

# CREX User's Guide and Reference Manual

Milan Dragosavac

Operations Department

February 2006

*This paper has not been published and should be regarded as an Internal Report from ECMWF.  
Permission to quote from it should be obtained from the ECMWF.*



European Centre for Medium-Range Weather Forecasts  
Europäisches Zentrum für mittelfristige Wettervorhersage  
Centre européen pour les prévisions météorologiques à moyen terme

©Copyright 2006

European Centre for Medium-Range Weather Forecasts  
Shinfield Park, Reading, RG2 9AX, United Kingdom

Literary and scientific copyrights belong to ECMWF and are reserved in all countries.

The information within this publication is given in good faith and considered to be true, but ECMWF accepts no liability for error, omission and for loss or damage arising from its use.

## Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>CREX USER's Guide</b>	<b>3</b>
2.1	CREX format . . . . .	3
2.2	Section 0 - Indicator section . . . . .	4
2.3	Section 1 - Data description section . . . . .	4
2.4	Section 2 - Data section . . . . .	6
2.5	Section 3 - Optional section . . . . .	6
2.6	Section 4 - End section . . . . .	6
2.7	CREX decoding/encoding software . . . . .	7
2.7.1	Crex tables . . . . .	7
2.7.2	CREX table name convention . . . . .	8
2.7.3	defaults . . . . .	8
2.7.4	Subroutine crexex . . . . .	9
2.7.5	Error Codes . . . . .	12
2.7.6	Subroutine crexprs0 . . . . .	13
2.7.7	Subroutine crexprs1 . . . . .	14
2.7.8	Subroutine crexprt . . . . .	16
2.7.9	Subroutine crexen . . . . .	18
2.8	CREX tools . . . . .	21
2.8.1	TDEXP program . . . . .	21
2.8.2	BUFR to CREX conversion . . . . .	23
2.8.3	CREX to BUFR conversion . . . . .	23
2.8.4	Create CREX message . . . . .	24
2.8.5	Decode CREX message . . . . .	28
2.9	Examples . . . . .	31
2.9.1	decode CREX message . . . . .	31
2.9.2	bufr2crex conversion . . . . .	34
2.9.3	crex2bufr conversion . . . . .	36
<b>3</b>	<b>CREX Reference Manual</b>	<b>41</b>



3.1	CREX tables	41
3.1.1	CREX Table B	41
3.1.2	CREX Table D	52
3.1.3	CREX Code and Flag Tables	70

# 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	Yyyymmdd	yyyy: Year mm: Month dd: Day
3	Hhhnn	hh: Hour nn: Minute
4	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
5	Pooooopp	ooooo: Originating Centre from Common table C-11 ppp: Originating sub-centre from Common table C-12
6	Uuu	uu: Update sequence number (00 for original message)
7	Ssss	sss: Number of subsets included in the report

*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 xyyy : 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 containing
- 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 (mm)
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:

$$\text{INDEX} = \mathbf{I} + (\text{nsb}-1) * \text{KELEM}$$

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 containing number of subsets in the message
- KTDLEN - A number of data descriptors in section 1
- 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)
- 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 (mm)
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 (mm)
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**

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

#### **Output arguments**

- KSUP - An Integer array of 9 words containing supplementary information
- 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 containing CREX section 3 information
- C NAMES - Character\*64 array of KELEM containing CREX section 3 information
- C UNITS - Character\*24 array of KELEM containing CREX Table B units
- VALUES - Real\*8 array of KVALS containing expanded data values
- C VALS - 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 (mm)
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 EXTERNALS.
C -----
C
C REFERENCE.
C -----
C
C     NONE.
C
C AUTHOR.
C -----
C
C     M. DRAGOSAVAC *ECMWF* 07/01/2004.
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*      1. INITIALIZE CONSTANTS AND VARIABLES.
C      -----
100 CONTINUE
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 DECSRIPTORS
      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
C  REFERENCE.
C  -----
C
C      NONE.
C
C  AUTHOR.
C  -----
C
C      MILAN DRAGOSAVAC   *ECMWF*   07/01/2004.
C
C
C  MODIFICATIONS.
C  -----
C
C      NONE.
C
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  CNAMEs(kelem)
C  CHARACTER*24  CUNITS(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
KSEC0(1)=0
KSEC0(2)=0
KSEC0(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          KTDEXL,CREXKTDEXP,CNAMES,CUNITS,KEERR)
IF(KEERR.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                !

```







```

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*      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
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 .1008000000E+04 CCITTIA5 MDRDBY3Q
2 AIRCRAFT REGIST .2008000000E+04 CCITTIA5 JEWETRA
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 HOUR .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

```

Run **buf2crex -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

```



```

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 CCITTIA5
2 AIRCRAFT REGIST .2008000000E+04 CCITTIA5

```

```

MDRDBY3Q
JEWETRA

```



```

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 HOUR                   .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 `crex2buf -i message crex_edition2.crex -o message crex_edition2.crex.buf`

After decoding message `crex_edition2.crex.buf` the content of the expanded message `crex_edition2.crex.buf` message is:

```

ECMWF

BUFR DECODING SOFTWARE VERSION - 7.0
07 January 2005.

