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M.O. 253.

[Extract from M.O. 252.]

AIR MINISTRY.



METEOROLOGICAL OFFICE.

THE NEW INTERNATIONAL CODE FOR METEOROLOGICAL MESSAGES.

Published by the Authority of the Meteorological Office.



LONDON:
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE.

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IV.—THE (NEW) INTERNATIONAL CODE.

At the meetings of the International Commission for Weather Telegraphy held in London in November 1920, and again in September, 1921, international codes were agreed upon for reports of the following kinds* :—

- (1) Reports from land stations.
- (2) Reports from ships at sea.
- (3) Hourly reports for aviation and other special purposes.
- (4) Abbreviated reports for use in the issue of collective messages giving a synopsis of the meteorological situation over a whole continent by means of data for selected stations.

For brevity in describing the codes each element is denoted by a standard symbol. These are set out in alphabetical order, with their meanings, in the first section below. The second section deals with the symbolic form of complete reports and the third section contains the full specification of the scales for each element.

I.—THE SYMBOLS AND THEIR MEANINGS.

- A = Form of *predominating cloud lowest* in the scale of cloud forms (see Code VI., p. 75).
- a = Form of *predominating cloud highest* in the scale of cloud forms when more than one type of cloud exists (see Code VI., p. 75).
- BBB = Pressure in millibars and tenths (initial 9 or 10 omitted), or millimetres and tenths (initial 7 omitted). The values refer to sea-level† and include all corrections for index error, temperature and gravity.
- BB = Pressure in whole millibars or whole millimetres (initial 9, 10 or 7 omitted). (For upper air reports of pressure, temperature and humidity, BB is in whole millibars with the hundreds figure omitted, whether this is 9, 8, 7, 6 or 5.)
- B₁B₁B₁ = Pressure in whole millibars at an "inversion of temperature" in upper air reports.

* Full details will be found in the following publications :—

- (1) M.O. 242. Report of Proceedings of the Third Meeting of the Commission for Weather Telegraphy, London, November, 1920. H.M. Stationery Office or through any bookseller. Price 5s.
- (2) M.O. 251. Report of Proceedings of the Fourth Meeting of the International Commission for Weather Telegraphy, London, September, 1921.

† For mountain stations the values refer to the level of the station. In such cases, the initial figure omitted is not that mentioned above, but depends on the height of the station.

- b = Amount of barometric tendency during the three hours preceding the time of observation expressed in half-millibars or half-millimetres. For tendencies 10-19 the *second* figure only is reported and 33 is added to the wind direction number (DD). For tendencies greater than 29 the second figure only is reported and 67 is added to the wind direction number. Tendencies greater than 29 are reported as 29.
- C = Form of predominating cloud, according to the scale of cloud forms, when only one form is reported, as from ships at sea (*see* Code VI., p. 75).
- C₁ = Form of cloud observed by nephoscope; usually one of the two highest layers present (*see* Code VI., p. 75).
- C_a = Form of low cloud observed by nephoscope in reports for aviation (*see* Code VI., p. 75).
- c = Characteristic of barometric tendency during the period of 3 hours preceding the time of observation (*see* Code II., p. 73.).
- DD = Direction of the wind near the ground on the scale (01-32) in which 08 = East, 16 = South, &c., 00 = calm.
- dd = Direction of wind in the upper air, or of cloud movement, on the scale (01-36), *i.e.*, degrees from North divided by 10 and rounded off to the nearest whole number (00 = calm).
- d = Direction from which swell comes on scale (0-8), in which 2 = East, 4 = South, &c., 0 = no swell.
- d_s = Direction of movement of ship on scale (0-8), in which 2 = Eastwards, 4 = Southwards, &c.
- F = Force of the wind on the Beaufort Scale. (Forces above 9 are reported as 9 in telegrams, with the actual force in a word at the end, *e.g.*, force 10 is reported at the end as "Storm ten," force 11 as "Storm eleven." Ships at sea, however, report "gale ten," "storm eleven," "hurricane twelve.")
- F₁ = Approximate speed of low cloud (*see* Code XIV., p. 79).
- GG = Greenwich Time of observation (01 = 1 a.m., 12 = noon, 13 = 1 p.m., 24 = midnight).
- H = Relative humidity of the air (*see* Code V., p. 75).
- h = Height of base of lowest cloud present (*see* Code VII., p. 75).
- H₁ = Heights at which upper air temperature and humidity are reported (no code figure telegraphed) (*see* Code XII., p. 78).

