10	MAP OF RADAR BEAM HEIGHT
14	OTHER
15	MISSING VALUE

Flag table for element 030032 (COMBINATION WITH OTHER DATA)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32768	MAP
2	16384	SATELLITE IR
3	8192	SATELLITE VIS
4	4096	SATELLITE WV
5	2048	SATELLITE MULTISPECTRAL
6	1024	SYNOPTIC OBSERVATIONS
7	512	FORECAST PARAMETERS
8	256	LIGHTNING DATA
15	2	OTHER DATA

Class 31 - Data description operator qualifiers - code-flag tables

Code table for element 031021 (ASSOCIATED FIELD SIGNIFICANCE)

Value	Description

0	RESERVED
1	1-BIT INDICATOR OF QUALITY
2	2-BIT INDICATOR OF QUALITY
6	4-BIT INDICATOR OF QUALITY CONTROL CLASS ACCORDING TO GTSPP
7	PERCENTAGE CONFIDENCE
8	0 = NOT SUSPECTED, 1 = SUSPECTED, 2 = RESERVED, 3 = INFORMATION NOT REQUIRED
9	0 = DATA PRESENT, GOOD, COLLOCATED, 1 = DATA AVAILABLE BUT OF DEGRADED QUALITY AND NOT USED, 2 = NO SPATIOTEMPORALLY COLLOCATED DATA AVAILABLE, 3-14 = NOT USED (RESERVED), 15 = MISSING VALUE
21	1-BIT INDICATOR OF CORRECTION
63	MISSING VALUE

Flag table for element 031031 (DATA PRESENT INDICATOR)

Total number of bits: **1**

Bit position (from left to right)	Value (if only the given bit is set)	Description

Class 33 - Quality information - code-flag tables

Code table for element 033002 (QUALITY INFORMATION)

Value	Description
0	DATA NOT SUSPECT
1	DATA SUSPECT
2	RESERVED
3	QUALITY INFORMATION NOT GIVEN

Code table for element 033003 (QUALITY INFORMATION)

Value	Description
0	DATA NOT SUSPECT
1	DATA SLIGHTLY SUSPECT
2	DATA HIGHLY SUSPECT
3	DATA CONSIDERED UNFIT FOR USE
7	QUALITY INFORMATION NOT GIVEN

Flag table for element 033005 (QUALITY INFORMATION (AWS DATA))

Total number of bits: **30**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	536870912	NO AUTOMATED METEOROLOGICAL DATA CHECKS PERFORMED
2	268435456	PRESSURE DATA SUSPECT
3	134217728	WIND DATA SUSPECT
4	67108864	AIR TEMPERATURE DATA SUSPECT
5	33554432	WET-BULB TEMPERATURE DATA SUSPECT
6	16777216	HUMIDITY DATA SUSPECT
7	8388608	GROUND TEMPERATURE DATA SUSPECT
8	4194304	SOIL TEMPERATURE (DEPTH 1) DATA SUSPECT

9	2097152	SOIL TEMPERATURE (DEPTH 2) DATA SUSPECT
10	1048576	SOIL TEMPERATURE (DEPTH 3) DATA SUSPECT
11	524288	SOIL TEMPERATURE (DEPTH 4) DATA SUSPECT
12	262144	SOIL TEMPERATURE (DEPTH 5) DATA SUSPECT
13	131072	CLOUD DATA SUSPECT
14	65536	VISIBILITY DATA SUSPECT
15	32768	PRESENT WEATHER DATA SUSPECT
16	16384	LIGHTNING DATA SUSPECT
17	8192	ICE DEPOSIT DATA SUSPECT
18	4096	PRECIPITATION DATA SUSPECT
19	2048	STATE OF GROUND DATA SUSPECT
20	1024	SNOW DATA SUSPECT
21	512	WATER CONTENT DATA SUSPECT
22	256	EVAPORATION/EVAPOTRANSPIRATION DATA SUSPECT
23	128	SUNSHINE DATA SUSPECT

Code table for element 033006 (INTERNAL MEASUREMENT STATUS INFORMATION (AWS))

Value	Description
0	SELF-CHECK OK
1	AT LEAST ONE WARNING ACTIVE, NO ALARMS
2	AT LEAST ONE ALARM ACTIVE
3	SENSOR FAILURE
7	MISSING VALUE

Code table for element 033015 (DATA QUALITY-CHECK INDICATOR)

Value	Description
0	PASSED ALL CHECKS
1	MISSING DATA CHECK
2	DESCENDING/REASCENDING BALLOON CHECK
3	DATA PLAUSIBILITY CHECK (ABOVE LIMITS)
4	DATA PLAUSIBILITY CHECK (BELOW LIMITS)
5	SUPERADIABATIC LAPSE RATE CHECK
6	LIMITING ANGLES CHECK
7	ASCENSION RATE CHECK
8	EXCESSIVE CHANGE FROM PREVIOUS FLIGHT
9	BALLOON OVERHEAD CHECK
10	WIND SPEED CHECK
11	WIND DIRECTION CHECK
12	DEPENDENCY CHECK
13	DATA VALID BUT MODIFIED
14	DATA OUTLIER CHECK

63	MISSING VALUE

Code table for element 033020 (QUALITY CONTROL INDICATION OF FOLLOWING VALUE)

Value	Description
0	GOOD
1	INCONSISTENT
2	DOUBTFUL
3	WRONG
4	NOT CHECKED
5	HAS BEEN CHANGED
6	ESTIMATED
7	MISSING VALUE

Code table for element 033021 (QUALITY OF FOLLOWING VALUE)

Value	Description
0	WITHIN LIMITS
1	OUTSIDE LIMITS
2	RESERVED
3	MISSING VALUE

Code table for element 033022 (QUALITY OF BUOY SATELLITE TRANSMISSION)

Value	Description
0	GOOD (SEVERAL IDENTICAL REPORTS HAVE BEEN RECEIVED)
1	DUBIOUS (NO IDENTICAL REPORTS HAVE BEEN RECEIVED)
2	RESERVED
3	MISSING VALUE

Code table for element 033023 (QUALITY OF BUOY LOCATION)

Value	Description
0	RELIABLE (LOCATION WAS MADE OVER TWO SATELLITE PASSES)
1	LATEST KNOWN (NO LOCATION OVER THE CORRESPONDING PASS)
2	DUBIOUS (LOCATION MADE OVER ONE PASS ONLY; A SECOND SOLUTION IS POSSIBLE IN 5 PER CENT OF THE CASES)
3	MISSING VALUE

Code table for element 033024 (STATION ELEVATION QUALITY MARK (FOR MOBILE STATIONS))

Value	Description
0	RESERVED
1	EXCELLENT - WITHIN 3 METRES
2	GOOD - WITHIN 10 METRES
3	FAIR - WITHIN 20 METRES
4	POOR - MORE THAN 20 METRES

5	EXCELLENT - WITHIN 10 FEET
6	GOOD - WITHIN 30 FEET
7	FAIR - WITHIN 60 FEET
8	POOR - MORE THAN 60 FEET
15	MISSING VALUE

Code table for element 033025 (ACARS INTERPOLATED VALUES INDICATOR)

Value	Description
0	TIME INTERPOLATED, LATITUDE AND LONGITUDE REPORTED
1	TIME REPORTED, LATITUDE AND LONGITUDE INTERPOLATED
2	TIME, LATITUDE, AND LONGITUDE INTERPOLATED
3	TIME, LATITUDE, AND LONGITUDE REPORTED
7	MISSING VALUE

Code table for element 033026 (MOISTURE QUALITY)

Value	Description
0	NORMAL OPERATIONS - MEASUREMENT MODE
1	NORMAL OPERATIONS - NON-MEASUREMENT MODE
2	SMALL RH
3	HUMIDITY ELEMENT IS WET
4	HUMIDITY ELEMENT CONTAMINATED
5	HEATER FAIL
6	HEATER FAIL AND WET/CONTAMINATED HUMIDITY ELEMENT
7	AT LEAST ONE OF THE INPUT PARAMETERS USED IN THE CALCULATION OF MIXING RATIO IS INVALID
8	NUMERIC ERROR
9	SENSOR NOT INSTALLED
10	CALCULATED RH > 100%
11	INPUT LASER POWER TOO LOW
12	PROBE WV TEMPERATURE OUT OF RANGE
13	PROBE WV PRESSURE OUT OF RANGE
14	SPECTRAL LINE OUT OF RANGE
15	NO LASER OUTPUT
63	MISSING VALUE

Code table for element 033027 (LOCATION QUALITY CLASS (RANGE OF RADIUS OF 66 % CONFIDENCE))

