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| WORLD METEOROLOGICAL ORGANIZATION  COMMISSION FOR BASIC SYSTEMS  -----------------------------  SECOND MEETING OF  INTER-PROGRAMME EXPERT TEAM ON CODES MAINTENANCE  OFFENBACH, GERMANY, 28 MAY - 1 JUNE 2018 |  | IPET-CM-II / Doc. 3.1  01.05.2018  -------------------------  ITEM 3.1  ENGLISH ONLY |

MANUAL ON CODES: REGULATIONS FOR REPORTING TRADITIONAL OBSERVATION DATA IN TABLE-DRIVEN CODE FORMS

**Amendments to B/C Regulations for standard time**

*Submitted by the Secretariat*

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**Summary and Purpose of Document**

This document is to review the B/C Regulations with regard to *standard time*.

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**ACTION PROPOSED**

The meeting will review the proposed amendments with a view to approving it to be adopted through the procedure for adoption between CBS sessions.

**ANNEXES:**

1. Relevant B/C Regulations

**DISCUSSIONS**

1. *Standard time* is specified in B/C Regulations other than B/C30 and 32, for example:

**B/C1.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

...

– Year (year of the century up to BUFR edition 3);

– Month (standard time);

– Day (standard time = YY in the abbreviated telecommunication header for SYNOP data);

– Hour (standard time = GG in the abbreviated telecommunication header for SYNOP data);

– Minute (standard time = 00 for SYNOP data);

– Second (= 0)(see Note 1).

2. B/C1.2.2.1, B/C5.2.2.1 and B/C10.2.4.1 refer to the *standard time* as below. However, the *standard time* is the "most typical time for the BUFR message contents" according to the definition of FM94 BUFR.

**B/C1.2.2.1** If the actual time of observation differs by 10 minutes or less from the standard time reported in Section 1, the standard time may be reported instead of the actual time of observation. [12.2.8]

3. When *standard time* is used for surface observations, it is likely to evoke the *standard times of observations* in Manual on the GOS (WMO-No. 544). However, what above *standard times* mean is ambiguous and inconsistent. Some of the *standard times* are obviously not the *standard times of observations*, because B/C1 covers hourly observation reports (see [B/C1.10.1.7.1](#hourly)).

4. In addition to the ambiguity and inconsistency in meanings, the inconsistent forms of the *standard time* between corresponding regulations from B/C1 to B/C26 result in difficulty of official publications.

5. Besides that, it seems actually not clearly specified in B/C Regulations that the date and time are reported in universal coordinated time (UTC), even if it is a common practice and inferred in the [Note 4](#Note4) to the Section 1 and everywhere, such as Tables B and D and code/flag tables, of FM94 BUFR and FM95 CREX.

6. In consideration of the above issues, it is proposed that 1) *standard time* in B/C Regulations should be rewritten and 2) UTC for reporting time should be specified, which is more significant in climatological data permitting local time statistics.

7. Apart from the above, the fifteenth session of the Commission for Basic Systems (CBS-XV) (Jakarta, Indonesia, 10-15 September 2012) agreed the BUFR edition 3 and the CREX edition 1 should be removed from the Manual on Codes. In accordance with this, the texts in B/C Regulations referring to the BUFR edition 3 and CREX edition 1 should be removed.

**PROPOSAL**

**AMEND:**

in B/C1.1.2,

– Year ~~(standard time)~~(see Note 3);

– Month ~~(standard time)~~~~(see Note 1)~~;

– Day (~~standard time =~~ YY in the abbreviated telecommunication header for SYNOP data)~~(see Note 1)~~;

– Hour (~~standard time =~~ GG in the abbreviated telecommunication header for SYNOP data)~~(see Note 1)~~;

– Minute (standard time = 00 for SYNOP data)~~(see Note 1)~~.

Notes:

~~(1) Inclusion of these entries is required starting with CREX edition 2.~~

(1~~2~~) If inclusion of international data sub-category is required, Note 2 under Regulation B/C1.1.1 applies.

(2~~3~~) If an NMHS performs conversion of SYNOP data produced by another NMHS, Note 3 under Regulation B/C1.1.1 applies.

(3) Date (year, month and day) and time (hour, minute and second) are the most typical time in the BUFR message contents and specified in UTC.

