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PARTICULARS OF METEOROLOGICAL REPORTS

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I.—INTRODUCTION.

(*a*) The issues of which particulars are included in this publication are the central and local issues in Great Britain, but only the central issues in other countries. For particulars of local issues in these countries application should be made to the central meteorological institutes in the countries concerned.

(*b*) In the following pages the details of the meteorological messages transmitted by each country are arranged on a uniform plan. The first paragraph in each case contains details of the wireless transmission, *e.g.*, transmitting station, call signal, &c. The time of sending of each message is followed by the time of the observations contained in it, and by symbols indicating the nature of the information given. The meanings of the symbols are :—

S. "Surface" observations (*i.e.*, observations other than those mentioned below) from land stations.
U.W. Observations of upper wind.
U.A.T. Observations of upper air temperature and humidity.
O. Observations from ships at sea.
I. Observations of ice conditions.
F. Forecast (or "general inference").

The second paragraph gives the names of the meteorological observing stations, with their index numbers and positions. (The latter are only approximate and are not necessarily the exact co-ordinates of the meteorological stations.) This is followed in the next paragraph by an indication whether the messages are in the New International Code, the Old International Code, or a special code. If the New International Code is employed then the symbols used in the succeeding paragraphs have the standard meanings appropriate to that Code (*see* Section IV., p. 65). Similarly, if the Old International Code is in use the symbols employed in the following paragraphs have the standard meanings of Section V., p. 79. Any symbols with special meanings are explained where they occur.

The fourth paragraph treats each message individually, giving the symbolic form of the observations from a typical station (or stations). The full message consists of a collection of observations, each in this form, from the set of stations given in the second paragraph.

The fifth paragraph contains miscellaneous notes, and the final paragraph the full specification of any special codes employed in the messages.

(*c*) This issue of particulars of the messages from different countries has been brought up to date according to the information available on 31st March 1922. Amending notices will be issued from time to time as alterations are required. Purchasers of

this Edition will be informed when such notices are issued and when a new Edition is ready, if they notify the Director of the Meteorological Office of their desire to receive this information.

II.—PARTICULARS OF REPORTS ISSUED BY GREAT BRITAIN.

GREAT BRITAIN (*a*).

Synoptic Reports.

1. Transmitting Stations - - - London (Air Ministry)
Call Signal - - - - - - G.F.A.
Messages directed to - - - - C.Q.
Wave Length - - - - - 4100 m. c.w.
1400 m. c.w. at 0200 G.M.T.

Times of sending :—
0200 G.M.T. (observations at 0100 G.M.T.) S., U.W., U.A.T., O.
0600 G.M.T. (observations at 0100 S., U.W., U.A.T., O.
0800 G.M.T. (observations at 0700 G.M.T.) S., U.W., U.A.T., O.
1400 G.M.T. (observations at 1300 G.M.T.) S., U.W., U.A.T., O.
1900 G.M.T. (observations at 1800 G.M.T.) S. U.W., U.A.T., O.

Special issue :—
0830 G.M.T. (observations at 0700 G.M.T.) S., U.W., U.A.T., O.

2—*Stations :—* *

Index.	Name.	Latitude.	Longitude.	Height above M.S.L. in feet.
01	LERWICK (C) -	60° 09′ N.	01° 08′ W.	54
02	Orkney (C) - -	58° 56′ N.	03° 11′ W.	500
03	STORNOWAY (C) -	58° 11′ N.	06° 22′ W.	51
04	Wick (C) - -	58° 27′ N.	03° 06′ W.	81
05	Castlebay (C) - -	56° 57′ N.	07° 29′ W.	37
06	Nairn (L) - -	57° 36′ N.	03° 52′ W.	82
07	ABERDEEN (C) -	57° 10′ N.	02° 06′ W.	46
09	Leuchars (L) - -	56° 23′ N.	02° 53′ W.	20
10	MALIN HEAD (C)	55° 23′ N.	07° 24′ W.	72
11	RENFREW (L) -	55° 52′ N.	04° 24′ W.	40
12	INCHKEITH (C) -	56° 02′ N.	03° 08′ W.	190

C = Coastal Station. L = Inland Station.

* From July 1st, 1922, Iceland reports will also be included in this issue.

2. *Stations*—continued.

Index.	Name.	Latitude.	Longitude.	Height above M.S.L. in feet.
13	Eskdalemuir (L) -	55° 19′ N.	03° 12′ W.	794
15	TYNEMOUTH (C)	55° 01′ N.	01° 25′ W.	71
20	BLACKSOD POINT (C)	54° 06′ N.	10° 04′ W.	327
22	Donaghadee (C) -	54° 38′ N.	05° 32′ W.	37
25	Flamborough (C) -	54° 07′ N.	00° 05′ W.	190
31	Birr Castle (L) -	53° 06′ N.	07° 56′ W.	175
32	Baldonnell (L) -	53° 18′ N.	06° 26′ W.	280
33	HOLYHEAD (C) -	53° 18′ N.	04° 39′ W.	15
34	Liverpool (C) - -	53° 24′ N.	03° 04′ W.	188
35	Shotwick (L) - -	53° 14′ N.	03° 00′ W.	16
36	Manchester (L) -	53° 26′ N.	02° 13′ W.	98
38	Spurn Head (C) -	53° 34′ N.	00° 07′ E.	26
42	Castle Bromwich (L)	52° 31′ N.	01° 48′ W.	270
43	Nottingham (L) -	52° 56′ N.	01° 09′ W.	82
44	CRANWELL (L) -	53° 02′ N.	00° 31′ W.	256
45	YARMOUTH (C) -	52° 35′ N.	01° 43′ E.	10
46	Pulham (L) - -	52° 24′ N.	01° 14′ E.	125
47	Felixstowe (C) -	51° 36′ N.	01° 20′ E.	21
50	VALENCIA (C) -	51° 56′ N.	10° 15′ W.	30
51	Roche's Point (C) -	51° 47′ N.	08° 15′ W.	32
52	PEMBROKE (C) -	51° 41′ N.	05° 11′ W.	149
54	ROSS-ON-WYE (L)	51° 54′ N.	02° 34′ W.	202
55	Benson (L) - -	51° 37′ N.	01° 07′ W.	186
56	Larkhill (L) - -	51° 11′ N.	01° 48′ W.	470
57	Andover (L) - -	51° 12′ N.	01° 31′ W.	250
58	Farnborough (L) -	51° 15′ N.	00° 45′ W.	234
60	Kew (L) - - -	51° 28′ N.	00° 19′ W.	18
61	CROYDON (L) -	51° 21′ N.	00° 07′ W.	242
62	Biggin Hill (L) -	51° 19′ N.	00° 03′ E.	610
63	Clacton (C) - -	51° 47′ N.	01° 09′ E.	54
64	Shoeburyness (C) -	51° 32′ N.	00° 47′ E.	11
65	Grain (C) - -	51° 27′ N.	00° 43′ E.	7
66	Lympne (L) - -	51° 05′ N.	01° 01′ E.	340
70	SCILLY (C) - -	49° 56′ N.	06° 18′ W.	131
71	Falmouth (Pendennis) (C)	50° 09′ N.	05° 03′ W.	238
72	Plymouth (C) - -	50° 22′ N.	04° 08′ W.	147
73	Portland (C) - -	50° 32′ N.	02° 27′ W.	19
74	CALSHOT (C) -	50° 49′ N.	01° 18′ W.	12
75	Beachy Head (C) -	50° 44′ N.	00° 15′ E.	525
76	Dungeness (C) -	50° 55′ N.	00° 58′ E.	21
77	GUERNSEY (C) -	49° 26′ N.	02° 33′ W.	318
78	JERSEY (C) - -	49° 12′ N.	02° 11′ W.	25

C = Coastal Station. L = Inland Station.

3. *Code.*—New International. [*See* page 65 (Code of Nov. 1920 introduced March 1st, 1921, amendments of Sept. 1921 introduced Jan. 1st, 1922).]

(Ship observations are in the form adopted at the meeting of the International Commission for Weather Telegraphy, November, 1920, and not in the modified form recommended at the meeting in September, 1921.)

4. *Form of Individual Messages.*

0200 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh C_1ddVV.

Part II. preceded by word "Pilot." Upper winds :—I_nI_n $h_1$ddvv &c.

Part III. preceded by word "Temp." Upper air temperatures and humidities :—I_nI_n ddtt BBTTH &c., where dd is the day of the month and tt the hour of the day G.M.T.

Part IV. preceded by word "Ships." Ship reports from the Atlantic :—QLLLx_1 llllx_2 BBDDx_3 FvKdx_4 wwGGx_5 TTttx_6 CNWrx_7 $y_1y_2y_3y_4$z, where llll is the longitude in degrees and tenths and the remaining symbols have the standard meanings.

0600 Message.—Repetition of the 0200 message (revised and completed if further information available).

0800 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr C_1ddVV.

Parts II., III., IV.—Same form as 0200 message.

0830 Message.—Repetition of 0800 message.

1400 Message.—Same form as 0200 message.

1900 Message.—Same form as 0800 message. (Note, however, variation in meaning of jj, *see* p. 67.)

5. *Note.*

(1) For units, *see* p. 82.

(2) Stations regularly included are printed in capital letters in the list above. If a regular station should be missing on any occasion a neighbouring station is inserted if available. Guernsey is only included at 0100 and 1300 G.M.T. and Jersey at 0700 and 1800 G.M.T.

(3) Nephoscope observations (group C_1ddVV) of medium or high cloud do not always refer to the station to which the cloud group is assigned in the synoptic message, but may have been made at a neighbouring station, not included in the message, if no nephoscope observations are available from the synoptic station itself. Nephoscope groups are usually not given for more than 6 or 8 stations, which are

normally sufficient to give a representation of the upper cloud motion over the British Isles.

(4) Reports received too late for inclusion in the 0800 and 1400 messages are added to the 0835 and 1435 G.M.T. hourly route messages (*see* p. 11).

1000 G.M.T. observations from Valencia, Plymouth and Calshot, 0700 G.M.T. observations from the Azores and additional ship reports are also added to the hourly route messages (*q.v.*).

(5) At British Stations, for reports at the standard hours (0100, 0700, 1300 or 1800 G.M.T.), the figure W (past weather) always refers to the preceding period of 5, 6 or 7 hours since the last standard hour.

For reports at other hours W refers to the period since the preceding report or the preceding standard hour, whichever is shorter. In the case of present weather (ww), code figures 05 to 09 and 15 to 19, the period of past weather is the last hour.

GREAT BRITAIN (*b*).

General Inference.*

1. Transmitting station - London (Air Ministry).
   Call Signal - - - G.F.A.
   Messages directed to - C.Q.
   Wave Length - - - 1400 m. c.w.
   Times of Sending—
   0915 G.M.T. (based on observations at 0700 G.M.T.) F.
   2000 G.M.T. (based on observations at 1800 G.M.T.) F.

2. *Form of Message.*—" General Inference " in plain language.

   Example :—Pressure has again become high over Iceland, and a deep depression over the Skagerak region is increasing in intensity. The resultant North-westerly to Northerly wind current over the British Isles will maintain rather cold weather with local showers and variable skies during the next day or two.

GREAT BRITAIN (*c*).

Western Seaboard Reports for Mariners.

1. Transmitting Station - Clifden.
   Call Signal - - - M.F.T.
   Messages directed to - C.Q.
   Wave Length - - - 5750 m. spk.
   Times of Sending—
   0950 G.M.T. (observations at 0700 G.M.T.) F., S.
   2150 G.M.T. (observations at 1800 G.M.T.) F., S.

* The first transmission of this report is made at ten words a minute for the benefit of amateurs.

2. *Stations.*

Name.	Latitude.	Longitude.	Height of station above M.S.L. in feet.
Stornoway - -	58° 11′ N.	06° 22′ W.	51
Blacksod Point -	54° 06′ N.	10° 04′ W.	327
Holyhead - -	53° 18′ N.	04° 39′ W.	15
Scilly - - -	49° 58′ N.	06° 18′ W.	131
Dungeness - -	50° 55′ N.	00° 58′ E.	21

3. *Code.*

   Observations in special code.
   Forecast in plain language.

4. *Form of Individual Messages.*—Messages commence with word " Western."

   0950, *2150* } *Messages.*

   Part I.—Statement of general meteorological situation and forecast for 24 hours for the Western Seaboard of the British Isles. *Example :*—Deep depression Iceland moving East, forecast wind west to north-west, strong or gale, hail showers.

   Part II.—Observations at above stations in the form :—

   $B_1B_1d_1F_1v_1$ $B_2B_2d_2F_2v_2$ $B_3B_3d_3F_3v_3$ $B_4B_4d_4F_4v_4$ $B_5B_5d_5F_5v_5$ $K_1'K_2'K_3'K_4'K_5'$ where of the first five groups, the first refers to Stornoway, the second to Blacksod Point, the third to Holyhead, the fourth to Scilly and the fifth to Dungeness, while of the figures of the last group the first (K_1'), refers to Stornoway, the second (K_2') to Blacksod, and so on.

   Here :—

   BB is the corrected barometer in millibars to the nearest whole millibar, the initial figure 9 or 10 being omitted.

   d is the direction of the wind on scale (0–8) : 0 = calm, 1 = N.E., 2 = E., &c., 7 = N.W., 8 = N.

   F is the wind force on Beaufort scale.

   v is visibility in New International Code for ships at sea (p. 75).

   And K′ is barometric tendency in New International Code (p. 74).

5. *Note.*—In the case of missing observations a hyphen is inserted in the place of each missing figure.

GREAT BRITAIN (*d*).

HOURLY REPORTS (LONDON–CONTINENTAL AERIAL ROUTES).

1. Transmitting Station - London (Air Ministry).
   Call Signal - - - G.F.A.
   Messages directed to - Z.M., B.A.V. and S.T.B.
   Wave Length - - - 1680 m. c.w.
   Times of Sending—

   0535 G.M.T. (observations at 0500 G.M.T.) S.
   0635 G.M.T. (observations at 0600 G.M.T.) S.
   0735 G.M.T. (observations at 0700 G.M.T.) S., U.W.
   0835 G.M.T. (observations at 0800 G.M.T.) S., F.
   0935 G.M.T. (observations at 0900 G.M.T.) S., U.W.
   1035 G.M.T. (observations at 1000 G.M.T.) S.
   1135 G.M.T. (observations at 1100 G.M.T.) S., U.W., F.
   1235 G.M.T. (observations at 1200 G.M.T.) S.
   1335 G.M.T. (observations at 1300 G.M.T.) S., U.W.
   1435 G.M.T. (observations at 1400 G.M.T.) S., F.
   1535 G.M.T. (observations at 1500 G.M.T.) S.
   1635 G.M.T. (observations at 1600 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Height above M.S.L. in feet.
61	Croydon (L)	51° 21′ N.	00° 07′ W.	242
62	Biggin Hill (L)	51° 19′ N.	00° 03′ E.	610
66	Lympne (L)	51° 05′ N.	01° 01′ E.	340
75	Beachy Head (C)	50° 44′ N.	00° 15′ E.	525
76	Dungeness (C)	50° 55′ N.	00° 58′ E.	21

3. *Code.*

   New International.* [*See* page 65 (Code of Nov. 1920 introduced March 1st, 1921, code of Sept. 1921 introduced Jan. 1st, 1922).]
   Forecasts in plain language.†

4. *Form of Individual Messages.*—Messages commence with word "Meteor," followed by a four-figure group indicating the time G.M.T. at which the observations were made, *e.g.*, 1400 (= 2 p.m.).

   0535 Message.
   Part I.—Stations 61, 62, 66.—$I_n\ I_n$ (V_s) wwVhL NDDFW.
   Part II. preceded by letters CDN. :—observations at Croydon five minutes before time of transmission of message. Form :—wwVhL.

   0635 Message.—Same form as 0535 message.

* Index group I_nI_n is preceded by figure x where x is units digit in sum of figures wwVhL (from June 15th, 1922).
† In code of M.O. 244 (from June 15th, 1922).

0735 Message.
Part I.—Stations 61 and 66.—$I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh C_addF_1S.
Stations 62 and 75.—$I_nI_n(V_s)$ wwVhL NDDFW C_addF_1S.
Part II.—Station 61 or 66.—Upper winds :—I_nI_n 49tt h_1ddvv &c., where tt is the hour (G.M.T.) of the pilot-balloon ascent.
Part III.—Same form as Part II. of 0535 message.

0835 Message.
Part I.—Stations 61, 62, 66.—$I_nI_n(V_s)$ wwVhL NDDFW.
Part II.—Reports received too late for inclusion in the general synoptic message issued from Air Ministry at 0800 G.M.T. (for code *see* p. 7).
Part III.—Preceded by word "Forecast." Plain language forecast for S.E. England for period of daylight following the time of issue.
Part IV.—Same form as Part II. of 0535 message.

0935 Message.
Part I.—Stations 61, 62, 66, 75—$I_nI_n(V_s)$ wwVhL NDDFW. Station 76—$I_nI_nV_s$.
Part II.—Same form as Part II. of 0735 message. Only included if no pilot balloon ascent was available for the 0735 message and one has become available since.
Part III.—Same form as Part II. of 0535 message.

1035 Message.
Part I.—Stations 61, 62, 66, as in Part I. of 0735 message.
Part II.—Observations at 1000 G.M.T. from stations 50 (Valencia), 72 (Plymouth), and 74 (Calshot), in the form :—I_nI_n BBBDD FwwTT cbWVH ALaNh.
Part III.—Same form as Part II. of 0535 message.

1135 Message.
Part I.—Same form as Part I. of 0935 message, but station 76 omitted.
Part II.—Same form as Part II. of 0735 message.
Part III.—Same form as Part III. of 0835 message.
Part IV.—Same form as Part II. of 0535 message.

1235 Message.—Same form as Part I. of 0935 message and Part II. of 0535 message.

1335 Message.—Same form as 0735 message.

1435 Message.
Parts I. and III. same form as Parts I. and III. of 0835 message.
Part II.—Reports received too late for inclusion in the general synoptic message issued from Air Ministry at 1400 G.M.T. (for code *see* p. 7).
Part IV.—Same form as Part II. of 0535 message.

1535 Message.—Same form as Part I. of 0935 message and Part II. of 0535 message.

1635 Message.

Part I.—Stations 61, 62, 66, as in Part I. of 0735 message.

Part II.—Same form as Part II. of 0535 message.

5. *Note.*

(1) For units *see* p. 82.

(2) Observations at 0800 G.M.T. from the Azores are added to the first route report sent after the reception of the observations at the Meteorological Office, London.

Stations.

Name.	Index.	Latitude.	Longitude.
Horta - -	"Horta" -	38° 32′ N.	28° 39′ W.
Ponta Delgada	"P.D." -	37° 40′ N.	25° 32′ W.

Code.—New International (modified form) BBBDD Fwwmm cbWVH CNRRS. Pressure is in millibars and minimum temperature in degrees F.

(3) Reports from ships at sea are added to the next hourly route report issued after their reception in the Meteorological Office, London. Code as in general synoptic issue (p. 7).

(4) The word "botley" when it occurs in a message is followed by a statement in plain language of the conditions on the North Downs (Botley Hill) as viewed from Biggin Hill, when such a statement adds material information to that contained in the rest of the message.

GREAT BRITAIN (*e*).

Reports to the Meteorological Office from individual Stations and Ships at Sea.

A. From Land Stations.

1. *Stations.*

Station.	Call Signal.	Wave Length.	Times of Sending.	Times of Observation.
Cranwell (L) -	G.F.C.	1300 m. c.w.		
Leuchars (L) -	G.F.D.	,,		
Grain (C) -	G.F.G.	,,	0705 G.M.T.	0700 G.M.T.
Calshot (C) -	G.F.L.	,,	1305 ,,	1300 ,,
Plymouth (C)	G.F.M.	,,	1805 ,,	1800 ,,
Shotwick (L)	G.F.O.	,,		
Renfrew (L) -	G.E.R.	,,		
Plymouth (C)	G.F.M.	,,		
Calshot (C) -	G.F.L.	,,	1005 ,,	1000 ,,
Shotwick (L) -	G.F.O.	,,	1005 ,,	1000 ,,
Renfrew (L) -	G.E.R.	,,	1605 ,,	1600 ,,

(For position of stations *see* p. 5.)

All the above stations employ small power for this particular work. The transmissions are varied according to circumstances without previous warning. The stations transmit in rotation at approximately the times mentioned above.

2. *Code.*—New International (slightly modified for National use).

3. *Form of Individual Messages.*

0105 Message.—As 1305 message.

0705 Message.

Part I.—Inland stations.—BBBDD FwwTT cbWVH ALaNh RRmmr neph C_1ddVV SSSm_gm_g $x'_1x'_2x'_3x'_4x'_5$ $x'_6x'_7z'$ – – $y'_1y'_2y'_3y'_4y'_5$.

Coastal Stations.—BBBDD FwwTT cbWVH ALaNh RRSV_sr neph C_1ddVV SSSm_gm_g MMmm– $x'_1x'_2x'_3x'_4x'_5$ $x'_6x'_7x'_8z'$ – $y'_1y'_2y'_3y'_4y'_5$,

where SSS = duration of bright sunshine on the previous day in hours and tenths,

and m_gm_g = minimum temperature on grass during preceding night in whole degrees F.

Part II. preceded by index group 49867 (and sometimes also by word "pilot"). Upper winds in form :— $h_2d_1d_1vv$ $h_2d_1d_1vv$ &c. (*see* § 5 below).

1005, *1305*, *1605* *Messages.*

Part I.—BBBDD FwwTT cbWVH ALaNh neph C_1ddVV $x'_1x'_2x'_3x'_4x'_5$ z'– – – – $y'_1y'_2y'_3y'_4y'_5$.

Part II.—as Part II. of 0705 message.

1805 Message.

Part I.—BBBDD FwwTT cbWVH ALaNh RRjjr neph C_1ddVV $x'_1x'_2x'_3x'_4x'_5$ x'_6z'– – – – $y'_1y'_2y'_3y'_4y'_5$.

Part II.—as Part II. of 0705 message.

4. *Note.*

(1) For units *see* p. 82.

(2) A message may be preceded by Beaufort letters amplifying the past weather figure (W) in the message and referring to the same period (for definition of period *see* p. 8, § 5, note (5)). The message may also be followed by Beaufort letters indicating the weather during the period previous to this.

The letter a, n or i preceding a Beaufort letter, qualifies it as follows :—

a = "heavy."
n = "light."
i = "intermittent."

Repetition of a Beaufort letter indicates "continuous."

The letter j is added to the list of Beaufort letters to indicate "precipitation within sight."