Value	Description
0	RADIUS >= 1500 M
1	500 M =< RADIUS <1500 M
2	250 M =< RADIUS < 500 M
3	RADIUS < 250 M
4	=< 100 M

7	MISSING VALUE

Code table for element 033028 (SNAPSHOT OVERALL QUALITY)

Value	Description
1	NOMINAL
2	DEGRADED BY SW ERROR; ANY ERROR REPORTED BY THE ALGORITHMS
3	DEGRADED BY INSTRUMENT ERROR
4	DEGRADED BY CORRUPTED /MISSING ADF
7	MISSING VALUE

Flag table for element 033030 (SCAN LINE STATUS FLAGS FOR ATOVS)

Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8388608	DO NOT USE SCAN FOR PRODUCT GENERATION
2	4194304	TIME SEQUENCE ERROR DETECTED WITH THIS SCAN
3	2097152	DATA GAP PRECEDES THIS SCAN
4	1048576	NO CALIBRATION
5	524288	NO EARTH LOCATION
6	262144	FIRST GOOD TIME FOLLOWING A CLOCK UPDATE
7	131072	INSTRUMENT STATUS CHANGED WITH THIS SCAN

Flag table for element 033031 (SCAN LINE QUALITY FLAGS FOR ATOVS)

Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8388608	TIME FIELD IS BAD BUT CAN PROBABLY BE INFERRED FROM THE PREVIOUS GOOD TIME
2	4194304	TIME FIELD IS BAD AND CANNOT BE INFERRED FROM THE PREVIOUS GOOD TIME
3	2097152	THIS RECORD STARTS A SEQUENCE THAT IS INCONSISTENT WITH PREVIOUS TIMES (I.E. THERE IS A TIME DISCONTINUITY). THIS MAY OR MAY NOT BE ASSOCIATED WITH A SPACECRAFT CLOCK UPDATE (SEE SCAN LINE STATUS FLAGS FOR ATOVS)
4	1048576	START OF A SEQUENCE THAT APPARENTLY REPEATS SCAN TIMES THAT HAVE BEEN PREVIOUSLY ACCEPTED
5	524288	SCAN LINE WAS NOT CALIBRATED BECAUSE OF BAD TIME
6	262144	SCAN LINE WAS CALIBRATED USING FEWER THAN THE PREFERRED NUMBER OF SCAN LINES BECAUSE OF PROXIMITY TO START OR END OF DATA OR TO A DATA GAP
7	131072	SCAN LINE WAS NOT CALIBRATED BECAUSE OF BAD OR INSUFFICIENT PRT DATA
8	65536	SCAN LINE WAS CALIBRATED BUT WITH MARGINAL PRT DATA
9	32768	SOME UNCALIBRATED CHANNELS ON THIS SCAN
10	16384	UNCALIBRATED DUE TO INSTRUMENT MODE
11	8192	QUESTIONABLE CALIBRATION BECAUSE OF ANTENNA POSITION ERROR OF SPACE VIEW
12	4096	QUESTIONABLE CALIBRATION BECAUSE OF ANTENNA POSITION ERROR OF BLACK BODY
13	2048	NOT EARTH LOCATED BECAUSE OF BAD TIME
14	1024	EARTH LOCATION QUESTIONABLE BECAUSE OF QUESTIONABLE TIME CODE (SEE TIME PROBLEM CODE BITS)

15	512	EARTH LOCATION QUESTIONABLE - ONLY MARGINAL AGREEMENT WITH REASONABLENESS CHECK
16	256	EARTH LOCATION QUESTIONABLE - FAILS REASONABLENESS CHECK
17	128	EARTH LOCATION QUESTIONABLE BECAUSE OF ANTENNA POSITION CHECK
18	64	SCAN LINE CALIBRATION COLD BLACK BODY
19	32	SCAN LINE CALIBRATION WARM BLACK BODY
20	16	SCAN LINE CALIBRATION SPACE VIEW
21	8	EARTH VIEW

Flag table for element 033032 (CHANNEL QUALITY FLAGS FOR ATOVS)

Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8388608	NO GOOD BLACKBODY COUNTS FOR SCAN LINE
2	4194304	NO GOOD SPACE VIEW COUNTS FOR THIS LINE
3	2097152	NO GOOD PRTS FOR THIS LINE
4	1048576	SOME BAD BLACKBODY VIEW COUNTS FOR THIS LINE
5	524288	SOME BAD SPACE VIEW COUNTS FOR THIS LINE
6	262144	SOME BAD PRT TEMPS ON THIS LINE
7	131072	QUALITY FOR THIS SCAN IS REDUCED

Flag table for element 033033 (FIELD OF VIEW QUALITY FLAGS FOR ATOVS)

Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	8388608	SET IF SECONDARY CALIBRATION USED
22	4	SET IF ALL THE CHANNELS ARE MISSING
23	2	SUSPECT

Code table for element 033035 (MANUAL/AUTOMATIC QUALITY CONTROL)

Value	Description
0	AUTOMATIC QUALITY CONTROL PASSED AND NOT MANUALLY CHECKED
1	AUTOMATIC QUALITY CONTROL PASSED AND MANUALLY CHECKED AND PASSED
2	AUTOMATIC QUALITY CONTROL PASSED AND MANUALLY CHECKED AND DELETED
3	AUTOMATIC QUALITY CONTROL FAILED AND MANUALLY NOT CHECKED
4	AUTOMATIC QUALITY CONTROL FAILED AND MANUALLY CHECKED AND FAILED
5	AUTOMATIC QUALITY CONTROL FAILED AND MANUALLY CHECKED AND RE-INSERTED
6	AUTOMATIC QUALITY CONTROL FLAGGED DATA AS QUESTIONABLE AND NOT MANUALLY CHECKED
7	AUTOMATIC QUALITY CONTROL FLAGGED DATA AS QUESTIONABLE AND MANUALLY CHECKED AND FAILED
8	MANUALLY CHECKED AND FAILED
15	MISSING VALUE

Flag table for element 033037 (WIND CORRELATION ERROR)

Total number of bits: **20**

Bit position (from left to right)	Value (if only the given bit is set)	Description

1	524288	U DEPARTURE FROM GUESS
2	262144	V DEPARTURE FROM GUESS
3	131072	U AND V DEPARTURE FROM GUESS
4	65536	U ACCELERATION
5	32768	V ACCELERATION
6	16384	U AND V ACCELERATION
7	8192	POSSIBLE LAND FEATURE
8	4096	U ACCELERATION AND POSSIBLE LAND FEATURE
9	2048	V ACCELERATION AND POSSIBLE LAND FEATURE
10	1024	U AND V ACCELERATION AND POSSIBLE LAND FEATURE
11	512	BAD WIND GUESS
12	256	CORRELATION FAILURE
13	128	SEARCH BOX OFF EDGE OF AREA
14	64	TARGET BOX OFF EDGE OF AREA
15	32	PIXEL BRIGHTNESS OUT OF BOUNDS (NOISY LINE)
16	16	TARGET OUTSIDE OF LATITUDE/LONGITUDE BOX
17	8	TARGET OUTSIDE OF PRESSURE MINIMUM/MAXIMUM
18	4	AUTOEDITOR FLAGGED SLOW VECTOR
19	2	AUTOEDITOR FLAGGED VECTORS

Flag table for element 033038 (QUALITY FLAGS FOR GROUND-BASED GNSS DATA)

Total number of bits: **10**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	512	TOTAL ZENITH DELAY QUALITY IS CONSIDERED POOR
2	256	GALILEO SATELLITES USED
3	128	GLONASS SATELLITES USED
4	64	GPS SATELLITES USED
5	32	METEOROLOGICAL DATA APPLIED
6	16	ATMOSPHERIC LOADING CORRECTION APPLIED
7	8	OCEAN TIDE LOADING APPLIED
8	4	CLIMATE QUALITY DATA PROCESSING
9	2	NEAR-REAL TIME DATA PROCESSING

Flag table for element 033039 (QUALITY FLAGS FOR RADIO OCCULTATION DATA)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32768	NON-NOMINAL QUALITY
2	16384	OFFLINE PRODUCT
3	8192	ASCENDING OCCULTATION FLAG
4	4096	EXCESS PHASE PROCESSING NON-NOMINAL
5	2048	BENDING ANGLE PROCESSING NON-NOMINAL
6	1024	REFRACTIVITY PROCESSING NON-NOMINAL

7	512	METEOROLOGICAL PROCESSING NON-NOMINAL
14	4	BACKGROUND PROFILE NON-NOMINAL
15	2	BACKGROUND (I.E. NOT RETRIEVED) PROFILE PRESENT

