

## ATTACHMENT II–5

### DATA DESIGNATORS $T_1T_2A_1A_2ii$ IN ABBREVIATED HEADINGS

Table A:	Data type designator $T_1$ Matrix Table for $T_1T_2A_1A_2ii$ definitions
Table B1:	Data type designator $T_2$ (when $T_1 = A, C, F, N, S, T, U$ or $W$ )
Table B2:	Data type designator $T_2$ (when $T_1 = D, G, H, P, Q, V, X$ or $Y$ )
Table B3:	Data type designator $T_2$ (when $T_1 = I$ or $J$ )
Table B4:	Data type designator $T_2$ (when $T_1 = O$ )
Table B5:	Data type designator $T_2$ (when $T_1 = E$ )
Table B6:	Data type designator $T_2$ (when $T_1 = K$ )
Table C1:	Geographical designators $A_1A_2$ for use in abbreviated headings $T_1T_2A_1A_2ii$ CCCC YYGGgg for bulletins containing meteorological information, excluding ships' weather reports and oceanographic data
Table C2:	Geographical designators $A_1A_2$ for use in abbreviated headings $T_1T_2A_1A_2ii$ CCCC YYGGgg for bulletins containing ships' weather reports and oceanographic data including reports from automatic marine stations
Table C3:	Geographical area designator $A_1$ (when $T_1 = D, G, H, O, P, Q, T, X$ or $Y$ ) and geographical area designator $A_2$ (when $T_1 = I$ or $K$ )
Table C4:	Reference time designator $A_2$ (when $T_1 = D, G, H, J, O, P$ , or $T$ )
Table C5:	Reference time designator $A_2$ (when $T_1 = Q, X$ or $Y$ )
Table C6:	Data type designator $A_1$ (when $T_1 = I$ or $J$ )
Table C7:	Data type designator $A_1$ (when $T_1 = K$ )
Table D1:	Level designator $ii$ (when $T_1 = O$ )
Table D2:	Level designator $ii$ (when $T_1 = D, G, H, P, Q, X$ or $Y$ )
Table D3:	Level designator $ii$ (when $T_1 T_2 = FA$ or $UA$ )

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE A**Data type designator  $T_1$  Matrix Table for  $T_1T_2A_1A_2ii$  definitions

$T_1$	Data Type	$T_2$	$A_1$	$A_2$	ii	Priority	$T_1$
A	Analyses	B1	C1	C1	(2)	3	A
B	Addressed message	(3)	(3)	(3)	(3)	1/2/4(1)	B
C	Climatic data	B1	C1	C1	(2)	4	C
D	Grid point information (GRID)	B2	C3	C4	D2	3	D
E	Satellite imagery	B5	C1	C1	(2)	3	E
F	Forecast	B1	C1	C1	(2)	3	F
G	Grid point information (GRID)	B2	C3	C4	D2	3	G
H	Grid point information (GRIB)	B2	C3	C4	D2	3	H
I	Observational data (Binary coded) - BUFR	B3	C6	C3	(2)	2	I
J	Forecast information (Binary coded) - BUFR	B3	C6	C4	D2	3	J
K	CREX	C7	C7	C3	(2)	2	K
L	-						L
M	-						M
N	Notices	B1	C1	C1	(2)	4	N
O	Oceanographic information (GRIB)	B4	C3	C4	D1	3	O
P	Pictorial information (Binary coded)	B6	C3	C4	D2	3	P
Q	Pictorial information regional (Binary coded)	B6	C3	C5	D2	3	Q
R	-						R
S	Surface data	B1	C1/C2	C1/C2	(2)	2/4(1)	S
T	Satellite data	B1	C3	C4	(2)	2	T
U	Upper air data	B1	C1/C2	C1/C2	(2)	2	U
V	National data	(4)	C1	C1	(2)	(5)	V
W	Warnings	B1	C1	C1	(2)	1	W
X	GRID regional use	B2	C3	C5	D2	3	X
Y	GRIB regional use	B2	C3	C5	D2	3	Y
Z	-						Z

- (1) Priority level: 1 is allocated to service messages  
 2 is allocated to data and request messages  
 3 is allocated to seismic waveform data ( $T_1T_2 = SY$ )  
 4 is allocated to administrative messages"
- (2) See paragraph 2.3.2.2 for definition and use.
- (3) See paragraph 2.4.2 for definition and use.
- (4) Table B2 or national table.
- (5) To be determined.

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE B1**Data type designator  $T_2$  (when  $T_1 = A, C, F, N, S, T, U$  or  $W$ )*Instructions for the proper application of the data type designators*

1. The designators specified in this table should be used to the greatest extent possible to indicate the type of data contained within the body of the bulletin.
2. When the tables does not contain a suitable designator for the data type, an alphabetic designator which is not assigned in the table should be introduced and the WMO Secretariat notified.
3. This table includes only the FM number and code name for an individual code form. The Roman numeral identifying the latest version has been omitted to reduce clutter. In all cases the latest version of a code is implied. Refer to WMO-No. 306 - *Manual on Codes* for the complete code name (including the version) of any numbered code. In those few instances where a numbered code does not exist, a reference and the common name is given: e.g. [ICAO] (AIREP). An explanatory note may be appended to an individual table if necessary.
4. In the event that no standard format has been established for a particular data type, and where there is a recommended format, that format is given in square brackets under the column labeled Code form (e.g. [TEXT]). This is a character code in free form - International Alphabet No. 2 (Attachment II-1) or International Alphabet No. 5 (Attachment II-2) will be used.

 **$T_1 = A$  Analyses**

$T_2$ DESIGNATOR	DATA TYPE	CODE FORM (NAME)
C	Cyclone	[TEXT]
G	Hydrological/Marine	[TEXT]
H	Thickness	[TEXT]
I	Ice	FM 44 (ICEAN)
O	Ozone layer	[TEXT]
R	Radar	[TEXT]
S	Surface	FM 45 (IAC)/FM 46 (IAC FLEET)
U	Upper air	FM 45 (IAC)
W	Weather Summary	[TEXT]
X	Miscellaneous	[TEXT]

 **$T_1 = C$  Climatic data**

$T_2$ DESIGNATOR	DATA TYPE	CODE FORM (NAME)
A	Climatic anomalies	[TEXT]
E	Monthly means (upper air)	FM 76 (CLIMAT TEMP SHIP)

## OPERATIONAL PROCEDURES FOR THE GTS

**T<sub>1</sub> = C Climatic data****T<sub>2</sub>**

DESIGNATOR	DATA TYPE	CODE FORM (NAME)
H	Monthly means (surface)	FM 72 (CLIMAT SHIP)
O	Monthly means (ocean areas)	FM 73 (NACLI,CLINP,SPCLI,CLISA,INCLI)
S	Monthly means (surface)	FM 71 (CLIMAT)
U	Monthly means (upper air)	FM 75 (CLIMAT TEMP)