(3) The check figure groups $x'_1x'_2x'_3x'_4x'_5$ &c. refer to all the five figure groups preceding them in the message. x'_1 is obtained by adding the figures of the first group and retaining the units figure, x'_2 from the second group, and so on. y'_1 is obtained by adding the first figure of all the groups and retaining the units figure, y'_2 from the second figure of all the groups, and so on. z' is the sum of all the "x'" check figures (or all the "y'" check figures). The "x'" check figures and "z'" are arranged, as indicated in §3 above, in groups of 5 figures, hyphens being used to complete the last group if necessary.

(4) *Line squall* information may be added to a routine message or sent as a special message at other times. The following code is employed—

LQ hhmm ttbde gust vv,

where LQ are index letters indicating "Line squall."
hhmm is time of occurence (hours and minutes) G.M.T.
tt is fall of temperature in °F;
b is rise of barometer in half-millibars;
d is veer of wind in points;
e is extreme wind force (Beaufort);
vv is extreme gust velocity (m.p.h.) from anemograph record if available.

(5) The word "neph" in a message indicates that a group containing nephoscope observations follows. When no such observations are available the word "neph" and the group C_1ddVV are omitted entirely.

5. *Special Codes.—Upper Winds.*

The wind at each height is expressed by a group of the form $h_2d_1d_1vv$ where :—

h_2 indicates the height in thousands of feet, thus 0 = surface, 1 = 1000 feet, 2 = 2000 feet, &c. If the record extends above 9000 feet, further groups are added in which 0 = 10,000 feet, 1 = 11,000 feet, &c.

d_1d_1 is wind direction on scale 0 — 72 (degrees from North, through East, divided by 5 and rounded off to nearest to whole number).

vv is wind speed in miles per hour.

B. From Ships at Sea.

Ships transmit their reports to the Post Office shore station at Devizes (call sign G.K.U.) on a wave length of 2100 m.cw. The observations are made at 0100, 0700, 1300 and 1800 G.M.T., and are transmitted by ships as soon after these times as possible. Code as in British synoptic reports (p. 7).

GREAT BRITAIN (*f*).

GALE WARNINGS.

Gale warnings, issued by the Meteorological Office, are broadcasted from certain wireless stations on a wave length of 600 m. spark. They are preceded by the International Safety Signal (TTT) and are repeated three times at intervals of ten minutes. Should the warning be sent during the period when one operator ships are not keeping watch the procedure is repeated at the commencement of the next single operator watch.

The transmitting stations are the following :—

Malin Head Radio	Wick Radio.
Valencia Radio	Cullercoats Radio (Newcastle).
Seaforth Radio (Liverpool)	Niton Radio (I. of W.).
Fishguard Radio	Land's End Radio.
Portpatrick Radio.	

Example of such a warning :—"Gale warning. S.W. gale expected up to about noon Sunday, between Plymouth and Clacton."

III.—PARTICULARS OF REPORTS ISSUED BY OTHER COUNTRIES : EUROPE.

AUSTRIA.

1. Transmitting Station - Deutsch Altenberg (near Vienna).
Call Signal - - - O.H.L.
Message directed to - - C.Q.
Wave length - - - 5600 m. c.w.
(3500 m. spk. in case of breakdown of main plant.)

Times of Sending :—

0820 G.M.T. (observations at 2000 and 0600 G.M.T.) S.
1520 G.M.T. (observations at 1300 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Vienna - - - -	48° 12′ N.	16° 23′ E.
02	Sonnblick (3106 m.) -	47° 03′ N.	12° 57′ E.
03	Feldkirch - - -	47° 13′ N.	09° 36′ E.
04	Innsbruck - - -	47° 17′ N.	11° 24′ E.
05	Salzburg - - - -	47° 48′ N.	13° 03′ E.
06	Linz - - - -	48° 17′ N.	14° 18′ E.
07	Grätz - - - -	49° 52′ N.	17° 54′ E.
08	Klagenfurt - - -	46° 37′ N.	14° 19′ E.
09	Obir (2041 m.) - -	46° 30′ N.	14° 29′ E.

3. *Code.*—Old International.

4. *Form of Individual Messages.*—Messages commence with words "Météo Wien."

0820 Message.—I_nI_n BBBDD FWTTC BBBDD FWTTC βbbRR MMmm, where the first two groups refer to 2000 G.M.T. of the previous day.

1520 Message.—I_nI_n BBBDD FWTTC.

5. *Note.*

(1) For units *see* p. 82.

(2) In the case of the high level stations (Sonnblick 3106 m. and Obir 2041 m.) barometric pressure is not reduced to sea level. In the case of Sonnblick the pressure will normally lie between 475 and 540 mm. and in the case of Obir between 555 and 618 mm.

BELGIUM (*a*).

1. Transmitting Station - Brussels.
Call Signal - - - H.S.
Messages directed to - C.Q.
Wave Length - - - 1400 m. c.w.
Times of Sending :—

0715 G.M.T. (observations at 0700 G.M.T.) S., U.W.
1315 G.M.T. (observations at 1300 G.M.T.) S., U.W.
1815 G.M.T. (observations at 1800 G.M.T.) S., U.W.

2. *Station.*—Brussels. Lat. 50° 51′ N.; Long. 04° 22′ E.

3. *Code.*—New International. [*See* page 65 (Code of Nov. 1920 introduced July 6th, 1921, amendments of Sept. 1921 introduced Jan. 1st, 1922).]

4. *Form of Individual Messages.*—Messages commence with words "Météo Belgique."

0715 Message.—BBBDD FwwTT cbWVH ALaNh RRmmr pilot h_1 ddvv, &c.

1315 Message.—BBBDD FwwTT cbWVH ALaNh pilot h_1 ddvv, &c.

1815 Message.—BBBDD FwwTT cbWVH ALaNh RRMMr pilot h_1 ddvv, &c.

5. *Note.*—For units *see* p. 82.

BELGIUM (*b*).

Special Reports for Aerial Routes.

1. Transmitting Station - Brussels.
Call Signal - - - H.S. or B.A.V.
Messages directed to - C.Q.
Wave Length - - - 1680 m. c.w.

Times of Sending :—

0624 G.M.T. (observations at 0600 G.M.T.) S.
0724 G.M.T. (observations at 0700 G.M.T.) S., U.W.
0824 G.M.T. (observations at 0800 G.M.T.) S.
0924 G.M.T. (observations at 0900 G.M.T.) S.
1024 G.M.T. (observations at 1000 G.M.T.) S.
1124 G.M.T. (observations at 1100 G.M.T.) S.
1224 G.M.T. (observations at 1200 G.M.T.) S.
1324 G.M.T. (observations at 1300 G.M.T.) S., U.W.
1424 G.M.T. (observations at 1400 G.M.T.) S.
1524 G.M.T. (observations at 1500 G.M.T.) S.
1624 G.M.T. (observations at 1600 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Brussels - - -	50° 51′ N.	04° 22′ E.
02	Ostend - - -	51° 14′ N.	02° 56′ E.

3. *Code.*—New International (for hourly reports). [*See* page 65 (Code of Nov. 1920 introduced July 6th, 1921, code of Sept. 1921 introduced Jan. 1st, 1922).]

4. *Form of Individual Messages.*—Messages commence with words "Avis pour Aviation" followed by time of observation G.M.T.

0624 Message.—$I_nI_n(V_s)$ wwVhL NDDFW.

0724 Message.
Part I. $I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh $C_a$ddF$_1$S.
Part II. preceded by word "pilot." Upper winds at station 01 :—h_1 ddvv &c.

0824 Message.—As 0624 message.

0924 Message.—As 0624 message.

1024 Message.—As 0724 message.

1124 Message.—As 0624 message.

1224 Message.—As 0624 message.

1324 Message.—As 0724 message.

1424 Message.—As 0624 message.

1524 Message.—As 0624 message.

1624 Message.—As 0724 message.

5. *Note.*

(1) For units *see* p 82.

(2) Reports from Ostend are only transmitted two or three times daily.

BULGARIA.

1. Transmitting Station - Sofia.
Call Signal - - - F.F.
Message directed to - C.Q.
Wave Length - - - 3500 m. spk.
Times of Sending - - 0655 G.M.T. (observations at 0530 G.M.T.) S.
1355 G.M.T. (observations at 1230 G.M.T.) S.

2. *Station.*—Name, Sofia; latitude, 42° 45′ N.; longitude, 23° 15′ E.

3. *Code.*—Old International.

4. *Form of Individual Messages.*

0655 Message.—Preceded by group 0530. Observations at 0700 *local time* (about 0530 G.M.T.). BBBDD FWTTC βbbRR MMmm.

1355 Message.—Preceded by group 1230. Observations at 1400 *local time* (about 1230 G.M.T.) BBBDD FWTT βbb.

5. *Note.*—For units *see* p. 82.

CZECHO-SLOVAKIA.

1. Transmitting Station - Prague.
Call Signal - - - P.R.G.
Message directed to - - C.Q.
Wave Length - - - 4500 m. c.w.
Times of Sending :—

0930 G.M.T. (observations at 0700 G.M.T.) S., U.W.
1530 G.M.T. (observations at about 1300 G.M.T.) S.
2030 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Prague* - - -	50° 04′ N.	14° 28′ E.
05	Cheb - - - -	50° 05′ N.	12° 23′ E.
06	Milesovka (840 m.) -	50° 33′ N.	13° 56′ E.
23	Stara Dala* - -	47° 53′ N.	18° 11′ E.
25	Kosice - - - -	48° 43′ N.	21° 16′ E.
32	Olomouc - - -	49° 35′ N.	17° 15′ E.
34	Nitra - - - -	48° 18′ N.	18° 05′ E.

* Observatories.

3. *Code.*—New International. [*See* page 65.]

4. *Form of Individual Messages.*—Messages commence with words "Météo Tchecoslovaque."

0930 Message.

Part I.—Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRmmr C_1ddVV.
Stations 05 to 32.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRmmr

Part II.—Preceded by word "Sondages." Upper winds from stations 01, 05, 34.—I_nI_n $h_1$ddvv &c.

1530 Message.

Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh C_1ddVV.
Stations 05 to 32.—I_nI_n BBBDD FwwTT cbWVH ALaNh.

2030 Message.

Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRMMr C_1ddVV.
Stations 05 to 32. I_nI_n BBBDD FwwTT cbWVH ALaNh RRMMr.

5. *Note.*—(1) For units *see* p. 82.

DENMARK.

1. Transmitting Station - Lyngby (near Copenhagen).
Call Signal - - - O.X.E.
Messages directed to - -C.Q.
Wave Length - - - 3650 m. c.w.
Times of Sending :—

0735 G.M.T. (observations at 0700 G.M.T.) S.
1335 G.M.T. (observations at 1300 G.M.T.) S.
1835 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Copenhagen - - -	55° 40′ N.	12° 35′ E.
02	Skagen - - -	57° 45′ N.	10° 38′ E.
03	Hanstholm - - -	57° 05′ N.	08° 35′ E.
04	Blaavands Huk - -	55° 33′ N.	08° 04′ E.
05	Hammeren - - -	55° 19′ N.	14° 48′ E.

3. *Code.*—Old International.

4. *Form of Individual Messages.*—Messages commence with words "Meteo Danois."

0735 Message.—I_nI_n BBBDD FWTTC βbbRR MMmmu.

1335 Message.—I_nI_n BBBDD FWTTC βbb.

1835 Message.—I_nI_n BBBDD FWTTW′ βbb.

5. *Note.*

(1) For units *see* p. 82.
(2) Sea disturbance (*u*) is not reported in the case of Copenhagen. A figure 9 in this case means no report.
(3) Observations omitted from one message are transmitted at the beginning of the next. In this case the time of observation is indicated by appending the hour of the observation to the index number of the station.

ESTHONIA.

1. Transmitting Station - Reval.
Call Signal - - - E.L.N.
Message directed to - - C.Q.
Wave Length - - - 2000 m. spk.

Times of Sending :—
0740 G.M.T. (observations at 0700 *local time*) S.; I.
2100 G.M.T. (observations at 1300 and 2100 *local time*) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
1	Reval - - - -	59° 26′ N.	24° 49′ E.
2	Dorpot - - -	58° 23′ N.	26° 43′ E.
3	Filsand - - -	58° 23′ N.	21° 50′ E.
4	Hungerburg - -	59° 22′ N.	28° 10′ E.

Stations for Ice Reports.

Name.	Latitude.	Longitude.
Zerel - - - -	57° 55′ N.	22° 04′ E.
Filsand - - -	58° 23′ N.	21° 50′ E.
Dagerort - - -	58° 56′ N.	22° 04′ E.
Kynö - - -	58° 06′ N.	23° 58′ E.
Werder - - -	58° 34′ N.	23° 30′ E.
Worms - - -	59° 02′ N.	23° 08′ E.
Paperort - - -	59° 23′ N.	24° 03′ E.
Reval - - -	59° 26′ N.	24° 49′ E.
Stenskär - - -	59° 49′ N.	26° 23′ E.

3. *Code.*

Old International (modified).
Ice reports in special code.

4. *Form of Individual Messages.*

0740 Message.

Part I.—I_n BBBDD FWTTW″ b′b′b′RR MMmm where W″ is past weather in same code as in Nauen messages (p. 34) and b′b′b′ is barometric tendency in special code below (§ 6).

Part II.—Information as to ice conditions at above stations, in order, in same code as in Nauen messages (pp. 34, 35).

2100 Message.

Part I.—Observations at 1300 *Local Time*.—I_n BBBDD FWTTW′.

Part II.—Observations at 2100 *Local Time*.—I_n BBBDD FWTTW′.

5. *Note.*

(1) For units *see* p. 82.
(2) Missing observations are replaced by the letter " x."

6. *Special Codes.*

Barometric Tendency (b′b′b′).

Three figures indicating the change of barometric pressure in tenths of mm. during the three hours preceding the time of observation. A falling barometer is indicated by the addition of 500 to this number.

FINLAND.

1. Transmitting Station - Sandhamn.
Call Signal - - - O.J.A.
Message directed to - - C.Q.
Wave Length - - - 4500 m. spk.

Times of Sending :—
0255 G.M.T. (observations at 0100 G.M.T.) S.
0855 G.M.T. (observations at 0700 G.M.T.) S.
1455 G.M.T. (observations at 1300 G.M.T.) S.; I.
1955 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Helsingfors (C) -	60° 08′ N.	25° 01′ E.
02	Sortavala (L) -	61° 41′ N.	30° 41′ E.
03	Vasa (C) - -	63° 06′ N.	21° 33′ E.
04	Kuopio (L) - -	62° 53′ N.	27° 36′ E.
05	Sodankylä (L) -	67° 24′ N.	26° 36′ E.

Regions to which Ice Reports refer :—

1st Group.	1. From the sea to Trangsund (Viborg).
	2. From the sea to Kotka.
	3. From the sea to Helsingfors past Grahara.
2nd Group.	4. Round Porkala light-house.
	5. From the sea to Hangö.
	6. Hangö—Lövskär fairway (near Abo).
3rd Group.	7. Abo—Lövskär fairway.
	8. Lövskär fairway past Lohm and Utö.
	9. Lövskär—Ledsund fairway (Aland).

4th Group. 10. From the sea to Mariehamn.
11. From the sea to Raumo.
12. From the sea to Mantyluoto (Björneberg).

5th Group. 13. District off Vasa.
14. From the sea to Jakobstad.
15. From the sea to Teppila (Uleaborg).

3. *Code.*

New International. [*See* page 65.]
Ice reports in special code.

4. *Form of Individual Messages.*—Messages commence with words "Météo Finland."

0255 Message. Helsingfors only.—BBBDD FwwTT cbWVH ALaNh.

0855 Message.

I_nI_n. BBBDD FwwTT cbWVH ALaNh RRjjr.

1455 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh.

Part II.—$J_1K_1J_1K_1J_1K_1$ $J_1K_1J_1K_1J_1K_1$ $J_1K_1J_1K_1J_1K_1$ $J_1K_1J_1K_1J_1K_1$ $J_1K_1J_1K_1J_1K_1$ where J_1 represents ice conditions and K_1 their effect on navigation (in special codes below, § 6) for the fifteen regions in order in the list above.

1955 Message.—BBBDD FwwTT cbWVH ALaNh RRjjr.

5. *Note.*

(1) For units *see* p. 82.

6. *Special Codes.*

State of Ice (J_1).

0. Free from ice.
1. Brash ice.
2. Drift ice in places.
3. Firm, level or almost level sheet of ice, open water visible seawards.
4. Heavy broken ice or thin drift ice.
5. Heavy drift ice, open water visible seawards.
6. Firm, level or almost level sheet of ice as far as the eye can reach.
7. Heavy ice, in places pack ice, open water visible beyond.
8. Heavy drift ice as far as the eye can reach.

9. Heavy ice, in places pack ice, as far as the eye can reach.
x No report.

Effect of State of Ice on Navigation (K_1).

0. Navigation unhindered.
1. Sea-mist, fog, driving snow.
2. Navigation for sailing vessels difficult.
3. Navigation difficult, for sailing vessels only possible with aid of tugs.
4. Navigation very difficult, closed for sailing vessels.
5. Navigation possible only for steamers built for travelling through ice.
6. Navigation possible only with the help of ice-breakers.
7. Navigation held up.
8. Fairway kept open by ice-breakers.
9. Closed to navigation.
x No report.

FRANCE (*a*).

1. Transmitting Station - Paris (Eiffel Tower).
Call Signal - - - F.L.
Messages directed to - C.Q.
Wave Length - - - 2600 m. spk. (6500 m. cw. in case of break-down of usual plant.)

Times of Sending :—

0220 G.M.T. (observations at 0100 G.M.T.) S., U.W., F., O.
0820 G.M.T. (observations at 0700 G.M.T.) S., U.W., O.
1420 G.M.T. (observations at 1300 G.M.T.) S., U.W., O.
1920 G.M.T. (observations at 1800 G.M.T.) S., U.W., O.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Rochefort - -	45° 56′ N.	00° 57′ W.
02	Bayonne - - -	43° 31′ N.	01° 26′ W.
03	Bordeaux - - -	44° 50′ N.	00° 31′ W.
04	Brussels - - -	50° 51′ N.	04° 22′ E.
07	Dijon - - -	47° 21′ N.	05° 02′ E.
08	St. Inglevert - -	50° 57′ N.	01° 50′ E.
09	Limoges - - -	45° 52′ N.	01° 17′ E.
10	Lyon - - -	45° 45′ N.	04° 49′ E.
11	St. Mathieu - -	48° 21′ N.	04° 43′ W.
13	Mayence - - -	50° 00′ N.	08° 16′ E.
14	Montpellier - -	43° 36′ N.	03° 54′ E.
15	Paris (Le Bourget) -	48° 56′ N.	02° 23′ E.
18	Rennes - - -	48° 06′ N.	01° 40′ W.
19	Strasbourg - -	48° 36′ N.	07° 42′ E.

2. *Stations*—cont.

Index.	Name.	Latitude.	Longitude.
20	Toulon	43° 07′ N.	05° 56′ E.
21	Toulouse	43° 36′ N.	01° 27′ E.
22	Tours	47° 24′ N.	00° 42′ E.
26	Ajaccio	41° 55′ N.	08° 44′ E.
27	Argentan	48° 45′ N.	00° 01′ W.
28	Amiens	49° 53′ N.	02° 18′ E.
29	Cosne	47° 26′ N.	02° 58′ E.
30	Le Havre	49° 29′ N.	00° 06′ E.
31	Marignane	43° 25′ N.	05° 13′ E.
32	Metz	49° 07′ N.	06° 11′ E.
34	Romilly	48° 32′ N.	03° 43′ E.
51	Zurich	47° 22′ N.	08° 34′ E.
52	Bern	46° 57′ N.	07° 26′ E.
53	Geneva	46° 11′ N.	06° 09′ E.
54	Lugano	46° 00′ N.	09° 00′ E.
55	Saentis (2500 m.)	47° 15′ N.	09° 22′ E.
61	Utrecht (De Bilt)	52° 05′ N.	05° 07′ E.
62	Helder	52° 57′ N.	04° 45′ E.
63	Flushing	51° 26′ N.	03° 34′ E.
64	Groningen	53° 13′ N.	06° 35′ E.

3. *Code.*

" Surface " observations in Old International.
Upper winds in special code.
General situation and forecasts in plain language.

4. *Form of Individual Messages.*—Messages commence with words " Météo France."

0220 Message.

Part I. Stations 01 to 34.—I_nI_n BBBDD FWTT βbb.
Part II. Stations 01 to 34.—Upper winds at 0100 G.M.T. (occasionally). I_nI_n $D_1V_1D_2V_2D_3V_3$ $D_4V_4D_5V_5D_6V_6$. (*See* § 6,)
Part III.—General situation at 1800 G.M.T. the previous evening and forecasts for France for the day of issue.

0820 Message.

Part I. Stations 01 to 34.—I_nI_n BBBDD FWTTC βbbRR MMmmu.
Stations 51 to 55.—I_nI_n BBBDD FWTTC βbbRR.
Stations 61 to 64.—I_nI_n BBBDD FWTT βbb.
Part II. Stations 01 to 34.—Upper winds at 0500 G.M.T. from six stations: I_nI_n $D_1V_1D_2V_2D_3D_3$ $D_4V_4D_5V_5D_6V_6$.

1420 Message.

Part I. Stations 01 to 64.—I_nI_n BBBDD FWTT βbb.
Part II. Stations 01 to 34.—Upper winds at 1000 G.M.T. from six stations: I_nI_n $D_1V_1D_2V_2D_3V_3$ $D_4V_4D_5V_5D_6V_6$.

1920 Message.

Part I. Stations 01 to 64.—I_nI_n BBBDD FWTT βbb.
Part II. Stations 01 to 34.—Upper winds at 1800 G.M.T. from six stations: I_nI_n $D_1V_1D_2V_2D_3V_3$ $D_4V_4D_5V_5D_6D_6$.

5. *Note.*

(1) For units *see* p. 82.
(2) The barometric pressure for the high level station, Saentis (2500m.), is not reduced to sea-level. It will normally lie between 520 and 585 mm.
(3) The letter " x " is used to denote missing observations.
(4) Reports from ships may be included in any message. This information is preceded by the word " Navire " and is in the Code :—$QLLLx_1$ $llllx_2$ $BBDDx_3$ FvK_1dx_4 $wwGGx_5$ $y_1y_2y_3y_4z$ where llll is longitude in degrees and tenths, K_1 is the state of the sea (*see* § 6) and the remaining symbols have the same meanings as in the New International Code.

