

# CREX User's Guide and Reference Manual

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## 1 Introduction

FM 95-XII CREX is standard WMO Character form for the Representation and EXchange of data. This document describes the software to decode/encode CREX data and conversion between BUFR and CREX formats. A full definition and regulations of the CREX form is given in the WMO Manual on Codes VOLUME I.2 WMO-No.306 or on web site: <http://www.wmo.ch/indexflash.html> Once there go to WWW (World Weather Watch) and click on "WWW Guides, Code Tables and Documents"

## 2 CREX USER's Guide

### 2.1 CREX format

CREX is character form for the representation and exchange of meteorological and other data. It is specially useful in the cases where binary representation of data is not possible due to the lack of computer data handling capabilities. The CREX is comprised of five sections.

*Table 1: CREX Code Form*

Section	Meaning	Content
Section 0	Indicator section	"CREX" in International Alphabet No 5 character set( IA 5)
Section 1	Data description section	CREX Master table number, edition number, table version number, data category, then a collection of descriptors which define the form and content of data subsets making the data section, and an optional check digit indicator "E"
Section 2	Data section	Data values corresponding one to one to the fully expanded Data descriptors from Section 1
Section 3	Optional section	"SUPP" followed by additional items defined by local ADP centre
Section 4	End section	"7777" four IA 5 figures designating the end of CREX message

## 2.2 Section 0 - Indicator section

Table 2: Indicator section

Group No	Content	Meaning
1	"CREX"	CREX: Beginning of the CREX message. The characters are in International Alphabet No 5 character set (IA 5)

## 2.3 Section 1 - Data description section

Table 3: Data description section

Group No	Content	Meaning
1	Ttteevvbbww	T: Indicator for CREX Tables tt: CREX master table used (00 for WMO standard FM 95 CREX tables) ee: CREX edition number (currently 02) vv: CREX table version number (currently 03) bb: BUFR master table version number used (currently 12) ww: Version number of local tables used
2	Annnmmm	A: Indicator for CREX table version number (currently 03) nnn: Data category from CREX Table A mmm: International data sub-category from Common table C-13
3	Pooooopp	ooooo: Originating Centre from Common table C-11 ppp: Originating sub-centre from Common table C-12
4	Uuu	uu: Update sequence number (00 for original message)
5	Ssss	sss: Number of subsets included in the report
6	Yyyymmdd	yyyy: Year mm: Month dd: Day
7	Hhhnn	hh: Hour nn: Minute

*continued on next page*

*continued from previous page*

Group No	Content	Meaning
8 - n	Bxyyy, Cxyyy, Dxyyy and/or Rxyyy	B, C, D: Indicators for CREX Tables B, C, D entries xxyyy : 5 digits which indicate references from CREX Tables B, C and D R : Indicator for replication xx : Number of replication descriptors yyy : Number of replications ( delayed replication for yyy=0)
n+1	"E"	E: Optional check digit indicator

## 2.4 Section 2 - Data section

Table 4: Data section

Group No	Content	Meaning
1 to m	(d) Data values	d: Optional check digit Data values: Data values corresponding to section 1 descriptors

## 2.5 Section 3 - Optional section

Table 5: Optional section

Group No	Content	Meaning
1	SUPP	The four letters SUPP indicate the presence of a supplementary optional section
2 to p	Items for local use	Additional items for local use developed by generating Centre

## 2.6 Section 4 - End section

Table 6: End section

Group No	Content	Meaning
1	"7777"	End of CREX message



## 2.7 CREX decoding/encoding software

The CREX software is general and can decode/encode any CREX data. Combined with general BUFR software (for binary data representation) CREX to BUFR and BUFR to CREX program has been developed.

Although the software is general, there are cases when it is not possible to convert some BUFR messages into CREX form due to the considerable differences between those two data formats (Operators and some Regulations).

### 2.7.1 Crex tables

CREX is Table driven code. It is comprised of four tables: Table A, B, C, D.

**Table A** - is used to classify the data content.

*Table 7: Table A - Data category*

Code figure	Data type
000	Surface data - land
001	Surface data - sea
002	Vertical soundings(other than satellite)
003	Vertical soundings(satellite)
004	Single level upper-air data)other than satellite)
005	Single level upper-air data(satellite)
006	Radar data
007	Synoptic features
008	Physical/chemical constituents
009	Dispersal and transport
010	Radiological data
011	CREX tables, complete replacement or update
012	Surface data(satellite)
013-019	Reserved
020	Status information
021	Radiances(satellite measured)
022-030	Reserved
031	Oceanographic data
032-100	Reserved
101	Image data
102-239	Reserved
240-254	For experimental use
255	Indicator for local use

**Table B** - A list of elements describing each element in full. It contains element reference, element name, element unit, scale and data width.

**Table C** - Data description operators

**Table D** - Strictly speaking, Table D is not necessary. Its main purpose is to describe the data in short way, making crex message smaller and cheaper for transmission. The Table D sequence may be combination of

Table 8: Table C

Reference	Operand	Operator name	Operating definition
C 01 YYY	YYY	Data width replacement	YYY characters (from 000 to 999) replace specified Table B data width
C 02 YYY	YYY	Scale factor replacement	YYY (from -99 to 999) replaces the specified Table B scale factor
C 05 YYY	YYY	Character insertion	YYY characters (from 001 to 999), including spaces, are inserted as a data field
C 07 YYY	YYY	Units replacement	Change unit to the unit defined in Common table C-6 by code figure equal to YYY, for example: YYY = 040 changes unit to Celsius YYY = 741 changes unit to km/h YYY = 201 changes unit to knot
C 60 YYY	YYY	National letters insertion	YYY national letters including spaces are inserted as a data field

Table B and D entries and Operators.

### 2.7.2 CREX table name convention

CREX software use only Table B and D to decode/encode CREX data. Table names are created as: BXXYYZZ and DXXYYZZ where:

B - Crex Table B  
D - Crex Table D  
XX - Crex Master table used '00'  
YY - Crex Edition number used '01'  
ZZ - Crex Table version number '03'

### 2.7.3 defaults

Integer missing value indicator:

**NVIND=2147483647**

Real missing value indicator:

**RVIND=1.7E38**

Environmental variables:

The following variable can be set to "true" to create CREX message with check digit.

**USE\_E=false**

The PATH for CREX tables can be defined using CREX\_TABLES variable

export CREX\_TABLES=../../

### 2.7.4 Subroutine *crexex*

#### **Purpose**

Decode Crex message into fully expanded form; returning information relevant for all CREX sections, expanded values, their names and units.

#### **Interface**

```
CALL CREXEX (KBUFL, YBUFF, KSUP, KSEC0, KSEC1, KSEC3,  
             KELEM, CNames, CUnits, KVALS, VALUES, CVALS, KERR)
```

where:

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C.

#### **Input arguments**

- KBUFL - Length of CREX message (words)
- YBUFF - Character string containing Crex message
- KELEM - Integer (expected number of expanded elements)
- KVALS - Integer (expected number of data values)

#### **Output arguments**

- KSUP - Integer array of 9 words containing supplementary information
- KSEC0 - Integer array of 3 words containing CREX section 0 information
- KSEC1 - Integer array of at least 40 words containing CREX section 1 information
- KSEC3 - Integer array of 4 words
- CNames - Character\*64 array of KELEM containing CREX Table B element names
- CUnits - Character\*24 array of KELEM containing CREX Table B units
- VALUES - Real\*8 array of KVALS containing expanded data values
- CVALS - Character\*80 array of KVALS containing CREX code table or CCITTIA5 CREX element entries
- KERR - Returned error code

**KSUP** Integer array of 9 words containing supplementary information

Array index	Word content
1	IDIM1, dimension of KSEC1
2	Reserved
3	IDIM3, dimension of KSEC3
4	Reserved
5	M (number of elements in values array, first index)
6	N (number of subsets, second index of values array)
7	JVC (number of elements in CVAL array)
8	total CREX message length in bytes
9	IDIM0, dimension of KSEC0

**KSEC0** Integer array of 3 words containing CREX section 0 information

Array index	Word content
1	length of section 0 (bytes)
2	total length of CREX message in bytes
3	Reserved

**KSEC1** Integer array of at least 40 words containing CREX section 1 information

Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre (oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (nn)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

**KSEC3** Integer array of 4 words containing

Array index	Word content
1	Reserved
2	Reserved
3	Number of subsets
4	Reserved

## Method

Crex message passed as argument to this routine is decoded section by section. Supplementary information and expanded data are returned as well as error code.

Before Section 1 expansion CREX Tables are loaded using Section 1 information to create Table names. The loaded tables are kept in memory and swapped only if the next message is requesting different tables.

Section 1 Data descriptors are fully expanded applying all necessary operators in force and creating a list of CREX Table B elements which correspond one to one to the data in the Data section ( Section 2) of the CREX message.

Decoded data values are stored in the VALUES array. Corresponding element names and units are stored in the CNAMES and CUNITS arrays respectively.

If CREX Table B element is type character, corresponding VALUES element contains a real number which truncated to an integer represents

**INDEX\*1000+length**

where:

- INDEX - subscript of the element in CVALS where character string is stored
- length - number of characters represented

In the case of many reports in the CREX message or multi-subset data, the one dimensional VALUES array contains all subsets of the data. The formula to find the index to the VALUES array of the i-th element of the observation is:

**INDEX= I + (nsub-1)\* KELEM**

so the start of the next subset is KELEM apart.

## Externals

None .

## Reference

WMO -No. 306 Manual on Codes Volume I, Part B - Binary Codes

### 2.7.5 Error Codes

The list of hard end soft error codes returned by the routine is given in the following table.

Error number	Meaning
1	Start of CREX message not found
2	End of CREX message not found
3	Array to receive CREX message too small
6	Error during read CREX table B
7	Error during read CREX table C
8	Error during read CREX table D
9	Open error
10	Error during close CREX table B
11	Error during close CREX table C
12	Error during close CREX table D
13	Too many elements in the table
14	Argument KVALS too small
19	Delayed replication factor too big
20	Table D reference not found
21	Data descriptor operator not found
22	CREX Operator name not found
23	Table B reference not found
25	KELEM argument too small
26	Word pointer out of range
30	Number of elements greater than JELEM
31	Too few elements in KDATA array
32	Number of subsets equal to zero
33	Internal write error
34	Decimal to octal conversion error
35	Internal read error
36	Bad order of data descriptors
37	Wrong data descriptor
38	Open error on units.cinfig.dat file
39	Read error on units.cinfig.dat file
40	Could not find next section
41	
42	Wrong start of section 1 of CREX message
43	Could not find the end of section 1
44	Error during extraction of Master table
45	Error during extraction of Edition number
46	Error during extraction of version number
47	Unit not found

### 2.7.6 Subroutine *crexprs0*

#### Purpose

Print section 0 of crex message.

#### Interface

```
CALL CREXPRS0 (KSEC0)
```

#### Input arguments

- KSEC0 - An array containing section 0 information

**KSEC0** An INTEGER array (size 3) containing Crexr Section 0 information

Array index	Word content
1	Length of section 0 (bytes)
2	Total length of crex message (bytes)
3	Crex Edition number

#### Method

None .

#### Externals

None .

#### Reference

None .

### 2.7.7 Subroutine *crexprs1*

#### **Purpose**

Print section 1 of crex message.

#### **Interface**

```
CALL CREXPRS1 (KSEC1, KSEC3, KTDLEN, KTDLST, KTDEXL, KTDEXP,  
               KELEM, CNAME$)
```

where

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C

#### **Input arguments**

- KSEC1 - An integer array of at least 40 words containing CREX section 1 information
- KSEC3 - An integer array of 4 words
- KTDLEN - A number of data descriptors in section 1
- KTDLST - An array containing data descriptors in section 1
- KTDEXL - A number of entries in list of expanded data descriptors
- KTDEXP - An array containig expanded data descriptors
- KELEM - An integer (expected number of expanded elements)
- CNAME\$ - Character\*64 array of KELEM containing CREX Table B element names

**KSEC1** Integer array of at least 40 words containing CREX section 1 information



Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre ( oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (nn)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

**KSEC3** Integer array of 4 words containing

Array index	Word content
1	Reserved
2	Reserved
3	Number of subsets
4	Reserved

## Method

None .

## Externals

None .

## reference

None .

### 2.7.8 Subroutine *crexprt*

#### Purpose

Print expanded crex message.

#### Interface

```
CALL CREXPRT (K, KSUB1, KSUB2, KELEM, CNames, CUnits,  
              CVALS, KVALS, VALUES, KSUP, KSEC1, KERR)
```

where:

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C.

#### Input arguments

- K - Switch to print with/witout content of code tables 0 - no code table content 1 - yes code table content
- KSUB1 - Starting subset
- KSUB2 - Ending subset
- KELEM - Dimension of cnames, cunits array
- CNames - Character\*64 array containing element names
- CUnits - Character\*24 array containig units
- KVALS - Dimension of values array
- VALUES - Real\*8 array (expanded data values)
- KSUP - Integer array of 9 words containing supplementary information
- KSEC1 - Integer array of at least 40 words containing CREX section 1 information

**KSUP** Integer array of 9 words containing supplementary information

Array index	Word content
1	IDIM1, dimension of KSEC1
2	Reserved
3	IDIM3, dimension of KSEC3
4	Reserved
5	M (number of elements in values array, first index)
6	N (number of subsets,second index of values array)
7	JVC (number of elements in CVAL array)
8	total CREX message length in bytes
9	IDIM0, dimension of KSEC0

**KSEC1** Integer array of at least 40 words containing CREX section 1 information

Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre ( oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (nn)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

### Output arguments

- KERR - Returned error code

### Method

None .

### Externals

None .

### Reference

None .

### 2.7.9 Subroutine *crexen*

#### **Purpose**

Creates CREX message.

#### **Interface**

```
CALL CREXEN(KSEC0,KSEC1,KSEC3,  
            KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,KVALS,  
            VALUES,CVALS,KBUFL,KBUFF,KERR)
```

where:

- Integer variables are denoted by first letter K.
- Real variables are denoted by first letter V.
- Character variables are denoted by first letter C.

#### **Input arguments**

- KSEC0 - An Integer array of 3 words containing CREX section 0 information
- KSEC1 - An Integer array of at least 40 words containing CREX section 1 information
- KSEC3 - An Integer array of 4 words
- KTDLEN - A number of descriptors in the CREXKTDLST array
- CREXKTDLST - An array containing list of data descriptors
- KDLEN - A number of delayed replications
- KDATA - An array containing values of delayed replications
- VALUES - Real\*8 array of KVALS containing expanded data values
- CVALS - Character\*80 array of KVALS containing CREX code table or CCITTIA5 CREX element entries
- KERR - Returned error code

#### **Output arguments**

- KBUFL - Length of CREX message (words)
- KELEM - An integer (expected number of expanded elements)
- KVALS - An integer (expected number of data values)
- KBUFF - An integer array containing crex message

**KSEC0** Integer array of 3 words containing CREX section 0 information

Array index	Word content
1	length of section 0 (bytes)
2	total length of CREX message in bytes
3	Reserved

**KSEC1** Integer array of at least 40 words containing CREX section 1 information

Array index	Word content
1	Reserved
2	CREX Edition number
3	Originating Centre (oooo)
4	Update sequence number (uu)
5	Number of subsets (sss)
6	CREX data category (nnn)
7	International data sub-category (mmm)
8	Version number of local table used
9	Year (yyyy)
10	Month (mm)
11	Day (dd)
12	Hour (hh)
13	Minute (nn)
14	CREX Master table (tt)
15	Version number of Master table used (vv)
16	Originating sub-centre (ppp)
17	Bufr master table version number
18	Bufr version number of local table used
19-40	Reserved

**KSEC3** Integer array of 4 words containing

Array index	Word content
1	Reserved
2	Reserved
3	Number of subsets
4	Reserved

**Method**

None.



## Externals

None.

## Reference

None.

## 2.8 CREX tools

In this section a number of useful tools is presented. A TDEXP example program to expand data descriptors, "BUFR to CREX" conversion program and "CREX to BUFR" conversion usage.

### 2.8.1 TDEXP program

This program might be very useful in cases when one need to create a new CREX message starting from CREX Table D entry or any combination of CREX Table B, C or D entries. It will expand those descriptors in the full expanded list. Delayed replications should be set at least to one to make visible all possible entries and than changed to the required values. If delayed replication is set to zero a number of Table B elements may not show up.

```

PROGRAM TDEXP
C
C**** *TDEXP*
C
C
C  PURPOSE.
C  -----
C      Expands list of CREX data descriptors.
C
C
C**  INTERFACE.
C  -----
C
C      *CALL CREXDES (K,KSECL,KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,
C                  KTDEXL,CREXKTDEXP,CNAMES,CUNITS,KERR) *
C
C  INPUT :
C
C      *K*          - AN INTEGER, PRINTING SWITCH 0 - NO PRINT
C                   1 - PRINT
C      *KSECL*       - INTEGER ARRAY OF AT LEAST 40 WORDS CONTAINING
C                   SECTION 1 INFORMATION
C      *KTDLEN*      - INTEGER NUMBER OF DATA DESCRIPTORS IN SECTION 1
C      *CREXKTDLST*  - INTEGER ARRAY OF AT LEAST KTDLEN WORDS
C                   CONTAINING DATA DESCRIPTORS FOR CREX SECTION 1
C      *KDLEN*       - INTEGER (DIMENSION OF KDATA ARRAY)
C      *KDATA*       - INTEGER ARRAY CONTAINING DATA NEEDED FOR DATA
C                   DESCRIPTOR EXPANSION (DELAYED REPLICATION FACTORS)
C                   WHICH APPEAR IN THE VALUES ARRAY
C
C      *KELEM*       - INTEGER NUMBER OF ELEMENTS IN BUFR TEMPLATE.
C
C  OUTPUT:
C      *KTDEXL*      - AN INTEGER CONTAINING NUMBER OF EXPANDED ELEMENTS
C      *CREXKTDEXP*  - AN INTEGER ARRAY CONTAINING EXPANDED LIST OF DESCRIPTORS
C      *CNAMES*      - CHARACTER*64 ARRAY OF KELEM CONTAINING ELEMENT NAMES
C      *CUNITS*      - CHARACTER*24 ARRAY OF KELEM CONTAINING ELEMENT UNITS
C      *KERR*        - RETURN ERROR CODE
C
C  METHOD.
C  -----
C
C      NONE.
C
C
C  EXTERNALS.
C  -----
C
C  REFERENCE.
C  -----
C
C      NONE.
C
C  AUTHOR.
C  -----
C
C      M. DRAGOSAVAC   *ECMWF*   07/01/2004.
C
C
C  MODIFICATIONS.
C  -----
C
C      NONE.
C
C

```

```
IMPLICIT LOGICAL(L,O,G), CHARACTER*8(C,H,Y)
C
PARAMETER(JSEC1=40,JSEC3=4)
PARAMETER(KDLEN=200,KELEM=4000)
C
DIMENSION KSEC1(JSEC1)
C
DIMENSION KDATA(KDLEN)
C
CHARACTER*64 CNAME(KELEM)
CHARACTER*24 CUNIT(KELEM)
CHARACTER*6 CREXKTDLST(KELEM)
CHARACTER*6 CREXKTDEXP(KELEM)
C
DATA CNAME/KELEM*' ',CUNIT/KELEM*' ' /
C
C
C-----
C*      1. INITIALIZE CONSTANTS AND VARIABLES.
C-----
100 CONTINUE
C
C
RVIND=1.7E38
C
INITIALIZE DELAYED REPLICATION FACTORS
CHANGE THIS LOOP AS REQUIRED
C
DO I=1,KDLEN
  KDATA(I)=0
END DO
C
SET DATA DESCRIPTORS
HERE YOU CAN MAKE ANY LIST OF CREX ENTRIES
C
N=1
CREXKTDLST(N)="D07005" ! Table D entry to be expanded
KTDLEN=N
C
SECTION 1 CONTENT
C
KSEC1(2)=1 ! CREX EDITION NUMBER
KSEC1(8)=1 ! VERSION NUMBER OF LOCAL TABLE USED
KSEC1(15)=3 ! VERSION NUMBER OF MASTER TABLE USED
C
SECTION 3 CONTENT
C
K=1
CALL CREXDES(K,KSEC1,KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,
1          KTDEXL,CREXKTDEXP,CNAME,CUNIT,KERR)
C
END
```



### 2.8.2 BUFR to CREX conversion

There is a need for automatic conversion between BUFR and CREX data formats. That might be very useful when some centres can not handle meteorological binary data.

**bufr2crex -i input\_bufr -o out\_crex**

where:

**input\_bufr** - file name containing BUFR data

**out\_crex** - file name containing CREX data

### 2.8.3 CREX to BUFR conversion

**crex2bufr -i input\_crex -o out\_bufr**

where:

**input\_crex** - file name containing CREX data

**out\_bufr** - file name containing BUFR data

### 2.8.4 Create CREX message

The following program is an example how to use the software to create a single CREX message. With small modifications it could create any number of CREX data.

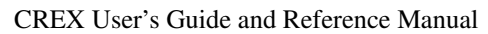
```
PROGRAM CREX
C
C**** *CREX*
C
C
C PURPOSE.
C -----
C      Example of creating CREX message
C
C
C** INTERFACE.
C -----
C
C      NONE.
C
C METHOD.
C -----
C
C      NONE.
C
C EXTERNALS.
C -----
C
C REFERENCE.
C -----
C
C      NONE.
C
C AUTHOR.
C -----
C
C      MILAN DRAGOSAVAC   *ECMWF*       07/01/2004.
C
C MODIFICATIONS.
C -----
C
C      NONE.
C
C IMPLICIT LOGICAL (O,G), CHARACTER*8 (C,H,Y)
C
C PARAMETER (JSUP = 9,JSEC0= 3,JSEC1= 40,JSEC3= 4,
1 JBUFL= 8192)
C
C PARAMETER (KDLEN=200,KELEM=2000)
C PARAMETER (KVALS=80000)
C
C DIMENSION KBUFR(JBUFL)
C DIMENSION KSEC0 (JSEC0),KSEC1 (JSEC1), KSEC3 (JSEC3)
C
C REAL*8 VALUES (KVALS)
C CHARACTER*6 CREXKTDLST (KELEM),CREXKTDEXP (KELEM)
C DIMENSION KDATA (KDLEN)
C
C CHARACTER*64 CNAME (kelem)
C CHARACTER*24 CUNIT (kelem)
C CHARACTER*80 CVALS (KVALS)
C CHARACTER*80 YENC
C REAL*8 RVIND
C CHARACTER*256 COUT, CARG (4)
C
C CHARACTER*15000 YOUT
C EQUIVALENCE (KBUFR (1),YOUT)
C
C
C -----
C* 1. INITIALIZE CONSTANTS AND VARIABLES.
C -----
100 CONTINUE
C
C RVIND=1.7E38
C NVIND=2147483647
C
C Input file name
C
C Get input and output file name.
C
C NARG=IARGC ()
C
C IF (NARG.LT.2) THEN
```

```

        print*, 'Usage -- create_crex -o outfile'
        STOP
    END IF
C
    COUT=' '
    CFIN=' '
C
    DO 101 J=1,NARG
    CALL GETARG(J,CARG(J))
101 CONTINUE
C
    DO 102 J=1,NARG,2
    IF (CARG(J).EQ.'-o') THEN
        COUT=CARG(J+1)
    ELSE
        print*, 'Usage -- create_crex -o outfile'
        STOP
    END IF
102 CONTINUE
C
    JJ=INDEX(COUT,' ')
    JJ=JJ-1
C
    CALL PBOpen(IUNIT1,COUT(1:JJ),'w',IRET)
    IF(IRET.EQ.-1) STOP 'open failed on bufr.dat'
    IF(IRET.EQ.-2) STOP 'Invalid file name'
    IF(IRET.EQ.-3) STOP 'Invalid open mode specified'
C
    INITIALIZE DELAYED REPLICATION FACTORS OR REFERENCE VALUES ETD.
C
    KDATA( 1)=0
    KDATA( 2)=0
    KDATA( 3)=0
    KDATA( 4)=0
C
    DO I=5,KDLEN
    KDATA(I)=0
    END DO
C
    KDLENG=200
C
    SET DATA DECSRIPTORS
C
    CREXKTDLST( 1)= "D07005"
C
    KTDLEN=1
C
    KSECO(1)=0
    KSECO(2)=0
    KSECO(3)=2      ! Crex edition number
C
    SECTION 1 CONTENT
C
    KSEC1(1)=0
    KSEC1(2)=2      ! CREX Edition number (currently)
    KSEC1(3)=98     ! Originating centre
    KSEC1(4)=0      ! Update sequence number
    KSEC1(5)=1      ! Number of subsets
    KSEC1(6)=0      ! CREX data category
    KSEC1(7)=1      ! International data sub-category
    KSEC1(8)=0      ! version number of local table used
    KSEC1(9)=2003   ! Year
    KSEC1(10)=12    ! Month
    KSEC1(11)=2     ! Day
    KSEC1(12)=12    ! Hour
    KSEC1(13)=0     ! Minute
    KSEC1(14)=0     ! CREX Master table ( 0 for standard WMO crex tables)
    KSEC1(15)=3     ! CREX table version number
    KSEC1(16)=0     ! Originating sub-centre
    KSEC1(17)=12    ! BUFR master table version number
    KSEC1(18)=0     ! BUFR local table version number
C
    K=1
    CALL CREXDES(K,KSEC1,KTDLEN,CREXKTDLST,KDLEN,KDATA,KELEM,
1    KTEXL,CREXKTDEXP,CNAMES,CUNITS,KERR)
    IF (KERR.NE.0) THEN
        print*, 'CREXDES: error'
        STOP
    END IF
C
    SET VALUES TO BE PACKED
C
    K=1
    KSUBSETS=1
C
    do j=1,ksubsets

    ik=(j-1)*kelem
    n=1
    values(n+ik)=13.      ! Block number
    n=n+1                  !

```



26

```

      ILEN=KBUFL
C
      IERR=0
      CALL PBWRITE(IUNIT1,KBUFR,ILEN,IERR)
      IF(IERR.LT.0) THEN
        print*,'Error writing into target file.'
        CALL EXIT(2)
      END IF
C
C      Print CREX message on screen
      print*,yout(1:ilen)
C
C      -----
C*      7. UNPACK MESSAGE.
C      -----
C      700 CONTINUE
C
C      900 CONTINUE
C
C      STOP
      END

```

The above program creates the following CREX message:

```

CREX++
T0002031200 Y20031202 H1200 A000001 P00098000 U00 S001 D07005
++
13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250
0010 // 300 0085 -050 -070 070 0100 /// // // // // // // //
// // // // // // // // // // // // // // // // // // // //
++
7777

```

### 2.8.5 Decode CREX message

The program which follows is an example program to decode CREX messages.

```
PROGRAM DECODE_CREX
C
C**** *DECODE_CREX*
C
C
C  PURPOSE.
C  -----
C      DECODE CREX CODED DATA
C
C
C**  INTERFACE.
C  -----
C
C      NONE.
C
C  METHOD.
C  -----
C
C      NONE.
C
C  EXTERNALS.
C  -----
C
C      CREXEX
C      CREXSEL2
C      CREXPRS0
C      CREXPRT
C      PBOPEN
C      PBCLOSE
C      PBCREX
C      GETARG
C
C
C
C  REFERENCE.
C  -----
C
C      NONE.
C
C  AUTHOR.
C  -----
C
C      M. DRAGOSAVAC      *ECMWF*      15/09/2003.
C
C  MODIFICATIONS.
C  -----
C
C      NONE.
C
C
C  IMPLICIT LOGICAL(L,O,G), CHARACTER*8(C,H,Y)
C
C  PARAMETER(JSUP = 9,JSEC0= 3,JSEC1= 40,JSEC2= 64 ,JSEC3= 4,
1      JSEC4= 2,JELEM=40000,JSUBS=400,JCVAl=150 ,JBUFL=80000,
#ifdef JBPW_64
2      JBPW = 64,JTAB =3000,JCTAB=120,JCTST=1800,JCTEXT=1200,
#else
2      JBPW = 32,JTAB =3000,JCTAB=120,JCTST=1800,JCTEXT=1200,
#endif
3      JWORK=360000,JKEY=46,JBYTE=80000)
C
C  PARAMETER (KELEM=40000)
C  PARAMETER (KVALS=360000)
C
C  DIMENSION KBUFF(JBUFL)
C  DIMENSION KSUP(JSUP) ,KSEC0(JSEC0),KSEC1(JSEC1)
C  DIMENSION KSEC3(JSEC3)
C
C  REAL*8 VALUES(KVALS)
C  REAL*8 RVIND
C  REAL*8 EPS
C
C  DIMENSION KTDLST(JELEM),KTDEXP(JELEM)
C  DIMENSION KDATA(200)
C
C  CHARACTER*256 CF,CARG(4)
C  CHARACTER*64 CNAME(KELEM)
C  CHARACTER*24 CUNITS(KELEM)
C  CHARACTER*80 CVALS(KVALS)
C  CHARACTER*80 YENC
C  CHARACTER*320000 YBUFF
C
```

```

EQUIVALENCE (YBUFF,KBUFF(1))
EXTERNAL GETARG
C
C -----
C*      1. INITIALIZE CONSTANTS AND VARIABLES.
C -----
100 CONTINUE
C
NBYTPW=JBPW/8
RVIND=1.7E38
NVIND=2147483647
IOBS=0
EPS=1.E-8
N=0
OO=.FALSE.
CF=' '
C
C INPUT FILE NAME
C
C GET INPUT AND OUTPUT FILE NAME.
C
NARG=IARGC()
C
IF(NARG.NE.2) THEN
  PRINT*, 'USAGE -- decode_crex -i infile '
  STOP
END IF
C
DO 101 J=1,NARG
  CALL GETARG(J,CARG(J))
101 CONTINUE
C
IF(CARG(1).NE.'-I'.AND.CARG(1).NE.'-i'.OR.
1  CARG(2).EQ.' ') THEN
  PRINT*, 'USAGE -- decode_crex -i infile '
  STOP
END IF
C
CF=CARG(2)
II=INDEX(CF,' ')
II=II-1
C
C*      1.2 OPEN FILE CONTAINING CREX DATA.
C -----
120 CONTINUE
C
IRET=0
CALL PBOPEN(IUNIT,CF(1:II),'R',IRET)
IF(IRET.EQ.-1) STOP 'OPEN FAILED ON INPUT FILE'
IF(IRET.EQ.-2) STOP 'INVALID FILE NAME'
IF(IRET.EQ.-3) STOP 'INVALID OPEN MODE SPECIFIED'
C
C -----
C*      2. SET REQUEST FOR EXPANSION.
C -----
200 CONTINUE
C
OPRT=.FALSE.
OENC=.FALSE.
WRITE(*,'(A,$)') ' DO YOU WANT TO PRINT( Y/N ) : '
READ (*,'(A)') YENC
IF(YENC(1:1).EQ.'Y'.OR.YENC(1:1).EQ.'y') THEN
  OPRT=.TRUE.
END IF
C
201 CONTINUE
C
WRITE(*,'(A,$)') ' DO YOU WANT TO PRINT SECTION 0-3( Y/N ) : '
READ (*,'(A,$)') YENC
OSEC3=.FALSE.
IF(YENC(1:1).EQ.'Y'.OR.YENC(1:1).EQ.'y') OSEC3=.TRUE.
C
210 CONTINUE
C
C -----
C*      3. READ CREX MESSAGE.
C -----
300 CONTINUE
C
IERR=0
IRET=0
C
YBUFF(1:15000)=' '
CALL PBCREX(IUNIT,KBUFF,JBUFL,KBUFL,IRET)
IF(IRET.LT.0) THEN
  IF(IRET.EQ.-1) THEN
    PRINT*, 'NUMBER OF CREX MESSAGES PROCESSED ',N
    PRINT*, 'NUMBER OF CREX OBSERVATIONS      ',IOBS
    STOP 'END OF FILE '
  END IF
  IF(IRET.EQ.-2) STOP 'ERROR IN HANDLING THE FILE'

```

```

      IF (IRET.EQ.-3) STOP 'ERROR DURING READ CREX FILE.'
      END IF
C
      N=N+1
      PRINT*, '-----', N
      print*, YBUFF(1:KBUFL)
C
C-----
C*      4. EXPAND CREX MESSAGE.
C-----
400  CONTINUE
C
      IERR=0
      CALL CREXEX(KBUFL, YBUFF, KSUP, KSEC0, KSEC1, KSEC3,
1      KELEM, CNAMES, CUNITS, KVALS, VALUES, CVALS, IERR)
C
      IF (IERR.NE.0) THEN
        PRINT*, 'CREX ERROR ', IERR
        CALL EXIT(2)
      END IF
C
C
      IOBS=IOBS+KSEC3(3)
C
      ISUBSET=1
      CALL CREXSEL2(ISUBSET, KELEM, KTDLEN, KTDLST, KTDEXL, KTDEXP,
1      CNAMES, CUNITS, KERR)
      IF (KERR.NE.0) THEN
        PRINT*, 'CREXSEL: ERROR.'
        CALL EXIT(2)
      END IF
C
C*      4.1 PRINT CONTENT OF EXPANDED DATA.
C-----
410  CONTINUE
C
      IF (.NOT.OPRT) GO TO 300
      IF (.NOT.OSEC3) GO TO 450
C
C*      4.2 PRINT SECTION ZERO OF CREX MESSAGE.
C-----
420  CONTINUE
C
      CALL CREXPRS0(KSEC0)
C
C*      4.3 PRINT SECTION ONE OF CREX MESSAGE.
C-----
430  CONTINUE
C
      ISUBSET=1
      CALL CREXSEL2(ISUBSET, KELEM, KTDLEN, KTDLST, KTDEXL, KTDEXP,
1      CNAMES, CUNITS, KERR)
      IF (KERR.NE.0) CALL EXIT(2)
C
      CALL CREXPRS1(KSEC1, KSEC3, KTDLEN, KTDLST, KTDEXL,
1      KTDEXP, KELEM, CNAMES)
C
C
C
C*      4.5 PRINT SECTION 2 OF CREX MESSAGE.
C-----
450  CONTINUE
C
C
C*      4.6 PRINT SECTION 2 (DATA).
C-----
460  CONTINUE
C
      IN THE CASE OF MANY SUBSETS DEFINE RANGE OF SUBSETS
C
      IF (.NOT.OO) THEN
        WRITE(*, '(A, $)') ' STARTING SUBSET TO BE PRINTED : '
        READ(*, '(BN, I4)') IST
        WRITE(*, '(A, $)') ' ENDING SUBSET TO BE PRINTED : '
        READ(*, '(BN, I4)') IEND
        OO=.FALSE.
      END IF
C
C
      PRINT DATA
C
      ICODE=0
      CALL CREXPRT(ICODE, IST, IEND, KELEM, CNAMES, CUNITS, CVALS,
1      KVALS, VALUES, KSUP, KSEC1, IERR)
C
C
      GO TO 300
C
C-----
900  CONTINUE
C
      END
```



## 2.9 Examples

### 2.9.1 decode CREX message

Let us have an input file called `st082.crex` containing following CREX multi-subset message:

```
CREX++^M
T000103 A005 D01043 D04001++^M
0254 01 2003 11 25 17 00 00 3990000 -08980000 02 02500 -437 255^M
0617+^M
0254 01 2003 11 25 17 00 00 3960000 -08960000 02 02600 -415 250^M
0596+^M
0254 01 2003 11 25 17 00 00 3890000 -08960000 02 03300 -371 255^M
0396++^M
7777^M
```

This is a satob message containing three reports.

Run **decode\_crex -i st082** and answer as in an example:

```
DO YOU WANT TO PRINT( Y/N ) : y
DO YOU WANT TO PRINT SECTION 0-3( Y/N ) : y

----- 1
CREX Tables to be loaded B000103,D000103

      CREX SECTION 0

LENGTH OF SECTION 0 (BYTES)          4
TOTAL LENGTH OF CREX MESSAGE (BYTES) 273

      CREX SECTION 1

CREX EDITION NUMBER                   1
CREX MESSAGE TYPE                     5
VERSION NUMBER OF LOCAL TABLE       0
VERSION NUMBER OF MASTER TABLE      3
CREX MASTER TABLE                   0

NUMBER OF SUBSETS                     3

      DATA DESCRIPTORS (UNEXPANDED)

1  D01043
2  D04001

      DATA DESCRIPTORS (EXPANDED)

1  B01007  SATELLITE IDENTIFIER
2  B02023  SATELLITE DERIVED WIND COMPUTATION METHOD
3  B04001  YEAR
4  B04002  MONTH
5  B04003  DAY
6  B04004  HOUR
7  B04005  MINUTE
8  B04006  SECOND
9  B05001  LATITUDE (HIGH ACCURACY)
10 B06001  LONGITUDE (HIGH ACCURACY)
11 B08003  VERTICAL SIGNIFICANCE (SATELLITE OBSERVATIONS)
12 B10004  PRESSURE
13 B12001  TEMPERATURE/DRY-BULB TEMPERATURE
14 B11001  WIND DIRECTION
15 B11002  WIND SPEED

STARTING SUBSET TO BE PRINTED : 1
ENDING SUBSET TO BE PRINTED : 3

1  SATELLITE IDENT            254.0000 CODE TABLE 1007
2  SATELLITE DERIV            1.0000 CODE TABLE 2023
3  YEAR                      2003.0000 YEAR
4  MONTH                     11.0000 MONTH
5  DAY                       25.0000 DAY
6  HOUR                      17.0000 HOUR
7  MINUTE                     .0000 MINUTE
8  SECOND                     .0000 SECOND
9  LATITUDE (HIGH            39.9000 DEGREE
10 LONGITUDE (HIGH          -89.8000 DEGREE
11 VERTICAL SIGNIF           2.0000 CODE TABLE 8003
```

```
12 PRESSURE                25000.0000 PA
13 TEMPERATURE/DRY         -43.7000 C
14 WIND DIRECTION           255.0000 DEGREE TRUE
15 WIND SPEED               61.7000 M/S

1 SATELLITE IDENT          254.0000 CODE TABLE 1007
2 SATELLITE DERIV          1.0000 CODE TABLE 2023
3 YEAR                     2003.0000 YEAR
4 MONTH                   11.0000 MONTH
5 DAY                     25.0000 DAY
6 HOUR                    17.0000 HOUR
7 MINUTE                  .0000 MINUTE
8 SECOND                  .0000 SECOND
9 LATITUDE (HIGH)         39.6000 DEGREE
10 LONGITUDE (HIGH)       -89.6000 DEGREE
11 VERTICAL SIGNIF         2.0000 CODE TABLE 8003
12 PRESSURE               26000.0000 PA
13 TEMPERATURE/DRY        -41.5000 C
14 WIND DIRECTION          250.0000 DEGREE TRUE
15 WIND SPEED              59.6000 M/S

1 SATELLITE IDENT          254.0000 CODE TABLE 1007
2 SATELLITE DERIV          1.0000 CODE TABLE 2023
3 YEAR                     2003.0000 YEAR
4 MONTH                   11.0000 MONTH
5 DAY                     25.0000 DAY
6 HOUR                    17.0000 HOUR
7 MINUTE                  .0000 MINUTE
8 SECOND                  .0000 SECOND
9 LATITUDE (HIGH)         38.9000 DEGREE
10 LONGITUDE (HIGH)       -89.6000 DEGREE
11 VERTICAL SIGNIF         2.0000 CODE TABLE 8003
12 PRESSURE               33000.0000 PA
13 TEMPERATURE/DRY        -37.1000 C
14 WIND DIRECTION          255.0000 DEGREE TRUE
15 WIND SPEED              39.6000 M/S

NUMBER OF CREX MESSAGES PROCESSED 1
NUMBER OF CREX OBSERVATIONS       3
```

Let us decode CREX Edition 2 message:

```
CREX++
T0002031200 Y20031202 H1200 A000001 P00098000 U00 S001 D07005
++
13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250
0010 // 300 0085 -050 -070 070 0100 /// // // // // // // //
// // // // // // // // // // // // // // // // // // // //
++
7777
```

CREX Tables to be loaded B000203,D000203

CREX SECTION 0

```
LENGTH OF SECTION 0 (BYTES)      4
TOTAL LENGTH OF CREX MESSAGE (BYTES) 283
```

CREX SECTION 1

```
CREX EDITION NUMBER              2
ORIGINATING CENTRE               98
ORIGINATING SUB-CENTRE           0
UPDATE SEQUENCE NUMBER           0
CREX DATA CATEGORY              0
INTERNATIONAL DATA SUB-CATEGORY 1
YEAR                             2003
MONTH                            12
DAY                              2
HOUR                             12
MINUTE                           0
VERSION NUMBER OF MASTER TABLE  3
VERSION NUMBER OF LOCAL TABLE   0
CREX MASTER TABLE               0
BUFR MASTER TABLE NUMBER        12
BUFR VERSION OF LOCAL TABLE     0

NUMBER OF SUBSETS                 1
```

DATA DESCRIPTORS (UNEXPANDED)

1 D07005

## DATA DESCRIPTORS (EXPANDED)

```

1 B01001 WMO BLOCK NUMBER
2 B01002 WMO STATION NUMBER
3 B02001 TYPE OF STATION
4 B04001 YEAR
5 B04002 MONTH
6 B04003 DAY
7 B04004 HOUR
8 B04005 MINUTE
9 B05001 LATITUDE (HIGH ACCURACY)
10 B06001 LONGITUDE (HIGH ACCURACY)
11 B07001 HEIGHT OF STATION (SEE NOTE 1)
12 B10004 PRESSURE
13 B10051 PRESSURE REDUCED TO MEAN SEA LEVEL
14 B10061 3-HOUR PRESSURE CHANGE
15 B10063 CHARACTERISTIC OF PRESSURE TENDENCY
16 B11011 WIND DIRECTION AT 10 M
17 B11012 WIND SPEED AT 10 M
18 B12004 DRY-BULB TEMPERATURE AT 2 M
19 B12006 DEW-POINT TEMPERATURE AT 2 M
20 B13003 RELATIVE HUMIDITY
21 B20001 HORIZONTAL VISIBILITY
22 B20003 PRESENT WEATHER (SEE NOTE 1)
23 B20004 PAST WEATHER (1) (SEE NOTE 2)
24 B20005 PAST WEATHER (2) (SEE NOTE 2)
25 B20010 CLOUD COVER (TOTAL)
26 B08002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
27 B20011 CLOUD AMOUNT
28 B20013 HEIGHT OF BASE OF CLOUD
29 B20012 CLOUD TYPE
30 B20012 CLOUD TYPE
31 B20012 CLOUD TYPE
32 B08002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
33 B20011 CLOUD AMOUNT
34 B20012 CLOUD TYPE
35 B20013 HEIGHT OF BASE OF CLOUD
36 B08002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
37 B20011 CLOUD AMOUNT
38 B20012 CLOUD TYPE
39 B20013 HEIGHT OF BASE OF CLOUD
40 B08002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
41 B20011 CLOUD AMOUNT
42 B20012 CLOUD TYPE
43 B20013 HEIGHT OF BASE OF CLOUD
44 B08002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
45 B20011 CLOUD AMOUNT
46 B20012 CLOUD TYPE
47 B20013 HEIGHT OF BASE OF CLOUD

```

STARTING SUBSET TO BE PRINTED : 1  
ENDING SUBSET TO BE PRINTED : 1

```

1 WMO BLOCK NUMBE      13.0000 NUMERIC
2 WMO STATION NUM      274.0000 NUMERIC
3 TYPE OF STATION      0.0000 CODE TABLE 2001
4 YEAR                 2003.0000 YEAR
5 MONTH                12.0000 MONTH
6 DAY                  2.0000 DAY
7 HOUR                 12.0000 HOUR
8 MINUTE               0.0000 MINUTE
9 LATITUDE (HIGH      45.2000 DEGREE
10 LONGITUDE (HIGH    20.5000 DEGREE
11 HEIGHT OF STATI    170.0000 M
12 PRESSURE            102000.0000 PA
13 PRESSURE REDUCE    102500.0000 PA
14 3-HOUR PRESSURE    100.0000 PA
15 CHARACTERISTIC      MISSING CODE TABLE 10063
16 WIND DIRECTION      300.0000 DEGREE TRUE
17 WIND SPEED AT 1     8.5000 M/S
18 DRY-BULB TEMPER     -5.0000 C
19 DEW-POINT TEMPE     -7.0000 C
20 RELATIVE HUMIDI     70.0000 %
21 HORIZONTAL VISI     1000.0000 M
22 PRESENT WEATHER      MISSING CODE TABLE 20003
23 PAST WEATHER (1      MISSING CODE TABLE 20004
24 PAST WEATHER (2      MISSING CODE TABLE 20005
25 CLOUD COVER (TO      MISSING %
26 VERTICAL SIGNIF      MISSING CODE TABLE 8002
27 CLOUD AMOUNT         MISSING CODE TABLE 20011
28 HEIGHT OF BASE      MISSING M
29 CLOUD TYPE           MISSING CODE TABLE 20012
30 CLOUD TYPE           MISSING CODE TABLE 20012
31 CLOUD TYPE           MISSING CODE TABLE 20012
32 VERTICAL SIGNIF      MISSING CODE TABLE 8002
33 CLOUD AMOUNT         MISSING CODE TABLE 20011
34 CLOUD TYPE           MISSING CODE TABLE 20012
35 HEIGHT OF BASE      MISSING M
36 VERTICAL SIGNIF      MISSING CODE TABLE 8002
37 CLOUD AMOUNT         MISSING CODE TABLE 20011
38 CLOUD TYPE           MISSING CODE TABLE 20012
39 HEIGHT OF BASE      MISSING M