- h₁ = Height at which upper wind is reported (*see* Code XI., p. 78).
- I_nI_n = Index number of station.
- jj—Meaning varies according to time of observation and between inland and coastal stations, as follows:—
- | | Inland.
Stations. | Coastal
Stations. |
|----------------|----------------------|----------------------|
| At 0700 G.M.T. | - jj = mm | jj = SV _s |
| At 1800 G.M.T. | - jj = MM | jj = SV _s |
- K = The characteristic of the swell *in the open sea* (*see* Code IX. (a), p. 77).
- K' = Amount and characteristic of barometric tendency expressed by a single figure (*see* Code II. (a), p. 74).
- L = Amount of sky (scale 0-10) covered by cloud form A and all forms of the same layer (*i.e.*, low, medium or high) as A, if "a" refers to a different layer.
- LLL = Latitude in degrees and tenths, the tenths being obtained by dividing the number of minutes by 6 and neglecting the remainder.
- lll = Longitude in degrees and tenths, the tenths being obtained as for latitude LLL.
- MM = Maximum temperature in the interval of 11 hours ending at 18 h. G.M.T. (or at one of the hours 1 h., 7 h., 13 h., 18 h. G.M.T., following not less than 4 hours after noon, local time).
- mm = Minimum temperature in the interval of 13 hours ending at 7 h. G.M.T. (or at the hour 13 hours after the time of reporting the maximum temperature).
- N = Total amount of sky covered with cloud (scale 0-10).
- P = Day of the week. 1 = Sunday, 2 = Monday, 3 = Tuesday, 4 = Wednesday, 5 = Thursday, 6 = Friday, 7 = Saturday. The day refers to G.M.T. and not to local time, *e.g.*, Sunday means the period from 0 h. to 24 h. on Sunday at Greenwich.
- Q = Quarter of globe in which ship is situated (*see* Code XIII., page 78).
- RR = Rainfall [at 7 a.m. for preceding 13 hours and at 6 p.m. for preceding 11 hours (*see* Code VIII., page 76)].
- R = Amount of rainfall for the preceding 24 hours (*see* Code VIII. (a), p. 76).
- r = Time of commencement of precipitation (*see* Code X., p. 77).
- S = State of the sea and swell (coast stations) (*see* Code IX., p. 77).

TT = Temperature of the air in whole degrees Fahrenheit or Centigrade (50 added to negative values).

tt = Temperature of the sea (surface water) in whole degrees.

TTT = Temperature of air in degrees and tenths Fahrenheit or Centigrade (500 added to negative values).

ttt = Temperature of the sea (surface water) in degrees and tenths.

t₁t₁ = Increase in temperature at an "inversion" in whole degrees.

V = Visibility or distance at which objects can be seen in daylight (or at which lights can be seen at night) (see Code IV., p. 74).

v = Visibility at sea from ships at sea (see Code IV. (a), p. 75).

V_s = Visibility towards the sea (from coast stations) (see Code IV., p. 74).

VV = The relative speed of clouds as determined by nephoscope and such that the actual speed of the cloud will be given in kilometres per hour by

the equation $vv = \frac{h}{1000} \times VV$, if "h," the height of the cloud, is expressed in metres. This unit is the "radian per hour."

vv = The speed of the wind in the upper air in kilometres per hour or miles per hour.

W = The weather in the interval since the preceding time of report. This interval is 5, 6 or 7 hours for stations reporting 4 times daily. (For special reports for aviation it is 1 hour or 2 hours) (see Code III., p. 74).

ww = The actual weather at the time of observation with which is combined, whenever possible, the general character of the weather (see Code I., p. 71).

w₁ = The initial figure of the code ww, thus indicating the general state of the weather.

x₁ = A check figure obtained by adding the first four figures of the group and taking the units figure in the sum so obtained.

x₂, x₃, x₄, x₅ = Check figures obtained in a similar manner.

y₁ = A check figure obtained by adding together the first figure of each of the preceding groups, thus: Q + P + B + F + w, and taking the units figure of the sum.

y₂, y₃, y₄ = Check figures obtained in a similar way from the 2nd, 3rd and 4th figures respectively.

z = Key figure obtained by adding together all the x's or all the y's.

II.—SYMBOLIC FORM OF MESSAGES.

(1) REPORTS FROM LAND STATIONS.

(a) The form for observations at 0100 and 1300 G.M.T. is—

BBBDD FwwTT cbWVH ALaNh C₁ddVV,

and for observations at 0700 and 1800 G.M.T.—

BBBDD FwwTT cbWVH ALaNh RRjjr C₁ddVV,

where jj in the fifth group is replaced, as follows:—

	Inland Stations.	Coastal Stations.
at 0700 G.M.T. -	mm	SV _s
at 1800 G.M.T. -	MM	SV _s .

The group C₁ddVV, containing cloud observations by nephoscope, is omitted entirely* if no such observations are available.

(b) *Upper Winds* are reported by groups of the form h₁ddvv, one group being used for each height.

(c) *Upper Air Temperatures and Humidities* are reported by groups of the form BBTTH.