6. *Special Codes.*

Upper winds are reported by two groups for each station in the form $D_1V_1D_2V_2D_3V_3$ $D_4V_4D_5V_5D_6V_6$ where the suffixes 1 to 6 refer to the heights 500, 1000, 1500, 2000, 3000 and 4000 m. respectively, and D, V are letters indicating direction and speed according to the following codes :—

Direction of Upper Winds (D).

a=N.N.E.	*e*=E.S.E.	*i*=S.S.W.	*m*=W.N.W.
b=N.E.	*f*=S.E.	*j*=S.W.	*n*=N.W.
c=E.N.E.	*g*=S.S.E.	*k*=W.S.W.	*o*=N.N.W.
d=E.	*h*=S.	*l*=W.	*p*=N.

Speed of Upper Wind (V) *in Metres per Second.*

a=0	*g*=12	*m*=24	*s*=36
b=2	*h*=14	*n*=26	*t*=38
c=4	*i*=16	*o*=28	*u*=40
d=6	*j*=18	*p*=30	*v*=42
e=8	*k*=20	*q*=32	*w*=44
f=10	*l*=22	*r*=34	*y*=46
			z=48

State of Sea (K_1).

0. No swell	Sea not breaking.
1. Slight swell.	
2. Moderate swell.	
3. Heavy swell.	
4. Very heavy swell	
5. No swell.	Sea breaking.
6. Slight swell.	
7. Moderate swell.	
8. Heavy swell.	
9. Very heavy swell.	

FRANCE (*b*).

International Collective Report.*

1. Transmitting Station - Paris (Eiffel Tower).
   Call Signal - - - F.L.
   Messages directed to - C.Q.
   Wave Length - - - 2600 m. spk. (6500 m. cw. in case of breakdown of usual plant).
   Time of Sending - - 1130 G.M.T. (observations at 0700 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Paris - - -	48° 56′ N.	02° 23′ E.
02	Madrid - - -	40° 24′ N.	03′ 41° W.
03	Vienna - - -	48° 12′ N.	16° 23′ E.
04	Stockholm - -	59° 21′ N.	18° 03′ E.
05	Stornoway - -	58° 11′ N.	06° 22′ W.
06	Clermont-Ferrand -	45° 46′ N.	03° 05′ E.
07	San Fernando - -	36° 27′ N.	06° 13′ W.
08	Munich - - -	48° 09′ N.	11° 37′ E.
09	Haparanda - -	65° 50′ N.	24° 09′ E.
10	Thorshavn - -	62° 00′ N.	06° 45′ W.
11	St. Mathieu - -	48° 21′ N.	04° 43′ W.
12	Algiers - - -	36° 45′ N.	03° 02′ E.
13	Warsaw - - -	52° 14′ N.	21° 02′ E.
14	Bronnoy - - -	65° 28′ N.	12° 13′ E.
15	Blacksod Point -	54° 06′ N.	10° 04′ W.
16	Bayonne - - -	43° 31′ N.	01° 26′ W.
17	Tunis - - -	36° 50′ N.	10° 10′ E.
18	Prague - - -	50° 05′ N.	14° 26′ E.
19	Vardo - - -	70° 22′ N.	31° 08′ E.
20	Seydisfjord - -	65° 20′ N.	13° 40′ W.
21	Scilly - - -	49° 56′ N.	06° 18′ W.
22	Nice - - -	43° 43′ N.	07° 18′ E.
23	Danzig - - -	54° 21′ N.	18° 40′ E.
24	Tynemouth - -	55° 01′ N.	01° 25′ W.
25	Perpignan - -	42° 43′ N.	02° 53′ E.
26	Skudesnaes - -	59° 09′ N.	05° 16′ E.
27	Corunna - - -	43° 22′ N.	08° 25′ W.
28	Florence - - -	43° 47′ N.	11° 14′ E.
29	Blaavands Huk -	55° 33′ N.	08° 04′ E.
30	Mahon - - -	39° 54′ N.	04° 18′ E.
31	Cracow - - -	50° 04′ N.	19° 57′ E.
32	Holyhead - - -	53° 18′ N.	04° 39′ W.
33	Bern - - -	46° 57′ N.	07° 26′ E.
34	Helder - - -	52° 57′ N.	04° 45′ E.
35	Parata - - -	41° 55′ N.	08° 44′ E.

* *See also* France (*e*), p. 32.

2. *Stations.*—cont.

Index.	Name.	Latitude.	Longitude.
36	London (Croydon) -	51° 21′ N.	00° 07′ W.
37	Hamburg - - -	53° 33′ N.	09° 59′ E.
38	Ile d'Aix - - -	46° 02′ N.	01° 10′ W.
39	Brussels - - -	50° 51′ N.	04° 22′ E.
40	Valencia - - -	51° 56′ N.	10° 15′ W.
41	Rabat - - -	34° 00′ N.	06° 50′ W.
42	Lisbon - - -	38° 42′ N.	09° 08′ W.
43	Horta - - -	38° 32′ N.	28° 39′ W.

3. *Code.*

Surface observations in Old International (modified).
General situation and forecasts in plain language.

4. *Form of Individual Message.*—Message commences with "O.N.M. Météo Europe."

Part I.—BBBDD FNb where N and b denote state of sky and barometric tendency in special codes below (§ 6).

Part II.—(*a*) General situation at 0700 G.M.T.

(*b*) Forecasts for France covering period till next morning.

(*c*) Further outlook for remainder of next day.

5. *Note.*—For units, *see* p. 82.

6. *Special Codes.*

State of Sky and Characteristic of Barometric Tendency (N).

0 = positive tendency with sky clear.
1 = positive tendency with sky ¼ covered with cloud.
2 = positive tendency with sky ½ covered with cloud.
3 = positive tendency with sky ¾ covered with cloud.
4 = positive tendency with sky overcast.
5 = negative tendency with sky clear.
6 = negative tendency with sky ¼ covered with cloud.
7 = negative tendency with sky ½ covered with cloud.
8 = negative tendency with sky ¾ covered with cloud.
9 = negative tendency with sky overcast.

Amount of Barometric Tendency (b).

This is expressed in half millimetres.

For tendencies 10–19 the second figure only is reported and 33 is added to wind direction number (DD).

For tendencies 20–29 the second figure only is reported and 67 is added to wind direction number (DD).

FRANCE (*c*).

Special Reports for Aerial Routes.

1. Transmitting Station - Paris (Le Bourget).
   Call Signal - - - Z.M.
   Message directed to - C.Q.
   Wave Length - - 1680 m. c.w.
   Times of Sending :—

(*a*) 0528 G.M.T. (observations at 0500 G.M.T.) S.
0628 G.M.T. (observations at 0600 G.M.T.) S.
0728 G.M.T. (observations at 0700 G.M.T.) S.
0828 G.M.T. (observations at 0800 G.M.T.) S.
0928 G.M.T. (observations at 0900 G.M.T.) S., U.W.
1028 G.M.T. (observations at 1000 G.M.T.) S.
1128 G.M.T. (observations at 1100 G.M.T.) S.
1228 G.M.T. (observations at 1200 G.M.T.) S.
1328 G.M.T. (observations at 1300 G.M.T.) S.
1428 G.M.T. (observations at 1400 G.M.T.) S.
1528 G.M.T. (observations at 1500 G.M.T.) S.
1628 G.M.T. (observations at 1600 G.M.T.) S.

(*b*) 0750 G.M.T.
0850 G.M.T.
0950 G.M.T.
1050 G.M.T.
1250 G.M.T.
1350 G.M.T.
1450 G.M.T.
1550 G.M.T.
1650 G.M.T.
} Forecasts and miscellaneous information.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
PA	Paris (Le Bourget) -	48° 56′ N.	02° 23′ E.
P2	Calais (St. Inglevert)	50° 57′ N.	01° 50′ E.
P3	Abbeville - - -	50° 07′ N.	01° 49′ E.
P4	Valenciennes - -	50° 22′ N.	03° 30′ E.
P5	Le Havre - - -	49° 29′ N.	00° 06′ E.
BV	Beauvais - - -	49° 30′ N.	02° 05′ E.
CO	Compiègne - -	49° 25′ N.	02° 50′ E.
CD	Chartres* - - -	48° 25′ N.	01° 30′ E.
CF	Orléans* - - -	47° 54′ N.	01° 54′ E.
CC	Argentan* - -	48° 45′ N.	00° 01′ W.
DM	Romilly* - - -	48° 32′ N.	03° 43′ E.
PC	Saint-Cyr* - -	48° 48′ N.	02° 04′ E.
PD	Trappes* - - -	48° 47′ N.	01° 59′ E.
PE	Orly* - - -	48° 44′ N.	02° 23′ E.

* *See* § 5, note 2.

3. *Code.*—" Surface " observations in New International [introduced March 26th, 1922 (*see* however § 5, note 2)]. Upper winds in special code. Forecasts in plain language.

4. *Form of Individual Messages.*—Messages commence with words " Météo Phisérar " followed by a group of four figures indicating time of observation G.M.T.

(*a*) *0528 Message.*
Part I. preceded by letters PLBA $I_nI_n(V_s)$ wwVhL NDDFW.
Part II.—*See* § 5, note 2.
Part III.—I_nI_n wwVhL (observations at Paris only, made immediately before transmission of the message).

0628 Message.—Same form as 0528 message.

0728 Message.
Part I. preceded by letters PLBA. Stations PA, P2 and P5 :—$I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh C_addF_1S.
Stations P3, P4, BV and CO :—$I_nI_n(V_s)$ wwVhL NDDFW C_addF_1S.
Part II.—*See* § 5, note 2.
Part III.—Same form as Part III. of 0528 message.

0828 Message.—Same form as 0528 message.

0928 Message.
Parts I., II., and IV.—Same form as 0528 message.
Part III. Upper winds at 0900 G.M.T.—I_nI_nh $d_1d_1v_1v_1$ $d_1d_1v_1v_1$ &c. (*see* § 6 below).

1028 Message.—Same form as 0728 message.

1128, *1228* } *Message.*—Same form as 0528 message.

1328 Message.—Same form as 0728 message.

1428, *1528* } *Message.*—Same form as 0528 message.

1628 Message.—Same form as 0728 message.

(*b*) *0750 Message.*—Forecast for Paris – London – Brussels Aerial routes.

0850 Message.
(1) Occasional forecasts.
(2) Reports omitted from the synoptic message issued from the Eiffel Tower at 0820 G.M.T. (for code, *see* p. 24).

0950 Message.
(1) Forecasts for aerial routes other than Paris–London–Brussels.
(2) Reports from ships in code :—$QLLLx_1$ $llllx_2$ $BBDDx_3$ FvK_1dx_4 $wwGGx_5$ $y_1y_2y_3y_4z$, where llll is longitude in degrees and tenths and the remaining symbols have the same meanings as in the New International Code. (*See*, however, page 25.)

1050 Message.—Forecast for Paris–London–Brussels Aerial routes.

1250 Message.—Forecast for other routes.

1350 Message.—Forecast for Paris–London–Brussels Aerial routes.

1450 Message.

(1) Occasional forecasts.

(2) Reports omitted from the synoptic message issued from the Eiffel Tower at 1420 G.M.T. (for code *see* p. 24).

1550 Message.

(1) Forecasts for routes other than Paris–London–Brussels.

(2) Ship Reports (code as 0950 message).

1650 Message.—Occasional forecasts.

5. *Note.*

(1) For units *see* p. 82.

(2) Observations at stations indicated by an asterisk in § 2, lying on aerial routes other than from Paris to London, Brussels or Amsterdam, are given in a special code, details of which are included in the Notes issued by the French National Meteorological Office, Paris.

6. *Special Codes.*

Upper Winds.

d_1d_1 = direction of wind on the scale 01–32.

v_1v_1 = speed of wind in metres per second.

The groups $d_1d_1v_1v_1$ relate to the following heights—

500 m.	1,500 feet.
1,000 m.	3,000 feet.
1,500 m.	5,000 feet.
2,000 m.	7,000 feet.
3,000 m.	10,000 feet.
4,000 m.	13,000 feet.

When an ascent has not been made, one of the following groups is sent :—

XXXXX meaning ascent not made for reasons independent of meteorological conditions.

PLUIE meaning ascent impossible owing to rain.

NEIGE meaning ascent impossible owing to snow.

ORAGE meaning ascent impossible owing to thunderstorm.

GRAIN meaning ascent impossible owing to line squall.

BRUME meaning ascent impossible owing to mist.

BROUI meaning ascent impossible owing to fog.

PLHHH meaning clouds too low, the three letters HHH being replaced by three figures giving the height of the cloud base in metres.

Forecasts.

These give the probable *changes* with reference to the actual weather given in the last hourly message.

They are given in plain language under four different headings, each commencing with the letters AL followed by one of the letters A, B, C or D. Thus :—

After the letters ALA follows information as to state of sky, height of cloud, precipitation.

After the letters ALB follows information as to wind at surface.

After the letters ALC follows information as to wind at 1,000 m. (3,000 feet).

After the letters ALD follows information as to visibility.

The forecasts are given for different areas, the different parts commencing with the letters PARS.

Index.	Region.
PARSA	Paris to Abbeville.
PARSB	Abbeville to English Coast.
PARSC	Paris to Noyon.
PARSD	Noyon to Brussels.

The letters PARS may be followed by one or by several letters, *e.g.*, PARSABC, indicating that the following sentence refers to the three districts A, B and C.

When no change is anticipated in any particular division the word " NIL " is sent.

The indices PARSF to PARSL relate to aerial routes from Paris other than to London, Brussels and Amsterdam. The following indices are used in the general forecasts for France of which details are given on p. 32.

Index.	Region of France.
PARSM	North.
PARSN	Brittany.
PARSO	North-West.
PARSP	Paris.
PARSQ	North-East.
PARSR	Central.
PARSS	West.
PARSV	East.
PARSU	Central Plateau.
PARSX	South-West.
PARSY	South.
PARSZ	South-East.

If the letters " PARS " are missing altogether, the forecast refers to the whole of France.

The letters " AUTRES PARS " indicate that the following forecast refers to all districts not previously mentioned in the message.

FRANCE. (*d*)

General Reports for Aviation.

1. Transmitting Station - Paris (Le Bourget).
   Call Signal - - - Z.M.
   Messages directed to - C.Q.
   Wave Length - - 1680 m. c.w.
   Times of Sending :—
   0630 G.M.T. (observations at 0500 G.M.T.) S., U.W.
   0650 G.M.T. F.
   1150 G.M.T. F.
2. *Stations* } A special code is used details of which, together with
3. *Code.* } a list of observing stations, are given in the Notes issued by the French National Meteorological Office, Paris.
4. *Form of Individual Messages.*—Messages commence with words Météo Paris."

   0630 Message.—Observations in special code (*see* § 2 above).

   0650 Message.—Commencing with words " Avis matinée." Forecasts for whole of France in plain language (*see* p. 31, § 6).

   1150 Message.—Commencing with words " Avis après-midi." Forecasts for whole of France in plain language (*see* p. 31, § 6).

FRANCE (*e*).

International Collective Message.*

1. Transmitting Station - Paris (Le Bourget).
   Call Signal - - - Z.M.
   Messages directed to - C.Q.
   Wave Length - - - 1680 m. c.w.
   Time of Sending - - 0530 G.M.T. (observations at 0100 G.M.T.) S., F.
2. *Stations.*—See under heading of the individual countries.
3. *Code.*—Old International (modified).
4. Form of Individual Message.—Messages commence with words " Météo Phisérar."

   0530 Message.

   Part I.—Repetition of the general forecast for the whole of France transmitted in the Eiffel Tower message at 0220 G.M.T. (*see* p. 24).

* *See also* France (*b*), page 26.

Part II.—$I_nI_nI_n$ BBBDD FWβbb, where the first figure of the station index number ($I_nI_nI_n$) indicates the country according to the scheme below and the last two figures indicate the station, the same numbers being used as in the synoptic messages of the individual countries.

Index.	Country.	Page on which list of stations is given.
0	France	23
1	Great Britain	5
2	Poland	52
3	Finland	21
4	North Africa	60, 61

5. For units, *see* p. 82.

GERMANY. (*a*)

1. Transmitting Station - Nauen.*
   Call Signal - - - P.O.Z.
   Message directed to - C.Q.
   Wave Length - - 4700 m. c.w.
   Times of sending :—
   0900 G.M.T. (observations at 0700 G.M.T.) S.; I.
   1940 G.M.T. (observations at 1800 G.M.T.) S.; I.
2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Borkum	53° 36′ N.	06° 45′ E.
02	Keitum	54° 54′ N.	08° 22′ E.
03	Hamburg	53° 33′ N.	09° 59′ E.
04	Swinemünde	53° 56′ N.	14° 14′ E.
05	Danzig	54° 21′ N.	18° 40′ E.
06	Memel	55° 42′ N.	21° 10′ E.
07	Aachen	50° 46′ N.	06° 08′ E.
08	Cassel	51° 19′ N.	09° 31′ E.
09	Berlin	52° 45′ N.	13° 24′ E.
10	Dresden	51° 03′ N.	13° 45′ E.
11	Breslau	51° 06′ N.	17° 02′ E.
12	Frankfurt	50° 07′ N.	08° 41′ E.
13	Karlsruhe	49° 02′ N.	08° 23′ E.
14	Munich	48° 09′ N.	11° 37′ E.
34	Helder	52° 57′ N.	04° 45′ E.
35	Flushing	51° 26′ N.	03° 34′ E.
50	Vienna	48° 12′ N.	16° 23′ E.
80	Utrecht (De Bilt)	52° 05′ N.	05° 07′ E.

* At present being transmitted by Königswüsterhausen (L.P.) on wave 5250 m. cw.

Stations for Ice Reports.

Place.	Latitude.	Longitude.	Area represented.
Brüsterort	54° 57′ N.	19° 59′ E.	Adjacent sea.
Pillau	54° 40′ N.	19° 56′ E.	Harbour and roadstead.
Swinemünde	53° 56′ N.	14° 14′ E.	Harbour and roadstead.
Travemünde	53° 57′ N.	10° 51′ E.	Harbour and roadstead.
Holtenau	54° 23′ N.	10° 08′ E.	Kaiser Wilhelm Canal to Brunsbuttel.
Brunsbütteler-koog.	53° 54′ N.	09° 08′ E.	Adjacent region of Elbe.
Hamburg	53° 33′ N.	09° 59′ E.	Adjacent region of Elbe.
Brake (Weser)	53° 19′ N.	08° 29′ E.	Adjacent region of Weser.
Nesserland (Ems).	53° 21′ N.	07° 11′ E.	Adjacent region of Ems and harbour.

3. *Code.*—Old International (modified).

Ice reports in special code.

4. *Form of Individual Messages.*—Messages commence with words "Wetter Bericht."

0900 Message.

Part I.—I_nI_n BBBDD FWTTH βbbRR MMmmW″ where H is Relative Humidity in New International Code (p. 75) and W″ is weather in past 24 hours in modified code below (§ 6).

Part II.—(Winter only) JKJKJK JKJKJK JKJKJK where J represents ice conditions and K their effect on navigation (in the special codes below, § 6) for the nine stations in order in the list above.

1940 Message.—I_nI_n BBBDD FWTTW′ βbb.

5. *Note.*—For units, *see* p. 82.

6. *Special Codes. Weather during past 24 hours (W″).*

This is the same as past weather W′ in the Old International Code except that code figure 6 signifies "precipitation mainly during the night" instead of "mainly foggy."

Ice Conditions (J.).

0	Open water.
1	Thin loose ice.
2	Drift ice.
3	Thin covering of ice.
4	Pack ice.
5	Strong drift ice.
6	Thick covering of ice.
7	Heavy drift ice.
8	Heavy compact masses of ice.
9	Not known.

Effect on Navigation (K).

0	Ice conditions not known on account of fog, snow-drifts, &c.
1	Navigation unhindered.
2	Navigation difficult for sailing vessels.
3	Navigation difficult. Only possible for sailing vessels with assistance by tugs.
4	Navigation very difficult. Impossible for sailing vessels.
5	Navigation possible only for strong steamers.
6	Navigation possible only with help of ice-breaker.
7	Navigation impossible.
8	Channel is held open with ice-breakers.
9	No information.

GERMANY (*b*).

International Collective Reports.

1. Transmitting Station - Königswüsterhausen.
Call Signal - - - L.P.
Messages addressed to - C.Q.
Wave Length - - 5250 m. c.w.
Times of sending:—

0645 G.M.T.	(For hours of observation *see* under details of each message below, § 4.)	S; O.
0930 G.M.T.		S; O.
1550 G.M.T.		S; O.
2005 G.M.T.		S; O.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01 to 14	Same as Nauen messages (p. 33).		
15	Fürth - -		

2. *Stations*—cont.

Index.	Name.	Latitude.	Longitude.	
16	Zugspitze (2964 m.).	47° 25′ N.	11° 00′ E.	German mountain stations.
17	Kahler Asten (852 m.).	51° 11′ N.	08° 30′ E.	
18	Brocken (1148 m.)	51° 48′ N.	10° 38′ E.	
19	Fichtelberg (1213 m.).	50° 27′ N.	12° 53′ E.	
20	Lerwick	60° 09′ N.	01° 08′ W.	
21	Tynemouth	55° 01′ N.	01° 25′ W.	
22	Calshot	50° 49′ N.	01° 18′ W.	
23	Scilly	49° 56′ N.	06° 18′ W.	
24	Holyhead	53° 18′ N.	04° 39′ W.	
25	Stornoway	58° 11′ N.	06° 22′ W.	
26	Valencia	51° 56′ N.	10° 15′ W.	
27	Blacksod Point	54° 06′ N.	10° 04′ W.	
28	Ile d'Aix	46° 02′ N.	01° 10′ W.	
29	Bayonne	43° 31′ N.	01° 26′ W.	
30	St. Mathieu	48° 21′ N.	04° 43′ W.	
31	Montpellier	43° 36′ N.	03° 54′ E.	
32	Paris	48° 56′ N.	02° 23′ E.	
33	Dijon	47° 21′ N.	05° 02′ E.	
34	Helder	52° 57′ N.	04° 45′ E.	
35	Flushing	51° 26′ N.	03° 34′ E.	
36	Copenhagen	55° 40′ N.	12° 35′ E.	
37	Hanstholm	57° 05′ N.	08° 35′ E.	
38	Ingoy	71° 04′ N.	24° 09′ E.	
39	Andenes	69° 20′ N.	16° 08′ E.	
40	Valdersund	63° 52′ N.	09° 45′ E.	
41	Bergen	60° 24′ N.	05° 19′ E.	
42	Härnosand	62° 37′ N.	17° 57′ E.	
43	Haparanda	65° 50′ N.	24° 09′ E.	
44	Wisby	57° 39′ N.	18° 18′ E.	
45	Karlstad	59° 23′ N.	13° 30′ E.	
46	Helsingfors	60° 08′ N.	25° 01′ E.	
47	Warsaw	52° 14′ N.	21° 02′ E.	
48	Lemberg	49° 50′ N.	24° 00′ E.	
49	Prague	50° 05′ N.	14° 26′ E.	
50	Vienna	48° 12′ N.	16° 23′ E.	
51	Zurich	47° 22′ N.	08° 34′ E.	
52	Geneva	46° 11′ N.	06° 09′ E.	
53	Lugano	46° 00′ N.	08° 57′ E.	
54	Skagen	57° 45′ N.	10° 38′ E.	
55	Stockholm	59° 21′ N.	18° 03′ E.	
56	Posen	52° 24′ N.	16° 51′ E.	
57	Budapest	47° 29′ N.	19° 03′ E.	
58	Spitzbergen	78° 02′ N.	14° 14′ E.	
61	Venice	45° 26′ N.	12° 18′ E.	

