Extract relating to codes and format from WMO documents

COMMISSION FOR BASIC SYSTEMS
ABRIDGED FINAL REPORT
OF THE
EXTRA ORDINARY SESSION
Hamburg, 21 October – 1 November 1985
WMO - No. 654

GENERAL SUMMARY

7.2 Codes (agenda item 7.2)

Amendments to FM 12-VII SYNOP and FM 13-VII SHIP

7.2.4 The Commission reviewed proposed amendments to FM 12-VII SYNOP and FM 13-VII SHIP developed by the CBS Working Group on Codes and its Study Group on Urgent Code Matters. It also considered additional proposals for the amendment of these codes relating to the reporting of present and past weather from automated observing stations, pressure reporting and the reporting of past weather by human observers. In accordance with the results of the above discussion on the updating of existing codes, the Commission considered in each case whether a modification of code or of regulations was required and justified. After lengthy discussion, the following amendments to the SYNOP and SHIP codes and relevant coding regulations were adopted by the Commission:

(a) Broadening the use of N = / to cover cases where the sky is indiscernible owing to artificial lights at night;

(b) Simplification of the coding procedures in cases of wind speeds in excess of 99 units;

(c) Inclusion of a Code table 4680 on the reporting of present weather from automatic observing stations;

(d) Replacement of the identifiers RIGG and PLAT by the group $A_1b_wn_bn_bn_b$.

7.2.5 Recommendation 5 (CBS-Ext. (85)) was adopted.

7.2.6 A suggestion to include wind indicator i_w in individual SYNOP reports in order to remove ambiguities encountered by some centres in compiling and decoding SYNOP bulletins was not accepted by the Commission on the understanding that this would imply major changes in software and regulations.

Rec. 5 (CBS-Ext. (85)) – AMENDMENTS TO FM 12-VII SYNOP AND FM 13-VII SHIP

THE COMMISSION FOE BASIC SYSTEMS,
NOTING:
(1) The abridged final report of CBS-VIII, general summary. Paragraphs 8.10 and 8.19,
(2) Resolution 6 (CBS-VIII) – Working Group on Codes,
(3) Report of the eleventh session of the CBS Working Group on the GTS, paragraph 3.4,

CONSIDERING:
(1) That there is a need to broaden the use of N = / to cover cases when the sky is indiscernible owing to many artificial lights at night,
(2) That surface observations of wind speeds in excess of 99 knots are rare events, but of great scientific and operational significance, and that the rarity of these events implies that only on very few occasions would such events be observed and therefore their reporting by an additional group would not constitute a burden on the GTS,
(3) That there is an urgent need to provide guidance for coding of present weather by automatic weather stations,
(4) That there is a requirement that the use of RIGG and PLAT by stations located at sea on a drilling rig or an oil- or gas-production platform be replaced by a group $A_1b_wn_bn_bn_b$,

RECOMMENDS that the amendments to FM 12-VII SYNOP and FM 13-VII SHIP, given in the annex to this recommendation, be adopted for use as from 1 November 1987;
REQUESTS the Secretary-General to arrange for the necessary amendments to be included in Volume I of the Manual on Codes.

Annex to recommendation 5 (CBS-Ext. (85))
AMENDMENTS TO CODE FORM FM 12-VII SYNOP AND FM 13-VII SHIP

1. CODE FORM

Amend Section 1 of FM 12-VII and 13-VII to read:

SECTION 1 $i_R i_x hVV$ Nddff (00fff) $1s_nTTT$ $3P_oP_oP_oP_o$

$\left\{\begin{array}{c} 4PPPP \\ \text{or} \\ 4a3hhh \end{array}\right\}$ 5appp $6RRRt_R$ $\left\{\begin{array}{c} 7wwW_1W_2 \\ \text{or} \\ 7w_aw_a// \end{array}\right\}$ $8N_hC_LC_MC_H$ 9hh//

2. REGULATIONS

2.1 Change Regulation 12.1.4 to read:

In reports from an automatic station, mandatory group elements specified by symbolic letters shall be coded with solidi (/) if the station is not equipped to report the relevant data, taking into account that i_R, i_x and N = 0, N = 9, N = / provide for omission of group $6RRRt_R$, $7w_aw_a//$ and $8N_hC_LC_MC_H$ as the case may be.

2.2 Change Regulation 12.1.7 to read as follows:

(a) The identification of stations located at sea on a drilling rig or an oil- or gas-production platform shall be indicated by the group $A_1b_wn_bn_bn_b$;

(b) In reports of sea stations other than buoys, drilling rigs and oil- or gas-production platforms, and in the absence of a ship's call sign, the word SHIP shall be used for D…D.

2.3 Change Regulation 12.2.2.3.3 to read:

When the wind speed in units indicated by i_w is 99 units or more:

(a) ff in the group Nddff shall be encoded 99;

(b) The group 00fff shall be included immediately following the group Nddff.