```

```
40 VERTICAL SIGNIF          MISSING CODE TABLE 8002
41 CLOUD AMOUNT             MISSING CODE TABLE 20011
42 CLOUD TYPE               MISSING CODE TABLE 20012
43 HEIGHT OF BASE           MISSING M
44 VERTICAL SIGNIF          MISSING CODE TABLE 8002
45 CLOUD AMOUNT             MISSING CODE TABLE 20011
46 CLOUD TYPE               MISSING CODE TABLE 20012
47 HEIGHT OF BASE           MISSING M

NUMBER OF CREX MESSAGES PROCESSED 1
NUMBER OF CREX OBSERVATIONS      1
```

## 2.9.2 *bufr2crex conversion*

Let us have an input file called `st145` containing following BUFR message

```
ECMWF

BUFR DECODING SOFTWARE VERSION - 6.1
07 JULY 2003.

Your path for bufr tables is :
/home/ma/emos/tables/bufr/000220/
BUFR TABLES TO BE LOADED B0000980601,D0000980601

BUFR SECTION 0

LENGTH OF SECTION 0 (BYTES)      8
TOTAL LENGTH OF BUFR MESSAGE (BYTES) 142
BUFR EDITION NUMBER              3

BUFR SECTION 1

LENGTH OF SECTION 1 (BYTES)      18
BUFR EDITION NUMBER              3
ORIGINATING SUB-CENTRE           0
ORIGINATING CENTRE               98
UPDATE SEQUENCE NUMBER           1
FLAG (PRESENCE OF SECTION 2)     0
BUFR MESSAGE TYPE                 4
BUFR MESSAGE SUBTYPE             0
VERSION NUMBER OF LOCAL TABLE   1
YEAR                             3
MONTH                           12
DAY                             21
HOUR                             21
MINUTE                           1
VERSION NUMBER OF MASTER TABLE  6
BUFR MASTER TABLE               0

BUUKEY : KEY DEFINITION NOT KNOWN

PRTKEY : RDB KEY NOT DEFINED IN SECTION 2.

BUFR SECTION 3

LENGTH OF SECTION 3 (BYTES)      64
RESERVED                         0
NUMBER OF DATA SUBSETS           1
FLAG (DATA TYPE/DATA COMPRESSION) 128

DATA DESCRIPTORS (UNEXPANDED)

1 001006
2 001008
3 002061
4 002062
5 002002
6 002005
7 002070
8 002063
9 002001
10 004001
11 004002
12 004003
13 004004
14 004005
15 005002
16 006002
17 008004
18 007004
```

```

19 008021
20 011001
21 011002
22 011031
23 011034
24 011035
25 012001
26 012003
27 013003
28 020041

```

## DATA DESCRIPTORS (EXPANDED)

```

1 001006 AIRCRAFT FLIGHT NUMBER
2 001008 AIRCRAFT REGISTRATION NUMBER
3 002061 AIRCRAFT NAVIGATIONAL SYSTEM
4 002062 TYPE OF AIRCRAFT DATA RELAY SYSTEM
5 002002 TYPE OF INSTRUMENTATION FOR WIND MEASUREMENT
6 002005 PRECISION OF TEMPERATURE OBSERVATION
7 002070 ORIGINAL SPECIFICATION OF LATITUDE/LONGITUDE
8 002063 AIRCRAFT ROLL ANGLE
9 002001 TYPE OF STATION
10 004001 YEAR
11 004002 MONTH
12 004003 DAY
13 004004 HOUR
14 004005 MINUTE
15 005002 LATITUDE (COARSE ACCURACY)
16 006002 LONGITUDE (COARSE ACCURACY)
17 008004 PHASE OF AIRCRAFT FLIGHT
18 007004 PRESSURE
19 008021 TIME SIGNIFICANCE
20 011001 WIND DIRECTION
21 011002 WIND SPEED
22 011031 DEGREE OF TURBULENCE
23 011034 VERTICAL GUST VELOCITY
24 011035 VERTICAL GUST ACCELERATION
25 012001 TEMPERATURE/DRY BULB TEMPERATURE
26 012003 DEW POINT TEMPERATURE
27 013003 RELATIVE HUMIDITY
28 020041 AIRFRAME ICING

```

STARTING SUBSET TO BE PRINTED : 1

ENDING SUBSET TO BE PRINTED : 1

1	AIRCRAFT FLIGHT	.10080000000E+04	CCITTIA5	MDRDBY3Q
2	AIRCRAFT REGIST	.20080000000E+04	CCITTIA5	JEWETIRA
3	AIRCRAFT NAVIGA	MISSING CODE TABLE	2061	
4	TYPE OF AIRCRAF	.30000000000E+01	CODE TABLE	2062
5	TYPE OF INSTRUM	.40000000000E+01	FLAG TABLE	2002
6	PRECISION OF TE	.25000000000E+00	K	
7	ORIGINAL SPECIF	.10000000000E+02	CODE TABLE	2070
8	AIRCRAFT ROLL A	MISSING DEGREE		
9	TYPE OF STATION	.00000000000E+00	CODE TABLE	2001
10	YEAR	.20030000000E+04	YEAR	
11	MONTH	.12000000000E+02	MONTH	
12	DAY	.21000000000E+02	DAY	
13	HOUR	.21000000000E+02	HOUR	
14	MINUTE	.10000000000E+01	MINUTE	
15	LATITUDE (COARS	.34000000000E+02	DEGREE	
16	LONGITUDE (COAR	-.85010000000E+02	DEGREE	
17	PHASE OF AIRCRA	MISSING CODE TABLE	8004	
18	PRESSURE	.63180000000E+05	PA	
19	TIME SIGNIFICAN	MISSING CODE TABLE	8021	
20	WIND DIRECTION	.29600000000E+03	DEGREE TRUE	
21	WIND SPEED	.93000000000E+01	M/S	
22	DEGREE OF TURBU	MISSING CODE TABLE	11031	
23	VERTICAL GUST V	MISSING M/S		
24	VERTICAL GUST A	MISSING M/S**2		
25	TEMPERATURE/DRY	.26970000000E+03	K	
26	DEW POINT TEMPE	MISSING K		
27	RELATIVE HUMIDI	MISSING %		
28	AIRFRAME ICING	MISSING CODE TABLE	20041	
NUMBER OF SUBSETS		1		
NUMBER OF MESSAGES		1		

## Run bufr2crex -i st145 -o st145.crex

The output file st145.crex will contain the following CREX message:

CREX++

T000103 A004 B01006 B01008 B02061 B02062 B02002 B02005

B02070 B02063 B02001 B04001 B04002 B04003 B04004 B04005 B05002

```
B06002 B08004 B07004 B08021 B11001 B11002 B11031 B11034 B11035
B12001 B12003 B13003 B20041++

MDRDBY3Q  JEWETIRA  / 03 04 025 10  ///// 0 2003 12 21 21 01 3400
-08501 / 06318 // 296 0093 //  ///  ///// -035  ///  ///  //++

7777
```

Run **bufr2crex -i crex\_edition2.crex.bufr -o crex\_edition2.crex.bufr.crex**

The output file `crex_edition2.crex.bufr.crex` will contain the following CREX message

```
CRES++^M
T0002031200 Y20031202 H1200 A000001 F00098000 U00 S001 D07005^M
+^M
 13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250^M
0010 // 300 0085 -050 -070 070 0100 /// // // // // // // ^M
// // // // // // // // // // // // // // // // // // ^M
+^M
7777^M
```

### 2.9.3 *crex2bufr* conversion

Let us have an input file called st145.crex containing following CREX message

```

CREX++

T000103 A004 B01006 B01008 B02061 B02062 B02002 B02005

B02070 B02063 B02001 B04001 B04002 B04003 B04004 B04005 B05002

B06002 B08004 B07004 B08021 B11001 B11002 B11031 B11034 B11035

B12001 B12003 B13003 B20041++

MDRDBY3Q  JEWEITRA  / 03 04 025 10  ///// 0 2003 12 21 21 01 3400

-08501 / 06318 // 296 0093 //  ///  ///// -035  ///  ///  //++

7777

```

Run **crex2bufr -i st145.crex -o st145.bufr**

After decoding st145.bufr the content of the expanded st145.bufr message is:

```

ECMWF

BUFR DECODING SOFTWARE VERSION - 6.1
07 July 2003.

Your path for bufr tables is :
/home/ma/emos/tables/bufr/000220/
BUFR TABLES TO BE LOADED B0000980601,D0000980601

BUFR SECTION 0

LENGTH OF SECTION 0 (BYTES) 8
TOTAL LENGTH OF BUFR MESSAGE (BYTES) 142
BUFR EDITION NUMBER 3

BUFR SECTION 1

LENGTH OF SECTION 1 (BYTES) 18
BUFR EDITION NUMBER 3
ORIGINATING SUB-CENTRE 0
ORIGINATING CENTRE 98

```

```

UPDATE SEQUENCE NUMBER      1
FLAG (PRESENCE OF SECTION 2) 0
BUFR MESSAGE TYPE           4
BUFR MESSAGE SUBTYPE        0
VERSION NUMBER OF LOCAL TABLE 1
YEAR                         3
MONTH                       12
DAY                         21
HOUR                        21
MINUTE                      1
VERSION NUMBER OF MASTER TABLE 6
BUFR MASTER TABLE          0

```

BUUKEY : KEY DEFINITION NOT KNOWN

PRTKEY : RDB KEY NOT DEFINED IN SECTION 2.

BUFR SECTION 3

```

LENGTH OF SECTION 3 (BYTES) 64
RESERVED                     0
NUMBER OF DATA SUBSETS      1
FLAG (DATA TYPE/DATA COMPRESSION) 128

```

DATA DESCRIPTORS (UNEXPANDED)

```

1 001006
2 001008
3 002061
4 002062
5 002002
6 002005
7 002070
8 002063
9 002001
10 004001
11 004002
12 004003
13 004004
14 004005
15 005002
16 006002
17 008004
18 007004
19 008021
20 011001
21 011002
22 011031
23 011034
24 011035
25 012001
26 012003
27 013003
28 020041

```

DATA DESCRIPTORS (EXPANDED)

```

1 001006 AIRCRAFT FLIGHT NUMBER
2 001008 AIRCRAFT REGISTRATION NUMBER
3 002061 AIRCRAFT NAVIGATIONAL SYSTEM
4 002062 TYPE OF AIRCRAFT DATA RELAY SYSTEM
5 002002 TYPE OF INSTRUMENTATION FOR WIND MEASUREMENT
6 002005 PRECISION OF TEMPERATURE OBSERVATION
7 002070 ORIGINAL SPECIFICATION OF LATITUDE/LONGITUDE
8 002063 AIRCRAFT ROLL ANGLE
9 002001 TYPE OF STATION
10 004001 YEAR
11 004002 MONTH
12 004003 DAY
13 004004 HOUR
14 004005 MINUTE
15 005002 LATITUDE (COARSE ACCURACY)
16 006002 LONGITUDE (COARSE ACCURACY)
17 008004 PHASE OF AIRCRAFT FLIGHT
18 007004 PRESSURE
19 008021 TIME SIGNIFICANCE
20 011001 WIND DIRECTION
21 011002 WIND SPEED
22 011031 DEGREE OF TURBULENCE
23 011034 VERTICAL GUST VELOCITY
24 011035 VERTICAL GUST ACCELERATION
25 012001 TEMPERATURE/DRY BULB TEMPERATURE
26 012003 DEW POINT TEMPERATURE
27 013003 RELATIVE HUMIDITY
28 020041 AIRFRAME ICING
STARTING SUBSET TO BE PRINTED : 1
ENDING SUBSET TO BE PRINTED : 1

```

```

1 AIRCRAFT FLIGHT .1008000000E+04 CCITIIA5 MDRDBY3Q
2 AIRCRAFT REGIST .2008000000E+04 CCITIIA5 JEWETIRA

```

3	AIRCRAFT NAVIGA	MISSING CODE TABLE	2061
4	TYPE OF AIRCRAF	.3000000000E+01 CODE TABLE	2062
5	TYPE OF INSTRUM	.4000000000E+01 FLAG TABLE	2002
6	PRECISION OF TE	.2500000000E+00 K	
7	ORIGINAL SPECIF	.1000000000E+02 CODE TABLE	2070
8	AIRCRAFT ROLL A	MISSING DEGREE	
9	TYPE OF STATION	.0000000000E+00 CODE TABLE	2001
10	YEAR	.2003000000E+04 YEAR	
11	MONTH	.1200000000E+02 MONTH	
12	DAY	.2100000000E+02 DAY	
13	HOURL	.2100000000E+02 HOUR	
14	MINUTE	.1000000000E+01 MINUTE	
15	LATITUDE (COARS	.3400000000E+02 DEGREE	
16	LONGITUDE (COAR	-.8501000000E+02 DEGREE	
17	PHASE OF AIRCRA	MISSING CODE TABLE	8004
18	PRESSURE	.6318000000E+05 PA	
19	TIME SIGNIFICAN	MISSING CODE TABLE	8021
20	WIND DIRECTION	.2960000000E+03 DEGREE TRUE	
21	WIND SPEED	.9300000000E+01 M/S	
22	DEGREE OF TURBU	MISSING CODE TABLE	11031
23	VERTICAL GUST V	MISSING M/S	
24	VERTICAL GUST A	MISSING M/S**2	
25	TEMPERATURE/DRY	.2697000000E+03 K	
26	DEW POINT TEMPE	MISSING K	
27	RELATIVE HUMIDI	MISSING %	
28	AIRFRAME ICING	MISSING CODE TABLE	20041
NUMBER OF SUBSETS 1			
NUMBER OF MESSAGES 1			

Lets have input CREX Edition 2 message crex\_edition2.crex:

```
CREX++
T0002031200 Y20031202 H1200 A000001 P00098000 U00 S001 D07005
++
13 274 0 2003 12 02 12 00 4520000 02050000 00170 10200 10250
0010 // 300 0085 -050 -070 070 0100 /// // // // // // //
// // // // // // // // // // // // // // // // // // //
++
7777
```

Run **crex2bufr -i message crex\_edition2.crex -o message crex\_edition2.crex.bufr**

After decoding message crex\_edition2.crex.bufr the content of the expanded message crex\_edition2.crex.bufr message is:

```
ECMWF

BUFR DECODING SOFTWARE VERSION - 7.0
07 January 2005.

Your path for bufr tables is :
/hdal1/data/bigtmp/wmo_bufr_crex_000250/bufr_000260/bufrtables/
BUFR TABLES TO BE LOADED B000000000981200,D000000000981200

BUFR SECTION 0

LENGTH OF SECTION 0 (BYTES) 8
TOTAL LENGTH OF BUFR MESSAGE (BYTES) 98
BUFR EDITION NUMBER 4

BUFR SECTION 1

LENGTH OF SECTION 1 (BYTES) 22
BUFR MASTER TABLE 0
ORIGINATING CENTRE 98
ORIGINATING SUB-CENTRE 0
UPDATE SEQUENCE NUMBER 0
FLAG (PRESENCE OF SECTION 2) 0
DATA CATEGORY 0
DATA SUB-CATEGORY 1
LOCAL DATA SUB-CATEGORU 1
VERSION NUMBER OF MASTER TABLE 12
VERSION NUMBER OF LOCAL TABLE 0
YEAR 2003
MONTH 12
DAY 2
HOUR 12
MINUTE 0
SECOND 0
```



BUUKEY : KEY DEFINITION NOT KNOWN

PRTKEY : RDB KEY NOT DEFINED IN SECTION 2.

BUFR SECTION 3

LENGTH OF SECTION 3 (BYTES) 10  
RESERVED 0  
NUMBER OF DATA SUBSETS 1  
FLAG (DATA TYPE/DATA COMPRESSION) 128

DATA DESCRIPTORS (UNEXPANDED)

1 307005

DATA DESCRIPTORS (EXPANDED)

```

1 001001 WMO BLOCK NUMBER
2 001002 WMO STATION NUMBER
3 002001 TYPE OF STATION
4 004001 YEAR
5 004002 MONTH
6 004003 DAY
7 004004 HOUR
8 004005 MINUTE
9 005001 LATITUDE (HIGH ACCURACY)
10 006001 LONGITUDE (HIGH ACCURACY)
11 007001 HEIGHT OF STATION
12 010004 PRESSURE
13 010051 PRESSURE REDUCED TO MEAN SEA LEVEL
14 010061 3 HOUR PRESSURE CHANGE
15 010063 CHARACTERISTIC OF PRESSURE TENDENCY
16 011011 WIND DIRECTION AT 10 M
17 011012 WIND SPEED AT 10 M
18 012004 DRY BULB TEMPERATURE AT 2M
19 012006 DEW POINT TEMPERATURE AT 2M
20 013003 RELATIVE HUMIDITY
21 020001 HORIZONTAL VISIBILITY
22 020003 PRESENT WEATHER
23 020004 PAST WEATHER (1)
24 020005 PAST WEATHER (2)
25 020010 CLOUD COVER (TOTAL)
26 008002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
27 020011 CLOUD AMOUNT
28 020013 HEIGHT OF BASE OF CLOUD
29 020012 CLOUD TYPE
30 020012 CLOUD TYPE
31 020012 CLOUD TYPE
32 008002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
33 020011 CLOUD AMOUNT
34 020012 CLOUD TYPE
35 020013 HEIGHT OF BASE OF CLOUD
36 008002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
37 020011 CLOUD AMOUNT
38 020012 CLOUD TYPE
39 020013 HEIGHT OF BASE OF CLOUD
40 008002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
41 020011 CLOUD AMOUNT
42 020012 CLOUD TYPE
43 020013 HEIGHT OF BASE OF CLOUD
44 008002 VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)
45 020011 CLOUD AMOUNT
46 020012 CLOUD TYPE
47 020013 HEIGHT OF BASE OF CLOUD
STARTING SUBSET TO BE PRINTED : ENDING SUBSET TO BE PRINTED :
1 WMO BLOCK NUMBE 0.1300000000E+02 NUMERIC
2 WMO STATION NUM 0.2740000000E+03 NUMERIC
3 TYPE OF STATION 0.0000000000E+00 CODE TABLE 002001
4 YEAR 0.2003000000E+04 YEAR
5 MONTH 0.1200000000E+02 MONTH
6 DAY 0.2000000000E+01 DAY
7 HOUR 0.1200000000E+02 HOUR
8 MINUTE 0.0000000000E+00 MINUTE
9 LATITUDE (HIGH 0.4520000000E+02 DEGREE
10 LONGITUDE (HIGH 0.2050000000E+02 DEGREE
11 HEIGHT OF STATI 0.1700000000E+03 M
12 PRESSURE 0.1020000000E+06 PA
13 PRESSURE REDUCE 0.1025000000E+06 PA
14 3 HOUR PRESSURE 0.1000000000E+03 PA
15 CHARACTERISTIC MISSING CODE TABLE 010063
16 WIND DIRECTION 0.3000000000E+03 DEGREE TRUE
17 WIND SPEED AT 1 0.8500000000E+01 M/S
18 DRY BULB TEMPER 0.2682000000E+03 K
19 DEW POINT TEMPE 0.2662000000E+03 K
20 RELATIVE HUMIDI 0.7000000000E+02 %
21 HORIZONTAL VISI 0.1000000000E+04 M
22 PRESENT WEATHER MISSING CODE TABLE 020003
23 PAST WEATHER (1 MISSING CODE TABLE 020004
24 PAST WEATHER (2 MISSING CODE TABLE 020005

```



25 CLOUD COVER (TO	MISSING %
26 VERTICAL SIGNIF	MISSING CODE TABLE 008002
27 CLOUD AMOUNT	MISSING CODE TABLE 020011
28 HEIGHT OF BASE	MISSING M
29 CLOUD TYPE	MISSING CODE TABLE 020012
30 CLOUD TYPE	MISSING CODE TABLE 020012
31 CLOUD TYPE	MISSING CODE TABLE 020012
32 VERTICAL SIGNIF	MISSING CODE TABLE 008002
33 CLOUD AMOUNT	MISSING CODE TABLE 020011
34 CLOUD TYPE	MISSING CODE TABLE 020012
35 HEIGHT OF BASE	MISSING M
36 VERTICAL SIGNIF	MISSING CODE TABLE 008002
37 CLOUD AMOUNT	MISSING CODE TABLE 020011
38 CLOUD TYPE	MISSING CODE TABLE 020012
39 HEIGHT OF BASE	MISSING M
40 VERTICAL SIGNIF	MISSING CODE TABLE 008002
41 CLOUD AMOUNT	MISSING CODE TABLE 020011
42 CLOUD TYPE	MISSING CODE TABLE 020012
43 HEIGHT OF BASE	MISSING M
44 VERTICAL SIGNIF	MISSING CODE TABLE 008002
45 CLOUD AMOUNT	MISSING CODE TABLE 020011
46 CLOUD TYPE	MISSING CODE TABLE 020012
47 HEIGHT OF BASE	MISSING M
NUMBER OF SUBSETS	1
NUMBER OF MESSAGES	1

## 3 CREX Reference Manual

### 3.1 CREX tables

#### 3.1.1 CREX Table B

CREX Table B - B000203 valid since 2006/11/01

B00001	TABLE A: ENTRY	CHARACTER	0	3
B00002	TABLE A: DATA CATEGORY DESCRIPTION, LINE 1	CHARACTER	0	32
B00003	TABLE A: DATA CATEGORY DESCRIPTION, LINE 2	CHARACTER	0	32
B00004	BUFR/CREX MASTER TABLE	CHARACTER	0	2
B00005	BUFR/CREX EDITION NUMBER	CHARACTER	0	3
B00006	BUFR MASTER TABLE VERSION NUMBER	CHARACTER	0	2
B00007	CREX MASTER TABLE VERSION NUMBER	CHARACTER	0	2
B00008	BUFR LOCAL TABLE VERSION NUMBER	CHARACTER	0	2
B00010	F DESCRIPTOR TO BE ADDED OR DEFINED	CHARACTER	0	1
B00011	X DESCRIPTOR TO BE ADDED OR DEFINED	CHARACTER	0	2
B00012	Y DESCRIPTOR TO BE ADDED OR DEFINED	CHARACTER	0	3
B00013	ELEMENT NAME, LINE 1	CHARACTER	0	32
B00014	ELEMENT NAME, LINE 2	CHARACTER	0	32
B00015	UNITS NAME	CHARACTER	0	24
B00016	UNITS SCALE SIGN	CHARACTER	0	1
B00017	UNITS SCALE	CHARACTER	0	3
B00018	UNITS REFERENCE SIGN	CHARACTER	0	1
B00019	UNITS REFERENCE VALUE	CHARACTER	0	10
B00020	ELEMENT DATA WIDTH	CHARACTER	0	3
B00030	DESCRIPTOR DEFINING SEQUENCE	CHARACTER	0	6
B01001	WMO BLOCK NUMBER	NUMERIC	0	2
B01002	WMO STATION NUMBER	NUMERIC	0	3
B01003	WMO REGION NUMBER/GEOGRAPHICAL AREA	CODE TABLE 1003	0	1
B01004	WMO REGION SUB-AREA (SEE NOTE 9)	NUMERIC	0	1
B01005	BUOY/PLATFORM IDENTIFIER	NUMERIC	0	5
B01006	AIRCRAFT FLIGHT NUMBER	CHARACTER	0	8
B01007	SATELLITE IDENTIFIER	CODE TABLE 1007	0	4
B01008	AIRCRAFT REGISTRATION NUMBER OR OTHER IDENTIFICATION	CHARACTER	0	8
B01009	TYPE OF COMMERCIAL AIRCRAFT	CHARACTER	0	8
B01010	STATIONARY BUOY PLATFORM IDENTIFIER; E.G. C-MAN BUOYS	CHARACTER	0	8
B01011	SHIP OR MOBILE LAND STATION IDENTIFIER	CHARACTER	0	9
B01012	DIRECTION OF MOTION OF MOVING OBSERVING PLATFORM**	DEGREE TRUE	0	3
B01013	SPEED OF MOTION OF MOVING OBSERVING PLATFORM*	M/S	0	3
B01014	PLATFORM DRIFT SPEED (HIGH PRECISION)	M/S	2	4
B01015	STATION OR SITE NAME	CHARACTER	0	20
B01018	SHORT STATION OR SITE NAME	CHARACTER	0	5
B01019	LONG STATION OR SITE NAME	CHARACTER	0	32
B01020	WMO REGION SUB-AREA	NUMERIC	0	2
B01021	SYNOPTIC FEATURE IDENTIFIER	NUMERIC	0	4
B01022	NAME OF FEATURE (SEE NOTE 11)	CHARACTER	0	28
B01023	OBSERVATION SEQUENCE NUMBER	NUMERIC	0	3
B01025	STORM IDENTIFIER	CHARACTER	0	3
B01026	WMO STORM NAME	CHARACTER	0	8
B01027	WMO LONG STORM NAME	CHARACTER	0	10
B01031	IDENTIFICATION OF ORIGINATING/GENERATING CENTRE (SEE NOTE 10)	CODE TABLE 1031	0	5
B01032	GENERATING APPLICATION	CODE TABLE 1032	0	3
B01033	IDENTIFICATION OF ORIGINATING/GENERATING CENTRE	CODE TABLE 1033	0	3
B01034	IDENTIFICATION OF ORIGINATING/GENERATING SUB-CENTRE	CODE TABLE 1034	0	3
B01035	ORIGINATING CENTRE	COMMON CODE TABLE C-11	0	5
B01036	AGENCY IN CHARGE OF OPERATING THE OBSERVING PLATFORM	CODE TABLE 1036	0	7
B01041	ABSOLUTE PLATFORM VELOCITY - FIRST COMPONENT (SEE NOTE 6)	M/S	5	10
B01042	ABSOLUTE PLATFORM VELOCITY - SECOND COMPONENT (SEE NOTE 6)	M/S	5	10
B01043	ABSOLUTE PLATFORM VELOCITY - THIRD COMPONENT (SEE NOTE 6)	M/S	5	10
B01050	PLATFORM TRANSMITTER ID NUMBER	NUMERIC	0	6
B01051	PLATFORM TRANSMITTER ID NUMBER	CHARACTER	0	12
B01060	AIRCRAFT REPORTING POINT (BEACON IDENTIFIER)	CHARACTER	0	8
B01062	SHORT ICAO LOCATION INDICATOR	CHARACTER	0	4
B01063	ICAO LOCATION INDICATOR	CHARACTER	0	8
B01064	RUNWAY DESIGNATOR	CHARACTER	0	4
B01075	TIDE STATION IDENTIFICATION	CHARACTER	0	5
B01080	SHIP LINE NUMBER ACCORDING TO SOOP	CHARACTER	0	4
B01081	RADIOSONDE SERIAL NUMBER	CHARACTER	0	20
B01082	RADIOSONDE ASCENSION NUMBER (SEE NOTE 12)	NUMERIC	0	4
B01083	RADIOSONDE RELEASE NUMBER (SEE NOTE 12)	NUMERIC	0	1
B01085	OBSERVING PLATFORM MANUFACTURER'S MODEL	CHARACTER	0	20
B01086	OBSERVING PLATFORM MANUFACTURER'S SERIAL NUMBER	CHARACTER	0	32
B01087	WMO MARINE OBSERVING PLATFORM EXTENDED IDENTIFIER	NUMERIC	0	7
B01090	TECHNIQUE FOR MAKING UP INITIAL PERTURBATIONS	CODE TABLE 1090	0	3
B01091	ENSEMBLE MEMBER NUMBER	NUMERIC	0	4
B01092	TYPE OF ENSEMBLE FORECAST	CODE TABLE 1092	0	3
B01093	BALLOON LOT NUMBER	CHARACTER	0	12
B01094	WBAN NUMBER	NUMERIC	0	5
B01095	OBSERVER IDENTIFICATION	CHARACTER	0	4
B01096	STATION ACQUISITION	CHARACTER	0	20
B02001	TYPE OF STATION	CODE TABLE 2001	0	1

B02002	TYPE OF INSTRUMENTATION FOR WIND MEASUREMENT	FLAG TABLE 2002	0	2
B02003	TYPE OF MEASURING EQUIPMENT USED	CODE TABLE 2003	0	2
B02004	TYPE OF INSTRUMENTATION FOR EVAPORATION MEASUREMENT OR TYPE OF C	CODE TABLE 2004	0	2
B02005	PRECISION OF TEMPERATURE OBSERVATION	K	2	3
B02011	RADIOSONDE TYPE	CODE TABLE 2011	0	3
B02012	RADIOSONDE COMPUTATIONAL METHOD	CODE TABLE 2012	0	2
B02013	SOLAR AND INFRARED RADIATION CORRECTION	CODE TABLE 2013	0	2
B02014	TRACKING TECHNIQUE/STATUS OF SYSTEM USED	CODE TABLE 2014	0	3
B02015	RADIOSONDE COMPLETENESS	CODE TABLE 2015	0	2
B02016	RADIOSONDE CONFIGURATION	FLAG TABLE 2016	0	2
B02019	SATELLITE INSTRUMENTS	CODE TABLE 2019	0	4
B02020	SATELLITE CLASSIFICATION	CODE TABLE 2020	0	3
B02021	SATELLITE INSTRUMENT DATA USED IN PROCESSING	FLAG TABLE 2021	0	3
B02022	SATELLITE DATA-PROCESSING TECHNIQUE USED	FLAG TABLE 2022	0	3
B02023	SATELLITE DERIVED WIND COMPUTATION METHOD	CODE TABLE 2023	0	2
B02024	INTEGRATED MEAN HUMIDITY COMPUTATIONAL METHOD	CODE TABLE 2024	0	2
B02025	SATELLITE CHANNEL(S) USED IN COMPUTATION	FLAG TABLE 2025	0	9
B02026	CROSS TRACK RESOLUTION	M	2	4
B02027	ALONG TRACK RESOLUTION	M	2	4
B02028	SEGMENT SIZE AT NADIR IN X DIRECTION	M	0	6
B02029	SEGMENT SIZE AT NADIR IN Y DIRECTION	M	0	6
B02030	METHOD OF CURRENT MEASUREMENT	CODE TABLE 2030	0	1
B02031	DURATION AND TIME OF CURRENT MEASUREMENT	CODE TABLE 2031	0	2
B02032	INDICATOR FOR DIGITIZATION	CODE TABLE 2032	0	1
B02033	METHOD OF SALINITY/DEPTH MEASUREMENT	CODE TABLE 2033	0	1
B02034	DROGUE TYPE	CODE TABLE 2034	0	2
B02035	CABLE LENGTH	M	0	3
B02036	BUOY TYPE	CODE TABLE 2036	0	1
B02037	METHOD OF TIDAL OBSERVATION	CODE TABLE 2037	0	1
B02038	METHOD OF WATER TEMPERATURE AND/OR SALINITY MEASUREMENT	CODE TABLE 2038	0	2
B02039	METHOD OF WET-BULB TEMPERATURE MEASUREMENT	CODE TABLE 2039	0	1
B02040	METHOD OF REMOVING VELOCITY AND MOTION OF PLATFORM FROM CURRENT	CODE TABLE 2040	0	2
B02041	METHOD FOR ESTIMATING REPORTS RELATED TO SYNOPTIC FEATURES	CODE TABLE 2041	0	2
B02042	INDICATOR FOR SEA SURFACE CURRENT SPEED	CODE TABLE 2042	0	1
B02044	INDICATOR FOR METHOD OF CALCULATING SPECTRAL WAVE DATA	CODE TABLE 2044	0	2
B02045	INDICATOR FOR TYPE OF PLATFORM	CODE TABLE 2045	0	2
B02046	WAVE MEASUREMENT INSTRUMENTATION	CODE TABLE 2046	0	2
B02048	SATELLITE SENSOR INDICATOR	CODE TABLE 2048	0	2
B02049	GEOSTATIONARY SATELLITE DATA-PROCESSING TECHNIQUE USED	FLAG TABLE 2049	0	3
B02050	GEOSTATIONARY SOUNDER SATELLITE CHANNELS USED	FLAG TABLE 2050	0	7
B02051	INDICATOR TO SPECIFY OBSERVING METHOD FOR EXTREME TEMPERATURES	CODE TABLE 2051	0	2
B02052	GEOSTATIONARY IMAGER SATELLITE CHANNELS USED	FLAG TABLE 2052	0	2
B02053	GOES-I/M BRIGHTNESS TEMPERATURE CHARACTERISTICS	CODE TABLE 2053	0	2
B02054	GOES-I/M SOUNDINGS PARAMETER CHARACTERISTICS	CODE TABLE 2054	0	2
B02055	GEOSTATIONARY SOUNDINGS STATISTICAL PARAMETERS	CODE TABLE 2055	0	2
B02056	GEOSTATIONARY SOUNDINGS ACCURACY STATISTICS	CODE TABLE 2056	0	2
B02057	ORIGIN OF FIRST GUESS INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2057	0	2
B02058	VALID TIMES OF FIRST GUESS INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2058	0	2
B02059	ORIGIN OF ANALYSIS INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2059	0	2
B02060	ORIGIN OF SURFACE INFORMATION FOR GOES-I/M SOUNDINGS	CODE TABLE 2060	0	2
B02061	AIRCRAFT NAVIGATIONAL SYSTEM	CODE TABLE 2061	0	1
B02062	TYPE OF AIRCRAFT DATA RELAY SYSTEM	CODE TABLE 2062	0	2
B02063	AIRCRAFT ROLL ANGLE	DEGREE	2	5
B02064	AIRCRAFT ROLL ANGLE QUALITY	CODE TABLE 2064	0	1
B02065	ACARS GROUND RECEIVING STATION	CHARACTER	0	5
B02066	RADIOSONDE GROUND RECEIVING SYSTEM	CODE TABLE 2066	0	2
B02067	RADIOSONDE OPERATING FREQUENCY	Hz	-5	5
B02070	ORIGINAL SPECIFICATION OF LATITUDE/LONGITUDE	CODE TABLE 2070	0	2
B02080	BALLOON MANUFACTURER	CODE TABLE 2080	0	2
B02081	TYPE OF BALLOON	CODE TABLE 2081	0	2
B02082	WEIGHT OF BALLOON	KG	3	4
B02083	TYPE OF BALLOON SHELTER	CODE TABLE 2083	0	2
B02084	TYPE OF GAS USED IN BALLOON	CODE TABLE 2084	0	2
B02085	AMOUNT OF GAS USED IN BALLOON	KG	3	4
B02086	BALLOON FLIGHT TRAIN LENGTH	M	1	4
B02091	ENTRY SENSOR 4/20 MA	A	4	3
B02095	TYPE OF PRESSURE SENSOR	CODE TABLE 2095	0	2
B02096	TYPE OF TEMPERATURE SENSOR	CODE TABLE 2096	0	2
B02097	TYPE OF HUMIDITY SENSOR	CODE TABLE 2097	0	2
B02100	RADAR CONSTANT	dB	1	4
B02101	TYPE OF ANTENNA	CODE TABLE 2101	0	2
B02102	ANTENNA HEIGHT ABOVE TOWER BASE	M	0	3
B02103	RADOME	FLAG TABLE 2103	0	1
B02104	ANTENNA POLARISATION	CODE TABLE 2104	0	2
B02105	MAXIMUM ANTENNA GAIN	dB	0	2
B02106	3-DB BEAMWIDTH	DEGREE	1	2
B02107	SIDELobe SUPPRESSION	dB	0	2
B02108	CROSSPOL DISCRIMINATION (ON AXIS)	dB	0	2
B02109	ANTENNA SPEED (AZIMUTH)	DEGREE/S	2	4
B02110	ANTENNA SPEED (ELEVATION)	DEGREE/S	2	4
B02111	RADAR INCIDENCE ANGLE	DEGREE	1	4
B02112	RADAR LOOK ANGLE	DEGREE	1	4
B02113	NUMBER OF AZIMUTH LOOKS	NUMERIC	0	2
B02114	ANTENNA EFFECTIVE SURFACE AREA	M**2	0	5
B02115	TYPE OF SURFACE OBSERVING EQUIPMENT	CODE TABLE 2115	0	2
B02116	PERCENTAGE OF 320 MHZ BAND PROCESSED	%	0	3
B02117	PERCENTAGE OF 80 MHZ BAND PROCESSED	%	0	3
B02118	PERCENTAGE OF 20 MHZ BAND PROCESSED	%	0	3
B02119	RA-2 INSTRUMENT OPERATIONS	CODE TABLE 2119	0	1
B02120	OCEAN WAVE FREQUENCY	Hz	3	4
B02121	MEAN FREQUENCY	Hz	-8	3
B02122	FREQUENCY AGILITY RANGE	Hz	-6	3
B02123	PEAK POWER	W	-4	3

B02124	AVERAGE POWER	W	-1	3
B02125	PULSE REPETITION FREQUENCY	Hz	-1	3
B02126	PULSE WIDTH	S	7	2
B02127	RECEIVER INTERMEDIATE FREQUENCY	Hz	-6	3
B02128	INTERMEDIATE FREQUENCY BANDWIDTH	Hz	-5	2
B02129	MINIMUM DETECTABLE SIGNAL	dB	0	3
B02130	DYNAMIC RANGE	dB	0	3
B02131	SENSITIVITY TIME CONTROL (STC)	FLAG TABLE 2131	0	1
B02132	AZIMUTH POINTING ACCURACY	DEGREE	2	2
B02133	ELEVATION POINTING ACCURACY	DEGREE	2	2
B02134	ANTENNA BEAM AZIMUTH	DEGREE	2	5
B02135	ANTENNA ELEVATION	DEGREE	2	5
B02136	RANGE PROCESSED BY RANGE ATTENUATION CORRECTION	M	-3	5
B02140	SATELLITE RADAR BEAM AZIMUTH ANGLE	DEGREE	0	3
B02141	MEASUREMENT TYPE	CHARACTER	0	3
B02142	OZONE INSTRUMENT SERIAL NUMBER/ IDENTIFICATION	CHARACTER	0	4
B02143	OZONE INSTRUMENT TYPE	CODE TABLE 2143	0	3
B02144	LIGHT SOURCE TYPE FOR BREWER SPECTRO PHOTOMETER	CODE TABLE 2144	0	2
B02145	WAVE LENGTH SETTING FOR DOBSON INSTRUMENTS	CODE TABLE 2145	0	2
B02146	SOURCE CONDITIONS FOR DOBSON INSTRUMENTS	CODE TABLE 2146	0	2
B02148	DATA COLLECTION AND/OR LOCATION SYSTEM	CODE TABLE 2148	0	2
B02149	TYPE OF DATA BUOY	CODE TABLE 2149	0	2
B02150	TOVS/ATOVS/AVHRR INSTRUMENTATION CHANNEL NUMBER	CODE TABLE 2150	0	2
B02151	RADIOMETER IDENTIFIER	CODE TABLE 2151	0	4
B02152	SATELLITE INSTRUMENT USED IN DATA PROCESSING(6)	FLAG TABLE 2152	0	10
B02153	SATELLITE CHANNEL CENTRE FREQUENCY	Hz	-8	8
B02154	SATELLITE CHANNEL BAND WIDTH	Hz	-8	8
B02156	PERCENTAGE OF VALID KU OCEAN RETRACKER MEASUREMENTS	%	0	3
B02157	PERCENTAGE OF VALID S OCEAN RETRACKER MEASUREMENTS	%	0	3
B02158	RA-2 INSTRUMENT	FLAG TABLE 2158	0	3
B02159	MWR INSTRUMENT	FLAG TABLE 2159	0	3
B02160	WAVE LENGTH OF THE RADAR	CODE TABLE 2160	0	2
B02163	HEIGHT ASSIGNMENT METHOD	CODE TABLE 2163	0	2
B02164	TRACER CORRELATION METHOD	CODE TABLE 2164	0	1
B02166	RADIANCE TYPE	CODE TABLE 2166	0	2
B02167	RADIANCE COMPUTATIONAL METHOD	CODE TABLE 2167	0	2
B02168	HYDROSTATIC PRESSURE OF LOWER END OF CABLE (THERMISTOR STRING)	KPA	0	5
B02169	ANEMOMETER TYPE	CODE TABLE 2169	0	2
B02172	PRODUCT TYPE FOR RETRIEVED ATMOSPHERIC GASES	CODE TABLE 2172	0	3
B02173	SQUARE OF THE OFF NADIR ANGLE (7)	DEGREE2	4	4
B02174	MEAN ACROSS TRACK PIXEL NUMBER	NUMERIC	0	3
B02175	METHOD OF PRECIPITATION MEASUREMENT	CODE TABLE 2175	0	2
B02176	METHOD OF STATE OF GROUND MEASUREMENT	CODE TABLE 2176	0	2
B02177	METHOD OF SNOW DEPTH MEASUREMENT	CODE TABLE 2177	0	2
B02178	METHOD OF LIQUID CONTENT MEASUREMENT OF PRECIPITATION	CODE TABLE 2178	0	2
B02179	TYPE OF SKY CONDITION ALGORITHM	CODE TABLE 2179	0	2
B02180	MAIN PRESENT WEATHER DETECTING SYSTEM	CODE TABLE 2180	0	2
B02181	SUPPLEMENTARY PRESENT WEATHER SENSOR	FLAG TABLE 2181	0	7
B02182	VISIBILITY MEASUREMENT SYSTEM	CODE TABLE 2182	0	2
B02183	CLOUD DETECTION SYSTEM	CODE TABLE 2183	0	2
B02184	TYPE OF LIGHTNING DETECTION SENSOR	CODE TABLE 2184	0	2
B02185	METHOD OF EVAPORATION MEASUREMENT	CODE TABLE 2185	0	2
B02186	CAPABILITY TO DETECT PRECIPITATION PHENOMENA	FLAG TABLE 2186	0	10
B02187	CAPABILITY TO DETECT OTHER WEATHER PHENOMENA	FLAG TABLE 2187	0	6
B02188	CAPABILITY TO DETECT OBSCURATION	FLAG TABLE 2188	0	7
B02189	CAPABILITY TO DISCRIMINATE LIGHTNING STRIKES	FLAG TABLE 2189	0	4
B04001	YEAR	YEAR	0	4
B04002	MONTH	MONTH	0	2
B04003	DAY	DAY	0	2
B04004	HOURL	HOURL	0	2
B04005	MINUTE	MINUTE	0	2
B04006	SECOND	SECOND	0	2
B04007	SECONDS WITHIN A MINUTE (MICROSECOND ACCURACY)	S	6	8
B04011	TIME INCREMENT	YEAR	0	4
B04012	TIME INCREMENT	MONTH	0	4
B04013	TIME INCREMENT	DAY	0	4
B04014	TIME INCREMENT	HOURL	0	4
B04015	TIME INCREMENT	MINUTE	0	4
B04016	TIME INCREMENT	SECOND	0	4
B04017	REFERENCE TIME PERIOD FOR ACCUMULATED OR EXTREME DATA	MINUTE	0	4
B04021	TIME PERIOD OR DISPLACEMENT	YEAR	0	4
B04022	TIME PERIOD OR DISPLACEMENT	MONTH	0	4
B04023	TIME PERIOD OR DISPLACEMENT	DAY	0	4
B04024	TIME PERIOD OR DISPLACEMENT	HOURL	0	4
B04025	TIME PERIOD OR DISPLACEMENT	MINUTE	0	4
B04026	TIME PERIOD OR DISPLACEMENT	SECOND	0	4
B04031	DURATION OF TIME RELATING TO FOLLOWING VALUE	HOURL	0	3
B04032	DURATION OF TIME RELATING TO FOLLOWING VALUE	MINUTE	0	2
B04041	TIME DIFFERENCE, UTC -LMT (SEE NOTE 6)	MINUTE	0	4
B04043	DAY OF THE YEAR	DAY	0	3
B04051	PRINCIPAL TIME OF DAILY READING OF MAXIMUM TEMPERATURE	HOURL	0	2
B04052	PRINCIPAL TIME OF DAILY READING OF MINIMUM TEMPERATURE	HOURL	0	2
B04053	NUMBER OF DAYS WITH PRECIPITATION EQUAL TO OR MORE THAN 1 MM	NUMERIC	0	2
B04059	TIMES OF OBSERVATION USED TO COMPUTE THE REPORTED MEAN VALUES	FLAG TABLE 4059	0	2
B04065	SHORT TIME INCREMENT	MINUTE	0	2
B04073	SHORT TIME PERIOD OR DISPLACEMENT	DAY	0	2
B04074	SHORT TIME PERIOD OR DISPLACEMENT	HOURL	0	2
B04075	SHORT TIME PERIOD OR DISPLACEMENT	MINUTE	0	2
B04080	AVERAGING PERIOD FOR FOLLOWING VALUE	CODE TABLE 4080	0	2
B04086	LONG TIME PERIOD OR DISPLACEMENT	SECOND	0	5
B05001	LATITUDE (HIGH ACCURACY)	DEGREE	5	7
B05002	LATITUDE (COARSE ACCURACY)	DEGREE	2	4
B05011	LATITUDE INCREMENT (HIGH ACCURACY)	DEGREE	5	7