2. *Stations*—cont.

Index.	Name.	Latitude.	Longitude.
62	Brindisi	40° 40′ N.	18° 01′ E.
63	Messina	38° 12′ N.	15° 33′ E.
64	Maddalena	41° 15′ N.	09° 25′ E.
65	Malta	35° 53′ N.	14° 27′ E.
66	Sidi Ahmed	36° 58′ N.	09° 08′ E.
67	Madrid	40° 24′ N.	03° 41′ W.
68	Corunna	43° 22′ N.	08° 25′ W.
76	Petrograd	59° 56′ N.	30° 18′ E.
77	Moscow	55° 45′ N.	37° 34′ E.
78	Archangel	64° 33′ N.	40° 33′ E.
79	Kursk	51° 44′ N.	36° 13′ E.
80	Utrecht (De Bilt)	52° 05′ N.	05° 07′ E.

3. *Code.*

Old International (modified).
Ship observations in special code.

4. *Form of Individual Messages.*

Messages commence with
- "Funk obs nacht" at 0600.
- "Funk obs I" at 0930.
- "Funk obs II" at 1550.
- "Funk obs III" at 2005.

0600 Message.—Code below (*Note* 2).

Observations at 0100 G.M.T. from Hamburg, British and French stations.

Observations at 1800 G.M.T. (previous day) from Polish stations, Prague, Italian and Spanish stations, and Malta.

Observations at 0700 G.M.T. (previous day) from Russian stations.

The groups giving the 1800 and 0700 observations are preceded by the word "Nachtrag."

0930 Message.—Code below (*Note* 2).

Observations at 0700 G.M.T. from German Mountain stations, British, French, Dutch, Danish, Norwegian and Swedish stations, Helsingfors, Polish and Swiss stations. Also any stations omitted from previous Nauen messages (p. 34).

1550 Message.—Code below (*Note* 2).

Observations at 1300 G.M.T. from all German stations, British, French, Dutch, Danish, Swedish and Norwegian stations and Helsingfors.

Observations at 0700 G.M.T. (preceded by the word "Nachtrag") from Budapest, Prague, Italian and Spanish stations.

2005 Message.—Code below (*Note* 2).

Observations at 1800 G.M.T. from Fichtelberg, British, French, Dutch, Danish, Swedish and Norwegian stations.

Observations at 1300 G.M.T. (preceded by word "Nachtrag") from Polish stations, Prague and Spanish stations.

Observations omitted from previous Nauen messages may be included.

5. *Note.*

(1) For units, *see* p. 82.

(2) The codes in use for German stations are :—

Observations at 0700—I_nI_n BBBDD FWTTW″ βbbRR.
Observations at 1300.—I_nI_n BBBDD FWTTW‴ βbb.
Observations at 1800 as in Nauen messages (p. 34), where W‴ is past weather in modified code below (§ 6), and W″ has same meaning as in Nauen messages (p. 34).

For other stations :—

Observations at 0700.—I_nI_n BBBDD FWTT βbbRR.

Observations at other times.—I_nI_n BBBDD FWTT βbb.

(3) The time of observation is indicated in the messages by prefixing two figures, giving the hour of observation, to the index number of the first station observing at this time, *e.g.*, the group 1401 means that the observations at station 01 and the following stations were made at 1400. The group 0849, coming later in the same message, indicates that the observations at station 49 and subsequent stations refer to the time 0800. *Central European Time* being used, one hour must be subtracted to obtain Greenwich Mean Time.

(4) Observations at stations not in the above list are often transmitted. In this case the station name is given in full.

(5) Ship observations from the Atlantic are sometimes included, preceded by the word "Dampfer" or "Schiff," in the code :—

ZZLLL lllll BBBDD FWTT;

where ZZ is the hour of observation, Central European Time,

LLL is the latitude,
lll is the longitude,
tt is the water temperature in whole degrees centigrade,
and the remaining symbols are in Old International Code.

6. *Special Code. Past Weather (W‴) between morning and afternoon for observations at 1300 G.M.T.*

This is the same as (W′) in Old International Code, with the exception that code figures 4, 5, 6 have the following special meanings :—

4. Slight precipitation.
5. Heavy rain.
6. Heavy snowfall.

GERMANY (*c*).

General Reports for Aviation.

1. Transmitting Station - Königswüsterhausen.
Call Signal - - - L.P.
Messages directed to - C.Q.
Wave Length - - 5250 m. c.w.
Times of Sending :—

0635 G.M.T. (observations at 0500 G.M.T.) S., U.W., U.A.T., F.
0945 G.M.T. } Observations at times specified in messages. } S., U.W., U.A.T., F.
1605 G.M.T. }
2020 G.M.T. }

2. *Stations.*

Name.	Latitude.	Longitude.
Lindenberg - - -	52° 12′ N.	14° 07′ E.
Hamburg - - -	53° 33′ N.	09° 59′ E.
Aachen - - - -	50° 46′ N.	06° 08′ E.
Bremen - - - -	53° 05′ N.	08° 49′ E.

3. *Code.*—"Surface" observations in Old International (modified)
Upper air observations in special code (Lindenberg Code).
Summary of flying conditions and forecast in plain language

4. *Form of Individual Messages.*—Messages commence with "Nachrichten fur Luftfahrer, Lindenberg."

0635 Message.—Surface observations at 0500 G.M.T. from Lindenberg, Hamburg, Aachen and Bremen, thus :—

BBBDD FWTTV βbb,

where V is horizontal visibility in New International Code (p. 74). Also information on the same lines as remaining messages.

0945, *1605*, *2020* } *Messages.*

Collected European observations of upper winds, temperatures and humidities in Lindenberg Code (*see below*).
Summary of conditions as to upper wind, cloud, &c., with forecast for Central Germany, in plain language.

5. *Note.*—For units, *see* p.82.

6. *Special Codes.*

Lindenberg Code for Upper Air Information.

Upper Winds.—ZZWVc HHDDF HHDDF ..... addf.

Upper Air Temperature, &c.—HHTTT PPDDF HHTTT PPDDF ..... ZZWVc.

(Note.—addf is a nephoscope group identified by its only containing four figures.)

The symbols have the following meanings :—

ZZ = Hour of observations (Central European Time. Subtract one hour to get G.M.T.).

W = Present weather in Old International Code (p. 80).

V = Horizontal visibility in New International Code, (p. 74).

c = Barometric tendency (Code I. below).

HH = Height above sea level in hectometres.

DD = Wind direction at height HH. Scale 0–32 (08=East, &c.)

F = Wind force at height HH. (Code II. below.)

a = Kind of upper cloud observed by nephoscope. (Code III.)

dd = Direction from which upper cloud moves. Scale 0–32 (08 = East, &c.).

f = Velocity-height ratio.

TTT = Temperature at height HH in degrees and tenths Centigrade (500 added for negative values).

PP = Percentage relative humidity (98 means 100 per cent.; 99 means " impossible to report ").

CODE I.

Barometric Tendency (*c*).

0	No appreciable variation: less than 0·5 mm. (in 3 hours).	
1	Slow fall	0·5 mm. to 1·4 mm.
2	Moderate fall	1·5 mm. to 2·4 mm.
3	Rapid fall	2·5 mm. to 3·4 mm.
4	Very rapid fall	more than 3·4 mm.
5	Slow rise	0·5 mm. to 1·4 mm.
6	Moderate rise	1·5 mm. to 2·4 mm.
7	Rapid rise	2·5 mm. to 3·4 mm.
8	Very rapid rise	more than 3·4 mm.
9	Unsteady or impossible to report.	

CODE II.

Wind Speed (F).

This is expressed in metres per second.

For values 10 to 19, the number 33 is added to the figures giving wind direction DD, thus 578 means W. 18 m. per sec.

For values 20 to 29, the number 67 is added to the figures giving wind direction DD, thus 973 means NNW 23 m. per sec.

Values above 30 m. per sec. are given in words, thus

" 976 36 sekm " means NNW 36 m. per sec.

CODE III.

Upper Cloud (*a*).

1. Cirrus.
2. Cirro-stratus.
3. Cirro-cumulus.
4. Alto-cumulus.

GIBRALTAR.

1. Transmitting Station - Gibraltar.
   Call Signal - - - B.W.W.
   Messages directed to - G.F.A.
   Wave Length - - 4800 m. c.w.
   Times of Sending :—
   0730 G.M.T. (observations at 0700 G.M.T.) S.
   1840 G.M.T. (observations at 1800 G.M.T.) S.

2. *Station.*—Name, Gibraltar (L); latitude, 36° 07′ N.; longitude, 05° 21′ W.

3. *Code.*—New International (modified by addition to the morning message of a group containing grass minimum temperature).

4. *Form of Individual Messages.*

   0730 Message. — BBBDD FwwTT xxWVH ALaNh RRmmr xxx$m_G m_G$, where $m_G m_G$ is the grass minimum temperature in whole degrees F.

   1840 Message.—BBBDD FwwTT xxWVH ALaNh RRMMr.

5. *Note.*

   (1) For units, *see* p. 82.

   (2) Barometric tendency is not reported, the letters xx being substituted for it in the third group.

   (3) Reports not issued on Sundays.

HOLLAND (*a*).

1. Transmitting Station - Soesterberg.
   Call Signal - - - S.T.B.
   Messages directed to - C.Q.
   Wave Length - - - 1900 m. c.w.
   Times of Sending :—
   0730 G.M.T. (observations at 0700 G.M.T.) S., U.W., U.A.T.
   1330 G.M.T. (observations at 1300 G.M.T.) S., U.W., U.A.T.
   1830 G.M.T. (observations at 1800 G.M.T.) S., U.W., U.A.T.
2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Helder (C)	52° 57′ N.	04° 45′ E.
02	Flushing (C)	51° 26′ N.	03° 34′ E.
03	De Bilt (L)	52° 05′ N.	05° 07′ E.

(C = Coastal Station. L = Inland Station.)

3. *Code.*—New International. [*See* page 65 (Code of Sept. 1921 introduced March 13th, 1922, the date of commencement of this synoptic message).]
4. *Form of individual Messages.*—Messages commence with words "Meteo Holland."

   0730 Message.
   Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr C_1ddVV.
   Part II. preceded by word "pilot." Upper winds from stations 01 and 03.—h_1 ddvv &c.
   Part III. preceded by word "temp." Upper air temperatures from stations 01 and 03.—I_nI_n ddtt BBTTH &c., where dd is the day of the month and tt the hour of the day (G.M.T.) on which the observations were made.

   1330 Message.
   Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh C_1ddVV.
   Parts II. and III.—Same form as Parts II. and III. of 0730 message.

   1830 Message.—Same form as 0730 message.
5. *Note.*—For units, *see* p. 82.

HOLLAND (*b*).

Special Reports for Mariners.

1. Transmitting Station - Scheveningen.
   Call Signal - - - P.C.H.
   Message directed to - - C.Q.
   Wave Length - - - 1800 m. spk.
   Times of Sending :—
   1115 G.M.T. (observations at 0700 G.M.T.) S.
   3315 G.M.T. (observations at 0700 G.M.T.) S.

2. *Stations.*

Name.	Latitude.	Longitude.
1. Helder	52° 57′ N.	04° 45′ E.
2. Flushing	51° 26′ N.	03° 34′ E.
3. Gris Nez	50° 54′ N.	01° 35′ E.
4. La Hague	49° 43′ N.	01° 57′ W.
5. Yarmouth	52° 35′ N.	01° 43′ E.
6. Tynemouth	55° 01′ N.	01° 25′ W.
7. Skudesnaes	59° 09′ N.	05° 16′ E.
8. Keitum	54° 54′ N.	08° 22′ E.

3. *Code.*
   Observations in Old International (modified).
   Storm warnings &c. in plain language.
4. *Form of Individual Messages.*—Messages commence with letters "KNMI."

   1115, *2315* } *Messages.*

   Part I.—Stations 1 to 4.—BBBDD FWTTu
   Stations 5 to 8.—BBBDD FWTT
   Part II.—Storm warnings &c.
5. *Note.*
   (1) For units *see* p. 82.
   (2) No index numbers are transmitted, the above fixed order of stations being adhered to and letters "x" replacing the observations at missing stations.
   (3) The information in the second part of the message embraces storm warnings and information to mariners as to lights and wrecks. It is only sent as occasion demands and is in plain language (English and Dutch) and not in code.

HOLLAND (*c*).

Special Reports for Aerial Routes.

1. Transmitting Station - Soesterberg.
   Call Signal - - - S.T.B.
   Messages directed to - G.F.A., Z.M. and H.S.
   Wave Length - - - 1680 m. c.w.
   1900 m. c.w. (1505 message only).
   Times of Sending :—
   0745 G.M.T. (observations at 0700 G.M.T.) S.
   0845 G.M.T. (observations at 0820 G.M.T.) S., F.
   0945 G.M.T (observations at 0920 G.M.T.), S., F.
   1045 G.M.T (observations at 1000 G M.T.) S., F.
   1245 G.M.T. (observations at 1220 G.M.T.) S., F.
   1345 G M T. (observations at 1300 G.M.T.) S., F
   1505 G.M.T., U.W., U.A.T.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
1	Helder	52° 57′ N.	04° 45′ E
2	Flushing	51° 26′ N.	03° 34′ E.
3	De Bilt	52° 05′ N.	05° 07′ E.
4	The Hague	52° 04′ N.	04° 20′ E.
5	Schiphol	52° 19′ N.	04° 48′ E.
6	Rotterdam	51° 55′ N.	04° 29′ E.

3. *Code.*

New International. [*See* page 65 (Code of Nov. 1920 introduced April 11th, 1921, code of Sept. 1921 introduced Oct. 3rd, 1921).]

Forecasts in plain language.

4. *Form of Individual Messages.*—Messages commence with words "Meteo Holland" followed by time of observation G.M.T.

0745 Message.

Part I.—Stations 1 to 4 $I_n(V_s)$ BBBDD FwwTT cbWVH ALaNh $C_a$ddF$_1$S.

0845 Message.

Part I.—Stations 5 and 6. $I_n(V_s)$ wwVhL NDDFW$_s$.

Part II.—Forecast for London-Amsterdam aerial route, in plain language (English) and Amsterdam-Paris aerial route (French).

0945 Message.—Same form as 0845 message.

1045 Message.

Part I.—Same form as 0745 message and Part I. of 0845 message.

Part II.—Same form as Part II. of 0845 message (revised forecast).

1245 Message.—Same form as 0845 message.

1345 Message.

Same form as 1045 message.

1505 Message.—(*See* § 5, note 2.)

5. *Note.*

(1) For units, *see* p. 82.

(2) Upper winds preceded by word "Pilot" and upper air temperatures preceded by word "Temp" may be added to any of the above messages or form a separate message at 1505 G.M.T. Code :—New International as in Dutch synoptic messages, page 42.

HUNGARY.

1. Transmitting Station - Csepel (near Budapest).
Call Signal - - - H.B.
Message directed to - - C.Q.
Wave Length - - - 3000 m. spk.
Time of Sending. — 0920 G.M.T. (observations at 0600 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Budapest	47° 30′ N.	19° 02′ E.
02	Szombathely	47° 16′ N.	16° 36′ E.
03	Kaposvar	46° 22′ N.	17° 48′ E.
04	Szeged	46° 15′ N.	20° 09′ E.
05	Debreczen	47° 31′ N.	21° 38′ E.

3. *Code.* Old International.

4. *Form of Individual Message.*—Messages commence with words "Meteor Hongrois."

0920 Message.—I_nI_n BBBDD FWTTC βbbRR MMmm.

5. *Note.*—For units, *see* p. 82.

ITALY.

1. Transmitting Stations - Rome Centocelle
Call Signal - - - I D.O. I C.D.
Messages directed to - C.Q.
Wave Length - - - 11000 m. c.w. 2250 m. spk.
Times of Sending (both stations) :—
0930 G.M.T. (observations at 0700 G.M.T.) S., U.W.
2045 G.M.T. (observations at 1800 G.M.T.) S., U.W.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Turin	45° 03′ N.	07° 41′ E.
02	Milan	45° 27′ N.	09° 11′ E.
04	Padua	45° 24′ N.	11°53′ E.
06	Genoa	44° 23′ N.	08° 55′ E.
07	Florence	43° 47′ N.	11° 14′ E.
08	Leghorn	43° 33′ N.	10° 18′ E.
09	Ancona	43° 37′ N.	13° 31′ E.
11	Rome	41° 54′ N.	12° 27′ E.
12	Maddalena	41° 15′ N.	09° 25′ E.
13	Naples	40° 52′ N.	14° 15′ E.
14	Brindisi	40° 40′ N.	18° 01′ E.
16	Messina	38° 12′ N.	15° 33′ E.
18	Vittoria	36° 57′ N.	14° 30′ E.
19	Taranto	40° 28′ N.	17° 15′ E.
20	Venice	45° 26′ N.	12° 18′ E.

3. *Code.*

"Surface" observations in Old International (modified). Upper winds in special code.

4. *Form of Individual Messages.*

0930 Message.—I_nI_n BBBDD F_1WTTW′ βbbRR MMmmu $V_1D_1V_2D_2V_3D_3$ $V_4D_4V_5D_5V_6D_6$.

2045 Message.—I_nI_n BBBDD F_1WTTu $V_1D_1V_2D_2V_3D_3$ $V_4D_4V_5D_5V_6D_6$.

where F_1 is force of wind and V_1D_1 &c. are speed and directions of upper wind at six levels, in special codes below (§ 6).

5. *Note.*

(1) For units, *see* p. 82.

(2) The letter "x" is employed to denote missing information.

6. *Special Code. Force of Surface Wind* (F_1).

The figure telegraphed bears the following relation to the Beaufort scale :—

Code Number.	Beaufort Number.	Code Number.	Beaufort Number.
0	0 or 1	6	7
1	2	7	8
2	3	8	9
3	4	9	10 or 11 or 12
4	5		
5	6		

Speed of Upper Wind (V).

Code Number.	Speed in metres per second.
0	From 0 to 1
1	„ 1 „ 3
2	„ 3 „ 5
3	„ 5 „ 7
4	„ 7 „ 9
5	„ 9 „ 11
6	„ 11 „ 13
7	„ 13 „ 15
8	„ 15 „ 17
9	above 17

Direction of Upper Wind (D).

Code Number.	Direction.
1	N.
2	N.E.
3	E.
4	S.E.
5	S.
6	S.W.
7	W.
8	N.W.

Upper winds are reported at the six heights 500 m., 1000 m., 1500 m., 2000 m., 3000 m., 4000 m. above mean sea level.

JUGO-SLAVIA.

1. Transmitting Station - Banica-Belgrade.
Call Signal - - - H.F.B.
Messages directed to - C.Q.
Wave Length - - - 4600 m. c.w.
Times of Sending :—

0720 G.M.T. (observations at 1800 and 0700 *Local Time*) S.
1050 G.M.T. (observations at 1800 and 0700 G.M.T.) S.
1545 G.M.T. (observations at 1400 *Local Time*) S.
1620 G.M.T. (observations at 1300 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Belgrade - - -	44° 47′ N.	20° 26′ E.
02	Crikvenica - - -	45° 10′ N.	14° 11′ E.
03	Sarajevo - - -	43° 54′ N.	18° 30′ E.
04	Zagreb (Agram) - -	45° 50′ N.	16° 00′ E.

3. *Code.*—Old International (modified).

4. *Form of Individual Messages.*—Messages commence with words "Météo Belgrad."

0720 Message.

Station 01 only.—BBBDD FWTTW″ BBBDD FWTTC βbbRR MMmm,
where the first two groups refer to the previous evening, and W″ has same meaning as in messages from Nauen (p. 34).

1050 Message.

I_nI_n BBBDD FWTTW′ BBBDD FWTTC βbbRR MMmmW″.
where the first two groups after the index number I_nI_n refer to the previous evening, and W″ has same meaning as in messages from Nauen (p. 34).

1545 Message.

Station 01 only.—BBBDD FWTTW''' βbb, where W''' has same meaning as in messages from Königswüsterhausen (p. 39).

1620 Message.—I_nI_n BBBDD FWTTW' βbb.

5. *Note.*—For units, *see* p. 82.

LATVIA.

1. Transmitting Station - Libau.
   Call Signal - - - K.C.B.
   Message directed to - -
   Wave Length - - - 1200 m. spk.
   Time of Sending.—0630 G.M.T. (observations at 0700 *local time, i.e.*, about 0530 G.M.T.) S., I.

2. *Station.*—Name, Riga; Latitude, 56° 57′ N.; Longitude, 24° 03′ E.

Stations for Ice Reports.

Place.	Latitude.	Longitude.
Haynasch - - -	57° 52″ N.	24° 21′ E.
Dünamünde - - -	57° 01′ N.	24° 02′ E.
Domesnäs (to westward) -	57° 48′ N.	22° 39′ E.
Domesnäs (to northward) -		
Domesnäs (to eastward) -		
Lyserort - - - -	57° 38′ N.	21° 36′ E.

3. *Code.*

Old International (modified).
Ice reports in special code.

4. *Form of Individual Message.*

Part I.—Observations from Riga.—BBBDD FWTTH βbbRR MMmmW''
where H is relative humidity in New International Code (p. 75), and W'' is past weather in same code as in 0900 message from Nauen (p. 34).

Part II.—Information as to ice conditions at above stations in order, in same code as in Nauen messages (p. 35).

5. *Note.*

(1) For units, *see* p. 82.
(2) Ice information may be obtained from Libau in plain language (English) on request.
(3) The ice reports are based on observations of the morning of the previous day.
(4) No ice reports are issued on Sundays or the day after public holidays.