Code table for element 033041 (ATTRIBUTE OF FOLLOWING VALUE)

Value	Description
0	THE FOLLOWING VALUE IS THE TRUE VALUE
1	THE FOLLOWING VALUE IS HIGHER THAN THE TRUE VALUE (THE MEASUREMENT HIT THE LOWER LIMIT OF THE INSTRUMENT)
2	THE FOLLOWING VALUE IS LOWER THAN THE TRUE VALUE (THE MEASUREMENT HIT THE HIGHER LIMIT OF THE INSTRUMENT)
3	MISSING VALUE

Code table for element 033042 (TYPE OF LIMIT REPRESENTED BY FOLLOWING VALUE)

Value	Description
0	EXCLUSIVE LOWER LIMIT (>)
1	INCLUSIVE LOWER LIMIT (>=)
2	EXCLUSIVE UPPER LIMIT (<)
3	INCLUSIVE UPPER LIMIT (=<)
7	MISSING VALUE

Flag table for element 033043 (AST CONFIDENCE)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	SEA MDS. NADIR ONLY SST RETRIEVAL USED 3.7 MICRON CHANNEL. LAND MDS RESERVED
2	64	SEA MDS. DUAL VIEW SST RETRIEVAL USED 3.7 MICRON CHANNEL. LAND MDS RESERVED
3	32	NADIR VIEW CONTAINS DAY TIME DATA
4	16	FORWARD VIEW CONTAINS DAY TIME DATA

Flag table for element 033044 (ASAR QUALITY INFORMATION)

Total number of bits: **15**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16384	INPUT DATA MEAN OUTSIDE NOMINAL RANGE FLAG
2	8192	INPUT DATA STANDARD DEVIATION OUTSIDE NOMINAL RANGE FLAG
3	4096	NUMBER OF INPUT DATA GAPS > THRESHOLD VALUE
4	2048	PERCENTAGE OF MISSING LINES > THRESHOLD VALUE
5	1024	DOPPLER CENTROID UNCERTAIN. CONFIDENCE MEASURE < SPECIFIC VALUE
6	512	DOPPLER AMBIGUITY ESTIMATE UNCERTAIN. CONFIDENCE MEASURE < SPECIFIC VALUE
7	256	OUTPUT DATA MEAN OUTSIDE NOMINAL RANGE FLAG
8	128	OUTPUT DATA STANDARD DEVIATION OUTSIDE NOMINAL RANGE FLAG
9	64	CHIRP RECONSTRUCTION FAILED OR IS OF LOW QUALITY FLAG

10	32	DATA SET MISSING
11	16	INVALID DOWNLINK PARAMETERS
12	8	AZIMUTH CUT-OFF ITERATION COUNT. THE AZIMUTH CUT-OFF FIT DID NOT CONVERGE WITHIN A MINIMUM NUMBER OF ITERATIONS
13	4	AZIMUTH CUT-OFF FIT DID NOT CONVERGE WITHIN A MINIMUM NUMBER OF ITERATIONS
14	2	PHASE INFORMATION CONFIDENCE MEASURE. THE IMAGINARY SPECTRAL PEAK IS LESS THAN A MINIMUM THRESHOLD, OR THE ZERO LAG SHIFT IS GREATER THAN A MINIMUM THRESHOLD

Flag table for element 033047 (MEASUREMENT CONFIDENCE DATA)

Total number of bits: **31**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	1073741824	ERROR DETECTED AND ATTEMPTS TO RECOVER MADE
2	536870912	ANOMALY IN ON-BOARD DATA HANDLING (OBDH) VALUE DETECTED
3	268435456	ANOMALY IN ULTRA STABLE OSCILLATOR PROCESSING (USOP) VALUE DETECTED
4	134217728	ERRORS DETECTED BY ON-BOARD COMPUTER
5	67108864	AUTOMATIC GAIN CONTROL (AGC) OUT OF RANGE
6	33554432	RECEPTION (RX) DELAY FAULT. RX DISTANCE OUT OF RANGE
7	16777216	WAVE FORM SAMPLES FAULT IDENTIFIER. ERROR
8	8388608	S BAND ANOMALY/ERROR DETECTED
12	524288	BRIGHTNESS TEMPERATURE (CHANNEL 1) OUT OF RANGE
13	262144	BRIGHTNESS TEMPERATURE (CHANNEL 2) OUT OF RANGE
14	131072	RESERVED
15	65536	KU BAND OCEAN RETRACKING ERROR
16	32768	S BAND OCEAN RETRACKING ERROR
17	16384	KU BAND ICE 1 RETRACKING ERROR
18	8192	S BAND ICE 1 RETRACKING ERROR
19	4096	KU BAND ICE 2 RETRACKING ERROR
20	2048	S BAND ICE 2 RETRACKING ERROR
21	1024	KU BAND SEA ICE RETRACKING ERROR
22	512	ARITHMETIC FAULT ERROR
23	256	METEO DATA STATE. NO MAP
24	128	METEO DATA STATE. 1 MAP
25	64	METEO DATA STATE. 2 MAPS DEGRADED
26	32	METEO DATA STATE. 2 MAPS NOMINAL
27	16	ORBIT PROPAGATOR STATUS FOR PROPAGATION MODE, SEVERAL ERRORS
28	8	ORBIT PROPAGATOR STATUS FOR PROPAGATION MODE, WARNING DETECTED
29	4	ORBIT PROPAGATOR STATUS FOR INITIALIZATION MODE, SEVERAL ERRORS
30	2	ORBIT PROPAGATOR STATUS FOR INITIALIZATION MODE, WARNING DETECTED

Code table for element 033048 (CONFIDENCE MEASURE OF SAR INVERSION)

Value	Description
0	INVERSION SUCCESSFUL
1	INVERSION NOT SUCCESSFUL
2	RESERVED
3	MISSING VALUE

Code table for element 033049 (CONFIDENCE MEASURE OF WIND RETRIEVAL)

Value	Description
0	EXTERNAL WIND DIRECTION USED DURING INVERSION
1	EXTERNAL WIND DIRECTION NOT USED DURING INVERSION
2	RESERVED
3	MISSING VALUE

Code table for element 033050 (GLOBAL GTSPP QUALITY FLAG)

Value	Description
0	UNQUALIFIED
1	CORRECT VALUE (ALL CHECKS PASSED)
2	PROBABLY GOOD BUT VALUE INCONSISTENT WITH STATISTICS (DIFFER FROM CLIMATOLOGY)
3	PROBABLY BAD (SPIKE, GRADIENT, ETC., IF OTHER TESTS PASSED)
4	BAD VALUE, IMPOSSIBLE VALUE (OUT OF SCALE, VERTICAL INSTABILITY, CONSTANT PROFILE)
5	VALUE MODIFIED DURING QUALITY CONTROL
8	INTERPOLATED VALUE
9	GOOD FOR OPERATIONAL USE; CAUTION; CHECK LITERATURE FOR OTHER USES
15	MISSING VALUE

Flag table for element 033055 (WIND VECTOR QUALITY FLAG)

Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
11	8192	OCEAN SIGMA-0 IS NOT AVAILABLE FOR WIND RETRIEVALS
12	4096	BACKGROUND WIND IS NOT AVAILABLE
13	2048	BACKGROUND MODEL DETECT LAND
14	1024	BACKGROUND MODEL DETECT ICE
15	512	SIGMA-0 IS NOT LAND/ICE FREE
16	256	SIGMA-0 LAND CONTAMINATION
17	128	SIGMA-0 ICE CONTAMINATION
18	64	NOT ENOUGH AZIMUTHAL DIVERSITY
19	32	INVERSION IS NOT DONE
20	16	OVERALL WVC FLAG
21	8	INVERSION IS ATTEMPTED (FLAG IS SET)
22	4	RAINFLAG IS ATTEMPTED (FLAG IS SET)
23	2	RAIN IS DETECTED

Flag table for element 033056 (SIGMA-0 QUALITY FLAG)

Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
8	65536	ASCENDING
9	32768	VV POLARISATION
10	16384	FORE OF SPACECRAFT
11	8192	LAND
12	4096	POOR SIGMA-0 (SUMMARY)
13	2048	INVALID SIGMA-0 (SUMMARY)
14	1024	POOR BT
15	512	INVALID BT
16	256	LAND-SEA BOUNDARY
17	128	NEGATIVE SIGMA-0
21	8	ICE
22	4	MISSING DATA AT A GIVEN LATITUDE-LONGITUDE FOR SEA-ICE FLAGGING PROCESS FOR 2 OR MORE DAYS
23	2	ICE-OCEAN CONTAMINATION