**T<sub>1</sub> = F Forecast****T<sub>2</sub>**

DESIGNATOR	DATA TYPE	CODE FORM (NAME)
A	Aviation area /GAMET/advisories	FM 53 (ARFOR)/[TEXT]
B	Upper winds and temperatures	FM 50 (WITEM)
C	Aerodrome (VT < 12 hours)	FM 51 (TAF)
D	Radiological trajectory dose	FM 57 (RADO)
E	Extended	[TEXT]
F	Shipping	FM 46 (IAC FLEET)
G	Hydrological	FM 68 (HYFOR)
H	Upper air thickness	[TEXT]
I	Iceberg	[TEXT]
J	Radio warning service (including IUWDS data)	[TEXT]
K	Tropical cyclone advisories	[TEXT]
L	Local/Area	[TEXT]
M	Temperature extremes	[TEXT]
O	Guidance	[TEXT]
P	Public	[TEXT]
Q	Other shipping	[TEXT]
R	Aviation route	FM 54 (ROFOR)
S	Surface	FM 45 (IAC)/FM 46 (IAC FLEET)
T	Aerodrome (VT ≥ 12 hours)	FM 51 (TAF)
U	Upper air	FM 45 (IAC)
V	Volcanic ash advisories	[TEXT]
W	Winter sports	[TEXT]
X	Miscellaneous	[TEXT]
Z	Shipping area	FM 61 (MAFOR)

## OPERATIONAL PROCEDURES FOR THE GTS

**T<sub>1</sub> = N Notices****T<sub>2</sub>**

DESIGNATOR	DATA TYPE	CODE FORM (NAME)
G	Hydrological	[TEXT]
H	Marine	[TEXT]
N	Nuclear emergency response	[TEXT]
O	METNO/WIFMA	[TEXT]
P	Product generation delay	[TEXT]
T	TEST MSG [System related]	[TEXT]
W	Warning related and/or cancellation	[TEXT]

**T<sub>1</sub> = S Surface data****T<sub>2</sub>**

DESIGNATOR	DATA TYPE	CODE FORM (NAME)
A	Aviation routine reports	FM 15 (METAR)
B	Radar reports (Part A)	FM 20 (RADOB)
C	Radar reports (Part B)	FM 20 (RADOB)
D	Radar reports (Parts A & B)	FM 20 (RADOB)
E	Seismic data	*(SEISMIC)
F	Atmospherics reports	FM 81 (SFAZI)/FM 82 (SFLOC)/FM 83 (SFAZU)
G	Radiological data report	FM 22 (RADREP)
I	Intermediate synoptic hour	FM 12 (SYNOP)/FM 13 (SHIP)
L	-	-
M	Main synoptic hour	FM 12 (SYNOP)/FM 13 (SHIP)
N	Non-standard synoptic hour	FM 12 (SYNOP)/FM 13 (SHIP)
O	Oceanographic data	FM 63 (BATHY)/FM 64 (TESAC)/FM 62 (TRACKOB)
P	Special aviation weather reports	FM 16 (SPECI)
R	Hydrological (river) reports	FM 67 (HYDRA)
S	Drifting buoy reports	FM 18 (BUOY)
T	Sea Ice	[TEXT]
U	Snow depth	[TEXT]
V	Lake ice	[TEXT]
W	Wave information	FM 65 (WAVEOB)
X	Miscellaneous	[TEXT]
Y	Seismic wave form data	[any format]
Z	Sea level data and deep-ocean tsunami data	[any alphanumeric format]

## OPERATIONAL PROCEDURES FOR THE GTS

**T<sub>1</sub> = T Satellite data****T<sub>2</sub>**

DESIGNATOR	DATA TYPE	CODE FORM (NAME)
B	Satellite orbit parameters	[TEXT]
C	Satellite cloud interpretations	FM 85 (SAREP)
H	Satellite remote upper air soundings	FM 86 (SATEM)
R	Clear radiance observations	FM 87 (SARAD)
T	Sea surface temperatures	FM 88 (SATOBS)
W	Winds and cloud temperatures	FM 88 (SATOBS)
X	Miscellaneous	[TEXT]

**T<sub>1</sub> = U Upper air data****T<sub>2</sub>**

DESIGNATOR	DATA TYPE	CODE FORM (NAME)
A	Aircraft reports	FM 41 (CODAR), ICAO (AIREP)
D	Aircraft reports	FM 42 (AMDAR)
E	Upper level pressure, temperature, humidity and wind (Part D)	FM 35 (TEMP)/FM 36 (TEMP SHIP)/FM 38 (TEMP MOBIL)
F	Upper level pressure, temperature, humidity and wind (Parts C and D) [National and bilateral option]	FM 35 (TEMP)/FM 36 (TEMP SHIP)/FM 38 (TEMP MOBIL)
G	Upper wind (Part B)	FM 32 (PILOT)/FM 33 (PILOT SHIP)/FM 34 (PILOT MOBIL)
H	Upper wind (Part C)	FM 32 (PILOT)/FM 33 (PILOT SHIP)/FM 34 (PILOT MOBIL)
I	Upper wind (Parts A and B) [National and bilateral option]	FM 32 (PILOT)/FM 33 (PILOT SHIP)/FM 34 (PILOT MOBIL)
K	Upper level pressure, temperature, humidity and wind (Part B)	FM 35 (TEMP)/FM 36 (TEMP SHIP)/FM 38 (TEMP MOBIL)
L	Upper level pressure, temperature, humidity and wind (Part C)	FM 35 (TEMP)/FM 36 (TEMP SHIP)/FM 38 (TEMP MOBIL)
M	Upper level pressure, temperature, humidity and wind (Parts A and B) [National and bilateral option]	FM 35 (TEMP)/FM 36 (TEMP SHIP)/FM 38 (TEMP MOBIL)
N	Rocketsonde reports	FM 39 (ROCOB)/FM 40 (ROCOB SHIP)
P	Upper wind (Part A)	FM 32 (PILOT)/FM 33 (PILOT SHIP)/FM 34 (PILOT MOBIL)
Q	Upper wind (Part D)	FM 32 (PILOT)/FM 33 (PILOT SHIP)/FM 34 (PILOT MOBIL)
R	Aircraft report	[NATIONAL**] (RECCO)
S	Upper level pressure, temperature, humidity and wind (Part A)	FM 35 (TEMP)/FM 36 (TEMP SHIP)/FM 38 (TEMP MOBIL)
T	Aircraft report	FM 41 (CODAR)
X	Miscellaneous	[TEXT]
Y	Upper wind (Parts C and D) [National and bilateral option]	FM 32 (PILOT)/FM 33 (PILOT SHIP)/FM 34 (PILOT MOBIL)
Z	Upper level pressure, temperature, humidity and wind from a sonde released by carrier balloon or aircraft (Parts A, B, C, D)	FM 37 (TEMP DROP)

## OPERATIONAL PROCEDURES FOR THE GTS

**T<sub>1</sub> = U Upper air data****T<sub>2</sub>**

DESIGNATOR DATA TYPE

CODE FORM (NAME)

**T<sub>1</sub> = W Warnings****T<sub>2</sub>**

DESIGNATOR DATA TYPE

CODE FORM (NAME)

A	AIRMET	[TEXT]
C	Tropical cyclone (SIGMET)	[TEXT]
E	Tsunami	[TEXT]
F	Tornado	[TEXT]
G	Hydrological/River flood	[TEXT]
H	Marine/Coastal flood	[TEXT]
O	Other	[TEXT]
S	SIGMET	[TEXT]
T	Tropical cyclone (Typhoon/Hurricane)	[TEXT]
U	Severe thunderstorm	[TEXT]
V	Volcanic ash clouds (SIGMET)	[TEXT]
W	Warnings and weather summary	[TEXT]

\* The international seismic code is documented in the *Manual on Codes* (WMO-No. 306), Volume I, Attachment I.