NORWAY (*a*).

1. Transmitting Station - Christiania.
   Call Signal - - - L.C.H.
   Messages directed to - C.Q.
   Wave Length - - - 8000 m. c.w.
   Times of Sending:—
   0750 G.M.T. (observations at 0700 G.M.T.) S., U.W., O.
   1350 G.M.T. (observations at 1300 G.M.T.) S., U.W., O.
   1850 G.M.T. (observations at 1800 G.M.T.) S., U.W., O.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
05	Green Harbour (Spitzbergen) (C) - -	78° 02′ N.	14° 14′ E.
10	Ingoy (C) - - -	71° 04′ N.	24° 09′ E.
12	Tromso (C) - - -	69° 39′ N.	18° 58′ E.
20	Aalesund (C) - -	62° 28′ N.	06° 10′ E.
22	Valdersund (C) - -	63° 52′ N.	09° 45′ E.
27	Kinn (C) - - -	61° 33′ N.	04° 48′ E.
30	Okso (C) - - -	58° 04′ N.	08° 04′ E.
32	Lister (C) - - -	58° 06′ N.	06° 34′ E.
35	Bjornoya (C) - -	74° 28′ N.	19° 15′ E.
40	Andenes (C) - -	69° 20′ N.	16° 08′ E.
42	Rost (C) - - -	67° 30′ N.	12° 04′ E.
47	Jan Mayen (C) - -	70° 59′ N.	08° 19′ W.
50	Bergen (C) - - -	60° 24′ N.	05° 19′ E.
55	Faerder (C) - - -	59° 02′ N.	10° 32′ E.
60	Vardo (C) - - -	70° 22′ N.	31° 08′ E.
70	Bronnoy (C) - -	65° 28′ N.	12° 13′ E.
80	Utsire (C) - - -	59° 18′ N.	04° 53′ E.
82	Skudesnaes (C) - -	59° 09′ N.	05° 16′ E.
90	Dombaas (L) - -	62° 05′ N.	09° 07′ E.
Pilot Balloon Stations:—			
97	Bergen - - -	60° 24′ N.	05° 19′ E.
98	Tromso - - -	69° 39′ N.	18° 58′ E.
99	Aas - - - -	59° 40′ N.	10° 46′ E.

3. *Code.*

Surface observations and upper winds in New International [*see* p. 65 (Code of Nov. 1920 introduced July 1st, 1921, amendments of Sept. 1921 introduced Jan. 1st, 1922.).]
Ship reports in New International with additional special groups.

4. *Form of Individual Messages.*—Messages commence with words "Météo Norvégien."

0750 Message.

Part I.—Station 90.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRmmr C_1ddVV.

Stations 12, 50.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRSV$_s$r C_1ddVV.

Other stations.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRSV$_s$r.

Part II. preceded by word "Pilot."—Upper winds at stations 97 to 99.—I_nI_n $h_1$ddvv, &c.

Part III.—Ship reports.—PQLLL lllGG BBDDF wwVKd ALaNF$_m$ d$_s$d$_s$rsW TTTHc bbttt. where

F$_m$ = maximum force of wind since time of preceding observation (*see* § 6).

d$_s$d$_s$ = ship's course on scale 01–32 (08 = E., 16 = S., &c.

s = time of cessation of precipitation on same scale as for time of commencement in New International Code (p. 77) [o = no rain or rain still falling.]

bb = amount of barometric tendency in half-millibars during the preceding three hours,

and the remaining symbols have the meanings of the New International Code.

1350 Message.

Part I.—Stations 12, 50, 90.—I_nI_n BBBDD FwwTT cbWVH ALaNh C_1ddVV.

Other stations.—I_nI_n BBBDD FwwTT cbWVH ALaNh.

Parts II., III. as before.

1850 Message.

Part I.—Station 90.—I_nI_n BBBDD FwwTT cbWVH ALaNh RR– – r C_1ddVV.

Stations 12, 50.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRSV$_s$r C_1ddVV.

Other Stations.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRSV$_s$r.

Parts II., III. as before.

5. *Note.*

(1) For units *see* p. 82.

(2) Stations 12, 22, 27, 30, 42, 50, 82 are not transmitted regularly but only when normal stations are missing.

(3) Atmospheric pressure at Dombaas is reduced to sea level by the addition of 76·0 mb. This is provisional.

(4) Reports from Swedish ships as well as Norwegian ships are included in these messages.

6. *Special Codes.*

Maximum Wind Force (F$_m$).

Code figure.	Beaufort Number.
0	10
1	11
2	12
3	0 to 3
4	4
5	5
6	6
7	7
8	8
9	9

NORWAY (*b*).

Reports from Ships.

1. Transmitting Stations - Ships at sea.
Messages directed to - LGN (Bergen Radio); LGH (Utsire Radio); OXB(Blaavand Radio); Usually LGN.
Wave Length - - - 600 m.
Times of Sending:—
0100 G.M.T.
0700 G.M.T.
1300 G.M.T.
1800 G.M.T.
} Times of observation indicated in each message.

2. *Ships.*

Route 1.—Bergen to Newcastle: "Haakon VII."; "Jupiter," "Iris," "Venus," "Irma."

Route 2.—Kristiania-Newcastle: "Bessheim," "Sterling."

Route 3.—Bergen to Antwerp: "Zeta."

Route 4.—Bergen to America: "Bergensfjord," "Ranenfjord," "Lyngenfjord," "Stavangerfjord."

3. *Code.*—New International with additional groups. (Same code as in Christiania reports p. 50).

4. *Note.*—When several ships should issue at the same time the messages are sent one after another.

POLAND.

1. Transmitting Station - Warsaw.
Call Signal - - - W.A.R.
Messages directed to - C.Q.
Wave Length - - - 2300 m. spk.

Times of Sending :—

0210 G.M.T. (observations at 0100 G.M.T.) S.
0810 G.M.T. (observations at 0700 G.M.T.) S., U.W.
1410 G.M.T. (observations at 1300 G.M.T.) S., U.W.
1910 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Height above M.S.L. metres.
01	Posen (L)	52° 24′ N.	16° 51′ E.	99
02	Warsaw (L)	52° 13′ N.	21° 01′ E.	111
03	Vilna (L)	54° 41′ N	25° 18′ E	142
04	Lodz (L)	51° 46′ N	19° 29′ E	219
05	Lublin (L)	51° 15′ N	22° 35′ E	193
06	Cracow (L)	50° 04′ N	19° 57′ E	225
07	Tarnow (L)	50° 01′ N	21° 00′ E	223
08	Lemberg (L)	49° 50′ N	24° 01′ E	318
09	Kielce (L)	50° 52′ N	20° 36′ E	411
10	Bromberg (L)	53° 08′ N.	18° 00′ E.	54
11	Zakopane (L)	49° 17′ N.	19° 58′ E.	830
12	Pinsk (L)	52° 07′ N.	26° 06′ E.	143
13	Danzig (C)	54° 21′ N.	18° 40′ E.	11
14	Puck (C)	54° 43′ N.	18° 25′ E.	5
15	Hela (C)	54° 36′ N.	18° 48′ E.	6
16	Rozywie (C)	54° 50′ N.	18° 21′ E.	5
17	Chojnice (L)	53° 42′ N.	17° 34′ E.	181
18	Grudziadz (L)	52° 29′ N.	18° 45′ E.	25
19	Torun (L)	53° 01′ N.	18° 36′ E.	52
20	Cieszyn (L)	49° 45′ N.	18° 38′ E.	309
21	Przemysl (L)	49° 47′ N.	22° 47′ E.	204
22	Sniatyn (L)	48° 26′ N.	25° 34′ E.	243
23	Zdolbunow (L)	50° 30′ N.	26° 15′ E.	196
24	Kiwerce (L)	50° 49′ N.	25° 29′ E.	200
25	Brest-Litovsk (L)	52° 05′ N.	23° 40′ E.	136
26	Bialowieza (L)	52° 42′ N.	23° 51′ E.	180
27	Suwalki (L)	54° 06′ N.	22° 56′ E.	170
28	Baranowicze (L)	53° 09′ N.	26° 02′ E.	230
29	Turmont (L)	55° 43′ N.	26° 26′ E.	100

(C = Coastal Station. L = Inland Station.)

3. *Code.*

" Surface " observations in Old International.

Upper winds in special code.

4. *Form of Individual Messages.*—Messages commence with words " Météo Pologne."

0210 Message.—I_nI_n BBBDD FWTT βbb.

0810 Message.

Part I.—I_nI_n BBBDD FWTTC βbbRR MMmm.
Part II.—Upper winds in special code below.

1410 Message.

Part I.—I_nI_n BBBDD FWTT βbb.
Part II.—Upper winds in special code below.

1910 Message.—I_nI_n BBBDD FWTT βbb.

5. *Note.*—For units, *see* p. 82.

6. *Special Code.*

Upper Winds.

Five groups for each station :—

$D_1D_1V_1V_1D_2$ $D_2V_2V_2D_3D_3$ $V_3V_3D_4D_4V_4$ $V_4D_5D_5V_5V_5$ $D_6D_6V_6V_6$

where DD = Wind direction in Old International code for surface winds;

VV = Wind speed in metres per second;

and the suffixes relate to the following heights :—

Suffix.	Height.
1	500 metres.
2	1,000 ,,
3	1,500 ,,
4	2,000 ,,
5	3,000 ,,
6	4,000 ,,

ROUMANIA.

1. Transmitting Station - Bucharest-Herestrau.
Call Signal - B.U.C.
Message directed to - C.Q.
Wave Length - 7,500 m. c.w.

Times of Sending :—

0150 G.M.T. (observations at 0100 G.M.T.) S.
0750 G.M.T. (observations at 0700 G.M.T.) S.
1350 G.M.T. (observations at 1300 G.M.T.) S.
1850 G.M.T. (observations at 1800 G.M.T.) S.

2. *Station.*—Bucharest (L); Latitude, 44° 27′ N.; Longitude 26° 05′ E.

3. *Code.*—New International. [*See* p. 65 (Code of Nov. 1920 introduced July 15th, 1921).]

4. *Form of Individual Messages.*—Messages usually commence with words "Meteor Roumania."

0150 Message.—BBBDD FwwTT cbWVH ALaNh.

0750 Message.—BBBDD FwwTT cbWVH ALaNh RRmmr.

1350 Message.

Part I.—BBBDD FwwTT cbWVH ALaNh.

Part II.—Upper winds h_1ddvv &c.

1850 Message.—BBBDD FwwTT cbWVH ALaNh RRMMr.

5. *Notes.*

(1) For units, *see* p. 82.

(2) The upper wind observations included in the 1350 message are usually made between 0600 and 0800 G.M.T.

SPAIN.

1. Transmitting Station - Carabanchel (Madrid).
Call Signal - - - E.G.C.
Messages directed to - C.Q.
Wave Length - - - 2000 m. spk.

Times of Sending :—

1000 G.M.T. (observations at 0700 G.M.T.) S., U.W.

1530 G.M.T. (observations at 1300 G.M.T.) S.

2030 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
MD	Madrid - - -	40° 24′ N.	03° 41′ W.
LC	Corunna - - -	43° 22′ N.	08° 25′ W.
SF	San Fernando -	36° 27 N.	06° 13′ W.
BA	Barcelona - - -	41° 23′ N.	02° 09′ E.
SA	Santander - - -	43° 27′ N.	03° 48′ W.
VD	Valladolid - - -	41° 39′ N.	04° 43′ W.
ZA	Saragossa - - -	41° 40′ N.	00° 53′ W.
MA	Mahon - - -	39° 54′ N.	04° 18′ E.
BD	Badajoz - - -	38° 53′ N.	06° 56′ W.
CD	Cordova - - -	37° 51′ N.	04° 52′ W.
AI	Alicante - - -	38° 23′ N.	00° 25′ W.
AL	Almeria - - -	36° 51′ N.	02° 32′ W.
ME	Melilla - - -	35° 16′ N.	02° 58′ W.
TE	Tetuan - - -	35° 32′ N.	05° 22′ W.
IZ	Izana (Teneriffe) -	28° 15′ N.	16° 40′ W.

3. *Code.*—Special code.

4. *Form of Individual Messages.*—Messages commence with letters "S.M.E."

1000 Message.

Stations SF, LC and MA :—

I_nI_n BBBDD Fw_1w_1TT c_1bbRR $C_1d_1C_2d_2u$ $d_1d_1v_1v_1$ $d_1d_1v_1v_1$ &c.

Other stations :—

I_nI_n BBBDD Fw_1w_1TT c_1bbRR $C_1d_1C_2d_2N_h$ $d_1d_1v_1v_1$ $d_1d_1v_1v_1$, etc.

where

w_1w_1 = present weather.
c_1 = characteristic of barometric tendency.
C_1, C_2 = forms of cloud to which d_1 and d_2 refer.
} *See* special codes (§ 6).
N_h = cloudiness of horizon.
d_1d_1 = direction of upper wind.
v_1v_1 = speed of upper wind.

d_1 = direction of motion of low cloud (scale 0–9. 0 = no motion; 1 = from N.; 2 = from N.E., &c. 9 = no observation).
d_2 = direction of motion of high cloud on same scale as d_1.
bb = amount of barometric tendency (millibars and tenths per three hours).
u = sea disturbance in Old International Code (page 81).

and the remaining symbols have the same significance as in the New International Code (page 65).

1530 Message.

Stations SF, LC and MA :—

I_nI_n BBBDD Fw_1w_1TT $c_1bbW_1W_1$ $C_1d_1C_2d_2u$.

Other stations :—

I_nI_n BBBDD Fw_1w_1TT $c_1bbW_1W_1$ $C_1d_1C_2d_2N_h$,

where W_1W_1 = past weather in special code below (§ 6).

2030 Message.—Same form as 1000 message but containing no observations of upper winds.

5. *Note.*

(1) For units, *see* page 82.

(2) If a figure is missing from a set of observations, the letter "x" is inserted in its place.

If a complete set of observations is missing the word "falta" is transmitted after the index letters of the station.

6. *Special Codes.*

Present Weather (w_1w_1). Past Weather (W_1W_1). — For particulars, *see* M.O. 237, pp. 29–3 (International Meteorological Committee Minutes of a Meeting of Members, London July, 1919). Also Annex G of the Convention for the Regulation of Aerial Navigation (H.M Stationery Office, London, 1920).

Characteristic of Barometric Tendency (c_1).

Code Figure.

0	Steady.
1	Rising.
2	Rising then steady.
3	Rising then falling.
4	Falling or steady, then rising.
5	Falling.
6	Falling then steady.
7	Falling then rising.
8	Rising or steady, then falling
9	Line squall.

Form of Low Cloud (C_1).

0	No low cloud.
1	Fracto-cumulus.
2	Mammato-cumulus.
3	Low strato-cumulus.
4	High strato-cumulus.
5	Nimbus.
6	Cumulus.
7	Cumulo-nimbus.
8	Stratus.
9	No observation.

Form of High Cloud (C_2).

0	No high cloud.
1	Cirrus.
2	Cirro-stratus.
3	Cirro-cumulus.
4	False cirrus.
5	Thin alto-stratus.
6	Thick alto-stratus.
7	Alto-cumulus (low).
8	Alto-cumulus (high).

Cloudiness of Horizon (N_h).

0	All the horizon without cloud.
1	Clouds in the North part of the horizon.
2	Clouds in the East part of the horizon.

6. *Special Codes*—cont.

Code Figure.

3	Clouds in the South part of the horizon.
4	Clouds in the West part of the horizon.
5	All the horizon covered with clouds except the first quadrant.
6	All the horizon covered with clouds except the second quadrant.
7	All the horizon covered with clouds except the third quadrant.
8	All the horizon covered with clouds except the fourth quadrant.
9	All the horizon covered with cloud.

Upper Winds ($d_1d_1v_1v_1$).

These are reported by five groups each of the form $d_1d_1v_1v_1$, referring respectively to the five heights 250m., 500m., 1000m., 2000m., and 3000m.

d_1d_1 = wind direction (scale 01–32; where 08 = E.; 16 = S.; 24 = W.)

v_1v_1 = wind speed in metres per second.

SWEDEN.

1. Transmitting Station - Karlsborg.
Call Signal - - - S.A.J.
Messages directed to - C.Q.
Wave Length - - - 4200 m. c.w.

Times of Sending :—

0740 G.M.T. (observations at 0700 G.M.T.) S.; U.W.
1340 G.M.T. (observations at 1300 G.M.T.) S.; U.W.
1840 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations :—*

Index.	Name.	Latitude.	Longitude.
01	Karesuando (L) -	68° 27′ N.	22° 30′ E.
02	Riksgränsen (L) -	68° 25′ N.	18° 07′ E.
03	ABISKO (L) - -	68° 21′ N.	18° 47′ E.
04	Kiruna (L) - -	67° 51′ N.	20° 14′ E.
05	Suorvajaure (L) -	67° 32′ N.	18° 14′ E.
07	Gallivare (L) -	67° 08′ N.	20° 40′ E.
09	Jockmock (L) - -	66° 36′ N.	19° 51′ E.
11	HAPARANDA (L) -	65° 50′ N.	24° 09′ E.
14	Piteå (L) - - -	65° 19′ N.	21° 29′ E.
15	STENSELE (L) -	65° 04′ N.	17° 10′ E.
16	Gäddede (L) - -	64° 30′ N.	14° 07′ E.
19	Umeå (L) - - -	63° 49′ N.	20° 17′ E.
21	Storlien (L) - -	63° 19′ N.	12° 06′ E.
22	ÖSTERSUND (L) -	63° 11′ N.	14° 39′ E.
24	HÄRNOSAND (C) -	62° 37′ N.	17° 57′ E.

2. *Stations*—cont.

Index.	Name.	Latitude.	Longitude.
26	Sveg (L)	62° 03′ N.	14° 25′ E.
27	Bjuråker (L)	61° 52′ N.	16° 34′ E.
28	SÄRNA (L)	61° 41′ N.	13° 07′ E.
30	Gävle (L)	60° 40′ N.	17° 10′ E.
31	Falun (L)	60° 37′ N.	15° 38′ E.
32	Gustafsfors (L)	60° 10′ N.	13° 47′ E.
34	Upsala (L)	59° 51′ N.	17° 37′ E.
35	Vasterås (L)	59° 37′ N.	16° 33′ E.
36	KARLSTAD (L)	59° 23′ N.	13° 30′ E.
37	STOCKHOLM (L)	59° 21′ N.	18° 03′ E.
38	Örebro (L)	59° 16′ N.	15° 13′ E.
39	Strömstad (L)	58° 56′ N.	11° 11′ E.
41	Äskersund (L)	58° 53′ N.	14° 54′ E.
42	Nyköping (L)	58° 45′ N.	17° 01′ E.
44	Linköping (L)	58° 25′ N.	15° 38′ E.
45	Skara (L)	58° 24′ N.	13° 27′ E.
46	Vanersborg (L)	58° 23′ N.	12° 20′ E.
47	Ulricehamn (L)	57° 48′ N.	13° 25′ E.
48	JÖNKÖPING (L)	57° 47′ N.	14° 10′ E.
49	Västervik (L)	57° 46′ N.	16° 39′ E.
50	Borås (L)	57° 43′ N.	12° 56′ E.
51	Göteborg (L)	57° 42′ N.	11° 58′ E.
52	WISBY (C)	57° 39′ N.	18° 18′ E.
55	Växjö (L)	56° 53′ N.	14° 49′ E.
57	Halmstad (C)	56° 40′ N.	12° 52′ E.
58	KALMAR (C)	56° 40′ N.	16° 22′ E.
59	Karlshamn (C)	56° 10′ N.	14° 52′ E.
61	Kristianstad (L)	56° 02′ N.	14° 10′ E.
62	Lund (L)	55° 42′ N.	13° 12′ E.
63	Malmö (L)	55° 37′ N.	13° 02′ E.
65	Bjuröklubb (C)	64° 29′ N.	21° 35′ E.
78	Ölands Norra Udde (C).	57° 22′ N.	17° 06′ E.

Note.—(C) = Coastal Station. L = Inland Station.

3. *Code.*—New International (cloud group modified). [*See* page 65 (Code of Nov. 1920 introduced July 1st, 1921, amendments of Sept. 1921 introduced Jan. 1st, 1922].)

4. *Form of Individual Messages.*—Messages commence with words " Météo Suede."

0740 Message.

Part I. Station 03.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr C_1ddVV.

Other stations.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr.

Part II. preceded by word " Pilot." Upper winds from stations 03, 22, 37.—I_nI_n $h_1$ddvv, &c.

1340 Message.

Part I. Station 03.—I_nI_n BBBDD FwwTT cbWVH ALaNh C_1ddVV.

Other stations.—I_nI_n BBBDD FwwTT cbWVH ALaNh.

Part II.—As Part II. of 0740 message.

1840 Message.—As Part I. of 0740 message.

5. *Notes.*

(1) For units *see* p. 82.

(2) Stations 03, 11, 15, 22, 24, 28, 36, 37, 48, 52, 58 alone are transmitted normally. Should any be missing other stations from the above list are inserted in their place.

(3) In the nephoscope group the unit for VV is such that the actual speed is given in metres per second by the expression $\frac{h}{1000}$ VV, where h is the height of the cloud in metres.

6. *Special Codes.*

Interpretation of Cloud Group (ALaNh).

Swedish observers are instructed that " A " shall be the form of the predominant *low cloud* and " L " the amount of *low cloud*, "a" the form of predominant *high cloud*, and " N " the total amount of cloud. Most observers denote by " 0 " not only St. or Fr. St., but also absence of cloud, respectively low or high. The following are examples of the interpretation of the cloud group :—

Date.	Time.	Station.	Cloud Group.	Low Cloud.	High Cloud.	Total Amount.
Sept. 14th, 1921	1800	Karlstad	6406x	St.Cu. 4	Nil	4
Sept. 14th, 1921	1800	Särna	00289	Nil	Ci. St. 8	8
Sept. 14th, 1921	1800	Haparanda	70x0x	Nb. 10	Unknown	10
Sept. 14th, 1921	0700	Abisko	69x95	St. Cu. 9	Unknown	9

NORTH AFRICA.

ALGERIA, TUNIS AND MOROCCO (*a*).