B05012	LATITUDE INCREMENT (COARSE ACCURACY)	DEGREE	2	4
B05015	LATITUDE DISPLACEMENT (HIGH ACCURACY)	DEGREE	5	7
B05016	LATITUDE DISPLACEMENT (COARSE ACCURACY)	DEGREE	2	4
B05021	BEARING OR AZIMUTH	DEGREE TRUE	2	5
B05022	SOLAR AZIMUTH	DEGREE TRUE	2	5
B05023	SUN TO SATELLITE AZIMUTH DIFFERENCE	DEGREE	1	4
B05030	DIRECTION (SPECTRAL)	DEGREE	0	4
B05031	ROW NUMBER	NUMERIC	0	4
B05033	PIXEL SIZE ON HORIZONTAL - 1	M	-1	5
B05034	ALONG TRACK ROW NUMBER	NUMERIC	0	4
B05036	SHIP TRANSECT NUMBER ACCORDING TO SOOP	NUMERIC	0	2
B05040	ORBIT NUMBER	NUMERIC	0	8
B05041	SCAN LINE NUMBER	NUMERIC	0	3
B05042	CHANNEL NUMBER	NUMERIC	0	2
B05043	FIELD OF VIEW NUMBER	NUMERIC	0	3
B05044	SATELLITE CYCLE NUMBER	NUMERIC	0	4
B05052	CHANNEL NUMBER INCREMENT	NUMERIC	0	2
B05053	FIELD OF VIEW NUMBER INCREMENT	NUMERIC	0	2
B05060	Y ANGULAR POSITION FROM CENTRE OF GRAVITY	DEGREE	6	8
B05061	Z ANGULAR POSITION FROM CENTRE OF GRAVITY	DEGREE	6	8
B06001	LONGITUDE (HIGH ACCURACY)	DEGREE	5	8
B06002	LONGITUDE (COARSE ACCURACY)	DEGREE	2	5
B06011	LONGITUDE INCREMENT (HIGH ACCURACY)	DEGREE	5	8
B06012	LONGITUDE INCREMENT (COARSE ACCURACY)	DEGREE	2	5
B06015	LONGITUDE DISPLACEMENT (HIGH ACCURACY)	DEGREE	5	8
B06016	LONGITUDE DISPLACEMENT (COARSE ACCURACY)	DEGREE	2	5
B06021	DISTANCE	M	-1	4
B06030	WAVE NUMBER (SPECTRAL)	RAD/M	5	4
B06031	COLUMN NUMBER	NUMERIC	0	4
B06033	PIXEL SIZE ON HORIZONTAL - 2	M	-1	5
B06034	CROSS-TRACK CELL NUMBER	NUMERIC	0	3
B06040	RADIUS OF CONFIDENCE	M	0	4
B07001	HEIGHT OF STATION (SEE NOTE 1)	M	0	5
B07002	HEIGHT OR ALTITUDE	M	-1	5
B07003	GEOPOTENTIAL	M**2/S**2	-1	6
B07004	PRESSURE	PA	-1	5
B07005	HEIGHT INCREMENT	M	0	4
B07006	HEIGHT ABOVE STATION	M	0	5
B07007	HEIGHT	M	0	6
B07008	GEOPOTENTIAL	M**2/S**2	0	7
B07009	GEOPOTENTIAL HEIGHT	GPM	0	5
B07010	FLIGHT LEVEL	FT	-1	5
B07021	ELEVATION (SEE NOTE 2)	DEGREE	2	5
B07022	SOLAR ELEVATION	DEGREE	2	5
B07024	SATELLITE ZENITH ANGLE	DEGREE	2	5
B07025	SOLAR ZENITH ANGLE	DEGREE	2	5
B07026	SATELLITE ZENITH ANGLE	DEGREE	4	7
B07030	HEIGHT OF STATION GROUND ABOVE MEAN SEA LEVEL (SEE NOTE 3)	M	1	5
B07031	HEIGHT OF BAROMETER ABOVE MEAN SEA LEVEL (SEE NOTE 4)	M	1	5
B07032	HEIGHT OF SENSOR ABOVE LOCAL GROUND (OR DECK OF MARINE PLATFORM)	M	2	5
B07033	HEIGHT OF SENSOR ABOVE WATER SURFACE (SEE NOTE 6)	M	1	4
B07040	IMPACT PARAMETER (SEE NOTE 8)	M	1	8
B07061	DEPTH BELOW LAND SURFACE	M	2	5
B07062	DEPTH BELOW SEA/WATER SURFACE	M	1	6
B07063	DEPTH BELOW SEA/WATER SURFACE	M	2	7
B07064	REPRESENTATIVE HEIGHT OF SENSOR ABOVE STATION (SEE NOTE 7)	M	0	2
B07065	WATER PRESSURE	PA	0	6
B07070	DROGUE DEPTH	M	0	4
B08001	VERTICAL SOUNDING SIGNIFICANCE	FLAG TABLE 8001	0	3
B08002	VERTICAL SIGNIFICANCE (SURFACE OBSERVATIONS)	CODE TABLE 8002	0	2
B08003	VERTICAL SIGNIFICANCE (SATELLITE OBSERVATIONS)	CODE TABLE 8003	0	2
B08004	PHASE OF AIRCRAFT FLIGHT	CODE TABLE 8004	0	1
B08005	METEOROLOGICAL ATTRIBUTE SIGNIFICANCE	CODE TABLE 8005	0	2
B08006	OZONE VERTICAL SOUNDING SIGNIFICANCE	FLAG TABLE 8006	0	3
B08007	DIMENSIONAL SIGNIFICANCE	CODE TABLE 8007	0	2
B08008	RADIATION VERTICAL SOUNDING SIGNIFICANCE	FLAG TABLE 8008	0	3
B08009	DETAILED PHASE OF FLIGHT	CODE TABLE 8009	0	2
B08010	SURFACE QUALIFIER (TEMPERATURE DATA)	CODE TABLE 8010	0	2
B08011	METEOROLOGICAL FEATURE	CODE TABLE 8011	0	2
B08012	LAND/SEA QUALIFIER	CODE TABLE 8012	0	1
B08013	DAY/NIGHT QUALIFIER	CODE TABLE 8013	0	1
B08014	QUALIFIER FOR RUNWAY VISUAL RANGE	CODE TABLE 8014	0	2
B08016	CHANGE QUALIFIER OF A TREND-TYPE FORECAST OR AN AERODROME FORECA	CODE TABLE 8016	0	1
B08017	QUALIFIER OF THE TIME WHEN THE FORECAST CHANGE IS EXPECTED	CODE TABLE 8017	0	1
B08018	SEAWINDS LAND/ICE SURFACE TYPE	FLAG TABLE 8018	0	6
B08020	TOTAL NUMBER OF MISSING ENTITIES (WITH RESPECT TO ACCUMULATION O	NUMERIC	0	5
B08021	TIME SIGNIFICANCE	CODE TABLE 8021	0	2
B08022	TOTAL NUMBER (WITH RESPECT TO ACCUMULATION OR AVERAGE)	NUMERIC	0	5
B08023	FIRST ORDER STATISTICS	CODE TABLE 8023	0	2
B08024	DIFFERENCE STATISTICS	CODE TABLE 8024	0	2
B08025	TIME DIFFERENCE QUALIFIER	CODE TABLE 8025	0	2
B08029	REMOTLY SENSED SURFACE TYPE	CODE TABLE 8029	0	3
B08030	MANUAL ON CODES (VOLUME I.1, SECTION C) CODE TABLE FROM WHICH DA	NUMERIC	0	4
B08031	DATA CATEGORY CREX TABLE A	NUMERIC	0	3
B08033	METHOD OF DERIVATION OF PERCENTAGE CONFIDENCE	CODE TABLE 8033	0	3
B08035	TYPE OF MONITORING EXERCISE	CODE TABLE 8035	0	1
B08036	TYPE OF CENTRE OR STATION PERFORMING MONITORING	CODE TABLE 8036	0	1
B08039	TIME SIGNIFICANCE ( AVIATION FORECAST)	CODE TABLE 8039	0	2
B08040	FLIGHT LEVEL SIGNIFICANCE	CODE TABLE 8040	0	2
B08041	DATA SIGNIFICANCE	CODE TABLE 8041	0	2
B08042	EXTENDED VERTICAL SOUNDING SIGNIFICANCE	FLAG TABLE 8042	0	6
B08049	NUMBER OF OBSERVATIONS	NUMERIC	0	3
B08050	QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATIST	CODE TABLE 8050	0	2

B08051	QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATIST	CODE TABLE 8051	0	1
B08052	CONDITION FOR WHICH NUMBER OF DAYS OF OCCURRENCE FOLLOWS	CODE TABLE 8052	0	2
B08053	DAY OF OCCURRENCE QUALIFIER	CODE TABLE 8053	0	1
B08054	QUALIFIER FOR WIND SPEED OR WIND GUST	CODE TABLE 8054	0	1
B08060	SAMPLE SCANNING MODE SIGNIFICANCE	CODE TABLE 8060	0	2
B08065	SUN-GLINT INDICATOR	CODE TABLE 8065	0	1
B08066	SEMI-TRANSPARENCY INDICATOR	CODE TABLE 8066	0	1
B08070	TOVS/ATOVS PRODUCT QUALIFIER	CODE TABLE 8070	0	2
B08072	PIXEL(S) TYPE	CODE TABLE 8072	0	1
B08074	ALTIMETER ECHO TYPE	CODE TABLE 8074	0	1
B08075	ASCENDING/DESCENDING ORBIT QUALIFIER	CODE TABLE 8075	0	1
B08076	TYPE OF BAND	CODE TABLE 8076	0	2
B08079	AVIATION PRODUCT STATUS	CODE TABLE 8079	0	2
B08081	TYPE OF EQUIPMENT	CODE TABLE 8081	0	2
B08082	(CBS) ARTIFICIAL CORRECTION OF SENSOR HEIGHT TO ANOTHER VALUE	CODE TABLE 8082	0	1
B08083	NOMINAL VALUE INDICATOR	FLAG TABLE 8083	0	5
B08085	BEAM IDENTIFIER	CODE TABLE 8085	0	1
B08193	TIME QUALIFIER	CODE TABLE 8193	0	2
B08194	TOVS/ATOVS PRODUCT QUALIFIER	CODE TABLE 8194	0	2
B08195	DATA TYPE	CODE TABLE 8195	0	3
B10001	HEIGHT OF LAND SURFACE	M	0	5
B10002	HEIGHT	M	-1	5
B10003	GEOPOTENTIAL	M**2/S**2	-1	6
B10004	PRESSURE	PA	-1	5
B10007	HEIGHT	M	0	6
B10008	GEOPOTENTIAL	M**2/S**2	0	7
B10009	GEOPOTENTIAL HEIGHT	GPM	0	5
B10010	MINIMUM PRESSURE REDUCED TO MEAN SEA LEVEL	PA	-1	5
B10011	MAXIMUM PRESSURE REDUCED TO MEAN SEA LEVEL	PA	-1	5
B10031	IN DIRECTION OF THE NORTH POLE, DISTANCE FROM THE EARTH'S CENTRE	M	2	10
B10032	SATELLITE DISTANCE TO EARTH'S CENTRE	M	2	9
B10033	ALTITUDE (PLATFORM TO ELLIPSOID)	M	2	9
B10034	EARTH RADIUS	M	2	9
B10035	EARTH'S LOCAL RADIUS OF CURVATURE	M	1	8
B10036	GEOID UNDULATION (SEE NOTE 4)	M	2	6
B10040	NUMBER OF RETRIEVED LAYERS	NUMERIC	0	4
B10050	STANDARD DEVIATION ALTITUDE	M	2	5
B10051	PRESSURE REDUCED TO MEAN SEA LEVEL	PA	-1	5
B10052	ALTIMETER SETTING (QNH)	PA	-1	5
B10060	PRESSURE CHANGE	PA	-1	4
B10061	3-HOUR PRESSURE CHANGE	PA	-1	4
B10062	24-HOUR PRESSURE CHANGE	PA	-1	4
B10063	CHARACTERISTIC OF PRESSURE TENDENCY	CODE TABLE 10063	0	2
B10070	INDICATED AIRCRAFT ALTITUDE	M	0	5
B10080	VIEWING ZENITH ANGLE	DEGREE	2	5
B10081	ALTITUDE OF COG ABOVE REFERENCE ELLIPSOID	M	3	10
B10082	INSTANTANEOUS ALTITUDE RATE	MS-1	3	6
B10083	SQUARED OFF NADIR ANGLE OF THE SATELLITE FROM PLATFORM DATA	DEGREE2	2	5
B10084	SQUARED OFF NADIR ANGLE OF THE SATELLITE FROM WAVEFORM DATA	DEGREE2	2	5
B10085	MEAN SEA SURFACE HEIGHT	M	3	6
B10086	GEOID'S HEIGHT	M	3	6
B10087	OCEAN DEPTH/LAND ELEVATION	M	3	6
B10088	TOTAL GEOCENTRIC OCEAN TIDE HEIGHT SOLUTION 1	M	3	5
B10089	TOTAL GEOCENTRIC OCEAN TIDE HEIGHT SOLUTION 2	M	3	5
B10090	LONG PERIOD TIDE HEIGHT	M	3	5
B10091	TIDAL LOADING HEIGHT	M	3	5
B10092	SOLID EARTH TIDE HEIGHT	M	3	5
B10093	GEOCENTRIC POLE TIDE HEIGHT	M	3	5
B10095	HEIGHT OF ATMOSPHERE USED	M	0	5
B11001	WIND DIRECTION	DEGREE TRUE	0	3
B11002	WIND SPEED	M/S	1	4
B11003	U-COMPONENT	M/S	1	4
B11004	V-COMPONENT	M/S	1	4
B11005	W-COMPONENT	PA/S	1	4
B11006	W-COMPONENT	M/S	2	4
B11010	WIND DIRECTION ASSOCIATED WITH WIND SPEED WHICH FOLLOWS	DEGREE TRUE	0	3
B11011	WIND DIRECTION AT 10 M	DEGREE TRUE	0	3
B11012	WIND SPEED AT 10 M	M/S	1	4
B11013	WIND DIRECTION AT 5 M	DEGREE TRUE	0	3
B11014	WIND SPEED AT 5 M	M/S	1	4
B11016	EXTREME COUNTERCLOCKWISE WIND DIRECTION OF A VARIABLE WIND	DEGREE TRUE	0	3
B11017	EXTREME CLOCKWISE WIND DIRECTION OF A VARIABLE WIND	DEGREE TRUE	0	3
B11019	STEADINESS OF WIND (6)	%	0	3
B11021	RELATIVE VORTICITY	1/S	9	6
B11022	DIVERGENCE	1/S	9	6
B11023	VELOCITY POTENTIAL	M**2/S	-2	6
B11030	EXTENDED DEGREE OF TURBULENCE	CODE TABLE	0	2
B11031	DEGREE OF TURBULENCE	CODE TABLE 11031	0	2
B11032	HEIGHT OF BASE OF TURBULENCE	M	-1	5
B11033	HEIGHT OF TOP OF TURBULENCE	M	-1	5
B11034	VERTICAL GUST VELOCITY	M/S	1	4
B11035	VERTICAL GUST ACCELERATION	M/S**2	2	5
B11036	MAXIMUM DERIVED EQUIVALENT VERTICAL GUST SPEED	M/S	1	4
B11037	TURBULENCE INDEX	CODE TABLE 11037	0	2
B11038	TIME OF OCCURRENCE OF PEAK EDDY DISSIPATION RATE	CODE TABLE 11038	0	2
B11039	EXTENDED TIME OF OCCURRENCE OF PEAK EDDY DISSIPATION RATE	CODE TABLE 11039	0	2
B11040	MAXIMUM WIND SPEED (MEAN WIND)	M/S	1	4
B11041	MAXIMUM WIND GUST SPEED	M/S	1	4
B11042	MAXIMUM WIND SPEED (10-MIN MEAN WIND)	M/S	1	4
B11043	MAXIMUM WIND GUST DIRECTION	DEGREE TRUE	0	3
B11044	MEAN WIND DIRECTION FOR SURFACE - 1500 M (5000 FEET)	DEGREE TRUE	0	3
B11045	MEAN WIND SPEED FOR SURFACE - 1500 M (5000 FEET)	M/S	1	4
B11046	MAXIMUM INSTANTANEOUS WIND SPEED	M/S	1	4

B11047	MAXIMUM INSTANTANEOUS WIND SPEED OVER 10 MINUTES	M/S	1	4
B11049	STANDARD DEVIATION OF WIND DIRECTION	DEGREE TRUE	0	3
B11050	STANDARD DEVIATION OF HORIZONTAL WIND SPEED	M/S	1	4
B11051	STANDARD DEVIATION OF VERTICAL WIND SPEED	M/S	1	3
B11052	FORMAL UNCERTAINTY IN WIND SPEED	M/S	2	5
B11053	FORMAL UNCERTAINTY IN WIND DIRECTION	DEGREE TRUE	2	5
B11054	MEAN WIND DIRECTION FOR 1500 M - 3000 M	DEGREE TRUE	0	3
B11055	MEAN WIND SPEED FOR 1500 M - 3000 M	M/S	1	4
B11061	ABSOLUTE WIND SHEAR IN 1 KM LAYER BELOW	M/S	1	4
B11062	ABSOLUTE WIND SHEAR IN 1 KM LAYER ABOVE	M/S	1	4
B11070	DESIGNATOR OF THE RUNWAY AFFECTED BY WIND SHEAR (INCLUDING ALL)	CHARACTER	0	4
B11071	TURBULENT VERTICAL MOMENTUM FLUX	M**2/S**2	3	5
B11072	TURBULENT VERTICAL BUOYANCY FLUX	KM/S	3	4
B11073	TURBULENT KINETIC ENERGY	M**2/S**2	2	4
B11074	DISSIPATION ENERGY	M**2/S**2	2	4
B11075	MEAN TURBULENCE INTENSITY (EDDY DISSIPATION RATE)	M** (2/3) /S	2	3
B11076	PEAK TURBULENCE INTENSITY (EDDY DISSIPATION RATE)	M** (2/3) /S	2	3
B11077	REPORTING INTERVAL OR AVERAGING TIME FOR EDDY DISSIPATION RATE	S	0	4
B11081	MODEL WIND DIRECTION AT 10M	DEGREE TRUE	2	5
B11082	MODEL WIND SPEED AT 10M	M/S	2	4
B11083	WIND SPEED	KM/HOUR	0	3
B11084	WIND SPEED	KNOT	0	3
B11085	MAXIMUM WIND GUST SPEED	KM/HOUR	0	3
B11086	MAXIMUM WIND GUST SPEED	KNOT	0	3
B11095	U COMPONENT OF THE MODEL WIND VECTOR	M/S	1	4
B11096	V COMPONENT OF THE MODEL WIND VECTOR	M/S	1	4
B12001	TEMPERATURE/DRY-BULB TEMPERATURE	C	1	3
B12002	WET-BULB TEMPERATURE	C	1	3
B12003	DEW-POINT TEMPERATURE	C	1	3
B12004	DRY-BULB TEMPERATURE AT 2 M	C	1	3
B12005	WET-BULB TEMPERATURE AT 2 M	C	1	3
B12006	DEW-POINT TEMPERATURE AT 2 M	C	1	3
B12007	VIRTUAL TEMPERATURE	C	1	3
B12011	MAXIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	1	3
B12012	MINIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	1	3
B12013	GROUND MINIMUM TEMPERATURE, PAST 12 HOURS	C	1	3
B12014	MAXIMUM TEMPERATURE AT 2 M, PAST 12 HOURS	C	1	3
B12015	MINIMUM TEMPERATURE AT 2 M, PAST 12 HOURS	C	1	3
B12016	MAXIMUM TEMPERATURE AT 2 M, PAST 24 HOURS	C	1	3
B12017	MINIMUM TEMPERATURE AT 2 M, PAST 24 HOURS	C	1	3
B12021	MAXIMUM TEMPERATURE AT 2M	C	2	4
B12022	MINIMUM TEMPERATURE AT 2M	C	2	4
B12023	TEMPERATURE	C	0	2
B12024	DEW POINT TEMPERATURE	C	0	2
B12030	SOIL TEMPERATURE	C	1	3
B12049	TEMPERATURE CHANGE OVER SPECIFIED PERIOD	C	0	2
B12051	STANDARD DEVIATION TEMPERATURE	C	1	3
B12052	HIGHEST DAILY MEAN TEMPERATURE	C	1	3
B12053	LOWEST DAILY MEAN TEMPERATURE	C	1	3
B12061	SKIN TEMPERATURE	C	1	3
B12062	EQUIVALENT BLACK BODY TEMPERATURE	C	1	3
B12063	BRIGHTNESS TEMPERATURE	C	1	3
B12064	INSTRUMENT TEMPERATURE	K	1	4
B12065	STANDARD DEVIATION BRIGHTNESS TEMPERATURE	K	1	4
B12070	WARM LOAD TEMPERATURE	K	2	5
B12071	COLDEST CLUSTER TEMPERATURE	K	1	4
B12072	RADIANCE	WM** (-2) SR** (-1)	6	9
B12073	TEMPERATURE	K	2	5
B12075	SPECTRAL RADIANCE	WM** (-3) SR** (-1)	-3	5
B12076	RADIANCE	WM** (-2) SR** (-1)	3	5
B12101	TEMPERATURE/DRY-BULB TEMPERATURE	C	2	4
B12102	WET-BULB TEMPERATURE	C	2	4
B12103	DEW-POINT TEMPERATURE	C	2	4
B12104	DRY-BULB TEMPERATURE AT 2M	C	2	4
B12105	WEB-BULB TEMPERATURE AT 2M	C	2	4
B12106	DEW-POINT TEMPERATURE AT 2M	C	2	4
B12107	VIRTUAL TEMPERATURE	C	2	4
B12111	MAXIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	2	4
B12112	MINIMUM TEMPERATURE, AT HEIGHT AND OVER PERIOD SPECIFIED	C	2	4
B12113	GROUND MINIMUM TEMPERATURE, PAST 12 HOURS	C	2	4
B12114	MAXIMUM TEMPERATURE AT 2M, PAST 12 HOURS	C	2	4
B12115	MINIMUM TEMPERATURE AT 2M, PAST 12 HOURS	C	2	4
B12116	MAXIMUM TEMPERATURE AT 2M, PAST 24 HOURS	C	2	4
B12117	MINIMUM TEMPERATURE AT 2M, PAST 24 HOURS	C	2	4
B12118	MAXIMUM TEMPERATURE AT HEIGHT SPECIFIED, PAST 24 HOURS	C	2	4
B12119	MINIMUM TEMPERATURE AT HEIGHT SPECIFIED, PAST 24 HOURS	C	2	4
B12121	GROUND MINIMUM TEMPERATURE	C	2	4
B12122	GROUND MINIMUM TEMPERATURE OF THE PRECEDING NIGHT	C	2	4
B12130	SOIL TEMPERATURE	C	2	4
B12151	STANDARD DEVIATION OF DAILY MEAN TEMPERATURE	C	2	4
B12152	HIGHEST DAILY MEAN TEMPERATURE	C	2	4
B12153	LOWEST DAILY MEAN TEMPERATURE	C	2	4
B12161	SKIN TEMPERATURE	C	2	4
B12162	EQUIVALENT BLACK BODY TEMPERATURE	C	2	4
B12163	BRIGHTNESS TEMPERATURE	C	2	4
B12164	INSTRUMENT TEMPERATURE	K	2	5
B12171	COLDEST CLUSTER TEMPERATURE	K	2	5
B12180	AVERAGED 12 MICRON BT FOR ALL CLEAR PIXELS AT NADIR	K	2	5
B12181	AVERAGED 11 MICRON BT FOR ALL CLEAR PIXELS AT NADIR	K	2	5
B12182	AVERAGED 3.7 MICRON BT FOR ALL CLEAR PIXELS AT NADIR	K	2	5
B12183	AVERAGED 12 MICRON BT FOR ALL CLEAR PIXELS, FORWARD VIEW	K	2	5
B12184	AVERAGED 11 MICRON BT FOR ALL CLEAR PIXELS, FORWARD VIEW	K	2	5
B12185	AVERAGED 3.7 MICRON BT FOR ALL CLEAR PIXELS, FORWARD VIEW	K	2	5



B12186	MEAN NADIR SEA SURFACE TEMPERATURE	K	2	5
B12187	MEAN DUAL VIEW SEA SURFACE TEMPERATURE	K	2	5
B12188	INTERPOLATED 23.8 GHZ BRIGHTNESS T FROM MWR	K	2	5
B12189	INTERPOLATED 36.5 GHZ BRIGHTNESS T FROM MWR	K	2	5
B13001	SPECIFIC HUMIDITY	KG/KG	5	5
B13002	MIXING RATIO	KG/KG	5	5
B13003	RELATIVE HUMIDITY	%	0	3
B13004	VAPOUR PRESSURE	PA	-1	4
B13005	VAPOUR DENSITY	KG/M**3	3	3
B13006	MIXING HEIGHTS	M	-1	5
B13007	MINIMUM RELATIVE HUMIDITY	%	0	3
B13008	MAXIMUM RELATIVE HUMIDITY	%	0	3
B13009	RELATIVE HUMIDITY	%	1	4
B13011	TOTAL PRECIPITATION/TOTAL WATER EQUIVALENT	KG/M**2	1	5
B13012	DEPTH OF FRESH SNOW	M	2	4
B13013	TOTAL SNOW DEPTH	M	2	5
B13014	RAINFALL/WATER EQUIVALENT OF SNOW (AVERAGED RATE)	KG/ (M**2) S	4	4
B13015	SNOWFALL (AVERAGED RATE)	M/S	7	4
B13016	PRECIPITABLE WATER	KG/M**2	0	3
B13019	TOTAL PRECIPITATION PAST 1 HOUR	KG/M**2	1	4
B13020	TOTAL PRECIPITATION PAST 3 HOURS	KG/M**2	1	5
B13021	TOTAL PRECIPITATION PAST 6 HOURS	KG/M**2	1	5
B13022	TOTAL PRECIPITATION PAST 12 HOURS	KG/M**2	1	5
B13023	TOTAL PRECIPITATION PAST 24 HOURS	KG/M**2	1	5
B13031	EVAPOTRANSPIRATION	KG/M**2	0	3
B13032	EVAPORATION/EVAPOTRANSPIRATION	KG/M**2	1	3
B13033	EVAPORATION/EVAPOTRANSPIRATION	KG/M**2	1	4
B13038	SUPERADIABATIC INDICATOR	CODE TABLE 13038	0	1
B13039	TERRAIN TYPE (ICE/SNOW)	CODE TABLE 13039	0	1
B13040	SURFACE FLAG	CODE TABLE 13040	0	2
B13041	PASQUILL-GIFFORD STABILITY CATEGORY	CODE TABLE 13041	0	2
B13042	PARCEL LIFTED INDEX (TO 500 HPA)	K	0	2
B13043	BEST LIFTED INDEX (TO 500 HPA)	K	0	2
B13044	K INDEX	K	0	3
B13045	KO INDEX	K	0	3
B13046	MAXIMUM BUOYANCY	K	0	3
B13047	MODIFIED SHOWALTER STABILITY INDEX	C	0	2
B13051	FREQUENCY GROUP, PRECIPITATION	CODE TABLE 13051	0	2
B13052	HIGHEST DAILY AMOUNT OF PRECIPITATION	KG/M**2	1	5
B13055	INTENSITY OF PRECIPITATION	MM H-1	1	3
B13056	CHARACTER AND INTENSITY OF PRECIPITATION	CODE TABLE 13056	0	2
B13057	TIME OF BEGINNING OR END OF PRECIPITATION	CODE TABLE 13057	0	2
B13058	SIZE OF PRECIPITATING ELEMENT	MM	1	3
B13059	NUMBER OF FLASHES (THUNDERSTORM)	NUMERIC	0	3
B13060	TOTAL ACCUMULATED PRECIPITATION	KG/M**2	1	5
B13071	UPSTREAM WATER LEVEL	M	2	5
B13072	DOWNSTREAM WATER LEVEL	M	2	4
B13073	MAXIMUM WATER LEVEL	M	2	4
B13080	WATER PH	pH	1	3
B13081	WATER CONDUCTIVITY	S M-1	3	4
B13082	WATER TEMPERATURE	K	1	4
B13083	DISSOLVED OXYGEN	KG/M**3	6	5
B13084	TURBIDITY	LUMEN	0	4
B13085	OXYDATION REDUCTION POTENTIAL (ORP)	V	3	4
B13090	RADIOMETER WATER VAPOUR CONTENT	KG/M**2	1	4
B13091	RADIOMETER LIQUID CONTENT	KG/M**2	2	3
B13093	CLOUD OPTICAL THICKNESS	NUMERIC	0	3
B13095	TOTAL COLUMN WATER VAPOUR	KG/M**2	4	6
B13096	MWR WATER VAPOUR CONTENT	KG/M**2	2	4
B13097	MWR LIQUID WATER CONTENT	KG/M**2	2	4
B13098	INTEGRATED WATER VAPOUR DENSITY	KG/M**2	8	10
B14001	LONG-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14002	LONG-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14003	SHORT-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14004	SHORT-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14011	NET LONG-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14012	NET LONG-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14013	NET SHORT-WAVE RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-3	4
B14014	NET SHORT-WAVE RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-3	4
B14015	NET RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14016	NET RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14017	INSTANTANEOUS LONG-WAVE RADIATION (SEE NOTE 6)	W/M**2	-3	4
B14018	INSTANTANEOUS SHORT-WAVE RADIATION (SEE NOTE 6)	W/M**2	-3	4
B14019	SURFACE ALBEDO	%	0	3
B14020	GLOBAL SOLAR RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14021	GLOBAL SOLAR RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14022	DIFFUSE SOLAR RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14023	DIFFUSE SOLAR RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14024	DIRECT SOLAR RADIATION, INTEGRATED OVER 24 HOURS	J/M**2	-4	5
B14025	DIRECT SOLAR RADIATION, INTEGRATED OVER PERIOD SPECIFIED	J/M**2	-4	5
B14026	ALBEDO AT THE TOP OF CLOUDS	%	0	3
B14027	ALBEDO	%	0	3
B14028	GLOBAL SOLAR RADIATION (HIGH ACCURACY), INTEGRATED OVER PERIOD S	J/M**2	-2	5
B14029	DIFFUSE SOLAR RADIATION (HIGH ACCURACY), INTEGRATED OVER PERIOD	J/M**2	-2	5
B14030	DIRECT SOLAR RADIATION (HIGH ACCURACY), INTEGRATED OVER PERIOD S	J/M**2	-2	5
B14031	TOTAL SUNSHINE	MINUTE	0	4
B14032	TOTAL SUNSHINE	HOURL	0	4
B14033	TOTAL SUNSHINE	%	0	3
B14034	SUNSHINE OVER PERIOD SPECIFIED	MINUTE	0	4
B14042	BI-DIRECTIONAL REFLECTANCE	%	0	3
B14045	CHANNEL RADIANCE	WM-2SR-1CM-1	0	4
B14046	SCALED IASI RADIANCE	(W/M**2) * (1/SR) * (1/M)	0	5
B14047	SCALED MEAN AVHRR RADIANCE	(W/M**2) * (1/SR) * (1/M)	0	10

B14048	SCALED STANDARD DEVIATION RADIANCE	(W/M**2) * (1/SR) * (1/M)	0	10
B14050	EMISSIONIVITY (SEE NOTE 5)	%	1	4
B14051	DIRECT SOLAR RADIATION INTEGRATED OVER LAST HOUR	JM-2	-3	4
B14055	SOLAR ACTIVITY INDEX	NUMERIC	0	5
B14061	(VAL) INSTANTANEOUS LONG-WAVE RADIATION	W/M**2	0	4
B14062	(VAL) INSTANTANEOUS SHORT-WAVE RADIATION	W/M**2	0	4
B15001	TOTAL OZONE	DU	0	4
B15002	AIR MASS (SLANT PATH AT 22 KM)	NUMERIC	2	3
B15003	MEASURED OZONE PARTIAL PRESSURE (SOUNDING)	NBAR	0	3
B15004	OZONE SOUNDING CORRECTION FACTOR	NUMERIC	3	4
B15005	OZONE P	DU	0	3
B15011	LOG 10 OF INTEGRATED ELECTRON DENSITY	LOG (M-2)	3	4
B15015	MAXIMUM IMAGE SPECTRAL COMPONENT BEFORE NORMALIZATION	NUMERIC	0	10
B15020	INTEGRATED O3 DENSITY	KG/M**2	8	7
B15025	TYPE OF POLLUTANT	CODE TABLE 15025	0	2
B15026	CONCENTRATION OF POLLUTANT	MOLMOL-1	9	3
B15027	CONCENTRATION OF POLLUTANT	KG/M3	9	4
B15030	AEROSOL CONTAMINATION INDEX	NUMERIC	2	4
B15031	ATMOSPHERIC PATH DELAY IN SATELLITE SIGNAL	M	4	5
B15032	ESTIMATED ERROR IN ATMOSPHERIC PATH DELAY	M	4	4
B15033	DIFFERENCE IN PATH DELAYS FOR LIMB VIEWS AT EXTREMES OF SCAN	M	5	5
B15034	ESTIMATED ERROR IN PATH DELAY DIFFERENCE	M	5	5
B15035	COMPONENT OF ZENITH PATH DELAY DUE TO WATER VAPOUR	M	4	5
B15036	ATMOSPHERIC REFRACTIVITY (SEE NOTE 5)	N-UNITS	3	6
B15037	BENDING ANGLE	RADIANS	8	7
B19001	TYPE OF SYNOPTIC FEATURE	CODE TABLE 19001	0	2
B19002	EFFECTIVE RADIUS OF FEATURE	M	-2	4
B19003	WIND SPEED THRESHOLD	M/S	0	3
B19004	EFFECTIVE RADIUS WITH RESPECT TO WIND SPEEDS ABOVE THRESHOLD	M	-2	4
B19005	DIRECTION OF MOTION OF FEATURE	DEGREE TRUE	0	3
B19006	SPEED OF MOTION OF FEATURE	M/S	2	5
B19007	EFFECTIVE RADIUS OF FEATURE	M	-3	4
B19008	VERTICAL EXTENT OF CIRCULATION	CODE TABLE 19008	0	1
B19009	EFFECTIVE RADIUS WITH RESPECT TO WIND SPEEDS ABOVE THRESHOLD (LA	M	-3	4
B19010	METHOD FOR TRACKING THE CENTRE OF SYNOPTIC FEATURE	CODE TABLE 19010	0	2
B19100	TIME INTERVAL TO CALCULATE THE MOVEMENT OF THE TROPICAL CYCLONE	CODE TABLE 19100	0	2
B19101	ACCURACY OF THE POSITION OF THE CENTRE OF THE TROPICAL CYCLONE	CODE TABLE 19101	0	2
B19102	SHAPE AND DEFINITION OF THE EYE OF THE TROPICAL CYCLONE	CODE TABLE 19102	0	1
B19103	DIAMETER OF MAJOR AXIS OF THE EYE OF THE TROPICAL CYCLONE	CODE TABLE 19103	0	2
B19104	CHANGE IN CHARACTER OF THE EYE DURING THE 30 MINUTES	CODE TABLE 19104	0	2
B19105	DISTANCE BETWEEN THE END OF SPIRAL BAND AND THE CENTRE	CODE TABLE 19105	0	2
B19106	IDENTIFICATION NUMBER OF TROPICAL CYCLONE	NUMERIC	0	3
B19107	TIME INTERVAL OF THE TROPICAL CYCLONE ANALYSIS	CODE TABLE 19107	0	2
B19108	ACCURACY OF GEOGRAPHICAL POSITION OF THE TROPICAL CYCLONE	CODE TABLE 19108	0	1
B19109	MEAN DIAMETER OF THE OVERCAST CLOUD OF THE TROPICAL CYCLONE	CODE TABLE 19109	0	2
B19110	APPARENT 24-HOUR CHANGE IN INTENSITY OF TROPICAL CYCLONE	CODE TABLE 19110	0	2
B19111	CURRENT INTENSITY (CI) NUMBER OF THE TROPICAL CYCLONE	NUMERIC	1	3
B19112	DATA TROPICAL (DT) NUMBER OF THE TROPICAL CYCLONE	NUMERIC	1	3
B19113	CLOUD PATTERN TYPE OF THE DT- NUMBER	CODE TABLE 19113	0	2
B19114	MODEL EXPECTED TROPICAL (MET) NUMBER OF THE TROPICAL CYCLONE	NUMERIC	1	3
B19115	TREND OF PAST 24-HOUR CHANGE (+: DEVELOPED, -: WEAKENED)	NUMERIC	1	2
B19116	PATTERN TROPICAL (PT) NUMBER OF THE TROPICAL CYCLONE	NUMERIC	1	3
B19117	CLOUD PICTURE TYPE OF THE PT- NUMBER	CODE TABLE 19117	0	1
B19118	FINAL TROPICAL (T) NUMBER OF THE TROPICAL CYCLONE	NUMERIC	1	3
B19119	TYPE OF THE FINAL T-NUMBER	CODE TABLE 19119	0	1
B19150	TYPHOON INTERNATIONAL COMMON NUMBER (TYPHOON COMMITTEE)	CHARACTER	0	4
B20001	HORIZONTAL VISIBILITY	M	-1	4
B20002	VERTICAL VISIBILITY	M	-1	3
B20003	PRESENT WEATHER (SEE NOTE 1)	CODE TABLE 20003	0	3
B20004	PAST WEATHER (1) (SEE NOTE 2)	CODE TABLE 20004	0	2
B20005	PAST WEATHER (2) (SEE NOTE 2)	CODE TABLE 20005	0	2
B20008	CLOUD DISTRIBUTION FOR AVIATION	CODE TABLE 20008	0	2
B20009	GENERAL WEATHER INDICATOR (TAF/METAR)	CODE TABLE 20009	0	2
B20010	CLOUD COVER (TOTAL)	%	0	3
B20011	CLOUD AMOUNT	CODE TABLE 20011	0	2
B20012	CLOUD TYPE	CODE TABLE 20012	0	2
B20013	HEIGHT OF BASE OF CLOUD	M	-1	4
B20014	HEIGHT OF TOP OF CLOUD	M	-1	4
B20015	PRESSURE AT BASE OF CLOUD	PA	-1	5
B20016	PRESSURE AT TOP OF CLOUD	PA	-1	5
B20017	CLOUD TOP DESCRIPTION	CODE TABLE 20017	0	2
B20018	TENDENCY OF RUNWAY VISUAL RANGE	CODE TABLE 20018	0	1
B20019	SIGNIFICANT PRESENT OR FORECAST WEATHER	CHARACTER	0	9
B20020	SIGNIFICANT RECENT WEATHER PHENOMENA	CHARACTER	0	4
B20021	TYPE OF PRECIPITATION	FLAG TABLE 20021	0	10
B20022	CHARACTER OF PRECIPITATION	CODE TABLE 20022	0	2
B20023	OTHER WEATHER PHENOMENA	FLAG TABLE 20023	0	6
B20024	INTENSITY OF PHENOMENA	CODE TABLE 20024	0	1
B20025	OBSCURATION	FLAG TABLE 20025	0	7
B20026	CHARACTER OF OBSCURATION	CODE TABLE 20026	0	2
B20027	PHENOMENA OCCURRENCE	FLAG TABLE 20027	0	3
B20029	RAIN FLAG	CODE TABLE 20029	0	1
B20031	ICE DEPOSIT (THICKNESS)	M	2	3
B20032	RATE OF ICE ACCRETION	CODE TABLE 20032	0	1
B20033	CAUSE OF ICE ACCRETION	FLAG TABLE 20033	0	2
B20034	SEA ICE CONCENTRATION	CODE TABLE 20034	0	2
B20035	AMOUNT AND TYPE OF ICE	CODE TABLE 20035	0	2
B20036	ICE SITUATION	CODE TABLE 20036	0	2
B20037	ICE DEVELOPMENT	CODE TABLE 20037	0	2
B20038	BEARING OF ICE EDGE (SEE NOTE 3)	DEGREE TRUE	0	3
B20039	ICE DISTANCE	M	-1	4
B20040	EVOLUTION OF DRIFT OF SNOW	CODE TABLE 20040	0	2
B20041	AIRFRAME ICING	CODE TABLE 20041	0	2