*Editorial note: The reference to the Note 3 is once. It is to make the regulations simple and would be sufficient to lead Members to the note applicable to the date and time.*

in B/C20.1.1,

– Year ~~(of standard time), (year of the century up to BUFR edition 3)~~ (see Note 3);

– Month ~~(of standard time)~~;

– Day (~~when standard time, =~~ YY in the abbreviated telecommunication header for all PILOT type data);

– Hour (~~when standard time, =~~ GG in the abbreviated telecommunication header, e.g. = 00, 06, 12 or 18 for all PILOT type data);

– Minute (~~when standard time, =~~ 00 for all PILOT type data);

– Second (= 0) ~~(see Note 1)~~.

Notes:

~~(1) Inclusion of this entry is required starting with BUFR edition 4.~~

(1~~2~~) If required, the international data sub-category shall be included at all observation times as follows:

= 001 for PILOT data;

= 002 for PILOT SHIP data;

= 003 for PILOT MOBIL data.

(2~~3~~) If an NMHS performs conversion of PILOT, PILOT SHIP or PILOT MOBIL data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of PILOT, PILOT SHIP or PILOT MOBIL bulletins. Producer of PILOT, PILOT SHIP or PILOT MOBIL bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

(3) Date (year, month and day) and time (hour, minute and second) are the most typical time in the BUFR message contents and specified in UTC.

in B/C1.2.2.1,

If the actual time of observation differs by 10 minutes or less from the ~~standard~~ most typical time reported in Section 1, the ~~standard~~ time may be reported instead of the actual time of observation. [12.2.8]

Similarly in B/C1.1.1, B/C5.1.1, B/C5.1.2, B/C5.2.2.1, B/C10.1.1, B/C10.1.2, B/C10.2.4.1, B/C20.1.2, B/C25.1.1, B/C25.1.2, B/C26.1.1, B/C26.1.2, B/C30.1.1, B/C30.1.2, B/C32.1.1 and B/C32.1.2.

**ANNEX**

*Editorial note: Texts below are extracted from the 2015 edition updated in 2017, Manual on Codes, Volume I.2.*

**SPECIFICATIONS OF OCTET CONTENTS**

**...**

**Section 1 – Identification section**

...

Notes:

...

(4) When accuracy of the time does not define a time unit, then the value for this unit shall be set to zero (e.g. for a SYNOP observation at 09 UTC, minute = 0, second = 0.[⮉](#INote4)

**B/C1.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 000 for SYNOP data);

– International data sub-category(see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (year of the century up to BUFR edition 3);

– Month (standard time);

– Day (standard time = YY in the abbreviated telecommunication header for SYNOP data);

– Hour (standard time = GG in the abbreviated telecommunication header for SYNOP data);

– Minute (standard time = 00 for SYNOP data);

– Second (= 0)(see Note 1).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the international data sub-category shall be included for SYNOP data as:

= 002 at main synoptic times 00, 06, 12, 18 UTC;

= 001 at intermediate synoptic times 03, 09, 15, 21 UTC;

= 000 at observation times 01, 02, 04, 05, 07, 08, 10, 11, 13, 14, 16, 17, 19, 20, 22 and 23 UTC.

(3) If an NMHS performs conversion of SYNOP data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of SYNOP bulletins. Producer of SYNOP bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C1.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table(see Note 1);

– Version number of local tables(see Note 1);

– Data category (= 000 for SYNOP data);

– International data sub-category(see Notes 1 and 2);

– Identification of originating/generating centre(see Note 1);

– Identification of originating/generating sub-centre(see Note 1);

– Update sequence number(see Note 1);

– Number of subsets(see Note 1);

– Year (standard time)(see Note 1);

– Month (standard time)(see Note 1);

– Day (standard time = YY in the abbreviated telecommunication header for SYNOP data)(see Note 1);

– Hour (standard time = GG in the abbreviated telecommunication header for SYNOP data)(see Note 1);

– Minute (standard time = 00 for SYNOP data)(see Note 1).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under Regulation B/C1.1.1 applies.

(3) If an NMHS performs conversion of SYNOP data produced by another NMHS, Note 3 under Regulation B/C1.1.1 applies.

**B/C5.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 000 for SYNOP MOBIL data);

– International data sub-category (see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (year of the century up to BUFR edition 3);

– Month (standard time);

– Day (standard time = YY in the abbreviated telecommunication header for SYNOP MOBIL data);

– Hour (standard time = GG in the abbreviated telecommunication header for SYNOP MOBIL data);

– Minute (standard time = 00 for SYNOP MOBIL data);

– Second (= 0) (see Note 1).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the international data sub-category shall be included for SYNOP MOBIL data as:

= 005 at main synoptic times 00, 06, 12, 18 UTC;

= 004 at intermediate synoptic times 03, 09, 15, 21 UTC;

= 003 at observation times 01, 02, 04, 05, 07, 08, 10, 11, 13, 14, 16, 17, 19, 20, 22 and 23 UTC.