Code table for element 033060 (GQISFLAGQUAL - INDIVIDUAL IASI-SYSTEM QUALITY FLAG)

Value	Description
0	GOOD
1	BAD
2	RESERVED
3	MISSING VALUE

Flag table for element 033066 (AMV QUALITY FLAG)

Total number of bits: **24**

Bit position (from left to right)	Value (if only the given bit is set)	Description
20	16	GOOD WIND, BUT AN ALTERNATIVE CHANNEL USED FOR FEATURE TRACKING
21	8	GOOD WIND, BUT AN ALTERNATIVE SET OF CHANNELS USED FOR THE DETERMINATION OF CLOUD-TOP HEIGHT/AMV HEIGHT ASSIGNMENT
22	4	CORRELATION SURFACE CONSTRAINT FAILS
23	2	RESERVED

Code table for element 033070 (TOTAL OZONE QUALITY)

Value	Description
0	GOOD RETRIEVAL
1	BAD AEROSOL INFORMATION FLAG OR NOAA-16 RADIANCE ANOMALY
2	SOLAR ZENITH ANGLE GREATER THAN 84 DEGREES
3	380 NM RESIDUE GREATER THAN LIMIT
4	OZONE INCONSISTENCY

5	DIFFERENCE BETWEEN PROFILE OZONE AND STEP 3 TOTAL OZONE EXCEEDS THRESHOLD (SET TO 25 DU)
6	STEP 1 OZONE ITERATION DID NOT CONVERGE
7	ANY CHANNEL RESIDUE GREATER THAN 16 OR BAD RADIANCE
8	INSUFFICIENT PIXELS - NOT PROCESSED
9	FIRST GUESS GOOD - OZONE FORECAST DATA USED
10	HIGH CLOUD IN PIXEL - NOT PROCESSED
11	SUCCESSFUL OZONE RETRIEVAL
12	UNSUCCESSFUL OZONE RETRIEVAL
15	MISSING VALUE

Code table for element 033071 (PROFILE OZONE QUALITY)

Value	Description
0	GOOD RETRIEVAL
1	SOLAR ZENITH ANGLE GREATER THAN 84 DEGREES
2	DIFFERENCE BETWEEN STEP 3 AND PROFILE TOTAL OZONE GREATER THAN LIMIT (25 DU)
3	AVERAGE FINAL RESIDUE FOR WAVELENGTHS USED IN RETRIEVAL GREATER THAN THRESHOLD
4	FINAL RESIDUE GREATER THAN 3 TIMES A PRIORI ERROR
5	DIFFERENCE BETWEEN RETRIEVED AND A PRIORI GREATER THAN 3 TIMES A PRIORI ERROR
6	NON-CONVERGENT SOLUTION
7	UPPER LEVEL PROFILE ANOMALY OR STRAY LIGHT ANOMALY
8	INITIAL RESIDUE GREATER THAN 18.0 N-VALUE UNITS
15	MISSING VALUE

Code table for element 033072 (OZONE ERROR)

Value	Description
0	GOOD RETRIEVAL
1	REFLECTIVITY OUT OF RANGE
2	LARGER PIXELS (NUMBER OF CROSS-TRACK PIXELS LESS THAN 32) OR BACKWARD SCANS ERROR
3	SOLAR ZENITH ANGLE GREATER THAN 88 DEGREES
4	LATITUDE/LONGITUDE OUT OF RANGE
5	VIEWING ZENITH ANGLE OR SOLAR ZENITH ANGLE OUT OF RANGE
6	STEP-ONE PROCESS FAILED IN GENERAL
7	FIRST GUESS OZONE OUT OF RANGE
8	TOO MANY ITERATIONS (EXCEED 8)
9	STEP-ONE RESIDUE CALCULATION FAILED
10	STEP-TWO PROCESS FAILED IN GENERAL
11	FIRST GUESS OZONE PROFILE OUT OF RANGE
12	STEP-TWO OZONE VALUE OUT OF RANGE
13	STEP-TWO RESIDUE CALCULATION FAILED
14	STEP-THREE PROCESS FAILED IN GENERAL
15	POLARIZATION CORRECTION ACCURACY ALERT

16	RADIANCE OR IRRADIANCE LESS OR EQUAL TO ZERO
31	MISSING VALUE

Flag table for element 033075 (SCAN-LEVEL QUALITY FLAGS)

Total number of bits: **13**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	4096	GAP IN RAW DATA RECORD (RDR) DATA DETECTED (I.E., MISSING SCAN(S) PRECEDING THE CURRENT SCAN)
2	2048	RECORDED TIME IS NOT IN SEQUENCE (I.E., THE SCAN START TIME IS OUT OF SEQUENCE)
3	1024	LAMBDA MONITORED CALCULATION CANNOT BE UPDATED
4	512	THE MEASURED TEMPERATURES OF ANY INSTRUMENT COMPONENTS (E.G., BEAM-SPLITTER, SCAN MIRROR, SCAN BAFFLE) ARE OUTSIDE THE ALLOWABLE RANGES
5	256	AT LEAST ONE OF THE MONITORED INSTRUMENT TEMPERATURES HAS DRIFTED MORE THAN A SPECIFIED TOLERANCE VALUE

Flag table for element 033076 (CALIBRATION QUALITY FLAGS)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	LUNAR INTRUSION ON FIRST DEEP SPACE VIEW
2	128	LUNAR INTRUSION ON SECOND DEEP SPACE VIEW

Flag table for element 033077 (FIELD-OF-VIEW QUALITY FLAGS)

Total number of bits: **19**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	262144	DEGRADED SDR* QUALITY
2	131072	INVALID SDR* QUALITY
3	65536	INVALID SDR* GEOLOCATION INFORMATION
4	32768	DEGRADED RADIOMETRIC CALIBRATION
5	16384	INVALID RADIOMETRIC CALIBRATION
6	8192	DEGRADED SPECTRAL CALIBRATION
7	4096	INVALID SPECTRAL CALIBRATION
8	2048	FRINGE COUNT ERROR DETECTED AND CORRECTED
9	1024	DAY/NIGHT INDICATOR
10	512	INVALID RDR** DATA
11	256	SIGNIFICANT FRINGE COUNT ERROR DETECTED
12	128	BIT TRIM FAILED

Code table for element 033078 (GEOLOCATION QUALITY)

Value	Description
0	NOMINAL - ALTITUDE AND EPHEMERIS DATA AVAILABLE
1	MISSING AT MOST A SMALL GAP OF ALTITUDE AND EPHEMERIS DATA
2	MISSING MORE THAN A SMALL GAP OF ALTITUDE AND EPHEMERIS DATA, BUT NO MORE THAN A GRANULE BOUNDARY
3	MISSING MORE THAN A GRANULE BOUNDARY OF ALTITUDE AND EPHEMERIS DATA

15	MISSING VALUE

Flag table for element 033079 (GRANULE LEVEL QUALITY FLAGS)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
6	1024	THE NO. 1-NO. 7 HEALTH CHECKS FAILED
7	512	THE NO. 8-NO. 15 HEALTH CHECKS FAILED
8	256	THE NO. 16-NO. 23 HEALTH CHECKS FAILED
9	128	THE NO. 24-NO. 31 HEALTH CHECKS FAILED
10	64	THE NO. 32-NO. 39 HEALTH CHECKS FAILED
11	32	THE NO. 40-NO. 47 HEALTH CHECKS FAILED
12	16	THE NO. 48-NO. 55 HEALTH CHECKS FAILED
13	8	THE NO. 56-NO. 63 HEALTH CHECKS FAILED
14	4	THE NO. 64-NO. 70 HEALTH CHECKS FAILED
15	2	QUADRATIC CORRECTION APPLIED TO THE RADIOMETRIC TRANSFER FUNCTION FOR NON-LINEARITY CORRECTION

Flag table for element 033080 (SCAN LEVEL QUALITY FLAGS)