B20042	AIRFRAME ICING PRESENT	CODE TABLE 20042	0	1
B20043	PEAK LIQUID WATER CONTENT	KG/M**3	4	2
B20044	AVERAGE LIQUID WATER CONTENT	KG/M**3	4	2
B20045	SUPERCOOLED LARGE DROPLET (SLD) CONDITIONS	CODE TABLE 20045	0	2
B20050	CLOUD INDEX	CODE TABLE 20050	0	3
B20051	AMOUNT OF LOW CLOUDS	%	0	3
B20052	AMOUNT OF MIDDLE CLOUDS	%	0	3
B20053	AMOUNT OF HIGH CLOUDS	%	0	3
B20054	TRUE DIRECTION FROM WHICH CLOUDS ARE MOVING	DEGREE TRUE	0	3
B20055	STATE OF SKY IN TROPICS	CODE TABLE 20055	0	2
B20056	CLOUD PHASE	CODE TABLE 20056	0	1
B20059	MINIMUM HORIZONTAL VISIBILITY	M	-1	3
B20060	PREVAILING HORIZONTAL VISIBILITY	M	-1	4
B20061	RUNWAY VISUAL RANGE (RVR)	M	0	4
B20062	STATE OF THE GROUND (WITH OR WITHOUT SNOW)	CODE TABLE 20062	0	2
B20063	SPECIAL PHENOMENA	CODE TABLE 20063	0	4
B20065	SNOW COVER (SEE NOTE 4)	%	0	3
B20066	MAXIMUM DIAMETER OF HAILSTONES	M	3	3
B20067	DIAMETER OF DEPOSIT	M	3	3
B20070	MINIMUM NUMBER OF ATMOSPHERICS	NUMERIC	0	3
B20071	ACCURACY OF FIX AND RATE OF ATMOSPHERICS	CODE TABLE 20071	0	2
B20081	CLOUD AMOUNT IN SEGMENT	%	0	3
B20082	AMOUNT SEGMENT CLOUD FREE	%	0	3
B20083	AMOUNT OF SEGMENT COVERED BY SCENE	%	0	3
B20085	GENERAL CONDITION OF RUNWAY	CODE TABLE 20085	0	1
B20086	RANWAY DEPOSITS	CODE TABLE 20086	0	1
B20087	RUNWAY CONTAMINATION	CODE TABLE 20087	0	1
B20088	DEPTH OF RANWAY DEPOSITS	M	3	4
B20089	RUNWAY FRICTION COEFFICIENT	CODE TABLE 20089	0	2
B20090	SPECIAL CLOUDS	CODE TABLE 20090	0	2
B20091	VERTICAL VISIBILITY	FEET	-2	3
B20092	HEIGHT OF BASE OF CLOUD	FEET	-2	3
B20095	ICE PROBABILITY	NUMERIC	3	4
B20096	ICE AGE ("A" PARAMETER)	dB	2	4
B20101	LOCUST (ACRIDIAN) NAME	CODE TABLE 20101	0	2
B20102	LOCUST (MATURITY) COLOR	CODE TABLE 20102	0	2
B20103	STAGE OF DEVELOPMENT OF LOCUSTS	CODE TABLE 20103	0	2
B20104	ORGANIZATION STATE OF SWARM OR BAND OF LOCUSTS	CODE TABLE 20104	0	2
B20105	SIZE OF SWARM OR BAND OF LOCUSTS AND DURATION OF PASSAGE OF SWARM	CODE TABLE 20105	0	2
B20106	LOCUST POPULATION DENSITY	CODE TABLE 20106	0	2
B20107	DIRECTION OF MOVEMENTS OF LOCUST SWARM	CODE TABLE 20107	0	2
B20108	EXTENT OF VEGETATION	CODE TABLE 20108	0	2
B21001	HORIZONTAL REFLECTIVITY	dB	0	3
B21002	VERTICAL REFLECTIVITY	dB	0	3
B21003	DIFFERENTIAL REFLECTIVITY	dB	1	3
B21005	LINEAR DEPOLARISATION RATIO	dB	0	2
B21006	CIRCULAR DEPOLARISATION RATIO	dB	0	2
B21011	DOPPLER MEAN VELOCITY IN X-DIRECTION	M/S	0	3
B21012	DOPPLER MEAN VELOCITY IN Y-DIRECTION	M/S	0	3
B21013	DOPPLER MEAN VELOCITY IN Z-DIRECTION	M/S	0	3
B21014	DOPPLER MEAN VELOCITY (RADIAL)	M/S	1	4
B21017	DOPPLER VELOCITY SPECTRAL WIDTH	M/S	1	3
B21021	ECHO TOPS	M	-3	2
B21030	SIGNAL TO NOISE RATIO	dB	0	3
B21031	VERTICALLY INTEGRATED LIQUID-WATER CONTENT	KG/M**2	0	3
B21036	RADAR RAINFALL INTENSITY	M/S	7	4
B21041	BRIGHT-BAND HEIGHT	M	-2	3
B21051	SIGNAL POWER ABOVE 1 MW	dB	0	3
B21062	BACKSCATTER	dB	2	4
B21063	RADIOMETRIC RESOLUTION (NOISE VALUE)	%	1	4
B21064	CLUTTER NOISE ESTIMATE	NUMERIC	0	3
B21065	MISSING PACKET COUNTER	NUMERIC	0	3
B21066	WAVE SCATTEROMETER PRODUCT CONFIDENCE DATA	FLAG TABLE 21066	0	4
B21067	WIND PRODUCT CONFIDENCE DATA	FLAG TABLE 21067	0	5
B21068	RADAR ALTIMETER PRODUCT CONFIDENCE DATA	FLAG TABLE 21068	0	3
B21069	SST PRODUCT CONFIDENCE DATA	FLAG TABLE 21069	0	4
B21070	SST PRODUCT CONFIDENCE DATA (SADIST-2)	FLAG TABLE 21070	0	6
B21071	PEAKINESS	NUMERIC	0	5
B21072	SATELLITE ALTIMETER CALIBRATION STATUS	FLAG TABLE 21072	0	2
B21073	SATELLITE ALTIMETER INSTRUMENT MODE	FLAG TABLE 21073	0	3
B21075	IMAGE SPECTRUM INTENSITY	NUMERIC	0	3
B21076	REPRESENTATION OF INTENSITIES	CODE TABLE 21076	0	1
B21077	ALTITUDE CORRECTION (IONOSPHERE)	M	3	5
B21078	ALTITUDE CORRECTION (DRY TROPOSPHERE)	M	3	3
B21079	ALTITUDE CORRECTION (WET TROPOSPHERE)	M	3	4
B21080	ALTITUDE CORRECTION (CALIBRATION CONSTANT)	M	3	4
B21081	OPEN LOOP CORRECTION (HEIGHT-TIME LOOP)	M	3	4
B21082	OPEN LOOP CORRECTION (AUTO GAIN CONTROL)	dB	3	5
B21083	WARM TARGET CALIBRATION	NUMERIC	0	5
B21084	COLD TARGET CALIBRATION	NUMERIC	0	5
B21085	ATSR SEA SURFACE TEMPERATURE ACROSS- TRACK BAND NUMBER	NUMERIC	0	2
B21086	NUMBER OF PIXELS IN NADIR ONLY, AVERAGE	NUMERIC	0	3
B21087	NUMBER OF PIXELS IN DUAL VIEW, AVERAGE	NUMERIC	0	3
B21088	WET BACKSCATTER	dB	2	4
B21091	RADAR SIGNAL DOPPLER SPECTRUM 0TH MOMENT	dB	0	3
B21092	RASS SIGNAL DOPPLER SPECTRUM 0TH MOMENT, REFERRING TO RASS SIGNAL	dB	0	3
B21093	Ku BAND PEAKINESS	NUMERIC	0	5
B21094	S BAND PEAKINESS	NUMERIC	0	5
B21101	NUMBER OF VECTOR AMBIGUITIES	NUMERIC	0	1
B21102	INDEX OF SELECTED WIND VECTOR	NUMERIC	0	1
B21103	TOTAL NUMBER OF SIGMA-0 MEASUREMENTS	NUMERIC	0	2
B21104	LIKELIHOOD COMPUTED FOR SOLUTION	NUMERIC	3	5
B21105	NORMALIZED RADAR CROSS-SECTION	dB	2	5

B21106	KP VARIANCE COEFFICIENT (ALPHA)	NUMERIC	3	5
B21107	KP VARIANCE COEFFICIENT (BETA)	NUMERIC	8	5
B21109	SEAWINDS WIND VECTOR CELL QUALITY	FLAG TABLE 21109	0	6
B21110	NUMBER OF INNER-BEAM SIGMA-0 (FORWARD OF SATELLITE)	NUMERIC	0	2
B21111	NUMBER OF OUTER-BEAM SIGMA-0 (FORWARD OF SATELLITE)	NUMERIC	0	2
B21112	NUMBER OF INNER-BEAM SIGMA-0 (AFT OF SATELLITE)	NUMERIC	0	2
B21113	NUMBER OF OUTER-BEAM SIGMA-0 (AFT OF SATELLITE)	NUMERIC	0	2
B21114	KP VARIANCE COEFFICIENT (GAMMA)	dB	3	6
B21115	SEAWINDS SIGMA-0 QUALITY	FLAG TABLE 21115	0	6
B21116	SEAWINDS SIGMA-0 MODE	FLAG TABLE 21116	0	6
B21117	SIGMA-0 VARIANCE QUALITY CONTROL	NUMERIC	2	5
B21118	ATTENUATION CORRECTION ON SIGMA-0	dB	2	5
B21119	WIND SCATTEROMETER GEOPHYSICAL MODEL FUNCTION	CODE TABLE 21119	0	2
B21120	PROBABILITY OF RAIN	NUMERIC	3	4
B21121	SEAWINDS NOF* RAIN INDEX	NUMERIC	0	3
B21122	ATTENUATION CORRECTION OF SIGMA-0 (FROM TB)	dB	2	5
B21123	SEAWINDS NORMALIZED RADAR CROSS SECTION	dB	2	5
B21128	NUMBER OF VALID POINTS PER SECOND USED TO DERIVE PREVIOUS PARAMETER	NUMERIC	0	3
B21130	SPECTRUM TOTAL ENERGY	NUMERIC	6	9
B21131	SPECTRUM MAX ENERGY	NUMERIC	6	9
B21132	DIRECTION OF SPECTRUM MAX ON HIGHER RESOLUTION GRID	DEGREE	3	6
B21133	WAVE-LENGTH OF SPECTRUM MAX ON HIGHER RESOLUTION GRID	M	3	9
B21134	RANGE RESOLUTION OF CRESS COVARIANCE SPECTRUM	RAD/M	3	6
B21135	REAL PART OF CROSS SPECTRA POLAR GRID NUMBER OF BINS	NUMERIC	3	7
B21136	IMAGINARY PART OF CROSS SPECTRA POLAR GRID NUMBER OF BINS	NUMERIC	3	7
B21137	KU BAND CORRECTED OCEAN BACKSCATTER COEFFICIENT	dB	2	5
B21138	STD KU BAND CORRECTED OCEAN BACKSCATTER COEFFICIENT	dB	2	5
B21139	KU BAND NET INSTRUMENTAL CORRECTION FOR AGC	dB	2	4
B21140	S BAND CORRECTED OCEAN BACKSCATTER COEFFICIENT	dB	2	5
B21141	STD S BAND CORRECTED OCEAN BACKSCATTER COEFFICIENT	dB	2	5
B21142	S BAND NET INSTRUMENTAL CORRECTION FOR AGC	dB	2	4
B21143	KU BAND RAIN ATTENUATION	dB	2	10
B21144	ALTIMETER RAIN FLAG	FLAG TABLE 21144	0	1
B21150	BEAM COLLOCATION	CODE TABLE 21150	0	1
B21151	ESTIMATED ERROR IN SIGMA0 AT 40DEG INCIDENCE ANGLE	dB	2	3
B21152	SLOPE AT 40DEG INCIDENCE ANGLE	dB/DEG	2	3
B21153	ESTIMATED ERROR IN SLOPE AT 40DEG INCIDENCE ANGLE	dB/DEG	2	3
B21154	SOIL MOISTURE SENSITIVITY	dB	2	4
B21155	WIND VECTOR CELL QUALITY	FLAG TABLE 21155	0	8
B21156	BACKSCATTER DISTANCE	NUMERIC	1	4
B21157	LOSS PER UNIT LENGTH OF ATMOSPHERE USED	dB/M	10	7
B21158	ASCAT Kp ESTIMATE QUALITY	CODE TABLE 21158	0	1
B21159	ASCAT SIGMA-0 USABILITY	CODE TABLE 21159	0	1
B21160	ASCAT USE OF SYNTHETIC DATA	NUMERIC	3	4
B21161	ASCAT SYNTHETIC DATA QUALITY	NUMERIC	3	4
B21162	ASCAT SATELLITE ORBIT AND ATTITUDE QUALITY	NUMERIC	3	4
B21163	ASCAT SOLAR ARRAY REFLECTION CONTAMINATION	NUMERIC	3	4
B21164	ASCAT TELEMETRY PRESENCE AND QUALITY	NUMERIC	3	4
B21165	ASCAT EXTRAPOLATED REFERENCE FUNCTION PRESENCE	NUMERIC	3	4
B21166	ASCAT LAND FRACTION	NUMERIC	3	4
B22001	DIRECTION OF WAVES	DEGREE TRUE	0	3
B22002	DIRECTION OF WIND WAVES	DEGREE TRUE	0	3
B22003	DIRECTION OF SWELL WAVES	DEGREE TRUE	0	3
B22004	DIRECTION OF CURRENT	DEGREE TRUE	0	3
B22005	DIRECTION OF SEA SURFACE CURRENT	DEGREE TRUE	0	3
B22011	PERIOD OF WAVES	S	0	2
B22012	PERIOD OF WIND WAVES	S	0	2
B22013	PERIOD OF SWELL WAVES	S	0	2
B22021	HEIGHT OF WAVES	M	1	4
B22022	HEIGHT OF WIND WAVES	M	1	4
B22023	HEIGHT OF SWELL WAVES	M	1	4
B22025	STANDARD DEVIATION WAVE HEIGHT	M	2	4
B22026	STANDARD DEVIATION OF SIGNIFICANT WAVE HEIGHT	M	2	4
B22031	SPEED OF CURRENT	M/S	2	4
B22032	SPEED OF SEA SURFACE CURRENT	M/S	2	4
B22035	TIDAL ELEVATION WITH RESPECT TO LOCAL CHART DATUM	M	2	4
B22036	METEOROLOGICAL RESIDUAL TIDAL ELEVATION (SURGE OR OFFSET)	M	2	4
B22037	TIDAL ELEVATION WITH RESPECT TO NATIONAL LAND DATUM	M	3	5
B22038	TIDAL ELEVATION WITH RESPECT TO LOCAL CHART DATUM	M	3	5
B22039	METEOROLOGICAL RESIDUAL TIDAL ELEVATION (SURGE OR OFFSET)	M	3	4
B22040	METEOROLOGICAL RESIDUAL TIDAL ELEVATION (SURGE OR OFFSET)	M	3	5
B22041	SEA-SURFACE TEMPERATURE (15-DAY RUNNING MEAN)	K	1	4
B22042	SEA/WATER TEMPERATURE	K	1	4
B22043	SEA/WATER TEMPERATURE	K	2	5
B22044	SOUND VELOCITY	M/S	1	5
B22045	SEA/WATER TEMPERATURE	K	3	6
B22049	SEA SURFACE TEMPERATURE	K	2	5
B22050	STANDARD DEVIATION SEA-SURFACE TEMPERATURE	K	2	3
B22055	FLOAT CYCLE NUMBER	NUMERIC	0	3
B22056	DIRECTION OF PROFILE	CODE TABLE 22056	0	1
B22059	SEA SURFACE SALINITY	PART PER THOUSAND	2	5
B22060	LAGRANGIAN DRIFTER DROGUE STATUS	CODE TABLE 22060	0	1
B22061	STATE OF THE SEA	CODE TABLE 22061	0	2
B22062	SALINITY	PART PER THOUSAND	2	5
B22063	TOTAL WATER DEPTH	M	0	5
B22064	SALINITY	PART PER THOUSAND	3	6
B22065	WATER PRESSURE	PA	-3	6
B22066	WATER CONDUCTIVITY	S M-1	6	8
B22067	INSTRUMENT TYPE FOR WATER TEMPERATURE PROFILE MEASUREMENT	CODE TABLE 22067	0	4
B22068	WATER TEMPERATURE PROFILE RECORDER TYPES	CODE TABLE 22068	0	3
B22069	SPECTRAL WAVE DENSITY	M2HZ-1	3	7
B22070	SIGNIFICANT WAVE HEIGHT	M	2	4
B22071	SPECTRAL PEAK WAVE PERIOD	S	1	3

B22072	SPECTRAL PEAK WAVE LENGTH	M	0	4
B22073	MAXIMUM WAVE HEIGHT	M	2	4
B22074	AVERAGE WAVE PERIOD	S	1	3
B22075	AVERAGE WAVE LENGTH	M	0	4
B22076	DIRECTION FROM WHICH DOMINANT WAVES ARE COMING	DEGREE TRUE	0	3
B22077	DIRECTIONAL SPREAD OF DOMINANT WAVE	DEGREE	0	3
B22078	DURATION OF WAVE RECORD	S	0	4
B22079	LENGTH OF WAVE RECORD	M	0	5
B22080	WAVEBAND CENTRAL FREQUENCY	Hz	3	4
B22081	WAVEBAND CENTRAL WAVE NUMBER	1/M	5	4
B22082	MAXIMUM NON-DIRECTIONAL SPECTRAL WAVE DENSITY	M**2S	2	7
B22083	MAXIMUM NON-DIRECTIONAL SPECTRAL WAVE NUMBER	M**3	2	7
B22084	BAND CONTAINING MAXIMUM NON- DIRECTIONAL SPECTRAL WAVE DENSITY	NUMERIC	0	3
B22085	SPECTRAL WAVE DENSITY RATIO	NUMERIC	0	3
B22086	MEAN DIRECTION FROM WHICH WAVES ARE COMING	DEGREE TRUE	0	3
B22087	PRINCIPAL DIRECTION FROM WHICH WAVES ARE COMING	DEGREE TRUE	0	3
B22088	FIRST NORMALIZED POLAR COORDINATE FROM FOURIER COEFFICIENTS	NUMERIC	2	3
B22089	SECOND NORMALIZED POLAR COORDINATE FROM FOURIER COEFFICIENTS	NUMERIC	2	3
B22090	NON-DIRECTIONAL SPECTRAL ESTIMATE BY WAVE FREQUENCY	M**2S	2	7
B22091	NON-DIRECTIONAL SPECTRAL ESTIMATE BY WAVE NUMBER	M**3	2	7
B22092	DIRECTIONAL SPECTRAL ESTIMATE BY WAVE FREQUENCY	M**2S/RAD	2	7
B22093	DIRECTIONAL SPECTRAL ESTIMATE BY WAVE NUMBER	M**4	2	7
B22094	TOTAL NUMBER OF WAVE BANDS	NUMERIC	0	3
B22095	DIRECTIONAL SPREAD OF INDIVIDUAL WAVES	DEGREE	0	3
B22096	SPECTRAL BAND WIDTH	1/S	3	2
B22097	MEAN WAVELENGTH > 731 M OF IMAGE SPECTRUM AT LOW WAVE NUMBERS	M	0	5
B22098	WAVELENGTH SPREAD (WAVELENGTH > 731 M) AT LOW WAVE NUMBERS	M	0	5
B22099	MEAN DIRECTION AT LOW WAVE NUMBERS (WAVELENGTH > 731 M)	DEGREE TRUE	0	3
B22100	DIRECTION SPREAD AT LOW WAVE NUMBERS (WAVELENGTH > 731 M)	DEGREE	0	3
B22101	TOTAL ENERGY (WAVELENGTH > 731M) AT LOW WAVE NUMBERS	NUMERIC	0	10
B22120	TIDE STATION AUTOMATED WATER LEVEL CHECK	CODE TABLE 22120	0	2
B22121	TIDE STATION MANUAL WATER LEVEL CHECK	CODE TABLE 22121	0	2
B22122	TIDE STATION AUTOMATED METEOROLOGICAL DATA CHECK	CODE TABLE 22122	0	2
B22123	TIDE STATION MANUAL METEOROLOGICAL DATA CHECK	CODE TABLE 22123	0	2
B22141	SEA-SURFACE TEMPERATURE (15-DAY RUNNING MEAN)	K	2	5
B22150	NUMBER OF 18 HZ VALID POINTS FOR KU BAND	NUMERIC	0	4
B22151	KU BAND OCEAN RANGE	M	3	10
B22152	STD OF 18 HZ KU BAND OCEAN RANGE	M	3	5
B22153	NUMBER OF 18 HZ VALID POINTS FOR S BAND	NUMERIC	0	4
B22154	S BAND OCEAN RANGE	M	3	10
B22155	STD OF 18 HZ S BAND OCEAN RANGE	M	3	5
B22156	KU BAND SIGNIFICANT WAVE HEIGHT	M	3	5
B22157	STD 18HZ KU BAND SIGNIFICANT WAVE HEIGHT	M	3	5
B22158	S BAND SIGNIFICANT WAVE HEIGHT	M	3	5
B22159	STD 18HZ S BAND SIGNIFICANT WAVE HEIGHT	M	3	5
B22160	NORMALIZED INVERSE WAVE AGE	NUMERIC	6	7
B22161	WAVE SPECTRA	M**4	4	9
B23001	ACCIDENT EARLY NOTIFICATION ARTICLE APPLICABLE	CODE TABLE 23001	0	1
B23002	ACTIVITY OR FACILITY INVOLVED IN INCIDENT	CODE TABLE 23002	0	2
B23003	TYPE OF RELEASE	CODE TABLE 23003	0	1
B23004	COUNTERMEASURES TAKEN NEAR BORDER	CODE TABLE 23004	0	1
B23005	CAUSE OF INCIDENT	CODE TABLE 23005	0	1
B23006	INCIDENT SITUATION	CODE TABLE 23006	0	1
B23007	CHARACTERISTICS OF RELEASE	CODE TABLE 23007	0	1
B23008	STATE OF CURRENT RELEASE	CODE TABLE 23008	0	1
B23009	STATE OF EXPECTED RELEASE	CODE TABLE 23009	0	1
B23016	POSSIBILITY OF SIGNIFICANT CHEMICAL TOXIC HEALTH EFFECT	CODE TABLE 23016	0	1
B23017	FLOW DISCHARGE OF MAJOR RECIPIENT	M**3/S	6	7
B23018	RELEASE BEHAVIOUR OVER TIME	CODE TABLE 23018	0	1
B23019	ACTUAL RELEASE HEIGHT	M	0	6
B23021	EFFECTIVE RELEASE HEIGHT	M	0	6
B23022	DISTANCE OF RELEASE POINT OR SITE OF INCIDENT	M	0	8
B23023	MAIN TRANSPORT SPEED IN THE ATMOSPHERE	M/S	1	4
B23024	MAIN TRANSPORT SPEED IN WATER	M/S	2	4
B23025	MAIN TRANSPORT SPEED IN GROUND WATER	M/S	2	4
B23027	MAIN TRANSPORT DIRECTION IN THE ATMOSPHERE	DEGREE TRUE	0	3
B23028	MAIN TRANSPORT DIRECTION IN WATER	DEGREE TRUE	0	3
B23029	MAIN TRANSPORT DIRECTION IN GROUND WATER	DEGREE TRUE	0	3
B23031	POSSIBILITY THAT PLUME WILL ENCOUNTER PRECIPITATION IN STATE IN	CODE TABLE 23031	0	1
B23032	PLUME WILL ENCOUNTER CHANGE IN WIND DIRECTION AND/OR SPEED FLAG	CODE TABLE 23032	0	1
B24001	ESTIMATE OF AMOUNT OF RADIOACTIVITY RELEASED UP TO SPECIFIED TIM	Bq	-11	9
B24002	ESTIMATED MAXIMUM POTENTIAL RELEASE	Bq	-11	9
B24003	COMPOSITION OF RELEASE	CODE TABLE 24003	0	2
B24004	ELEMENT NAME	CHARACTER	0	2
B24005	ISOTOPE MASS	NUMERIC	0	3
B24011	DOSE	mSv	2	10
B24012	TRAJECTORY DOSE (DEFINED LOCATION AND EXPECTED TIME OF ARRIVAL)	mSv	2	10
B24013	GAMMA DOSE IN AIR ALONG THE MAIN TRANSPORT PATH (DEFINED LOCATIO	mSv	2	10
B24021	AIR CONCENTRATION (OF NAMED ISOTOPE TYPE INCLUDING GROSS BETA)	Bq/M**3	2	10
B24022	CONCENTRATION IN PRECIPITATION (OF NAMES ISOTOPE TYPE)	BQ L-1	2	10
B24023	PULSE RATE OF BETA RADIATION	1/S	1	4
B24024	PULSE RATE OF GAMMA RADIATION	1/S	1	4
B25001	RANGE-GATE LENGTH	M	-1	2
B25002	NUMBER OF GATES AVERAGED	NUMERIC	0	2
B25003	NUMBER OF INTEGRATED PULSES	NUMERIC	0	3
B25004	ECHO PROCESSING	CODE TABLE 25004	0	1
B25005	ECHO INTEGRATION	CODE TABLE 25005	0	1
B25006	Z TO R CONVERSION	CODE TABLE 25006	0	1
B25007	Z TO R CONVERSION FACTOR	NUMERIC	0	4
B25008	Z TO R CONVERSION EXPONENT	NUMERIC	2	3
B25009	CALIBRATION METHOD	FLAG TABLE 25009	0	2
B25010	CLUTTER TREATMENT	CODE TABLE 25010	0	2
B25011	GROUND OCCULTATION CORRECTION (SCREENING)	CODE TABLE 25011	0	1

B25012	RANGE ATTENUATION CORRECTION	CODE TABLE 25012	0	1
B25013	BRIGHT-BAND CORRECTION	FLAG TABLE 25013	0	1
B25014	AZIMUTH CLUTTER CUT-OFF (SEE NOTE 1)	NUMERIC	0	4
B25015	RADOME ATTENUATION CORRECTION	FLAG TABLE 25015	0	1
B25016	CLEAR-AIR ATTENUATION CORRECTION	dB/M	5	2
B25017	PRECIPITATION ATTENUATION CORRECTION	FLAG TABLE 25017	0	1
B25018	A TO Z LAW FOR ATTENUATION FACTOR	NUMERIC	7	2
B25019	A TO Z LAW FOR ATTENUATION EXPONENT	NUMERIC	2	3
B25020	MEAN SPEED ESTIMATION	CODE TABLE 25020	0	1
B25021	WIND COMPUTATION ENHANCEMENT	FLAG TABLE 25021	0	3
B25025	BATTERY VOLTAGE	V	1	3
B25026	BATTERY VOLTAGE (LARGE RANGE)	V	1	4
B25028	OPERATOR OR MANUFACTURER DEFINED PARAMETER	NUMERIC	1	5
B25030	RUNNING MEAN SEA-SURFACE TEMPERATURE USAGE	CODE TABLE 25030	0	1
B25032	WIND PROFILER MODE INFORMATION	CODE TABLE 25032	0	1
B25033	WIND PROFILER SUBMODE INFORMATION*	CODE TABLE 25033	0	1
B25034	WIND PROFILER QUALITY CONTROL TEST RESULTS*	FLAG TABLE 25034	0	2
B25036	ATMOSPHERICS LOCATION METHOD	CODE TABLE 25036	0	2
B25040	CO2 WIND PRODUCT DERIVATION	CODE TABLE 25040	0	2
B25041	MOVING PLATFORM DIRECTION REPORTING METHOD	CODE TABLE 25041	0	1
B25042	MOVING PLATFORM SPEED REPORTING METHOD	CODE TABLE 25042	0	1
B25043	WAVE SAMPLING INTERVAL (TIME)	S	4	5
B25044	WAVE SAMPLING INTERVAL (SPACE)	M	2	5
B25045	HIRS CHANNEL COMBINATION	FLAG TABLE 25045	0	7
B25046	MSU CHANNEL COMBINATION	FLAG TABLE 25046	0	2
B25047	SSU CHANNEL COMBINATION	FLAG TABLE 25047	0	2
B25048	AMSU-A CHANNEL COMBINATION	FLAG TABLE 25048	0	6
B25049	AMSU-B CHANNEL COMBINATION	FLAG TABLE 25049	0	2
B25051	AVHRR CHANNEL COMBINATION	FLAG TABLE 25051	0	3
B25052	LOG-10 OF PRINCIPAL COMPONENTS NORMALIZED FIT TO DATA	NUMERIC	4	5
B25053	OBSERVATION QUALITY	FLAG TABLE 25053	0	4
B25054	SSMIS SUBFRAME ID MEMBER	NUMERIC	0	2
B25055	MULTIPLEXER HOUSEKEEPING	K	2	5
B25060	SOFTWARE IDENTIFICATION (SEE NOTE 2)	NUMERIC	0	5
B25061	SOFTWARE IDENTIFICATION AND VERSION NUMBER	CHARACTER	0	12
B25062	DATABASE IDENTIFICATION	NUMERIC	0	5
B25065	ORIENTATION CORRECTION (AZIMUTH)	DEGREE	2	4
B25066	ORIENTATION CORRECTION (ELEVATION)	DEGREE	2	4
B25067	RADIOSONDE RELEASE POINT PRESSURE CORRECTION	PA	0	4
B25068	NUMBER OF ARCHIVE RECOMPUTES	NUMERIC	0	3
B25069	FLIGHT LEVEL PRESSURE CORRECTIONS	FLAG TABLE 25069	0	3
B25070	MAJOR FRAME COUNT	NUMERIC	0	2
B25071	FRAME COUNT	NUMERIC	0	2
B25075	SATELLITE ANTENNA CORRECTIONS VERSION NUMBER	NUMERIC	0	2
B25076	LOG-10 OF (TEMPERATURE-RADIANCE CENTRAL WAVENUMBER) FOR ATOVS	LOG (1/M)	8	10
B25077	BANDWIDTH CORRECTION COEFFICIENT 1 FOR ATOVS	NUMERIC	5	7
B25078	BANDWIDTH CORRECTION COEFFICIENT 2 FOR ATOVS	NUMERIC	5	6
B25079	ALBEDO-RADIANCE SOLAR FILTERED IRRADIANCE FOR ATOVS	W/M**2	4	8
B25080	ALBEDO-RADIANCE EQUIVALENT FILTER WIDTH FOR ATOVS	M	10	5
B25085	FRACTION OF CLEAR PIXELS IN HIRS FOV	NUMERIC	0	3
B25086	DEPTH CORRECTION INDICATOR	CODE TABLE 25086	0	1
B25091	STRUCTURE CONSTANT OF THE REFRACTION INDEX (CN2)	dB	3	5
B25092	ACOUSTIC PROPAGATION VELOCITY	M/S	2	5
B25093	RASS COMPUTATION CORRECTION	FLAG TABLE 25093	0	3
B25095	ALTIMETER STATE FLAG	FLAG TABLE 25095	0	1
B25096	RADIOMETER STATE FLAG	FLAG TABLE 25096	0	2
B25097	THREE DIMENSIONAL ERROR ESTIMATE OF THE NAVIGATOR ORBIT	CODE TABLE 25097	0	2
B25100	XBT/XCTD FALL RATE EQUATION COEFFICIENT A	NUMERIC	5	6
B25101	XBT/XCTD FALL RATE EQUATION COEFFICIENT B	NUMERIC	5	6
B25102	NUMBER OF MISSING LINES EXCLUDING DATA GAPS	NUMERIC	0	3
B25103	NUMBER OF DIRECTIONAL BINS	NUMERIC	0	3
B25104	NUMBER OF WAVE-LENGTH BINS	NUMERIC	0	3
B25107	FIRST WAVE-LENGTH BIN	M	3	9
B25108	LAST WAVE-LENGTH BIN	M	3	9
B25111	NUMBER OF INPUT DATA GAPS	NUMERIC	0	3
B25120	RA2-L2-PROCESSING FLAG	CODE TABLE 25120	0	1
B25121	RA2-L2-PROCESSING QUALITY	%	0	3
B25122	HARDWARE CONFIGURATION FOR RF	CODE TABLE 25122	0	1
B25123	HARDWARE CONFIGURATION FOR HPA	CODE TABLE 25123	0	1
B25124	MWR L2 PROCESSING FLAG	CODE TABLE 25124	0	1
B25125	MWR L2-PROCESSING QUALITY	%	0	3
B25126	MODEL DRY TROPOSPHERIC CORRECTION	M	3	5
B25127	INVERTED BAROMETER CORRECTION	M	3	5
B25128	MODEL WET TROPOSPHERIC CORRECTION	M	3	5
B25129	MWR DERIVED WET TROPOSPHERIC CORRECTION	M	3	5
B25130	RA2 IONOSPHERIC CORRECTION ON KU BAND	M	3	5
B25131	IONOSPHERIC CORRECTION FROM DORIS ON KU BAND	M	3	5
B25132	IONOSPHERIC CORRECTION FROM MODEL ON KU BAND	M	3	5
B25133	SEA STATE BIAS CORRECTION ON KU BAND	M	3	5
B25134	RA2 IONOSPHERIC CORRECTION ON S BAND	M	3	5
B25135	IONOSPHERIC CORRECTION FROM DORIS ON S BAND	M	3	5
B25136	IONOSPHERIC CORRECTION FROM MODEL ON S BAND	M	3	5
B25137	SEA STATE BIAS CORRECTION ON S BAND	M	3	5
B25138	AVERAGE SIGNAL TO NOISE RATION	NUMERIC	0	4
B25140	START CHANNEL	NUMERIC	0	5
B25141	END CHANNEL	NUMERIC	0	5
B25142	CHANNEL SCALE FACTOR	NUMERIC	0	2
B25150	SATELLITE INTENSITY ANALYSIS METHOD OF TROPICAL CYCLONE	CODE TABLE 25150	2	2
B26001	PRINCIPAL TIME OF DAILY READING IN UTC OF MAXIMUM TEMPERATURE	HOURL	1	3
B26002	PRINCIPAL TIME OF DAILY READING IN UTC OF MINIMUM TEMPERATURE	HOURL	1	3
B26003	TIME DIFFERENCE	MINUTE	0	4
B26010	HOURS INCLUDED	FLAG TABLE 26010	0	9
B26020	DURATION OF PRECIPITATION	MINUTE	0	4

B27001	LATITUDE (HIGH ACCURACY)	DEGREE	5	7
B27002	LATITUDE (COARSE ACCURACY)	DEGREE	2	4
B27003	ALTERNATE LATITUDE (COARSE ACCURACY)	DEGREE	2	4
B27004	ALTERNATE LATITUDE (HIGH ACCURACY)	DEGREE	5	7
B27020	SATELLITE LOCATION COUNTER	NUMERIC	0	5
B27021	SATELLITE SUBLOCATION DIMENSION	NUMERIC	0	5
B27031	IN DIRECTION OF 0 DEGREES LONGITUDE, DISTANCE FROM THE EARTH'S C M		2	10
B27080	VIEWING AZIMUTH ANGLE	DEGREE TRUE	0	5
B28001	LONGITUDE (HIGH ACCURACY)	DEGREE	5	8
B28002	LONGITUDE (COARSE ACCURACY)	DEGREE	2	5
B28003	ALTERNATE LONGITUDE (COARSE ACCURACY)	DEGREE	2	5
B28004	ALTERNATE LONGITUDE (HIGH ACCURACY)	DEGREE	5	8
B28031	IN DIRECTION 90 DEGREES EAST, DISTANCE FROM THE EARTH'S CENTRE M		2	10
B29001	PROJECTION TYPE	CODE TABLE 29001	0	1
B29002	CO-ORDINATE GRID TYPE	CODE TABLE 29002	0	1
B30001	PIXEL VALUE (4 BITS)	NUMERIC	0	2
B30002	PIXEL VALUE (8 BITS)	NUMERIC	0	3
B30004	PIXEL VALUE (16 BITS)	NUMERIC	0	5
B30021	NUMBER OF PIXELS PER ROW	NUMERIC	0	4
B30022	NUMBER OF PIXELS PER COLUMN	NUMERIC	0	4
B30031	PICTURE TYPE	CODE TABLE 30031	0	2
B30032	COMBINATION WITH OTHER DATA	FLAG TABLE 30032	0	6
B31000	SHORT DELAYED DESCRIPTOR REPLICATION FACTOR	NUMERIC	0	1
B31001	DELAYED DESCRIPTOR REPLICATION FACTOR	NUMERIC	0	3
B31002	EXTENDED DELAYED DESCRIPTOR REPLICATION FACTOR	NUMERIC	0	5
B31011	DELAYED DESCRIPTOR AND DATA REPETITION FACTOR	NUMERIC	0	3
B31012	EXTENDED DELAYED DESCRIPTOR AND DATA REPETITION FACTOR	NUMERIC	0	5
B31021	ASSOCIATED FIELD SIGNIFICANCE	CODE TABLE 31021	0	2
B31031	DATA PRESENT INDICATOR	FLAG TABLE 31031	0	1
B33002	QUALITY INFORMATION	CODE TABLE 33002	0	1
B33003	QUALITY INFORMATION	CODE TABLE 33003	0	1
B33005	QUALITY INFORMATION (AWS DATA)	FLAG TABLE 33005	0	10
B33006	INTERNAL MEASUREMENT STATUS INFORMATION (AWS)	CODE TABLE 33006	0	1
B33007	PER CENT CONFIDENCE	%	0	3
B33015	DATA QUALITY CHECK INDICATOR	CODE TABLE 33015	0	2
B33020	QUALITY CONTROL INDICATION OF FOLLOWING VALUE	CODE TABLE 33020	0	1
B33021	QUALITY OF FOLLOWING VALUE	CODE TABLE 33021	0	1
B33022	QUALITY OF BUOY SATELLITE TRANSMISSION	CODE TABLE 33022	0	1
B33023	QUALITY OF BUOY LOCATION	CODE TABLE 33023	0	1
B33024	STATION ELEVATION QUALITY MARK (FOR MOBILE STATIONS)	CODE TABLE 33024	0	2
B33025	ACARS INTERPOLATED VALUES	CODE TABLE 33025	0	1
B33026	MOISTURE QUALITY	CODE TABLE 33026	0	2
B33027	LOCATION QUALITY CLASS (RANGE OF RADIUS OF 66 % CONFIDENCE)	CODE TABLE 33027	0	1
B33030	SCAN LINE STATUS FLAGS FOR ATOVS	FLAG TABLE 33030	0	8
B33031	SCAN LINE QUALITY FLAGS FOR ATOVS	FLAG TABLE 33031	0	8
B33032	CHANNEL QUALITY FLAGS FOR ATOVS	FLAG TABLE 33032	0	8
B33033	FIELD OF VIEW QUALITY FLAGS FOR ATOVS	FLAG TABLE 33033	0	8
B33035	MANUAL/AUTOMATIC QUALITY CONTROL	CODE TABLE 33035	0	2
B33036	NOMINAL CONFIDENCE THRESHOLD	%	0	3
B33037	WIND CORRELATION ERROR	FLAG TABLE 33037	0	7
B33038	QUALITY FLAGS FOR GROUND-BASED GNSS DATA	FLAG TABLE 33038	0	4
B33039	QUALITY FLAGS FOR RADIO OCCULTATION DATA	FLAG TABLE 33039	0	6
B33040	CONFIDENCE INTERVAL	PERCENT	0	3
B33041	ATTRIBUTE OF FOLLOWING VALUE	CODE TABLE 33041	0	1
B33042	TYPE OF LIMIT REPRESENTED BY FOLLOWING VALUE	CODE TABLE 33042	0	1
B33043	AST CONFIDENCE	FLAG TABLE 33043	0	3
B33044	ASAR QUALITY INFORMATION	FLAG TABLE 33044	0	5
B33045	PROBABILITY OF FOLLOWING EVENT	%	0	3
B33046	CONDITIONAL PROBABILITY OF FOLLOWING EVENT WITH RESPECT TO SPECI	%	0	3
B33047	MEASUREMENT CONFIDENCE DATA	FLAG TABLE 33047	0	11
B33048	CONFIDENCE MEASURE OF SAR INVERSION	CODE TABLE 33048	0	1
B33049	CONFIDENCE MEASURE OF WIND RETRIEVAL	CODE TABLE 33049	0	1
B33050	GLOBAL GTSPP QUALITY FLAG	CODE TABLE 33050	0	2
B33052	S BAND OCEAN RETRACKING QUALITY	FLAG TABLE 33052	0	7
B33053	KU BAND OCEAN RETRACKING QUALITY	FLAG TABLE 33053	0	7
B33060	GQISFLAGQUAL-INDIVIDUAL IASI-SYSTEM QUALITY FLAG	CODE TABLE 33060	0	1
B33061	GQISQUALINDEX - INDICATOR FOR INSTRUMENT NOISE PERFORMANCE	%	0	3
B33062	GQISQUALINDEXLOC - INDICATOR FOR GEOMETRIC QUALITY INDEX	%	0	3
B33063	GQISQUALINDEXRAD - INDICATOR FOR INSTRUMENT NOISE PERFORMANCE	%	0	3
B33064	GQISQUALINDEXSPECT - INDICATOR FOR INSTRUMENT NOISE PERFORMANCE	%	0	3
B33065	GQISSYSTEMSONDQUAL - OUTPUT OF SYSTEM TEC QUALITY FUNCTION	NUMERIC	0	24
B33066	SBUV TOTAL OZONE QUALITY	CODE TABLE 33066	0	2
B33067	SBUV PROFILE OZONE QUALITY	CODE TABLE 33067	0	2
B35000	FM AND REGIONAL CODE NUMBER	CODE TABLE 35000	0	3
B35001	TIME-FRAME FOR MONITORING	CODE TABLE 35001	0	1
B35011	NUMBER OF REPORTS ACTUALLY RECEIVED	NUMERIC	0	4
B35021	BULLETIN BEING MONITORED (TTAAII)	CHARACTER	0	6
B35022	BULLETIN BEING MONITORED (YYGGGG)	CHARACTER	0	6
B35023	BULLETIN BEING MONITORED (CCCC)	CHARACTER	0	4
B35024	BULLETIN BEING MONITORED (BBB)	CHARACTER	0	3
B35030	DISCREPANCIES IN THE AVAILABILITY OF EXPECTED DATA	CODE TABLE 35030	0	1
B35031	QUALIFIER ON MONITORING RESULTS	CODE TABLE 35031	0	2
B35032	CAUSE OF MISSING DATA	CODE TABLE 35032	0	1
B35033	OBSERVATION AND COLLECTION DEFICIENCIES	CODE TABLE 35033	0	2
B35034	STATISTICAL TRENDS FOR AVAILABILITY OF DATA (DURING THE SURVEY P	CODE TABLE 35034	0	1
B35035	REASON FOR TERMINATION	CODE TABLE 35035	0	2
B40001	SURFACE SOIL MOISTURE (MS)	%	1	4
B40002	ESTIMATED ERROR IN SURFACE SOIL MOISTURE	%	1	4
B40003	MEAN SURFACE SOIL MOISTURE	NUMERIC	3	4
B40004	RAIN FALL DETECTION	NUMERIC	3	4
B40005	SOIL MOISTURE CORRECTION FLAG	FLAG FLAG TABLE 40005	0	3
B40006	SOIL MOISTURE PROCESSING FLAG	FLAG FLAG TABLE 40006	0	5
B40007	SOIL MOISTURE QUALITY	%	1	4



B40008	FROZEN LAND SURFACE FRACTION	%	1	4
B40009	INUNDATION AND WETLAND FRACTION	%	1	4
B40010	TOPOGRAPHIC COMPLEXITY	%	1	4



### 3.1.2 CREX Table D

CREX Table D - D000203 valid since 2006/11/01

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		B00020
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		B00030
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D01003	3	B01011
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		B01013
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D01013	3	B04004
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		B07001
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		B07001
D01025	3	D01023
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		D01012
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      R02000
      B05002
      B06002
      B11031
      B08007
      B08011
D16005  9  R08000
      B08005
      B08007
      B05002
      B06002
      B01026
      B19001
      B08007
      B08005
D16006 12  R11000
      B08011
      B08007
      B07002
      B07002
      R02000
      B05002
      B06002
      B20011
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		B20012
		B08007
		B08011
D16007	10	R09000
		B08011
		B08007
		R04000
		B05002
		B06002
		B19005
		B19006
		B08007
		B08011
D16008	11	R10000
		B08001
		B08007
		B08023
		R03000
		B05002
		B06002
		B10002
		B08023
		B08007
		B08001
D16009	11	R10000
		B08011
		B08007
		B07002
		B07002
		R02000
		B05002
		B06002
		B20041
		B08007
		B08011
D16010	8	R07000
		B08011
		B08007
		B01022
		B05002
		B06002
		B08007
		B08011
D16011	17	R16000
		B08011
		B01022
		B08007
		R02000
		B05002
		B06002
		B08021
		B04001
		B04002
		B04003
		B04004
		B04005
		B20090
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		B08007
		B08011
D16020	5	B01023
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		B01027
		D01011
		D01012
D16021	23	D01023
		B02041
		B19001
		B19007
		B19005
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		B10004
		B08005
		B10004
		B19007
		B08005
		B08021
		B04075
		B11040
		B19007
		R05004
		B05021
		B05021
		R02002
		B19003
		B19004
D16022	23	B01032
		B02041
		B19001
		B19010
		R18000

B08021  
B04014  
B08005  
D01023  
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B08021  
B04075  
B11040  
B19008  
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B05021  
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R02002  
B19003  
B19004  
D16026 2 D16020  
D16021  
D16050 16 D01001  
D01011  
D01012  
002160  
008005  
005002  
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008005  
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019105  
D16052 28 D01005  
D01011  
D01012  
001007  
025150  
R22000  
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019106  
008005  
005002  
006002  
008005  
019107  
019005  
019006  
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019109  
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019111  
019112  
019113  
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019117  
019118  
019119  
D18001 2 D01025  
B24011  
D18003 4 D01026  
B24005  
B24004  
B24021  
D18004 6 D01025  
B04023  
B13011  
B24005  
B24004  
B24022  
D21001 6 B02101  
B02114  
B02105  
B02106  
B02107  
B02121  
D21003 4 B21051  
B21014  
B21017  
B21030  
D21004 4 D01031  
B02003  
R01000  
D21003  
D21005 12 B25004  
B02121  
B02122

		B02123
		B02124
		B02125
		B02126
		B02127
		B02128
		B02129
		B02130
		B02131
D21006	4	B25001
		B25002
		B25003
		B25005
D21007	8	B25009
		B25010
		B25011
		B25012
		B25013
		B25015
		B25016
		B25017
D21008	3	B25006
		B25007
		B25008
D21009	2	B25018
		B25019
D21010	13	B02101
		B07002
		B02102
		B02103
		B02104
		B02105
		B02106
		B02107
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		B02109
		B02110
		B02132
		B02133
D21011	3	B30031
		B30032
		B29002
D21012	2	R01000
		B02135
D35001	4	B08035
		B35001
		B08036
		D01001
D35002	4	B08035
		B35001
		B08036
		B01033
D35003	6	B08021
		B04001
		B04002
		B04003
		B04004
		B04073
D35004	7	B08021
		B04004
		B08021
		B04004
		B35000
		D01001
		B35011
D35005	7	B08021
		B04004
		B08021
		B04004
		B35000
		B01001
		B35011
D35006	7	B08021
		B04004
		B08021
		B04004
		B35000
		B01003
		B35011
D35007	9	B08021
		B04004
		B08021
		B04004
		B35000
		B01001
		R02000
		B01002
		B35011
D35010	3	D35002
		D35003
		D35007