(3) If an NMHS performs conversion of SYNOP MOBIL data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of SYNOP MOBIL bulletins. Producer of SYNOP MOBIL bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C5.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table (see Note 1);

– Version number of local tables (see Note 1);

– Data category (= 000 for SYNOP MOBIL data);

– International data sub-category (see Notes 1 and 2);

– Identification of originating/generating centre (see Note 1);

– Identification of originating/generating sub-centre (see Note 1);

– Update sequence number (see Note 1);

– Number of subsets (see Note 1);

– Year (standard time) (see Note 1);

– Month (standard time) (see Note 1);

– Day (standard time = YY in the abbreviated telecommunication header for SYNOP MOBIL data) (see Note 1);

– Hour (standard time = GG in the abbreviated telecommunication header for SYNOP MOBIL data) (see Note 1);

– Minute (standard time = 00 for SYNOP MOBIL data) (see Note 1).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under B/C5.1.1 applies.

(3) If an NMHS performs conversion of SYNOP MOBIL data produced by another NMHS, Note 3 under B/C5.1.1 applies.

**B/C10.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 001 for SHIP data);

– International data sub-category (see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (year of the century up to BUFR edition 3);

– Month (standard time);

– Day (standard time = YY in the abbreviated telecommunication header for SHIP data);

– Hour (standard time = GG in the abbreviated telecommunication header for SHIP data);

– Minute (standard time = 00 for SHIP data);

– Second (= 0) (see Note 1).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the international data sub-category shall be included for SHIP data as 000 at all observation times 00, 01, 02, ..., 23 UTC.

(3) If an NMHS performs conversion of SHIP data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of SHIP bulletins. Producer of SHIP bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C10.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table (see Note 1);

– Version number of local tables (see Note 1);

– Data category (= 001 for SHIP data);

– International data sub-category (see Notes 1 and 2);

– Identification of originating/generating centre (see Note 1);

– Identification of originating/generating sub-centre (see Note 1);

– Update sequence number (see Note 1);

– Number of subsets (see Note 1);

– Year (standard time) (see Note 1);

– Month (standard time) (see Note 1);

– Day (standard time = YY in the abbreviated telecommunication header for SHIP data) (see Note 1);

– Hour (standard time = GG in the abbreviated telecommunication header for SHIP data) (see Note 1);

– Minute (standard time = 00 for SHIP data) (see Note 1).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under B/C10.1.1 applies.

(3) If an NMHS performs conversion of SHIP data produced by another NMHS, Note 3 under B/C10.1.1 applies.

**B/C20.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 002 for all PILOT type data);

– International data sub-category (see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (of standard time), (year of the century up to BUFR edition 3);

– Month (of standard time);

– Day (when standard time, = YY in the abbreviated telecommunication header for all PILOT type data);

– Hour (when standard time, = GG in the abbreviated telecommunication header, e.g. = 00, 06, 12 or 18 for all PILOT type data);

– Minute (when standard time, = 00 for all PILOT type data);

– Second (= 0) (see Note 1).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the international data sub-category shall be included at all observation times as follows:

= 001 for PILOT data;

= 002 for PILOT SHIP data;

= 003 for PILOT MOBIL data.

(3) If an NMHS performs conversion of PILOT, PILOT SHIP or PILOT MOBIL data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of PILOT, PILOT SHIP or PILOT MOBIL bulletins. Producer of PILOT, PILOT SHIP or PILOT MOBIL bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C20.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table (see Note 1);

– Version number of local tables (see Note 1);

– Data category (= 002 for all PILOT type data);

– International data sub-category (see Notes 1 and 2);

– Identification of originating/generating centre (see Note 1);

– Identification of originating/generating sub-centre (see Note 1);

– Update sequence number (see Note 1);

– Number of subsets (see Note 1);

– Year (of standard time) (see Note 1);

– Month (of standard time) (see Note 1);

– Day (when standard time, = YY in the abbreviated telecommunication header for all PILOT type data) (see Note 1);

– Hour (when standard time, = GG in the abbreviated telecommunication header, e.g. = 00, 06, 12 or 18 for all PILOT type data) (see Note 1);

– Minute (when standard time, = 00 for all PILOT type data) (see Note 1).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under B/C20.1.1 applies.