Total number of bits: **20**

Bit position (from left to right)	Value (if only the given bit is set)	Description
7	8192	DIVIDE-BY-ZERO CONDITION OR COMPUTATION LOOP FAILED TO CONVERGE IN THE K/KA AND V (KAV) BAND PRT
8	4096	DIVIDE-BY-ZERO CONDITION OR COMPUTATION LOOP FAILED TO CONVERGE IN THE WG BAND PRT
9	2048	DIVIDE-BY-ZERO CONDITION OR COMPUTATION LOOP FAILED TO CONVERGE IN THE K/KA, V, W, G BAND RECEIVER SHELF PRT K TEMPERATURE COMPUTATION
10	1024	OUT OF RANGE CONDITION FOR THE K/KA AND V BAND PRT
11	512	OUT OF RANGE CONDITION FOR THE WG BAND PRT
12	256	KAV PRT TEMPERATURE INCONSISTENCY
13	128	WG PRT TEMPERATURE INCONSISTENCY
14	64	TIME SEQUENCE ERROR
15	32	DATA GAP - MISSING SCAN(S) PRECEDING THE CURRENT SCAN
16	16	KAV PRT SUFFICIENCY - INSUFFICIENT KAV PRT DATA ARE AVAILABLE
17	8	WG PRT SUFFICIENCY - INSUFFICIENT WG PRT DATA ARE AVAILABLE
18	4	SPACE VIEW ANTENNA POSITION ERROR
19	2	BLACKBODY ANTENNA POSITION ERROR

Flag table for element 033081 (CHANNEL DATA QUALITY FLAGS)

Total number of bits: **12**

Bit position (from left to right)	Value (if only the given bit is set)	Description
3	512	MOON IN SPACE VIEW
4	256	GAIN ERROR - THE LOWEST BLACKBODY COUNT IS SMALLER THAN OR EQUAL TO THE HIGHEST SPACE VIEW COUNT IN A SCAN

5	128	CALIBRATION WITH FEWER THAN PREFERRED SAMPLES
6	64	SPACE VIEW DATA SUFFICIENCY CHECK - INSUFFICIENT SPACE VIEW SAMPLES ARE AVAILABLE
7	32	BLACKBODY VIEW DATA SUFFICIENCY CHECK - INSUFFICIENT BLACKBODY VIEW SAMPLES ARE AVAILABLE
8	16	OUT OF RANGE CONDITION FOR THE SPACE VIEW
9	8	OUT OF RANGE CONDITION FOR THE BLACKBODY VIEW
10	4	SPACE VIEW INCONSISTENCY
11	2	BLACKBODY VIEW INCONSISTENCY

Flag table for element 033082 (GEOLOCATION QUALITY FLAGS)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
6	1024	WITHIN SOUTH ATLANTIC ANOMALY
7	512	INVALID INPUT DATA (INDICATES THAT ANY OF THE SPACECRAFT EPHEMERIS OR ATTITUDE DATA ARE INVALID)
8	256	BAD POINTING (INDICATES THAT THE SENSOR LOS DOES NOT INTERSECT THE GEOID, IS NEAR THE LIMB, HAS INVALID SENSOR ANGLES OR OTHER SIMILAR CONDITION)
9	128	BAD TERRAIN (INDICATES THAT THE ALGORITHM COULD NOT OBTAIN A VALID TERRAIN VALUE)
10	64	INVALID SOLAR ANGLES
11	32	MISSING AT MOST A SMALL GAP OF ALTITUDE AND EPHEMERIS DATA
12	16	MISSING MORE THAN A SMALL GAP OF ALTITUDE AND EPHEMERIS DATA, BUT NO MORE THAN A GRANULE BOUNDARY
13	8	MISSING MORE THAN A GRANULE BOUNDARY OF ALTITUDE AND EPHEMERIS DATA
14	4	THE NUMBER OF ENCODER PULSE VALUES PER DELTA TIME IS NOT AS EXPECTED
15	2	SOLAR ECLIPSE DURING EARTH VIEW SCAN

Flag table for element 033083 (RADIANCE DATA QUALITY FLAGS)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
6	1024	PIXEL IS AFFECTED BY RADIO-FREQUENCY INTERFERENCE
7	512	POOR CALIBRATION QUALITY DUE TO BAD SPACE VIEW OFFSETS, OBC * VIEW OFFSETS, ETC. OR USE OF A PREVIOUS CALIBRATION VIEW
8	256	SATURATED PIXEL
9	128	MISSING DATA -DATA REQUIRED FOR CALIBRATION PROCESSING ARE NOT AVAILABLE FOR PROCESSING
10	64	CALIBRATED PIXEL RADIANCE OUT OF RANGE
11	32	CALIBRATED PIXEL REFLECTANCE OR EBBT OUT OF RANGE
12	16	THE MOON HAS CORRUPTED THE SPACE VIEW
13	8	SCAN DATA IS NOT PRESENT (NO VALID DATA)
14	4	QUALITY FOR THIS SCAN-LINE IS REDUCED. THE VALUE IS DETERMINED BY THE COMBINED NUMBER OF STEPS REQUIRED TO FIND A REPLACEMENT FOR THERMISTOR OR CALIBRATION SOURCE DATA
15	2	BAD DETECTOR

Flag table for element 033084 (PIXEL LEVEL QUALITY FLAGS)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
6	1024	BULK SST OUTSIDE OF VALIDATION RANGE
7	512	SKIN SST OUTSIDE OF VALIDATION RANGE
8	256	SENSOR ZENITH ANGLE > 40 DEGREES (PIXEL IS NOT WITHIN 40 DEGREES OF NADIR AND THEREFORE IS NOT OF HIGH QUALITY)
9	128	DEGRADATION - HORIZONTAL CELL SIZE (HCS) > 1.3 KM (HCS > 1.3 KM, SWATH WIDTH > 1 700 KM, SENSOR ZENITH ANGLE > 50.3 DEGREES)
10	64	EXCLUSION: NO OCEAN IN PIXEL
11	32	DEGRADATION: AEROSOL OPTICAL THICKNESS (AOT) > 0.6 (AOT IN HORIZONTAL CELL > 0.6 ON THE SLANT PATH (AOT @550 NM))
12	16	EXCLUSION: AOT > 1.0 (AOT IN HORIZONTAL CELL > 1.0 ON THE SLANT PATH (AOT @550 NM))
13	8	SUN GLINT PRESENT IN PIXEL
14	4	ICE CONCENTRATION THRESHOLD EXCEEDED (SST NOT RETRIEVED DUE TO ICE CONCENTRATION EXCEEDING THRESHOLD IN SYSTEM SPEC)
15	2	THIN CIRRUS DETECTED IN PIXEL

Flag table for element 033085 (AEROSOL OPTICAL THICKNESS QUALITY FLAGS)

Total number of bits: **18**

Bit position (from left to right)	Value (if only the given bit is set)	Description
4	16384	ANGSTROM EXPONENT IS OUTSIDE OF THE SYSTEM SPECIFICATION RANGE
5	8192	EXCLUDED, ANGSTROM EXPONENT FOR AOT* AT 550 NM < 0.15
6	4096	BRIGHT SURFACE IN CELL (IF OVER LAND), OR SHALLOW OR TURBID WATER IN CELL (IF OVER OCEAN)
7	2048	LOW SUN, EXCLUDED, SOLAR ZENITH ANGLE > 80 DEGREES
8	1024	LOW SUN, DEGRADED, 65 DEGREES < SOLAR ZENITH ANGLE =< 80 DEGREES
9	512	FIRE DETECTED IN CELL
10	256	SNOW/ICE IN CELL
11	128	CLOUD SHADOW IN CELL
12	64	SUN GLINT IN CELL
13	32	BAD SDR** DATA PRESENT IN HORIZONTAL CELL (QUALITY OF AOT/APSP*** DEGRADED OR AOT /APSP NOT RETRIEVED DUE TO BAD SDR DATA IN HORIZONTAL CELL)
14	16	CIRRUS CONTAMINATION IN CELL
15	8	CLOUD ADJACENT TO CELL
16	4	CLOUD CONTAMINATION IN CELL
17	2	AOT IS OUTSIDE OF THE SYSTEM SPECIFICATION RANGE

Code table for element 033086 (QUALITY OF PIXEL LEVEL RETRIEVAL)

Value	Description
0	NOT RETRIEVED
1	EXCLUDED
2	DEGRADED

3	HIGH QUALITY
7	MISSING VALUE

Code table for element 033087 (EXTENT OF SATELLITE WITHIN SOUTH ATLANTIC ANOMALY (BASED ON CLIMATOLOGICAL DATA))

Value	Description
0	LESS THAN OR EQUAL TO 10%
1	GREATER THAN 10% BUT LESS THAN OR EQUAL TO 20%
2	GREATER THAN 20% BUT LESS THAN OR EQUAL TO 30%
3	GREATER THAN 30% BUT LESS THAN OR EQUAL TO 40%
4	GREATER THAN 40% BUT LESS THAN OR EQUAL TO 50%
5	GREATER THAN 50% BUT LESS THAN OR EQUAL TO 60%
6	GREATER THAN 60% BUT LESS THAN OR EQUAL TO 70%
7	GREATER THAN 70% BUT LESS THAN OR EQUAL TO 80%
8	GREATER THAN 80%
15	MISSING VALUE