Your path for bufr tables is :
/hdal/data/bigtmp/wmo_buf - 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 - B000103 valid since 2003/11/01

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
B00005	BUFR/CREX EDITION NUMBER	CHARACTER	0	3
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	CODE TABLE 1035	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
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
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
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
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
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
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
B02190	LAGRANGIAN DRIFTER SUBMERGENCE (% TIME SUBMERGED)	%	0	3
B04001	YEAR	YEAR	0	4
B04002	MONTH	MONTH	0	2
B04003	DAY	DAY	0	2
B04004	HOUR	HOUR	0	2
B04005	MINUTE	MINUTE	0	2
B04006	SECOND	SECOND	0	2
B04007	SECONDS WITHIN A MINUTE (MICROSECOND ACCURACY)	SECOND	6	8
B04011	TIME INCREMENT	YEAR	0	4
B04012	TIME INCREMENT	MONTH	0	4
B04013	TIME INCREMENT	DAY	0	4
B04014	TIME INCREMENT	HOUR	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	HOUR	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	HOUR	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	HOUR	0	2
B04052	PRINCIPAL TIME OF DAILY READING OF MINIMUM TEMPERATURE	HOUR	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	HOUR	0	2
B04075	SHORT TIME PERIOD OR DISPLACEMENT	MINUTE	0	2
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
B05021	BEARING OR AZIMUTH	DEGREE TRUE	2	5
B05022	SOLAR AZIMUTH	DEGREE TRUE	2	5
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
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
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
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
B07061	DEPTH BELOW LAND SURFACE	M	2	5
B07062	DEPTH BELOW SEA/WATER SURFACE	M	1	6
B07064	HEIGHT ABOVE STATION (SENSOR HEIGHT ARTIFICIALLY CORRECTED) (SEE NOTE 7)	M	0	2
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 FORECAST	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 OR AVERAGE)	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
B08030	MANUAL ON CODES (VOLUME I.1, SECTION C) CODE TABLE FROM WHICH DATA ARE DERIVED	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
B08040	FLIGHT LEVEL SIGNIFICANCE	CODE TABLE 8040	0	2
B08041	DATA SIGNIFICANCE	CODE TABLE 8041	0	2
B08050	QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATISTIC	CODE TABLE 8050	0	2
B08051	QUALIFIER FOR NUMBER OF MISSING VALUES IN CALCULATION OF STATISTIC	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
B08060	SAMPLE SCANNING MODE SIGNIFICANCE	CODE TABLE 8060	0	2
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
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
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
B10197	ANEMOMETER HEIGHT	M	0	3
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
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
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
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
B12030	SOIL TEMPERATURE	C	1	3
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
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	WET-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
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
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 (IC/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
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	4
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	4
B13072	DOWNSTREAM WATER LEVEL	M	2	4
B13073	MAXIMUM WATER LEVEL	M	2	4
B13080	WATER PH	pH	1	3
B13081	WATER CONDUCTIVITY	SIEMENS/M	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	KGM-2	1	4
B13091	RADIOMETER LIQUID CONTENT	KGM-2	2	3
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	W/M**2	-3	4
B14018	INSTANTANEOUS SHORT-WAVE RADIATION	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	HOUR	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
B14050	EMISSIONIVITY (SEE NOTE 5)	%	1	4
B14051	DIRECT SOLAR RADIATION INTEGRATED OVER LAST HOUR	JM-2	-3	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 B3 DENSITY	KG/M**2	8	7

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
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
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
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	1
B20051	AMOUNT OF LOW CLOUDS	%	0	3
B20052	AMOUNT OF MIDDLE CLOUDS	%	0	3
B20053	AMOUNT OF HIGH CLOUDS	%	0	3
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
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
B20090	SPECIAL CLOUDS	CODE TABLE 20090	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
B21091	RADAR SIGNAL DOPPLER SPECTRUM BTH MOMENT	dB	0	3
B21092	RASS SIGNAL DOPPLER SPECTRUM BTH MOMENT, REFERRING TO RASS SIGNAL	dB	0	3
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
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
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
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
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
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
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
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
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
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
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 WAVE NUMBER) 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 0	NUMERIC	5	6
B26001	PRINCIPAL TIME OF DAILY READING IN UTC OF MAXIMUM TEMPERATURE	HOUR	1	3
B26002	PRINCIPAL TIME OF DAILY READING IN UTC OF MINIMUM TEMPERATURE	HOUR	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
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
B33040	CONFIDENCE INTERVAL	PERCENT	0	3
B33041	ATTRIBUTE OF FOLLOWING VALUE	CODE TABLE 33041	0	1
B33050	GLOBAL GTSPP QUALITY FLAG	CODE TABLE 33050	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

### 3.1.2 CREX Table D

CREX Table D - D000103 valid since 2002/11/01

```
D00002 2 B00002
          B00003
D00003 3 B00010
          B00011
          B00012
D00004 9 D00003
          B00013
          B00014
          B00015
          B00016
          B00017
          B00018
          B00019
          B00020
D00010 3 D00003
          R01000
          B00030
D01001 2 B01001
          B01002
D01002 3 B01003
          B01004
          B01005
D01003 3 B01011
          B01012
          B01013
D01004 4 B01001
          B01002
          B01015
          B02001
D01011 3 B04001
          B04002
          B04003
D01012 2 B04004
          B04005
D01013 3 B04004
          B04005
          B04006
D01021 2 B05001
          B06001
D01022 3 B05001
          B06001
          B07001
D01023 2 B05002
          B06002
D01024 3 B05002
          B06002
          B07001
D01025 3 D01023
          B04003
          D01012
D01026 7 D01021
          B04003
          B04003
          B04004
          B04004
          B04005
          B04005
D01029 3 B01018
          B02001
          D01011
D01030 4 B01018
          B02001
          D01011
          D01024
D01031 5 D01001
          B02001
          D01011
          D01012
          D01022
D01032 5 D01001
          B02001
          D01011
          D01012
          D01024
D01033 5 B01005
          B02001
          D01011
          D01012
          D01021
D01034 5 B01005
          B02001
          D01011
          D01012
          D01023
D01035 7 B01005
```