In this case no figure is telegraphed to indicate the height, it being understood that the groups refer to the heights of the code H₁ (p. 78) in order.

Inversions are reported at the end by groups 00000 B₁B₁B₁t₁t₁, the first being an index group indicating that an inversion is reported, while B₁B₁B₁ is the pressure in whole millibars at the height of the inversion and t₁t₁ the increase of temperature in whole degrees.

(d) In *Collective Messages* the observations of each station are preceded by a group consisting of the index number of the station (usually two figures) by which it is identified. The messages are arranged in sections, the first containing the ordinary observations from all stations, the second, preceded by the word "Pilot" or an equivalent, containing all reports of upper wind and the third, preceded by "Temp" or an equivalent, containing all observations of upper air temperature.

Any other observations, such as those from ships, form a fourth section.

The symbolic form of a complete message, embracing surface observations at 0700 or 1800 G.M.T., upper winds and upper air temperatures and humidities, would be as follows, where the observations contained in the groups in each line, refer to the stations indicated by the index figures, I₁I₁, I₂I₂, &c., preceding them.

I₁I₁ BBBDD FwwTT cbWVH ALaNh RRjjr C₁ddVV.
I₂I₂ BBBDD FwwTT cbWVH ALaNh RRjjr C₁ddVV.

* The general rule in reports of all kinds is, however, that missing figures shall be replaced by hyphens (one for each figure).

I_3I_3 BBBDD, &c.,

&c.

&c.

Pilot I_1I_1 h_1ddvv h_1ddvv h_1ddvv .

I_2I_2 h_1ddvv h_1ddvv h_1ddvv .

I_3I_3 h_1ddvv , &c.

&c.

&c.

Temp. I_1I_1 BBTTH BBTTH, &c. 00000

$B_1B_1B_1t_1t_1$, &c.

I_2I_2 BBTTH BBTTH, &c. 00000

$B_1B_1B_1t_1t_1$, &c.

I_3I_3 BBTTH, &c.,

&c.

&c.

For observations at other hours the form would be the same, except that the group RRjir would not be included.

(2) REPORTS FROM SHIPS AT SEA.

These are in the form :—

QLLX₁ PllX₂ BBDDX₃ FvKdx₄ wwGGx₅ y₁y₂y₃y₄z

{ CNTTd_s Wr_{tt}K' (if temperature on Fah. scale).

{ CNTTT Wr_{ttt} (if temperature on C. scale).

An alternative form for use without check figures is :—

PQLLL lllGG BBDDF wwvKd.

{ CNTTd_s Wr_{tt}K' (if temperature on Fah. scale).

{ CNTTT Wr_{ttt} (if temperature on C. scale).

(Both these forms are operative at present, but a decision between the two forms is to be made by the Permanent International Meteorological Committee after consultation of the different services affected.)

(3) HOURLY REPORTS FOR AVIATION AND OTHER SPECIAL PURPOSES.

(a) The normal form for hourly reports is :—

$I_nI_n(V_s)$ wwVhL NDDFW

with the addition, every three hours, of a group—

$C_a ddF_1S$,

where C_a is the type of cloud to which ddF_1 refer.

(b) If fuller information is required, then every three or six hours the form is—

$I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh $C_a ddF_1S$.

NOTE.—When, for any reason, V_s is not available, *no* hyphen is inserted in its place. If none of the information in the group $C_a ddF_1S$ is available the whole group is omitted. In all other cases hyphens are used, in the normal way*, to denote lack of information.

* See footnote, page 69.

(4) ABBREVIATED REPORTS FOR COLLECTIVE MESSAGES COVERING A WHOLE CONTINENT.

The form of report for each station is :—

BBDDF w₁TTK'R for observations at 0700 G.M.T;

BBDDF w₁TTK'W for observations at other hours.

III.—SPECIFICATION OF THE SCALES.

CODE I.

Weather at actual time of observation and general character of weather (ww).

(In interpreting reports it is to be noted that, as a rule, the largest number in the scale which is appropriate to the weather is reported.)

	Code figures.
Cloud decreasing - - - -	00
No apparent change - - - -	01
Cloud increasing - - - -	02
Precipitation within sight - - - -	03
With solar or lunar halo - - - -	04
After fog or mist (or dust storm) - - - -	05
After rain or drizzle - - - -	06
After snow, sleet or hail - - - -	07
With or after thunder and lightning in neighbourhood - - - -	08
After thunderstorm - - - -	09
Cloud decreasing - - - -	10
No apparent change - - - -	11
Cloud increasing - - - -	12
Precipitation within sight - - - -	13
With solar or lunar halo - - - -	14
After fog or mist (or dust storm) - - - -	15
After rain or drizzle - - - -	16
After snow, sleet or hail - - - -	17
With or after thunder and lightning in neighbourhood - - - -	18
After thunderstorm - - - -	19
Fog or mist but clear in zenith - - - -	just 20
„ and apparently overcast. - - - -	begun 21
„ but clear in zenith - - - -	inter- 22
„ and apparently overcast. - - - -	mittent 23
„ but clear in zenith - - - -	for some 24
„ and apparently overcast. - - - -	time, be- 25
	coming thinner.

