

WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)

JOINT WMO/IOC TECHNICAL COMMISSION FOR
OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)
EXPERT TEAM ON MARINE CLIMATOLOGY

ETMC-I/Doc. 4.2
(25.VI.2004)

FIRST SESSION

ITEM 4.2

GDYNIA, POLAND, 7 TO 10 JULY 2004

Original: ENGLISH

HISTORY OF THE MARINE SHIP CODE

(Submitted by Mr Takashi Yoshida)

Summary and Purpose of Document

The eighth session of the CMM Subgroup on Marine Climatology (SGMC-VIII) (Asheville, April 2000) was presented with results on a survey to verify if all WMO publications documenting the history of the marine ship codes (i.e. FM13-SHIP and IMMT format) are preserved and the feasibility of making this information readily available. This document presents the progress and current status of the task.

ACTION PROPOSED

The Expert Team on Marine Climatology is invited to:

- (a) Note and comment on the information provided;
- (b) Make recommendations on this issue as appropriate.

-
- Appendices:** A. History of FM 13-SHIP, FM 21 SHIP, FM 22 SHIP, FM 23 SHRED, and FM 24 SHIP
B. History of IMMPC/IMMT
C. History of the Minimum Quality Control Standards

DISCUSSION

Introduction

1. Metadata are often as important as the data themselves. It has been recommended that a study be conducted to verify if all WMO Manual on Codes (WMO-No. 306) and IMMT formats documenting the history of the marine ship codes and exchange formats are available and look into the feasibility of making this information available on the Web. Result of the study to trace the history of the marine ship codes conducted by Ms T. Manabe (Japan) was submitted to the eighth session of the JCOMM Subgroup on Marine Climatology (SGMC), held in April 2000 in Asheville, USA. The subgroup considered the results and agreed with her in that, while a substantial advance in this subject had been achieved, there were a number of tasks that remain. In this report, the progress of the follow-up work of the previous study is reviewed. The work has not been finalized yet and therefore the future work plan is proposed.

Tasks

2. The remaining tasks agreed at the SGMC session are the following:
- (a) It is necessary to confirm if Tables 1 (History of FM13, FM21, FM22, FM23, FM24) and 2 (History of IMMPC/IMMT and MQCS) in Annex VI of the final report of at the session are correct. It is also crucial to keep updating those tables.
 - (b) All the past "code forms with notes and regulations" (extract from Manual on Codes (WMO-No. 306), Section A, b. List of code forms with notes and regulations and its forerunners) and "layout for IMMT" (extract from Manual on Marine Meteorological Services (WMO-NO. 558) and its forerunners) need to be digitized. Not only all the "code" changes which can be detected by change of a Roman numeral which identify the session of CSM/CBS but also all the changes in "notes" and/or "regulations" which do not affect Roman numerals after FM, need to be digitized.
 - (c) The history of changes of code tables used in SHIP and IMMPC/IMMT needs to be traced and a table including the dates when the amendments come into effect and their relevant Recommendations and Resolutions.
 - (d) All the code tables, not only those which are used at present and appear in the Manual on Codes, Section C, b. Code tables, but those which were ever used, need to be digitized.
3. The tasks (a) and (c) among above four have been tackled during the intersessional period in the following procedure.
- 1) digitizing (keying) parts of the final documents of CMM and CSM/CBS sessions relative to the history of codes and formats;
 - 2) confirming the tables in the final report of the eighth SGMS session by referring to the digitized parts of the final documents of CMM and CSM/CBS;
 - 3) making this information available on a web site so that it can be traced and referred by anyone who are interested in.

The tasks (b) and (d) have been postponed because of the shortage of available time and resources.

Progress of the task during the intersessional period

4. As a result of the work, the Tables 1 and 2 in Annex VI of the SGMC-VIII report were revised (see Appendices of this report) and put on a temporary web site. The URL is:

http://goos.kishou.go.jp/ws/ETMC/code_task/

The web site contains the history of all SHIP codes, such as FM 13, FM 21, FM 22, FM 23, FM 24 and FM 26, IMMPC/IMMT format, and the minimum quality control standard. All relevant resolutions and documents are available while some annexes are not digitized yet.