1. Transmitting Station - Médiouna.
Call Signal - C.N.M.
Messages directed to - C.Q.
Wave Length - 5000 m. c.w.

Times of Sending :—

0845 G.M.T. (observations at 0700 G.M.T S ; U.W.
1430 G.M.T. (observations at 1300 G.M.T.) S.
1945 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Tangier - - -	35° 42′ N.	05° 55′ W.
03	Rabat - - -	34° 00′ N.	06° 50′ W.
04	Casablanca - -	33° 37′ N.	07° 34′ W.
07	Agadir - - -	30° 26′ N.	09° 32′ W.
09	Mequinez - - -	33° 45′ N.	05° 15′ W.
12	Taza - - -	34° 15′ N.	04° 00′ W.
15	Bu-denib - - -	31° 55′ N.	03° 10′ W.

Code.

"Surface" observations in Old International.
Upper winds as in Eiffel Tower messages (p. 25).

4. *Form of Individual Messages.*—Messages commence with words "Météo Rabat."

0845 Message.

Part I.—I_nI_n BBBDD FWTT βbbu.

Part II.—Upper winds from three stations.—I_nI_n $D_1V_1D_2V_2D_3V_3$ $D_4V_4D_5V_5D_6V_6$ (*see* p. 25, § 6).

1430 and 1945 Messages.—I_nI_n BBBDD FWTT βbb.

5. *Note.*

(1) For units, *see* p. 82.
(2) These messages are repeated from Oran (*see* p. 61).

ALGERIA, TUNIS AND MOROCCO (*b*).

1. Transmitting Station - Oran (Ain-el-Turck).
Call Signal - - - F.U.K.
Messages directed to - C.Q.
Wave Length - - - 3300 m. c.w.
Times of Sending :—
0300 G.M.T. (observations at 0100 G.M.T.) S.
0900 G.M.T. (observations at 0700 G.M.T.) S.; U.W.
1145 G.M.T. (*see* page 63).
1445 G.M.T. (observations at 1300 G.M.T.) S.
2000 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
31	Oran (La Senia) -	35° 44′ N.	00° 41′ W.
32	Algiers - - -	36° 45′ N.	03° 02′ E.
33	Constantine - -	36° 20′ N.	06° 33′ E.

3. *Code.*

"Surface" observations in Old International (modified).
Upper winds as in Eiffel Tower messages (p. 25).

4. *Form of Individual Messages.*—Messages commence with words "Météo Oran."

0300 Message.—Station 31 only.—BBBDD FWTT βbb.

0900 Message.

Part I.—I_nI_n BBBDD FWTTV βbbRR MMmmu, where V is horizontal visibility, in special code below (§ 6.)

Part II. — Upper winds. — I_nI_n $D_1V_1D_2V_2D_3V_3$ $D_4V_4D_5V_5D_6V_6$ (*see* p. 25, § 6.)

Part III.—Repetition of 0845 message from Médiouna (p. 60).

1445 and 2000 Messages.

Part I.—I_nI_n BBBDD FWTT βbb.

Part II.—Repetion of 1430 and 1945 messages respectively from Médiouna (p. 60).

5. *Note.*

(1) For units, *see* p. 82
(2) The observation of sea disturbance (u) for Oran is made at Cap Falcon
(3) These messages are repeated from Bizerta (*see* p. 62).

6. *Special Code.*

Horizontal Visibility (V).

0 = Objects not visible at 50 m.
1 = Objects not visible at 100 m.
2 = Objects not visible at 500 m.
3 = Objects not visible at 1000 m.
4 = Objects not visible at 2000 m.
5 = Objects not visible at 4000 m.
6 = Objects not visible at 10000 m
7 = Objects not visible at 20000 m.
8 = Objects not visible at 50000 m.
9 = Objects not visible at 50000 m.

ALGERIA, TUNIS AND MOROCCO (*c*).

1. Transmitting Station - Bizerta (Sidi-Abdallah).
Call Signal - - - F.U.A.
Messages directed to - C.Q.
Wave Length - - - { 5150 m. c.w. / 1350 m. spk. at 1200 G.M.T.
Times of Sending :—
0315 G.M.T. (observations at 0100 G.M.T.) S.
0920 G.M.T. (observations at 0700 G.M.T.) S.; U.W
1200 G.M.T. *see* page 63.
1520 G.M.T. (observations at 1300 G.M.T.) S.
2020 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
61	Tunis - - -	36° 50′ N.	10° 10′ E.
62	Bizerta (Carouba) -	37° 16′ N.	09° 48′ E.
63	Sfax - - - -	34° 48′ N.	10° 46′ E.

3. *Code.*

"Surface" observations in Old International (modified).
Upper winds as in Eiffel Tower messages (p. 25).

4. *Form of Individual Messages.*—Messages commence with words "Météo Afrique."

0315 Message.—Station 61 only.

Part I.—BBBDD FWTT βbb.

Part II.—Repetition of 0300 message from Oran (p. 60).

0920 Message.

Part I.—I_nI_n BBBDD FWTTV βbbRR MMmmu, where V denotes horizontal visibility, in special code (p. 61).

Part II.—Upper winds at Bizerta.—I_nI_n $D_1V_1D_2V_2D_3V_3$ $D_4V_4D_5V_5D_6V_6$ (*see* p. 25, § 6.)

Part III.—Repetition of 0900 message from Oran (p. 61).

1520 and 2020 Messages.

Part I.—I_nI_n BBBDD FWTT βbb.

Part II.—Repetition of 1445 and 2000 messages respectively from Oran (p. 61).

5. *Note.*

(1) For units *see* p. 82.

(2) The observation of sea disturbance (u) for Bizerta is made at Cap Blanc.

ALGERIA, TUNIS AND MOROCCO (*d*).

1. Transmitting Stations - Oran. Bizerta.
Call Signals - - - F.U.K. F.U.A.
Messages directed to - C.Q. C.Q.
Wave Lengths - - - 3300 m. c.w. 1350 m. spk.
Times of Sending - - 1145 G.M.T. 1200 G.M.T.

(Observations at 0700 G.M.T.) S.; F.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
FAL	Cap Falcon (C) - -	35° 45′ N.	00° 50′ W.
ALG	Algiers (C) - -	36° 45′ N.	03° 02′ E.
NEM	Nemours (C) - -	35° 06′ N.	01° 53′ W.
TNS	Ténès (C) - - -	36° 29′ N.	01° 17′ E.
CLB	Colomb Bechar (L) -	31° 55′ N.	02° 00′ W.
LAG	Laghouat (L) - -	33° 48′ N.	02° 53′ E.
TOU	Tougourt (L) - -	33° 13′ N.	05° 53′ E.
SFX	Sfax (C) - - -	34° 48′ N.	10° 46′ E.
BZR	Bizerta (Carouba) (C)	37° 16′ N.	09° 48′ E.
GAR	Cap de Garde (C) -	36° 55′ N.	07° 45′ E.
CST	Constantine (L) -	36° 20′ N.	06° 33′ E.
TGR	Tangier (C) - -	35° 42′ N.	05° 55′ W.
RAB	Rabat (C) - - -	34° 00′ N.	06° 50′ W.

(C=Coastal Station ; L=Inland Station.)

3. *Code.*

"Surface" observations in Old International (modified).
General situation and forcast in plain language.

4. *Form of Individual Messages.*—Messages commence with words "Météo Alger."

1145 Message.—First seven stations only.

Part I.—$I_nI_nI_n$ BBDDF WbVu (Coastal Stations);
$I_nI_nI_n$ BBDDF Wb (Inland Stations);
where BB is pressure, in whole millimetres.
V is horizontal visibility, in special code (p. 61);
b is barometric tendency, in special code below (§ 6).

Part II.—General situation and forecast for N. African coasts.

1200 Message.—Repetition from Bizerta of 1145 message from Oran, with addition of observations at remaining six stations.

5. *Note.*—For units, *see* p. 82.

6. *Special Code.*

Barometric Tendency (b) *in Half Millimetres.*

0 = Steady - - - - -	0 or 1.
1 = Rising slowly - - - -	2 or 3.
2 = Rising - - - - -	4 to 7.
3 = Rising rapidly - - - -	8 to 12.
4 = Rising very rapidly - - -	More than 12.
5 = Falling slowly - - - -	2 or 3.
6 = Falling - - - - -	4 to 7.
7 = Falling rapidly - - - -	8 to 12.
8 = Falling very rapidly - - -	More than 12.

EGYPT.

1. Transmitting Station - Cairo : Royal Air Force.
Call Signal - - - B.V.T.
Message directed to - C.Q.
Wave Length - - - 1800 m. c.w
Time of Issue - - - 0630 G.M.T. (observations at 0500 G.M.T.) S.; U.W.

2. *Stations* (Royal Air Force).

Index.	Name.	Latitude.	Longitude.
01	Sollum - - -	31° 30′ N.	25° 15′ E.
02	Aboukir - -	31° 21′ N.	30° 06′ E.
04	Helwan - -	29° 55′ N.	31° 12′ E.
05	Heliopolis - -	31° 07′ N.	31° 25′ E.
07	Abu Sueir - -	30° 35′ N.	32° 09′ E.
08	Ismailia - - -	30° 40′ N.	32° 20′ E.
10	Suez - - - -	29° 56′ N.	32° 35′ E.
11	Ramleh - - -	31° 54′ N.	34° 54′ E.
12	Baghdad - - -	33° 21′ N.	44° 32′ E.
13	Mosul - - -	36° 19′ N.	43° 09′ E.
14	Shaibah - - -	30° 00′ N.	39° 20′ E.

2. *Stations* (Royal Air Force)—cont.

Index.	Name.	Latitude.	Longitude.
15	Bushire - - -	28° 59′ N.	50° 50′ E.
16	Bandar Abbas - -	27° 12′ N.	56° 15′ E.
17	Charbar - - -	25° 15′ N.	60° 42′ E.

3. *Code.*—New International (modified). *See* p. 65.

4. *Form of Individual Messages.*

0630 Message.—I_nI_nPPR BBBDD FWWTT cbWVH $h_2$ddvv, &c.,

where I_nI_n is the station index number;

PP, the Cairo time of observation (to nearest hour). Subtract 2 hours to get G.M.T.

R, the manner in which pilot balloon is lost (code below (§ 6)).

h_2, the height at which upper wind is reported (code below (§ 6)).

5. *Note.*

(1) For units, *see* p. 82.

(2) Pilot balloon ascents are made as near 0500 G.M.T. as possible. When extra ascents are made they are prefixed by the group I_nI_nPPR.

(3) Missing figures are replaced by letter " x ".

(4) In the event of fog on or in vicinity of station, particulars of its direction and character are given in plain language at the end of the message.

6. *Special Codes.*

Manner in which Pilot-balloon is lost (R).

1 = Lost in cloud; termination of ascent marks cloud level.
2 = Eclipsed by lower cloud.
3 = Lost in distance or haze.
4 = Lost in bright sun or moonlight.
5 = Balloon burst.
6 = Lost accidentally.
7 = Confused with star, last group uncertain.
8 = Confused with star, last two groups uncertain.
9 = None of the above apply.

Height at which Upper Wind is reported (h_2).

0 = Surface.
1 = 1000 feet,
2 = 2000 feet,
&c.

10,000 feet is also reported as 0.
11,000 feet is also reported as 1.
&c.

Upper winds are normally given at 1000, 3000, 6000 and 10,000 feet.

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 situtation 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.)

$B_1B_1B_1$ = 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 5*s*.
(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).

C_1 = 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.")

F_1 = 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).

H_1 = Heights at which upper air temperature and humidity are reported (no code figure telegraphed) (*see* Code XII., p. 78).

h_1 = 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.

t_1t_1 = 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).

w_1 = The initial figure of the code ww, thus indicating the general state of the weather.

x_1 = A check figure obtained by adding the first four figures of the group and taking the units figure in the sum so obtained.

x_2, x_3, x_4, x_5 = Check figures obtained in a similar manner.

y_1 = 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.

y_2, y_3, y_4 = 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 C_1ddVV,

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

BBBDD FwwTT cbWVH ALaNh RRjjr C_1ddVV,

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 C_1ddVV, containing cloud observations by nephoscope, is omitted entirely* if no such observations are available.

(*b*) *Upper Winds* are reported by groups of the form $h_1$ddvv, 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 H_1 (p. 78) in order.

Inversions are reported at the end by groups ooooo $B_1B_1B_1t_1t_1$, the first being an index group indicating that an inversion is reported, while $B_1B_1B_1$ is the pressure in whole millibars at the height of the inversion and t_1t_1 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, I_1I_1, I_2I_2, &c., preceding them.

I_1I_1 BBBDD FwwTT cbWVH ALaNh RRjjr C_1ddVV.
I_2I_2 BBBDD FwwTT cbWVH ALaNh RRjjr C_1ddVV.

* 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. - - -

		Code figures.
Fog or Mist	Fog or mist but clear in zenith	for some time 26
	,, and apparently overcast.	for some time 27
	,, but clear in zenith	for some time, becoming thicker. 28
	,, and apparently overcast.	for some time, becoming thicker. 29
Passing Showers.	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
	,, sleet	38
	,, snow	39
Drizzle	Slight occasional	40
	,, continuous	41
	,, but increasing	42
	Moderate but decreasing	43
	,, occasional	44
	,, continuous	45
	,, but increasing	46
	Thick but decreasing	47
	,, occasional	48
	,, continuous	49
Rain	Slight occasional	50
	,, continuous	51
	,, but increasing	52
	Moderate but decreasing	53
	,, occasional	54
	,, continuous	55
	,, but increasing	56
	Heavy but decreasing	57
	,, occasional	58
	,, continuous	59
Snow or *Snow and Hail.*	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.
Sleet or *Rain and Snow.*	Slight occasional	70
	,, continuous	71
	,, but increasing	72
	Moderate but decreasing	73
	,, occasional	74
	,, continuous	75
	,, but increasing	76
	Heavy but decreasing	77
	,, occasional	78
	,, continuous	79
Hail or *Rain and Hail.*	Slight occasional	80
	,, continuous	81
	,, but increasing	82
	Moderate but decreasing	83
	,, occasional	84
	,, continuous	85
	,, but increasing	86
	Heavy but decreasing	87
	,, occasional	88
	,, continuous	89
Thunderstorm (or Line squall)	Slight thunderstorm without hail	90
	,, ,, with hail	91
	Moderate thunderstorm without hail	92
	,, ,, with hail	93
	Heavy thunderstorm without hail	without gale 94
	,, ,, with hail	without gale 95
	,, ,, without hail	with gale 96
	,, ,, with hail	with 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.	The barometer is now higher than or the same as three hours ago.
1 = + 0	Rising then steady	
2 = + −	Rising then falling.	
3 = − + or 0 +	Falling or steady then rising.	
4 = unsteady +	Unsteady but rising	
5 = −	Falling.	The barometer is now lower than three hours ago.
6 = − 0	Falling then steady.	
7 = − +	Falling then rising.	
8 = 0 − or + −	Steady or rising then falling.	
9 = unsteady −	Unsteady but falling.	

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.
	4 —	Thick fog.
Precipitation.	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 ($1\frac{1}{4}$ miles).
5 = Objects not visible at 4,000 metres ($2\frac{1}{2}$ miles).
6 = Objects not visible at 10,000 metres ($6\frac{1}{4}$ miles).
7 = Objects not visible at 20,000 metres ($12\frac{1}{2}$ miles).
8 = Objects not visible at 50,000 metres ($31\frac{1}{4}$ 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 $\frac{1}{2}$ 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, C_1 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:—

Specification of certain meanings.

Code figures.	Meaning.
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	Calm or slight sea.
1	Moderate swell	
2	Heavy swell.	
3	No swell.	Moderate sea.
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.	and sea smooth to moderate.
1	Moderate swell.	
2	Heavy swell.	
3	Long low swell.	
4	Confused swell.	
5	No or slight swell.	and sea rough.
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, 500 metres	above ground.
1,000 metres, 1,500 metres, 2,000 metres, 2,500 metres, 3,000 metres, 4,000 metres, 5,000 metres, 6,000 metres	above mean sea level.

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. If in km. per hour.	Corresponding Mean Speed. If in miles per hour.	Limits of Speed. If in km. per hour.	Limits of Speed. 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 2*s.*]

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 FWTTC βbbRR MMmmu.

III.—SPECIFICATION OF THE SCALES.

Code I.

State of the Sky (W).

Code figure.		Code figure.	
0	Sky cloudless.	5	Rain.
1	Sky $\frac{1}{4}$ covered.	6	Snow.
2	Sky $\frac{1}{2}$ covered.	7	Mist.
3	Sky $\frac{3}{4}$ covered.	8	Fog.
4	Sky overcast.	9	Thunderstorm.

Code II.

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

Code figure.		Code figure.	
0	Clouds with no appreciable movement.	5	Clouds from S.W.
1	Clouds from N.E.	6	Clouds from W.
2	Clouds from E.	7	Clouds from N.W.
3	Clouds from S.E.	8	Clouds from N.
4	Clouds from S.	9	No observation.

Code III.

Characteristic of Tendency (β).

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

Code figure.		Code figure.	
0	Barometer steady.	5	Barometer steady then rising.
1	Barometer unsteady.	6	Barometer steady then falling.
2	Barometer rising.	7	Barometer falling then steady.
3	Barometer falling.	8	Barometer rising then steady or falling.
4	Barometer falling then rising.	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 exceedings 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, TEMPERATURE AND UPPER WIND SPEED.

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

Time G.M.T.	Country.	Details on page.
1355	Bulgaria - - -	18
1400	Great Britain (*a*) -	5
1410	Poland - - -	51
1420	France (*a*) - - -	23
1424	Belgium (*b*) - -	17
1428	France (*c*) - - -	28
1430	Algeria, Tunis and Morocco (*a*) - -	59
1435	Great Britain (*d*) -	10
1445	Algeria, Tunis and Morocco (*b*) - -	60
1450	France (*c*) - - -	28
1455	Finland - - -	21
1505	Holland (*c*) - -	43
1520	Algeria, Tunis and Morocco (*c*) - -	61
1520	Austria - - -	15
1524	Belgium (*b*) - -	17
1528	France (*c*) - - -	28
1530	Czecho-Slovakia - -	18
1530	Spain - - - -	54
1535	Great Britain (*d*) -	10
1545	Jugo-Slavia - -	47
1550	Germany (*b*) - -	35
1550	France (*c*) - - -	28
1605	Great Britain (*e*) -	12
1605	Germany (*c*) - -	39
1620	Jugo-Slavia - -	47
1624	Belgium (*b*) - -	17
1628	France (*c*) - - -	28
1635	Great Britain (*d*) -	10
1650	France (*c*) - - -	28
1805	Great Britain (*e*) -	12
1815	Belgium (*a*) - -	16
1830	Holland (*a*) - -	42
1835	Denmark - - -	19
1840	Gibraltar - - -	41
1840	Sweden - - -	57
1850	Norway (*a*) - -	49
1850	Roumania - - -	53
1900	Great Britain (*a*) -	5
1910	Poland - - -	51
1920	France (*a*) - - -	23
1940	Germany (*a*) - -	33
1945	Algeria, Tunis and Morocco (*a*) - -	59
1955	Finland - - -	21
2000	Algeria, Tunis and Morocco (*b*) - -	60
2000	Great Britain (*b*) -	8
2005	Germany (*b*) - -	35
2020	Algeria, Tunis and Morocco (*c*) - -	61
2020	Germany (*c*) - -	39
2030	Czecho-Slovakia - -	18
2030	Spain - - - -	54
2045	Italy - - - -	45
2055	Norway (*c*)	51
2100	Esthonia - - -	20
2150	Great Britain (*c*) -	8
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.)

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GREAT BRITAIN.

1. (1.7.22).*

page 5, *paragraph* 1.

Substitute wave lengths

"1,400 m. cw. at 0200 G.M.T.
4,100 m. cw. at other times."

Add note :—

"In cases where breakdown of the main set, or other delay in commencing transmission on 4,100 metres is occasioned, should transmission not have been commenced at the expiration of ten minutes the message will be issued on 1,400 metres commencing at ten minutes after the routine hour."

Delete from " special issue " *to end of paragraph.*

page 7, *paragraph* 4.

Delete 0830 *message completely.*

page 8. *After note* (5) *add :—*

(6) Ships messages not included in the issues at 0700, 1400, 1900 G.M.T, will usually be added to the next morning's issue at 0600 G.M.T.

page 8. *General Inference.*

Substitute new wave length 4100 m. cw.

2. (1.7.22).

Reports from the Faröes and Iceland are now included in the British Synoptic Issues relating to the same hour of observation.

Amend as follows :—

page 6, *paragraph* 2. *Add :—*

Index.		Station.	Latitude.	Longitude.
91	-	Thorshavn	62° 00′ N	06° 45′ W
92	-	Seydisfjord	65° 20′ N	13° 40′ W
93	-	Akureyri	65° 40′ N	18° 00′ W
94	-	Isafjord	66° 15′ N	23° 30′ W
95	-	Reykjavik	64° 08′ N	21° 59′ W
96	-	Vestmanna	63° 30′ N	20° 20′ W

page 7, *paragraph* 3. *Add :—*

"Icelandic reports in New International Code."

* The date given after the number of an amendment is that at which it comes into force.

page 7, *paragraph* 4.

To part I. of 0800 *message add :—*

"Stations 91 and 95,—$B_2B_2cb^1b^1$ BBBDD FwwTT cbWVH ALaNh.

Stations 92, 93, 94, 96,—$B_2B_2cb^1b^1$ BBBDD FwwTT cbWAN.

where B_2B_2 gives pressure at 0100 G.M.T. in whole millimetres;

cb^1b^1 gives the characteristic and amount of barometric tendency at 0100 in half millimetres;

and the remaining symbols have the same significance as in New International Code (p. 65).

To 1400 *and* 1900 *messages add :—*

"Stations 91 and 95,—BBBDD FwwTT cbWVH ALaNh (eventually C_1ddVV.)

Stations 92, 93, 94, 96,—BBBDD FwwTT cbWAN."

page 7, *paragraph* 5.

To note (1) *add :—*

"In the case of stations 91 to 96 the unit of pressure is the mm. and of temperature the degree centigrade."

Add note (6) :—

"The reports from stations 91 to 96 are usually distributed amongst those from British Stations in accordance with the recommendation of paragraph (1) p. 45 of M.O. 242, 'Report of the Third Meeting of the Commission for Weather Telegraphy.' "

3. (20.5.22*.)

page 10, *paragraph* 1.

To times of sending add :—

0335 G.M.T. (observations at 0300 G.M.T.) S.
0435 G.M.T. (observations at 0400 G.M.T.) S.

page 10, *paragraph* 4.

Add :—

0335 *message.*

Part I.—Stations 61, 62, 66,—$I_nI_n(V_s)$ wwVhL NDDFW.

Part II.—preceded by letters CDN :—Observations at Croydon 5 minutes before time of transmission of message in form wwVhL.