		Code figures.
<i>Fog or Mist</i>	Fog or mist but clear in zenith	for some 26
	„ and apparently overcast.	time 27
	„ but clear in zenith	for some 28
	„ and apparently overcast.	time, becoming thicker. 29
<i>Passing Showers.</i>	Slight with rain	30
	„ hail or rain and hail	31
	„ sleet	32
	„ snow	33
	Heavy with rain becoming better	34
	„ rain	35
	„ rain becoming worse	36
	„ hail or rain and hail	37
<i>Drizzle</i>	„ sleet	38
	„ snow	39
	Slight occasional	40
	„ continuous	41
	„ but increasing	42
	Moderate but decreasing	43
	„ occasional	44
	„ continuous	45
<i>Rain</i>	„ but increasing	46
	Thick but decreasing	47
	„ occasional	48
	„ continuous	49
	Slight occasional	50
	„ continuous	51
	„ but increasing	52
	Moderate but decreasing	53
	„ occasional	54
	„ continuous	55
	„ but increasing	56
	Heavy but decreasing	57
<i>Snow or Snow and Hail.</i>	„ occasional	58
	„ continuous	59
	Slight occasional	60
	„ continuous	61
	„ but increasing	62
	Moderate but decreasing	63
	„ occasional	64
	„ continuous	65
	„ but increasing	66
	Heavy but decreasing	67
	„ occasional	68
	„ continuous	69

		Code figures.
<i>Sleet or Rain and Snow.</i>	Slight occasional	70
	„ continuous	71
	„ but increasing	72
	Moderate but decreasing	73
	„ occasional	74
	„ continuous	75
	„ but increasing	76
	Heavy but decreasing	77
<i>Hail or Rain and Hail.</i>	„ occasional	78
	„ continuous	79
	Slight occasional	80
	„ continuous	81
	„ but increasing	82
	Moderate but decreasing	83
	„ occasional	84
	„ continuous	85
<i>Thunderstorm (or Linesquall)</i>	„ but increasing	86
	Heavy but decreasing	87
	„ occasional	88
	„ continuous	89
	Slight thunderstorm without hail	90
	„ „ with hail	91
	Moderate thunderstorm without hail	92
	„ „ with hail	93
	Heavy thunderstorm without hail	without 94
	„ „ with hail	gale 95
	„ „ without hail	with 96
	„ „ with hail	gale 97
	Line squall without hail	98
	„ „ with hail	99

* CODE II.

Characteristic of Barometric Tendency during the three hours preceding the time of observation (c).

Code figure.		
0 = 0 or +	-	Steady or rising.
1 = + 0	-	Rising then steady
2 = + -	-	Rising then falling.
3 = - + or 0 +	-	Falling or steady then rising.
4 = unsteady +	-	Unsteady but rising
5 = - -	-	Falling.
6 = - 0	-	Falling then steady.
7 = - +	-	Falling then rising.
8 = 0 - or + -	-	Steady or rising then falling.
9 = unsteady -	-	Unsteady but falling.

The barometer is now higher than or the same as three hours ago.

The barometer is now lower than three hours ago.

CODE II. (a).

Amount and Characteristic of Barometric Tendency expressed by a single figure (K').

Code figure.	Change in last 3 hours in half-millibars
0	Barometer steady. 0 or 1
1	Barometer rising slowly. 2 or 3
2	Barometer rising. 4 to 7
3	Barometer rising quickly. 8 to 12
4	Barometer rising very rapidly. more than 12.
5	Barometer falling slowly. 2 or 3
6	Barometer falling. 4 to 7
7	Barometer falling quickly. 8 to 12
8	Barometer falling very rapidly. more than 12

CODE III.

Past Weather in interval since last report (W).

	Code figure.	
Without precipitation.	0 —	Fair or fine.
	1 —	Cloudy.
	2 —	Overcast continuously.
	3 —	Fog or mist.
Precipitation.	4 —	Thick fog.
	5 —	Passing showers.
	6 —	Rain or drizzle.
	7 —	Snow or sleet.
	8 —	Hail or rain and hail.
	9 —	Thunderstorm.

CODE IV.

Horizontal Visibility (V) and (V_s).