2.4 Change Regulation 12.2.6.4 to read:

Present weather reported from a manned weather station: ww.

2.5 Insert the following new paragraphs 12.2.6.5 to 12.2.6.5.13 following 12.2.6.4.18, and renumber paragraph on past weather 12.2.6.5 to 12.2.6.5.5 as 12.2.6.6 to 12.2.6.6.5

12.2.6.5

Present weather reported from an automatic weather station w_aw_a.

12.2.6.5.1

The highest applicable figure shall be selected.

12.2.6.5.2

In coding 01, 02 and 03, there is no limitation on the magnitude of the change of the cloud amount. w_aw_a = 00, 01 and 02 can each be used when the sky is clear at the time of observation. In this case, the following interpretation of the specifications shall 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.

12.2.6.5.3

When the phenomenon is not predominantly water droplets, the appropriate code figure shall be selected without regard to VV.

12.2.6.5.4

The code figure 05 shall be used when the obstruction to vision consists predominantly of lithometeors.

12.2.6.5.5

The visibility restriction on w_aw_a = 10 shall be 1000 metres or more. The specification refers only to water droplets and ice crystals.

12.2.6.5.6

For w_aw_a = 18, the following criteria for reporting squalls shall be used:

A sudden increase of wind speed of at least eight metres per second (16 knots), the spedd rising to 11 metres per second (22 knots) or more and lasting for at least one minute.

12.2.6.5.7

Figures 20-29 shall never be used when precipitation is observed at the time of observation.

12.2.6.5.8.

For w_aw_a = 20 visibility shall have been less than 1000 metres.

NOTE: The specification refers only to visibility restrictions which occurred as a result of water droplets or ice crystals.

12.2.6.5.9

For synoptic coding purposes, a thunderstorm shall be regarded as being at the station from the time thunder is first detected, whether or not lightning is detected or precipitation is occurring at the station. A thunderstorm shall be reported in present weather if thunder is detected within the normal observational period preceding the time of the report. A thunderstorm shall be regarded as having ceased at the time thunder is last detected and the cessation is confirmed if thunder is not detected for 10-15 minutes after this time.

12.2.5.5.10

A visibility restriction “less than 1000 metres” shall be applied to w_aw_a = 30-35. w_aw_a =30-34 shall be used when the obstructions to vision consist predominantly of water droplets or ice crystals, and 35 when the obstructions consists predominantly of water droplets.

12.2.6.5.11

The precipitation shall be encoded as intermittent if it has been discontinuous during the preceding hour, without presenting the character of a shower.

12.2.6.5.12

The intensity of precipitation shall be determined by the intensity at the time of observation.

12.2.6.5.13

Code figures 80-89 shall be used only when the precipitation is of the shower type and takes place at the time of observation.

NOTE: Showers are produced by convective clouds. They are characterized by their abrupt beginning and end and by the generally rapid and sometimes great variations in the intensity of the precipitation. Drops and solid particles falling in a shower are generally larger than those falling in non-showery precipitation. Between showers openings may be observed unless stratiform clouds fill the intervals between the cumuliform clouds.

2.6 Change Regulation 12.2.7.1 to read as follows:

This group shall be omitted in the following cases:

(a) When there are no clouds (N = 0);

(b) When the sky is obscured by fog and/or other meteorological phenomena (N = 9);

(c) When the cloud cover is indiscernible for reasons other than (b) above, or observation is not made (N = /);

2.7 Delete Regulation 12.2.7.2 and renumber Regulations 12.2.7.3 to 12.2.7.3.4 as 12.2.7.2 to 12.2.7.2.4 and Regulation 12.2.7.4 as 12.2.7.3

3. SYMBOLIC FIGURE AND FIGURE GROUPS

Add as the first new specification of:

00 Indicator for high speed wind group (99 units or more)
(FM 12-VIII Ext., FM 13-VIII Ext.).

4. SPECIFICATIONS OF SYMBOLIC LETTERS

4.1 Change specification for A_1 to read:

WMO Regional Association area in which buoy or rigg or platform has been deployed (1 – Region I, 2 –

Region II, etc.) (Code table 0161).

(FM 13-VIII Ext., FM 14-VIII Ext.).

4.2 Under specification for ff (first specification)

Add the following Note:

(1) If wind speed is 99 units or more see Regulation 12.2.2.3.3.

Under specification for fff (insert as first specification)

fff Wind speed in units indicated by i_w, 99 units or more

(FM 12-VIII Ext., FM 13-VIII Ext.).

(1) See Regulation 12.2.2.3.3

4.3 Change the first line of the specification for ww to read:

Present weather reported from manned weather station (Code table 4677).

4.4 Insert after the specification for ww:

w_aw_a Present weather reported from an automatic weather station

(Code table 4680).

(FM 12-VIII Ext., FM 13-VIII Ext.)