(3) If an NMHS performs conversion of PILOT, PILOT SHIP or PILOT MOBIL data produced by another NMHS, Note 3 under B/C20.1.1 applies.

**B/C25.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 002 for all TEMP type data);

– International data sub-category (see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (of standard time) (year of the century up to BUFR edition 3);

– Month (of standard time);

– Day (when standard time, = YY in the abbreviated telecommunication header for TEMP, TEMP SHIP and TEMP MOBIL type data);

– Hour (when standard time, = GG in the abbreviated telecommunication header e.g. = 00, 06, 12 or 18 for TEMP, TEMP SHIP and TEMP MOBIL type data);

– Minute (when standard time, = 00 for TEMP, TEMP SHIP and TEMP MOBIL type data);

– Second (= 0) (see Note 1).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the international data sub-category shall be included at all observation times as follows:

= 004 for TEMP data;

= 005 for TEMP SHIP data;

= 006 for TEMP MOBIL data.

(3) If an NMHS performs conversion of TEMP, TEMP SHIP or TEMP MOBIL data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of TEMP, TEMP SHIP or TEMP MOBIL bulletins. Producer of TEMP, TEMP SHIP or TEMP MOBIL bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C25.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table (see Note 1);

– Version number of local tables (see Note 1);

– Data category (= 002 for all TEMP type data);

– International data sub-category (see Notes 1 and 2);

– Identification of originating/generating centre (see Note 1);

– Identification of originating/generating sub-centre (see Note 1);

– Update sequence number (see Note 1);

– Number of subsets (see Note 1);

– Year (of standard time) (see Note 1);

– Month (of standard time) (see Note 1);

– Day (when standard time, = YY in the abbreviated telecommunication header for TEMP, TEMP SHIP and TEMP MOBIL type data) (see Note 1);

– Hour (when standard time, = GG in the abbreviated telecommunication header, e.g. = 00, 06, 12 or 18 for TEMP, TEMP SHIP and TEMP MOBIL type data) (see Note 1);

– Minute (when standard time, = 00 for TEMP, TEMP SHIP and TEMP MOBIL type data) (see Note 1).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under Regulation B/C25.1.1 applies.

(3) If an NMHS performs conversion of TEMP, TEMP SHIP or TEMP MOBIL data produced by another NMHS, Note 3 under Regulation B/C25.1.1 applies.

**B/C26.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 002 for all TEMP type data);

– International data sub-category (see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (year of the century up to BUFR edition 3);

– Month (standard time);

– Day (standard time = YY in the abbreviated telecommunication header for TEMP DROP type data);

– Hour (standard time = GG in the abbreviated telecommunication header for TEMP DROP type data);

– Minute (standard time = 00 for TEMP DROP type data);

– Second (= 0) (see Note 1).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the *international* data sub-category shall be included at all observation times as follows:

= 007 for TEMP DROP data.

(3) If an NMHS performs conversion of TEMP DROP data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of TEMP DROP bulletins. Producer of TEMP DROP bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C26.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table (see Note 1);

– Version number of local tables (see Note 1);

– Data category (= 002 for all TEMP type data);

– International data sub-category (see Notes 1 and 2);

– Identification of originating/generating centre (see Note 1);

– Identification of originating/generating sub-centre (see Note 1);

– Update sequence number (see Note 1);

– Number of subsets (see Note 1);

– Year (standard time) (see Note 1);

– Month (standard time) (see Note 1);

– Day (standard time = YY in the abbreviated telecommunication header for TEMP DROP type data) (see Note 1);

– Hour (standard time = GG in the abbreviated telecommunication header for TEMP DROP type data) (see Note 1);

– Minute (standard time = 00 for TEMP DROP type data) (see Note 1).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under Regulation B/C26.1.1 applies.

(3) If an NMHS performs conversion of TEMP DROP data produced by another NMHS, Note 3 under Regulation B/C26.1.1 applies.

**B/C30.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 000 for CLIMAT data);

– International data sub-category (see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (year of the century up to BUFR edition 3) (see Note 3);

– Month (for which the monthly values are reported) (see Note 3);

– Day (= 1) (see Note 3);

– Hour (= 0) (see Note 3);

– Minute (= 0) (see Note 3);

– Second (= 0) (see Notes 1 and 3).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the international data sub-category shall be included for CLIMAT data as 020.

(3) The time identification refers to the beginning of the month for which the monthly mean values are reported.