Code figure.	
0	Objects not visible at 50 metres (55 yards).
1	Objects not visible at 200 metres (220 yards).
2	Objects not visible at 500 metres (550 yards).
3	Objects not visible at 1,000 metres (1,100 yards).
4	Objects not visible at 2,000 metres (1½ miles).
5	Objects not visible at 4,000 metres (2½ miles).
6	Objects not visible at 10,000 metres (6¼ miles).
7	Objects not visible at 20,000 metres (12½ miles).
8	Objects not visible at 50,000 metres (31¼ miles).
9	Objects visible at 50,000 metres or more.

CODE IV. (a).

Horizontal Visibility from Ships at Sea (v).

Code figure.	
0	Dense fog, objects not visible at 50 yards.
1	Thick fog, objects not visible at 1 cable.
2	Fog, objects not visible at 2 cables.
3	Moderate fog, objects not visible at ½ mile (nautical).
4	Thin fog or mist, objects not visible at 1 mile (nautical).
5	Visibility poor, objects not visible at 2 miles (nautical).
6	Visibility moderate, objects not visible at 5 miles (nautical).
7	Visibility good, objects not visible at 10 miles (nautical).
8	Visibility very good, objects not visible at 30 miles (nautical).
9	Visibility exceptional, objects visible more than 30 miles (nautical).

CODE V.

Relative Humidity (H).

Code figure.	
0	- - - 95 to 100 per cent.
9	- - - 90 to 94 per cent.
8	- - - 80 to 89 per cent.
7	- - - 70 to 79 per cent.
6	- - - 60 to 69 per cent.
5	- - - 50 to 59 per cent.
4	- - - 40 to 49 per cent.
3	- - - 30 to 39 per cent.
2	- - - 20 to 29 per cent.
1	- - - 10 to 19 per cent.

CODE VI.

Cloud Form (A, a, C, C₁ C_a).

Code figure.	
1	- Cirrus - - - - - Ci.
2	- Cirro-Stratus - - - - - Ci. St.
3	- Cirro-Cumulus - - - - - Ci. Cu.
4	- Alto-Cumulus - - - - - A. Cu.
5	- Alto-Stratus - - - - - A. St.
6	- Strato-Cumulus - - - - - St. Cu.
7	- Nimbus - - - - - Nb.
8	- Cumulus or Fracto-Cumulus - - - - - Cu. or Fr. Cu.
9	- Cumulo-Nimbus - - - - - Cu. Nb.
0	- Stratus or Fracto-Stratus - - - - - St. or Fr. St.

CODE VII.

Height of Base of Lowest Cloud present (h).

Code figure.	Metres.	Feet.
0	0 to 50	0 to 150
1	50 to 100	150 to 300
2	100 to 200	300 to 600
3	200 to 300	600 to 1000
4	300 to 600	1000 to 2000
5	600 to 1000	2000 to 3000
6	1000 to 1500	3000 to 5000
7	1500 to 2000	5000 to 6500
8	2000 to 2500	6500 to 8000
9	No low cloud	No low cloud

CODE VIII.

Amount of Rainfall (RR).

This is expressed in whole millimetres with the following exceptions:—

Code figures.	Specification of certain meanings.
91	0.1 mm.
92	0.2 mm.
93	0.3 mm.
94	0.4 mm.
95	0.5 mm.
96	0.6 mm.
97	Some rain but not measurable.
98	More than 90 mm.
99	Measurement impossible or unreliable.

CODE VIII.(a).

Amount of Rainfall during preceding 24 hours (R).

Code figure.	
0	No rain.
1	Trace or 0.1 mm.
2	0.2 to 2 mm.
3	2 to 5 mm.
4	5 to 10 mm.
5	10 to 15 mm.
6	15 to 20 mm.
7	20 to 30 mm.
8	30 to 50 mm.
9	above 50 mm.

CODE IX.

State of Sea and Swell (S).

Code figure.	
0	No swell
1	Moderate swell
2	Heavy swell.
3	No swell.
4	Moderate swell
5	Heavy swell.
6	Rather rough sea.
7	Rough sea.
8	Very rough sea.
9	Mountainous sea.

CODE IX.(a).

Characteristic of Swell in the Open Sea (K).

Code figure.	
0	No or slight swell.
1	Moderate swell.
2	Heavy swell.
3	Long low swell.
4	Confused swell.
5	No or slight swell.
6	Moderate swell.
7	Heavy swell.
8	Long low swell.
9	Confused swell

CODE X.

Time of Commencement of Precipitation (r).

Code figure.	
0	No rain
1	0 to 1 hour before time of observation.
2	1 to 2 hours before time of observation.
3	2 to 3 hours before time of observation.
4	3 to 4 hours before time of observation.
5	4 to 5 hours before time of observation.
6	5 to 6 hours before time of observation.
7	6 to 8 hours before time of observation.
8	8 to 10 hours before time of observation.
9	above 10 hours before time of observation.
-	No observation.

CODE XI.

Height at which Upper Wind is reported (h_1).