Flag table for element 033088 (OZONE TOTAL COLUMN QUALITY FLAG)

Total number of bits: **18**

Bit position (from left to right)	Value (if only the given bit is set)	Description
6	4096	SURFACE REFLECTIVITY OUT OF RANGE
7	2048	RESIDUAL TOO LARGE
8	1024	AEROSOL INDEX LIMIT EXCEEDED
9	512	SOLAR ECLIPSE PRESENT (ALL OR PART OF THE IFOV* IS AFFECTED BY A SOLAR ECLIPSE, UMBRA OR PENUMBRA VIEWING)
10	256	SUN GLINT PRESENT WITHIN IFOV
11	128	SNOW OR ICE SURFACE IS WITHIN THE IFOV
12	64	SOLAR ZENITH ANGLE IN EXCLUDED (NIGHT) CONDITION (SOLAR ZENITH ANGLE >= 88 DEGREES)
13	32	SOLAR ZENITH ANGLE IN DEGRADED CONDITION (80 DEGREES =< SOLAR ZENITH ANGLE < 88 DEGREES)
14	16	SO2 INDEX > 6 DU (DEGRADED CONDITION)
15	8	RESIDUES ARE NOT CONSISTENT (INDICATES WHETHER THE RESIDUES FROM THE 22 WAVELENGTHS ARE CONSISTENT)
16	4	O3 TRIPLET SELECTION IS NOT CONSISTENT WITHIN RETRIEVAL (OZONE TRIPLET CONSISTENCY)
17	2	INPUT DATA QUALITY IS NOT GOOD

Flag table for element 033092 (BAND SPECIFIC OCEAN QUALITY FLAG)

Total number of bits: **9**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	256	ALTIMETER OPERATING
2	128	MICROWAVE RADIOMETER (MWR) OPERATING

Flag table for element 033093 (EXTENDED QUALITY FLAGS FOR GROUND-BASED GNSS DATA)

Total number of bits: **31**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	1073741824	PATH DELAY QUALITY IS CONSIDERED POOR
2	536870912	GALILEO SATELLITES USED
3	268435456	GLONASS SATELLITES USED
4	134217728	GPS SATELLITES USED
5	67108864	BEIDOU SATELLITES USED
9	4194304	METEOROLOGICAL DATA APPLIED
10	2097152	ATMOSPHERIC LOADING CORRECTION APPLIED
11	1048576	OCEAN TIDE LOADING APPLIED
12	524288	SECOND ORDER IONOSPHERE CORRECTIONS APPLIED
13	262144	THIRD ORDER IONOSPHERE CORRECTIONS APPLIED
14	131072	PPP SOLUTION
15	65536	GRADIENTS APPLIED TO PATH DELAY
16	32768	MULTIPATH CORRECTIONS APPLIED TO PATH DELAY
17	16384	RESIDUAL APPLIED TO PATH DELAY
18	8192	CLIMATE QUALITY DATA PROCESSING
19	4096	RE-PROCESSING
20	2048	POST-PROCESSING
21	1024	NEAR-REAL TIME DATA PROCESSING
22	512	REAL TIME DATA PROCESSING

Class 35 - Data monitoring information - code-flag tables

Code table for element 035000 (FM AND REGIONAL CODE NUMBER)

Value	Description
1023	MISSING VALUE

Code table for element 035001 (TIME FRAME FOR MONITORING)

Value	Description
0	REAL TIME
1	NEAR-REAL TIME
2	NON-REAL TIME
7	MISSING VALUE

Code table for element 035030 (DISCREPANCIES IN THE AVAILABILITY OF EXPECTED DATA)

Value	Description
0	NO DISCREPANCIES
1	NON-COMPLIANCE WITH STANDARD AND RECOMMENDED PRACTICES AND PROCEDURES INCLUDING THOSE OF MONITORING
2	CATALOGUES OF METEOROLOGICAL BULLETINS NOT UPDATED IN A TIMELY MANNER
3	INCORRECT ROUTING DIRECTORIES

4	LACK OF FLEXIBILITY IN THE ROUTING ARRANGEMENTS
5	DEFICIENCIES IN THE OPERATION OF GTS CENTRES AND CIRCUITS
6	LOSS OF DATA OR DELAYS IN RELAYING DATA ON THE GTS
7	ROUTING OF DATA DIFFERENT FROM THE ROUTING PROVIDED IN THE PLAN
8	VARIOUS MALPRACTICES
15	MISSING VALUE

Code table for element 035031 (QUALIFIER ON MONITORING RESULTS)

Value	Description
1	SUFFICIENT AND ALL OF ACCEPTABLE QUALITY
2	SUFFICIENT BUT PARTLY OF ACCEPTABLE QUALITY
3	INSUFFICIENT BUT ALL OF ACCEPTABLE QUALITY
4	INSUFFICIENT AND OF UNACCEPTABLE QUALITY
5	SOME MESSAGES NOT COMPLETE
6	SUSPECT OR WRONGLY CODED GROUPS COULD NOT BE INTERPRETED CONFIDENTLY
7	GROSS CODING ERRORS
8	TRANSMISSION SEQUENTIAL ORDER NOT OBSERVED
9	REPORT COMPLETELY GARBLED AND THUS DISCARDED
10	DEFICIENCIES IDENTIFIED AND RECTIFIED
11	DEFICIENCIES IDENTIFIED BUT NOT RECTIFIED
12	DEFICIENCIES NOT IDENTIFIED
13	MEASURING ERRORS
14	MUTUAL INCONSISTENCY
15	TEMPORAL INCONSISTENCY
16	FORECAST ERROR
17	BIAS
18	IMPROVE SYSTEM OF QUALITY CONTROL
19	EXPAND TRAINING PROGRAMMES
127	MISSING VALUE

Code table for element 035032 (CAUSE OF MISSING DATA)

Value	Description
1	DATA GROUPS MISSING DUE TO RADIO FADING
2	DATA GROUPS MISSING DUE TO OUTAGE OF CENTRE
3	DATA GROUPS MISSING DUE TO OUTAGE OF CIRCUIT
4	NON-IMPLEMENTATION OR MAINTENANCE OF REQUIRED RBSN DENSITY
5	SHORTAGE OF QUALIFIED STAFF TO MAN STATIONS
6	LACK OF CONSUMABLES
7	INSTRUMENT FAILURE
8	NON-ADHERENCE TO TELECOMMUNICATION PROCEDURES
9	SOME OBSERVING PROGRAMMES CEASED

15	MISSING VALUE

Code table for element 035033 (OBSERVATION AND COLLECTION DEFICIENCIES)

Value	Description
1	NO DEFICIENCY
2	OBSERVATIONS NOT MADE REGULARLY
3	OBSERVATIONS NOT MADE AT RIGHT TIME
4	OBSERVATIONS MADE BUT NOT DISSEMINATED
5	OBSERVATIONS MADE AND SENT TO INCORRECT USERS
6	COLLECTION NOT RECEIVED
7	COLLECTION TRANSMITTED LATE
8	COLLECTION NOT TRANSMITTED
9	DIFFICULTIES IN HF PROPAGATION AND SELECTION OF SUITABLE FREQUENCY
10	DIFFICULTIES IN MAINTENANCE OF COMMUNICATION EQUIPMENT AT REMOTE STATIONS
11	NO ALTERNATIVE ARRANGEMENT FOR ROUTING METEOROLOGICAL OBSERVATION
123	MISSING VALUE

Code table for element 035034 (STATISTICAL TRENDS FOR AVAILABILITY OF DATA (DURING THE SURVEY PERIOD (S)))

Value	Description
1	SLIGHT IMPROVEMENT
2	SIGNIFICANT IMPROVEMENT
3	MOST SIGNIFICANT IMPROVEMENT
4	STEADY
5	DECREASING
6	EFFORTS REQUIRED TO IMPROVE NIGHT-TIME OBSERVATIONS
7	MISSING VALUE

Code table for element 035035 (REASON FOR TERMINATION)

Value	Description
0	RESERVED
1	BALLOON BURST
2	BALLOON FORCED DOWN BY ICING
3	LEAKING OR FLOATING BALLOON
4	WEAK OR FADING SIGNAL
5	BATTERY FAILURE
6	GROUND EQUIPMENT FAILURE
7	SIGNAL INTERFERENCE
8	RADIOSONDE FAILURE
9	EXCESSIVE MISSING DATA FRAMES
10	RESERVED