(4) If an NMHS performs conversion of CLIMAT data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of CLIMAT bulletins. Producer of CLIMAT bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C30.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table (see Note 1);

– Version number of local tables (see Note 1);

– Data category (= 000 for CLIMAT data);

– International data sub-category (see Notes 1 and 2);

– Identification of originating/generating centre (see Note 1);

– Identification of originating/generating sub-centre (see Note 1);

– Update sequence number (see Note 1);

– Number of subsets (see Note 1);

– Year (see Notes 1 and 3);

– Month (for which the monthly values are reported) (see Notes 1 and 3);

– Day (= 1) (see Notes 1 and 3);

– Hour (= 0) (see Notes 1 and 3);

– Minute (= 0) (see Notes 1 and 3).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under Regulation B/C30.1.1 applies.

(3) Note 3 under Regulation B/C30.1.1 applies.

(4) If an NMHS performs conversion of CLIMAT data produced by another NMHS, Note 4 under Regulation B/C30.1.1 applies.

**B/C32.1.1 Entries required in Section 1 of BUFR**

The following entries shall be included in BUFR Section 1:

– BUFR master table;

– Identification of originating/generating centre;

– Identification of originating/generating sub-centre;

– Update sequence number;

– Identification of inclusion of optional section;

– Data category (= 001 for CLIMAT SHIP data);

– International data sub-category(see Notes 1 and 2);

– Local data sub-category;

– Version number of master table;

– Version number of local tables;

– Year (year of the century up to BUFR edition 3)(see Note 3);

– Month (for which the monthly values are reported)(see Note 3);

– Day (= 1)(see Note 3);

– Hour (= 0)(see Note 3);

– Minute (= 0)(see Note 3);

– Second (= 0)(see Notes 1 and 3).

Notes:

(1) Inclusion of this entry is required starting with BUFR edition 4.

(2) If required, the international data sub-category shall be included for CLIMAT SHIP data as 020.

(3) The time identification refers to the beginning of the month for which the monthly mean values are reported.

(4) If an NMHS performs conversion of CLIMAT SHIP data produced by another NMHS, originating centre in Section 1 shall indicate the converting centre and originating sub-centre shall indicate the producer of CLIMAT SHIP bulletins. Producer of CLIMAT SHIP bulletins shall be specified in Common Code table C-12 as a sub-centre of the originating centre, i.e. of the NMHS executing the conversion.

**B/C32.1.2 Entries required in Section 1 of CREX**

The following entries shall be included in CREX Section 1:

– CREX master table;

– CREX edition number;

– CREX table version number;

– Version number of BUFR master table(see Note 1);

– Version number of local tables(see Note 1);

– Data category (= 001 for CLIMAT SHIP data);

– International data sub-category(see Notes 1 and 2);

– Identification of originating/generating centre(see Note 1);

– Identification of originating/generating sub-centre(see Note 1);

– Update sequence number(see Note 1);

– Number of subsets(see Note 1);

– Year(see Notes 1 and 3);

– Month (for which the monthly values are reported)(see Notes 1 and 3);

– Day (= 1)(see Notes 1 and 3);

– Hour (= 0)(see Notes 1 and 3);

– Minute (= 0)(see Notes 1 and 3).

Notes:

(1) Inclusion of these entries is required starting with CREX edition 2.

(2) If inclusion of international data sub-category is required, Note 2 under Regulation B/C32.1.1 applies.

(3) Note 3 under Regulation B/C32.1.1 applies.

(4) If an NMHS performs conversion of CLIMAT SHIP data produced by another NMHS, Note 4 under Regulation B/C32.1.1 applies.

**B/C1.2.2.1** If the actual time of observation differs by 10 minutes or less from the standard time reported in Section 1, the standard time may be reported instead of the actual time of observation. [12.2.8]

**B/C5.2.2.1** If the actual time of observation differs by 10 minutes or less from the standard time reported in Section 1, the standard time may be reported instead of the actual time of observation. [12.2.8]

**B/C10.2.4.1** If the actual time of observation differs by 10 minutes or less from the standard time reported in Section 1, the standard time may be reported instead of the actual time of observation. [12.2.8]

**B/C1.10.1.7.1 Time period**[⮉](#Ihourly)

The time period (0 04 024) covered by past weather (1) and past weather (2) shall be expressed as *a negative value* in hours:

(a) Six hours, for observations at 0000, 0600, 1200, and 1800 UTC;

(b) Three hours for observations at 0300, 0900, 1500, and 2100 UTC;

(c) Two hours for intermediate observations if taken every two hours.

(d) *One hour* for intermediate observations if taken every hour. [12.2.6.6.1]