### 3.1.3 CREX Code and Flag Tables

```
B01003 0008 0000 01 ATARCTICA
              0001 01 REGION I
              0002 01 REGION II
              0003 01 REGION III
              0004 01 REGION IV
              0005 01 REGION V
              0006 01 REGION VI
              0007 01 MISSING VALUE
B01007 0027 0001 01 ERS1
              0002 01 ERS2
              0020 01 SPOT1
              0021 01 SPOT2
              0050 01 METEOSAT 3
              0051 01 METEOSAT 4
              0150 01 GMS 3
              0151 01 GMS 4
              0200 01 NOAA 8
              0201 01 NOAA 9
              0202 01 NOAA 10
              0203 01 NOAA 11
              0220 01 LANDSAT 5
              0221 01 LANDSAT 6
              0240 01 DMSP 7
              0241 01 DMSP 8
              0242 01 DMSP 9
              0243 01 DMSP 10
              0244 01 DMSP 11
              0250 01 GOES 6
              0251 01 GOES 7
              0252 01 GOES 8
              0253 01 GOES 9
              0254 01 GOES 10
              0255 01 GOES 11
              0256 01 GOES 12
              1023 01 MISSING VALUE
B01031 0008 0000 01 RESERVED
              0007 01 US WEATHER SERVICE-NMC
              0034 01 JAPAN METEOROLOGICAL AGENCY(TOKYO)
              0046 01 BRAZILIAN SPACE AGENCY-INPE
              0052 01 NATIONAL HURRICANE CENTRE,MIAMI,FL,USA-RSMC
              0057 01 US AIR FORCE - AFGWC
              0058 01 US NAVY - FNOC
              0059 01 NOAA FORECAST SYSTEMS LABORATORY,BOULDER,CO,USA
              0074 01 UK METEOROLOGICAL OFFICE,BRACKNELL
              0098 01 ECMWF
              0255 01 MISSING VALUE
B01032 0041 0001 01 PREPROCESSING CONSISTENCY CHECK
              0010 01 BIAS CORRECTION
              0020 01 BLACK LIST
              0030 01 OI MASS AND WIND ANALYSIS, REPORT STATUS
              0031 01 OI HUMIDITY ANALYSIS, REPORT STATUS
              0032 01 OI ANALYSIS VARIABLES
              0033 01 OI ANALYSIS, FIRST GUESS Q/C
              0034 01 OI ANALYSIS, FINAL ANALYSIS Q/C
              0035 01 OI ANALYSIS, EVENT FLAGS
              0040 01 DYNAMIC INITIALISATION SCHEME
              0041 01 NORMAL MODE INITIALISATION SCHEME
              0050 01 SURFACE ANALYSIS, REPORT STATUS
              0051 01 SURFACE ANALYSIS VARIABLES
              0052 01 SURFACE ANALYSIS Q/C
              0053 01 SURFACE ANALYSIS, EVENT FLAGS
              0060 01 3D VAR REPORT STATUS
              0061 01 3D VAR ANALYSIS VARIABLES
              0062 01 3D VAR Q/C
              0063 01 3D VAR EVENT FLAGS
              0080 01 PRESAT FIRST GUESS
              0081 01 PRESAT ERROR STANDARD DEVIATIONS
              0082 01 PRESAT BIAS ESTIMATES
              0083 01 PRESAT BRIGHTNESS TEMPERATURE QUALITY FLAGS
              0084 01 PRESAT SAMARY FLAGS
              0090 01 FIRST GUESS (6 HOUR FORECAST)
              0091 01 FIRST GUESS (FGAT INTERPOLATED)
              0100 01 PRESCAT AMBIGUITY REMOVAL
              0110 01 WAM FIRST GUESS
              0111 01 WAM ANALYSIS
              0112 01 WAM FORECAST
              0113 01 WAM Q/C
              0201 01 COLLOCATION WITH SURFACE DATA
              0202 01 COLLOCATION WITH TEMP/PILOT DATA
              0203 01 COLLOCATION WITH AIREP DATA
              0204 01 COLLOCATION WITH SATOB DATA
              0205 01 COLLOCATION WITH TOVS DATA
              0206 01 COLLOCATION WITH ERS1 SCATTEROMETER DATA
              0207 01 COLLOCATION WITH ERS1 ALTIMETER DATA
              0220 01 ERS1 SCATTEROMETER COLLOCATION BLACK LIST
              0230 01 GAUSS ERROR
              0231 01 GROSS ERROR
B01090 0005 0000 01 LAF (LAGGED-AVERAGE FORECASTING)
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0001 01 BREEDING
0002 01 SINGULAR VECTOR
0003 01 MULTIPLE ANALYSIS CYCLE
0255 01 MISSING VALUE
B01092 0005 0000 01 UNPERTURBED HIGH-RESOLUTION CONTROL FORECAST
0001 01 UNPERTURBED LOW-RESOLUTION CONTROL FORECAST
0002 01 NEGATIVELY PERTURBED FORECAST
0003 01 POSITIVELY PERTURBED FORECAST
0255 01 MISSING VALUE
B02001 0004 0000 01 AUTOMATIC STATION
0001 01 MANNED STATION
0002 01 HYBRID, BOTH MANNED AND AUTOMATIC
0003 01 MISSING VALUE
B02002 0004 0000 01 MEASURED IN M S-1 UNLESS OTHERWISE INDICATED
0001 01 CERTIFIED INSTRUMENTS
0002 01 ORIGINALLY MEASURED IN KNOTS
0003 01 ORIGINALLY MEASURED IN KM/H
B02003 0012 0000 01 PRESSURE INSTRUMENT ASSOCIATED WITH WIND-MEASURING EQUIPMENT
0001 01 OPTICAL THEODOLITE
0002 01 RADIO THEODOLITE
0003 01 RADAR
0004 01 VLF-OMEGA
0005 01 LORAN C
0006 01 WIND PROFILER
0007 01 SATELLITE NAVIGATION
0008 01 RADIO-ACOUSTIC SOUNDING SYSTEM (RASS)
0009 01 SODAR
0014 02 PRESSURE INSTRUMENT ASSOCIATED WITH WIND MEASUREMENT EQUIPME
    NT BUT PRESSURE ELEMENT FAILED DURING ASCENT
0015 01 MISSING VALUE
B02004 0011 0000 01 USA OPEN PAN EVAPORIMETER (WITHOUT COVER)
0001 01 USA OPEN PAN EVAPORIMETER (MESH COVERED)
0002 01 GGI-300 EVAPORIMETER (SUNKEN)
0003 01 20 M**2 TANK
0004 01 OTHERS
0005 01 RICE
0006 01 WHEAT
0007 01 MAIZE
0008 01 SORGHUM
0009 01 OTHER CROPS
0015 01 MISSING VALUE
B02011 0054 0000 01 RESERVED
0001 01 RESERVED
0002 01 NO RADIOSONDE-PASSIVE TARGET (E.G. REFLECTOR)
0003 01 NO RADIOSONDE-ACTIVE TARGET (E.G. TRANSPONDER)
0004 01 NO RADIOSONDE-PASSIVE TEMPERATURE-HUMIDITY PROFILER
0005 01 NO RADIOSONDE-ACTIVE TEMPERATURE-HUMIDITY PROFILER
0006 01 NO RADIOSONDE-RADIO ACOUSTIC SOUNDER
0009 01 NO RADIOSONDE-SYSTEM UNKNOWN OR NOT SPECIFIED
0010 01 RS VIZ TYPE A (USA)
0011 01 RS VIZ TYPE B (USA)
0012 01 RS SDC (SPACE DATA CORPORATION-USA)
0013 01 ASTOR (NO LONGER MADE-AUSTRALIA)
0014 01 VIZ MARK I MICROSONDE (USA)
0015 01 EEC COMPANY TYPE 23 (USA)
0016 01 ELIN (AUSTRIA)
0017 01 GRAW G. (GERMANY)
0019 01 GRAW M60 (GERMANY)
0020 01 INDIAN MET SERVICE MK3 (INDIA)
0021 01 VIZ/JIN YANG MARK I MICROSONDE (SOUTH KOREA)
0022 01 MEISEI RS2-80 (JAPAN)
0023 01 MESURAL FMO 1950A (FRANCE)
0024 01 MESURAL FMO 19455A (FRANCE)
0025 01 MESURAL MH73A (FRANCE)
0026 01 METEOLABOR BASORA (SWITZERLAND)
0027 01 AVK-MRZ (USSR)
0028 01 METEORIT MARZ2-1 (USSR)
0029 01 METEIRIT MARZ2-2 (USSR)
0030 01 OKI RS2-80 (JAPAN)
0031 01 VIZ/VALCOM TYPE A PRESSURE-COMMUTATED (CANADA)
0032 01 SHANGAI RADIO (CHINA)
0033 01 UK MET OFFICE MK3 (UK)
0034 01 VINOHRADY (CZECHOSLOVAKIA)
0035 01 VAISALA RS18 (FINLAND)
0036 01 VAISALA RS21 (FINLAND)
0037 01 VAISALA RS80 (FINLAND)
0038 01 VIZ LOCATE (LORAN-C) (USA)
0039 01 SPRENGER E076 (GERMANY)
0040 01 SPRENGER E084 (GERMANY)
0041 01 SPRENGER E085 (GERMANY)
0042 01 SPRENGER E086 (GERMANY)
0043 01 AIR IS -4A-1680 (UK)
0044 01 AIR IS -4A-1680 X (UK)
0045 01 RS MSS (USA)
0046 01 AIR IS -4A-403 (USA)
0047 01 MEISLEI RS2-91 (JAPAN)
0048 01 VALCOM (CANADA)
0049 01 VIZ MARK II (USA)
0060 01 VAISALA RS80/MICROCORA (FINLAND)
0061 01 VAISALA RS80/DIGCORA OR MARWIN (FINLAND)
0062 01 VAISALA RS80/PCCORA (FINLAND)
0063 01 VAISALA RS80/STAR (FINLAND)
0064 03 ORBITAL, SCIENCE CORPORATION, SPACE DATA DIVISION, TRANSPONDER

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        RADIOSONDE,TYPE 909-11-XX,WHERE XX CORRECPOND TO THE MODEL
        OF THE INSTRUMENT
0065 03 VIZ TRANSPONDER RADIOSONDE,MODEL NUMBER 1499-520 (USA)
0255 01 MISSING VALUE
B02012 0001 0000 01 TO BE DEVELOPED
B02013 0009 0000 01 NO CORRECTION
0001 01 CIMO SOLAR CORRECTED AND CIMO INFRARED CORRECTED
0002 01 CIMO SOLAR CORRECTED AND IFRARED CORRECTED
0003 01 CIMO SOLAR CORRECTED ONLY
0004 02 SOLAR AND INFRARED CORRECTED AUTOMATICALLY BY RADIOSONDE SY
        STEM
0005 01 SOLAR CORRECTED AUTOMATICALLY BY RADIOSONDE SYSTEM
0006 01 SOLAR AND INFRARED CORRECTED AS SPECIFIED BY COUNTRY
0007 01 SOLAR CORRECTED AS SPECIFIED BY COUNTRY
0015 01 MISSING VALUE
B02014 0050 0000 01 NO WINDFINDING
0001 01 AUTOMATIC WITH AUXILIARY OPTICAL DIRECTION FINDING
0002 01 AUTOMATIC WITH AUXILIARY RADIO DIRECTION FINDING
0003 01 AUTOMATIC WITH AUXILIARY RANGING
0004 01 NOT USED
0005 01 AUTOMATIC WITH MULTIPLE VLF-OMEGA SIGNALS
0006 01 AUTOMATIC CROSS CHAIN LORAN-C
0007 01 AUTOMATIC WITH AUXILIARY WIND PROFILER
0008 01 AUTOMATIC SATELLITE NAVIGATION
0019 01 TRACKING TECHNIQUE NOT SPECIFIED
0020 01 VESSEL STOPPED
0021 01 VESSEL DIVERTED FROM ORIGINAL DESTINATION
0022 01 VESSEL'S ARRIVAL DELAYED
0023 01 CONTAINER DAMAGED
0024 01 POWER FAILURE TO CONTAINER
0029 01 OTHER PROBLEMS
0030 01 MAJOR POWER PROBLEMS
0031 01 UPS INOPERATIVE
0032 01 RECEIVER HARDWARE PROBLEMS
0033 01 RECEIVER SOFTWARE PROBLEMS
0034 01 PROCESSOR HARDWARE PROBLEMS
0035 01 PROCESSOR SOFTWARE PROBLEMS
0036 01 NAVAID SYSTEM DAMAGED
0037 01 SHORTAGE OF LIFTING GAS
0039 01 OTHER PROBLEMS
0040 01 MECHANICAL DEFECT
0041 01 MATERIAL DEFECT (HAND LAUNCHER)
0042 01 POWER FAILURE
0043 01 CONTROL FAILURE
0044 01 PNEUMATIC/HYDRAULIC FAILURE
0045 01 OTHER PROBLEMS
0046 01 COMPRESSOR PROBLEMS
0047 01 BALLOON PROBLEMS
0048 01 BALLOON RELEASE PROBLEMS
0049 01 LAUNCHER DAMAGED
0050 01 R/S RECEIVER ANTENNA DEFECT
0051 01 NAVAID ANTENNA DEFECT
0052 01 R/S RECEIVER CABLING (ANTENNA DEFECT)
0053 01 NAVAID ANTENNA CABLING DEFECT
0059 01 OTHER PROBLEMS
0060 01 ASAP COMMUNICATIONS DEFECT
0061 01 COMMUNICATIONS FACILITY REJECTED DATA
0062 01 NO POWER AT TRANSMITTINGANTENN
0063 01 ANTENNA CABLE BROKEN
0064 01 ANTENNA CABLE DEFECT
0065 01 MESSAGE TRANSMITTED POWER BELOW NORMAL
0069 01 OTHER PROBLEMS
0070 01 ALL SYSTEMS IN NORMAL OPERATION
0099 01 STATUS OF SYSTEM AND ITS COMPONENTS NOT SPECIFIED
0127 01 MISSING VALUE
B02015 0006 0001 01 PRESSURE ONLY RADIOSONDE
0002 01 PRESSURE ONLY RADIOSONDE PLUS TRANSPONDER
0003 01 PRESSURE ONLY RADIOSONDE PLUS RADAR REFLECTOR
0004 01 NO PRESSURE RADIOSONDE PLUS TRANSPONDER
0005 01 NO PRESSURE RADIOSONDE PLUS RADAR REFLECTOR
0015 01 MISSING VALUE
B02016 0004 0001 01 TRAIN REGULATOR
0002 01 LIGHT UNIT
0003 01 PARACHUTE
0004 01 ROOFTOP RELEASE
B02020 0024 0000 01 NIMBUS
0001 VTPR
0002 Tiros 1 (Tiros, NOAA-6 to NOAA-13)
0003 Tiros 2 (NOAA-14 onwards)
0010 EOS
0031 DMSP
0061 EUMETSAT Polar System (EPS)
0091 ERS
0121 ADEOS
0241 GOES
0261 JASON
0271 GMS
0272 MTSAT
0301 INSAT
0331 METEOSAT Operational Programme (MOP)
0332 METEOSAT Transitional Programme (MTP)
0333 METEOSAT Second Generation Programme (MSG)
0351 GOMS
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0380 FY-1
0381 FY-2
0401 GPS
0402 GLONASS
0403 GALILEO
0511 MISSING VALUE
B02021 0008 0001 01 HIGH RESOLUTION INFRA RED SOUNDER (HIRS)
0002 01 MICROWAVE SOUNDING UNIT (MSU )
0003 01 STRATOSPHERIC SOUNDING UNIT (SSU)
0004 01 AMI WIND MODE
0005 01 AMI WAVE MODE
0006 01 AMI IMAGE MODE
0007 01 RADAR ALTIMETER
0008 01 ATSR
B02022 0005 0001 01 PROCESSING TECHNIQUE NOT DEFINED
0002 01 AUTOMATED STATISTICAL REGRESSION
0003 01 CLEAR PATH
0004 01 PARTLY CLOUDY PATH
0005 01 CLOUDY PATH
B02023 0008 0000 02 WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE WATER VAPOUR
CHANNEL
0001 02 WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE INFRARED
CHANNEL
0002 01 WIND DERIVED FROM CLOUD MOTION OBSERVED IN THE VISIBLE CHANNEL
0003 02 WIND DERIVED FROM CLOUD MOTION OBSERVED IN WATER VAPOUR CHANNEL
(CLOUD OR CLEAR AIR NOT SPECIFIED)
0004 02 WIND DERIVED FROM MOTION OBSERVED IN COMBINATION OF SPECTRAL
CHANNELS
0005 02 WIND DERIVED FROM MOTION OBSERVED IN THE WATER VAPOUR CHANNEL
IN CLEAR AIR
0006 01 WIND DERIVED FROM MOTION OBSERVED IN THE OZONE CHANNEL
0007 01 WIND DERIVED FROM MOTION OBSERVED IN WATER VAPOUR CHANNEL
(CLOUD OR CLEAR AIR NOT SPECIFIED)
0008 01 WIND DERIVED FROM ALTIMETER
0009 01 WIND DERIVED FROM RADIOMETER
0013 01 ROOT MEAN SQUARE
0015 01 MISSING VALUE
B02024 0003 0001 01 TABLE WITH FULL RANGE OF HUMIDITY VARIATION IN LAYER
0002 01 REGRESSION TECHNIQUE ON 2 HUMIDITY VALUES IN LAYER
0015 01 MISSING VALUE
B02025 0016 0001 01 RESERVED
0002 01 HIRS
0003 01 MSU
0006 01 HIRS
0007 01 MSU
0010 01 HIRS(1, 2, 3, 8,9, 16, 17)
0011 01 HIRS(1, 2, 3, 9, 17)
0012 01 MSU
0015 01 HIRS
0016 01 HIRS
0017 01 MSU
0018 01 SKINTK(OCEAN ONLY)
0021 01 HIRS
0022 01 SSU
0023 01 MSU (3 ,4)
0025 01 MISSING
B02030 0007 0001 01 ADCP (ACOUSTIC DOPPLER CURRENT PROFILER)
0002 01 GEK (GEOMAGNETIC ELECTRO KINETOGRAPH)
0003 01 SHIPS'S SET AND DRIFT DETERMINED BY FIXES 3-6 HOURS APART
0004 02 SHIPS'S SET AND DRIFT DETERMINED BY MORE THAN 6 HOURS
BUT LESS THAN 12 HOURS APART
0005 01 DRIFT OF BUOY
0006 01 ADCP (ACOUSTIC DOPPLER CURRENT PROFILER)
0007 01 MISSING VALUE
B02031 0021 0000 01 RESERVED
0001 01 INSTANTANEOUS
0002 01 AVERAGED OVER 3 MINUTES OR LESS
0003 01 AVERAGED OVER MORE THAN 3 MINUTES, BUT 6 AT THE MOST
0004 01 AVERAGED OVER MORE THAN 6 MINUTES, BUT 12 AT THE MOST
0005 01 INSTANTANEOUS
0006 01 AVERAGED OVER 3 MINUTES OR LESS
0007 01 AVERAGED OVER MORE THAN 3 MINUTES, BUT 6 AT THE MOST
0008 01 AVERAGED OVER MORE THAN 6 MINUTES, BUT 12 AT THE MOST
0009 01 VECTOR OR DOPPLER CURRENT PROFILING METHOD NOT USED
0010 01 RESERVED
0011 01 1 HOUR OR LESS
0012 01 MORE THAN 1 HOUR BUT 2 AT THE MOST
0013 01 MORE THAN 2 HOUR BUT 4 AT THE MOST
0014 01 MORE THAN 4 HOUR BUT 8 AT THE MOST
0015 01 MORE THAN 8 HOUR BUT 12 AT THE MOST
0016 01 MORE THAN 12 HOUR BUT 18 AT THE MOST
0017 01 MORE THAN 18 HOUR BUT 24 AT THE MOST
0018 01 RESERVED
0019 01 DRIFT METHOD NOT USED
0031 01 MISSING
B02032 0004 0000 02 VALUES AT SELECTED DEPTHS (DATA POINTS FIXED BY THE INSTRUME
NT OR SELECTED BY ANY OTHER METHOD)
0001 02 VALUES AT SIGNIFICANT DEPTHS (DATA POINTS TAKEN FROM TRACES
AT SIGNIFICANT DEPTHS)
0002 01 RESERVED
0003 01 MISSING VALUE
B02033 0005 0000 01 NO SALINITY MEASURED
0001 01 IN SITU SENSOR, ACCURACY BETTER THAN 0.02 %

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0002 01 IN SITU SENSOR, ACCURACY LESS THAN 0.02 %
0003 01 SAMPLE ANALYSIS
0007 01 MISSING VALUE
B02034 0007 0000 01 UNSPECIFIED DROGUE
0001 01 HOLEY SOCK
0002 01 TRISTAR
0003 01 WINDOW SHADE
0004 01 PARACHUTE
0005 01 NON-LAGRANGIAN SEA ANCHOR
0031 01 MISSING VALUE
B02036 0004 0000 01 DRIFTING BUOY
0001 01 FIXED BUOY
0002 01 RESERVED
0003 01 MISSING VALUE
B02037 0007 0000 01 REASERVED
0001 01 MANUAL READING FROM VERTICAL TIDE STAFF
0002 01 MANUAL READING FROM SINGLE AUTOMATIC RECORDER AT STATION
0003 01 MANUAL READING FROM MULTIPLE AUTOMATIC RECORDERS AT STATION
0004 02 AUTOMATIC READING FROM SINGLE AUTOMATIC RECORDER AT STATION
WITHOUT LEVEL REFERENCE CHECK
0005 02 AUTOMATIC READING FROM SINGLE AUTOMATIC RECORDER AT STATION
WITH LEVEL REFERENCE CHECK,OR MULTIPLE AUTOMATIC RECORDERS
0007 01 MISSING
B02038 0012 0000 01 SHIP INTAKE
0001 01 BUCKET
0002 01 HULL CONTACT SENSOR
0003 01 REVERSING TERMOMETER
0004 01 STD/CTD SENSOR
0005 01 MECHANICAL BT
0006 01 EXPANDABLE BT
0007 01 DIGITAL BT
0008 01 THERMISTOR CHAIN
0009 01 INFRARED SCANNER
0010 01 MICROWAVE SCANNER
0015 01 MISSING VALUE
B02039 0005 0000 01 MEASURED WET-BULB TEMPERATURE
0001 01 ICED BULB MEASURED WET-BULB TEMPERATURE
0002 01 COMPUTED WET-BULB TEMPERATURE
0003 01 ICED BULB COMPUTED WET-BULB TEMPERATURE
0007 01 MISSING VALUE
B02041 0005 0000 01 INFORMATION BASED ON MANUAL ANALYSIS
0001 01 INFORMATION BASED ON COMPUTER ANALYSIS
0002 01 INFORMATION BASED ON DATA ASSIMILATION
0003 02 INFORMATION BASED ON COMPUTER ANALYSIS OR DATA ASSIMILATIO
N MANUALLY MODIFIED
0063 01 MISSING VALUE
B02040 0008 0000 01 SHIPS MOTION REMOVED BY AVARAGING
0001 01 SHIPS MOTION REMOVED BY MOTION COMPENSATION
0002 01 SHIPS MOTION NOT REMOVED
0003 01 SHIPS MOTION REMOVED BY AVERAGING
0004 01 SHIPS MOTION REMOVED BY MOTION COMPENSATION
0005 01 SHIPS MOTION NOT REMOVED
0006 01 DOPPLER CURRENT PROFILING METHOD NOT USED
0015 01 MISSING VALUE
B02041 0006 0000 01 INFORMATION BASED ON MANUAL ANALYSIS
0001 01 INFORMATION BASED ON COMPUTER ANALYSIS
0002 01 INFORMATION BASED ON DATA ASSIMILATION
0003 02 INFORMATION BASED ON COMPUTER ANALYSIS OR
DATA ASSIMILATION MANUALLY MODIFIED
0010 01 INFORMATION BASED ON THE NUMERICAL WEATHER PREDICTION
0063 01 MISSING VALUE
B02044 0006 0000 01 RESERVED
0001 01 LONGUET-HIGGINS (1964)
0002 01 LONGUET-HIGGINS (F3 METHOS)
0003 01 MAXIMUM LIKELIHOOD METHOD
0004 01 MAXIMUM ENTROPY METHOD
0015 01 MISSING VALUE
B02045 0005 0000 01 SEA STATION
0001 01 AUTOMATIC DATA BUOY
0002 01 AIRCRAFT
0003 01 SATELLITE
0015 01 MISSING VALUE
B02046 0004 0000 01 RESERVED
0001 01 HEAVE SENSOR
0002 01 SLOPE SENSOR
0015 01 MISSING VALUE
B02048 0012 0000 01 HIRS
0001 01 MSU
0002 01 SSU
0003 01 AMSU-A
0004 01 AMSU-B
0005 01 AVHRR
0006 01 SSMI
0007 01 NSCAT
0008 01 SEA WINDS
0009 01 POSEIDON ALTIMETER
0010 01 JMR (JASON MICROWAVE RADIOMETER)
0015 01 MISSING VALUE
B02049 0004 0001 01 PROCESSING TECHNIQUE NOT DEFINED
0002 01 SIMULTANIOUS PHISICAL RETRIEVAL
0003 01 CLEAR SOUNDING
0004 01 CLOUDY COUNDING
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B02050 0019 0001 01 CHANNEL 1 14.71 MICROMETERS
              0002 01 CHANNEL 2 14.37 MICROMETERS
              0003 01 CHANNEL 3 14.06 MICROMETERS
              0004 01 CHANNEL 4 13.64 MICROMETERS
              0005 01 CHANNEL 5 13.37 MICROMETERS
              0006 01 CHANNEL 6 12.66 MICROMETERS
              0007 01 CHANNEL 7 12.02 MICROMETERS
              0008 01 CHANNEL 8 11.03 MICROMETERS
              0009 01 CHANNEL 9 9.71 MICROMETERS
              0010 01 CHANNEL 10 7.43 MICROMETERS
              0011 01 CHANNEL 11 7.02 MICROMETERS
              0012 01 CHANNEL 12 6.51 MICROMETERS
              0013 01 CHANNEL 13 4.57 MICROMETERS
              0014 01 CHANNEL 14 4.52 MICROMETERS
              0015 01 CHANNEL 15 4.45 MICROMETERS
              0016 01 CHANNEL 16 4.13 MICROMETERS
              0017 01 CHANNEL 17 3.98 MICROMETERS
              0018 01 CHANNEL 18 3.74 MICROMETERS
              0019 01 CHANNEL 19 0.969 MICROMETERS
B02051 0004 0001 01 MAXIMUM/MINIMUM THERMOMETERS
              0002 01 AUTOMATED INSTRUMENT
              0003 01 THERMOGRAPH
              0015 01 MISSING VALUE
B02052 0005 0001 01 CHANNEL 1 0.55-.75 MICROMETERS
              0002 01 CHANNEL 2 3.9 MICROMETERS
              0003 01 CHANNEL 3 6.7 MICROMETERS
              0004 01 CHANNEL 4 10.7 MICROMETERS
              0005 01 CHANNEL 5 12.0 MICROMETERS
B02053 0005 0000 01 OBSERVED BRIGHTNESS TEMPERATURES
              0001 01 BRIGHTNESS TEMPERATURE WITH BIAS CORRECTION APPLIED
              0002 01 BRIGHTNESS TEMPERATURE CALCULATED FROM FIRST GUESS
              0003 01 BRIGHTNESS TEMPERATURE CALCULATED FROM SOUNDING
              0015 01 MISSING VALUE
B02054 0006 0000 01 PARAMETER DERIVED USING OBSERVED SOUNDER BRIGHTNESS TEMPERATURES
              0001 01 PARAMETER DERIVED USING OBSERVED IMAGER BRIGHTNESS TEMPERATURES
              0002 01 PARAMETER DERIVED USING FIRST GUESS INFORMATION
              0003 01 PARAMETER DERIVED USING NMC ANALYSIS INFORMATION
              0004 01 PARAMETER DERIVED USING RADIOSONDE INFORMATION
              0015 01 MISSING VALUE
B02055 0010 0000 01 STATISTICS GENERATED COMPARING RETRIEVAL VERSUS RADIOSONDE
              0001 01 STATISTICS GENERATED COMPARING RETRIEVAL VERSUS FIRST GUESS
              0002 01 STATISTICS GENERATED COMPARING RADIOSONDE VERSUS FIRST GUESS
              0003 01 STATISTICS GENERATED COMPARING OBSERVED VERSUS RETRIEVAL
              0004 01 STATISTICS GENERATED COMPARING OBSERVED VERSUS FORST GUESS
              0005 01 STATISTICS GENERATED COMPARING RADIOSONDE VERSUS IMAGER
              0006 01 STATISTICS GENERATED COMPARING RADIOSONDE VERSUS SOUNDER
              0007 01 STATISTICS GENERATED FOR RADIOSONDE
              0008 01 STATISTICS GENERATED FOR FIRST GUESS
B02056 0006 0000 01 SUMS OF DIFFERENCE
              0001 01 SUMS OF SQUARED DIFFERENCES
              0002 01 SAMPLE SIZE
              0003 01 MINIMUM DIFFERENCE
              0004 01 MAXIMUM DIFFERENCE
              0015 01 MISSING VALUE
B02057 0007 0000 01 NESTED GRID MODEL (NMG)
              0001 01 AVIATION MODEL (AVN)
              0002 01 MEDIUM RANGE FORECAST (MRF) MODEL
              0003 01 GLOBAL DATA ASSIMILATION SYSTEM (GDAS) FORECAST MODEL
              0004 01 PRIOR SOUNDINGS (WITHIN 3 HOURS OF CURRENT TIME)
              0005 01 CLIMATOLOGY
B02058 0005 0000 01 12 HOUR AND 18 HOUR
              0001 01 18 HOUR AND 24 HOUR
              0002 01 6 HOUR AND 12 HOUR
              0003 01 GREATER THAN 24 HOUR
              0015 01 MISSING VALUE
B02059 0005 0000 01 NCEP NESTED GRID MODEL ANALYSIS
              0001 01 NCEP AVIATION MODEL ANALYSIS
              0002 01 NCEP MEDIUM RANGE FORECAST MODEL ANALYSIS
              0003 01 NCEP GLOBAL DATA ASSIMILATION SYSTEM FORECAST MODEL ANALYSIS
              0015 01 MISSING VALUE
B02060 0007 0000 01 CURRENT SURFACE HOURLY REPORTS
              0001 01 CURRENT SHIP REPORTS
              0002 01 CURRENT BUOY REPORTS
              0003 01 ONE HOUR OLD SURFACE HOURLY REPORTS
              0004 01 ONE HOUR SHIP OLD REPORTS
              0005 01 ONE HOUR BUOY OLD REPORTS
              0015 01 MISSING VALUE
B02061 0003 0000 01 INERTIAL NAVIGATOR SYSTEM
              0001 01 OMEGA
              0007 01 MISSING VALUE
B02062 0007 0000 01 ASDAR
              0001 01 ASDAR (ACARS ALSO AVAILABLE BUT NOT OPERATIVE)
              0002 01 ASDAR (ACARS ALSO AVAILABLE AND OPERATIVE)
              0003 01 ACARS
              0004 01 ACARS (ASDAR ALSO AVAILABLE BUT NOT OPERATIVE)
              0005 01 ACARS (ASDAR ALSO AVAILABLE AND OPERATIVE)
              0015 01 MISSING VALUE
B02064 0004 0000 01 GOOD
              0001 01 BAD
              0002 01 RESERVED
              0003 01 MISSING VALUE
B02066 0004 0000 01 TRS 2000
              0001 01 IMS 1500C

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0062 01 OTHER  
0063 01 MISSING VALUE  
B02070 0013 0000 01 ACTUAL LOCATION IN SECONDS  
0001 01 ACTUAL LOCATION IN MINUTES  
0002 01 ACTUAL LOCATION IN DEGREES  
0003 01 ACTUAL LOCATION IN DECIDEGREES  
0004 01 ACTUAL LOCATION OM CENTIDEGREES  
0005 01 REFERENCED TO CHECKPOINT IN SECONDS  
0006 01 REFERENCED TO CHECKPOINT IN MINUTES  
0007 01 REFERENCED TO CHECKPOINT IN DEGREES  
0008 01 REFERENCED TO CHECKPOINT IN DECIDEGREES  
0009 01 REFERENCED TO CHECKPOINT IN CENTIDEGREES  
0010 01 ACTUAL LOCATION IN TENTHS OF A MINUTE  
0011 01 REFERENCED TO CHECKPOINT IN TENTHS OF A MINUTE  
0015 01 MISSING VALUE  
B02080 0005 0000 01 KAYSAM  
0001 01 TOTEX  
0002 01 KKS  
0062 01 OTHER  
0063 01 MISSING VALUE  
B02081 0009 0000 01 GP26  
0001 01 GP28  
0002 01 GP30  
0003 01 HM26  
0004 01 HM28  
0005 01 HM30  
0006 01 SV16  
0030 01 OTHER  
0031 01 MISSING VALUE  
B02083 0006 0000 01 HIGH BAY  
0001 01 LOW BAY  
0002 01 BALLOON INFLATION LAUNCH SYSTEM (BILS)  
0003 01 ROOF-TOP BILS  
0014 01 OTHER  
0015 01 MISSING VALUE  
B02084 0005 0000 01 HYDROGEN  
0001 01 HELIUM  
0002 01 NATURAL GAS  
0014 01 OTHER  
0015 01 MISSING VALUE  
B02095 0005 0000 01 CAPACITANCE ANEROID  
0001 01 DERIVED FROM GPS  
0002 01 RESISTIVE STRAIN GAUGE  
0030 01 OTHER  
0031 01 MISSING VALUE  
B02096 0005 0000 01 ROD THERMISTOR  
0001 01 BEAD THERMISTOR  
0002 01 CAPACITANCE BEAD  
0030 01 OTHER  
0031 01 MISSING VALUE  
B02097 0008 0000 01 VIZ MARK II CARBON HYGRISTOR  
0001 01 VIZ B2 HYGRISTOR  
0002 01 VAISALA A-HUMICAP  
0003 01 VAISALA H-HUMICAP  
0004 01 CAPACITANCE SENSOR  
0005 01 VAISALA RS90  
0030 01 OTHER  
0031 01 MISSING VALUE  
B02101 0010 0000 01 CENTRE FRONT-FED PARABOLOID  
0001 01 OFFSET FRONT-FED PARABOLOID  
0002 01 CENTRE CASSEGRAIN PARABOLOID  
0003 01 OFFSET CASSEGRAIN PARABOLOID  
0004 01 PLANAR ARRAY  
0005 01 COAXIAL-COLLINEAR ARRAY  
0006 01 YAGI ELEMENTS ARRAY  
0007 01 MICROSTRIP  
0014 01 OTHER  
0015 01 MISSING VALUE  
B02103 0002 0001 01 RADAR ANTENNA IS PROTECTED BY A RADOME  
0002 01 MISSING VALUE  
B02104 0007 0000 01 HORIZONTAL POLARISATION  
0001 01 VERTICAL POLARISATION  
0002 01 RIGHT CIRCULAR POLARISATION  
0003 01 LEFT CIRCULAR POLARSZATION  
0004 01 HORIZONTAL AND VERTICAL POLARISATION  
0005 01 RIGHT AND LEFT CIRCULAR POLARISATION  
0015 01 MISSING VALUE  
B02115 0007 0000 01 PDB  
0001 01 RSOIS  
0002 01 ASOS  
0003 01 PSYCHROMETER  
0004 01 F420  
0030 01 OTHER  
0031 01 MISSING VALUE  
B02119 0008 0000 01 INTERMEDIATE FREQUENCY CALIBRATION MODE (IFCAL)  
0001 01 BUILT-IN TEST EQUIPMENT DIGITAL (BITE DGT)  
0002 01 BUILT-IN TEST EQUIPMENT RADIO FREQUENCY (BITE RF)  
0003 01 PRESET TRACKING (PSET TRK)  
0004 01 PRESET LOOP OUT  
0005 01 ACQUISITION  
0006 01 TRACKING  
0007 01 MISSING VALUE  
B02131 0001 0001 01 STC OPERATIONAL

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B02143 0021 0000 01 RESERVED
              0001 01 Brewer spectrophotometer
              0002 01 Caver Teichert
              0003 01 Dobson
              0004 01 Dobson (Japan)
              0005 01 Ehmet
              0006 01 Fecker telescope
              0007 01 Hoelper
              0008 01 Jodmeter
              0009 01 Filter Ozonometer M-83
              0010 01 Mast
              0011 01 Oxford
              0012 01 Paetzold
              0013 01 Regener
              0014 01 Reserved for future use
              0015 01 Vassy filter Ozonometer
              0016 01 Carbon iodide
              0017 01 Surface ozone bubbler
              0018 01 Filter Ozonometer M-124
              0019 01 ECC sonde
              0127 01 MISSING VALUE
B02144 0008 0000 01 Direct Sun
              0001 01 Direct Sun, attenuator #1
              0002 01 Direct Sun, attenuator #2
              0003 01 Focussed Moon
              0004 01 Focussed Sun
              0005 01 Focussed Sun corrected with adjacent sky measurements
              0006 01 Zenith Sky
              0015 01 MISSING VALUE
B02131 0002 0001 01 STC OPERATIONAL
              0003 01 MISSING VALUE
B02143 0021 0000 01 RESERVED
              0001 01 BREWER SPECTROMETER
              0002 01 CAVER TEICHERT
              0003 01 DOBSON
              0004 01 DOBSON (JAPAN)
              0005 01 EHMET
              0006 01 FECKER TELESCOPE
              0007 01 HOELPER
              0008 01 JODMETER
              0009 01 FILTER OZONOMETER M-83
              0010 01 MAST
              0011 01 OXFORD
              0012 01 PAETZOLD
              0013 01 REGENER
              0014 01 RESERVED
              0015 01 VASSY FILTER OZONOMETER
              0016 01 CARBON IODIDE
              0017 01 SURFACE OZONE BUBLLER
              0018 01 FILTER OZONOMETER M-124
              0019 01 ECC SONDE
              0127 01 MISSING VALUE
B02144 0008 0000 01 DIRECT SUN, ATTENUATOR #0
              0001 01 DIRECT SUN, ATTENUATOR #1
              0002 01 DIRECT SUN, ATTENUATOR #2
              0003 01 FOCUSSED MOON
              0004 01 FOCUSSED SUN
              0005 01 FOCUSSED SUN CORRECTED WITH ADJACENT SKY MEASUREMENTS
              0006 01 ZENITH SKY
              0015 01 MISSING VALUE
B02145 0009 0000 01 WAVELENGTH AD ORDINARY SETTING
              0001 01 WAVELENGTH BD ORDINARY SETTING
              0002 01 WAVELENGTH CD ORDINARY SETTING
              0003 01 WAVELENGTH CC' ORDINARY SETTING
              0004 01 WAVELENGTH AD FOCUSING IMAGE
              0005 01 WAVELENGTH BD FOCUSING IMAGE
              0006 01 WAVELENGTH CD FOCUSING IMAGE
              0007 01 WAVELENGTH CC' FOCUSING IMAGE
              0015 01 MISSING VALUE
B02146 0011 0000 01 ON DIRECT SUN
              0001 01 ON DIRECT MOON
              0002 01 ON BLUE ZENITH SKY
              0003 01 ON ZENITH CLOUD (UNIFORM STRATIFIED LAYER OF SMALL OPACITY)
              0004 01 ON ZENITH CLOUD (UNIFORM OR MODERATELY VARIABLE LAYER OF MEDIUM OPACITY)
              0005 01 ON ZENITH CLOUD (UNIFORM OR MODERATELY VARIABLE LAYER OF LARGE OPACITY)
              0006 01 ON ZENITH CLOUD (HIGHLY VARIABLE OPACITY, WITH OR WITOUT PRECIPITATION)
              0007 01 ON ZENITH CLOUD (FOG)
              0008 01 ON ZENITH HAZE
              0009 01 ON DIRECT SUN THROUGH THIN CLOUD, FOG OR HAZE
              0015 01 MISSING VALUE
B02148 0006 0000 01 RESERVED
              0001 01 ARGOS
              0002 01 GPS
              0003 01 GOES DCP
              0004 01 METEOSAT DCP
              0031 01 MISSING VALUE
B02149 0022 0000 01 Unspecified drifting buoy
              0001 01 Standard Lagrangian drifter (Global Drifter Programme)
              0002 01 Standard FGGE type drifting buoy
              0003 01 Wind measuring FGGE type drifting buoy
              0004 01 Ice float
              0008 01 Unspecified sub-surface float
              0009 01 SOFAR

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0010 01 ALACE
0011 01 MARVOR
0012 01 RAFOS
0016 01 Unspecified moored buoy
0017 01 Nomad
0018 01 3-metre discus
0019 01 10-12-metre discus
0020 01 ODAS 30 series
0021 01 ATLAS (e.g. TAO area)
0022 01 TRITON buoy
0023 01 Reserved
0024 01 Omnidirectional waverider
0025 01 Directional waverider
0026 01 Sub-surface ARGO float
0063 01 MISSING VALUE
B02150 0055 0000 01 RESERVED
0001 01 HIRS 1
0002 01 HIRS 2
0003 01 HIRS 3
0004 01 HIRS 4
0005 01 HIRS 5
0006 01 HIRS 6
0007 01 HIRS 7
0008 01 HIRS 8
0009 01 HIRS 9
0010 01 HIRS 10
0011 01 HIRS 11
0012 01 HIRS 12
0013 01 HIRS 13
0014 01 HIRS 14
0015 01 HIRS 15
0016 01 HIRS 16
0017 01 HIRS 17
0018 01 HIRS 18
0019 01 HIRS 19
0020 01 HIRS 20
0021 01 MSU 1
0022 01 MSU 2
0023 01 MSU 3
0024 01 MSU 4
0025 01 SSU 1
0026 01 SSU 2
0027 01 SSU 3
0028 01 AMSU-A 1
0029 01 AMSU-A 2
0030 01 AMSU-A 3
0031 01 AMSU-A 4
0032 01 AMSU-A 5
0033 01 AMSU-A 6
0034 01 AMSU-A 7
0035 01 AMSU-A 8
0036 01 AMSU-A 9
0037 01 AMSU-A 10
0038 01 AMSU-A 11
0039 01 AMSU-A 12
0040 01 AMSU-A 13
0041 01 AMSU-A 14
0042 01 AMSU-A 15
0043 01 AMSU-B 1
0044 01 AMSU-B 2
0045 01 AMSU-B 3
0046 01 AMSU-B 4
0047 01 AMSU-B 5
0048 01 AVHRR 1
0049 01 AVHRR 2
0050 01 AVHRR 3a
0051 01 AVHRR 3b
0052 01 AVHRR 4
0053 01 AVHRR 5
0063 01 MISSING VALUE
B02151 0009 0000 01 HIRS
0001 01 MSU
0002 01 SSU
0003 01 AMSU-A1-1
0004 01 AMSU-A1-2
0005 01 AMSU-A2
0006 01 AMSU-B
0007 01 AVHRR
2047 01 MISSING VALUE
B02152 0011 0001 01 High-resolution infrared sounder(HIRS)
0002 01 Microwave sounding unit (MSU)
0003 01 Stratospheric sounding unit (SSU)
0004 01 AMI wind mode
0005 01 AMI wave mode
0006 01 AMI image mode
0007 01 RADAR altimeter
0008 01 ATSR
0009 01 Geostationary Imager
0010 01 Geostationary Sounder
0011 01 Geostationary Earth radiation (GERB)
B02158 0008 0001 01 Mismatch in RED VEC HPA
0002 01 Mismatch in RED VEC RFSS
0003 01 PTR calibration band 320 MHz (Ku)
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	0004	01	PTR calibration band 80 MHz (Ku)
	0005	01	PTR calibration band 20 MHz (Ku)
	0006	01	PTR calibration band 160 MHz (S)
	0007	01	Ku flight calibration parameters available
	0008	01	S flight calibration parameters available
B02159	0005	0001	01 Temperature inconsistency
		0002	01 Data is missing
		0003	01 Redundancy channel
		0004	01 Power bus protection
		0005	01 Overvoltage/Overload protection
B02163	0015	0000	01 Auto editor
		0001	01 IRW height assignment
		0002	01 WV height assignment
		0003	01 H2O intercept height assignment
		0004	01 CO2 slicing height assignment
		0005	01 Low pixel max gradient
		0006	01 Higher pixel max gradient
		0007	01 Primary height assignment
		0008	01 Layer thickness assignment
		0009	01 Cumulative contribution function -10 percent height
		0010	01 Cumulative contribution function -50 percent height
		0011	01 Cumulative contribution function -90 percent height
		0012	02 Cumulative contribution function - height of maximum gradient
		0014	01 Composite height assignment
		0015	01 MISSING VALUE
B02164	0004	0000	01 LP - Norms least square minimum
		0001	01 EN - Euclidean norm with radiance correlation
		0002	01 CC - Cross correlation
		0007	01 MISSING VALUE
B02166	0006	0000	01 Type not defined
		0001	01 Automated statistical regression
		0002	01 Clear path
		0003	01 Partly cloudy path
		0004	01 Cloudy path
		008035	0000 0000 01 Global
		0001	01 Regional
		0002	01 National
		0003	01 Special
		0004	01 Bilateral
		0005	01 Reserved
		0006	01 Reserved
		0007	01 MISSING0015 01 MISSING VALUE
B02167	0004	0000	01 Method not define
		0001	01 1b raw radiance
		0002	01 processed radiance
		0015	01 MISSING VALUE
B02169	0004	0000	01 Cup rotor
		0001	01 Propeller rotor
		0002	01 Wind Observation Through Ambient Noise (WOTAN)
		0015	01 MISSING VALUE
B02172	0003	0001	01 Retrieval from a nadir sounding
		0002	01 Retrieval from a limb sounding
		0255	01 MISSING VALUE
B02175	0009	0000	01 Manual measurement
		0001	01 Tipping bucket method
		0002	01 Weighing method
		0003	01 Optical method
		0004	01 Pressure method
		0005	01 Float method
		0006	01 Drop counter method
		0014	01 Other
		0015	01 MISSING VALUE
B02176	0006	0000	01 Manual observation
		0001	01 Video camera method
		0002	01 Infra-red method
		0003	01 Laser method
		0014	01 Other
		0015	01 MISSING VALUE
B02177	0005	0000	01 Manual observation
		0001	01 Ultrasonic method
		0002	01 Video camera method
		0014	01 Other
		0015	01 MISSING VALUE
B02178	0005	0000	01 Manual observation
		0001	01 Optical method
		0002	01 Capacitive method
		0014	01 Other
		0015	01 MISSING VALUE
B02179	0006	0000	01 Manual observation
		0001	01 VAISALA algorithm
		0002	01 ASOS (FAA) algorithm
		0003	01 AWOS (Canada) algorithm
		0014	01 Other
		0015	01 MISSING VALUE
B02180	0008	0000	01 Manual observation
		0001	02 Optical scatter system combined with precipitation occurrence sensing system
		0002	01 Forward and/or back-scatter system of visible light
		0003	01 Forward and/or back-scatter system of infrared light
		0004	01 Infrared light emitting diode (IRED) system
		0005	01 Doppler radar system
		0014	01 Other

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0015 01 MISSING VALUE
B02181 0005 0001 01 Rain detector
0002 01 Freezing rain sensor
0003 01 Ice detection sensor
0004 01 Hail and ice pellet sensor
0020 01 Other