\*\* For example, United States national code form for reports from a meteorological reconnaissance flight (RECCO), is documented in the *Manual on Codes* (WMO-No. 306), Volume II, Chapter IV, Part F.

**TABLE B2**Data type designator  $T_2$  (when  $T_1 = D, G, H, X$  or  $Y$ )*Instructions for the proper application of the data type designators*

1. The designator specified in this table should be used to the greatest extent possible to indicate the type of data contained within the text of the bulletin.
2. Where more than one type is contained in the text, the designators for only one of the data types should be used.
3. When the table does not contain a suitable designator for the data type, an alphabetic designator which is not assigned in the table should be introduced and the WMO Secretariat notified.

$T_2$	
DESIGNATOR	DATA TYPE
A	Radar data
B	Cloud
C	Vorticity
D	Thickness (relative topography)
E	Precipitation
F	-
G	Divergence
H	Height
I	-
J	Wave height + combinations
K	Swell height + combinations
L	-
M	For national use
N	Radiation
O	Vertical velocity
P	Pressure
Q	Wet bulb potential temperature
R	Relative humidity
S	-
T	Temperature
U	Eastward wind component
V	Northward wind component
W	Wind
X	Lifted index
Y	Observational plotted chart
Z	Not assigned



## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE B3**Data type designator  $T_2$  (when  $T_1 = I$  or  $J$ )*Instructions for the proper application of the data type designators*

1. The designators specified in this table should be used to the greatest extent possible to indicate the type of data contained within the body of the BUFR bulletin.
2. Where more than one data type is contained in the bulletin, the designators for only one of the data types should be used.
3. When the table does not contain a suitable designator for the data type, an alphabetic designator which is not assigned in the table should be introduced and the WMO secretariat notified.

$T_2$	
DESIGNATOR	DATA TYPE
N	Satellite data
O	Oceanographic/limnographic (water properties)
P	Pictorial
S	Surface/sea level
T	Text (plain language information)
U	Upper air
X	Other data types

**TABLE B4**Data type designator  $T_2$  (when  $T_1 = O$ )*Instructions for the proper application of the data type designators*

1. The designators specified in this table should be used to the greatest extent possible to indicate the type of data contained within the body of the GRIB bulletin for oceanographic products.
2. Where more than one data type is contained in the bulletin, the designators for only one of the data types should be used.
3. When the table does not contain a suitable designator for the data type, an alphabetic designator which is not assigned in the table should be introduced and the WMO secretariat notified.

$T_2$	
DESIGNATOR	DATA TYPE
D	Depth
E	Ice concentration
F	Ice thickness
G	Ice drift
H	Ice growth
I	Ice convergence/divergence

## OPERATIONAL PROCEDURES FOR THE GTS

Q	Temperature anomaly
R	Depth anomaly
S	Salinity
T	Temperature
U	Current component
V	Current component
W	Temperature warming
X	Mixed data

**TABLE B5**Data type designator  $T_2$  (when  $T_1 = E$ )

---

$T_2$	
DESIGNATOR	DATA TYPE
C	Cloud top temperature
F	Fog
I	Infrared
S	Surface temperature
V	Visible
W	Water vapour
Y	User specified
Z	Unspecified

**TABLE B6**Data type designator  $T_2$  (when  $T_1 = P, Q$ )*Instructions for the proper application of the data type designator*

1. The designator specified in this table should be used to the greatest extent possible to indicate the type of data contained within the text of the bulletin.
2. Where more than one type is contained in the text, the designator for one of the data types should be used.
3. When the table does not contain a suitable designator for the data type, an alphabetic designator which is not assigned in the table should be introduced and the WMO secretariat notified.

$T_2$ DESIGNATOR	DATA TYPE
A	Radar data
B	Cloud
C	Clear air turbulence
D	Thickness (relative topography)
E	Precipitation
F	Aerological diagrams (Ash Cloud)
G	Significant weather
H	Height
I	Ice flow
J	Wave height + combinations
K	Swell height + combinations
L	Plain language
M	For national use
N	Radiation
O	Vertical velocity
P	Pressure
Q	Wet bulb potential temperature
R	Relative humidity
S	Snow cover
T	Temperature
U	Eastward wind component
V	Northward wind component
W	Wind
X	Lifted index
Y	Observational plotted chart
Z	Not assigned

**TABLE C1**

Geographical designators A<sub>1</sub>A<sub>2</sub> for use in abbreviated headings T<sub>1</sub>T<sub>2</sub>A<sub>1</sub>A<sub>2</sub> ii CCCC YYGGgg  
for bulletins containing meteorological information, excluding ships' weather reports  
and oceanographic data

*Instructions for the proper application of the geographical designators*

1. This table is subdivided into two parts: Part I contains geographical designators related to countries or territories in each RTH zone of responsibility for the collection of observational reports (surface and upper-air); Part II contains those for vast areas such as continents, hemispheres, etc.
2. In the case of bulletins containing observational reports (surface and upper-air) from land stations, geographical designators contained in Part II of the table should be used only when no suitable designators are available in Part I of the table.
3. In the case of bulletins containing meteorological information related to aircraft reports, analyses, prognoses, warnings, climatological data, satellite data and also analogue facsimile information, all the geographical designators contained in this table can be used. However, as far as possible, the geographical designator XX should not be used.
4. For the geographical designator in the abbreviated heading of the METNO and WIFMA messages, XX should be used.
5. Geographical designators contained in this table should not be used in the abbreviated heading of bulletins containing ships' weather reports and oceanographic data.
6. For T<sub>1</sub>T<sub>2</sub>=SZ A<sub>1</sub>A<sub>2</sub> area designator from Table C1 should be used.

**NOTE:** The designations employed and the presentation of the material in this table do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Meteorological Organization concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

**PART I - COUNTRY OR TERRITORY DESIGNATORS**

A <sub>1</sub> A <sub>2</sub>	COUNTRY
AB	Albania
AG	Argentina
AH	Afghanistan
AI	Ascension Island
AJ	Azerbaijan
AK	Alaska
AL	Algeria
AN	Angola
AT	Antigua and Barbuda, Saint Kitts and other British islands in the vicinity
AU	Australia
AY	Armenia
AZ	Azores
BA	Bahamas
BC	Botswana
BD	Brunei Darussalam
BE	Bermuda
BH	Belize
BI	Burundi

## OPERATIONAL PROCEDURES FOR THE GTS

A <sub>1</sub> A <sub>2</sub>	COUNTRY
BJ	Benin
BK	Banks Islands
BM	Myanmar
BN	Bahrain
BO	Bolivia
BR	Barbados
BU	Bulgaria
BV	Bouvet Island
BW	Bangladesh
BX	Belgium, Luxembourg
BY	Belarus
BZ	Brazil
CD	Chad
CE	Central African Republic
CG	Congo
CH	Chile
CI	China
CM	Cameroon
CN	Canada
CO	Colombia
CR	Canary Islands (Spain)
CS	Costa Rica
CT	Canton Island
CU	Cuba
CV	Cape Verde
CY	Cyprus
CZ	Czech Republic
DJ	Djibouti
DL	Germany
DN	Denmark
DO	Dominica
DR	Dominican Republic
EG	Egypt
EI	Eritrea
EO	Estonia
EQ	Ecuador
ER	United Arab Emirates
ES	El Salvador
ET	Ethiopia
FA	Faroe Islands
FG	French Guiana
FI	Finland
FJ	Fiji
FK	Falkland Island (Malvinas)
FP	Saint Pierre and Miquelon
FR	France
FW	Wallis and Futuna Islands
GB	Gambia
GC	Cayman Islands
GD	Grenada
GE	Gough Island
GG	Georgia
GH	Ghana
GI	Gibraltar
GL	Greenland
GM	Guam