		B01012
		B01013
		B02001
		D01011
		D01012
		D01023
D01036	5	D01003
		B02001
		D01011
		D01012
		D01023
D01037	6	D01001
		B02011
		B02012
		D01011
		D01012
		D01022
D01038	6	D01001
		B02011
		B02012
		D01011
		D01012
		D01024
D01039	6	D01003
		B02011
		B02012
		D01011
		D01012
		D01023
D01040	6	D01003
		B02011
		B02012
		D01011
		D01012
		D01024
D01041	5	B01007
		B02021
		B02022
		D01011
		D01012
D01042	2	D01041
		D01021
D01043	5	B01007
		B02023
		D01011
		D01013
		D01021
D01044	5	B01007
		B02024
		D01011
		D01013
		D01021
D01049	5	B02111
		B02112
		B21062
		B21063
		B21065
D01051	6	B01006
		B02061
		D01011
		D01012
		D01021
		B08004
D01055	7	B01005
		B02001
		D01011
		D01012
		D01021
		B01012
		B01014
D01062	2	R01000
		D01001
D01065	8	B01006
		B01008
		B02001
		B02002
		B02005
		B02062
		B02070
		B02065
D01066	6	D01011
		D01013
		D01023
		B07004
		B02064
		B08004
D01070	3	B02143
		B02142
		B02144
D01071	5	B01007
		B01031
		B02020
		B02028



D01072 4 B02029  
D01071  
D01011  
D01013  
D01021  
D01074 4 B02143  
B02142  
B02145  
B02146  
D01075 6 D01001  
B01015  
D01024  
B08021  
D01011  
D01012  
D01076 3 B02011  
B02143  
B02142  
D01090 6 D01004  
D01011  
D01012  
D01021  
B07030  
B07031  
D01091 10 B02180  
B02181  
B02182  
B02183  
B02184  
B02179  
B02186  
B02187  
B02188  
B02189  
D02001 4 B10004  
B10051  
B10061  
B10063  
D02002 5 B10004  
B07004  
B10003  
B10061  
B10063  
D02003 9 B11011  
B11012  
B12004  
B12006  
B13003  
B20001  
B20003  
B20004  
B20005  
D02004 7 B20010  
B08002  
B20011  
B20013  
B20012  
B20012  
B20012  
D02005 4 B08002  
B20011  
B20012  
B20013  
D02006 4 B10004  
B10051  
B10062  
B10063  
D02011 3 D02001  
D02003  
D02004  
D02012 3 D02002  
D02003  
D02004  
D02013 4 D02006  
D02003  
R01000  
D02005  
D02021 3 B22001  
B22011  
B22021  
D02022 3 B22002  
B22012  
B22022  
D02023 3 B22003  
B22013  
B22023  
D02024 3 D02022  
R01002  
D02023  
D02051 12 B10004  
B10051  
B07004  
B10003



B12004  
B12051  
B12016  
B12017  
B13004  
R02004  
B08051  
B08020  
D02069 4 B07032  
B07033  
B33041  
B20001  
D02070 8 B07032  
B07033  
B11001  
B11002  
B11043  
B11041  
B11016  
B11017  
D02071 14 B07032  
B07033  
B08021  
B04025  
B11001  
B11002  
B08021  
R03002  
B04025  
B11043  
B11041  
B04025  
B11016  
B11017  
D02072 5 B07032  
B07033  
B12101  
B12103  
B13003  
D02073 7 B20010  
R05004  
B08002  
B20011  
B20012  
B33041  
B20013  
D02074 4 B20003  
B04025  
B20004  
B20005  
D02075 5 B08021  
B04025  
B13055  
B13058  
B08021  
D02076 7 B02021  
B20022  
B26020  
B20023  
B20024  
B20025  
B20026  
D02077 12 B07032  
B07033  
B04025  
B12111  
B12112  
B07032  
B04025  
B12112  
B02176  
B20062  
B02177  
B13013  
D02078 4 B02176  
B20062  
B02177  
B13013  
D02079 5 B07032  
B02175  
B02178  
B04025  
B13011  
D02080 3 B02185  
B04025  
B13033  
D02081 2 B04025  
B14031  
D02082 7 B04025  
B14002  
B14004  
B14016  
B14028



