

COMMISSION FOR SYNOPTIC METEOROLOGY
ABRIDGED FINAL REPORT OF THE FIRST SESSION
Washington, 2 – 29 April 1953
WMO – No. 16.RP.7

GENERAL SUMMARY

6.5 Codes

6.5.5 Instructions for use of certain codes

Instructions for reporting the 8-grups (8NsChshs) were very carefully considered. There were differing views. The rules finally adopted (cf Recommendation 5) cover a wide variety of cases and were considered as a substantial improvement by a great majority.

Under this Agenda item there was a number of less important problems which were solved by simply giving improved and more precise definitions (in Recommendation 15): term layer, meaning of $D_s v_s$, reporting h and N_h , when no C_L cloud exist, reporting of waves. The Commission decided not to change the meaning of $v_r v_r$ in the NEPH-Code, the radian being retained because of its non-dimensional nature.

Considerable discussion centered around the problem of formulating instructions for reporting h and N_h in cases where C_L indicates clouds at various levels (action reported in Recommendation 15).

Discussion on instructions to be given for reporting VV, when visibility is not uniform in all directions brought to light a number of difficulties with regard to the requirements stated by various aeronautical authorities. Action is reported in Recommendation 24. Representatives of aviation were disappointed and the subject cannot be considered as finalized. It is important that Members give further study to the problem and that the matter again appears on the CSM Agenda at the next session.

Discussion of the meeting of N brought to light that a substantial number of Services was still observing cloud amounts in tenths and had every intention of continuing to do so. These Services did not object to coding N in the present code for international exchange, but they felt that to produce the necessary uniformity a method

of transposing tenths into the present N code should be provided.

This was done and in the interest of clarify a slight change in the definition of N was given (Recommendation 15).

6.5.6 Specifications

Many minor points under this Agenda item were solved without much discussion, such as improved specifications for state of ground (Recommendation 15), cloud heights for mountain stations (Recommendation 15), height of waves (Recommendation 16 and Resolution 1), standardization of 0, 00, 9, 99, in “direction codes” (Recommendation 15), visibility at sea (Recommendation 15), ICE code (Recommendation 15), use of solidus and x in codes (Recommendations 27 and 26), pressure values in CLIMAT (Recommendation 15), and instructions for reporting hh and vv (Recommendation 15).

The codes for ww and W were carefully scrutinized and clarified (Recommendation 15). The problem of the tolerance in forecasts was disposed of in the recommendation on aeronautical code-forms (Recommendation 5). The decode-table for ww to be used in ground-air transmissions as submitted by ICAO was examined. The President of CAeM stressed that CSM was only asked to correct the errors; this action is reported in Recommendation 22. It should be mentioned that the incompleteness of the ICAO tables was discussed in plenary meeting.

After a roll-call-vote (18 for, 4 against and 5 abstentions) the Commission decided that the knot would remain in the unit of wind speed for code reports.

Degree Celsius were recommended (Recommendation 17) for world-wide use in the international exchange of data for coding surface and upper air temperatures.

In this recommendation the Commission expressed as its view that the change-over to Celsius for surface reports might involve difficulties for certain Members and that the realization could be postponed for such a period of time as would enable those Members to prepare for a smooth translation; U.S.A., Canada, Australia and India lodged strongly expressed reservations.

Rec. 15 (CSM-I) – SPECIFICATIONS FOR VARIOUS CODES

THE COMMISSION FOR SYNOPTIC METEOROLOGY,

CONSIDERING that the specifications for various code need clarification and improvement in order to obtain world-wide uniformity,

RECOMMENDS,

(1) That

(a) h and N_h in the group $N_h C_L h C_M C_H$ shall also be used with reference to C_M regardless of the height of the clouds C_M , in cases where no C_L clouds exist.

(b) In cases where CL indicates clouds at various levels,

(i) The fraction of the celestial dome covered by the cloud reported for C_L should be reported for N_h ,

(ii) The height of the lowest cloud should be reported for h .

(2) That the following specifications for D_s and v_s be adopted.

D_s Ships' course (true) made good during the 3 hours preceding the time of observation

v_s Ships' average speed made good during the 3 hours preceding the time of observation

(6) That in certain Code Specifications for direction and bearing, the code figures 0, 00, 000, 9, 99, 999 have the meaning indicated in the following table.