## OPERATIONAL PROCEDURES FOR THE GTS

$A_1 A_2$	COUNTRY
GN	Guinea
GO	Gabon
GQ	Equatorial Guinea
GR	Greece
GU	Guatemala
GW	Guinea-Bissau
GY	Guyana
HA	Haiti
HE	St. Helena
HK	Hong Kong, China
HO	Honduras
HU	Hungary
HV	Burkina Faso
HW	Hawaiian Islands
IC	Comoros
ID	Indonesia
IE	Ireland
IL	Iceland
IN	India
IQ	Iraq
IR	Iran, Islamic Republic of
IS	Israel
IV	Côte d'Ivoire
IY	Italy
JD	Jordan
JM	Jamaica
JP	Japan
KA	Caroline Islands (Federated State of Micronesia)
KB	Kiribati
KI	Christmas Island
KK	Cocos Islands
KN	Kenya
KO	Korea, Republic of
KP	Cambodia
KR	Democratic People's Republic of Korea
KU	Cook Island
KW	Kuwait
KY	Kyrgyzstan
KZ	Kazakhstan
LA	Lao People's Democratic Republic
LB	Lebanon
LC	Saint Lucia
LI	Liberia
LJ	Slovenia
LN	Southern Line Islands
LS	Lesotho
LT	Lithuania
LV	Latvia
LY	Libyan Arab Jamahiriya
MA	Mauritius
MB	Marion Island
MC	Morocco
MD	Madeira
MF	Saint-Martin, Saint-Barthélemy, Guadeloupe and other French islands in the vicinity
MG	Madagascar
MH	Marshall Islands

## OPERATIONAL PROCEDURES FOR THE GTS

$A_1 A_2$	COUNTRY
MI	Mali
MJ	Former Yugoslov Republic of Macedonia
MK	Montenegro
ML	Malta
MN	St. Maarten, St.Eustatius and Saba
MO	Mongolia
MR	Martinique
MS	Malaysia
MT	Mauritania
MU	Macao, China
MV	Maldives
MW	Malawi
MX	Mexico
MY	Mariana Islands
MZ	Mozambique
NC	New Caledonia
NG	Papua New Guinea
NI	Nigeria
NK	Nicaragua
NL	Netherlands
NM	Namibia
NO	Norway
NP	Nepal
NR	Niger
NU	Netherlands Antilles (Bonaire, Curaçao) and Aruba
NV	Vanuatu
NW	Nauru Island
NZ	New Zealand
OM	Oman
OR	South Orkney Islands
OS	Austria
PF	French Polynesia
PH	Philippines
PI	Phoenix Islands
PK	Pakistan
PL	Poland
PM	Panama
PO	Portugal
PP	Republic of Palau
PR	Peru
PT	Pitcairn
PU	Puerto Rico
PY	Paraguay
QB	Bosnia and Herzegovina
QT	Qatar
RA	Russian Federation (East)
RE	Réunion and associated Islands
RH	Croatia
RM	Republic of Moldova
RO	Romania
RS	Russian Federation (West)
RW	Rwanda
SB	Sri Lanka
SC	Seychelles
SD	Saudi Aabia
SG	Senegal

## OPERATIONAL PROCEDURES FOR THE GTS

A <sub>1</sub> A <sub>2</sub>	COUNTRY
SI	Somalia
SK	Sarawak
SL	Sierra Leone
SM	Suriname
SN	Sweden
SO	Solomon Islands
SP	Spain
SQ	Slovakia
SR	Singapore
SU	Sudan
SV	Swaziland
SW	Switzerland
SX	Santa Cruz Islands
SY	Syrian Arab Republic
SZ	Spitzbergen Islands
TA	Tajikistan
TC	Tristan da Cunha
TD	Trinidad and Tobago
TG	Togo
TH	Thailand
TI	Turks and Caicos Islands
TK	Tokelau
TM	Timor-Leste
TN	Tanzania, United Republic of
TO	Tonga
TP	Sao Tome and Principe
TR	Turkmenistan
TS	Tunisia
TU	Turkey
TV	Tuvalu
UG	Uganda
UK	United Kingdom of Great Britain and Northern Ireland
UR	Ukraine
US	United States of America
UY	Uruguay
UZ	Uzbekistan
VG	Saint Vincent and the Grenadines
VI	Virgin Islands
VN	Venezuela
VS	Vietnam
YE	Yemen
YG	Serbia
ZA	South Africa
ZB	Zambia
ZM	Samoa
ZR	Democratic Republic of the Congo
ZW	Zimbabwe



## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE C1****PART II – AREA DESIGNATORS**

<b>A<sub>1</sub>A<sub>2</sub></b>	<b>GEOGRAPHICAL AREA</b>
AA	Antarctic
AC	Arctic
AE	South-East Asia
AF	Africa
AM	Central Africa
AO	West Africa
AP	Southern Africa
AS	Asia
AW	Near East
AX	Arabian Sea area
BQ	Baltic Sea area
CA	Caribbean and Central America
EA	East Africa
EC	East China Sea area
EE	Eastern Europe
EM	Middle Europe
EN	Northern Europe
EU	Europe
EW	Western Europe
FE	Far East
GA	Gulf of Alaska area
GX	Gulf of Mexico area
IO	Indian Ocean area
ME	Eastern Mediterranean area
MM	Mediterranean area
MP	Central Mediterranean area
MQ	Western Mediterranean area
NA	North America
NT	North Atlantic area
OC	Oceania
OH	Sea of Okhotsk

## OPERATIONAL PROCEDURES FOR THE GTS

**A<sub>1</sub> A<sub>2</sub>**      GEOGRAPHICAL AREA

---

PA	Pacific area
PE	Persian Gulf area
PN	North Pacific area
PQ	Western North Pacific
PS	South Pacific area
PW	Western Pacific area
PZ	Eastern Pacific area
SA	South America
SE	Southern Ocean area
SJ	Sea of Japan area
SS	South China Sea area
ST	South Atlantic area
XE	Eastern hemisphere
XN	Northern hemisphere
XS	Southern hemisphere
XT	Tropical belt
XW	Western hemisphere
XX	For use when other designators are not appropriate

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE C2**

Geographical designators  $A_1A_2$  for use in abbreviated headings  $T_1T_2A_1A_2$  ii CCCC YYGGgg for bulletins containing ships' weather reports and oceanographic data including reports from automatic marine stations

*Instructions for the proper application of the geographical designators*

1. The first letter  $A_1$  will denote the nature of the ship or automatic marine station:  
 For ocean weather stations: W  
 For mobile ships and other marine stations: V  
 For floats ( $T_1T_2 = SO$ ): F
2. The second letter  $A_2$  will denote the area from which the reports contained in the bulletins originate.
3. Whenever practicable, separate bulletins should be prepared to avoid the use of the letter X.