5. During the process of digitizing parts of the meeting reports and confirming the tables in the SGMS session report, I felt that important sentences might be missing and the result being some mistyped words even if done as careful as possible. It may require another person to be assigned the task of confirming the results by investigating all the documents again. The most effective way to do this could be to make all the related documents available on the web site in their original form so that anyone who interested in the history of codes and formats could refer and check them. I have started to scan all the CMM and CBS (CSM) final reports to make PDF files. Those files will be available on the temporary web site by the end of 2004.

Proposed future work plan

1. Finalizing and updating of the web site contents

Missing annexes will be inserted soon. Hidden information will be updated when it has been found. The following CMM and CBS (CSM) final reports will be available on the web site by the end of 2004:

- CMM-I (1952), II (1956), III (1960), IV (1964), V (1968), VI (1972), VII (1976), VIII (1981), IX (1984), X (1989), XI (1993) and XII (1997)
- CSM-I (1953), II (1958), III (1962), IV (1966) and V (1970)
- CBS-VI (1974), Ext.76, VII (1978), Ext.80, VIII (1983), Ext.85, IX (1988), Ext.90, X (1992), Ex94 and XI (1996)

PDF files of the following final reports are already available through the WMO web site:

- JCOMM-I (2001)
- CBS-Ext.98, XII (2000) and Ext.2002

2. Digitizing the past Manual on Codes and Manual on Marine Meteorological Services

All Japanese versions of past Manual on Codes have been kept at the Japan Meteorological Agency. The first version, which was issued on 1 April 1956, corresponds to the 1955 codes, including FM 21.A, 22.A, 23.A and 26.A. Therefore, all past "code" changes and changes in "notes" and/or "regulations" after 1955 can be made available at least in Japanese. Is it worth having them digitized? The expert team is requested to discuss on the value of such old books printed in a non-international language. Also, members are requested to look for the past versions of the manuals in their archives to be digitized.

3. History of other marine codes

This task can be expanded to other marine codes such as FM 18 DRIFTER/BUOY, FM 62 TRACKOB, FM 63 BATHY, FM 64 TESAC and FM 65 WAVEOB in the next intersessional period, if necessary.

Action proposed

The Expert Team on Marine Climatology is invited to note and comment on the information provided. It is also invited to make recommendations on this issue as appropriate.

Appendices: 3

History of FM 13-SHIP, FM 21 SHIP, FM 22 SHIP, FM 23 SHRED, and FM 24 SHIP

FM 13 SHIP	1 Jan. 1982 -
FM 21 SHIP	1949 - 31 Dec. 1981
FM 22 SHIP	1949 - 31 Dec. 1981
FM 23 SHRED	1949 - 31 Dec. 1981
FM 24 SHIGY	1 July 1957 - 31 Dec. 1959
FM 24 SHIP	1 Jan. 1972 - 31 Dec. 1981
FM 26 SPESH	1949 - 31 Dec. 1981

5 Nov 2003

FM 13-XII Ext. SHIP is made (amendments to FM 13-XI Ext. SHIP)

Res. 8 EC-LV (May 2003), Rec. 4 CBS-Ext. (02) (Dec. 2002)

- Amendment to the regulation on reporting precipitation

3 May 2000

FM 13-XI Ext. SHIP is made (amendments to FM 13-XI SHIP)

Res. 8 EC-LI (May 1999), Rec. 6 CBS-Ext. (98) (Sept. 1998)

- Amendment to the regulation on reporting past-weather

5 Nov. 1997

FM 13-XI SHIP is made (amendments to FM 13-X SHIP)

Res. 4 EC-XLIX (June 1997), Rec. 7 CBS-XI (Oct. 1996)

- A new regulation to avoid possible confusion in the radiation groups and groups 5 of section 3

2 Nov. 1994

FM 13-X SHIP is modified

Res. 4 EC-XLV (June 1993), Rec. 9 CBS-X (Sept. 1992)

- Add wet-bulb temp.

- Systematically report present, past weather temp., clouds and waves

- Indicate type of SST measurement

3 Nov. 1993

FM 13-X SHIP is made (amendments to FM 13-IX Ext. SHIP)

Res. 4 EC-XLV (June 1993), Rec. 8 CBS-X (Sept. 1992)

- Procedure to reporting net short wave and direct solar radiation

1 Nov. 1991

FM 13-IX Ext. SHIP is made (modification to FM 13-IX SHIP)

Res. 8 EC-XLIII (May 1991), Rec. 13 CBS Ext. (90) (Sept. 1990)

- Pressure tendency algorithm

- Total amount of precipitation

- Actual time of observation

1 Nov. 1989

FM 13-IX SHIP is made (modification to FM 13-VIII Ext. SHIP)