B02182 0007 0000 01 Manual measurement
0001 01 Transmissometer system (base > 25)
0002 01 Transmissometer system (base < 25 m)
0003 01 Forward scatter system
0004 01 Back scatter system
0014 01 Other
0015 01 MISSING VALUE
B02183 0009 0000 01 Manual observation
0001 01 Ceilometer system
0002 01 Infrared camera system
0003 01 Microwave visual camera system
0004 01 Sky imager system
0005 01 Video time lapsed camera system
0006 01 Micro pulse lidar (MPL) system
0014 01 Other
0015 01 MISSING VALUE
B02184 0008 0000 01 Manual observation
0001 01 Lightning imaging sensor
0002 01 Electrical storm identification sensor
0003 01 Magnetic finder sensor
0004 01 Lightning strike sensor
0005 01 Flash counter
0014 01 Other
0015 01 MISSING VALUE
B02185 0007 0000 01 Manual measurement
0001 01 Balanced floating method
0002 01 Pressure method
0003 01 Ultrasonic method
0004 01 Hydraulic method
0014 01 Other
0015 01 MISSING VALUE
B02186 0023 0001 01 Precipitation-unknown type
0002 01 Liquid precipitation not freezing
0003 01 Liquid freezing precipitation
0004 01 Drizzle
0005 01 Rain
0006 01 Solid precipitation
0007 01 Snow
0008 01 Snow grains
0009 01 Snow pellets
0010 01 Ice pellets
0011 01 Ice crystals
0012 01 Diamond dust
0013 01 Small hail
0014 01 Hail
0015 01 Glaze
0016 01 Rime
0017 01 Soft rime
0018 01 Hard rime
0019 01 Clear ice
0020 01 Wet snow
0021 01 Hoar frost
0022 01 Dew
0023 01 White dew
B02187 0011 0001 01 Dust/sand whirl
0002 01 Squalls
0003 01 Sand storm
0004 01 Dust storm
0005 01 Lightning - cloud to surface
0006 01 Lightning - cloud to cloud
0007 01 Lightning - distant
0008 01 Thunderstorm
0009 01 Funnel Cloud not touching surface
0010 01 Funnel cloud touching surface
0011 01 Spray
B02188 0010 0001 01 Fog
0002 01 Ice fog
0003 01 Steam fog
0007 01 Mist
0008 01 Haze
0009 01 Smoke
0010 01 Volcanic ash
0011 01 Dust
0012 01 Sand
0013 01 Snow
B02189 0004 0001 01 Manual observation
0002 01 All lightning strikes without discrimination
0003 01 Lightning strikes cloud to ground only
0004 02 All lightning strikes with discrimination between
cloud to ground and cloud to cloud
B04059 0005 0001 01 00 UTC
0002 01 06 UTC
0003 01 12 UTC
0004 01 18 UTC
0005 01 Other hours
B08001 0007 0001 01 SURFACE
0002 01 STANDARD LEVEL
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0003 01 TROPOPAUSE LEVEL
0004 01 MAXIMUM WIND LEVEL
0005 01 SIGNIFICANT LEVEL, TEMPERATURE
0006 01 SIGNIFICANT LEVEL, WIND
0007 01 MISSING VALUE
B08002 0013 0000 02 OBSERVING RULES FOR BASE OF LOWEST CLOUD AND CLOUD TYPES OF
FM 12-IX EXT. SYNOP AND FM 13-IX EXT. SHIP APPLY
0001 01 FIRST NON - Cb SIGNIFICANT LAYER
0002 01 SECOND NON - Cb SIGNIFICANT LAYER
0003 01 THIRD NON - Cb SIGNIFICANT LAYER
0004 01 CUMULONIMBUS LAYER
0005 01 CEILING
0006 01 CLOUD NOT DETECTED BELOW THE FOLLOWING HEIGHT(S)
0007 01 LOW CLOUD
0008 01 MIDDLE CLOUD
0009 01 HIGH CLOUD
0010 02 Cloud layer with base below the station level and top
above the station level
0011 01 Cloud layer with base and top below the station level
0063 01 MISSING VALUE
B08003 0009 0000 01 SURFACE
0001 01 BASE OF SATELLITE SOUNDING
0002 01 CLOUD TOP
0003 01 TROPOPAUSE
0004 01 PRECIPITABLE WATER
0005 01 SOUNDING RADIANCES
0006 01 MEAN TEMPERATURES
0007 01 OZON
0063 01 MISSING VALUE
B08004 0006 0002 01 UNSTEADY (UNS)
0003 01 LEVEL FLIGHT, ROUTINE OBSERVATION (LVR)
0004 01 LEVEL FLIGHT, HIGHEST WIND ENCOUNTERED (LVW)
0005 01 ASCENDING (ASC)
0006 01 DESCENDING (DES)
0007 01 MISSING VALUE
B08005 0005 0000 01 RESERVED
0001 01 STORM CENTRE
0002 01 OUTER LIMIT OR EDGE OF STORM
0003 01 LOCATION OF MAXIMUM WIND
0015 01 MISSING VALUE
B08006 0008 0001 01 SURFACE
0002 01 STANDARD LEVEL
0003 01 TROPOPAUSE LEVEL
0004 01 PROMINENT MAXIMUM LEVEL
0005 01 PROMINENT MINIMUM LEVEL
0006 01 MINIMUM PRESSURE LEVEL
0007 01 RESERVED
0008 01 LEVEL OF UNDETERMINED SIGNIFICANCE
B08007 0005 0000 01 POINT
0001 01 LINE
0002 01 AREA
0003 01 VOLUME
0015 01 MISSING VALUE
B08008 0008 0001 01 Surface
0002 01 Standard level
0003 01 Tropopause level
0004 01 Level of beta radiation maximum
0005 01 Level of gamma radiation maximum
0006 01 Minimum pressure level
0007 01 Reserved
0008 01 Level of undetermined significance
B08009 0016 0000 01 Level flight, routine observation, unsteady
0001 01 Level flight, highest wind encountered, unsteady
0002 01 Unsteady (UNS)
0003 01 Level flight, routine observation (LVR)
0004 01 Level flight, highest wind encountered (LVW)
0005 01 Ascending (ASC)
0006 01 Descending (DES)
0007 02 Ascending, observation intervals selected by
time increments
0008 02 Ascending, observation intervals selected by
time increments, unsteady
0009 02 Ascending, observation intervals selected by
pressure increments
0010 02 Ascending, observation intervals selected by
pressure increments, unsteady
0011 02 Descending, observation intervals selected by
time increments
0012 02 Descending, observation intervals selected by
time increments, unsteady
0013 02 Descending, observation intervals selected by
pressure increments
0014 02 Descending, observation intervals selected by
pressure increments, unsteady
0015 01 Missing value
B08010 0013 0000 01 Reserved
0001 01 Bare soil
0002 01 Bare rock
0003 01 Land grass cover
0004 01 Water (lake, sea)
0005 01 Flood water underneath
0006 01 Snow
0007 01 Ice

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0008 01 Runway or road
0009 01 Ship or platform deck in steel
0010 01 Ship or platform deck in wood
0011 01 Ship or platform deck partly covered with rubber mat
0031 01 Missing value
B08011 0026 0000 01 QUASI-STATIONARY FRONT AT THE SURFACE
0001 01 QUASI-STATIONARY FRONT ABOVE THE SURFACE
0002 01 WARM FRONT AT THE SURFACE
0003 01 WARM FRONT ABOVE THE SURFACE
0004 01 COLD FRONT AT THE SURFACE
0005 01 COLD FRONT ABOVE THE SURFACE
0006 01 OCCLUSION
0007 01 INSTABILITY LINE
0008 01 INTERTROPICAL FRONT
0009 01 CONVERGENCE LINE
0010 01 JET STREAM
0011 01 CLOUD CLEAR
0012 01 CLOUD
0013 01 TURBULENCE
0014 01 STORM
0015 01 AIRFRAME ICING
0016 01 PHENOMENON
0017 01 VOLCANO
0018 01 Atmospherics
0020 01 SPECIAL CLOUDS
0021 01 Thunderstorm (VAL)
0022 01 Tropical cyclone (VAL)
0023 01 Mountain Wave (VAL)
0024 01 Duststorm (VAL)
0025 01 Sandstorm (VAL)
0063 01 MISSING VALUE
B08012 0004 0000 01 LAND
0001 01 SEA
0002 01 RESERVED
0003 01 MISSING VALUE
B08013 0004 0000 01 night
0001 01 DAY
0002 01 RESERVED
0003 01 MISSING VALUE
B08014 0010 0000 01 10-MINUTE MEAN VALUE - NORMAL VALUE
0001 01 10-MINUTE MEAN VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENT OF RVR (P)
0002 01 10-MINUTE MEAN VALUE - BELOW LOWER LIMIT FOR ASSESSMENT OF RVR (M)
0003 01 ONE MINUTE MINIMUM VALUE - NORMAL VALUE
0004 01 ONE MINUTE MINIMUM VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENT OF RVR (P)
0005 01 ONE MINUTE MINIMUM VALUE - BELOW LOWER LIMIT FOR ASSESSMENT OF RVR (M)
0006 01 ONE MINUTE MAXIMUM VALUE - NORMAL VALUE
0007 01 ONE MINUTE MAXIMUM VALUE - ABOVE THE UPPER LIMIT FOR ASSESSMENT OF RVR (P)
0008 01 ONE MINUTE MAXIMUM VALUE - BELOW LOWER LIMIT FOR ASSESSMENT OF RVR (M)
0015 01 MISSING VALUE
B08016 0005 0000 01 NOSIG
0001 01 BECMG
0002 01 TEMPO
0003 01 FM
0007 01 MISSING VALUE
B08017 0004 0000 01 FM
0001 01 TL
0002 01 AT
0003 01 MISSING VALUE
B08018 0005 0001 01 LAND IS PRESENT
0002 01 SURFACE ICE MAP INDICATES ICE IS PRESENT
0011 01 ICE MAP DATA NOT AVAILABLE
0012 01 ATTENUATION MAP DATA NOT AVAILABLE
0017 01 MISSING VALUE
B08021 0028 0000 01 RESERVED
0001 01 TIME SERIES
0002 01 TIME AVERAGED
0003 01 ACCUMULATED
0004 01 FORECAST
0005 01 FORECAST TIME SERIES
0006 01 FORECAST TIME AVERAGED
0007 01 FORECAST ACCUMULATED
0008 01 ENSEMBLE MEAN
0009 01 ENSEMBLE MEAN TIME SERIES
0010 01 ENSEMBLE MEAN TIME AVERAGED
0011 01 ENSEMBLE MEAN ACCUMULATED
0012 01 ENSEMBLE MEAN FORECAST
0013 01 ENSEMBLE MEAN FORECAST TIME SERIES
0014 01 ENSEMBLE MEAN FORECAST AVERAGED
0015 01 ENSEMBLE MEAN FORECAST ACCUMULATED
0016 01 ANALYSIS
0017 01 START OF PHENOMENON
0018 01 RADIOSONDE LAUNCH TIME
0019 01 START OF ORBIT
0020 01 END OF ORBIT
0021 01 TIME OF ASCENDING NODE
0022 01 TIME OF OCCURENCE OF WIND SHIFT
0027 01 FIRST GUESS --not wmo entry
0028 01 START OF SCAN --not wmo entry
0029 01 END OF SCAN --not wmo entry
0031 01 MISSING VALUE
B08023 0010 0002 01 MAXIMUM VALUE
0003 01 MINIMUM VALUE
0004 01 MEAN VALUE
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0005 01 MEDIAN VALUE
0006 01 MODAL VALUE
0007 01 MEAN ABSOLUTE ERROR
0009 01 BEST ESTIMATE OF STANDARD DEVIATION (N-1)
0010 01 STANDARD DEVIATION
0011 01 HARMONIC MEAN
0012 01 ROOT MEAN SQUARE VECTOR ERROR
0013 01 ROOT-MEAN-SQUARE
0032 01 PROBABILITY OF GROSS ERROR
0033 01 PRESCRIBED OBSERVATION ERROR
0034 01 PERSISTENCE OBSERVATION ERROR
0035 01 FINAL OBSERVATION ERROR
0036 01 REPRESENTATIVENESS OBSERVATION ERROR
0063 01 MISSING
B08024 0012 0002 01 OBSERVED MINUS MAXIMUM
0003 01 OBSERVED MINUS MINIMUM
0004 01 OBSERVED MINUS MEAN
0005 01 OBSERVED MINUS MEDIAN
0006 01 OBSERVED MINUS MODE
0011 01 OBSERVED MINUS CLIMATOLOGY (ANOMALY)
0012 01 OBSERVED MINUS ANALYZED VALUE
0013 01 OBSERVED MINUS INITIALISED ANALYZED VALUE
0014 01 OBSERVED MINUS FORECAST VALUE
0021 01 OBSERVED MINUS INTERPOLATED VALUE
0022 01 OBSERVED MINUS HYDROSTATICALLY CALCULATED VALUE
0032 01 OBSERVED MINUS FIRST GUESS
0033 01 OBSERVED MINUS ANALYSIS
0034 01 OBSERVED MINUS INITIALIZED ANALYSIS
0063 01 MISSING
B08025 0005 0000 02 Universal Time Coordinated (UTC) minus
Local Standard Time (LST)
0001 01 LOCAL STANDARD TIME
0002 01 Universal Time Coordinated (UTC) minus Satellite clock
0005 01 TIME DIFFERENCE FROM EDGE OF PROCESSING SEGMENT
0015 01 MISSING
B08029 0005 0000 01 Open ocean or semi-enclosed sea
0001 01 Enclosed sea or lake
0002 01 Continental ice
0003 01 Land
0255 01 MISSING
B08033 0004 0000 01 Reserved
0001 01 Percentage confidence calculated using cloud fraction
0002 01 Percentage confidence calculated using standard
deviation of temperature
0127 01 MISSING
B08035 0008 0000 01 Global
0001 01 Regional
0002 01 National
0003 01 Special
0004 01 Bilateral
0005 01 Reserved
0006 01 Reserved
0007 01 MISSING
B08036 0008 0000 01 WMO Secretariat
0001 01 WMO
0002 01 RSMC
0003 01 NMC
0004 01 RTH
0005 01 Observing site
0006 01 Other
0007 01 MISSING
B08039 0004 0000 01 Issue time of forecast
0001 01 Forecasts time of maximum temperature
0002 01 Forecasts time of minimum temperature
0064 01 Missing value
B08040 0044 0000 01 High resolution data sample
0001 01 Within 20 hPa of surface
0002 02 Pressure less than 10 hPa (i.e., 9, 8, 7, etc.)
when no other reason applies
0003 01 Base pressure level for stability index
0004 01 Begin doubtful temperature, height data
0005 01 Begin missing data (all elements)
0006 01 Begin missing RH data
0007 01 Begin missing temperature data
0008 02 Highest level reached before balloon
descent because of icing or turbulence
0009 01 End doubtful temperature, height data
0010 01 End missing data (all elements)
0011 01 End missing RH data
0012 01 End missing temperature data
0013 01 Zero degrees C crossing(s) for RADAT
0014 01 Standard pressure level
0015 01 Operator added level
0016 01 Operator deleted level
0017 01 Balloon re-ascended beyond previous highest ascent level
0018 01 Significant RH level
0019 01 RH level selection terminated
0020 01 Surface level
0021 01 Significant temperature level
0022 01 Mandatory temperature level
0023 01 Flight termination level
0024 01 Tropopause(s)
0025 01 Aircraft report

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0026 01 Interpolated (generated) level
0027 01 Mandatory wind level
0028 01 Significant wind level
0029 01 Maximum wind level
0030 01 Incremental wind level (fixed regional)
0031 01 Incremental height level (generated)
0032 01 Wind termination level
0033 01 Pressure 100 to 110 hPa, when no other reason applies
0040 01 Significant thermodynamic level (inversion)
0041 01 Significant RH level ( per NCDC criteria)
0042 01 Significant temperature level (per NCDC)
0043 01 Begin missing wind data
0044 01 End missing wind data
0060 01 Level of 80-knot isotach above jet
0061 01 Level of 80-knot isotach below jet
0062 01 Other
0063 01 Missing value
B08041 0009 0000 01 Parent site
0001 01 Observation site
0002 01 Balloon manufacture date
0003 01 Balloon launch point
0004 01 Surface observation
0005 01 Surface observation displacement from launch point
0006 01 Flight level observation
0007 01 Flight level termination point
0031 01 MISSING VALUE
B08042 0014 0001 01 Surface
0002 01 Standard level
0003 01 Tropopause level
0004 01 Maximum wind level
0005 01 Significant temperature level
0006 01 Significant humidity level
0007 01 Significant wind level
0008 01 Beginning of missing temperature data
0009 01 End of missing temperature data
0010 01 Beginning of missing humidity data
0011 01 End of missing humidity data
0012 01 Beginning of missing wind data
0013 01 End of missing wind data
0018 01 ALL 18 MISSING
B08050 0011 0000 01 Reserved
0001 01 Pressure
0002 01 Temperature
0003 01 Extreme temperature
0004 01 Vapour pressure
0005 01 Precipitation
0006 01 Sunshine duration
0007 01 Maximum temperature
0008 01 Minimum temperature
0009 01 Wind
0015 01 Missing value
B08051 0007 0001 01 PRESSURE
0002 01 TEMPERATURE
0003 01 EXTREME TEMPERATURE
0004 01 VAPOUR PRESSURE
0005 01 PRECIPITATION
0006 01 SUNSHINE DURATION
0007 01 MISSING VALUE
B08052 0026 0000 02 MEAN WIND SPEED OVER 10-MINUTES PERIOD OBSERVED OR RECORDED
EQUAL TO OR MORE THAN 10 M/S
0001 02 MEAN WIND SPEED OVER 10-MINUTES PERIOD OBSERVED OR RECORDED
EQUAL TO OR MORE THAN 20 M/S
0002 02 MEAN WIND SPEED OVER 10-MINUTES PERIOD OBSERVED OR RECORDED
EQUAL TO OR MORE THAN 30 M/S
0003 01 MAXIMUM TEMPERATURE LESS THAN 273.2 K
0004 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 298.2 K
0005 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 303.2 K
0006 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 308.2 K
0007 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 313.2 K
0008 01 MINIMUM TEMPERATURE LESS THAN 273.2 K
0009 01 MAXIMUM TEMPERATURE EQUAL TO OR MORE THAN 273.2 K
0010 01 PRECIPITATION EQUAL TO OR MORE THAN 1.0 KG/M**2
0011 01 PRECIPITATION EQUAL TO OR MORE THAN 5.0 KG/M**2
0012 01 PRECIPITATION EQUAL TO OR MORE THAN 10.0 KG/M**2
0013 01 PRECIPITATION EQUAL TO OR MORE THAN 50.0 KG/M**2
0014 01 PRECIPITATION EQUAL TO OR MORE THAN 100.0 KG/M**2
0015 01 PRECIPITATION EQUAL TO OR MORE THAN 150.0 KG/M**2
0016 01 SNOW DEPTH MORE THAN 0.0 M
0017 01 SNOW DEPTH MORE THAN 0.01 M
0018 01 SNOW DEPTH MORE THAN 0.10 M
0019 01 SNOW DEPTH MORE THAN 0.50 M
0020 01 HORIZONTAL VISIBILITY LESS THAN 50 M
0021 01 HORIZONTAL VISIBILITY LESS THAN 100 M
0022 01 HORIZONTAL VISIBILITY LESS THAN 1000 M
0023 01 HAIL
0024 01 THUNDERSTORM
0031 01 MISSING VALUE
B08053 0004 0000 01 VALUE OCCURED ON ONLY ONE DAY IN THE MONTH
0001 01 VALUE OCCURED ON MORE THAN ONE DAY IN THE MONTH
0002 01 RESERVED
0003 01 MISSING VALUE
B08054 0003 0000 01 Wind speed or gust is as reported
0001 01 Wind speed is greater than that reprted (P in METAR/TAF/SPECI)
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0007 01 Missing value
B08060 0008 0000 01 RESERVED
0001 01 RANGE
0002 01 AZIMUTH
0003 01 HORIZONTAL
0004 01 VERTICAL
0005 01 NORTH/SOUTH
0006 01 EAST/WEST
0015 01 MISSING VALUE
B08065 0004 0000 01 No sun-glint
0001 01 Sun-glint
0002 01 Reserved
0003 01 Missing value
B08066 0004 0000 01 Opaque
0001 01 Semi-transparent
0002 01 Reserved
0003 01 Missing value
B08070 0006 0000 01 Reserved
0001 01 Reserved
0002 02 Earth located instrument counts,
calibration coefficients and housekeeping (level 1b)
0003 01 Earth located calibrated radiances (level 1c)
0004 02 Mapped to a common footprint, earth located
calibrated radiances (level 1d)
0015 01 MISSING VALUE
B08072 0004 0000 01 Mixed
0001 01 Clear
0002 01 Cloudy
0007 01 Missing value
B08074 0004 0000 01 Open ocean or semi-enclosed sea
0001 01 Non-ocean like
0002 01 Reserved
0003 01 Missing value
B08075 0004 0000 01 Ascending orbit
0001 01 Descending orbit
0002 01 Reserved
0003 01 Missing value
B08076 0003 0000 01 Ku
0001 01 C
0063 01 MISSING VALUE
B08079 0003 0006 01 Special report ( SPECI)
0007 01 Corrected special report (SPECI COR)
0015 01 Missing value
B08193 0007 0000 01 START TIME OF ORBIT
0001 01 END TIME OF ORBIT
0002 01 TIME OF ASCENDING NODE
0003 01 ASSIMILATION TIME
0004 01 START TIME OF ASSIMILATION
0005 01 END TIME OF ASSIMILATION
0063 01 MISSING
B08080 0005 0000 01 Total water pressure profile
0001 01 Total water temperature profile
0002 01 Total water salinity profile
0003 01 Total water conductivity profile
0063 01 Missing value
B08081 0005 0000 01 Sensor
0001 01 Transmitter
0002 01 Receiver
0003 01 Observing platform
0063 01 MISSING
B08082 0003 0000 01 Sensor height is not modified
0001 01 Sensor height is modified to standard level
0007 01 Missing value
B10063 0010 0000 02 INCREASING, THEN DECREASING; ATMOSPHERIC PRESURE THE SAME OR
HIGHER THAN 3 HOURS AGO ( OR 24 HOURS AGO )
0001 01 INCREASING, THEN STEADY; OR INCREASING; THEN MORE SLOWLY
0002 01 INCREASING (STEADILY OR UNSTEADILY )
0003 01 DECREASING OR STEADY, THEN INCREASING; RAPIDLY
0004 02 STEADY; ATMOSPHERIC PRESSURE THE SAME AS 3 HOURS AGO (OR 24
HOURS)
0005 02 DECREASING; THEN INCREASING; ATMOSPHERIC PRESSURE THE SAME O
R LOWER THAN 3 HOURS AGO
0006 02 DECREASING, THEN STEADY; OR DECREASING, DECREASING MORE SLOW
LY
0007 01 DECREASING (STEADILY OR UNSTEADILY )
0008 02 STEADY OR INCREASING, THEN DECREASING; OR DECREASING, THEN
DECREASING MORE RAPIDLY
0015 01 MISSING
B11031 0009 0000 01 NIL IN CLOUD
0001 01 SLIGHT IN CLOUD
0002 01 MODERATE IN CLOUD
0003 01 SEVERE IN CLOUD
0004 01 NIL IN CLEAR AIR
0005 01 SLIGHT IN CLEAR AIR
0006 01 MODERATE IN CLEAR AIR
0007 01 SEVERE IN CLEAR AIR
0015 01 MISSING VALUE
B11037 0030 0000 01 ave <0.1 peak <0.1
0001 01 ave <0.1 0.1 <= peak <0.2
0002 01 0.1 <= ave <0.2 0.1 <= peak <0.2
0003 01 ave <0.1 0.2 <= peak <0.3
0004 01 0.1 <= ave <0.2 0.2 <= peak <0.3
0005 01 0.2 <= ave <0.3 0.2 <= peak <0.3

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0006 01 ave <0.1 0.3 <= peak <0.4
0007 01 0.1 <= ave <0.2 0.3 <= peak <0.4
0008 01 0.2 <= ave <0.3 0.3 <= peak <0.4
0009 01 0.3 <= ave <0.4 0.3 <= peak <0.4
0010 01 ave <0.1 0.4 <= peak <0.5
0011 01 0.1 <= ave <0.2 0.4 <= peak <0.5
0012 01 0.2 <= ave <0.3 0.4 <= peak <0.5
0013 01 0.3 <= ave <0.4 0.4 <= peak <0.5
0014 01 0.4 <= ave <0.5 0.4 <= peak <0.5
0015 01 ave <0.1 0.5 <= peak <0.8
0016 01 0.1 <= ave <0.2 0.5 <= peak <0.8
0017 01 0.2 <= ave <0.3 0.5 <= peak <0.8
0018 01 0.3 <= ave <0.4 0.5 <= peak <0.8
0019 01 0.4 <= ave <0.5 0.5 <= peak <0.8
0020 01 0.5 <= ave <0.8 0.5 <= peak <0.8
0021 01 ave <0.1 0.8 <= peak
0022 01 0.1 <= ave <0.2 0.8 <= peak
0023 01 0.2 <= ave <0.3 0.8 <= peak
0024 01 0.3 <= ave <0.4 0.8 <= peak
0025 01 0.4 <= ave <0.5 0.8 <= peak
0026 01 0.5 <= ave <0.8 0.8 <= peak
0027 01 0.8 <= ave 0.8 <= peak
0028 01 Nil Nil
0063 01 MISSING VALUE
B11038 0017 0000 01 min < 1
0001 01 1 <= min < 2
0002 01 2 <= min < 3
0003 01 3 <= min < 4
0004 01 4 <= min < 5
0005 01 5 <= min < 6
0006 01 6 <= min < 7
0007 01 7 <= min < 8
0008 01 8 <= min < 9
0009 01 9 <= min < 10
0010 01 10 <= min < 11
0011 01 11 <= min < 12
0012 01 12 <= min < 13
0013 01 13 <= min < 14
0014 01 14 <= min < 15
0015 01 No timing information available
0031 01 MISSING VALUE
B11039 0016 0000 01 1 <= min < 2
0001 01 2 <= min < 3
0002 01 3 <= min < 4
0004 01 4 <= min < 5
0005 01 5 <= min < 6
0006 01 6 <= min < 7
0007 01 7 <= min < 8
0008 01 8 <= min < 9
0009 01 9 <= min < 10
0010 01 10 <= min < 11
0011 01 11 <= min < 12
0012 01 12 <= min < 13
0013 01 13 <= min < 14
0014 01 14 <= min < 15
0060 01 No timing information available
0063 01 MISSING VALUE
B13038 0004 0000 01 NOT SUPERADIABATIC
0001 01 SUPERADIABATIC
0002 01 RESERVED
0003 01 MISSING VALUE
B13039 0003 0000 01 SEA ICE
0001 01 SNOW ON LAND
0007 01 MISSING VALUE
B13040 0009 0000 01 Land
0001 01 Reserved
0002 01 Near coast
0003 01 Ice
0004 01 Possible ice
0005 01 Ocean
0006 01 Coast
0007 01 Desert
0015 01 MISSING VALUE
B13041 0010 0001 01 A
0002 01 A-B
0003 01 B
0004 01 B-C
0005 01 C
0006 01 D
0007 01 E
0008 01 F
0009 01 G
0015 01 MISSING VALUE
B13051 0008 0000 01 SMALLER THAN ANY VALUE IN THE 30 YEARS PERIOD
0001 01 IN THE FIRST QUINTILE
0002 01 IN THE SECOND QUINTILE
0003 01 IN THE THIRD QUINTILE
0004 01 IN THE FOURTH QUINTILE
0005 01 IN THE FIFTH QUINTILE
0006 01 GREATER THAN ANY VALUE IN THE 30 YEAR PERIOD
0015 01 MISSING VALUE
B15025 0000 0000 01 Ozone
0015 01 MISSING VALUE
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B19001 0007 0000 01 DEPRESSION OR LOW (EXTRATROPICAL)
              0001 01 TROPICAL DEPRESSION
              0002 01 TROPICAL STORM
              0003 01 SEVERE TROPICAL STORM
              0004 01 TYPHOON
              0010 01 DUST/SANDSTORM
              0063 01 MISSING VALUE
B19008 0005 0000 01 reserved
              0001 01 SHALLOW (TOP OF CIRCULATION BELOW 700-HPA LEVEL
              0002 01 MEDIUM(TOP BETWEEN 700-HPA AND 400-HPA)
              0003 01 DEEP(TOP ABOVE 400-HPA LEVEL
              0007 01 MISSING VALUE
B19010 0004 0000 01 Reserved
              0001 01 Minimum value of sea level pressure
              0002 01 Maximum value of 850 hPa relative vorticity
              0015 01 Missing value
B20003 0250 0000 01 CLOUD DEVELOPMENT NOT OBSERVED OR NOT OBSERVABLE
              0001 01 CLOUDS GENERALLY DISSOLVING OR BECOMING LESS DEVELOPED
              0002 01 STATE OF SKY ON THE WHOLE UNCHANGED
              0003 01 CLOUDS GENERALLY FORMING OR DEVELOPING
              0004 02 VISIBILITY REDUCED BY SMOKE, E.G. VELDT OR FOREST FIRES, IN
              DUSTRIAL SMOKE OR VOLCANIC ASHES
              0005 01 HAZE
              0006 02 WIDESPREAD DUST IN SUSPENSION IN THE AIR, NOT RAISED BY WIND
              AT OR NEAR THE STATION AT THE TIME OF OBSERVATION
              0007 04 DUST OR SEND RAISED BY WIND AT OR NEAR THE STATION AT THE TI
              ME OF OBSERVATION, BUT NO WELL-DEVELOPED DUST WHRIL(S) OR SA
              ND WHRIL(S), AND NO DUSTSTORM OR SANDSTORM SEEN; OR, IN THE
              CASE OF SHIPS, BLOWING SPRAY AT THE STATION
              0008 03 WELL-DEVELOPED DUST WHRIL(S) OR SAND WHRILS SEEN AT OR NEAR
              THE STATION DURING THE PRECEDING HOUR OR AT THE SAME TIME OF
              OBSERVATION, BUT NO DUSTSTORM OR SANDSTORM
              0009 02 DUSTSTORM OR SANDSTORM WITHIN SIGHT AT THE TIME OF OBSERVATI
              ON, OR AT THE STATION DURING THE PRECEDING HOR
              0010 01 MIST
              0011 02 PACHES SHALLOW FOG OR ICE AT THE STATION, WHETHER ON LAND OR
              SEA, NOT DEEPER THAN 2 METRES ON LAND OR 10 METRES AT SEA
              0012 03 MORE OR LESS CONTINUOUS SHALLOW FOG OR ICE AT THE STATION,
              WHETHER ON LAND OR SEA, NOT DEEPER THAN 2 METRES ON LAND OR
              10 METRES AT SEA
              0013 01 LIGHTNING VISIBLE, NO THUNDER HEARD
              0014 02 PRECIPITATION WITHIN SIGHT, NOT REACHING THE GROUND OR THE
              SURFACE OF THE SEA
              0015 03 PRECIPITATION WITHIN SIGHT, REACHING THE GROUND OR THE SURFA
              CE OF THE SEA, BUT DISTANT, I.E. ESTIMATED TO BE MORE THAN
              5 KM FROM THE STATION
              0016 02 PRECIPITATION WITHIN SIGHT, REACHING THE GROUND OR THE SURFA
              CE OF THE SEA, NEAR TO, BUT NOT AT THE STATION
              0017 02 THUNDERSTORM, BUT NO PRECIPITATION AT THE TIME OF OBSERVATIO
              N
              0018 02 SQUALLS AT OR WITHIN SIGHT OF THE STATION DURING THE PRECEDI
              NG HOUR OR AT THE TIME OF OBSERVATION
              0019 02 FUNNEL CLOUD(S) AT OR WITHIN SIGHT OF THE STATION DURING THE
              PRECEDING HOUR OR AT THE TIME OF OBSERVATION
              0020 03 DRIZZEL (NOT FREEZING) OR SNOW GRAINS NOT FALLING AS SHOWERS
              ; DURING THE PRECEDING HOUR BUT NOT AT THE TIME OF OBSERVAT
              IONS
              0021 02 RAIN (NOT FREEZING) NOT FALLING AS SHOWER(S); DURING THE PRE
              ECEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
              0022 02 SNOW NOT FALLING AS SHOWER(S); DURING THE PRECEDING HOUR BUT
              NOT AT THE TIME OF OBSERVATION
              0023 02 RAIN AND SNOW OR ICE PELLETS NOT FALLING AS SHOWER(S); DURIN
              G THE PRECEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
              0024 02 FREEZING DRIZZEL OR FREEZING RAIN NOT FALLING AS SHOWER(S);
              DURING THE PRECEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
              0025 02 SHOWER(S) OF RAIN; DURING THE PRECEDING HOUR BUT NOT AT THE
              TIME OF OBSERVATION
              0026 02 SHOWER(S) OF SNOW, OR OF RAIN AND SNOW; DURING THE PRECEDING
              HOUR BUT NOT AT THE TIME OF OBSERVATION
              0027 02 SHOWER(S) OF HAIL, OR OF RAIN AND HAIL; DURING THE PRECEDING
              HOUR BUT NOT AT THE TIME OF OBSERVATION
              0028 02 FOG OR ICE FOG; DURING THE PRECEDING HOUR BUT NOT AT THE TIM
              E OF OBSERVATION
              0029 02 THUNDERSTORM (WITH OR WITHOUT PRECIPITATION); DURING THE PRE
              CEDING HOUR BUT NOT AT THE TIME OF OBSERVATION
              0030 02 SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM HAS DECREASED DURI
              NG THE PRECEDING HOURS
              0031 02 SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM NO APPRECIABLE CHA
              NGE DURING THE PRECEDING HOUR
              0032 02 SLIGHT OR MODERATE DUSTSTORM OR SANDSTORM HAS BEGUN OR HAS I
              NCREASED DURING THE PRECEDING HOUR
              0033 02 SEVERE DUSTSTORM OR SANDSTORM HAS DECREASED DURING THE PREC
              EDING HOURS
              0034 02 SEVERE DUSTSTORM OR SANDSTORM NO APPRECIABLE CHANGE DURING T
              HE PRECEDING HOUR
              0035 02 SEVERE DUSTSTORM OR SANDSTORM HAS BEGUN OR HAS INCREASED DUR
              ING THE PRECEDING HOUR
              0036 02 SLIGHT OR MODERATE DRIFTING SNOW GENERALLY LOW (BELOW EYE LE
              VEL)
              0037 01 HEAVY DRIFTING SNOW GENERALY LOW (BELOW EYE LEVEL)
              0038 02 SLIGHT OR MODERATE BLOWING SNOW GENERALLY HIGH (ABOVE EYE LE
              VEL)
              0039 01 HEAVY BLOWING SNOW GENERALY HIGH (ABOVE EYE LEVEL)

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0040 03 FOG OR ICE FOG AT A DISTANCE AT THE TIME OF OBSERVATION, BUT  
NOT AT THE STATION DURING THE PRECEDING HOUR, THE FOG OR IC  
E FOG EXTENDING TO A LEVEL ABOVE THAT OF THE OBSERVER

0041 01 FOG OR ICE FOG IN PATCHES

0042 02 FOG OR ICE FOG, SKY VISIBLE,HAS BECOME THINNER DURING THE PR  
ECEDING HOUR

0043 02 FOG OR ICE FOG, SKY INVISIBLE,HAS BECOME THINNER DURING THE  
PRECEDING HOUR

0044 02 FOG OR ICE FOG, SKY VISIBLE,NO APPRECIABLE CHANGE DURING T  
HE PRECEDING HOUR

0045 02 FOG OR ICE FOG, SKY INVISIBLE,NO APPRECIABLE CHANGE DURING T  
HE PRECEDING HOUR

0046 02 FOG OR ICE FOG, SKY VISIBLE,HAS BEGUN OR HAS BECOME THICKE  
R DURING THE PRECEDING HOUR

0047 02 FOG OR ICE FOG, SKY INVISIBLE,HAS BEGUN OR HAS BECOME THICKE  
R DURING THE PRECEDING HOUR

0048 01 FOG, DEPOSITING RIME, SKY VISIBLE

0049 01 FOG, DEPOSITING RIME, SKY INVISIBLE

0050 02 DRIZZLE, NOT FREEZING, INTERMITTENT;SLIGHT AT TIME OF OBSERV  
ATION

0051 02 DRIZZLE, NOT FREEZING, CONTINUOUS ;SLIGHT AT TIME OF OBSERV  
ATION

0052 02 DRIZZLE, NOT FREEZING, INTERMITTENT;MODERATE AT TIME OF OBSE  
RVATION

0053 02 DRIZZLE, NOT FREEZING, CONTINUOUS ;MODERATE AT TIME OF OBSE  
RVATION

0054 02 DRIZZLE, NOT FREEZING, INTERMITTENT;HEAVY (DENSE) AT THE TIM  
E OF OBSERVATION

0055 02 DRIZZLE, NOT FREEZING, CONTINUOUS ;HEAVY (DENSE) AT THE TIM  
E OF OBSERVATION

0056 01 DRIZZLE, FREEZING, SLIGHT

0057 01 DRIZZLE, FREEZING, MODERATE OR HEAVY (DENSE)

0058 01 DRIZZLE AND RAIN, SLIGHT

0059 01 DRIZZLE AND RAIN, MODERATE OR HEAVY

0060 01 RAIN,NOT FREEZING,INTERMITTENT;SLIGHT AT TIME OF OBSERVATION

0061 01 RAIN,NOT FREEZING,CONTINUOUS ;SLIGHT AT TIME OF OBSERVATION

0062 02 RAIN,NOT FREEZING,INTERMITTENT;MODERATE AT TIME OF OBSERVATI  
ON

0063 02 RAIN,NOT FREEZING,CONTINUOUS ;MODERATE AT TIME OF OBSERVATI  
ON

0064 02 RAIN, NOT FREEZING, INTERMITTENT;HEAVY AT TIME OF OBSERVATIO  
ON

0065 01 RAIN, NOT FREEZING, CONTINUOUS;HEAVY AT TIME OF OBSERVATION

0066 01 RAIN, FREEZING, SLIGHT

0067 01 RAIN, FREEZING, MODERATE OR HEAVY

0068 01 RAIN OR DRIZZLE AND SNOW, LIGHT

0069 01 RAIN OR DRIZZLE AND SNOW, MODERATE OR HEAVY

0070 02 INTERMITTENT FALL OF SNOWFLAKES, SLIGHT AT TIME OF OBSERVATI  
ON

0071 02 CONTINUOUS FALL OF SNOWFLAKES, SLIGHT AT TIME OF OBSERVATI  
ON

0072 02 INTERMITTENT FALL OF SNOWFLAKES, MODERATE AT TIME OF OBSERVA  
TION

0073 02 CONTINUOUS FALL OF SNOWFLAKES, MODERATE AT TIME OF OBSERVA  
TION

0074 02 INTERMITTENT FALL OF SNOWFLAKES, HEAVY AT TIME OF OBSERVATIO  
ONS

0075 02 CONTINUOUS FALL OF SNOWFLAKES, HEAVY AT TIME OF OBSERVATIO  
ONS

0076 01 DIAMOND DUST (WITH OR WITHOUT FOG)

0077 01 SNOW GRAINS (WITH OR WITHOUT FOG)

0078 01 ISOLATED STAR-LIKE SNOW CRYSTALS (WITH OR WITHOUT FOG)

0079 01 ICE PELLETS

0080 01 RAIN SHOWER(S), SLIGHT

0081 01 RAIN SHOWER(S), MODERATE OR HEAVY

0082 01 RAIN SHOWER(S), VIOLENT

0083 01 SHOWER(S) OF RAIN AND SNOW MIXED, SLIGHT

0084 01 SHOWER(S) OF RAIN AND SNOW MIXED, MODERATE OR HEAVY

0085 01 SNOW SHOWER(S), SLIGHT

0086 01 SNOW SHOWER(S), MODERATE OR HEAVY

0087 02 SHOWER(S) OF SNOW PELLETS OR SMALL HAIL, WITH OR WITHOUT RAI  
N OR RAIN AND SNOW MIXED, SLIGHT

0088 02 SHOWER(S) OF SNOW PELLETS OR SMALL HAIL, WITH OR WITHOUT RAI  
N OR RAIN AND SNOW MIXED, MODERATE OR HEAVY

0089 02 SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIX  
ED, NOT ASSOCIATED WITH THUNDER, SLIGHT

0090 02 SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIX  
ED, NOT ASSOCIATED WITH THUNDER, MODERATE OR HEAVY

0091 02 SLIGHT RAIN AT TIME OF OBSERVATION, THUNDERSTORM DURING THE  
PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION

0092 02 MODERATE OR HEAVY RAIN AT TIME OF OBSERVATION, THUNDERSTORM  
DURING THE PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION

0093 03 SLIGHT SNOW, OR RAIN AND SNOW MIXED OR HAIL AT TIME OF OBSER  
VATION, THUNDERSTORM DURING THE PRECEDING HOUR BUT NOT AT TI  
ME OF OBSERVATION

0094 03 MODERATE OR HEAVY SNOW, OR RAIN AND SNOW MIXED OR HAIL AT TI  
ME OF OBSERVATION, THUNDERSTORM DURING PRECEDING HOUR BUT NO  
T AT TIME OF OBSERVATION

0095 03 THUNDERSTORM, SLIGHT OR MODERATE, WITHOUT HAIL, BUT WITH RAI  
N AND/OR SNOW AT TIME OF OBSERVATION, THUNDERSTORM DURING TH  
E PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION

0096 02 THUNDERSTORM, SLIGHT OR MODERATE,WITH HAIL AT TIME OF OBSERV  
ATION, THUNDERSTORM AT TIME OF OBSERVATION

0097 02 THUNDERSTORM, HEAVY, WITHOUT HAIL BUT WITH RAIN AND/OR SNOW  
AT TIME OF OBSERVATION, THUNDERSTORM AT TIME OF OBSERVATION

0098 02 THUNDERSTORM COMBINED WITH DUSTSTORM OR SANDSTORM AT TIME OF  
OBSERVATION, THUNDERSTORM AT TIME OF OBSERVATION

0099 02 THUNDERSTORM, HEAVY, WITH HAIL AT TIME OF OBSERVATION, THUND  
ERSTORM AT TIME OF OBSERVATION

0100 01 NO SIGNIFICANT WEATHER OBSERVED

0101 02 CLOUDS GENERALLY DISSOLVING OR BECOMING LESS DEVELOPED DURIN  
G THE PAST HOUR

0102 01 STATE OF SKY ON THE WHOLE UNCHANGED DURING THE PAST HOUR

0103 01 CLOUDS GENERALLY FORMING OR DEVELOPING DURING THE PAST HOUR

0104 02 HAZE OR SMOKE, OR DUST IN SUSPENSION IN THE AIR, VISIBILITY  
EQUAL TO, OR GREATER THAN 1KM

0105 02 HAZE OR SMOKE, OR DUST IN SUSPENSION IN THE AIR, VISIBILITY  
LESS THAN 1KM

0110 01 MIST

0111 01 DIAMOND DUST

0112 01 DISTANT LIGHTING

0118 01 SQUALLS

0120 01 FOG

0121 01 PRECIPITATION

0122 01 DRIZZLE (NOT FREEZING) OR SNOW GRAINS

0123 01 RAIN (NOT FREEZING)

0124 01 SNOW

0125 01 FREEZING DRIZZLE OR FREEZING RAIN

0126 01 THUNDERSTORM (WITH OR WITHOUT PRECIPITATION)

0127 01 BLOWING OR DRIFTING SNOW OR SAND

0128 02 BLOWING OR DRIFTING SNOW OR SAND, VISIBILITY EQUAL TO, OR GR  
ATER THAN, 1KM

0129 01 BLOWING OR DRIFTING SNOW OR SAND, VISIBILITY LESS THAN 1 KM

0130 01 FOG

0131 01 FOG OR ICE FOG, IN PATCHES

0132 01 FOG OR ICE FOG, HAS BECOME THINNER DURING PAST HOUR

0133 01 FOG OR ICE FOG, NO APPRECIABLE CHANGE DURING PAST HOUR

0134 01 FOG OR ICE FOG, HAS BECUNOR BECOME THICKER DURING PAST HOUR

0135 01 FOG, DEPOSITION RIME

0140 01 PRECIPITATION

0141 01 PRECIPITATION SLIGHT OR MODERATE

0142 01 PRECIPITATION, HEAVY

0143 01 LIQUID PRECIPITATION, SLIGHT OR MODERATE

0144 01 LIQUID PRECIPITATION, HEAVY

0145 01 SOLID PRECIPITATION, SLIGHT OR MODERATE

0146 01 SOLID PRECIPITATION, HEAVY

0147 01 FREEZING PRECIPITATION, SLIGHT OR MODERATE

0148 01 FREEZING PRECIPITATION, HEAVY

0150 01 DRIZZLE

0151 01 DRIZZLE, NOT FREEZING, SLIGHT

0152 01 DRIZZLE, NOT FREEZING, MODERATE

0153 01 DRIZZLE, NOT FREEZING, HEAVY

0154 01 DRIZZLE, FREEZING, SLIGHT

0155 01 DRIZZLE, FREEZING, MODERATE

0156 01 DRIZZLE, FREEZING, HEAVY

0157 01 DRIZZLE AND RAIN, SLIGHT

0158 01 DRIZZLE AND RAIN, MODERATE OR HEAVY

0160 01 RAIN

0161 01 RAIN, NOT FREEZING, SLIGHT

0162 01 RAIN, NOT FREEZING, MODERATE

0163 01 RAIN, NOT FREEZING, HEAVY

0164 01 RAIN, FREEZING, SLIGHT

0165 01 RAIN, FREEZING, MODERATE

0166 01 RAIN, FREEZING, HEAVY

0167 01 RAIN (OR DRIZZLE) AND SNOW, SLIGHT

0168 01 RAIN (OR DRIZZLE) AND SNOW, MODERATE AND HEAVY

0170 01 SNOW

0171 01 SNOW, SLIGHT

0172 01 SNOW, MODERATE

0173 01 SNOW, HEAVY

0174 01 ICE PELLETS, SLIGHT

0175 01 ICE PELLETS, MODERATE

0176 01 ICE PELLETS, HEAVY

0180 01 SHOWER(S) OR INTERMITTENT PRECIPITATION