Note: For  $T_1T_2 = SZ$ ,  $A_1A_2$  area designator from Table C1 should be used.

DESIGNATOR	GEOGRAPHICAL AREA
------------	-------------------

A	Area between 30°N - 60°S, 035°W - 070° E
B	Area between 90°N - 05°N, 070°E - 180°E
C	Area between 05°N - 60°S, 120°W - 035°W
D	Area between 90°N - 05°N, 180°W - 035°W
E	Area between 05°N - 60°S, 070°E - 120°W
F	Area between 90°N - 30°N, 035°W - 070°E
J	Area between 60°S
X	More than one area

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE C3**

Geographical area designator  $A_1$   
 (when  $T_1 = D, G, H, O, P, Q, T, X$  or  $Y$ ) and  
 geographical area designator  $A_2$  (when  $T_1 = I$  or  $K$ )

*Instructions for the proper application of the data type designator*

1. The designator specified in this table should be used to the greatest extent possible to indicate the geographical area of the data contained within the text of the bulletin.
2. Where the geographical area of the data does not correspond exactly with the designator, the designator for the area most approximating that of the data may be used.
3. When the table does not contain a suitable designator for the geographical area, an alphabetic designator which is not assigned in the table should be introduced and the WMO Secretariat notified.

NOTE: For  $T_1T_2 = SZ$ ,  $A_1 A_2$  area designator from Table C1 should be used.

DESIGNATOR	GEOGRAPHICAL AREA
A	0° - 90°W northern hemisphere
B	90°W - 180° northern hemisphere
C	180° - 90°E northern hemisphere
D	90°E - 0° northern hemisphere
E	0° - 90°W tropical belt
F	90°W - 180° tropical belt
G	180° - 90°E tropical belt
H	90°E - 0° tropical belt
I	0° - 90°W southern hemisphere
J	90°W - 180° southern hemisphere
K	180° - 90°E southern hemisphere
L	90°E - 0° southern hemisphere
N	Northern hemisphere
S	Southern hemisphere
T	45°W - 180° northern hemisphere
X	Global Area (area not definable)

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE C4**

Reference time designator  $A_2$   
(when  $T_1 = D, G, H, J, O, P$  or  $T$ )

*Instructions for the proper application of the reference time designators*

1. The designators specified in this table should be used to the greatest extent possible to indicate the reference time of data contained within the text of the bulletin.
2. Where the table does not contain a suitable designator for the reference time, an alphabetic designator which is not assigned in the table should be used.

DESIGNATOR	REFERENCE TIME
A	Analysis (00 hour)
B	6 hours forecast
C	12 hours forecast
D	18 hours forecast
E	24 hours forecast
F	30 hours forecast
G	36 hours forecast
H	42 hours forecast
I	48 hours forecast
J	60 hours forecast
K	72 hours forecast
L	84 hours forecast
M	96 hours forecast
N	108 hours forecast
O	120 hours forecast (5 days)
P	132 hours forecast
Q	144 hours forecast
R	156 hours forecast (7 days)
S	168 hours forecast
T	10 days forecast
U	15 days forecast
V	30 days forecast
W	Not assigned
X	Not assigned
Y	Not assigned
Z	Not assigned

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE C5**

Reference time designator  $A_2$   
(when  $T_1 = Q, X$  or  $Y$ )

---

DESIGNATOR	REFERENCE TIME
A	Analysis (00 hour)
B	3 hours forecast
C	6 hours forecast
D	9 hours forecast
E	12 hours forecast
F	15 hours forecast
G	18 hours forecast
H	21 hours forecast
I	24 hours forecast
J	27 hours forecast
K	30 hours forecast
L	33 hours forecast
M	36 hours forecast
N	39 hours forecast
O	42 hours forecast
P	45 hours forecast
Q	48 hours forecast

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE C6**

Data type designator A<sub>1</sub>  
(when T<sub>1</sub> = I or J)

*Instructions for the proper application of the data type designators*

1. The designators specified in this table should be used to the greatest extent possible to indicate the type of data contained within the body of the BUFR bulletin.
2. Where more than one data type is contained in the bulletin, the designators for only one of the data types should be used.
3. When the table does not contain a suitable designator for the data types, an alphabetic designator which is not assigned in the table should be introduced and the WMO Secretariat notified.
4. Content of ISMx, ISIx, ISNx messages corresponds to the content of traditional SYNOP messages SMxx, SIxx, SNxx.
5. Category/Subcategory = 000/000 identifies SYNOP data from 01, 02, 04, 05, 07, 08, 10, 11, 13,..UTC). Thus SNxx in traditional SYNOP corresponds to ISNx in BUFR.
6. Designators A1 for T<sub>1</sub>T<sub>2</sub> already used for satellite data (e.g. IUC, IUR, IUT) are not allocated and reserved for future allocations, pending the allocation of A<sub>1</sub> for T<sub>1</sub>T<sub>2</sub> = IN (satellite data).

T <sub>1</sub> T <sub>2</sub>	A <sub>1</sub>	ii	Data type	TAC Correspondence	Data Category/ SubCategory (Common Table C13)
<b>IN</b>	<b>A</b>		Satellite data (AMSUA)		003003
<b>IN</b>	<b>B</b>		Satellite data (AMSUB)		003004
<b>IN</b>	<b>H</b>		Satellite data (HIRS)		003005
<b>IN</b>	<b>M</b>		Satellite data (MHS)		003006
<b>IO</b>	<b>B</b>		Buoy observations	BUOY	001/025
<b>IO</b>	<b>I</b>		Sea ice		
<b>IO</b>	<b>P</b>		Sub-surface profiling floats	TESAC	031/004
<b>IO</b>	<b>R</b>		Sea surface observations	TRACKOB	031/001
<b>IO</b>	<b>S</b>		Sea surface and below soundings	BATHY, TESAC	031/005
<b>IO</b>	<b>T</b>		Sea surface temperature		
<b>IO</b>	<b>W</b>		Sea surface waves	WAVEOB	031/002
<b>IO</b>	<b>X</b>		Other sea environmental		