The heights at which the upper wind is reported are the *three* heights selected from the following list which give the best representation of the result of the pilot-balloon ascent.

Code figure.	metres.	feet (used in British reports).
1	200	or 1,000
2	500	or 2,000
3	1,000	or 3,000
4	1,500	or 5,000
5	2,000	or 7,000
6	3,000	or 10,000
7	4,000	or 13,000
8	5,000	or 17,000
9	6,000	or 20,000

CODE XII.

Heights at which Upper Air Temperature and Humidity are reported (H_1) (no code figure telegraphed).

200 metres	} above ground.
500 metres	
1,000 metres	} above mean sea level.
1,500 metres	
2,000 metres	
2,500 metres	
3,000 metres	
4,000 metres	
5,000 metres	
6,000 metres	

CODE XIII.

Quarter of Globe (Q).

Code figure	Latitude	Longitude.	
1	N.	W.	} Barometer in millibars.
2	N.	E.	
3	S.	W.	
4	S.	E.	
5	N.	W.	} Barometer in millimetres.
6	N.	E.	
7	S.	W.	
8	S.	E.	

CODE XIV.

Approximate Speed of Low Cloud (F_1).

Code figure.	Corresponding Mean Speed.		Limits of Speed.	
	If in km. per hour.	If in miles per hour.	If in km. per hour.	If in miles per hour.
0	Less than 5	Less than 5	0-7	0-4
1	15	10	8-22	5-14
2	30	20	23-37	15-24
3	45	30	38-52	25-34
4	60	40	53-67	35-44
5	75	50	68-82	45-54
6	90	60	83-97	55-64
7	105	70	98-112	65-74
8	120	80	113-127	75-84
9	135	90	128-142	85-94

V.—THE OLD INTERNATIONAL CODE.*

I.—THE SYMBOLS AND THEIR MEANINGS.

BBB is the corrected barometric pressure in tenths of mm. (the first figure 7 is omitted).

DD is direction of the wind (true not magnetic) on scale (0-32), where 02 = NNE, 04 = NE, &c. 32 = N., 0 = calm.

F is strength of the wind on Beaufort Scale (0-12) (for numbers above 9, the figure 9 is reported and actual force given in words at end).

W is state of the sky (*see* Code I., p. 80).

TT is temperature in whole degrees centigrade. 50 is added to the number when the temperature is below zero.

C is direction of motion of upper-clouds (*see* Code II., p. 80).

β is characteristic of barometric tendency (*see* Code III., p. 80).

bb is the amount of the tendency in tenths of mm.; 50 is added to the wind direction number (DD) if the tendency is negative.

RR is rainfall in mm., in past 24 hours (*see* Code VI., p. 81, for special meanings).

MM is maximum temperature
mm is minimum temperature

From 7 h. of the preceding day to 7 h. of the day of observation. These are in whole degrees centigrade, 50 being added if the temperature is below zero.

* *See* M.O. 216. International Meteorological Committee. Report of the Tenth Meeting. Rome. 1913. [H.M. Stationery Office or through any bookseller. Price 2s.]

u is sea disturbance (see Code IV., p. 81).

W' is characteristic of past weather sent at the end of the second group in place of C in 18 h. messages (see Code V., p. 81).
(I_nI_n is the index number of the reporting station.)

II.—SYMBOLIC FORM OF MESSAGES.

Observations at 1800 G.M.T.—BBBDD FWTTW'.

Observations at 0700 G.M.T.—BBBDD FWTT C βbbRR
MMmmu.

III.—SPECIFICATION OF THE SCALES.

CODE I.

State of the Sky (W).

Code figure.

- 0 Sky cloudless.
- 1 Sky $\frac{1}{4}$ covered.
- 2 Sky $\frac{2}{4}$ covered.
- 3 Sky $\frac{3}{4}$ covered.
- 4 Sky overcast.

Code figure.

- 5 Rain.
- 6 Snow.
- 7 Mist.
- 8 Fog.
- 9 Thunderstorm.

CODE II.

Direction of Upper Cloud (Cirrus and Cirro Stratus) (C).

Code figure.

- 0 Clouds with no appreciable movement.
- 1 Clouds from N.E.
- 2 Clouds from E.
- 3 Clouds from S.E.
- 4 Clouds from S.

Code figure.

- 5 Clouds from S.W.
- 6 Clouds from W.
- 7 Clouds from N.W.
- 8 Clouds from N.
- 9 No observation.

CODE III.

Characteristic of Tendency (β).

Figures characterising the change of pressure during the 3 hours preceding the observation.

Code figure.

- 0 Barometer steady.
- 1 Barometer unsteady.
- 2 Barometer rising.
- 3 Barometer falling.
- 4 Barometer falling then rising.

Code figure.