0181 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, SLIGHT

0182 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, MODERATE

0183 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, HEAVY

0184 01 RAIN SHOWER(S) OR INTERMITTENT RAIN, VIOLENT

0185 01 SNOW SHOWER(S) OR INTERMITTENT SNOW, SLIGHT

0186 01 SNOW SHOWER(S) OR INTERMITTENT SNOW, MODERATE

0187 01 SNOW SHOWER(S) OR INTERMITTENT SNOW, HEAVY

0190 01 THUNDERSTORM

0191 01 THUNDERSTORM, SLIGHT OR MODERATE, WITH NO PRECIPITATION

0192 02 THUNDERSTORM, SLIGHT OR MODERATE, WITH RAIN SHOWERS AND/OR S  
NOW SHOWERS

0193 01 THUNDERSTORM, SLIGHT OR MODERATE, WITH HAIL

0194 01 THUNDERSTORM, HEAVY, WITH NO PRECIPITATION

0195 01 THUNDERSTORM, HEAVY, WITH RAIN SHOWERS AND/OR SNOW SHOWERS

0196 01 THUNDERSTORM, HEAVY, WITH HAIL

0204 01 VOLCANIC ASH SUSPENDED IN THE AIR ALOFT

0206 01 THICK DUST HAZE, VISIBILITY LESS THAN 1 KM

0207 01 BLOWING SPRAY AT THE STATION

0208 01 DRIFTING DUST (SAND)

0209 01 WALL OF DUST OR SAND IN DISTANCE (LIKE HABOOB)

0210 01 SNOW HAZE

0211 01 WHITEOUT

0213 01 LIGHTING, CLOUD TO SURFACE  
0217 01 DRY THUNDERSTORM  
0219 02 TORNADO CLOUD (DESTRUCTIVE AT OR WITHIN SIGHT OF THE STATION  
DURING PRECEDING HOUR OR AT THE TIME OF OBSERVATION  
0220 01 DEPOSITION OF VOLCANIC ASH  
0221 01 DEPOSITION OF DUST OR SAND  
0222 01 DEPOSITION OF DEW  
0223 01 DEPOSITION OF WET SNOW  
0224 01 DEPOSITION OF SOFT RIME  
0225 01 DEPOSITION OF HARD RIME  
0226 01 DEPOSITION OF HOAR FROST  
0227 01 DEPOSITION OF GLAZE  
0228 01 DEPOSITION OF ICE CRUST (ICE SLICK)  
0230 01 DUSTSTORM OR SANDSTORM WITH TEMPERATURE BELOW 0 C DEGREES  
0239 02 BLOWING SNOW, IMPOSSIBLE TO DETERMINE WHETHER SNOW IS FALLIN  
G OR NOT  
0241 01 FOG ON SEA  
0242 01 FOG IN VALLEYS  
0243 01 ARCTIC OR ANTARCTIC SEA SMOKE  
0244 01 STEAM FOG (SEA, LAKE OR RIVER)  
0245 01 STEAM FOG (LAND)  
0246 01 FOG OVER ICE OR SNOW COVER  
0247 01 DENCE FOG VISIBILITY 60-90 M  
0248 01 DENCE FOG VISIBILITY 30-60 M  
0249 01 DENCE FOG VISIBILITY LESS THAN 30 M  
0250 01 DRIZZLE, RATE OF FALL LESS THAN 0.10 MM/H  
0251 01 DRIZZLE, RATE OF FALL 0.10 - .19 MM/H  
0252 01 DRIZZLE, RATE OF FALL 0.20 - .39 MM/H  
0253 01 DRIZZLE, RATE OF FALL 0.40 - .79 MM/H  
0254 01 DRIZZLE, RATE OF FALL 0.80 - 1.59 MM/H  
0255 01 DRIZZLE, RATE OF FALL 1.60 - 3.19 MM/H  
0256 01 DRIZZLE, RATE OF FALL 3.20 - 6.39 MM/H  
0257 01 DRIZZLE, RATE OF FALL 6.40 MM/H OR MORE  
0259 01 DRIZZLE AND SNOW  
0260 01 RAIN, RATE OF FALL LESS THAN 1.0 MM/H  
0261 01 RAIN, RATE OF FALL 1.0 - 1.9 MM/H  
0262 01 RAIN, RATE OF FALL 2.0 - 3.9 MM/H  
0263 01 RAIN, RATE OF FALL 4.0 - 7.9 MM/H  
0264 01 RAIN, RATE OF FALL 8.0 - 15.9 MM/H  
0265 01 RAIN, RATE OF FALL 16.0 - 31.9 MM/H  
0266 01 RAIN, RATE OF FALL 32.0 - 63.9 MM/H  
0267 01 RAIN, RATE OF FALL 64.0 MM/H OR MORE  
0270 01 SNOW, RATE OF FALL LESS THAN 1.0 CM/H  
0271 01 SNOW, RATE OF FALL 1.0 - 1.9 CM/H  
0272 01 SNOW, RATE OF FALL 2.0 - 3.9 CM/H  
0273 01 SNOW, RATE OF FALL 4.0 - 7.9 CM/H  
0274 01 SNOW, RATE OF FALL 8.0 - 15.9 CM/H  
0275 01 SNOW, RATE OF FALL 16.0 - 31.9 CM/H  
0276 01 SNOW, RATE OF FALL 32.0 - 63.9 CM/H  
0277 01 SNOW, RATE OF FALL 64.0 CM/H OR MORE  
0278 01 SNOW OR ICE CRISTAL PRECIPITATION FROM A CLEAR SKY  
0279 01 WET SNOW, FREEZING ON CONTACT  
0280 01 PRECIPITATION OF RAIN (WW= 87-99)  
0281 01 PRECIPITATION OF RAIN, FREEZING (WW= 80-82)  
0282 01 PRECIPITATION OF RAIN AND SNOW MIXED  
0283 01 PRECIPITATION OF SNOW  
0284 01 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL  
0285 01 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH RAIN  
0286 02 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH RAIN AND S  
NOW MIXED  
0287 01 PRECIPITATION OF SNOW PELLETS OR SMALL HAIL, WITH SNOW  
0288 01 PRECIPITATION OF HAIL  
0289 01 PRECIPITATION OF HAIL, WITH RAIN  
0290 01 PRECIPITATION OF HAIL, WITH RAIN AND SNOW MIXED  
0291 01 PRECIPITATION OF HAIL, WITH SNOW  
0292 01 SHOWER(S) OR THUNDERSTORM OVER SEA  
0293 01 SHOWER(S) OR THUNDERSTORM OVER MOUNTAINS  
0508 02 NO SIGNIFICANT PHENOMENA TO REPORT, PRESENT AND PAST WEATHER  
OMITTED  
0509 02 NOT OBSERVED, NO DATA AVAILABLE, PRESENT AND PAST WEATHER OM  
ITTED  
0510 01 PRESENT AND PAST WEATHER MISSING, BUT EXPECTED  
0511 01 MISSING VALUE  
B20004 0021 0000 02 CLOUD COVERING 1/2 OR LESS OF THE SKY THROUGHOUT THE APPROP  
RIATE PERIOD  
0001 03 CLOUD COVERING MORE THAN 1/2 OF THE SKY DURING PART OF THE A  
PPROPRIATE PERIOD AND COVERING 1/2 OR LESS DURING PART OF TH  
E PERIOD  
0002 02 CLOUD COVERING MORE THAN 1/2 OF THE SKY THROUGHOUT THE APPRP  
PRIATE PERIOD  
0003 01 SANSTORM, DUSTSTORM OR BLOWING SNOW  
0004 01 FOG OR ICE OR THICK HAZE  
0005 01 DRIZZLE  
0006 01 RAIN  
0007 01 SNOW, OR RAIN AND SNOW MIXED  
0008 01 SHOWER(S)  
0009 01 THUNDERSTORM(S) WITH OR WITHOUT PRECIPITATION  
0010 01 NO SIGNIFICANT WEATHER OBSERVED  
0011 01 VISIBILITY REDUCED  
0012 01 BLOWING PHENOMENA, VISIBILITY REDUCED  
0013 01 FOG  
0014 01 PRECIPITATION  
0015 01 DRIZZLE

	0016	01	RAIN	
	0017	01	SNOW OR ICE PELLETS	
	0018	01	SHOWERS OR INTERMITTENT PRECIPITATION	
	0019	01	THUNDERSTORM	
	0031	01	MISSING VALUE	
B20005	0021	0000	02 CLOUD COVERING 1/2 OR LESS OF THE SKY THROUGHOUT THE APPROPRIATE PERIOD	
	0001	03	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	
	0002	02	CLOUD COVERING MORE THAN 1/2 OF THE SKY THROUGHOUT THE APPROPRIATE PERIOD	
	0003	01	SANSTORM, DUSTSTORM OR BLOWING SNOW	
	0004	01	FOG OR ICE OR THICK HAZE	
	0005	01	DRIZZLE	
	0006	01	RAIN	
	0007	01	SNOW, OR RAIN AND SNOW MIXED	
	0008	01	SHOWER(S)	
	0009	01	THUNDERSTORM(S) WITH OR WITHOUT PRECIPITATION	
	0010	01	NO SIGNIFICANT WEATHER OBSERVED	
	0011	01	VISIBILITY REDUCED	
	0012	01	BLOWING PHENOMENA, VISIBILITY REDUCED	
	0013	01	FOG	
	0014	01	PRECIPITATION	
	0015	01	DRIZZLE	
	0016	01	RAIN	
	0017	01	SNOW OR ICE PELLETS	
	0018	01	SHOWERS OR INTERMITTENT PRECIPITATION	
	0019	01	THUNDERSTORM	
	0031	01	MISSING VALUE	
B20008	0019	0000	01 Sky Clear	
	0001	01	Few	
	0002	01	Scattered	
	0003	01	Broken	
	0004	01	Overcast	
	0005	01	Reserved	
	0006	01	Scattered/Broken (Many forecasts use Scattered/Broken	
	0007	01	Broken/Overcast (Broken/Overcast followed by cloud type(s))	
	0008	01	Isolated (Used on aviation charts to describe the cloud type Cb)	
	0009	01	Isolated embedded (Used on aviation charts to describe the cloud type Cb)	
	0010	01	Occasional (Used on aviation charts to describe the cloud type Cb)	
	0011	01	Occasional embedded (Used on aviation charts to describe the cloud type Cb)	
	0012	01	Frequent (Used on aviation charts to describe the cloud type Cb)	
	0013	02	Dense (Used on aviation charts to describe cloud that would cause sudden changes in visibility (less than 1000m))	
	0014	01	Layers	
	0015	01	Obscured (OBSC)	
	0016	01	Embedded (EMBD)	
	0017	01	Frequent embedded	
	0031	01	MISSING VALUE	
B20009	0006	0000	01 reserved	
	0001	01	NSC MIL SIGNIFICANT CLOUD	
	0002	01	CAVOK	
	0003	01	SKC SKY CLEAR	
	0004	01	NSW NIL SIGNIFICANT WEATHER	
	0015	01	MISSING VALUE	
B20011	0011	0000	01 0	0
	0001	01	1 OKTA OR LESS, BUT NOT ZERO	1/10 OR LESS, BUT NOT ZERO
	0002	01	2 OKTAS	2/10 - 3/10
	0003	01	3 OKTAS	4/10
	0004	01	4 OKTAS	5/10
	0005	01	5 OKTAS	6/10
	0006	01	6 OKTAS	7/10 - 8/10
	0007	01	7 OKTAS OR MORE, BUT NOT 8 OKTAS	9/10 OR MORE, BUT NOT 10/10
	0008	01	8 OKTAS	10/10
	0009	01	SKY OBSCURED BY FOG AND OR OTHER METEOROLOGICAL PHENOMENA	
	0015	02	CLOUD COVE IS INDISCERNIBLE FOR REASONS OTHER THAN FOG OR OTHER METEOROLOGICAL PHENOMENA, OR OBSERVATION IS NOT MADE	
B20012	0045	0000	01 CIRRUS (CI).....CI	
	0001	01	CIRROCUMULUS (CC).....CC	
	0002	01	CIRROSTRATUS (CS).....CS	
	0003	01	ALTOCUMULUS (AC).....AC	
	0004	01	ALTOSTRATUS (AS).....AS	
	0005	01	NIMBOSTRATUS (NS).....NS	
	0006	01	STRATOCUMULUS (SC).....SC	
	0007	01	STRATUS (ST).....ST	
	0008	01	CUMULUS (CU).....CU	
	0009	01	CUMULONIMBUS (CB).....CB	
	0010	01	NO CH CLOUDS	
	0011	02	CIRRUS FIBRATUS, SOMETIMES UNCINUS, NOT PROGRESSIVELY INVADING THE SKY	
	0012	04	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	
	0013	01	CIRRUS SPISSATUS CUMULONIMBOGENITUS	
	0014	02	CIRRUS UNCINUS OR FIBRATUS, OR BOTH, PROGRESSIVELY INVADING THE SKY ; THEY GENERALLY THICKEN AS A WHOLE	
	0015	04	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	
	0016	05	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	

ONE, PROGRESSIVELY INVADING THE SKY; THEY GENERALLY THICKEN  
ASA WHOLE, BUT THE CONTINUOUS VEIL EXTENDS MORE THAN 45 DEGR  
REES ABOVE THE HORIZON, WITHOUT THE SKY BEING TOTALLY COVERE  
D

0017 01 CIRROSTRATUS COVERING THE WHOLE SKY

0018 02 CIRROSTRATUS NOT PROGRESSIVELY INVADING THE SKY AND NOT ENTI  
RELY COVERING IT

0019 02 CIRROCUMULUS ALONE, OR CIRROCUMULUS PREDOMINANT AMONG THE CH  
CLOUDS

0020 01 NO CM CLOUDS

0021 01 ALTOSTRATUS TRANSLUCIDUS

0022 01 ALTOSTRATUS OPACUS OR NIMBOSTRATUS

0023 01 ALTOCUMULUS TRANSLUCIDUS AT A SINGLE LEVEL

0024 02 PATCHES (OFTEN LENTICULARIS) OF ALTOCUMULUS TRANSLUCIDUS, CO  
NTINUALLY CHANGING AND OCCURRING AT ONE OR MORE LEVELS

0025 04 ALTOCUMULUS TRANSLUCIDUS IN BANDS, OR ONE OR MORE LAYERS OF  
ALTOCUMULUS TRANSLUCIDUS OR OPACUS, PROGRESSIVELY INVADING T  
HE SKY; THESE ALTOCUMULUS CLOUDS GENERALLY THICKEN AS A WHOL  
E

0026 01 ALTOCUMULUS CUMULOGENITUS (OR CUMULONIMBOGENITUS)

0027 04 ALTOCUMULUS TRANSLUCIDUS OR OPACUS IN TWO OR MORE LAYERS, OR  
ALTOCUMULUS OPACUS IN A SINGLE LAYER, NOT PROGRESSIVELY INV  
ADING THE SKY, OR ALTOCUMULUS WITH ALTOSTRATUS OR NIMBOSTRAT  
US

0028 01 ALTOCUMULUS CASTELLANUS OR FLOCUS

0029 01 ALTOCUMULUS OF CHAOTIC SKY, GENERALLY AT SEVERAL LEVELS

0030 01 NO CL CLOUDS

0031 02 CUMULUS HUMILIS OR CUMULUS FRACTUS OTHER THAN OF BAD WEATHER  
, OR BOTH

0032 03 CUMULUS MEDIOCRIS OR CONGESTUS, WITH OR WITHOUT CUMULUS OF S  
PECIES FRACTUS OR HUMILIS OR STRATOCUMULUS, ALL HAVING THEIR  
BASES AT THE SAME LEVEL

0033 02 CUMULONIMBUS CALVUS, WITH OR WITHOUT CUMULUS, STRATOCUMULUS  
OR STRATUS

0034 01 STRATOCUMULUS CUMULOGENITUS

0035 01 STRATOCUMULUS OTHER THAN STRATOCUMULUS CUMULOGENITUS

0036 02 STRATUS NEBULOSUS OR STRATUS FRACTUS OTHER THAN OF BAD WEATH  
ER, OR BOTH

0037 02 STRATUS FRACTUS OR CUMULUS FRACTUS OF BAD WEATHER, OR BOTH  
(PANNUS), USUALLY BELOW ALTOSTRATUS OR NIMBOSTRATUS

0038 02 CUMULUS AND STRATOCUMULUS OTHER THAN STRATOCUMULUS CUMULOGEN  
ITUS, WITH BASES AT DIFFERENT LEVELS

0039 03 CUMULONIMBUS CAPILLATUS (OFTEN WITH AN ANVIL), WITH OR WITHO  
UT CUMULONIMBUS CALVUS, CUMULUS, STRATOCUMULUS, STRATUS OR P  
ANNUS

0059 02 CLOUD NOT VISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDSTO  
RM, OR OTHER ANALOGOUS PHENOMENA

0060 03 CH CLOUDS INVISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDS  
TORM, OR OTHER SIMILAR PHENOMENA, OR BECAUSE OF A CONTINUOUS  
LAYER OF LOWER CLOUDS

0061 03 CM CLOUDS INVISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDS  
TORM, OR OTHER SIMILAR PHENOMENA, OR BECAUSE OF A CONTINUOUS  
LAYER OF LOWER CLOUDS

0062 02 CL CLOUDS INVISIBLE OWING TO DARKNESS, FOG, DUSTSTORM, SANDS  
TORM, OR OTHER SIMILAR PHENOMENA

0063 01 MISSING VALUE

B20017 0011 0000 01 ISOLATED CLOUD OR FRAGMENTS OF CLOUD

0001 01 CONTINUOUS CLOUD

0002 01 BROKEN CLOUD - SMALL BREAKS, FLAT TOPS

0003 01 BROKEN CLOUD - LARGE BREAKS, FLAT TOPS

0004 01 CONTINUOUS CLOUD

0005 01 BROKEN CLOUD - SMALL BREAKS, UNDULATED TOPS

0006 01 BROKEN CLOUD - LARGE BREAKS, UNDULATED TOPS

0007 02 CONTINUOUS OR ALMOST CONTINUOUS WAVES WITH TOWERING CLOUDS A  
BOVE THE TOP OF THE LAYER

0008 02 GROUPS OF WAVES WITH TOWERING CLOUDS ABOVE THE TOP OF THE LA  
YER

0009 01 TWO OR MORE LAYERS AT DIFFERENT LEVELS

0015 01 MISSING VALUE

B20018 0004 0000 01 INCREASING (U)

0001 01 DECREASING (D)

0002 01 NO DISTINCT CHANGE (N)

0003 01 MISSING VALUE

B20021 0024 0001 01 Precipitation-unknown type

0002 01 Liquid precipitation not freezing

0003 01 Liquid freezing precipitation

0004 01 Drizzle

0005 01 Rain

0006 01 Solid precipitation

0007 01 Snow

0008 01 Snow grains

0009 01 Snow pellets

0010 01 Ice pellets

0011 01 Ice crystals

0012 01 Diamond dust

0013 01 Small hail

0014 01 Hail

0015 01 Glaze

0016 01 Rime

0017 01 Soft rime

0018 01 Hard rime

0019 01 Clear ice

0020 01 Wet snow

		0021	01	Hoar frost
		0022	01	Dew
		0023	01	White dew
		0030	01	All 30 missing value
B20022	0007	0000	01	No precipitation
		0001	01	Continuous
		0002	01	Intermittent
		0003	01	Shower
		0004	01	Not reaching ground
		0005	01	Deposition
		0015	01	MISSING VALUE
B20023	0012	0001	01	Dust/sand whirl
		0002	01	Squalls
		0003	01	Sand storm
		0004	01	Dust storm
		0005	01	Lightning - cloud to surface
		0006	01	Lightning - cloud to cloud
		0007	01	Lightning - distant
		0008	01	Thunderstorm
		0009	01	Funnel Cloud not touching surface
		0010	01	Funnel cloud touching surface
		0011	01	Spray
		0012	01	Water-spout
B20024	0007	0000	01	No phenomena
		0001	01	Light
		0002	01	Moderate
		0003	01	Heavy
		0004	01	Violent
		0005	01	Severe (VAL)
		0007	01	Missing value
B20025	0011	0001	01	Fog
		0002	01	Ice fog
		0003	01	Steam fog
		0007	01	Mist
		0008	01	Haze
		0009	01	Smoke
		0010	01	Volcanic ash
		0011	01	Dust
		0012	01	Sand
		0013	01	Snow
		0021	01	All 21 missing value
B20026	0014	0000	01	No change
		0001	01	Shallow
		0002	01	Patches
		0003	01	Partial
		0004	01	Freezing
		0005	01	Low drifting
		0006	01	Blowing
		0007	01	Increasing
		0008	01	Decreasing
		0009	01	In suspension in the air
		0010	01	Wall
		0011	01	Dense
		0012	01	Whiteout
		0015	01	Missing value
B20027	0007	0001	01	At time of observation
		0002	01	In past hour
		0003	01	In time period for past weather W1W2
		0004	01	In time period specified
		0006	01	Below station level
		0007	01	At the station
		0008	01	In the vicinity
		0009	01	All 9 missing value
B20029	0004	0000	01	No rain
		0001	01	rain
		0002	01	Reserved
		0003	01	Missing value
B20032	0006	0000	01	ICE NOT BUILDING UP
		0001	01	ICE BUILDING UP SLOWLY
		0002	01	ICE BUILDING UP QUICKLY
		0003	01	ICE MELTING OR BREAKING UP SLOWLY
		0004	01	ICE MELTING OR BREAKING UP RAPIDLY
		0007	01	MISSING VALUE
B20033	0004	0001	01	ICING FROM OCEAN SPRAY
		0002	01	ICING FROM FOG
		0003	01	ICING FROM RAIN
		0004	01	MISSING VALUE
B20034	0012	0000	01	NO SEA ICE IN SIGHT
		0001	02	SHIP IN OPEN LEAD MORE THAN 1.0 NAUTICAL MILE WIDE, OR SHIP IN FAST ICE WITH BOUNDARY BEYOND LIMIT OF VISIBILITY
		0002	04	SEA ICE PRESENT IN CONCENTRATION LESS THAN 3/10 (3/8), OPEN W ATER OR VERY OPEN PACK ICE, SEA ICE CONCENTRATION IS UNIFORM IN THE OBSERVATION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE EDGE
		0003	03	4/10 TO 6/10 (3/8 TO LESS THAN 6/8), OPEN PACK ICE, SEA ICE CONCENTRATION IS UNIFORM IN THE OBSERVATION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE EDGE
		0004	03	7/10 TO 8/10 (6/8 TO LESS THAN 7/8), CLOSE PACK ICE, SEA ICE CONCENTRATION IS UNIFORM IN THE OBSERVATION AREA, SHIP IN IC E OR WITHIN 0.5 NAUTICAL MILE OF ICE EDGE
		0005	04	9/10 OR MORE, BUT NOT 10/10 (7/8 TO LESS THAN 8/8), VERY CLO SE PACK ICE, SEA ICE CONCENTRATION IS UNIFORM IN THE OBSERVAT ION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE EDG

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0006 03 STRIPS AND PATCHES OF PACK ICE WITH OPEN WATER BETWEEN, SEA
ICE CONCENTRATION IS NOT UNIFORM IN THE OBSERVATION AREA, SH
IP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE EDGE
0007 04 STRIPS AND PATCHES OF CLOSE OR VERY CLOSE PACK ICE WITH AREA
S OF LESSER CONCENTRATION BETWEEN, SEA ICE CONCENTRATION IS N
OT UNIFORM IN THE OBSERVATION AREA, SHIP IN ICE OR WITHIN 0.
5 NAUTICAL MILE OF ICE EDGE
0008 04 FAST ICE WITH OPEN WATER, VERY OPEN OR OPEN PACK ICE TO SEAWA
RD OF THE ICE BOUNDARY, SEA ICE CONCENTRATION IS NOT UNIFORM
IN THE OBSERVATION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL
MILE OF ICE EDGE
0009 04 FAST ICE CLOSE OR VERY CLOSE PACK ICE TO SEAWARD OF THE ICE
BOUNDARY, SEA ICE CONCENTRATION IS NOT UNIFORM IN THE OBSERVA
TION AREA, SHIP IN ICE OR WITHIN 0.5 NAUTICAL MILE OF ICE ED
GE
0014 03 UNABLE TO REPORT, BECAUSE OF DARKNESS, LACK OF VISIBILITY, O
R BECAUSE SHIP IS MORE THAN 0.5 NAUTICAL MILE AWAY FROM ICE
EDGE
0015 01 MISSING VALUE
B20035 0012 0000 01 NO ICE OF LAND ORIGIN
0001 01 1-5 ICEBERGS, NO GROWLERS OR BERGY BITS
0002 01 6-10 ICEBERGS, NO GROWLERS OR BERGY BITS
0003 01 11-20 ICEBERGS, NO GROWLERS OR BERGY BITS
0004 01 UP TO AND INCLUDING 10 GROWLERS AND BERGY BITS - NO ICEBERGS
0005 01 MORE THAN 10 GROWLERS AND BERGY BITS - NO ICEBERGS
0006 01 1-5 ICEBERGS, WITH GROWLERS AND BERGY BITS
0007 01 6-10 ICEBERGS, WITH GROWLERS AND BERGY BITS
0008 01 11-20 ICEBERGS, WITH GROWLERS AND BERGY BITS
0009 02 MORE THAN 20 ICEBERGS, WITH GROWLERS AND BERGY BITS - A MAJOR
HAZARD TO NAVIGATION
0014 02 UNABLE TO REPORT, BECAUSE OF DARKNESS, LACK OF VISIBILITY OR
BECAUSE ONLY SEA ICE IS VISIBLE
0015 01 MISSING VALUE
B20036 0012 0000 01 SHIP IN OPEN WATER WITH FLOATING ICE IN SIGHT
0001 01 SHIP IN EASILY PENETRABLE ICE; CONDITIONS IMPROVING
0002 01 SHIP IN EASILY PENETRABLE ICE; CONDITIONS NOT CHANGING
0003 01 SHIP IN EASILY PENETRABLE ICE; CONDITIONS WORSENING
0004 01 SHIP IN ICE DIFFICULT TO PENETRATE; CONDITIONS IMPROVING
0005 01 SHIP IN ICE DIFFICULT TO PENETRATE; CONDITIONS NOT CHANGING
0006 02 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING.
ICE FORMING AND FLOES FREEZING TOGETHER
0007 02 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING.
ICE UNDER SLIGHT PRESSURE
0008 02 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING.
ICE UNDER MODERATE OR SEVERE PRESSURE
0009 01 SHIP IN ICE DIFFICULT TO PENETRATE AND CONDITIONS WORSENING. SHIP BESET.
0030 01 UNABLE TO REPORT, BECAUSE OF DARKNESS OR LACK OF VISIBILITY
0031 01 MISSING VALUE
B20037 0012 0000 01 NEW ICE ONLY (FRAZIL ICE, GREASE ICE, SLUSH, SHUGA)
0001 01 NILAS OR ICE RIND, LESS THAN 10 CM THICK
0002 01 YOUNG ICE (GREY ICE, GREY-WHITE ICE)
0003 01 Predominantly new and/or young ice with some first-year ice
0004 01 Predominantly thin first-year ice with some new and/or young ice
0005 01 All thin first-year ice (30-70 cm thick)
0006 02 Predominantly medium first-year ice
(70-120 cm thick) and thick first-year ice (>120 cm
0007 01 All medium and thick first-year ice
0008 02 Predominantly medium and thick first-year ice with some
old ice (usually more than 2 metres thick)
0009 01 Predominantly old ice
0030 03 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
0031 01 Missing value
B20040 0009 0000 01 Drift snow ended before the hour of observation
0001 01 Intensity diminishing
0002 01 No change
0003 01 Intensity increasing
0004 01 Continues, apart from interruption lasting less than 30 minutes
0005 01 General drift snow has become drift snow near the ground
0006 01 Drift snow near the ground has become general drift snow
0007 01 Drift snow has started again after an interruption of more than 30 minutes
0015 01 Missing value
B20041 0011 0000 01 NO ICING
0001 01 LIGHT ICING
0002 01 LIGHT ICING IN CLOUD
0003 01 LIGHT ICING IN PRECIPITATION
0004 01 MODERATE ICING
0005 01 MODERATE ICING IN CLOUD
0006 01 MODERATE ICING IN PRECIPITATION
0007 01 SEVERE ICING
0008 01 SEVERE ICING IN CLOUD
0009 01 SEVERE ICING IN PRECIPITATION
0015 01 MISSING VALUE
B20042 0004 0000 01 No icing
0001 01 Icing present
0002 01 Reserved
0003 01 Missing value
B20045 0004 0000 01 No SLD conditions present
0001 01 SLD conditions present
0002 01 Reserved
0003 01 Missing value

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B20050 0010 0000 01 Reserved
              0001 01 1st low cloud
              0002 01 2nd low cloud
              0003 01 3rd low cloud
              0004 01 1st medium cloud
              0005 01 2nd medium cloud
              0006 01 3rd medium cloud
              0007 01 1st high cloud
              0008 01 2nd high cloud
              0255 01 Missing value
B20056 0005 0000 01 Unknown
              0001 01 Water
              0002 01 Ice
              0003 01 Mixed
              0007 01 MISSING VALUE
B20062 0021 0000 02 Surface of ground dry (without cracks and no appreciable
              amount of dust or loose sand)
              0001 01 Surface of ground moist
              0002 02 Surface of ground wet (standing water in small
              or large pools on surface)
              0003 01 Flooded without snow
              0004 01 Surface of ground frozen measurable ice
              0005 01 Glaze on ground cover
              0006 01 Loose dry dust or sand not covering ground completely
              0007 01 Thin cover of loose dry dust or sand covering ground completely
              0008 02 Moderate or thick cover of loose dry dust or sand covering
              ground completely
              0009 01 Extremely dry with cracks
              0010 01 Ground predominantly covered by ice
              0011 02 Compact or wet snow (with or without ice) covering less than
              one-half of the ground
              0012 02 Compact or wet snow (with or without ice) covering at least
              one-half of the ground but ground not completely covered
              0013 01 Even layer of compact or wet snow covering ground completely
              0014 02 Uneven layer of compact or wet snow covering ground
              with snow or completely measurable ice
              0015 01 Loose dry snow covering less than one-half of the ground cover
              0016 02 Loose dry snow covering at least one-half of the
              ground (but not completely)
              0017 01 Even layer of loose dry snow covering ground completely
              0018 01 Uneven layer of loose dry snow covering ground completely
              0019 01 Snow covering ground completely; deep drifts
              0031 01 MISSING VALUE
B20063 0001 0000 01 TO BE DEVELOPED
B20071 0011 0000 01 No assessment
              0001 01 Less than 50 km
              0002 01 Between 50 and 200 km
              0003 01 More than 200 km
              0004 01 Less than 50 km
              0005 01 Between 50 and 200 km
              0006 01 More than 200 km
              0007 01 Less than 50 km
              0008 01 Between 50 and 200 km
              0009 01 More than 200 km
              0015 01 MISSING VALUE
              No assessment
              Less than 1 per second
              Less than 1 per second
              Less than 1 per second
              1 or more per second
              1 or more per second
              1 or more per second
              Rate so rapid number cannot be counted
              Rate so rapid number cannot be counted
              Rate so rapid number cannot be counted
B20086 0008 0000 01 Clear and dry
              0001 01 Damp
              0005 01 Wet snow
              0006 01 Slush
              0007 01 Ice
              0008 01 Compacted or rolled snow
              0009 01 Frozen ruts or ridges
              0015 01 Missing value
B20090 0007 0000 01 RESERVED
              0001 01 NACREOUS CLOUDS
              0002 01 NOCTILUCENT CLOUDS
              0003 01 CLOUDS FROM WATERFALLS
              0004 01 CLOUDS FROM FIRES
              0005 01 CLOUDS FROM VULCANIC ERUPTIONS
              0015 01 MISSING VALUE
B20151 0003 0000 01 FIRST YEAR ICE
              0001 01 MULTI YEAR ICE
              0007 01 MISSING
B20252 0003 0000 01 NO EDGE
              0001 01 EDGE PRESENT
              0007 01 MISSING
B21066 0011 0001 01 PROCESSING EQUIPMENT NOT WORKING
              0002 01 EQUIPMENT FAILED
              0003 01 PRF CODE CHANGED DURING IMAGE GENERATION
              0004 01 SAMPLING WINDOW CHANGED DURING IMAGE GENERATION
              0005 01 GAIN CHANGED DURING IMAGE GENERATION
              0006 01 CHIRP REPLICAS EXCEEDS SPECIFIC VALUE
              0007 02 INPUT DATA MEAN AND STANDARD DEVIATION OF IN-PHASE AND
              QUADRATURE OUT OF RANGE
              0008 01 DOPPLER CENTROID CONFIDENCE > MMCC VALUE
              0009 01 DOPPLER CENTROID ABSOLUTE VALUE > PRF/2
              0010 01 DOPPLER AMBIGUITY CONFIDENCE < MMCC VALUE
              0011 01 OUTPUT DATA MEAN AND STANDARD DEVIATION =< MMCC VALUE
B21067 0012 0001 01 NO FOREBEAM CALCULATION
              0002 01 NO MIDBEAM CALCULATION
              0003 01 NO AFTBEAM CALCULATION
              0004 01 FOREBEAM ARCING DETECTED
              0005 01 MID ARCING DETECTED

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0006 01 AFTBEAM ARCING DETECTED
0007 01 ANY BEAM NOISE CONTENT ABOVE OR EQUAL TO TRESHOLD
0008 01 LAND (ANY LAND IN CELL FOOTPRINT)
0009 01 AUTONOMOUS AMBIGUITY REMOVAL NOT USED
0010 01 METEOROLOGICAL BACKGROUND NOT USED
0011 01 MINIMUM RESIDUAL EXCEEDED TRESHOLD
0012 01 FRAME CHECKSUM ERROR DETECTED
B21068 0007 0001 01 STANDARD DEVIATION OF WIND SPEED OUTSIDE MMCC LIMIT
0002 01 STANDARD DEVIATION OF SIGNIFICANT WAVE HEIGHT OUTSIDE MMCC LIMIT
0003 01 STANDARD DEVIATION OF ALTITUDE OUTSIDE MMCC LIMIT
0004 01 MEAN PEAKINESS OUTSIDE MMCC LIMIT
0005 01 FRAME CHECKSUM ERROR DETECTED
0006 01 HEIGHT-TIME LOOP TIME CONSTANT CORRECTION NOT PERFORMED
0007 01 NOT ENOUGH MEASUREMENTS ( N< 10)
B21069 0009 0001 01 12.0 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
0002 01 11.0 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
0003 01 3.7 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
0004 01 1.6 MICROMETERS CHANNEL PRESENT IN SOURCE DATA
0005 02 CLOUD IDENTIFICATION USED 1.6 MICROMETERS
HISTOGRAM REFLECTANCE CLOUD TEST
0006 02 1.6 MICROMETERS HISTOGRAM REFLECTANCE CLOUD
TEST USED DYNAMIC TRESHOLD
0007 01 SUN GLINT DETECTED BY 1.6 MICROMETERS REFLECTANCE CLOUD TEST
0008 01 3.7 MICROMETERS USED IN SEA-SURFACE TEMPERATURE RETRIEVAL
0009 02 SEA-SURFACE TEMPERATURE DERIVATION USED DAYTIME DATA
(NIGHT-TIME IF ZERO)
B21070 0024 0001 01 Cell 1:nadir-only view SST used 3.7 micron channel
0002 01 Cell 2:nadir-only view SST used 3.7 micron channel Cell numbering
0003 01 Cell 3:nadir-only view SST used 3.7 micron channel
0004 01 Cell 4:nadir-only view SST used 3.7 micron channel NW NE
0005 01 Cell 5:nadir-only view SST used 3.7 micron channel 7 8 9
0006 01 Cell 6:nadir-only view SST used 3.7 micron channel 4 5 6
0007 01 Cell 7:nadir-only view SST used 3.7 micron channel 1 2 3
0008 01 Cell 8:nadir-only view SST used 3.7 micron channel SW SE
0009 01 Cell 9:nadir-only view SST used 3.7 micron channel
0010 01 -18 Dual view SST retrieval used 3.7 micron channel (one bit per 10-arcmin cell)
0011 01 Cell 1:nadir-only view SST used 3.7 micron channel
0012 01 Cell 2:nadir-only view SST used 3.7 micron channel Cell numbering
0013 01 Cell 3:nadir-only view SST used 3.7 micron channel
0014 01 Cell 4:nadir-only view SST used 3.7 micron channel NW NE
0015 01 Cell 5:nadir-only view SST used 3.7 micron channel 7 8 9
0016 01 Cell 6:nadir-only view SST used 3.7 micron channel 4 5 6
0017 01 Cell 7:nadir-only view SST used 3.7 micron channel 1 2 3
0018 01 Cell 8:nadir-only view SST used 3.7 micron channel SW SE
0019 01 Nadir view contains day-time data (night if zero)
0020 01 Forward view contains day-time data (night if zero)
0021 02 Record contains contributions from instrument scans acquired when ERS platform not in
yaw-steering mode
0022 02 Record contains contributions from instrument scans for which Product Confidence Data
show quality is poor or unknown
0023 01 Missing value
B21072 0003 0001 01 HEIGHT ERROR CORRECTION APPLIED INSTEAD OF OPEN LOOP CALIBRATION
0002 01 MICROWAVE SOUNDER USED FOR TROPOSPHERE CORRECTION
0003 01 AGC OUTPUT CORRECTION APPLIED INSTED OF OPEN LOOP CALIBRATION
B21073 0008 0001 01 BLANK DATA RECORD
0002 01 TEST
0003 01 CALIBRATION (CLOSED LOOP)
0004 01 BITE
0005 01 ACQUISITION ON ICE
0006 01 ACQUISITION ON OCEAN
0007 01 TRACKING ON ICE
0008 01 TRACKING ON OCEAN
B21076 0004 0000 01 LINEAR
0001 01 LOGARITHMIC (BASE E)
0002 01 LOGARITHMIC (BASE 10)
0007 01 MISSING VALUE
B21109 0008 0001 01 NOT ENOUGH GOOD SIGMA-0 AVAILABLE FOR WIND RETRIEVAL
0002 01 POOR AZIMUTH DIVERSITY AMONG SIGMA0- FOR WIND RETRIEVAL
0003 01 SOME PORTION OF WIND VECTOR CELL IS OVER LAND
0004 01 SOME PORTION OF WIND VECTOR CELL IS OVER ICE
0005 01 WIND RETRIEVAL NOT PERFORMED FOR WIND VECTOR CELL
0006 01 REPORTED WIND SPEED IS GREATER THAN 30 M/S
0007 01 REPORTED WIND SPEED IS LESS THAN OR EQUAL TO 3 M/S
0008 01 MISSING VALUE
B21115 0011 0001 01 SIGMA-0 MEASUREMENT IS NOT USABLE
0002 01 SIGNAL TO NOISE RATIO IS LOW
0003 01 SIGMA-0 IS NEGATIVE
0004 01 SIGMA-0 IS OUTSIDE OF ACCEPTABLE RANGE
0005 01 SCATTEROMETER PULSE QUALITY IS NOT ACCEPTABLE
0006 01 SIGMA-0 CELL LOCATION ALGORITHM DOES NOT CONVERGE
0007 01 FREQUENCY SHIFT LIES BEYOND THE RANGE OF THE X FACTOR TABLE
0008 01 SPACECRAFT TEMPERATURE IS BEYOND CALIBRATION COEFFICIENT RANGE
0009 01 NO APPLICABLE ATTITUDE RECORDS WERE FOUND FOR THIS SIGMA-0
0010 01 INTERPOLATED EPHEMERIS DATA ARE NOT ACCEPTABLE FOR THIS SIGMA-0
0011 01 MISSING VALUE
B21116 0016 0001 01 Calibration/measurement pulse flag (1)
0002 01 Calibration/measurement pulse flag (2)
0003 01 Outer antenna beam
0004 01 Sigma-0 cell is aft of spacecraft
0005 01 Current mode (1)
0006 01 Current mode (2)
0007 01 Effective gate width - slice resolution (1)
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	0008	01	Effective gate width - slice resolution (2)			
	0009	01	Effective gate width - slice resolution (3)			
	0010	01	Low resolution mode - whole pulse data			
	0011	01	Scatterometer electronic subsystem B			
	0012	01	Alternate spin rate - 19.8 rpm			
	0013	01	Receiver protection on			
	0014	01	Slices per composite flag (1)			
	0015	01	Slices per composite flag (2)			
	0016	01	Slices per composite flag (3)			
B21119	0014	0000	01	RESERVED		
		0001	01	SASS		
		0002	01	SASS2		
		0003	01	NSCAT0		
		0004	01	NSCAT1		
		0005	01	NSCAT2		
		0006	01	QSCAT0		
		0007	01	QSCAT1		
		0031	01	CMOD1		
		0032	01	CMOD2		
		0033	01	CMOD3		
		0034	01	CMOD4		
		0035	01	CMOD5		
		0064	01	MISSING VALUE		
B22056	0004	0000	01	Upwards profile		
		0001	01	Downwards profile		
		0002	01	Horizontal		
		0003	01	Missing value		
B22060	0004	0000	01	Drogue is detached		
		0001	01	Drogue is attached		
		0002	01	Drogue status unknown		
		0007	01	MISSING VALUE		
B22061	0011	0000	01	CALM (GLASSY)	HEIGHT	0 M
		0001	01	CALM (RIPPLED)	HEIGHT	0 - 0.1 M
		0002	01	SMOOTH (WAVELETS)	HEIGHT	0.1 - 0.5 M
		0003	01	SLIGHT	HEIGHT	0.5 - 1.5 M
		0004	01	MODERATE	HEIGHT	1.25 - 2.5 M
		0005	01	ROUGH	HEIGHT	2.5 - 4 M
		0006	01	VERY ROUGH	HEIGHT	4 - 6 M
		0007	01	HIGH	HEIGHT	6 - 9 M
		0008	01	VERY HIGH	HEIGHT	9 - 14 M
		0009	01	PHENOMANAL	HEIGHT	OVER 14 M
		0015	01	MISSING VALUE		
B22067	0001	0000	01	See common Code Table C3		
B22068	0001	0000	01	See common Code Table C4		
B22120	0013	0000	01	GOOD DATA		
		0001	01	MAXIMUM (HIGH) WATER LEVEL LIMIT EXCEEDED		
		0002	01	MINIMUM (LOW) WATER LEVEL LIMIT EXCEEDED		
		0003	01	RATE OF CHANGE LIMIT FOR WATER LEVEL EXCEEDED		
		0004	01	FLAT LIMIT FOR WATER LEVEL EXCEEDED		
		0005	01	OBSERVED MINUS PREDICTED WATER LEVEL VALUE LIMIT EXCEEDED		
		0006	02	OBSERVED VALUE FROM PRIMARY WATER LEVEL SENSOR MINUS BACKUP WATER LEVEL SENSOR		
		0007	01	VALUE EXCEEDED SPECIFIED TOLERANCE FROM EXPECTED VALUE		
		0008	01	WATER LEVEL QA PARAMETER (SIGMAS AND/OR OUTLIERS) LIMITS EXCEEDED		
		0009	01	SEA TEMPERATURE OUTSIDE OF EXPECTED RANGE		
		0010	01	MULTIPLE QC CHECKS (ABOVE) FAILED		
		0011	01	NO AUTOMATED WATER LEVEL CHECKS PERFORMED		
		0031	01	MISSING VALUE		
B22121	0009	0000	01	OPERATIONAL		
		0001	01	POSSIBLE CLOGGING PROBLEM OR OTHERWISE DEGRADED WATE LEVEL DATA		
		0002	01	POSSIBLE DATUM SHIFT		
		0003	01	UNKNOWN STATUS OF WATER LEVEL SENSOR		
		0004	01	SUSPECTED OR KNOWN SEA TEMPERATURE SENSOR PROBLEM		
		0005	01	MULTIPLE POSSIBLE PROBLEMS (ABOVE)		
		0006	01	BAD DATA- DO NOT DISSEMINATE		
		0007	01	NO MANUAL WATER LEVEL CHECKS PERFORMED		
		0031	01	MISSING VALUE		
B22122	0008	0000	01	GOOD DATA FROM ALL SENSORS		
		0001	01	WIND DIRECTION OUTSIDE OF ALLOWABLE RANGE		
		0002	01	WIND SPEED OUTSIDE OF EXPECTED RANGE		
		0003	01	BAROMETRIC PRESSURE OUTSIDE OF EXPECTED RANGE		
		0004	01	AIR TEMPERATURE OUTSIDE OF EXPECTED RANGE		
		0005	01	MULTIPLE SENSOR FAILED QC CHECKS		
		0006	01	NO AUTOMATED METEOROLOGICAL DATA CHECKS PERFORMED		
		0031	01	MISSING VALUE		
B22123	0009	0000	01	OPERATIONAL		
		0001	01	SUSPECTED OR KNOWN PROBLEM WITH WIND SENSOR		
		0002	01	SUSPECTED OR KNOWN PROBLEM WITH BAROMETRIC PRESSURE SENSOR		
		0003	01	SUSPECTED OR KNOWN PROBLEM WITH AIR TEMPERATURE SENSOR		
		0004	01	UNKNOWN STATUS OF ALL SENSORS		
		0005	01	SUSPECTED OR KNOWN PROBLEMS WITH MULTIPLE SENSORS		
		0006	01	BAD DATA - DO NOT DISSEMINATE		
		0007	01	NO MANUAL METEOROLOGICAL DATA CHECKS PERFORMED		
		0031	01	MISSING VALUE		
B23001	0005	0000	01	RESERVED		
		0001	01	ARTICLES 1 AND 2		
		0002	01	ARTICLE 3		
		0003	01	ARTICLE 5.2		
		0007	01	MISSING VALUE		
B23002	0016	0000	01	reserved		
		0001	01	NUCLEAR REACTOR ON GROUND		
		0002	01	NUCLEAR REACTOR ON SEA		
		0003	01	NUCLEAR REACTOR IN SPACE		

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0004 01 NUCLEAR FULE FACILITY
0005 01 RADIOACTIVE WASTE MANAGMENT FACITILY
0006 01 TRANSPORT OF NUCLEAR FUEL OR RADIOACTIVE WASTE
0007 01 STORAGE OF NUCLEAR FUEL OR RADIOACTIVE WASTE
0008 01 MANUFACTURE OF RADIO-ISOTOPES
0009 01 USE OF RADIO-ISOTOPES
0010 01 STORAGE OF RADIO-ISOTOPES
0011 01 DISPOSAL OF RADIO-ISOTOPS
0012 01 TRANSPORT OF RADIO-ISOTOPES
0013 01 USE OF RADIO-ISOTOPES FOR POWER GENERATION
0030 01 OTHER
0031 01 MISSING VALUE
B23003 0008 0000 01 NO RELEASE
0001 01 RELEASE TO ATMOSPHERE
0002 01 RELEASE TO WATER
0003 01 RELEASE TO BOTH ATMOSPHERE AND WATER