Res. 1 EC-XL (June 1988), Rec. 12 CBS-IX (Jan. 1988)

- Snow-depth data
- Precipitation data
- Daily amount of evaporation (evapotranspiration), net-radiation and duration of sunshine data

1 Nov. 1987

FM 13-VIII Ext. SHIP is made (amendments to FM 13-VII SHIP)

Res. 4 EC-XXXVIII (June 1986), Rec. 5 CBS Ext. (85) (Oct. 1985)

- Broaden use of N = /
- Present weather from automatic ship stations
- Identifiers of ocean platform such as drilling, oil and gas rigs

Res. 4 EC-XXXVIII (June 1986), Rec. 10 CBS Ext. (85) (Oct. 1985)

- Wave height in reports from automatic ship stations

1 Jan. 1984

FM 13-VII SHIP is modified

Res. 4 EC-XXXV (May 1983), Rec. 6 CBS-VIII (Jan. 1983)

- Improvements in the regulations, notes and specifications

1 Jan. 1982

FM 13-VII SHIP is introduced (deletion of FM 21-V SHIP, FM 22-V SHIP, FM 23-V SHRED and FM 24-V SHIP)

Res. 5 EC-XXXI (May 1979), Rec. 14 CBS-VII (Nov. 1978)

- Common code for reporting surface observations from different types of surface station

1 Jan. 1979

FM 21-V SHIP, FM 22-V SHIP and FM 23-V SHRED are amended

Res. 3 EC-XXIX (May 1977), Rec. 9 CBS Ext. (76) (Nov. 1976)

- Revision of ice group

1 Jan. 1978

FM 21-V SHIP, FM 22-V SHIP, FM 23-V SHRED and FM 24-V SHIP are amended

Res. 3 EC-XXIX (May 1977), Rec. 12 CBS Ext. (76) (Nov. 1976)

- Revision of the notes on the codes

1 Jan. 1972

FM 21.E, FM 22.E and FM 23.E are made (amendments to FM21.D, FM22.D and FM 23.D)

Res. 15 EC-XXII (Oct. 1970), Rec. 8 CSM-V (June 1970)

- Introduction of MiMiMjMj

Section 1 of FM 24.E is introduced

Res. 15 EC-XXII (Oct. 1970), Rec. 23 CSM-V (June 1970)

- Introduction of Section 1 of FM 24.E before the general introduction in 1975

- General introduction of FM 24.E was recommend as from 1 Jan. 1975 in Rec. 22 CSM-V and decided in Res. 14 EC-XXII. However preference for other codes over FM 24.E was recommended in Rec. 7 CSM-VI and decided in Res. 3 EC-XXVI.

Res. 14 EC-XXII (Oct. 1970), Rec. 22 CSM-V (June 1970)

Res. 3 EC-XXVI (June 1974), Rec. 7 CBS-VI (June 1974)

1 Jan. 1968

FM 21.D, FM 22.D and FM 23.D are made (amendments to FM21.C, FM22.C and FM 23.C)

Res. 13 EC-XVIII (May 1966), Rec. 5 CSM-IV (Mar. 1966)

Rec. 9 CSM-IV (Mar. 1966)

Rec. 13 CSM-IV (Mar. 1966)

Rec. 24 CSM-IV (Mar. 1966)

Rec. 25 CSM-IV (Mar. 1966)

- Sea surface temperature, wind wave and swell wave
- Ship's average speed: v_s
- Position: $99L_aL_aL_a Q_cL_oL_oL_oL_o$ are introduced

1 Jan. 1964

FM 21.C, FM 22.C and FM 23.C are made (amendments to FM21.B, FM22.B and FM 23.B)

Res. 34 EC-XIV (May 1962), Rec. 26 CSM-III (Mar. 1962)

Rec. 27 CSM-III (Mar. 1962)

Rec. 28 CSM-III (Mar. 1962)

- Coding visibility at ocean weather station
- Code for reporting sea ice: $(2I_sE_sE_sR_s)$
- Amend the coding procedure of precipitation: $7RRt_Rt_R$

1 Jan. 1960

FM 23.B SHRED is made (replacement of FM 23.A)

Extended use of FM 24 SHIGY and change over to FM23.B

Res. 22 EC-X (April 1958), Rec. 1 CSM-II (Jan. 1958)

- Reduced type a ship report
- FM 24 be continued for a period of one year after the end of IGY