5. CODE TABLES

5.1 Change specification in Code table 2700, for code figure 9 and (/) as follows:

9 Sky obscured by fog and/or other meteorological phenomena

/ Cloud cover is indiscernible for reasons other than fog or other meteorological phenomena, or observation is not made.

5.2 Insert new Code table 4680.

w_aw_a Present weather reported from an automatic station

Code figure

00 No significant weather observed

01 Clouds generally dissolving or becoming less developed during the past hour

02 State of the sky generally unchanged during the past hour
03 Clouds generally forming or developing during the past hour
04 Haze or smoke, or dust in suspension in the air, visibility equal to or greater than 1 km
05 Haze or smoke, or dust in suspension in the air, visibility less than 1 km
06 reserved
07 reserved
08 reserved
09 reserved

10 Mist
11 Diamond dust
12 Distant lightning
13 reserved
14 reserved
15 reserved
16 reserved
17 reserved
18 squalls
19 reserved

Code figures 20-26 are used to report precipitation, fog (or ice fog) or thunderstorm at the station during the preceding hour but not at the time of the observation.

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20 Fog

21 PRECIPITATION

22	Drizzle (not freezing) or snow grains
23	Rain (not freezing)
24	Snow
25	Freezing drizzle or freezing rain
26	Thunderstorm (with or without precipitation)
27	BLOWING OR DRIFTING SNOW OR SAND
28	Blowing or drifting snow or sand, visibility equal to or greater than 1 km
29	Blowing or drifting snow or sand, visibility less than 1 km
30	FOG
31	Fog or ice fog in patches
32	Fog or ice fog, has become thinner during the past hour
33	Fog or ice fog, no appreciable change during the past hour
34	Fog or ice fog, has begun or become thicker during the past hour
35	Fog, depositing rime
36	reserved
37	reserved
38	reserved
39	reserved
40	PRECIPITATION
41	PRECIPITATION, slight or moderate
42	PRECIPITATION, heavy
43	LIQUID PRECIPITATION, slight or moderate
44	LIQUID PRECIPITATION, heavy

45 SOLID PRECIPITATION, slight or moderate
46 SOLID PRECIPITATION, heavy
47 FREEZING PRECIPITATION, slight or moderate
48 FREEZING PRECIPITATION, heavy
49 reserved

50 DRIZZLE
51 Drizzle, not freezing, slight
52 Drizzle, not freezing, moderate
53 Drizzle, not freezing, heavy
54 Drizzle, freezing, slight
55 Drizzle, freezing, moderate
56 Drizzle, freezing, heavy
57 Drizzle and rain, slight
58 Drizzle and rain, moderate or heavy
59 reserved

60 RAIN
61 Rain, not freezing, slight
62 Rain, not freezing, moderate
63 Rain, not freezing, heavy
64 Rain, freezing, slight
65 Rain, freezing, moderate
66 Rain, freezing, heavy
67 Rain or drizzle and snow, slight
68 Rain or drizzle and snow, moderate or heavy

69 reserved

70 SNOW
71 Snow, slight
72 Snow, moderate
73 Snow, heavy
74 Ice pellets, slight
75 Ice pellets, moderate
76 Ice pellets, heavy
77 reserved
78 reserved
79 reserved

80 SHOWER(S) or INTERMITTENT PRECIPITATION
81 Rain shower(s) or intermittent rain, slight
82 Rain shower(s) or intermittent rain, moderate
83 Rain shower(s) or intermittent rain, heavy
84 Rain shower(s) or intermittent rain, violent
85 Rain shower(s) or intermittent snow, slight
86 Rain shower(s) or intermittent snow, moderate
87 Rain shower(s) or intermittent snow, heavy
88 reserved
89 reserved

90 THUNDERSTORM

91 Thunderstorm, slight or moderate, with no precipitation
92 Thunderstorm, slight or moderate, with rain showers and/or snow showers
93 Thunderstorm, slight or moderate, with hail
94 Thunderstorm, heavy, with no precipitation
95 Thunderstorm, heavy, with rain showers and/or snow showers
96 Thunderstorm, heavy, with hail
97 reserved
98 reserved
99 Tornado

NOTES

(1) This code table includes terms on several levels to cover simple and increasingly complex stations.

(2) Generic term for weather (e.g. FOG, DRIZZLE) are intended for use at stations capable of determining types of weather but no other information. Generic terms are included in the code table using all capital letters.

(3) Code figures for generic precipitation (code figures 40-48) are arranged in order of increasing complexity. For example, a very simple station that can sense only the presence or absence of precipitation would use code figure 40 (PRECIPITATION). At the next level, a station capable of sensing gross type (liquid, solid, freezing) and amount would use code figure 43-48. A station capable of reporting actual types of precipitation (e.g. drizzle or rain) but not amount, would use the appropriate whole decadal number (e.g. 50 for generic drizzle; 60 for generic rain).