- 5 Barometer steady then rising.
- 6 Barometer steady then falling.
- 7 Barometer falling then steady.
- 8 Barometer rising then steady or falling.
- 9 Line squall.

CODE IV.

Sea Disturbance (u).

Code figure.

- 0 Sea calm.
- 1 Sea very smooth.
- 2 Sea smooth.
- 3 Sea slight.
- 4 Sea moderate.
- 5 Sea rather rough.
- 6 Sea rough.
- 7 Sea high.
- 8 Sea very high.
- 9 Sea phenomenal.

CODE V.

Characteristic of past Weather (W').

Code figure.

- 0 Mainly fine.
- 1 Fair (high clouds preponderating).
- 2 Mainly overcast (low clouds preponderating).
- 3 Sheet lightning (more than one flash).
- 4 Precipitation, mainly during forenoon, without thunderstorms or with at most one peal of thunder without lightning.
- 5 Precipitation, mainly during afternoon, without thunderstorms or with at most one peal of thunder without lightning.
- 6 Mainly foggy.
- 7 Thunderstorm.
- 8 Passing showers (squally changeable weather with bright intervals).
- 9 Persistent precipitation (including falls of snow or soft hail of long duration, sky overcast during the intervals).

CODE VI.

Rainfall (RR).

The following code figures are used with a special significance.

Code figures.

- 00 No precipitation.
- 99 Precipitation has occurred but its amount has not been measured.
- 98 Precipitation exceeding 96 mm.
- 97 "Trace" of precipitation, amount less than 0.5 mm.

Amounts exceeding 96 mm. are reported in full at the end of the message, the figures 98 being inserted in the coded part.

VI.—UNITS EMPLOYED BY EACH COUNTRY FOR REPORTS OF PRESSURE, TEMPERA- TURE AND UPPER WIND SPEED.

Country.	Surface		Speed of
	Pressure.	Temperature.	Upper Wind.
<i>Europe.</i>			
Great Britain - - -	mb.*	°F.*	m.p.h.
Austria - - -	mm.	°C.	
Belgium - - -	mb.	°C.	km./h.
Bulgaria - - -	mm.	°C.	
Czecho-Slovakia - - -	mm.	°C.	km./h.
Denmark - - -	mm.	°C.	
Esthonia - - -	mm.	°C.	
Finland - - -	mm.	°C.	
France - - -	mm.	°C.	m./s.
Germany - - -	mm.	°C.*	m./s.
Gibraltar - - -	mb.	°F.	
Holland - - -	mm.*	°C.*	km./h.
Hungary - - -	mm.	°C.	
Italy - - -	mm.	°C.	m./s.
Jugo-Slavia - - -	mm.	°C.	
Latvia - - -	mm.	°C.	
Norway - - -	mb.	°C.	km./h.
Poland - - -	mm.	°C.	m./s.
Roumania - - -	mm.	°C.	km./h.
Spain - - -	mb.	°C.	m./s.
Sweden - - -	mm.	°C.	m./s.
<i>N. Africa.</i>			
Algeria, Tunis and			
Morocco - - -	mm.	°C.	m./s.
Egypt R.A.F. - - -	mb.	°F.	m.p.h.

Note.—mb = millibar. m.p.h. = miles per hour.
mm. = millimetre. km./h. = kilometres per hour.
m./s. = metres per second.

* Same units employed for upper air temperature and pressure.

VII.—TIME-TABLE.