B14029  
B14030  
D02083 8 B04025  
B08023  
B10004  
B11001  
B11002  
B12101  
B13003  
B08023  
D03001 3 B07003  
B11001  
B11002  
D03002 3 B07004  
B11001  
B11002  
D03003 4 B07004  
B10003  
B12001  
B12003  
D03004 6 B07004  
B10003  
B12001  
B12003  
B11001  
B11002  
D03011 4 B07003  
B08001  
B11001  
B11002  
D03012 4 B07004  
B08001  
B11001  
B11002  
D03013 7 B07004  
B08001  
B10003  
B12001  
B13003  
B11001  
B11002  
D03014 7 B07004  
B08001  
B10003  
B12001  
B12003  
B11001  
B11002  
D03031 6 B07004  
B08003  
B07021  
B07022  
B08012  
B12061  
D03032 2 B20011  
B20016  
D03033 2 B20010  
B20016  
D03041 8 B02152  
B02023  
B07004  
B11001  
B11002  
B02153  
B02154  
B12071  
D04001 5 B08003  
B10004  
B12001  
B11001  
B11002  
D04002 4 B08003  
B10004  
B11001  
B11002  
D04003 2 B08003  
B12001  
D04004 4 B08003  
B10004  
B20010  
B12001  
D04005 4 B02024  
B07004  
B07004  
B13003  
D04006 3 B14001  
B14001  
B14003  
D04011 27 B02163  
B02164  
B08012  
B07024  
B02057



B08021  
B04001  
B04002  
B04003  
B04004  
B08021  
B04024  
R10004  
B08021  
B04004  
B04005  
B04006  
B08021  
B04004  
B04005  
B04006  
B11001  
B11002  
R03010  
B02163  
B07004  
B12001  
D04030 3 B27031  
B28031  
B10031  
D04031 3 B01041  
B01042  
B01043  
D04032 5 B02153  
B02154  
B20081  
B20082  
B20012  
D04033 8 B02152  
B02166  
B02167  
B02153  
B02154  
B12075  
B12076  
B12063  
D04034 9 R02004  
B27001  
B28001  
B07022  
B05043  
B20010  
B20016  
B33003  
B10040  
D05001 4 B11001  
B11002  
B13060  
B13071  
D05002 11 D01012  
B12001  
B13003  
B14051  
B13060  
B13072  
B13080  
B13081  
B13082  
B13083  
B13084  
D05003 4 D01012  
B04065  
R01000  
D05001  
D05004 3 D01030  
D05002  
D05003  
D05006 8 B13072  
B13082  
B13019  
C07005  
C01004  
B12001  
B13073  
B13060  
D05007 5 D01029  
D01012  
B04065  
R01000  
D05006  
D05008 4 D05006  
C07005  
C01004  
B12030  
D05009 5 D01029  
D01012  
B04065  
R01000



D05008  
D05010 3 D05008  
B02091  
B02091  
D05011 5 D01029  
D01012  
B04065  
R01000  
D05010  
D05016 7 B14021  
B07004  
B13003  
B11002  
B11001  
B11041  
B11043  
D05017 5 B13080  
B13081  
B13083  
B13085  
B13084  
D05018 7 D01029  
D01012  
B04065  
R03000  
D05008  
D05016  
D05017  
D06001 4 B02032  
R02000  
B07062  
B22042  
D06002 3 B02031  
B22004  
B22031  
D06003 4 B02002  
B11011  
B11012  
B12004  
D06004 6 B02032  
B02033  
R03000  
B07062  
B22043  
B22062  
D06005 5 B02031  
R03000  
B07062  
B22004  
B22031  
D06006 3 D06003  
D06002  
B22063  
D06007 6 B01012  
B01014  
D06008  
B04024  
B27003  
B28003  
D06008 3 B02034  
B02035  
B02036  
D06020 8 B01075  
D01011  
D01012  
B22042  
B22120  
B22121  
B04075  
B04065  
D06021 7 B01075  
D01011  
D01012  
B22122  
B22123  
B12001  
D03002  
D06022 5 B01075  
D01011  
D01012  
B22038  
B22039  
D06023 8 B01015  
D01023  
D01011  
D01012  
B22038  
B22039  
B22120  
B22121  
D06024 4 D06020  
R02000  
B22038



```
B22039
D07001 2 D01031
D02011
D07002 2 D01032
D02011
D07003 3 D07001
R01000
D02005
D07004 3 D07002
R01000
D02005
D07005 3 D07001
R01004
D02005
D07006 3 D07002
R01004
D02005
D07007 2 D01031
D02012
D07008 2 D01032
D02012
D07009 2 D01031
D02013
D07011 16 B01063
B02001
D01011
D01012
D01024
B07006
B11001
B11016
B11017
B11002
B11041
B07006
B12001
B12003
B10052
B20009
D07012 4 R03000
B08023
B05021
B20001
D07013 7 R06000
B01064
B08014
B20061
B08014
B20061
B20018
D07014 2 R01000
B20019
D07015 3 R01000
D02005
B20002
D07016 2 R01000
B20020
D07017 2 R01000
B11070
D07018 13 B08016
R02000
B08017
D01012
R04000
B07006
B11001
B11002
B11041
B20009
R01000
B20001
D07014
D07020 3 D07011
D07014
D07016
D07021 9 D07011
D07012
D07013
D07014
D07015
D07016
D07017
D07018
D07015
D07030 2 B15001
B15002
D07031 7 B08022
B08023
B15001
B08023
B15001
B08023
B15002
```