FM 26.B SPESH is made (replacement of FM 26.A)

Res. 22 EC-X (April 1958), Rec. 2 CSM-II (Jan. 1958)

- Reduced type a ship report

amendments to notes and specifications

Res. 22 EC-X (April 1958), Rec. 13 and 16 CSM-II (Jan. 1958)

- A minor change in the specification for PPP
- Notes on code table for P_w

1 Jan. 1958

modifications to technical regulations

Res. 33 and 35 EC-IX (May 1957), Rec. 7, 9, 10 and 11 CMM-II (Oct. 1956)

- Use of 7RRjj (precipitation) in code form FM 21.A
- Reporting of distinct sea and swell
- Descriptive terms for wave height
- Descriptive term for ice

1 July 1957

FM 24 SHIGY is introduced

Res. 36 EC-IX (May 1957), Rec. 14 CMM-II (Oct. 1956)

- A new code form for the International Geophysical Year (July 1957 – Dec. 1958)

1 Jan. 1955

**FM 21.A, FM 22.A and FM 23.A are made
(amendments to FM21, FM22 and FM 23)**

Res. 21 EC-IV (May 1953), Rec. 8, 11, 15, 16 and 18 CSM-I (April 1953)

- Reports from light vessels
- Specifications for various codes
- Heights of waves
- Introduction of $D_{svs}xxx$

(date not specified) inclusion of ships' call signs

Res. 24 EC-IV (May 1953), Rec. 29 CSM-I (April 1953)

- Inclusion of ships' call signs

1949 SHIP is introduced

Res. 161 (CD, Washington 1947), Rec. XVI (CSWI Toronto 1947)

History of IMMPC/IMMT

1 Jan 2003

IMMT-2 is introduced (modifications to IMMT-1 format)

Res. 7 EC- LIV (June 2002), Rec. 8 JCOMM-I (June 2001)

- To incorporate new data elements required for the VOSclim Project

1 Jan 1998

Introduction of ISO Alpha-2 country code into IMMT format

Res. 8 EC-XLIX (June 1997), Rec. 8 CMM-XII (Mar. 1997)

- ISO Alpha-2 country code be used as the country codes in the IMMT format

2 Nov. 1994

IMMT-1 is introduced (modifications to IMMT format)

Res. 10 EC-XLV (June 1993), Rec. 13 CMM-XI (April 1993)

- IMMT-1 is introduced

1 Mar. 1985

Modification to IMMPC and IMMT format

Res. 8 EC-XXXVII (June 1985), Rec. 5 CMM-IX (Oct. 1984)

- Inclusion of weather data indicator i_x

1 Jan. 1982

Revision of the IMMPC and introduction of the IMMT format

Res. 9 EC-XXXIV (June 1982), Rec. 8 CMM-VIII (Sept. 1981)

- Revision of IMMPC in accordance with FM 13-VII SHIP

- Introduction of IMMT

1 Jan. 1966

Amendments to IMMPC

Res. 14 EC-XVII (May 1965), Rec. 28 CMM-IV (Nov. 1964)

- Visibility, height of cloud, etc. are modified

1 Jan. 1962

Amendments to technical regulations, etc.

Res. 18 and 20 EC-XIII (May 1961), Rec. 23 CMM-III (Aug. 1960)

- Amendments to technical regulations

Date not specified

Res. 18 EC-XIII (May 1961), Rec. 24 and 25 CMM-III (Aug. 1960)

- Re-allocation of numbers indicating the country of origin

- Date of changing IMMPC

Date not specified

Amendments to technical regulation: use of international punch card

Res. 33 EC-IX (May 1957), Rec. 30 CMM-II (Oct. 1956)

- International maritime punch card should be used

1951?

Adoption of international code form for punching cards from ship

observations

Res. 23 (CD 1951)

History of the Minimum Quality Control Standards

MQCS-IV (version 4, June 2001)

Res. 7 EC- LIV (June 2002),

Rec. 9 JCOMM-I (June 2001)

MQCS-III (version 3, May 2000)

SGMC-VIII (Apr. 2000)

MQCS-II (version 2, May 1996)

Res. 8 EC-XLIX (June 1997),

Rec. 7 CMM-XII (Mar. 1997)

MQCS-I (version 1) : Introduction of the minimum quality control standard

Res. 8 EC-XLI (June 1989),

Rec. 7 CMM-X (Feb. 1989)