Symbol	Code figure 0, 00, 000	Code figure 9, 99, 999
D (wind)	calm	--
D (waves)	calm	confused

D_c	--	in all directions
D_K	calm	confused
D_s	stationary	unknown
D_w	--	in all directions
D_1	at the station	--
D_i	no limit can be stated	ice limit in several directions
dd	calm	variable
$d_r d_r$	--	in all directions
$d_s d_s$	calm (no motion)	unknown
$d_0 d_0$	}	
$d_1 d_1$		
...		
$d_n d_n$		
$d_w d_w$	calm (no waves)	99 (and 49) confused, direction indeterminate
$d_0 d_0 d_0$	}	
$d_1 d_1 d_1$		
...		
$d_n d_n d_n$		

- (7) That note 4) on page I-A-3-57, Fascicule I, Publication No. 9, be amended to read :
 “ If, using the principle of note 2), more than one code figure may be given to W, with regard to the past weather, the higher code figure should be reported “.
- (9) That the following modified specifications be adopted for past weather (W) and present weather (w) in Code 90

- 0 Cloud covering 1/2 or less of the sky throughout the appropriate period
- 1 Cloud covering more than 1/2 the sky during part of the appropriate period and covering 1/2 or less during part of the period
- 2 Cloud covering more than 1/2 of the sky throughout the appropriate period
- 3 Sandstorm, duststorm or drifting snow
- 4 Fog or thick haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s) with or without precipitation

(10) That

- (a) The note 3) under P_w (Fascicule I, Publication 9, page I-A-3-41) be deleted;
- (b) The note 8) under FM 21 (Fascicule I, Publication 9, page I-A-1-22) be replaced by the following: "It will be noted that the wave group ($1d_w d_w P_w P_w$) is optional. Members may instruct individual ships not to include this group. When wave observations are to be reported and more than one wave system is present, two or more ($1d_w d_w P_w P_w$) groups should be included in the message.

(11) That certain specifications in Code 92 (ww – Present weather) be amended to read as follows:

- 05 Haze
- 14 precipitation within sight, not reaching the ground or the surface of the sea
- 15 precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e., estimated to be more than 5 km) from the station

16 Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at station.

(12) That the following additional notes be included under “ww – Present weather”, page I-A-3-58, Fascicule I, Publication No. 9:

(a) In coding 01, 02 and 03, there is no limitation on the magnitude of the change of the cloud amount. ww = 00, 01 and 02 can each be used when the sky is clear at the time of observation. In this case the following interpretations of the specifications will apply:

00 is used when the preceding conditions are not known,

01 is used when the clouds have dissolved during the past hour,

02 is used when the sky has been continuously clear during the past hour;

(b) The specifications for code figures 04, 05 and 06 do not require visibility restrictions.

(c) The code figure 05 will be used when the obstruction to vision consists predominantly of lithometeors.

(d) There is no need for international visibility restrictions for the specifications for ww = 07 and 09. National instructions will be used to indicate how these specifications will be reported.

(e) The visibility restriction on ww = 10 should be 1000 m or more. The specification refers only to water droplets.

(f) In case ww = 11 or 12 the apparent visibility will be less than 1000 m.

(g) In case ww = 28 visibility should have been less than 1000 m. The specification only refers to visibility restrictions which occurred as a result of water droplets.

(i) With regard to ww = 36, 37, 38 and 39, the necessary uniformity in reporting these figures which may be desirable within certain regions can be obtained by national instructions, and it is not necessary to specify international visibility limits in these specifications.

(j) A visibility restriction “less than 1000 m. “ should be applied to ww = 41-49. In case ww = 40

the apparent visibility in the fog patch or bank will be less than 1000 m. 40-49 will be used when the obstruction to vision is predominantly water droplets.

(k) With respect to precipitation, the phrase “at the station” in the ww table means “ at the point where the observation is normally taken”.

(14) That

(a) The specification for code figure 1 I Code 19 (c2 – Description of kind of ice) be amended to read as follows:

1 New ice

(b) The following note to be added to Code 19:

“Note: The term jamming means that the ice is being squeezed or crowded together into a compact mass”.

(15) That the table of Code 60 be changed to read:

N – The fraction of the celestial dome covered by cloud

(16) That the table of Code 60 be changed to read:

Code figure

0	0	0
1	1/10 or less, but not zero	1 okta or less, but not zero
2	2/10 – 3/10	2 oktas
3	4/10	3 oktas
4	5/10	4 oktas
5	6/10	5 oktas
6	7/10 and 8/10	6 oktas

7	9/10 or more, but not 10/10	7 oktas or more, but not 8 oktas
8	10/10	8 oktas
9	Sky obscure, or cloud amount can not be estimated	

(17) That the following changed be made with respect to N and the notes thereunder or page I-A-3-39 of Fascicule I, Publication No. 9:

(1) Delete the present meaning for n and insert: “The fraction of the celestial dome covered by cloud”.

(2) Amend note 1) to read as follows: “This symbol gives the fraction of the celestial dome covered by clouds, irrespective of their Genus (type)”.

(3) Delete note 2) and replace by the following:
 “In akk codes reported meteorological observations, N is to be reported as actually seen by the observer during the observation”.