D07041 7 D01001  
B01015  
D01024  
D01011  
D01012  
D01070  
D07030  
D07042 9 D01001  
B01015  
D01024  
D01011  
D01012  
B08021  
B04025  
D01070  
D07031  
D07043 7 D01001  
B01015  
D01024  
D01011  
D01012  
D01074  
D07030  
D07044 9 D01001  
B01015  
D01024  
D01011  
D01012  
B08021  
B04025  
D01074  
D07031  
D07060 2 B07061  
B12030  
D07061 3 D01031  
R01005  
D07060  
D07062 3 D01032  
R01005  
D07060  
D07063 2 B07061  
B12130  
D08001 3 D01033  
D02011  
B22042  
D08002 3 D01034  
D02011  
B22042  
D08003 3 D01035  
D02011  
B22042  
D08004 3 D01036  
D02011  
B22042  
D08005 2 D08004  
D02024  
D08006 8 B10004  
B10061  
B10063  
B11001  
B11002  
B12004  
B13003  
B22042  
D08007 4 D01055  
D02011  
B07062  
B22042  
D09001 3 D01037  
R01000  
D03011  
D09002 3 D01038  
R01000  
D03011  
D09003 3 D01037  
R01000  
D03012  
D09004 3 D01038  
R01000  
D03012  
D09005 4 D01037  
D02004  
R01000  
D03013  
D09006 4 D01038  
D02004  
R01000  
D03013  
D09007 4 D01037  
D02004  
R01000  
D03014  
D09008 4 D01038



D02004  
R01000  
D03014  
D09011 3 D01039  
R01000  
D03011  
D09012 3 D01039  
R01000  
D03012  
D09013 4 D01039  
D02004  
R01000  
D03013  
D09014 4 D01039  
D02004  
R01000  
D03014  
D09015 3 D01040  
R01000  
D03011  
D09016 3 D01040  
R01000  
D03012  
D09017 4 D01040  
D02004  
R01000  
D03013  
D09018 4 D01040  
D02004  
R01000  
D03014  
D09019 4 D01031  
B02003  
R01000  
D03011  
D09020 7 D01031  
B02003  
R04000  
B07003  
B11003  
B11004  
B11005  
D09030 7 B15004  
B15005  
R04000  
B04015  
B08006  
B07004  
B15003  
D09040 3 D01075  
D01076  
D09030  
D09041 4 D07041  
D01075  
D01076  
D09030  
D09042 4 D07042  
D01075  
D01076  
D09030  
D09044 4 D07044  
D01075  
D01076  
D09030  
D10001 5 D01042  
D03031  
D03032  
R01026  
D03025  
D10002 5 D01042  
D03031  
D03032  
R01009  
D03023  
D10003 5 D01042  
D03031  
D03032  
R01006  
D03023  
D10004 5 D01042  
D03031  
D03032  
R01003  
D03024  
D10005 5 D01042  
D03031  
D03033  
R01000  
D03025  
D10006 5 D01042  
D03031  
D03033  
R01000



D10007 5 D03023  
D01042  
D03031  
D03033  
R01000  
D03024  
D10008 8 D10011  
R01019  
D10012  
B02150  
B25079  
B25080  
B33032  
B14045  
D10009 3 D10011  
R01015  
D10012  
D10010 3 D10011  
R01005  
D10012  
D10014 3 D01072  
D03041  
D04011  
D10015 13 D01072  
B07024  
B10002  
D03041  
R01003  
D04032  
B02152  
B02024  
B07004  
B07004  
B13003  
R01003  
D04033  
D10016 13 D01072  
B07024  
B10002  
D03041  
R01012  
D04032  
B02152  
B02024  
B07004  
B07004  
B13003  
R01012  
D04033  
D10020 6 D10022  
D01011  
D01013  
D01021  
D04034  
D10021  
D10022 4 B01007  
B02019  
B01033  
B02172  
D10023 17 D01072  
B30021  
B30022  
B08012  
B07024  
B07025  
B10002  
R01012  
D04032  
R05002  
B02152  
B02024  
B07004  
B07004  
B13003  
R01012  
D04033  
D10050 13 D10051  
D10052  
R01000  
D10053  
R01004  
D10054  
B20010  
D10052  
R01015  
D10053  
D10052  
R01004  
D10053  
D11001 9 D01051  
B07002  
B12001  
B11001



		B11002
		B11031
		B11032
		B11033
		B20041
D11002	4	D01065
		D01066
		D11003
		D11004
D11003	5	B10070
		B11001
		B11002
		B12001
		B13002
D11004	12	R01000
		B11034
		R01000
		B11035
		R01000
		B11075
		R01000
		B11076
		R01000
		B33025
		R01000
		B33026
D11005	13	B01008
		B01023
		D01021
		D01011
		D01013
		B07010
		B08009
		B11001
		B11002
		B11031
		B11036
		B12101
		B33025
D11006	6	B07010
		B11001
		B11002
		B02064
		B12101
		B12103
D11193	16	D01197
		D01011
		D01012
		D01023
		B08004
		B07004
		B08021
		B11001
		B11002
		B11031
		B11034
		B11035
		B12001
		B12003
		B13003
		B20041
D12001	2	D01043
		D04001
D12002	2	D01043
		D04002
D12003	2	D01042
		D04003
D12004	2	D01042
		D04004
D12005	2	D01042
		B20014
D12006	2	D01044
		D04005
D12007	2	D01042
		D04006
D12010	6	B01007
		B05040
		B02021
		B05041
		B04001
		B04043
D12014	8	D12010
		D12011
		R05056
		D01023
		B05042
		B05052
		D12012
		D12013
D12016	3	D12010
		D12011
		D12015
D12018	3	D12010