## OPERATIONAL PROCEDURES FOR THE GTS

<b>IP</b>	<b>C</b>		Radar composite imagery data		
<b>IP</b>	<b>I</b>		Satellite imagery data		
<b>IP</b>	<b>R</b>		Radar imagery data		
<b>IP</b>	<b>X</b>		Not defined		
<b>IS</b>	<b>A</b>	01-29	Routinely scheduled observations for distribution from automatic (fixed or mobile) land stations (e.g. 0000, 0100, ... or 0220, 0240, 0300, ..., or 0715, 0745, ... UTC)	n/a	000/006
<b>IS</b>	<b>A</b>	30-59	N-minute observations from automatic (fixed or mobile) land stations	n/a	000/007
<b>IS</b>	<b>B</b>		Radar reports (parts A and B)	RADOB	006/003
<b>IS</b>	<b>C</b>	01-45	Climatic observations from land stations	CLIMAT	000/020
<b>IS</b>	<b>C</b>	46-59	Climatic observations from marine stations	CLIMAT SHIP	001/020
<b>IS</b>	<b>D</b>		Radiological observation	RADREP	010/001
<b>IS</b>	<b>E</b>		Ozone measurement at surface	n/a	008/000
<b>IS</b>	<b>F</b>		Source of atmospheric	SFAZI, SFLOC, SFAZU	000/030
<b>IS</b>	<b>I</b>	01-45	Intermediate synoptic observations from fixed land stations	SYNOP (SIxx)	000/001 000/051
<b>IS</b>	<b>I</b>	46-59	Intermediate synoptic observations from mobile land stations	SYNOP MOBIL	000/004
<b>IS</b>	<b>M</b>	01-45	Main synoptic observations from fixed land stations	SYNOP (SMxx)	000/002 000/052
<b>IS</b>	<b>M</b>	46-59	Main synoptic observations from mobile land stations	SYNOP MOBIL	000/005
<b>IS</b>	<b>N</b>	01-45	Synoptic observations from fixed land stations at non-standard time (i.e. 01, 02, 04, 05, ... UTC)	SYNOP (SNxx)	000/000 000/050
<b>IS</b>	<b>N</b>	46-59	Synoptic observations from mobile land stations at non-standard time (i.e. 01, 02, 04, 05, ... UTC)	SYNOP MOBIL	000/003
<b>IS</b>	<b>R</b>		Hydrologic reports	HYDRA	000/040
<b>IS</b>	<b>S</b>	01-19	Synoptic observations from marine stations	SHIP	001/000
<b>IS</b>	<b>S</b>	20-39	One-hour observations from automatic marine stations	n/a	001/006
<b>IS</b>	<b>S</b>	40-59	N-minute observations from automatic marine stations	n/a	001/007
<b>IS</b>	<b>T</b>	01-19	Tide gauge observations	n/a	001/030
<b>IS</b>	<b>T</b>	20-39	Observed water level time series	n/a	001/031
<b>IS</b>	<b>V</b>		Special aeronautical observations (SPECI)	SPECI	000/011
<b>IS</b>	<b>W</b>		Aviation routine weather observations (METAR)	METAR	000/010
<b>IS</b>	<b>X</b>		Other surface data	IAC, IAC FLEET	
<b>IT</b>	<b>A</b>		Administrative message		
<b>IT</b>	<b>B</b>		Service message		
<b>IT</b>	<b>R</b>		Request for data (inclusive of type)		
<b>IT</b>	<b>X</b>		Other text messages of information		
<b>IU</b>	<b>A</b>		Single level aircraft reports (automatic)	AMDAR	004/000
<b>IU</b>	<b>A</b>		Single level aircraft reports (manual)	AIREP/PIREP	004/001



## OPERATIONAL PROCEDURES FOR THE GTS

<b>IU</b>	B	Single level balloon reports	n/a	
<b>IU</b>	C	(used for single level satellite-derived reports – see Note 3)	SAREP/SATOB	005/000
<b>IU</b>	D	Dropsonde/Dropwindsondes	TEMP DROP	002/007
<b>IU</b>	E	Ozone vertical sounding	n/a	008/001
<b>IU</b>	I	Dispersal and transport analysis	n/a	009/000
<b>IU</b>	J	01-19 Upper wind from fixed land stations (entire sounding)	PILOT (parts A, B, C, D)	002/001
<b>IU</b>	J	20-39 Upper wind from mobile land stations (entire sounding)	PILOT MOBIL (parts A, B, C, D)	002/003
<b>IU</b>	J	40-59 Upper wind from marine stations (entire sounding)	PILOT SHIP (parts A, B, C, D)	002/002
<b>IU</b>	K	01-19 Radio soundings from fixed land stations (up to 100 hPa)	TEMP (parts A, B)	002/004
<b>IU</b>	K	20-39 Radio soundings from mobile land stations (up to 100 hPa)	TEMP MOBIL (parts A, B)	002/006
<b>IU</b>	K	40-59 Radio soundings from marine stations (up to 100 hPa)	TEMP SHIP (parts A, B)	002/005
<b>IU</b>	M	Model derived sondes		
<b>IU</b>	N	Rocketsondes		
<b>IU</b>	O	Profiles of aircraft observations in ascending /descending	AMDAR	002/020
<b>IU</b>	P	Profilers	PILOT	002/010
<b>IU</b>	Q	RASS temperature profilers	TEMP	002/011
<b>IU</b>	R	(used for radiance data – see Note 3)		
<b>IU</b>	S	01-19 Radiosondes/pibal reports from fixed land stations (entire sounding)	TEMP (parts A, B, C, D)	002/004
<b>IU</b>	S	20-39 Radio soundings from mobile land stations (entire sounding)	TEMP MOBIL (parts A, B, C, D)	002/006
<b>IU</b>	S	40-59 Radio soundings from marine stations (entire sounding)	TEMP SHIP (parts A, B, C, D)	002/005
<b>IU</b>	T	(used for satellite-derived sondes – see Note 3)	SATEM, SARAD, SATOB	
<b>IU</b>	U	01-45 Monthly statistics of data from upper-air stations	CLIMAT TEMP	002/025
<b>IU</b>	U	46-59 Monthly statistics of data from marine stations	CLIMAT TEMP, SHIP	002/026
<b>IU</b>	W	01-19 Upper wind from fixed land stations (up to 100 hPa)	PILOT (parts A, B)	002/001
<b>IU</b>	W	20-39 Upper wind from mobile land stations (up to 100 hPa)	PILOT MOBIL (parts A, B)	002/003
<b>IU</b>	W	40-59 Upper wind from marine stations (up to 100 hPa)	PILOT SHIP (parts A, B)	002/002
<b>IU</b>	X	Other upper air reports		
<b>JO</b>	I	Sea ice		
<b>JO</b>	S	Sea surface and below soundings		
<b>JO</b>	T	Sea surface temperature		
<b>JO</b>	W	Sea surface waves		
<b>JO</b>	X	Other sea environmental data		

## OPERATIONAL PROCEDURES FOR THE GTS

<b>JS</b>	<b>A</b>	Surface area forecast (e.g. airways)	
<b>JS</b>	<b>D</b>	Radiological forecast	RADOF
<b>JS</b>	<b>M</b>	Surface forecasts (e.g. MOS)	
<b>JS</b>	<b>O</b>	Maritime forecast	MAFOR
<b>JS</b>	<b>P</b>	Forecast amendments (airways)	
<b>JS</b>	<b>R</b>	Hydrologic forecast	HYFOR
<b>JS</b>	<b>S</b>	Forecast amendments (TAF)	
<b>JS</b>	<b>T</b>	Aerodrome forecast (TAF)	
<b>JS</b>	<b>X</b>	Other surface forecasts	

<b>JT</b>	<b>E</b>	Tsunami	
<b>JT</b>	<b>H</b>	Hurricane, typhoon, tropical storm warning	
<b>JT</b>	<b>S</b>	Severe weather, SIGMET	
<b>JT</b>	<b>T</b>	Tornado warning	
<b>JT</b>	<b>X</b>	Other warnings	

<b>JU</b>	<b>A</b>	Forecast at single levels	
<b>JU</b>	<b>B</b>	Binary coded SIGWX, Embedded Cumulonimbus	
<b>JU</b>	<b>C</b>	Binary coded SIGWX, Clear air turbulence	
<b>JU</b>	<b>F</b>	Binary coded SIGWX, Fronts	
<b>JU</b>	<b>N</b>	Binary coded SIGWX, Other SIGWX parameters	
<b>JU</b>	<b>O</b>	Binary coded SIGWX, Turbulence	
<b>JU</b>	<b>S</b>	Forecast soundings	
<b>JU</b>	<b>T</b>	Binary coded SIGWX, Icing/Tropopause	
<b>JU</b>	<b>V</b>	Binary coded SIGWX, Tropical storms, sandstorms, volcanoes	
<b>JU</b>	<b>W</b>	Binary coded SIGWX, High-level winds	
<b>JU</b>	<b>X</b>	Other upper air forecasts	

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE C7**

Data type designator A<sub>1</sub>  
(when T<sub>1</sub> = K)

*Instructions for the proper application of the data type designators*

1. T<sub>1</sub>T<sub>2</sub> =SZ is allocated to sea level data and deep-ocean tsunami data in any alphanumeric form, including CREX.