(4) Delete the present note 3).

(5) Amend note 4) to read as follows:
 “With a mackerel sky (Ac or Sc translucidus), breaks between the cloud elements always exist. Even if these clouds extend over the whole celestial dome, the total amount cloud be reported by N = 7 or less”.

(6) Amend the first sentence of note 5) to read as follows:
 “If blue sky or stars are seen through the existing fog or mist, without any trace of cloud above the fog or mist, N is reported as 0”.

(19) That the following note be included under C Genus (type) of cloud (Code 10), page I-A-3-21, Fascicule I, Publication No. 9:

“A layer of clouds exists when N, Ns, etc. = 1 or more”.

(20) That, in reporting visibility at sea, (Code 84: VV – Horizontal visibility) only the decade 90-99 should be used in reports of merchant ships. Ocean weather ships should report in the full VV code.

(21) That the following coding procedures for hh and VV apply:

The Tables for hh and VV are to be considered as a coding device in which certain code figures are assigned values. These are discrete values (not ranges, with the exception of hh 90-99 where ranges are specified). Any observation or forecast of values to be coded in the tables for hh and VV should be made without regard to the table. The coding is then accomplished according to the following rule:

“If the observed or forecast visibility (height) is between two of the reportable distances (heights) as given in the table, the code figure for the lower reportable distance (height) will be reported”.
except for the hh 90-99; in this decade, a height exactly equal to one of the heights at the ends of the ranges will be coded in the higher range, e.g., a height of 600 m will be reported by code figure 95.

(22) That note 1) under “W past weather” on page I-A-3-57, Fascicule I, Publication No. 9 be amended by adding the following:

“2 hours for intermediate observations if taken every two hours”.

Rec. 16 (CSM-I) – HEIGHT OF WAVES

THE COMMISSION FOR SYNOPTIC METEOROLOGY,

CONSIDERING,

- (1) That the present height equivalents in feet and metres can lead to different descriptive terms for the same wave height in weather bulletins;
- (2) That the code table for S – State of sea, should correspond to the descriptive terms for wave height;

RECOMMENDS,

- (1) That the following table define height of waves for various terms used in providing weather information and forecasts to mariners:

Term	Mean maximum height, metres	Mean maximum height, feet
Calm glassy	0	0
Rippled	0 – 1/4	0 – 1
Smooth	1/4 – 1/2	1 – 2
Slight	1/2 – 1 1/4	2 – 4
Moderate	1 1/4 – 2 1/2	4 – 8
Rough	2 1/2 – 4	8 – 13
Very rough	4 – 6	13 – 20
High	6 – 9	20 – 30
Very high	9 – 14	30 – 45
Phenomenal	Over 14	Over 45

(2) That the code table for S – State of sea (Code 75, Fascicule I, Publication No. 9) should read as follows:

Code Figure S	Mean maximum height of sea waves, metres	Mean maximum height of sea waves, feet (approximately)
0 Calm (glassy)	0	(0)
1 calm (rippled)	0 – 1/4	(0 – 1)
2 Smooth (wavelets)	1/4 – 1/2	(1 – 2)
3 Slight	1/2 – 1 1/4	(2 – 4)
4 Moderate	1 1/4 – 2 1/2	(4 – 8)
5 Rough	2 1/2 – 4	(8 – 13)
6 Very rough	4 – 6	(13 – 20)
7 High	6 – 9	(20 – 30)
8 Very high	9 – 14	(30 – 45)
9 Phenomenal *)	Over 14	(Over 45)

*) As might exist at the centre of a hurricane.

Note: The exact bounding height should be included in the lower category, e.g., a height of 4 metres should be coded as 5.

Rec. 26 (CSM-I) – USE OF x IN CODED MESSAGES

THE COMMISSION FOR SYNOPTIC METEOROLOGY,

CONSIDERING that there is a need for establishing a uniform practice in the use of the letter x in coded messages;

RECOMMENDS that the letter x be used in coded message to indicate that information on a certain meteorological element was missing when the report was made or to indicate that during the transmission part of the message was not heard or was mutilated.

Rec. 27 (CSM-I) – USE OF SOLIDUS (/) or x IN CODES

THE COMMISSION FOR SYNOPTIC METEOROLOGY,

CONSIDERING that the solidus is easily confused in manuscript with the figure 1, and that the letter x entails additional keyboard operation when figure groups are transmitted by teleprinter;

RECOMMENDS

- (1) That when specifications are being drawn up for use in codes, the figures 0 to 9 only, should be used unless it is quite impracticable to do so.
- (2) That, in the case of existing codes in which optional signs such as x, /, -, appear for certain specifications, observers should be instructed to use only the letter x.