D12011  
D12017  
D12020 11 D01047  
D01048  
B15015  
B29002  
B21076  
R04012  
B06030  
R02012  
B05030  
B21075  
B21066  
D12021 6 D01047  
R01003  
D01049  
B11012  
B11011  
B21067  
D12022 15 D01047  
B08022  
B11012  
B11050  
B22070  
B22026  
D12041  
B10050  
B21068  
B21071  
B21072  
B21073  
D12042  
B21062  
B15011  
D12023 7 D01047  
R03003  
B08022  
B12061  
B22050  
B21069  
B21085  
D12024 11 D12020  
B08060  
B08022  
B08060  
B08022  
B25014  
B22101  
B22097  
B22098  
B22099  
B22100  
D12025 11 D12019  
B08060  
B08022  
B08060  
B08022  
B25014  
B22101  
B22097  
B22098  
B22099  
B22100  
D12026 19 D01046  
D01011  
D01013  
D01023  
D12031  
R01004  
D12030  
B21110  
D01023  
D21027  
B21111  
D01023  
D21027  
B21112  
D01023  
D21027  
B21113  
D01023  
D21027  
D12027 9 D01047  
R05009  
D01023  
B07021  
B12061  
B07021  
B12061  
B21085  
B21070  
D12031 8 B05034  
B06034



		B21109
		B11081
		B11082
		B21101
		B21102
		B21103
D12032	4	B21120
		B21121
		B13055
		B21122
D12033	4	B02104
		B08022
		B12063
		B12065
D12042	6	B21077
		B21078
		B21079
		B21080
		B21081
		B21082
D12045	21	B01007
		B02019
		B01096
		B25061
		B05040
		D01011
		D01013
		D01021
		B07002
		B12180
		B12181
		B12182
		B12183
		B12184
		B12185
		B02174
		B21086
		B12186
		B21087
		B12187
		B33043
D13009	3	B21001
		R01000
		B21001
D13010	3	B21036
		R01000
		B21036
D13031	4	B06002
		B06012
		R01000
		B30001
D13032	4	B05002
		B05012
		R01000
		D13031
D13041	9	B06002
		R10000
		R04000
		B06012
		R01000
		B30001
		B06012
		R01000
		B30001
D13042	4	B05002
		B05012
		R01000
		D13041
D13043	11	B06002
		B05002
		B05012
		R12000
		R10000
		R04000
		B06012
		R01000
		B30001
		R01000
		B30001
D15001	5	B01011
		D01011
		D01012
		D01023
		D06001
D15002	5	B01011
		D01011
		D01012
		D01023
		D06004
D16001	10	D01011
		B04004
		D01023
		B01021



B02041  
B19001  
B10051  
B19002  
B19003  
B19004  
D16002 15 B08021  
B04001  
B04002  
B04003  
B04004  
B04005  
B01033  
B08021  
B04001  
B04002  
B04003  
B04004  
B04005  
B07002  
B07002  
D16003 10 R09000  
B08011  
B08007  
R04000  
B05002  
B06002  
B10002  
B11002  
B08007  
B08011  
D16004 11 R10000  
B08011  
B08007  
B07002  
B07002  
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  
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
D16011	17	B08011
		R16000
		B08011
		B01022
		B08007
		R02000
		B05002
		B06002
		B08021
		B04001
		B04002
		B04003
		B04004
		B04005
		B20090
		B08021
		B08007
		B08011
D16020	5	B01023
		B01025
		B01027
		D01011
		D01012
D16021	23	D01023
		B02041
		B19001
		B19007
		B19005
		B19006
		B19008
		B08005
		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
		B19005
		B19006
		B10004
		B11041
		B08021
		B04075
		B11040
		B19008
		R05004
		B05021
		B05021
		R02002
		B19003
		B19004
D16026	2	D16020
		D16021
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  
B02108  
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
B02001 0004 0000 01 AUTOMATIC STATION
          0001 01 MANNED STATION
```

```

0002 01 HYBRID, BOTH MANNED AND AUTOMATIC
0003 01 MISSING VALUE
B02002 0003 0001 01 CERTIFIED INSTRUMENTS
0002 01 ORIGINALY MEASURED IN KNOTS
0003 01 ORIGINALY MEASURED IN KM/H
B02003 0010 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
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
    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  
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  
0015 01 MISSING VALUE  
B02024 0015 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
B02025 0016 0001 01 RESERVED
0002 01 HIRS
0003 01 MSU
0006 01 HIRS
0007 01 MSU
0010 01 HIRS(1, 2, 3, 8, 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 0004 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
0007 01 MISSIN 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 PROFILLING 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 %
0002 01 IN SITU SENSOR, ACCURACY LESS THAN 0.02 %
0003 01 SAMPLE ANALYSIS
0007 01 MISSING VALUE
B02034 0001 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  
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 0010 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  
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  
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
B02070 0011 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 IN 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
0015 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 POLARISATION
0004 01 HORIZONTAL AND VERTICAL POLARISATION
0005 01 RIGHT AND LEFT CIRCULAR POLARISATION
0015 01 MISSING VALUE
B02115 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
0017 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 BUBLER
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 0009 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)
0015 01 MISSING VALUE
B08001 0007 0001 01 SURFACE
0002 01 STANDARD LEVEL
0003 01 TROPOPAUSE LEVEL
0004 01 MAXIMUM WIND LEVEL
0005 01 SIGNIFICANT LEVEL, TEMPERATURE
0006 01 SIGNIFICANT LEVEL, WIND
0007 01 MISSING VALUE
B08002 0011 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 SIGNIFICANT CLOUD LAYER
0002 01 SECOND SIGNIFICANT CLOUD LAYER
0003 01 THIRD SIGNIFICANT CLOUD 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
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 0005 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
B08007 0005 0000 01 POINT
0001 01 LINE
0002 01 AREA
0003 01 VOLUME
0015 01 MISSING VALUE
B08011 0020 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
0020 01 SPECIAL CLOUDS
```