Time G.M.T.	Country.	Details on page.	Time G.M.T.	Country.	Details on page.
0105	Great Britain (e)	- 12	0900	Germany (a)	- 33
0150	Roumania - - -	- 53	0900	Algeria, Tunis and	
0200	Great Britain (a)	- 5		Morocco (b)	- 60
0210	Poland - - -	- 51	0915	Great Britain (b)	- 8
0220	France (a)	- 23	0920	Algeria, Tunis and	
0255	Finland - - -	- 21		Morocco (c)	- 61
0300	Algeria, Tunis and		0920	Hungary - - -	- 45
	Morocco (b)	- 60	0924	Belgium (b)	- 17
0315	Algeria, Tunis and		0928	France (c)	- 28
	Morocco (c)	- 61	0930	Czecho-Slovakia -	- 18
0528	France (c)	- 28	0930	Germany (b)	- 35
0530	France (e)	- 32	0930	Italy - - -	- 45
0535	Great Britain (d)	- 10	0935	Great Britain (d)	- 10
0600	Great Britain (a)	- 5	0945	Holland (c)	- 43
0624	Belgium (b)	- 17	0945	Germany (c)	- 39
0628	France (c)	- 28	0950	France (c)	- 28
0630	Egypt - - -	- 63	0950	Great Britain (c)	- 8
0630	Latvia - - -	- 48	1000	Spain - - -	- 54
0630	France (d)	- 32	1005	Great Britain (e)	- 12
0635	Germany (c)	- 39	1024	Belgium (b)	- 17
0635	Great Britain (d)	- 10	1028	France (c)	- 28
0645	Germany (b)	- 35	1035	Great Britain (d)	- 10
0650	France (d)	- 32	1045	Holland (c)	- 43
0655	Bulgaria - - -	- 18	1050	Jugo-Slavia - - -	- 47
0705	Great Britain (e)	- 12	1050	France (c)	- 28
0715	Belgium (a)	- 16	1115	Holland (b)	- 42
0720	Jugo-Slavia - - -	- 47	1124	Belgium (b)	- 17
0724	Belgium (b)	- 17	1128	France (c)	- 28
0728	France (c)	- 28	1130	France (b)	- 26
0730	Gibraltar - - -	- 41	1135	Great Britain (d)	- 10
0730	Holland (a)	- 42	1145	Algeria, Tunis and	
0735	Denmark - - -	- 19		Morocco (d)	- 62
0735	Great Britain (d)	- 10	1150	France (d)	- 32
0740	Esthonia - - -	- 20	1200	Algeria, Tunis and	
0740	Sweden - - -	- 57		Morocco (d)	- 62
0745	Holland (c)	- 43	1224	Belgium (b)	- 17
0750	Norway (a)	- 49	1228	France (c)	- 28
0750	Roumania - - -	- 53	1235	Great Britain (d)	- 10
0750	France (c)	- 28	1245	Holland (c)	- 43
0800	Great Britain (a)	- 5	1250	France (c)	- 28
0810	Poland - - -	- 51	1305	Great Britain (e)	- 12
0820	Austria - - -	- 15	1315	Belgium (a)	- 16
0820	France (a)	- 23	1324	Belgium (b)	- 17
0824	Belgium (b)	- 17	1328	France (c)	- 28
0828	France (c)	- 28	1330	Holland (a)	- 42
0830	Great Britain (a)	- 5	1335	Denmark - - -	- 19
0835	Great Britain (d)	- 10	1335	Great Britain (d)	- 10
0845	Algeria, Tunis and		1340	Sweden - - -	- 57
	Morocco (a)	- 59	1345	Holland (c)	- 43
0845	Holland (c)	- 43	1350	Norway (a)	- 49
0850	France (c)	- 28	1350	Roumania - - -	- 53
0855	Finland - - -	- 21	1350	France (c)	- 28

Time G.M.T.	Country.	Details on page.	Time G.M.T.	Country.	Details on page.
1355	Bulgaria - - -	18	1635	Great Britain (d) -	10
1400	Great Britain (a) -	5	1650	France (c) - - -	28
1410	Poland - - -	51	1805	Great Britain (e) -	12
1420	France (a) - - -	23	1815	Belgium (a) - - -	16
1424	Belgium (b) - - -	17	1830	Holland (a) - - -	42
1428	France (c) - - -	28	1835	Denmark - - -	19
1430	Algeria, Tunis and Morocco (a) - - -	59	1840	Gibraltar - - -	41
1435	Great Britain (d) -	10	1840	Sweden - - -	57
1445	Algeria, Tunis and Morocco (b) - - -	60	1850	Norway (a) - - -	49
1450	France (c) - - -	28	1850	Roumania - - -	53
1455	Finland - - -	21	1900	Great Britain (a) -	5
1505	Holland (c) - - -	43	1910	Poland - - -	51
1520	Algeria, Tunis and Morocco (c) - - -	61	1920	France (a) - - -	23
1520	Austria - - -	15	1940	Germany (a) - - -	33
1524	Belgium (b) - - -	17	1945	Algeria, Tunis and Morocco (a) - - -	59
1528	France (c) - - -	28	1955	Finland - - -	21
1530	Czecho-Slovakia -	18	2000	Algeria, Tunis and Morocco (b) - - -	60
1530	Spain - - -	54	2000	Great Britain (b) -	8
1535	Great Britain (d) -	10	2005	Germany (b) - - -	35
1545	Jugo-Slavia - - -	47	2020	Algeria, Tunis and Morocco (c) - - -	61
1550	Germany (b) - - -	35	2020	Germany (c) - - -	39
1550	France (c) - - -	28	2030	Czecho-Slovakia -	18
1605	Great Britain (e) -	12	2030	Spain - - -	54
1605	Germany (c) - - -	39	2045	Italy - - -	45
1620	Jugo-Slavia - - -	47	2100	Esthonia - - -	20
1624	Belgium (b) - - -	17	2150	Great Britain (c) -	8
1628	France (c) - - -	28	2315	Holland (b) - - -	42

NOTE.—Reports from ships at sea [Great Britain (e) and Norway (b)] are transmitted to the shore wireless stations as soon as possible after the times of observation (0100, 0700, 1300 and 1800 G.M.T.)