0435 *message.*

Part I.—Stations 61 and 66,—$I_nI_n(V_s)$ BBBDD FwwTT cbWVh ALaNh C_addF_1S.

Station 62,—$I_nI_n(V_s)$ wwVhL NDDFW C_addF_1S.

Part II.—Same form as Part II. of 0335 message.

* Issue of 0335, 0435, 0535 and 0635 messages on Sundays discontinued from July 16th, 1922.

m (5)18373 Wt 11246—7704/579 500 9/22

4. (3.7.22).
page 15.
Add particulars of new issue.

GREAT BRITAIN (g).

International Collective Message.

1. Transmitting Station - London (Air Ministry).
Call Signal - - - G.F.A.
Message directed to - C.Q.
Wave Length - - 4100 m. c.w.
Times of Sending - 0850 G.M.T. (observations at 0700 G.M.T.) S.
1450 G.M.T. (observations at 1300 G.M.T. and for certain stations at 0700 G.M.T.) S.

2. Stations (*see* notes in paragraph 5).

Index.	Name.	Index.	Name.
01	Jan Mayen.	11	Bear Island.
02	Ingoy.	12	Vardo.
03	Bronnoy.	13	Rost.
04	Lister.	14	Skudesnaes.
05	Kinn.	15	Valdersund.
06	Haparanda.	16	Härnosand.
07	Stockholm.	17	Wisby.
08	Copenhagen.	18	Bornholm.
09	Blaavands.	19	Hanstholm.
20	De Bilt.		
21	Helder.	31	Flushing.
22	Brussels.		
23	Paris.†		
24	Brest.†	34	St. Mathieu.†
25	Rochefort.†	35	Ile d'Aix.†
26	Bayonne.†	36	Bordeaux.†
27	Lyons.†	37	Dijon.†
28	Mayence.†	38	Strasbourg.†
29	Marignane.†	39	Toulon.†
30	Zurich.†	40	Bern.†
41	Corunna.×		
42	Horta.×	43	Ponta Delgada.×
		or 44	Funchal.×†
50	Berlin.×†	55	Hamburg.×†
51	Munich.×†	56	Vienna.×†
52	Warsaw.†	57	Lemberg.†
53	Posen.†	58	Breslau.×†
54	Prague.×	59	Kosice.×
60	Genoa.×†	65	Leghorn.×†
61	Rome.×†	66	Taranto.×†
80	Malta.×	69	Palermo.×†
81	Helwan.×		
84	Gibraltar.×		

3. *Code.*—New International [*see* page 65, (4) (Code of Sept. 1921 introduced July 3rd, 1922, the date of commencement of this issue.)]

4. *Form of Individual Messages.*
0850 *message.* I_nI_n BBDDF w_1TTK^1R
where for stations indicated † in the list above w_1 represents present weather in the Old International Code. (See Code I, page 80.)
1450 *message*
Observations at 1300 G.M.T.—I_nI_n BBDDF w_1TTK^1W.
Observations at 0700 G.M.T.—I_nI_n BBDDF w_1TTK^1R.

5. *Note.*—
(1) For units *see* p. 82. (British units employed throughout.)
(2) The stations in the second column of the list in paragraph 2 are only used when the information for the corresponding station on the same line in the first column is missing.
(3) For stations marked thus× 7h reports are issued at 1450 if not received in time for issue at 0850. No 13h reports are issued for these stations.
(4) For positions of stations *see* lists under heading of individual countries. (Swiss stations are given under France and Azores under Great Britain (*d*)). The following stations do not appear in any other list :—

	Latitude.	Longitude.
Brest - - - -	48° 23′ N	04° 27′ W
Funchal - - -	32° 37′ N	16° 54′ W
Palermo - - -	38° 07′ N	13° 22′ E

(5) In the case of stations from which past weather W is not received a hyphen is inserted in its place in the group.

5. AUSTRIA.

page 15, *paragraph* 2.

For	07 Grätz	lat. 49° 52′ N	long. 17° 54′ E.
read	07 Graz	lat. 47° 04′ N	long. 15° 26′ E.

BELGIUM.

6. (15.7.22).
page 16. *Delete* Belgium (*a*), paras. (1) to (5).
page 17. *Times of Sending. Add :—*
1824 G.M.T. (observations at 1800 G.M.T.) S., U.W.
Form of Individual Messages. Add :—
1824 *Message.* As 0724 message.
page 17. *Under "5. Note" add* (3) Index group is preceded by figure x where x is units digit in sum of figures wwVhL.

DENMARK.

7. (1.7.22).

page 19. *For paragraphs* 3 *and* 4 *substitute*—

3. *Code.*—New International [*see* page 65 (Code of Nov. 1920 with amendments of Sept. 1921 introduced 1st July 1922.)]

4. *Form of Individual Messages.*—Messages commence with words "Météo Danois."

0735 *message.*

Stations 01, 02.—I_nI_n BBBDD FwwTT cbWVH ALaNh $RRSV_sr$ C_1dd VV

Stations 03 to 05.—I_nI_n BBBDD FwwTT cbWVH ALaNh $RRSV_sr$

1335 *message.*

Stations 01, 02.—I_nI_n BBBDD FwwTT cbWVH ALaNh C_1ddVV.

Stations 03 to 05.—I_nI_n BBBDD FwwTT cbWVH ALaNh.

1835 *message.*

Same form as 0735 message.

page 20, *paragraph* 5.

Delete note (2) "Sea disturbance (u) etc. . . ."

FRANCE.

8. (June 1922).

An additional section is now added to the message transmitted from the Eiffel Tower at 1130 G.M.T., giving observations at American stations. Further, commencing 15th October, the observations sent out from the "Maud," Amundsen's polar expedition ship, will be included.

Amend as follows :—

page 26, *paragraph* 1. *After* "observations at 0700 G.M.T." *add* "observations at 0100 G.M.T. in the case of American stations."

page 27, *paragraph* 2. *Add*—

Index.	Station.	Lat.	Long.
J	St. John's, N.F.	47° 34′ N.	52° 42′ W.
S	Sydney, N.S.	46° 10′ N.	60° 10′ W.
FP	Father Pt.	48° 31′ N.	68° 19′ W.
PN	Parry Sound	45° 20′ N.	80° 00′ W.
WR	White River	48° 30′ N.	85° 10′ W.
WI	Winnipeg	49° 50′ N.	97° 10′ W.
LP	Le Pas	53° 45′ N.	101° 20′ W.
ED	Edmonton	53° 40′ N.	113° 20′ W.
T	Nantucket	41° 14′ N.	70° 07′ W.
WA	Washington	39° 00′ N.	77° 10′ W.
H	Hatteras	35° 14′ N.	75° 32′ W.
C	Charleston	32° 43′ N.	79° 52′ W.

Index.	Station.	Lat.	Long.
B	Bermuda	32° 17′ N.	64° 46′ W.
K	Key West	34° 33′ N.	81° 48′ W.
LR	Little Rock	34° 45′ N.	92° 20′ W.
NV	Nashville	36° 10′ N.	86° 50′ W.
V	Cleveland	41° 30′ N.	81° 40′ W.
CH	Chicago	41° 50′ N.	87° 45′ W.
DU	Duluth	46° 40′ N.	92° 20′ W.
HN	Huron	44° 25′ N.	98° 15′ W.
SLC	Salt Lake City	40° 45′ N.	111° 40′ W.
HL	Helena	46° 10′ N.	111° 50′ W.
DV	Denver	39° 48′ N.	105° 05′ W.
RO	Roseburg	43° 11′ N.	123° 10′ W.
TAT	Tatoosh	48° 23′ N.	124° 44′ W.
SF	San Francisco	37° 50′ N.	122° 30′ W.
DI	San Diego	32° 42′ N.	117° 15′ W.
FW	Fort Worth	32° 35′ N.	97° 25′ W.
EP	El Paso	31° 50′ N.	106° 20′ W.

page 27, *paragraph* 3. *Add* "American observations in special code."

page 27, *paragraph* 4. *Renumber* Part II. *as* Part III. *Add*—

"Part II. American observations :—

ddtt I_nI_n BBdF
I_nI_n BBdF
etc.

where dd is the day of the month, tt the hour of observation G.M.T., BB the barometric pressure to the nearest whole millimetre, d the direction of surface wind on scale 1 to 8 (1 = N.E., 2 = E., etc.) and F the wind force on Beaufort scale. At the end the names of the stations with highest and lowest pressure are repeated in full each followed by a group of the above form BBdf."

9. (20.5.22).

page 28, *paragraph* 1.

Delete 1228 G.M.T. (observations at 1200 G.M.T.) S.

Add 0328 G.M.T. (observations at 0300 G.M.T.) S.
0428 G.M.T. (observations at 0400 G.M.T.) S., U.W.
1228 G.M.T. (observations at 1200 G.M.T.) S., U.W.

page 29, *paragraph* 4.

Add—

0328 *Message.*

Part I. preceded by letters PLBA.—$I_nI_n(V_s)$ wwVhL NDDFW.

Part II. I_nI_n tt25 GMT wwVhL (observations at Paris only, made at time indicated by group tt25 GMT, 25 minutes after normal hour of observation tt.)

0428 *Message.*

Part I. preceded by letters PLBA.—$I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh C_adF_1S.

Part II. Upper winds at 0400 G.M.T. I_nI_nh $d_1d_1v_1v_1$ etc. (*see* § 6).

Part III. Same form as Part II. of 0328 message.

Delete Part III. of 0528 *message and substitute—*

Part III. Same form as Part II. of 0328 message.

Delete Parts I. and III. of 0728 *message and substitute—*

Part I. Same form as Part I. of 0428 message.

Part III. Same form as Part II. of 0328 message.

10. (15.6.22).

page 29. *Add footnote as first footnote on page* 10.

GERMANY.

11.

page 38, *paragraph* 5, *note* (5).

Add. "If the longitude is east of Greenwich, 500 is added to the figures lll."

12. (1.7.22).

page 33. *Germany* (*a*), *paragraph* 1.

For "0900 G.M.T." *substitute* "0840 G.M.T."

Add "1550 G.M.T. (see Germany *b*)."

page 34, *paragraph* 4.

For "0900 message" *substitute* "0840 message."

13. (1.7.22).

page 35. *Germany* (*b*).

Substitute new times of sending—

0650 G.M.T.
0850 G.M.T.
1550 G.M.T.
1950 G.M.T.

14. (1.7.22).

page 39. *Germany* (*c*), *paragraph* 1.

Substitute new times of sending—

0635 G.M.T.
0905 G.M.T.
1605 G.M.T.
2005 G.M.T.

page 39, *paragraph* 4.

For "0945 message" *substitute* "0905 message."

For "2020 message" *substitute* "2005 message."

15. (1.6.22).

page 33. *Germany* (*a*), *paragraph* 2.

Delete stations 34, 35, *and* 80.

Add stations 15, 16, 17, 18 *and* 19 *from list on pages* 35 *and* 36.

Renumber Vienna as station 20.

page 35. *Germany* (*b*), *paragraph* 2.

Substitute new list of stations :—

21	Helder.	43	Calshot.	65	Zurich.
22	Flushing.	44	Scilly.	66	Geneva.
23	De Bilt.	45	Holyhead.	67	Lugano.
24	Copenhagen.	46	Stornoway.	68	Prague.
25	Skagen.	47	Blacksod.	69	Budapest.
26	Hantsholm.	48	Valencia.	70	Belgrad.
27	Haparanda.	49	Helsingfors.	71	Bukarest.
28	Hernosand.	50	Sortavala.	72	Sofia.
29	Stockholm.	51	Dorpat.	75	Corunna.
30	Wisby.	52	Riga.	76	Madrid.
31	Karlstad.	53	Posen.	77	San Fernando.
32	Spitzbergen.	54	Warsaw.	78	Mahon.
33	Jan Mayen.	55	Kracau.	79	Maddalena.
34	Bear Island.	56	Lemberg.	80	Venice.
35	Ingo.	57	Pinsk.	81	Livorne.
36	Rost.	58	Mathieu.	82	Naples.
37	Valdersund.	59	Rochefort.	85	Algier.
38	Kinn.	60	Bayonne.	86	Bizerta.
39	Utsire.	61	Paris.	87	Malta.
40	Lerwick.	62	Dijon.	88	Seydisfjord.
41	Tynemouth.	63	Montpellier.	89	Thorshavn.
42	Yarmouth.	64		93	Horta.

For positions of most stations *see* original list; for remainder *see* lists under individual countries.

page 37 *paragraph* 4.

Substitute—

"Messages commence with
Funkobs Nacht at 0650.
Funkobs I. at 0850.
Funkobs II. at 1550.
Funkobs III. at 1950."

0650 message.—Code below (Note 2).

Observations at 0100 G.M.T. from Hamburg, Great Britain, Poland, France.

observations at 1800 G.M.T. (previous day) preceded by word "Nachtrag" from Finland, Prague, Budapest, Spain, Italy, North Africa.

0850 message.—Code below (Note 2).

Observations at 0700 G.M.T. from Holland, Denmark, Sweden, Norway, Great Britain, Esthonia, Poland, France, Switzerland, Belgrade, Bucharest, Sofia.

1550 message.—Code below (Note 2).
Observations at 1300 G.M.T. from Germany, Holland, Denmark, Sweden, Norway, England, Poland, France, Switzerland, Belgrade, Bucharest, Sofia.
Observations at 0700 G.M.T., preceded by word "Nachtrag" from Finland, Prague, Budapest, Spain, North Africa, Iceland, Horta.
1950 message.—Code below (Note 2).
Observations at 1800 G.M.T. from Holland, Denmark. Sweden, Norway, Great Britain, Poland, France, Switzerland, Belgrade, Bucharest, Sofia.
Observations at 1300 G.M.T., preceded by word "Nachtrag" from Finland, Prague, Budapest, Spain, North Africa.

page 38, *paragraph* 5, *note* (4).
Substitute—
"When observations from any stations in the list of paragraph 2 are missing, observations from neighbouring stations are included in the messages with the station names in full."

GREECE.

16. (20.4.22).
page 41. *Insert following particulars after those for Gibraltar :—*

GREECE.

1. Transmitting Station - - Athens.
   Call Signal - - - SXG.
   Messages directed to - CQ.
   Wave Length - - - 3600 m. spk.
   Times of Sending - - 0705 G.M.T. (observations at 0600 G.M.T.) S.

	Name.	Latitude.	Longitude.
2. *Station* - -	Athens.	37° 58′ N.	23° 43′ E.

3. *Code.*—New International [*see* page 65 (Code of Nov. 1920 with amendments of Sept. 1921 introduced 20th April 1922, the date of commencement of this issue)].
4. *Form of Individual Messages.*
   Messages commence with words "Météo Athénes."
   0705 *message.*—BBBDD FwwTT cbWVH ALaNh RRmmr.
5. *Note.*—For units *see* page 82.

HOLLAND.

17. (17.6.22*).
page 43, *paragraph* 1. *Add :—*
0445 G.M.T. (observations at 0420 G.M.T.) S.
0545 G.M.T. (observations at 0520 G.M.T.) S.
0645 G.M.T. (observations at 0620 G.M.T.) S.

* Issue of 0445, 0545 and 0645 messages discontinued from July 24th, 1922.

page 44, *paragraph* 4.
Add 0445 *Message.*
Part I. Station 5 or 6. $I_n(V_s)$ wwVhL NDDFW.
0545 *Message,* same form as 0445 message.
0645 *Message,* same form as 0445 message.
Add to 0745 *Message.*
Part II. Stations 5 and 6. $I_n(V_s)$ wwVhL NDDFW.
Delete in 0945 *Message the words* "same form as 0845 message."
and substitute
Part I. Stations 2, 5 and 6. $I_n(V_s)$ wwVhL NDDFW.
Part II. Same form as Part II. of 0845 message (revised forecast).
Delete Part I. of 1045 *message and substitute—*
Part I. Same form as 0745 message.

JUGO-SLAVIA.

18.
page 47, *paragraph* 2.
For longitude of Crikvenica, substitute 14° 40′ E.

19. (1.1.22.)
page 47.
Substitute new particulars :—

JUGO-SLAVIA.

1. Transmitting Station - Belgrade.
   Call Signal - - - H.F.B.
   Messages directed to - C.Q.
   Wave length - - 4600 m. C.W.
   Times of Sending - 0740 G.M.T. (observations at 0700 G.M.T.) S.
   1330 G.M.T. (observations at 1300 G.M.T.) S.
   1830 G.M.T. (observations at 1800 G.M.T.) S.
2. *Stations.*—As before.
3. *Code.*—New International [*see* page 65 (Code of Nov. 1920 introduced Jan. 1st, 1922).
4. *Form of Individual Messages.*—Messages commence with "Meteo S.H.S."
   0740 *message.*—I_aI BBBDD FwwTT cbWVH ALaNh RRmmr C_1ddVV.
   1330 *message.*—I_nI_n BBBDD FwwTT cbWVH AhaNh C_1ddVV.
   1830 *message.*—I_nI_n BBBDD FwwTT cbWVH ALaNh RRMMr C_1ddVV.
5. *Note.*—For units *see* page 82.

POLAND.

20.

page 52, *paragraph* 2.
Add—

Index.	Name.	Latitude.	Longitude.
30 -	Bialostock	53° 06′ N.	23° 18′ E.

NEW INTERNATIONAL CODE.

21.

page 76, *Code VIII* (*a*).
Substitute as follows :—

Code figure.		Code figure.	
0	No rain.	5	11 to 15 mm.
1	Trace or 0·1 mm.	6	16 to 20 mm.
2	0·2 to 2 mm.	7	21 to 30 mm.
3	3 to 5 mm.	8	31 to 50 mm.
4	6 to 10 mm.	9	Above 50 mm.

UNITS.

22.

page 82.
Add—

	Pressure.	Temperature.
Greece	mm.	°C.
Iceland	mm.	°C.

TIME TABLE.

page 83.

23. *Delete* 0830 Great Britain (*a*).

24. *Add* 0335 Great Britain (*d*).
0435 Great Britain (*d*).

25. *Add* 0850 Great Britain (*g*).
1450 Great Britain (*g*).

26. *Add* 1824 Belgium (*b*).
Delete 0715 Belgium (*a*).
1315 Belgium (*a*).
1815 Belgium (*a*).

27. *Add* 0328 France (*c*).
0428 France (*c*).

28. *Delete* 0900 Germany (*a*).
Add 0840 Germany (*a*).

29. *Delete* 0645 Germany (*b*).
0930 Germany (*b*).
2005 Germany (*b*).
Add 0650 Germany (*b*).
0850 Germany (*b*).
1950 Germany (*b*).

30. *Delete* 0945 Germany (*c*).
2020 Germany (*c*).
Add 0905 Germany (*c*).
2005 Germany (*c*).

31. *Add* 0705 Greece.

32. *Delete* 0720 Jugo-Slavia.
1050 Jugo-Slavia.
1545 Jugo-Slavia.
1620 Jugo-Slavia.
Add 0740 Jugo-Slavia.
1330 Jugo-Slavia.
1830 Jugo-Slavia.

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GREAT BRITAIN.

1. (1.10.22.)*

page 7, *paragraph* 5. (*See also* supplement 1, amendment 2.)

Add note :—

(7) On occasions when reports from any of the Icelandic stations are received in London too late for inclusion in the synoptic message containing British observations made at the same hour, they will be added to a later routine message transmitted from the Air Ministry, as follows :—

Reports normally included in message issued at :—	*If late, added to message issued at :—*	*If still later, added to message issued at :—*
0800 G.M.T.	0915 G.M.T.	1400 G.M.T.
1400 G.M.T.	1450 G.M.T.	1900 G.M.T.
1900 G.M.T.	2000 G.M.T.	0600 G.M.T.

In all cases where the reports are issued late they will commence with an indication of their nature, thus :—

" Iceland 0700."

page 8, Great Britain (b).

Add paragraph :—

3. *Note.*—Reports from Icelandic stations are occasionally added in code to these messages (*see* Great Britain (a)).

Supplement 1, *amendment* 4, *paragraph* 5.

Add note :—

(6) Reports from Icelandic Stations are occasionally added in code to the 1450 message (*see* Great Britain (a)).

2. (1.10.22.)

page 5, *paragraph* 1, wave length. (*See also* supplement I amendment 1.)

Delete 1400m. c.w. at 0200 G.M.T.

The 0200 message is now transmitted on wave length 4100 m. c.w.

3.

Supplement No. 1, *amendment No.* 3.

This amendment is cancelled. (0335 message discontinued Sept. 15th and 0435 message Oct. 14th.)

---

* The date given after the number of an amendment is that on which it comes into force.

4. (1.11.22.)

page 10, Great Britain (d), paragraphs 1 and 4.

Cancel details relating to 0535 and 0635 messages which have been discontinued.

5. (1.11.22.)

Supplement No. 1, *amendment No.* 4, Great Britain (g).

paragraph 1.

In the brackets after 0850 G.M.T. *substitute* " observations at 0700 G.M.T. and for certain Stations at 1800 G.M.T. previous day."

paragraph 2. *Substitute* new list of Stations :—

01	Jan Mayen	33	Bjornoya
		34	Spitzbergen
02	Ingoy	35	Vardo
		36	Abisko
03	Bronnoy	37	Rost
		38	Valdersund
04	Lister	39	Utsire
		40	Okso
05	Kinn	41	Bergen
		42	Faerder
06	Haparanda	43	Stensele
		44	Härnosand
		45	Östersund
07	Stockholm	46	Wisby
		47	Karlstad
		48	Särna
08	Copenhagen	49	Hammeren
09	Blaavands Huk	50	Hanstholm
		51	Skagen
10	Helder		
11	Flushing	52	De Bilt
		53	The Hague
12	Brussels		
13	Paris	54	Amiens
		55	Romilly
14	Brest	56	St. Mathieu
		57	Ushant
15	Rochefort	58	Ile d'Aix
		59	Toulouse
16	Bayonne	60	Bordeaux
		61	Cherbourg
17	Lyons	62	Dijon
		63	Valenciennes
18	Mayence	64	Strasbourg
		65	Metz

z 5)19230 Wt 22511—7905/89 375 1/23 A 2

19	Marignane	66	Toulon
		67	Le Havre
20	Zurich	68	Bern
		69	Geneva
21	Corunna×	70	Madrid×
		71	Valladolid×
22	Horta×	72	Ponta Delgada×
		73	Funchal†×
23	Berlin†×	74	Hamburg†×
		75	Swinemünde†×
24	Munich†	76	Vienna†
		77	Linz†×
		78	Innsbruck†×
25	Warsaw†	79	Lemberg†
		80	Lodz†×
		81	Cracow†×
26	Posen†	82	Tarnow†
		83	Lublin†×
		84	Pinsk†×
27	Prague	85	Kosice
		86	Cheb×
		87	Stara Dala×
28	Genoa†×	88	Leghorn†×
		89	Florence†×
29	Rome†×	90	Taranto†×
		91	Pesaro†×
30	Malta×	92	Palermo†×
		93	Cagliari†×
31	Helwan×	94	Limassol†×
32	Gibraltar	95	Lisbon†×

paragraph 5.