```

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 0009 0002 01 MAXIMUM VALUE
0003 01 MINIMUM VALUE
0004 01 MEAN VALUE
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
0032 01 PROBABILITY OF GROSS 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 0004 0000 01 RESERVED
0001 01 LOCAL STANDARD TIME
0005 01 TIME DIFFERENCE FROM EDGE OF PROCESSING SEGMENT
0015 01 MISSING
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 HALL
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
B08060 0006 0000 01 RESERVED
0001 01 RANGE
0002 01 AZIMUTH
0003 01 HORIZONTAL
0004 01 VERTICAL
0015 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
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
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
```

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  
 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 SAND RAISED BY WIND AT OR NEAR THE STATION AT THE TI  
 ME OF OBSERVATION, BUT NO WELL-DEVELOPED DUST WHIRL(S) OR SA  
 ND WHIRL(S), AND NO DUSTSTORM OR SANDSTORM SEEN; OR, IN THE  
 CASE OF SHIPS, BLOWING SPRAY AT THE STATION  
 0008 03 WELL-DEVELOPED DUST WHIRL(S) OR SAND WHIRLS 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  
 CEDING 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 GENERALLY LOW (BELOW EYE LEVEL)  
 0038 02 SLIGHT OR MODERATE BLOWING SNOW GENERALLY HIGH (ABOVE EYE LE  
 VEL)  
 0039 01 HEAVY BLOWING SNOW GENERALLY HIGH (ABOVE EYE LEVEL)  
 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 PRECEDING 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 THE PRECEDING HOUR  
0045 02 FOG OR ICE FOG, SKY INVISIBLE,NO APPRECIABLE CHANGE DURING THE PRECEDING HOUR  
0046 02 FOG OR ICE FOG, SKY VISIBLE,HAS BEGUN OR HAS BECOME THICKER DURING THE PRECEDING HOUR  
0047 02 FOG OR ICE FOG, SKY INVISIBLE,HAS BEGUN OR HAS BECOME THICKER 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 OBSERVATION  
0051 02 DRIZZLE, NOT FREEZING, CONTINUOUS ;SLIGHT AT TIME OF OBSERVATION  
0052 02 DRIZZLE, NOT FREEZING, INTERMITTENT;MODERATE AT TIME OF OBSERVATION  
0053 02 DRIZZLE, NOT FREEZING, CONTINUOUS ;MODERATE AT TIME OF OBSERVATION  
0054 02 DRIZZLE, NOT FREEZING, INTERMITTENT;HEAVY (DENSE) AT THE TIME OF OBSERVATION  
0055 02 DRIZZLE, NOT FREEZING, CONTINUOUS ;HEAVY (DENSE) AT THE TIME 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 OBSERVATION  
0063 02 RAIN,NOT FREEZING,CONTINUOUS ;MODERATE AT TIME OF OBSERVATION  
0064 02 RAIN, NOT FREEZING, INTERMITTENT;HEAVY AT TIME OF OBSERVATION  
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 OBSERVATION  
0071 02 CONTINUOUS FALL OF SNOWFLAKES, SLIGHT AT TIME OF OBSERVATION  
0072 02 INTERMITTENT FALL OF SNOWFLAKES, MODERATE AT TIME OF OBSERVATION  
0073 02 CONTINUOUS FALL OF SNOWFLAKES, MODERATE AT TIME OF OBSERVATION  
0074 02 INTERMITTENT FALL OF SNOWFLAKES, HEAVY AT TIME OF OBSERVATION  
0075 02 CONTINUOUS FALL OF SNOWFLAKES, HEAVY AT TIME OF OBSERVATION  
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 RAIN OR RAIN AND SNOW MIXED, SLIGHT  
0088 02 SHOWER(S) OF SNOW PELLETS OR SMALL HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIXED, MODERATE OR HEAVY  
0089 02 SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIXED, NOT ASSOCIATED WITH THUNDER, SLIGHT  
0090 02 SHOWER(S) OF HAIL, WITH OR WITHOUT RAIN OR RAIN AND SNOW MIXED, 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 OBSERVATION, THUNDERSTORM DURING THE PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION  
0094 03 MODERATE OR HEAVY SNOW, OR RAIN AND SNOW MIXED OR HAIL AT TIME OF OBSERVATION, THUNDERSTORM DURING PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION  
0095 03 THUNDERSTORM, SLIGHT OR MODERATE, WITHOUT HAIL, BUT WITH RAIN AND/OR SNOW AT TIME OF OBSERVATION, THUNDERSTORM DURING THE PRECEDING HOUR BUT NOT AT TIME OF OBSERVATION  
0096 02 THUNDERSTORM, SLIGHT OR MODERATE,WITH HAIL AT TIME OF OBSERVATION, 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

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 COVER 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 EXTENDS MORE THAN 45 DEGREES ABOVE THE HORIZON, WITHOUT THE SKY BEING TOTALLY COVERED