0004 01 EXPECTED RELEASE TO ATMOSPHERE
0005 01 EXPECTED RELEASE TO WATER
0006 01 EXPECTED RELEASE TO BOTH ATMOSPHERE AND WATER
0007 01 MISSING VALUE
B23004 0006 0000 01 NO COUNTERMEASURE
0001 01 EVACUATION
0002 01 SHELTERING
0003 01 PROPHILAXIS
0004 01 WATER
0007 01 MISSING VALUE
B23005 0004 0000 01 INCIDENT STAT DOES NOT UNDERSTAND WHAT HAPPENED
0001 01 INCIDENT STATE KNOWS THE CAUSE OF THE INCIDENT
0002 01 RESERVED
0003 01 MISSING VALUE
B23006 0008 0000 01 NO IMPROVEMENT
0001 01 UNSTABLE
0002 01 NO DETERIORATION
0003 01 IMPROVING
0004 01 STABLE
0005 01 DETERIORATING
0006 01 RESERVED
0007 01 MISSING VALUE
B23007 0005 0000 01 NO RELEASE
0001 01 RELEASE HAS STOPPED
0002 01 RELEASE
0003 01 RELEASE IS CONTINUING
0007 01 MISSING VALUE
B23008 0004 0000 01 GASEUS
0001 01 PARTICULATE
0002 01 MIXTURE OF GASEUS AND PARTICULATE
0003 01 MISSING VALUE
B23009 0004 0000 01 GASEUS
0001 01 PARTICULATE
0002 01 MIXTURE OF GASEUS AND PARTICULATE
0003 01 MISSING VALUE
B23016 0004 0000 01 NO SIGNIFICANT TOXIC HEALTH EFFECT
0001 01 SIGNIFICANT CHEMICAL TOXIC HEALTH EFFECT POSSIBLE
0002 01 RESERVED
0003 01 MISSING VALUE
B23018 0006 0000 01 RELEASE NO LONGER OCCURRING
0001 01 RELEASE STILL OCCURRING
0002 01 RELEASE EXPECTED TO INCREASE IN NEXT SIX HOURS
0003 01 RELEASE EXPECTED TO REMAIN CONSTANT IN NEXT SIX HOURS
0004 01 RELEASE EXPECTED TO DECREASE IN NEXT SIX HOURS
0007 01 MISSING VALUE
B23031 0004 0000 01 PLUME WILL NOT ENCOUNTER RAIN IN INCIDENT STATE
0001 01 PLUME WILL ENCOUNTER RAIN IN INCIDENT STATE
0002 01 RESERVED
0003 01 MISSING VALUE
B23032 0004 0000 01 NO SIGNIFICANT CHANGE EXPECTED WITHIN NEXT SIX HOURS
0001 01 ANTICIPATED SIGNIFICANT CHANGE EXPECTED WITHIN NEXT SIX HOURS
0002 01 RESERVED
0003 01 MISSING VALUE
B24003 0005 0000 01 NOBLE GASES
0001 01 IODINES
0002 01 CAESIUM
0003 01 TRANSURANICS
0031 01 MISSING VALUE
B25004 0004 0000 01 INCOHERENT
0001 01 COHERENT (DOPPLER)
0002 01 RESERVED
0003 01 MISSING VALUE
B25005 0004 0000 01 LOGATITHM - 2.5 DB
0001 01 LINEAR
0002 01 SPECIAL
0003 01 MISSING VALUE
B25006 0005 0000 01 ZH TO R CONVERSION
0001 01 (ZH, ZDR) TO (NO.DO) TO R
0002 01 (Z(F1),Z(F2)) TO ATTENUATION TO R
0006 01 OTHER
0007 01 MISSING VALUE
B25009 0004 0001 01 NONE
0002 01 CALIBRATION TARGET OR SIGNAL
0003 01 AGAINST RAINGAGES
0004 01 AGAINST OTHER INSTRUMENTS (DISTROMETER-ATTENUATION)
B25010 0008 0000 01 NONE
0001 01 MAP
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0002 01 INSERTION OF HIGHER ELEVATION DATA AND MAP
0003 01 ANALYSIS OF FLUCTUATING LOGARITHM SIGNAL (CLUTTER DETECTION)
0004 01 EXTRACTION OF FLUCTUATING PART OF LINEAR SIGNAL (CLUTTER SUPPRESSION)
0005 01 CLUTTER SUPPRESSION DOPPLER
0006 01 MULTIPARAMETER ANALYSIS
0015 01 MISSING VALUE
B25011 0004 0000 01 NONE
0001 01 MAP OF CORRECTION FACTORS
0002 01 INTERPOLATION (AZIMUTH OR ELEVATION)
0003 01 MISSING VALUE
B25012 0004 0000 01 HARDWARE
0001 01 SOFTWARE
0002 01 HARDWARE AND SOFTWARE
0003 01 MISSING VALUE
B25013 0001 0001 01 BRIGHT BAND CORRECTION
B25015 0001 0001 01 RADOME ATTENUATION CORRECTION
B25017 0001 0001 01 PRECIPITATION ATTENUATION CORRECTION
B25020 0004 0000 01 FTT (FAST FOURIER TRANSFORM)
0001 01 PPP (PULSE PAIR PROCESSING)
0002 01 VPC (VECTOR-PHASE CHANGE)
0003 01 MISSING VALUE
B25021 0005 0001 01 SIMPLE AVERAGE
0002 01 CONSENSUS AVERAGE
0003 01 MEDIAN CHECK
0004 01 VERTICAL CONSISTENCY CHECK
0005 01 OTHER
B25030 0004 0000 01 RUNNING MEAN SEA-SURFACE TEMPERATURE NOT USED BECAUSE USAGE CRITERIA NOT MET
0001 01 RUNNING MEAN SEA-SURFACE TEMPERATURE NOT USED BECAUSE DATA NOT AVAILABLE
0002 01 RUNNING MEAN SEA-SURFACE TEMPERATURE USED AS PREDICTOR
0003 01 MISSING VALUE
B25032 0004 0000 01 RESERVED
0001 01 DATA FROM LOW MODE
0002 01 DATA FROM HIGH MODE
0003 01 MISSING VALUE
B25033 0004 0000 01 WIND PROFILER OPERATING IN SUBMODE A
0001 01 WIND PROFILER OPERATING IN SUBMODE B
0002 01 RESERVED
0003 01 MISSING VALUE
B25034 0004 0001 01 TEST A PERFORMED AND FAILED
0002 01 TEST B PERFORMED AND FAILED
0003 01 TEST RESULTS INCONCLUSIVE
B25036 0004 0000 02 Network of several direction-finders operating on
the same individual atmospheric
0001 02 Network of several arrival-time stations operating on
the same individual atmospheric
0006 01 Single station range bearing technique
0015 01 Missing value
B25040 0010 0000 01 NON-SPECIFIC MODE
0001 01 FIRST GUESS DATA
0002 01 CLOUD DATA
0003 01 AVERAGE VECTOR DATA
0004 01 PRIMARY DATA
0005 01 GUESS DATA
0006 01 VECTOR DATA
0007 01 TRACER DATA; THE IMAGE
0008 01 TRACER DATA TO NEXT IMAGE
0015 01 MISSING VALUE
B25041 0004 0000 01 DIRECTION ORIGINALLY REPORTED IN TRUE DEGREES
0001 01 DIRECTION ORIGINALLY REPORTED USING CODE TABLE 0700, FM 13
0002 01 RESERVED
0003 01 MISSING VALUE
B25042 0004 0000 01 SPEED ORIGINALLY REPORTED IN METERS PER SECOND
0001 01 SPEED ORIGINALLY REPORTED USING CODE TABLE 2251, FM 13
0002 01 RESERVED
0003 01 MISSING VALUE
B25045 0020 0001 01 CHANNEL 1 PRESENT - (SET TO 1 PRESENT)
0002 01 CHANNEL 2 PRESENT - (SET TO 1 PRESENT)
0003 01 CHANNEL 3 PRESENT - (SET TO 1 PRESENT)
0004 01 CHANNEL 4 PRESENT - (SET TO 1 PRESENT)
0005 01 CHANNEL 5 PRESENT - (SET TO 1 PRESENT)
0006 01 CHANNEL 6 PRESENT - (SET TO 1 PRESENT)
0007 01 CHANNEL 7 PRESENT - (SET TO 1 PRESENT)
0008 01 CHANNEL 8 PRESENT - (SET TO 1 PRESENT)
0009 01 CHANNEL 9 PRESENT - (SET TO 1 PRESENT)
0010 01 CHANNEL 10 PRESENT - (SET TO 1 PRESENT)
0011 01 CHANNEL 11 PRESENT - (SET TO 1 PRESENT)
0012 01 CHANNEL 12 PRESENT - (SET TO 1 PRESENT)
0013 01 CHANNEL 13 PRESENT - (SET TO 1 PRESENT)
0014 01 CHANNEL 14 PRESENT - (SET TO 1 PRESENT)
0015 01 CHANNEL 15 PRESENT - (SET TO 1 PRESENT)
0016 01 CHANNEL 16 PRESENT - (SET TO 1 PRESENT)
0017 01 CHANNEL 17 PRESENT - (SET TO 1 PRESENT)
0018 01 CHANNEL 18 PRESENT - (SET TO 1 PRESENT)
0019 01 CHANNEL 19 PRESENT - (SET TO 1 PRESENT)
0020 01 CHANNEL 20 PRESENT - (SET TO 1 PRESENT)
B25046 0004 0001 01 CHANNEL 1 PRESENT - (SET TO 1 PRESENT)
0002 01 CHANNEL 2 PRESENT - (SET TO 1 PRESENT)
0003 01 CHANNEL 3 PRESENT - (SET TO 1 PRESENT)
0004 01 CHANNEL 4 PRESENT - (SET TO 1 PRESENT)
B25047 0003 0001 01 CHANNEL 1 PRESENT - (SET TO 1 PRESENT)
0002 01 CHANNEL 2 PRESENT - (SET TO 1 PRESENT)
0003 01 CHANNEL 3 PRESENT - (SET TO 1 PRESENT)
B25048 0015 0001 01 CHANNEL 1 PRESENT - (SET TO 1 PRESENT)

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0002 01 CHANNEL 2 PRESENT - (SET TO 1 PRESENT)
0003 01 CHANNEL 3 PRESENT - (SET TO 1 PRESENT)
0004 01 CHANNEL 4 PRESENT - (SET TO 1 PRESENT)
0005 01 CHANNEL 5 PRESENT - (SET TO 1 PRESENT)
0006 01 CHANNEL 6 PRESENT - (SET TO 1 PRESENT)
0007 01 CHANNEL 7 PRESENT - (SET TO 1 PRESENT)
0008 01 CHANNEL 8 PRESENT - (SET TO 1 PRESENT)
0009 01 CHANNEL 9 PRESENT - (SET TO 1 PRESENT)
0010 01 CHANNEL 10 PRESENT - (SET TO 1 PRESENT)
0011 01 CHANNEL 11 PRESENT - (SET TO 1 PRESENT)
0012 01 CHANNEL 12 PRESENT - (SET TO 1 PRESENT)
0013 01 CHANNEL 13 PRESENT - (SET TO 1 PRESENT)
0014 01 CHANNEL 14 PRESENT - (SET TO 1 PRESENT)
0015 01 CHANNEL 15 PRESENT - (SET TO 1 PRESENT)
B25049 0005 0001 01 CHANNEL 1 PRESENT - (SET TO 1 PRESENT)
0002 01 CHANNEL 2 PRESENT - (SET TO 1 PRESENT)
0003 01 CHANNEL 3 PRESENT - (SET TO 1 PRESENT)
0004 01 CHANNEL 4 PRESENT - (SET TO 1 PRESENT)
0005 01 CHANNEL 5 PRESENT - (SET TO 1 PRESENT)
B25051 0006 0001 01 CHANNEL 1 PRESENT - (SET TO 1 PRESENT)
0002 01 CHANNEL 2 PRESENT - (SET TO 1 PRESENT)
0003 01 CHANNEL 3 PRESENT - (SET TO 1 PRESENT)
0004 01 CHANNEL 4 PRESENT - (SET TO 1 PRESENT)
0005 01 CHANNEL 5 PRESENT - (SET TO 1 PRESENT)
0006 01 CHANNEL 6 PRESENT - (SET TO 1 PRESENT)
B25053 0006 0001 01 GOOD
0002 01 REDUNDANT
0003 01 QUESTIONABLE
0004 01 BAD
0005 01 EXPERIMENTAL
0006 01 PRECIPITATING
B25069 0007 0001 01 Smoothed
0002 01 Baseline adjusted
0003 01 Normalized time interval
0004 01 Outlier checked
0005 01 Plausibility checked
0006 01 Consistency checked
0007 01 Interpolated
B25086 0004 0000 01 Depths are not corrected
0001 01 Depths are corrected
0002 01 Reserved
0003 01 Missing value
B25093 0003 0001 01 No correction
0002 01 Vertical velocity correction
0007 01 All corrections
B25095 0001 0001 02 Altimeter operating (set to 0 if nominal, set to
backup)
B25096 0004 0001 01 Mode indicator (0 if Mode 2, 1 if Mode 1)
0002 03 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
0003 01 Channel 2 (0 if on, 1 if off)
0004 01 Channel 3 (0 if on, 1 if off)
B25097 0011 0000 01 Ranges between 0 and 30 cm
0001 01 Ranges between 30 and 60 cm
0002 01 Ranges between 60 and 90 cm
0003 01 Ranges between 90 and 120 cm
0004 01 Ranges between 120 and 150 cm
0005 01 Ranges between 150 and 180 cm
0006 01 Ranges between 180 and 210 cm
0007 01 Ranges between 210 and 240 cm
0008 01 Ranges between 240 and 270 cm
0009 01 Ranges larger than 270 cm
0015 01 Missing value
B25110 0006 0001 02 Raw data analysis used for raw data correction.
Correction done using default parameters
0002 01 Raw data analysis used for raw data correction.
Correction done using raw data analysis results
0003 01 Antenna elevation pattern correction applied
0004 01 Nominal chirp replica used
0005 01 Reconstructed chirp used
0006 01 Slant range to ground range conversion applied
B25120 0004 0000 02 Percentage of DSRs free of processing errors during Level
2 processing is greater than the acceptable threshold
0001 02 Percentage of DSRs free of processing errors during Level
2 processing is less than the acceptable threshold
0002 01 Reserved
0003 01 Missing value
B25122 0004 0000 01 Hardware configuration for RF is A
0001 01 Hardware configuration for RF is B
0002 01 Reserved
0003 01 Missing value
B25123 0004 0000 01 Hardware configuration for HPA is A
0001 01 Hardware configuration for HPA is B
0002 01 Reserved
0003 01 Missing value
B25124 0004 0000 01 Percentage of DSRs free of processing errors during Level
2 processing is greater than the acceptable threshold
0001 02 Percentage of DSRs free of processing errors during Level
2 processing is less than the acceptable threshold
0002 01 Reserved
0003 01 Missing value
B26010 0025 0001 01 0100 included
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0002 01 0200 included
0003 01 0300 included
0004 01 0400 included
0005 01 0500 included
0006 01 0600 included
0007 01 0700 included
0008 01 0800 included
0009 01 0900 included
0010 01 1000 included
0011 01 1100 included
0012 01 1200 included
0013 01 1300 included
0014 01 1400 included
0015 01 1500 included
0016 01 1600 included
0017 01 1700 included
0018 01 1800 included
0019 01 1900 included
0020 01 2000 included
0021 01 2100 included
0022 01 2200 included
0023 01 2300 included
0024 01 2400 included
0025 01 Unknown mixture of hours
B29001 0006 0000 01 GNOMONIC PROJECTION
0001 01 POLAR STEREOGRAPHIC PROJECTION
0002 01 LAMBERT'S CONFORMAL CONIC PROJECTION
0003 01 MERCATOR'S PROJECTION
0004 01 SCANNING CONE (RADAR)
0007 01 MISSING VALUE
B29002 0004 0000 01 CARTESIAN
0001 01 POLAR
0002 01 OTHER
0007 01 MISSING VALUE
B30031 0013 0000 01 PPI
0001 01 COMPOSITE
0002 01 CAPPI
0003 01 VERTICAL SECTION
0004 01 ALPHANUMERIC DATA
0005 01 MAP OF SUBJECT CLUTTER
0006 01 MAP
0007 01 TEST PICTURE
0008 01 COMMENTS
0009 01 MAP OF GROUND OCCULTATION
0010 01 MAP OF RADAR BEAM HEIGHT
0014 01 OTHER
0015 01 MISSING VALUE
B30032 0009 0001 01 MAP
0002 01 SATELLITE IR
0003 01 SATELLITE VIS
0004 01 SATELLITE WV
0005 01 SATELLITE MULTISPECTRAL
0006 01 SYNOPTIC OBSERVATIONS
0007 01 FORECAST PARAMETERS
0008 01 LIGHTNING DATA
0015 01 OTHER DATA
B31021 0004 0001 01 1 BIT INDICATOR OF QUALITY, 0= GOOD; 1=SUSPECT OR BAD
0002 02 2 BIT INDICATOR OF QUALITY, 0= GOOD; 1= SLIGHTLY SUSPECTED;
2= HIGHLY SUSPECTED; 3=BAD
0007 01 PERCENTAGE CONFIDENCE
0063 01 MISSING VALUE
B33002 0004 0000 01 DATA NOT SUSPECT
0001 01 DATA SUSPECT
0002 01 RESERVED
0003 01 MISSING VALUE
B33003 0005 0000 01 DATA NOT SUSPECT
0001 01 DATA SLIGHTLY SUSPECT
0002 01 DATA HIGHTLY SUSPECT
0003 01 DATA CONSIDERED UNFIT FOR USE
0007 01 MISSING VALUE
B33005 0023 0001 01 No automated meteorological data checks performed
0002 01 Pressure data suspect
0003 01 Wind data suspect
0004 01 Dry-bulb temperature data suspect
0005 01 Wet-bulb temperature data suspect
0006 01 Humidity data suspect
0007 01 Ground temperature data suspect
0008 01 Soil temperature (depth 1) data suspect
0009 01 Soil temperature (depth 2) data suspect
0010 01 Soil temperature (depth 3) data suspect
0011 01 Soil temperature (depth 4) data suspect
0012 01 Soil temperature (depth 5) data suspect
0013 01 Cloud data suspect
0014 01 Visibility data suspect
0015 01 Present weather data suspect
0016 01 Lightning data suspect
0017 01 Ice deposit data suspect
0018 01 Precipitation data suspect
0019 01 State of ground data suspect
0020 01 Snow data suspect
0021 01 Water content data suspect
0022 01 Evaporation/evapotranspiration data suspect
0023 01 Sunshine data suspect

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B33006 0005 0000 01 Self-check OK
           0001 01 At least one Warning active, no Alarms
           0002 01 At least one Alarm active
           0003 01 Sensor failure
           0007 01 Missing value
B33015 0016 0000 01 Passed all checks
           0001 01 Missing-data check
           0002 01 Descending/reascending balloon check
           0003 01 Data plausibility check (above limits)
           0004 01 Data plausibility check (below limits)
           0005 01 Superadiabatic lapse rate check
           0006 01 Limiting angles check
           0007 01 Ascension rate check
           0008 01 Excessive change from previous flight
           0009 01 Balloon overhead check
           0010 01 Wind speed check
           0011 01 Wind direction check
           0012 01 Dependency check
           0013 01 Data valid but modified
           0014 01 Data outlier check
           0063 01 Missing data
B33020 0008 0000 01 GOOD
           0001 01 INCONSISTENT
           0002 01 DOUBTFUL
           0003 01 WRONG
           0004 01 NOT CHECKED
           0005 01 HAS BEEN CHECKED
           0006 01 RESERVED
           0007 01 MISSING VALUE
B33021 0004 0000 01 WITHIN LIMITS
           0001 01 OUTSIDE LIMITS
           0002 01 RESERVED
           0003 01 MISSING VALUE
B33022 0004 0000 01 GOOD (SEVERAL IDENTICAL REPORTS HAVE BEEN RECEIVED)
           0001 01 DUBIOUS (NO IDENTICAL REPORT HAVE BEEN RECEIVED)
           0002 01 RESERVED
           0003 01 MISSING VALUE
B33023 0004 0000 01 RELIABLE (LOCATION WAS MADE OVER TWO SATELLITE PASSES)
           0001 01 LATEST KNOWN (NO LOCATION OVER CORRESPONDING PASS)
           0002 01 DUBIOUS
           0003 01 MISSING VALUE
B33024 0010 0000 01 RESERVED
           0001 01 EXCELLENT - WITHIN 3 METRES
           0002 01 GOOD - WITHIN 10 METRES
           0003 01 FAIR - WITHIN 20 METRES
           0004 01 POOR - MORE THAN 20 METRES
           0005 01 EXCELLENT -WITHIN 10 FEET
           0006 01 GOOD WITHIN-30 FEET
           0007 01 FAIR WITHIN 60 FEET
           0008 01 POOR - MORE THAN 60 FEET
           0015 01 MISSING VALUE
B33025 0005 0000 01 TIME INTERPOLATED, LATITUDE AND LONGITUDE REPORTED
           0001 01 TIME REPORTED, LATITUDE AND LONGITUDE INTERPOLATED
           0002 01 TIME, LATITUDE AND LONGITUDE INTERPOLATED
           0003 01 TIME, LATITUDE AND LONGITUDE REPORTED
           0007 01 MISSING VALUE
B33026 0010 0000 01 NORMAL OPERATIONS - MEASUREMENT MODE
           0001 01 NORMAL OPERATIONS - NON-MEASUREMENT MODE
           0002 01 SMALL RH
           0003 01 HUMIDITY ELEMENT IS WET
           0004 01 HUMIDITY ELEMENT IS CONTAMINATED
           0005 01 HEATER FAIL
           0006 01 HEATER FAIL AND WET/CONTAMINATED HUMIDITY ELEMENT
           0007 01 SINGLE VALIDITY BAD
           0008 01 NUMERIC ERROR
           0063 01 MISSING VALUE
B33027 0005 0000 01 RADIUS >= 1500 M
           0001 01 500 M <= RADIUS < 1500 M
           0002 01 250 M <= RADIUS < 500 M
           0003 01 RADIUS < 250 M
           0007 01 MISSING VALUE
B33030 0007 0001 01 Do not use scan for product generation
           0002 01 Time sequence error detected with this scan
           0003 01 Data gap precedes this scan
           0004 01 No calibration
           0005 01 No earth location
           0006 01 First good time following a clock update
           0007 01 Instrument status changed with this scan
B33031 0021 0001 01 Time field is bad but can probably be inferred from the previous good time
           0002 01 Time field is bad and can't be inferred from the previous good time
           0003 04 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)
           0004 02 Start of a sequence that apparently repeats scan
              times that have been previously accepted
           0005 01 Scan line was not calibrated because of bad time
           0006 03 Scan line was calibrated using fewer than the preferred
              number of scan lines because of proximaty to start or
              end of data or to a data gap
           0007 01 Scan line was not calibrated because of bad or insufficient PRT data
           0008 01 Scan line was calibrated but with marginal PRT data
           0009 01 Some uncalibrated channels on this scan
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0010 01 Uncalibrated due to instrument mode
0011 01 Questionable calibration because of antenna position error of space view
0012 01 Questionable calibration because of antenna position error of black body
0013 01 Not earth located because of bad time
0014 03 Earth location questionable because of
    questionable time code (see time problem
    code bits)
0015 02 Earth location questionable - only marginal agreement
    with reasonableness check
0016 01 Earth location questionable - fails reasonableness check
0017 01 Earth location questionable because of antenna position check
0018 01 Scan line calibration cold black body
0019 01 Scan line calibration warm black body
0020 01 Scan line calibration space view
0021 01 Earth view
B33032 0006 0001 01 No good blackbody counts for scan line
0002 01 No good space view counts for this line
0003 01 No good PRTs for this line
0004 01 Some bad blackbody view counts for this line
0005 01 Some bad space view counts for this line
0006 01 Some bad PRT temps on this line
B33033 0023 0001 01 Set if secondary calibration used
0002 02 brightness temperature in channel 1 is physically unreasonable or has not
    been calculated due to calibration problems
0003 02 brightness temperature in channel 2 is physically unreasonable or has not
    been calculated due to calibration problems
0004 02 brightness temperature in channel 3 is physically unreasonable or has not
    been calculated due to calibration problems
0005 02 brightness temperature in channel 4 is physically unreasonable or has not
    been calculated due to calibration problems
0006 02 brightness temperature in channel 5 is physically unreasonable or has not
    been calculated due to calibration problems
0007 02 brightness temperature in channel 6 is physically unreasonable or has not
    been calculated due to calibration problems
0008 02 brightness temperature in channel 7 is physically unreasonable or has not
    been calculated due to calibration problems
0009 02 brightness temperature in channel 8 is physically unreasonable or has not
    been calculated due to calibration problems
0010 02 brightness temperature in channel 9 is physically unreasonable or has not
    been calculated due to calibration problems
0011 02 brightness temperature in channel 10 is physically unreasonable or has not
    been calculated due to calibration problems
0012 02 brightness temperature in channel 11 is physically unreasonable or has not
    been calculated due to calibration problems
0013 02 brightness temperature in channel 12 is physically unreasonable or has not
    been calculated due to calibration problems
0014 02 brightness temperature in channel 13 is physically unreasonable or has not
    been calculated due to calibration problems
0015 02 brightness temperature in channel 14 is physically unreasonable or has not
    been calculated due to calibration problems
0016 02 brightness temperature in channel 15 is physically unreasonable or has not
    been calculated due to calibration problems
0017 02 brightness temperature in channel 16 is physically unreasonable or has not
    been calculated due to calibration problems
0018 02 brightness temperature in channel 17 is physically unreasonable or has not
    been calculated due to calibration problems
0019 02 brightness temperature in channel 18 is physically unreasonable or has not
    been calculated due to calibration problems
0020 02 brightness temperature in channel 19 is physically unreasonable or has not
    been calculated due to calibration problems
0021 02 brightness temperature in channel 20 is physically unreasonable or has not
    been calculated due to calibration problems
0022 01 Set if all channels are missing
0023 01 Suspect
B33035 0010 0000 01 Automatic quality control passed and not manually checked
0001 01 Automatic quality control passed and manually checked and passed
0002 01 Automatic quality control passed and manually checked and deleted
0003 01 Automatic quality control failed and manually not checked
0004 01 Automatic quality control failed and manually checked and failed
0005 01 Automatic quality control failed and manually checked and re-inserted
0006 01 Automatic quality control flagged data as questionable and not manually checked
0007 02 Automatic quality control flagged data as questionable
    and manually checked and failed
0008 01 Manually checked and failed
0015 01 Missing value
B33037 0020 0001 01 U departure from guess
0002 01 V departure from guess
0003 01 U & V departure from guess
0004 01 U acceleration
0005 01 V acceleration
0006 01 U & V acceleration
0007 01 Possible land feature
0008 01 U acceleration and possible land feature
0009 01 V acceleration and possible land feature
0010 01 U & V acceleration and possible land feature
0011 01 Bad wind guess
0012 01 Correlation failure
0013 01 Search box off edge of area
0014 01 Target box off edge of area
0015 01 Pixel brightness out of bounds (noisy line)
0016 01 Target outside of lat/long box
0017 01 Target outside of pressure min/max
0018 01 Autoeditor flagged slow vector

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0020 01 Autoeditor flagged vectors  
B33038 0009 0001 01 Total Zenith Delay quality is considered poor  
0002 01 GALILEO satellites used  
0003 01 GLONASS satellites used  
0004 01 GPS satellites used  
0005 01 Meteorological data applied  
0006 01 Atmospheric loading correction applied  
0007 01 Ocean tide loading applied  
0008 01 Climate quality data processing  
0009 01 Near-real time data processing  
B33039 0009 0001 01 Non-nominal quality  
0002 01 Offline product  
0003 01 Ascending occultation flag  
0004 01 Excess Phase processing non-nominal  
0005 01 Bending Angle processing non-nominal  
0006 01 Refractivity processing non-nominal  
0007 01 Meteorological processing non-nominal  
0014 01 Background profile non-nominal  
0015 01 Background (i.e. not retrieved) profile present  
B33041 0004 0000 01 The following value is the true value  
0001 02 The following value is higher than the true value  
(the measurement hit the lower limit of the instrument)  
0002 02 The following value is lower than the true value  
(the measurement hit the higher limit of the instrument)  
0003 01 Missing value  
B33042 0005 0000 01 Exclusive lower limit (>)  
0001 01 Inclusive lower limit (>=)  
0002 01 Exclusive upper limit (<)  
0003 01 Inclusive upper limit (<=)  
0007 01 Missing value  
B33043 0004 0001 02 Sea MDS. Nadir only SST retrieval used 3.7 Micron  
channel. Land MDS reserved  
0002 02 Sea MDS. Dual view SST retrieval used 3.7 Micron  
channel. Land MDS reserved.  
0003 01 Nadir view contains day time data  
0004 01 Forward view contains day time data  
B33044 0014 0001 01 Input data mean outside nominal range flag  
0002 01 Input data standard deviation outside nominal range flag  
0003 01 Number of input data gaps > threshold value  
0004 01 Percentage of missing lines > threshold value  
0005 01 Doppler centroid uncertain. Confidence measure < specific value  
0006 01 Doppler ambiguity estimate uncertain. Confidence measure < specific value  
0007 01 Output data mean outside nominal range flag  
0008 01 Output data standard deviation outside nominal range flag  
0009 01 Chirp reconstruction failed or is of low quality flag  
0010 01 Data set missing  
0011 01 Invalid downlink parameters  
0012 02 Azimuth cut-off iteration count. The azimuth  
cut-off fit did not converge within a minimum number of iterations  
0013 02 Azimuth cut-off fit did not converge within a minimum  
number of iterations  
0014 03 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  
B33047 0026 0001 01 Error detected and attempts to recover made  
0002 01 Anomaly in on-board data handling (OBDH) value detected  
0003 01 Anomaly in Ultra Stable Oscillator Processing (USOP) value detected  
0004 01 Errors detected by on-board computer  
0005 01 Automatic gain control (AGC) out of range  
0006 01 Rx delay fault. Rx distance out of range  
0007 01 Wave form samples fault identifier. Error  
0012 01 Brightness temperature (channel 1) out of range  
0013 01 Brightness temperature (channel 2) out of range  
0014 01 Reserved  
0015 01 Ku Ocean retracking error  
0016 01 S Ocean retracking error  
0017 01 Ku Ice 1 retracking error  
0018 01 S Ice 1 retracking error  
0019 01 Ku Ice 2 retracking error  
0020 01 S Ice 2 retracking error  
0021 01 Ku Sea Ice retracking error  
0022 01 Arithmetic fault error  
0023 01 Meteo data state. No map  
0024 01 Meteo data state. 1 map  
0025 01 Meteo data state 2 maps degraded  
0026 01 Meteo data state 2 maps nominal  
0027 01 Orbit propagator status for propagation mode, several errors  
0028 01 Orbit propagator status for propagation mode, warning detected  
0029 01 Orbit propagator status for initialisation mode, several errors  
0030 01 Orbit propagator status for initialisation mode, warning detected  
B33048 0004 0000 01 Inversion successful  
0001 01 Inversion not successful  
0002 01 Reserved  
0003 01 Missing value  
B33049 0004 0000 01 External wind direction used during inversion  
0001 01 External wind direction not used during inversion  
0002 01 Reserved  
0003 01 Missing value  
B33050 0008 0000 01 Unqualified  
0001 01 Correct value (all checks passed)  
0002 01 Probably good but value inconsistent with statistics (differ from climatology)  
0003 01 Probably bad (spike, gradient, "E if other tests passed)  
0004 02 Bad value, Impossible value (out of scale, vertical

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                                instability, constant profile)
0005 01 Value modified during quality control
0008 01 Interpolated value
0015 01 Missing value
B33052 0020 0001 01 Data block 1 invalid (S band)
              0002 01 Data block 2 invalid (S band)
              0003 01 Data block 3 invalid (S band)
              0004 01 Data block 4 invalid (S band)
              0005 01 Data block 5 invalid (S band)
              0006 01 Data block 6 invalid (S band)
              0007 01 Data block 7 invalid (S band)
              0008 01 Data block 8 invalid (S band)
              0009 01 Data block 9 invalid (S band)
              0010 01 Data block 10 invalid (S band)
              0011 01 Data block 11 invalid (S band)
              0012 01 Data block 12 invalid (S band)
              0013 01 Data block 13 invalid (S band)
              0014 01 Data block 14 invalid (S band)
              0015 01 Data block 15 invalid (S band)
              0016 01 Data block 16 invalid (S band)
              0017 01 Data block 17 invalid (S band)
              0018 01 Data block 18 invalid (S band)
              0019 01 Data block 19 invalid (S band)
              0020 01 Data block 20 invalid (S band)
B33053 0020 0001 01 Data block 1 invalid (Ku band)
              0002 01 Data block 2 invalid (Ku band)
              0003 01 Data block 3 invalid (Ku band)
              0004 01 Data block 4 invalid (Ku band)
              0005 01 Data block 5 invalid (Ku band)
              0006 01 Data block 6 invalid (Ku band)
              0007 01 Data block 7 invalid (Ku band)
              0008 01 Data block 8 invalid (Ku band)
              0009 01 Data block 9 invalid (Ku band)
              0010 01 Data block 10 invalid (Ku band)
              0011 01 Data block 11 invalid (Ku band)
              0012 01 Data block 12 invalid (Ku band)
              0013 01 Data block 13 invalid (Ku band)
              0014 01 Data block 14 invalid (Ku band)
              0015 01 Data block 15 invalid (Ku band)
              0016 01 Data block 16 invalid (Ku band)
              0017 01 Data block 17 invalid (Ku band)
              0018 01 Data block 18 invalid (Ku band)
              0019 01 Data block 19 invalid (Ku band)
              0020 01 Data block 20 invalid (Ku band)
B33060 0004 0000 01 PARAMETER=GOOD
              0001 01 PARAMETER=BAD
              0002 01 PARAMETER=RESERVED
              0003 01 MISSING
B35000 0011 0011 01 000-099 International FM Codes
              0001 01 100-199 RA I Codes
              0002 01 200-299 RA II Codes
              0003 01 300-399 RA III Codes
              0004 01 400-499 RA IV Codes
              0005 01 500-599 RA V Codes
              0006 01 600-699 RA VI Codes
              0007 01 700-799 Antarctic Codes
              0008 01 800-999 Reserved
              0009 01 1000-1022 Not used
              1023 01 Missing value
B35001 0004 0000 01 Real time
              0001 01 Near-real time
              0002 01 Non-real time
              0007 01 Missing value
B35030 0010 0000 01 No discrepancies
              0001 02 Non-compliance with standard and recommended practices
                    and procedures including those of monitoring
              0002 01 Catalogues of meteorological bulletins not updated in a timely manner
              0003 01 Incorrect routing directories
              0004 01 Lack of flexibility in the routing arrangements
              0005 01 Deficiencies in the operation of GTS centres and circuits
              0006 01 Loss of data or delays in relaying data on the GTS
              0007 01 Routing of data different from the routing provided in the plan
              0008 01 Various malpractices
              0015 01 Missing value
B35031 0020 0001 01 Sufficient and all of acceptable quality
              0002 01 Sufficient but partly of acceptable quality
              0003 01 Insufficient but all of acceptable quality
              0004 01 Insufficient and of unacceptable quality
              0005 01 Some messages not complete
              0006 01 Suspect or wrongly coded groups could not be interpreted confidently
              0007 01 Gross coding errors
              0008 01 Transmission sequential order not observed
              0009 01 Report completely garbled and thus discarded
              0010 01 Deficiencies identified and rectified
              0011 01 Deficiencies identified but not rectified
              0012 01 Deficiencies not identified
              0013 01 Measuring errors
              0014 01 Mutual inconsistency
              0015 01 Temporal inconsistency
              0016 01 Forecast error
              0017 01 Bias
              0018 01 Improve system of quality control
              0019 01 Expand training programmes

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0123 01 Missing value  
B35032 0010 0001 01 Data groups missing due to radio fading  
0002 01 Data groups missing due to outage of centre  
0003 01 Data groups missing due to outage of circuit  
0004 01 Non-implementation or maintenance of required RBSN density  
0005 01 Shortage of qualified staff to man stations  
0006 01 Lack of consumables  
0007 01 Instrument failure  
0008 01 Non-adherence to telecommunication procedures  
0009 01 Some observing programmes ceased  
0015 01 Missing value  
B35033 0012 0001 01 No deficiency  
0002 01 Observations not made regularly  
0003 01 Observations not made at right time  
0004 01 Observations made but not disseminated  
0005 01 Observations made and sent to incorrect users  
0006 01 Collection not received  
0007 01 Collection transmitted late  
0008 01 Collection not transmitted  
0009 01 Difficulties in HF propagation and selection of suitable frequency  
0010 01 Difficulties in maintenance of communication equipment at remote stations  
0011 01 No alternative arrangement for routeing meteorological observation  
0123 01 Missing value  
B35034 0007 0001 01 Slight improvement  
0002 01 Significant improvement  
0003 01 Most significant improvement  
0004 01 Steady  
0005 01 Decreasing  
0006 01 Efforts required to improve night-time observations  
0007 01 Missing value  
B33035 0016 0000 01 Reserved  
0001 01 Balloon burst  
0002 01 Balloon forced down by icing  
0003 01 Leaking or floating balloon  
0004 01 Weak or fading signal  
0005 01 Battery failure  
0006 01 Ground equipment failure  
0007 01 Signal interference  
0008 01 Radiosonde failure  
0009 01 Excessive missing data frames  
0010 01 Reserved  
0011 01 Excessive missing temperature  
0012 01 Excessive missing pressure  
0013 01 User terminated  
0030 01 Other  
0031 01 Missing value

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