<b>KF</b>	<b>A</b>	Surface area forecast (e.g. airways)		
<b>KF</b>	<b>D</b>	Radiological forecast	RADOF	
<b>KF</b>	<b>M</b>	Surface forecasts (eg MOS)		
<b>KF</b>	<b>O</b>	Maritime forecast	MAFOR	
<b>KF</b>	<b>P</b>	Forecast amendments (airways)		
<b>KF</b>	<b>R</b>	Hydrologic forecast	HYFOR	
<b>KF</b>	<b>S</b>	Forecast amendments (TAF)		
<b>KF</b>	<b>T</b>	Aerodrome forecast (TAF)		
<b>KF</b>	<b>X</b>	Other surface forecasts		
<b>KO</b>	<b>B</b>	Buoy observations	BUOY	001/025
<b>KO</b>	<b>I</b>	Sea ice		
<b>KO</b>	<b>P</b>	Sub-surface profiling floats	TESAC	031/004
<b>KO</b>	<b>R</b>	Sea surface observations	TRACKOB	031/001
<b>KO</b>	<b>S</b>	Sea surface and below soundings	BATHY, TESAC	031/005
<b>KO</b>	<b>T</b>	Sea surface temperature		
<b>KO</b>	<b>W</b>	Sea surface waves	WAVEOB	031/002
<b>KO</b>	<b>X</b>	Other sea environmental	WAVEOB	031/002
<b>KP</b>	<b>I</b>	Sea ice		
<b>KP</b>	<b>S</b>	Sea surface and below soundings		
<b>KP</b>	<b>T</b>	Sea surface temperature		
<b>KP</b>	<b>W</b>	Sea surface waves		
<b>KP</b>	<b>X</b>	Other sea environmental		
<b>KS</b>	<b>A</b>	01-29 Routinely scheduled observations for distribution from automatic (fixed or mobile) land stations (e.g. 0000, 0100, ... or 0220, 0240, 0300, ..., or 0715, 0745, ... UTC)	n/a	000/006

## OPERATIONAL PROCEDURES FOR THE GTS

<b>KS</b>	<b>A</b>	30-59	N-minute observations from automatic (fixed or mobile) land stations	n/a	000/007
<b>KS</b>	<b>B</b>		Radar reports (parts A and B)	RADOB	006/003
<b>KS</b>	<b>C</b>	01-45	Climatic observations from land stations	CLIMAT	000/020
<b>KS</b>	<b>C</b>	46-59	Climatic observations from marine stations	CLIMAT SHIP	001/020
<b>KS</b>	<b>D</b>		Radiological observation	RADREP	010/001
<b>KS</b>	<b>E</b>		Ozone measurement at surface	n/a	008/000
<b>KS</b>	<b>F</b>		Source of atmospherics	SFAZI, SFLOC, SFAZU	000/030
<b>KS</b>	<b>I</b>	01-45	Intermediate synoptic observations from fixed land stations	SYNOP (SIxx)	000/001 000/051
<b>KS</b>	<b>I</b>	46-59	Intermediate synoptic observations from mobile land stations	SYNOP MOBIL	000/004
<b>KS</b>	<b>M</b>	01-45	Main synoptic observations from fixed land stations	SYNOP (SMxx)	000/002 000/052
<b>KS</b>	<b>M</b>	46-59	Main synoptic observations from mobile land stations	SYNOP MOBIL	000/005
<b>KS</b>	<b>N</b>	01-45	Synoptic observations from fixed land stations at non-standard time (i.e. 01, 02, 04, 05, ... UTC)	SYNOP (SNxx)	000/000 000/050
<b>KS</b>	<b>N</b>	46-59	Synoptic observations from mobile land stations at non-standard time (i.e. 01, 02, 04, 05, 07, 08, 10, 11, 13, ..UTC)	SYNOP MOBIL	000/003
<b>KS</b>	<b>R</b>		Hydrologic reports	HYDRA	000/040
<b>KS</b>	<b>S</b>	01-19	Synoptic observations from marine stations	SHIP	001/000
<b>KS</b>	<b>S</b>	20-39	One-hour observations from automatic marine stations	n/a	001/006
<b>KS</b>	<b>S</b>	40-59	N-minute observations from automatic marine stations	n/a	001/007
<b>KS</b>	<b>V</b>		Special aeronautical observations (SPECI)	SPECI	000/011
<b>KS</b>	<b>W</b>		Aviation routine weather observations (METAR)	METAR	000/010
<b>KS</b>	<b>X</b>		Other surface data	IAC, IAC FLEET	
<b>KT</b>	<b>E</b>		Tsunami		
<b>KT</b>	<b>H</b>		Hurricane, typhoon, tropical storm warning		
<b>KT</b>	<b>S</b>		Severe weather, SIGMET		
<b>KT</b>	<b>T</b>		Tornado warning		
<b>KT</b>	<b>X</b>		Other warnings		
<b>KU</b>	<b>A</b>		Single level aircraft reports (automatic)	AMDAR	004/000
<b>KU</b>	<b>A</b>		Single level aircraft reports (manual)	AIREP/PIREP	004/001
<b>KU</b>	<b>B</b>		Single level balloon reports	n/a	
<b>KU</b>	<b>C</b>		Single level satellite-derived reports	SAREP	005/000
<b>KU</b>	<b>D</b>		Dropsonde/dropwindsondes	TEMP DROP	002/007
<b>KU</b>	<b>I</b>		Dispersal and transport analysis	n/a	009/000
<b>KU</b>	<b>J</b>	01-19	Upper wind from fixed land stations (parts A, B, C and D)	PILOT	002/001
<b>KU</b>	<b>J</b>	20-39	Upper wind from mobile land stations (parts A, B, C and D)	PILOT MOBIL	002/003
<b>KU</b>	<b>J</b>	40-59	Upper wind from marine stations (parts A, B, C and D)	PILOT SHIP	002/002
<b>KU</b>	<b>K</b>	01-19	Radio soundings from fixed land stations (parts A and B)	TEMP	002/004