0017 01 CIRROSTRATUS COVERING THE WHOLE SKY

0018 02 CIRROSTRATUS NOT PROGRESSIVELY INVADING THE SKY AND NOT ENTIRELY 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, CONTINUALLY 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 THE SKY; THESE ALTOCUMULUS CLOUDS GENERALLY THICKEN AS A WHOLE

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 INVADING THE SKY, OR ALTOCUMULUS WITH ALTOSTRATUS OR NIMBOSTRATUS

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  
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  
E  
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
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
B20062 0021 0000 03 SURFACE OR GROUND DRY (WITHOUT CRACKS AND NO APPRECIABLE AMO
UNT OF DUST OR LOOSE SAND), WITHOUT SNOW OR MEASURABLE ICE C
OVER
0001 02 SURFACE OF GROUND MOIST, WITHOUT SNOW OR MEASURABLE ICE COVE
ER
0002 02 SURFACE OF GROUND WET (STANDING WATER IN SMALL OR LARGE POOL
S ON SURFACE, WITHOUT SNOW OR MEASURABLE ICE COVER
0003 01 FLOODED, WITHOUT SNOW OR MEASURABLE ICE COVER
0004 02 SURFACE OF GROUND FROZEN, WITHOUT SNOW OR MEASURABLE ICE COVE
R
0005 01 GLAZE ON GROUND, WITHOUT SNOW OR MEASURABLE ICE COVER
0006 02 LOOSE DRY DUST OR SAND NOT COVERING GROUND COMPLITELY, WITHO
UT SNOW OR MEASURABLE ICE COVER
0007 02 THIN COVER OF LOOSE DRY DUST OR SAND COVERING GROUND COMPLIT
ELY, WITHOUT SNOW OR MEASURABLE ICE COVER
0008 02 MODERATE OR THICK COVER OF LOOSE DRY DUST OR SAND COVERING G
ROUND COMPLITELY, WITHOUT SNOW OR MEASURABLE ICE COVER
0009 02 EXTREMELY DRY WITH CRACKS, WITHOUT SNOW OR MEASURABLE ICE COV
ER
0010 02 GROUND PREDOMINANTLY COVERED BY ICE, WITH SNOW OR MEASURABLE
ICE COVER
0011 02 COMPACT OR WET SNOW (WITH OR WITHOUT ICE) COVERING LESS THAN
ONE-HALF OF THE GROUND, WITH SNOW OR MEASURABLE ICE COVER
0012 03 COMPACT OR WET SNOW (WITH OR WITHOUT ICE) COVERING AT LEAST
ONE-HALF OF THE GROUND BUT GROUND NOT COMPLITELY COVERED, WI
TH SNOW OR MEASURABLE ICE COVER
0013 02 EVEN LAYER OF COMPACT OR WET SNOW COVERING GROUND COMPLITELY
, WITH SNOW OR MEASURABLE ICE COVER
0014 02 UNEVEN LAYER OF COMPACT OR WET SNOW COVERING GROUND COMPLITE
LY, WITH SNOW OR MEASURABLE ICE COVER
0015 02 LOOSE DRY SNOW COVERING LESS THAN ONE HALF OF THE GROUND, WI
TH SNOW OR MEASURABLE ICE COVER
0016 02 LOOSE DRY SNOW COVERING LESS THAN ONE-HALF OF THE GROUND (BU
T NOT COMPLITELY), WITH SNOW OR MEASURABLE ICE COVER
0017 02 EVEN LAYER OF LOOSE DRY SNOW COVERING GROUND COMPLITELY, WIT
H SNOW OR MEASURABLE ICE COVER
0018 02 UNEVEN LAYER OF LOOSE DRY SNOW COVERING GROUND COMPLITELY, W
ITH SNOW OR MEASURABLE ICE COVER
0019 02 SNOQ COVERING GROUND COMPLITELY; DEEP DRIFTS, WITH SNOW OR M
EASURABLE ICE COVER
0031 01 MISSING VALUE
B20063 0001 0000 01 TO BE DEVELOPED
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
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
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)
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 INSTEAD 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
0008 01 SOME PORTION OF WIND VECTOR CELL IS OVER LAND
0009 01 SOME PORTION OF WIND VECTOR CELL IS OVER ICE
0010 01 WIND RETRIEVAL NOT PERFORMED FOR WIND VECTOR CELL
0011 01 REPORTED WIND SPEED IS GREATER THAN 30 M/S
0012 01 REPORTED WIND SPEED IS LESS THAN OR EQUAL TO 3 M/S
0017 01 MISSING VALUE
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
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
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
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-ISOTOPES
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  
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 FFT (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

```

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)
           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
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
B33032 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
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 EXELLENT - WITHIN 3 METRES
0002 01 GOOD - WITHIN 10 METRES
0003 01 FAIR - WITHIN 20 METRES
0004 01 POOR - MORE THAN 20 METRES
0005 01 EXELLENT -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
```

...