11	EXCESSIVE MISSING TEMPERATURE
12	EXCESSIVE MISSING PRESSURE
13	USER TERMINATED
14	SUDDEN LOSS OF SIGNAL
15	TRACKING LOST
16	INCREASING PRESSURE
17	INVALID AND/OR MISSED DATA TIME LIMITS EXCEEDED
30	OTHER
31	MISSING VALUE

Class 40 - Satellite data - code-flag tables

Flag table for element 040005 (SOIL MOISTURE CORRECTION FLAG)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	SOIL MOISTURE BETWEEN -20% AND 0%
2	64	SOIL MOISTURE BETWEEN 100% AND 120%
3	32	CORRECTION OF WET BACKSCATTER REFERENCE
4	16	CORRECTION OF DRY BACKSCATTER REFERENCE
5	8	CORRECTION OF VOLUME SCATTERING IN SAND

Flag table for element 040006 (SOIL MOISTURE PROCESSING FLAG)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32768	NOT SOIL
2	16384	SENSITIVITY TO SOIL MOISTURE BELOW LIMIT
3	8192	AZIMUTHAL NOISE ABOVE LIMIT
4	4096	BACKSCATTER FORE-AFT BEAM OUT OF RANGE
5	2048	SLOPE MID-FORE BEAM OUT OF RANGE
6	1024	SLOPE MID-AFT BEAM OUT OF RANGE
7	512	SOIL MOISTURE BELOW -20%
8	256	SOIL MOISTURE ABOVE 120%

Flag table for element 040011 (INTERPOLATION FLAG)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	MEAN SEA-SURFACE (MSS) INTERPOLATION FLAG
2	64	OCEAN TIDE SOLUTION 1 INTERPOLATION FLAG (0 = 4 POINTS OVER OCEAN, 1 = LESS THAN 4 POINTS)
3	32	OCEAN TIDE SOLUTION 2 INTERPOLATION FLAG (0 = 4 POINTS OVER OCEAN, 1 = LESS THAN 4 POINTS)
4	16	METEOROLOGICAL DATA INTERPOLATION FLAG (0 = 4 POINTS OVER OCEAN, 1 = LESS THAN 4 POINTS)

Flag table for element 040012 (RADIOMETER DATA QUALITY FLAG)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	128	18.7 GHZ BRIGHTNESS TEMPERATURE
2	64	23.8 GHZ BRIGHTNESS TEMPERATURE
3	32	34 GHZ BRIGHTNESS TEMPERATURE

Code table for element 040013 (RADIOMETER BRIGHTNESS TEMPERATURE INTERPRETATION FLAG)

Value	Description
0	INTERPOLATION WITH NO GAP BETWEEN JMR* DATA
1	INTERPOLATION WITH GAPS BETWEEN JMR* DATA
2	EXTRAPOLATION OF JMR* DATA
3	FAILURE OF EXTRAPOLATION AND INTERPOLATION
7	MISSING VALUE

Flag table for element 040020 (GQISFLAGQUALDETAILED - QUALITY FLAG FOR THE SYSTEM)
Total number of bits: **17**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	65536	NZPD AND COMPLEX CALIBRATION ERROR
2	32768	BAND 3 AFFECTED BY SPIKE
3	16384	BAND 3 AFFECTED BY SATURATION
4	8192	BAND 2 AFFECTED BY SPIKE
5	4096	BAND 1 AFFECTED BY SPIKE
6	2048	OVERFLOW/UNDER FLOW
7	1024	ON-BOARD PROCESSING ERROR
8	512	SPECTRAL CALIBRATION ERROR
9	256	RADIOMETRIC CALIBRATION ERROR
10	128	MISSING AVHRR DATA
11	64	MISSING IIS DATA
12	32	MISSING SOUNDER DATA
13	16	GQISFLAGQUAL SUMMARY FLAG FOR ALL BANDS
14	8	ON-GROUND PROCESSING ERROR
15	4	INTER-CALIBRATION ERROR IASI/AVHRR
16	2	SPARE

Flag table for element 040023 (AUXILIARY ALTIMETER STATE FLAGS)
Total number of bits: **5**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16	BAND SEQUENCE (0 = 3KU_1C_3KU, 1 = 2KU_1C_2KU)
2	8	C BAND FREQUENCY (0 = 320 MHZ, 1 = 100 MHZ)
3	4	C BAND STATUS (0 = ON, 1 = OFF)
4	2	KU BAND STATUS (0 = ON, 1 = OFF)

Code table for element 040024 (METEOROLOGICAL MAP AVAILABILITY)

Value	Description
0	2 MAPS AVAILABLE (6 HOURS APART)
1	2 MAPS AVAILABLE (> 6 HOURS APART)
2	1 MAP AVAILABLE; DATA EXTRAPOLATED
3	NO MAPS USED
7	MISSING VALUE

Code table for element 040025 (INTERPOLATION FLAG FOR MEAN DIURNAL TIDE)

Value	Description
0	GOOD
1	BAD
2	RESERVED
3	MISSING VALUE

Code table for element 040028 (GMI QUALITY FLAG)

Value	Description
0	GOOD DATA
1	POSSIBLE SUN GLINT
2	POSSIBLE RADIO-FREQUENCY INTERFERENCE
3	DEGRADED GEOLOCATION DATA
4	DATA CORRECTED FOR WARM LOAD INTRUSION
5	SCAN BLANKING ON
6	DATA IS MISSING FROM FILE OR UNREADABLE
7	UNPHYSICAL BRIGHTNESS TEMPERATURE
8	ERROR IN GEOLOCATION DATA
9	DATA MISSING IN ONE CHANNEL
10	DATA MISSING IN MULTIPLE CHANNELS
11	LAT/LON VALUES ARE OUT OF RANGE
12	NON-NORMAL STATUS MODES
13	DISTANCE TO CORRESPONDING LOW FREQUENCY PIXEL > 7 KM
14	RESERVED
15	MISSING VALUE (NO QUALITY INFORMATION AVAILABLE)

Code table for element 040036 (LIDAR L2B CLASSIFICATION TYPE)

Value	Description
0	CLEAR
1	CLOUD
15	MISSING VALUE

Code table for element 040043 (SATELLITE MANOEUVRE INDICATOR)

Value	Description
0	THE PLATFORM IS NOT UNDERGOING A MANOEUVRE
1	THE PLATFORM IS UNDERGOING A MANOEUVRE, NOMINAL PROCESSING
2	THE PLATFORM IS UNDERGOING A MANOEUVRE, NO PROCESSING
7	MISSING VALUE

Flag table for element 040045 (CLOUD FORMATION AND HEIGHT ASSIGNMENT)

Total number of bits: **5**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	16	CLOUD PRODUCTS RETRIEVED WITH THE CHI-SQUARED METHOD
2	8	CLOUD PRODUCTS RETRIEVED WITH THE CO2-SLICING
3	4	HEIGHT ASSIGNMENT PERFORMED WITH STATISTICAL FIRST GUESS RETRIEVAL
4	2	HEIGHT ASSIGNMENT PERFORMED WITH NWP FORECASTS

Code table for element 040046 (CLOUDINESS SUMMARY)

Value	Description
0	THE IASI IFOV IS CLEAR
1	SMALL CLOUD CONTAMINATION POSSIBLE
2	THE IASI IFOV IS PARTIALLY COVERED BY CLOUDS
3	HIGH OR FULL CLOUD COVERAGE
7	MISSING VALUE

Code table for element 040047 (VALIDATION FLAG FOR IASI OR IASI-NG LEVEL 1 PRODUCT)

Value	Description
0	THE MEASUREMENTS AND SIDE INFORMATION ARE AVAILABLE AND OF GOOD QUALITY FOR L2 PROCESSING
1	THE L1C PRODUCTS ARE OF DEGRADED QUALITY ACCORDING TO L1C FLAGS, NO L2 PROCESSING
2	QUALITY CONTROL INDICATES THAT THE L1C DATA ARE OF DEGRADED QUALITY (NOT INDICATED BY THE IASI L1C FLAGS), NO L2 PROCESSING
7	MISSING VALUE

Code table for element 040048 (VALIDATION FLAG OF AMSU-A LEVEL 1 DATA FLOW)

Value	Description
0	THE EXPECTED AMSU MEASUREMENTS ARE AVAILABLE, OF GOOD QUALITY AND COLLOCATED WITH IASI FOR PROCESSING
1	AMSU-A DATA ARE AVAILABLE BUT OF DEGRADED QUALITY (ACCORDING TO AMSU L1 FLAGS OR QC TESTS) AND NOT USED FOR PROCESSING
2	NO COINCIDENT (TIME AND SPACE) AMSU MEASUREMENTS AVAILABLE FOR PROCESSING
7	MISSING VALUE