## OPERATIONAL PROCEDURES FOR THE GTS

<b>KU</b>	<b>K</b>	20-39	Radio soundings from mobile land stations (parts A and B)	TEMP MOBIL	002/006
<b>KU</b>	<b>K</b>	40-59	Radio soundings from marine stations (parts A and B)	TEMP SHIP	002/005
<b>KU</b>	<b>L</b>		Ozone vertical profile	n/a	008/001
<b>KU</b>	<b>M</b>		Model derived sondes		
<b>KU</b>	<b>N</b>		Rocketsondes		
<b>KU</b>	<b>O</b>		Profiles of aircraft observations in ascending /descending	AMDAR	002/020
<b>KU</b>	<b>P</b>		Profilers	PILOT	002/010
<b>KU</b>	<b>Q</b>		RASS temperature profilers	TEMP	002/011
<b>KU</b>	<b>S</b>	01-19	Radiosondes/pibal reports from fixed land stations (parts A, B, C and D)	TEMP	002/004
<b>KU</b>	<b>S</b>	20-39	Radio soundings from mobile land stations (parts A, B, C and D)	TEMP MOBIL	002/006
<b>KU</b>	<b>S</b>	40-59	Radio soundings from marine stations (parts A, B, C and D)	TEMP SHIP	002/005
<b>KU</b>	<b>T</b>		Satellite derived sondes		
<b>KU</b>	<b>U</b>	01-45	Monthly statistics of data from upper-air stations	CLIMAT TEMP	002/025
<b>KU</b>	<b>U</b>	01-45	Monthly statistics of data from upper-air stations	CLIMAT TEMP	002/025
<b>KU</b>	<b>U</b>	46-59	Monthly statistics of data from marine stations	CLIMAT TEMP, SHIP	002/026
<b>KU</b>	<b>W</b>	01-19	Upper wind from fixed land stations (parts A and B)	PILOT	002/001
<b>KU</b>	<b>W</b>	20-39	Upper wind from mobile land stations (parts A and B)	PILOT MOBIL	002/003
<b>KU</b>	<b>W</b>	40-59	Upper wind from marine stations (parts A and B)	PILOT SHIP	002/002
<b>KU</b>	<b>X</b>		Other upper air reports		
<b>KV</b>	<b>A</b>		Forecast at single levels		
<b>KV</b>	<b>B</b>		Coded SIGWX, Embedded Cumulonimbus		
<b>KV</b>	<b>C</b>		CREX coded SIGWX, Clear air turbulence		
<b>KV</b>	<b>F</b>		CREX coded SIGWX, Fronts		
<b>KV</b>	<b>N</b>		CREX coded SIGWX, Other SIGWX parameters		
<b>KV</b>	<b>O</b>		CREX coded SIGWX, Turbulence		
<b>KV</b>	<b>S</b>		Forecast soundings		
<b>KV</b>	<b>T</b>		CREX coded SIGWX, Icing/Tropopause		
<b>KV</b>	<b>V</b>		CREX coded SIGWX, Tropical storms, sandstorms, volcanoes		
<b>KV</b>	<b>W</b>		CREX coded SIGWX, High-level winds		
<b>KV</b>	<b>X</b>		Other upper air forecasts		

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE D1**

Level designator ii  
(when  $T_1 = 0$ )

*Instructions for the proper application of level designators for ocean depths*

1. The designators specified in this table should be used to the greatest extent possible to indicate the levels below the ocean surface in the body of the GRIB bulletin for oceanographic products.

DESIGNATOR	DEPTH (IN METRES)
------------	-------------------

---

98	Surface
96	2.5 m
94	5.0 m
92	7.5 m
90	12.5 m
88	17.5 m
86	25.0 m
84	32.5 m
82	40.0 m
80	50.0 m
78	62.5 m
76	75.0 m
74	100 m
72	125 m
70	150 m
68	200 m
66	300 m
64	400 m
62	500 m
60	600 m
58	700 m
56	800 m
54	900 m
52	1000 m
50	1100 m
48	1200 m
46	1300 m
44	1400 m
42	1500 m
40	1750 m
38	2000 m
36	2500 m
34	3000 m
32	4000m
30	5000m
01	Primary layer depth

## OPERATIONAL PROCEDURES FOR THE GTS

**TABLE D2**

Level designator ii  
(when T<sub>1</sub> = D, G, H, J, P, Q, X or Y)

*Instructions for the proper application of the level designators*

1. The designator specified in this table should be used to the greatest extent possible to indicate the level of the data contained within the text of the bulletin.
2. When data at more than one level are contained in the text, the designator for only one of the levels should be used.
3. When the table does not contain a suitable designator for the level, a designator which is not assigned in the table should be used.

DESIGNATOR	LEVEL
99	1000 hPa
98	Air priorities for the Earth's surface
97	Level of the tropopause
96	Level of maximum wind
95	950 hPa
94	Level of 0 Degrees C isotherm
93	975 hPa
92	925 hPa
91	875 hPa
90	900 hPa
89	Any parameter reduced to sea level (eg MSLP)
88	Ground or water properties for the Earth's surface (ie snow cover, wave and swell)
87	1000-500 hPa thickness
86	Boundary level
85	850 hPa
84	840 hPa
83	830 hPa
82	825 hPa
81	810 hPa
80	800 hPa
79	790 hPa
78	780 hPa
77	775 hPa
76	760 hPa
75	750 hPa
74	740 hPa
73	730 hPa
72	725 hPa
71	710 hPa
70	700 hPa
69	690 hPa
68	680 hPa
67	675 hPa
66	660 hPa
65	650 hPa
64	640 hPa
63	630 hPa

## OPERATIONAL PROCEDURES FOR THE GTS

62	625 hPa
61	610 hPa
60	600 hPa
59	590 hPa
58	580 hPa
57	570 hPa
56	560 hPa
55	550 hPa
54	540 hPa
53	530 hPa
52	520 hPa
51	510 hPa
50	500 hPa
49	490 hPa
48	480 hPa
47	470 hPa
46	460 hPa
45	450 hPa
44	440 hPa
43	430 hPa
42	420 hPa
41	410 hPa
40	400 hPa
39	390 hPa
38	380 hPa
37	370 hPa
36	360 hPa
35	350 hPa
34	340 hPa
33	330 hPa
32	320 hPa
31	310 hPa
30	300 hPa
29	290 hPa
28	280 hPa
27	270 hPa
26	260 hPa
25	250 hPa
24	240 hPa
23	230 hPa
22	220 hPa
21	210 hPa
20	200 hPa
19	190 hPa
18	180 hPa
17	170 hPa
16	160 hPa
15	150 hPa
14	140 hPa
13	130 hPa
12	120 hPa
11	110 hPa
10	100 hPa
09	090 hPa
08	080 hPa
07	070 hPa
06	060 hPa
05	050 hPa



OPERATIONAL PROCEDURES FOR THE GTS

04	040 hPa
03	030 hPa
02	020 hPa
01	010 hPa
00	Entire atmosphere (eg precipitable water)

**TABLE D3**

Level designator ii  
(when  $T_1T_2 = \text{FA, UA}$ )

*Instructions for the proper application of the level designators*

1. Noting that there is no known use of the series 80-99 for  $T_1T_2=\text{UA}$ , these series are allocated to routine aircraft reports up to 1 September 2008. After 1 September 2008, the series should be reserved for future use.

$T_1 T_2$	DESIGNATOR ii	DATA TYPE	CODE FORM (name)
FA	01-49	Aviation area /advisories	FM 53 (ARFOR)/[text]
FA	50-59	GAMET	[TEXT]
FA	60-99	Not assigned	Not assigned
UA	01-59	Routine aircraft reports	ICAO AIREP
UA	60-69	Special aircraft reports, except for volcanic ash	ICAO AIREP
UA	70-79	Special aircraft reports related to volcanic ash	ICAO AIREP
UA	80-99	Reserved for future use	ICAO AIREP