Flag table for element 040049 (CLOUD TESTS EXECUTED AND RESULTS)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
4	4096	IASI CLOUD OPTICAL THICKNESS INDICATES A CLOUD

5	2048	IASI CLOUD OPTICAL THICKNESS COMPUTED
6	1024	AVHRR HETEROGENEITY TEST INDICATES A CLOUD
7	512	AVHRR HETEROGENEITY TEST EXECUTED
8	256	IASI-AVHRR ANN CLOUD TEST INDICATES A CLOUD
9	128	IASI-AVHRR ANN CLOUD TEST EXECUTED
10	64	AVHRR INTEGRATED CLOUD FRACTION INDICATES A CLOUD
11	32	AVHRR INTEGRATED CLOUD FRACTION ASSESSED
12	16	AMSU CLOUD TEST INDICATES A CLOUD
13	8	AMSU CLOUD TEST EXECUTED
14	4	IASI WINDOW CLOUD TEST INDICATES A CLOUD
15	2	IASI WINDOW CLOUD TEST EXECUTED

Flag table for element 040050 (RETRIEVAL INITIALISATION)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
5	8	MHS INCLUDED
6	4	AMSU INCLUDED
7	2	IASI INCLUDED

Code table for element 040051 (CONVERGENCE OF THE ITERATIVE RETRIEVAL)

Value	Description
0	OPTIMAL ESTIMATION METHODS (OEM) NOT ATTEMPTED
1	OEM ABORTED BECAUSE FIRST GUESS RESIDUALS TOO HIGH
2	THE MINIMIZATION DID NOT CONVERGE, SOUNDING REJECTED
3	THE MINIMIZATION DID NOT CONVERGE, SOUNDING ACCEPTED
4	THE MINIMIZATION CONVERGED BUT SOUNDING REJECTED
5	THE MINIMIZATION CONVERGED, SOUNDING ACCEPTED
6	RESERVED
7	MISSING VALUE

Flag table for element 040052 (INDICATION OF SUPER-ADIABATIC AND SUPER-SATURATION IN FINAL RETRIEVAL)

Total number of bits: **8**

Bit position (from left to right)	Value (if only the given bit is set)	Description
4	16	SUPERSATURATION CONDITIONS IN THE OEM RETRIEVAL
5	8	SUPERADIABATIC CONDITIONS IN THE OEM RETRIEVAL
6	4	SUPERSATURATION CONDITIONS IN THE FIRST GUESS
7	2	SUPERADIABATIC CONDITIONS IN THE FIRST GUESS

Flag table for element 040054 (POTENTIAL PROCESSING AND INPUTS ERRORS)

Total number of bits: **13**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	4096	AN ERROR HAS BEEN DETECTED

2	2048	MESSAGE FROM L1
3	1024	MESSAGE FROM L2
4	512	MESSAGE FROM ANCILLARY DATA
5	256	MESSAGE FROM FITTING PROCEDURE
6	128	FILE OPENING
7	64	FILE READING
8	32	QUALITY FLAG
9	16	LEVEL 2 FROM LINEAR REGRESSION(F_QUAL), REPORT A PIXEL WHERE L2 ARE NOT FULLY TRUSTED
10	8	EMPTY FIELD OR DATA
11	4	MISSING SURFACE PRESSURE VALUE
12	2	RADIANCE FILTERING

Flag table for element 040055 (DIAGNOSTICS ON THE RETRIEVAL)

Total number of bits: **21**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	1048576	RADIANCE FILTERING
2	524288	POLAR REGIONS
3	262144	LOCATION IN THE NIGHT
4	131072	NEGATIVE ALTITUDE SURFACE BELOW MEAN SEA LEVEL
5	65536	CLOUD COVERED SCENE
6	32768	SCENE ABOVE THE SEA
7	16384	SCENE ABOVE DESERT
8	8192	SKIN TEMPERATURE
9	4096	SKIN TEMPERATURE DIFFERENTIAL
10	2048	SPECTRAL LINE CONTRAST TOO WEAK
11	1024	MAXIMUM NUMBER OF ITERATIONS EXCEEDED
12	512	NEGATIVE PARTIAL COLUMNS
13	256	MATRIX ILL CONDITIONED
14	128	FIT DIVERGED
15	64	ERROR IN GNU SCIENTIFIC LIBRARY (GSL) USAGE
16	32	RESIDUALS “BIASED”
17	16	RESIDUALS “SLOPED”
18	8	RESIDUALS ROOT MEAN SQUARE (RMS) ERROR IS LARGE
19	4	WEIRD AVERAGING KERNELS
20	2	ICE PRESENCE DETECTED

Code table for element 040056 (GENERAL RETRIEVAL QUALITY)

Value	Description
0	USE NOT RECOMMENDED
1	USE WITH CAUTION
2	BEST QUALITY

7	MISSING VALUE

Flag table for element 040057 (IASI LEVEL 2 RETRIEVAL FLAGS)

Total number of bits: **31**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	1073741824	AN ERROR HAS BEEN DETECTED
2	536870912	MESSAGE FROM L1
3	268435456	MESSAGE FROM L2
4	134217728	MESSAGE FROM ANCILLARY DATA
5	67108864	MESSAGE FROM FITTING PROCEDURE
6	33554432	RESERVED
7	16777216	BAD L1 OR L2 FLAG RAISED
8	8388608	LEVEL 2 NOT FULLY TRUSTED
9	4194304	MISSING TEMPERATURE OR HUMIDITY LEVELS IN THE VERTICAL PROFILE
10	2097152	MISSING SURFACE PRESSURE VALUE
11	1048576	RADIANCE FILTERING
12	524288	POLAR REGIONS
13	262144	LOCATION IN THE NIGHT
14	131072	NEGATIVE ALTITUDE
15	65536	CLOUD COVERED SCENE
16	32768	SCENE ABOVE THE SEA
17	16384	SCENE ABOVE DESERT
18	8192	MISSING SKIN TEMPERATURE
19	4096	RETRIEVED SKIN TEMPERATURE TOO DIFFERENT FROM MODEL
20	2048	SPECTRAL LINE CONTRAST TOO WEAK
21	1024	MAXIMUM NUMBER OF ITERATIONS EXCEEDS
22	512	NEGATIVE PARTIAL COLUMNS
23	256	MATRIX ILL CONDITIONED
24	128	FIT DIVERGED
25	64	ERROR IN GSL USAGE
26	32	RESIDUALS BIASED
27	16	RESIDUALS SLOPED
28	8	RESIDUALS RMS ERROR IS LARGE
29	4	WEIRD AVERAGING KERNELS
30	2	ICE PRESENCE DETECTED

Code table for element 040068 (GENERAL RETRIEVAL QUALITY FLAG FOR SO2)

Value	Description
0	VALUES CALCULATED WITH IASI L2
1	PRESSURE AND TEMPERATURE PROFILES MISSING IN IASI L2 DATA; MODEL/FORECAST DATA USED INSTEAD

2	BEST QUALITY
15	MISSING VALUE

Flag table for element 040074 (GENERAL INTERFEROMETRY QUALITY FLAGS)

Total number of bits: **16**

Bit position (from left to right)	Value (if only the given bit is set)	Description
1	32768	INCOMPATIBILITY OF A SCAN ANGLE FOR ELECTROENCEPHALOGRAM
2	16384	CALIBRATION FAILURE (LIMIT OF BLACK BODY TEMPERATURE REACHED, NOT ENOUGH SOURCES FOR INTERFEROMETRY, ETC.)
3	8192	GEOLOCATION EXECUTED TAKING INTO ACCOUNT THE ORIENTATION OF THE SPACECRAFT AND USING THE STAR CATALOGUE
4	4096	HIGH LEVEL OF CRYOGENIC SEDIMENT REACHED, REQUIRING OUTGASSING OF THE RADIATION COOLER. SET WHEN NESR LEVEL OF THE ICE COVER THRESHOLD CROSSED
5	2048	INTERFEROMETRY PACKAGE FLAG
6	1024	GENERAL ACCURACY FLAG
7	512	NOISE PRESENT DURING THE INTERFEROMETRY
8	256	OUTGASSING OF THE RADIATION COOLER
9	128	FLAG PRECEDING THE FIRST 24 HOURS/DAY MARK (SET TO ON AS A RULE)
10	64	TELEMETRY PACKAGE FLAG

Class 42 - 42 - code-flag tables

Code table for element 042004 (CONFIDENCE OF INVERSION FOR EACH PARTITION OF SWELL WAVE SPECTRA)

Value	Description
0	WAVE DIRECTION RESOLVED
1	180-DEGREE AMBIGUITY NOT RESOLVED
15	MISSING