In note (2) *delete* words " on the same line."

Add :—If, in such a case, more than one of the alternative stations are available, the first is taken.

For note (3) *substitute* :—

For stations marked × the observations sent on the 0850 issue relate to 1800 G.M.T. of the prevous day and those on the 1450 issue to 0700 G.M.T. of same day.

To note (4) *add* :—

	Latitude.	Longitude.
Cherbourg	49° 39′ N.	01° 39′ W.
Pesaro	43° 55′ N.	12° 55′ E.
Cagliari	39° 14′ N.	09° 06′ E.
Limassol	34° 41′ N.	33° 05′ E.

6. AUSTRIA.

page 16, *paragraph* 5.

Add note :—

(3) Observations of upper wind are not included regularly in these messages, but may be added from time to time in the Lindenberg Code (*see* page 40).

7. BELGIUM.

page 16, Belgium (b), Call Signal.

Delete H.S. or B.A.V. *and substitute* O.P.O. (or O.P.V.H.).

8. CZECHO-SLOVAKIA.

page 18, *paragraph* 2.

Add Station :—

22 Vajnory-Bratislava 48° 13′ N. 17° 12′ E.

page 19, *paragraph* 4.

In part II. of 0930 message read :—

" Upper winds from Stations 01, 05, 22, 32, 34.

9. ESTHONIA.

page 20, *paragraph* 1, times of sending.

For 0740 G.M.T. *substitute* 0805 G.M.T.

10.

page 20, *paragraph* 4.

For phrase " where W″ is past weather in same code as in Nauen messages (p. 34) " *substitute* :

" where W″ is past weather in same code as for present weather (W) "

For W′ *substitute* W″.

FRANCE.

11. (15.10.22.)

page 23, France (a),

paragraph 1, *substitute new wave length* 7300 m. c.w.

Delete letter " F " in 0220 message.

paragraph 2.

Add Stations :—

Index.	Name.	Latitude.	Longitude.
05	Cherbourg - -	49° 30′ N.	01° 39′ W.
06	Clermont Ferrand -	45° 46′ N.	03° 05′ E.
12	Nîmes - - -	43° 51′ N.	04° 24′ E.
16	Perpignan - - -	42° 43′ N.	02° 53′ E.
17	Lorient - - -	47° 42′ N.	03° 20′ W.
23	Antibes - - -	43° 35′ N.	07° 07′ E.
24	Pontarlier - - -	46° 55′ N.	06° 20′ E.
25	Saint Raphael - -	43° 25′ N.	06° 45′ E.
33	Montelimar - -	44° 35′ N.	04° 43′ E.
35	Valenciennes - -	50° 22′ N.	03° 30′ E.
36	Abbeville - - -	50° 07′ N.	01° 49′ E.
37	Nancy - - -	48° 39′ N.	06° 09′ E.
38	Saint-Dizier - -	48° 39′ N.	04° 54′ E.
39	Epinal - - -	48° 12′ N.	06° 32′ E.
40	Mulhouse - - -	47° 46′ N.	07° 25′ E.
41	Avord - - -	48° 03′ N.	02° 45′ E.
42	Angoulême - -	45° 40′ N.	00° 13′ E.
43	Orléans - - -	47° 54′ N.	01° 54′ E.
44	Poitiers - - -	46° 35′ N.	00° 18′ E.
46	Puy-de-Dôme - - (1450 m.)	45° 46′ N.	02° 56′ E.
47	Pic-du-Midi - - (2860 m.)	42° 56′ N.	00° 08. E.
48	Mont-Ventoux - - (1900 m.)	44° 09′ N.	05° 17′ E.
49	Mont-Aigoul - - (1550 m.)	44° 08′ N.	03° 35′ E.
	For Station 11, *substitute :—*		
11	Brest - - - -	48° 23′ N.	04° 27′ W.

paragraph 3. *Delete completely and substitute :—*

"Surface observations and upper winds in special code; Ship observations in New International."

paragraph 4. *Substitute :—*

0220 *Message.*

Part I. Commencing "Météo France."

Stations 01 to 49. I_nI_n BBBTT cbbp $DDFN_1V$.

bb = tendency in tenths of a mm. (Whether positive or negative is indicated by c.)

p = present phenomenon in Code 1 below.

N_1 = total amount of cloud in Code 4 below.

Other letters have standard meanings of New International Code.

Part II. Commencing "Pilot." Upper winds at 0100 G.M.T. :—

I_nI_nGG d_1d_1vv d_2d_2vv etc.,

d_1d_1 = Direction on Scale 01—32 (08 = East, etc.).

vv = Velocity in kilometres per hour.

The successive groups relate to the heights 500 m., 1000 m., 1500 m., 2000 m., 3000 m. and 4000 m. above station level.

If the velocity is above 99 km./h. the last two figures only are inserted in the group and 50 is added to the number expressing the direction.

Part III. Commencing "Navires."

Ship observations in New International Code (M.O. 252, p. 70; first form, with check groups, first five groups only.

0820 *Message.*

Part I. Commencing "Météo France."

Stations 01 to 49—I_nI_n BBBTT cbb(SV_s) $DDFN_1V$ $d_1d_1f_1n_1h$ $W_1W_1pA_1a_1$ mmR_1R_1d

d_1d_1 = Direction of lowest cloud on Scale 01–32.

f_1 = Speed ,, ,, ,, Code 5 below.

n_1 = Amount ,, ,, ,, Code 4 ,,

W_1W_1 = Evolution of weather Code 6 ,,

A_1 = Kind of cloud below 2500 m. Code 2 ,,

a_1 = ,, ,, ,, above ,, Code 3 ,,

R_1R_1 = Rainfall in mm. for 24 hours ended 7 h, G.M.T.

d = Direction of motion of upper cloud.

Other letters have standard meanings of New International Code.

Part II. Commencing "Pilot." Upper winds at 0700 G.M.T.

Part III. Commencing "Météo Suisse, Belgique, Hollande" 0700 observations from stations 51 to 64 in New International Code.

Part IV. Commencing "Navires." Ship observations in New International Code as 0220 message.

1420 *Message.* Part I. as Part I. of 0820 message omitting last group. Remainder of message as 0820 message

1920 *Message.*

Part I. As 0820 message, but for the last group is substituted MMt_2t_2d, where t_2t_2 is the depression of the wet bulb below dry in tenths of a degree C.

paragraph 5.

Delete notes (3) and (4).

To note (2) *add* :—" For further details relating to observations at Saentis *see under* Switzerland (amendment 29 o this Supplement).

paragraph 6.

Delete completely. Substitute :—

Code 1.—*Present Phenomenon* (p).

0 = " no meteor (*i.e.*, present weather determined by total amount of cloud, N_1).
1 = Continuous rain or drizzle.
2 = Continuous snow.
3 = Rain showers, intermittent rain or hail showers.
4 = Snow showers.
5 = Thunderstorm (with or without showers).
6 = Squally showers (or line squall), or rain and hail, or heavy rain showers.
7 = Squall, wind very strong at or near the surface.
8 = Thick mist or fog, with visibility below 1000 m.
9 = Mist or fog of sharply defined height.

Code 2.—*Form of low cloud* (*below* 2500 *m*).

0 = No low cloud.
1 = St. or Fr. St. or both.
2 = Cu. or Fr. Cu. or both.
3= St. and Cu. or St. and St. Cu.
4= St. Cu. alone.
5 =Nb. and Cu.
6 = Cu. Nb. and Cu.
7 = Nb. and Cu. Nb.
8 = Cu. Nb. alone.
9 = Nb. alone.

Code 3.—*Form of Upper Cloud* (*above* 2500 *m.*).

0 = No high or middle cloud observable.
1 = Ci. alone.
2 = Ci. Cu. alone or Ci. Cu. and Ci.
3 = Ci. St. alone or Ci. St. and Ci.
4 = Cirro-cloud and A. Cu.
5 = Cirro-cloud and A. St.
6 = Cirro-cloud and A. Cu. and A. St.
7 = A. Cu. alone.
8 = A. Cu. and A. St.
9 = A. St. (uniform or alone visible).

Code 4.—*Amount of Cloud.*

0 = No cloud, sky clear.
1 = Sky almost clear, traces of cloud or detached cloud.
2 = $\frac{1}{10}$ to $\frac{2}{10}$ covered.
3 = $\frac{3}{10}$ to $\frac{4}{10}$,,
4 = $\frac{5}{10}$ to $\frac{6}{10}$,,
5 = $\frac{7}{10}$ to $\frac{8}{10}$ covered.
6 = $\frac{9}{10}$,,
7 = Overcast, with interstices.
8 = Entirely overcast.
9 = Observation of cloud amount impossible.

Code 5.—*Speed of Cloud.*

Speed in m./s. = 4 N − 2, where N is figure reported, but 0 = no observation, and 9 is > 32 m./s.

Code 6.—" *Evolution of Weather* " W_1W_1 (*Abbreviated Form*).

	0	1	2	3	4	5	6	7	8	9
0	b_o	b_o/cb	b_1	b_1/cb	b_1	b_1/cb	b(bc)	b(bc)/cb	c(o)+	c(o)cb
1	c	c/b	o⊕	o⊕/b	bco	bco/b	c(o)	c(o)	o	f(m)
2	o	o+	o/o+(r_o)	or_o	o	o	o/rr	orr	o/ss	oss
3	c(o)	c(o)/o(r)	c(o)	c(o)/pbc	c(o)p	c(o)p/o(r)	c(o)ps(h)	c(o)ps(h)(r)/o(r)	cpq	cpq/o(r)
4	bc(c)	bc(c)	c(o)	jtlc(o)	c(o)	tlc(o)	tlc(o)/c	bco	bco	—

Use of Table.—To find the symbol corresponding with 25, for example, find 2 in the left hand column and run the eye along to the column headed 5; this gives in this case the symbol " o."

The letters have their ordinary significance; ⊕=halo; a " solidus " (/) divides actually existing weather from previous conditions, the more recent conditions preceding the solidus; the absence of a solidus indicates that the conditions have been the same during the previous six hours. A suffix " $_o$ " thus r_o denotes slight; but b_o denotes an entirely clear sky, b_1 indicating the presence of a small amount of cloud. A plus sign (+) indicates that the cloud amount has increased during the preceding six hours.

Repetition of letters, thus rr, indicates continuity. Letters in brackets are either alternative to the immediately preceding letter or else indicate that the corresponding condition may or may not have occurred, thus o(r) following a solidus indicates that the present conditions were preceded by an overcast sky with or without rain. The apparent duplication in the above table (*e.g.*, 18, 20, 24 and 25, all correspond " o ") arises from difference in the cloud forms specified in the original code.

Note.—(1) If the number expressing the evolution of the weather is 50 or above the presence of an obscuring layer of fog or low stratus cloud during the preceding 6 hours is indicated. The above paragraph should be referred to after subtracting 50 from the code figures.

(2) The above is an abbreviated form of the code, set out in Beaufort letters. The full code is given in a publication of the French National Meteorological Office :—" Radiogrammes Météorologiques d'intérêt général." Étienne Chiron, 40, Rue de Seine, Paris.

12. (15.10.22.)

pages 26, *and* 27, France (b).

Substitute new particulars :—

FRANCE (b).

International Collective Reports.

1. Transmitting Station - Paris (Eiffel Tower).
   Call Signal - - - F.L.
   Messages directed to - C.Q.
   Wave Length - - 7300 m. c.w. (2,600 spk. at 1005 G.M.T.).
   Times of sending - 0400 G.M.T. (observations at 0100 G.M.T.) S., O.
   1005 G.M.T. (observations at 0700 G.M.T.) S., O.; (observations at 0100 G.M.T. from American Stations).
   1600 G.M.T. (observations at 1300 G.M.T.) S., O.
   2100 G.M.T. (observations at 1800 G.M.T.) S., O.

2. *Stations.*

01	Paris.	23	Lemberg.	45	Reykjavik.
02	Madrid.	24	Copenhagen.	46	Helwan.
03	Vienna.	25	Perpignan.	47	Oran.
04	Stockholm.	26	Lister.	48	Cassel.
05	Lerwick.	27	Corunna.	49	Malta.
06	Lyon.	28	Ancona.	50	Constantinople (41° 03′ N— 28° 55′ E.).
07	San Fernando.	29	Helsingfors.		
08	Munich.	30	Mahon.		
09	Haparanda.	31	Budapest.	51	Taranto.
10	Thorshavn	32	Holyhead.	52	Sofia.
11	Brest.	33	Zurich.	53	Bizerta.
12	Algiers.	34	Utrecht (de Bilt).	54	Tripoli.
13	Warsaw.	35	Rome.	55	Agadir.
14	Bronnoy.	36	London.	56	Athens.
15	Renfrew.	37	Hamburg.	57	Funchal.
16	Bucharest.	38	Bordeaux.	58	Tangier.
17	Tunis	39	Brussels.	59	Belgrade.
18	Prague.	40	Valencia.	60	Bonifacio (41° 22′ N— 09° 11′ E.).
19	Ingoy.	41	Rabat.		
20	Seydisfjord.	42	Lisbon.		
21	Kosice.	43	Horta.		
22	Genoa.	44	Messina.		

(For positions of Stations, *see* original list or lists under individual countries.)

3. *Code.* New International [*see* page 65, (2) and (4); (Code of Sept. 1921 introduced Oct. 15th, 1922)].

4. *Form of Individual Messages.*
   Messages commence with " O.N.M."
   0400 *Message.*
   Part I. preceded by words " Météo Europe ":—
   I_nI_n BBDDF w_1TTK′R.
   Part II. preceded by word " Navires."
   Observations from ships on the Atlantic :—
   PQLLL IIIGG BBDDF.
   1005 *Message.*
   Parts I. and II. as 0400 message.
   Part III., preceded by words " Météo Amérique."
   For details *see* Supplement No. I., amendment No. 8; also paragraph (5), note (2), below.
   1600 } *Messages.* Same form as 0400 message.
   2100 }

5. *Notes.*—(1) For units, *see* page 82. (French units employed throughout.)
   (2) Observations from the " Maud," Amundsen's Polar Expedition ship, are preceded by the word " Maud " and coded as in Part II. of 0400 message with additional group : TTTW, where TTT is temperature in degrees and half degrees Centigrade (the actual observations being received in France in whole degrees Fahrenheit), and W is the present weather in the Old International Code (page 80), the code figures 0, 2, 4, 5, 6 alone being used.

13.

Page 28, *paragraph* 1, times of sending.
To 0528 and 1228 messages *add* letters " U.W."

paragraph 2.
Substitute following station numbers for the Station letters in order :—
15, 08, 36, 35, 30, 53, 54, 91, 43, 27, 34, 58, 59, 60.

page 29, *paragraph* 3.
Delete words " upper winds in special code." (New International Code for Upper Wind introduced Oct. 15th, 1922.)

paragraph 4.
To 0528 message *add :—*
Part IV. Upper winds at 0500 G.M.T.—I_nI_n $h_1$ddvv etc.
In 0628 message *read* " Same form as Parts I., II., III. of 0528 message."
In 0728 message, *alter* Station letters to numbers as indicated above.
In 0828 message *read* " Same form as 0628 message."
In 0928 message *delete* all but " Same form as 0528 message."

In 1128, 1428 and 1528 messages *read* " Same form as 0628 message."

page 30, *paragraph* 6.
Delete from " d_1d_1 " *to* " 13,000 feet."

14.

Supplement No. 1, amendment No. 8.
For latitude of Key West read :—24° 33′ N.

15.

Supplement No. 1, amendment No. 9.
Cancel details relating to 0328 message (discontinued Sept. 15th) and 0428 message (discontinued Oct. 7th, 1922).

16. (9.10.22.)
page 28, *paragraph* 1, wave length.
For 1680 m. *substitute* 1400 m. until further notice.

GERMANY.

17.

Supplement No. 1, amendment No. 15, list of Stations.
for 58 Mathieu *substitute* 58 Brest.
for 63 Montpellier *substitute* 63 Toulon.
delete stations 88 and 89 and *substitute* :—

88 Thorshavn.
89 Seydisfjord.
90 Isafjord.
91 Vestmanna.
92 Mygbugten.

18.

page 40, Germany (c), *paragraph* 5.
Add note :—
When transmission cannot be made from Königswusterhausen the messages are transmitted from Lindenberg (call signal LI, wave length 900 m.c.w.) about 0700, 0920, 1620 and 2020 G.M.T.

HOLLAND.

19. (9.10.22.)
page 43, Holland (c), *paragraph* 1, times of sending. *Add* :—
1145 G.M.T. (observations at 1120 G.M.T.) S.
page 44, *paragraph* 4. *Add* :—
1145 *message.* Same form as Part I. of 0845 message.

20.

page 42, Holland (b), times of sending.
For 3315 *read* 2315.

LATVIA.

21.

page 48, *paragraph* 1.
Substitute new time of sending :—0755 G.M.T.

22.

page 48, *paragraph* 2.
Substitute new list of stations :—

Index.	Name.	Latitude.	Longitude.
01	Riga	56° 59′ N.	24° 05′ E.
02	Libau	56° 31′ N.	21° 00′ E.
03	Malnova	56° 47′ N.	27° 44′ E.
04	Daugavpils	55° 53′ N.	26° 30′ E.
05	Ventspils	57° 24′ N.	21° 34′ E.
06	Preekuli	57° 19′ N.	25° 23′ E.

Substitute also new stations for ice reports :—

Place.	Latitude.	Longitude.
Libau	56° 31′ N.	21° 00′ E.
Ventspils	57° 24′ N.	21° 34′ E.
Mikelbaka	57° 36′ N.	21° 59′ E.
Kolkasrags N.W.	57° 48′ N.	22° 38′ E.
Kolkasrags N.E.		
Kolkasrags S.E.		
Riga (Sea)	57° 04′ N.	24° 01′ E.
Riga (harbour)	56° 57′ N.	24° 06′ E.
Ainaschi	57° 52′ N.	24° 21′ E.

page 48, *paragraph* 4.
Delete words :—" Observations from Riga."
page 48, *paragraph* 5.
Add note :—(5) Storm warnings for the Eastern Baltic and Gulf of Riga are issued from Riga (call signal K C A, wave length 600 m. spk.) in English.

MALTA.

23. (1.10.22.)
page 48.
Insert particulars of new issue after those given for Latvia :—

MALTA.

1. Transmitting Station — Rinella.
Call Signal — B.Y.Z.
Messages directed to — C.Q.
Wave length — 4500 m. c.w.
Times of sending :—0730 G.M.T. (observations at 0700 G.M.T.) S., U.W., F.
1850 G.M.T. (observations at 1800 G.M.T.) S.

2. *Station :*—Latitude 35° 53′ N., Longitude 14° 27′ E.

3. *Code :*—New International for Coastal Station (*see* page 65), amplified by addition to morning message of a group giving maximum and minimum temperature. Forecast in plain language.

4. *Form of Individual Messages :*

0730 *message.*

Part I.—BBBDD FwwTT cbWVH ALaNh RRSV$_s$r MMmm.

Part II.—Preceded by word " Pilot," h$_1$ddvv, etc.

Part III.—Forecast for Malta region in plain language (English).

1850 *message.*

BBBDD FwwTT cbWVH ALaNh RRSV$_s$r.

5. *Note :*—For units, *see* page 82.

NORWAY.

24. (14.10.22).

Page 49, *paragraph* 2.

Add new station :—

Index.	Name.	Latitude.	Longitude.
16	Mygbugten - -	73° 30′ N.	21° 30′ W.

25.

page 51, Norway (b).

To paragraph 1, wave length, *add* :—

" Stavangerfjord " and " Bergensfjord " use 1600 m. and " United States " and " Frederick VIII." use 1800 m.

To paragraph 2, *add* additional ships :—

" United States " and " Frederick VIII."

POLAND.

26.

page 52, *paragraph* 2, station 13.

For Danzig (C) *read* Danzig (L).

SPAIN.

27. (15.7.22.)

page 55, *paragraph* 4.

In explanation of symbol d$_1$ *substitute :*—

0 = no cloud; 1 = from N.E.; 2 = from E.; etc.

9 = no observation.

28. (15.11.22.)

page 54, *paragraph* 1, times of sending.

For 1000 G.M.T. *substitute* 0930 G.M.T.

page 54, *paragraph* 2.

Add new stations :—

BI	Bilbao (Algorta) -	43° 21′ N.	03° 00′ W.
MG	Malaga - -	36° 44′ N.	04° 25′ W.

SWITZERLAND.

29. *page* 59.

After details for Sweden *add :*—

SWITZERLAND.

Observations at five stations in Switzerland are included in the messages issued from the Eiffel Tower (*see* France (a)). The New International Code is employed (from October 1st, 1922.

In the case of observations from the mountain station " Saentis " the following particulars are to be noted :—

The expression " in the neighbourhood " in the " present weather " code (ww) refers to a radius of 20 kilometres.

The visibility reported is that towards the plain.

In the cloud group ALaNh the form Nimbus is not observed. Code figures 7 and 8 indicate respectively small cumulus and large cumulus. When there are clouds below the summit of the mountain an appropriate value for L is inserted but this amount is not included in the total amount of Cloud N.

In the code for cloud height (h), the figures 0 to 3 give the height above sea level of the cloud above the summit.

0=2,500–3,000 m; 1=3,000–3,500 m.;

2=3,500–4,000 m; 3=above 4,000 m.

Figures 4 to 9 give the height above sea level of the upper surface of the cloud below the summit, the height being estimated from the height of the neighbouring mountains. When both kinds of cloud are present, clouds below the summit are selected for the telegram.

NORTH AFRICA.

30. (15.10.22.)

page 60, Algeria, Tunis, Morocco (a), *paragraph* 2.

Add stations :—

10	Fez. - - -	34° 06′ N.	04° 50′ W.
57	Funchal - -	32° 37′ N.	16° 54′ W.

page 60, Algeria, Tunis, Morocco (b).

paragraph 1.

substitute wave length 3500 m.

paragraph 2.

Add Station :—

34 Biskra - - - 34° 52′ N. 05° 49′ E.

The code now employed for surface observations and upper winds in all messages under Algeria, Tunis and Morocco, (a), (b), and (c), is the special code employed in Eiffel Tower Reports (*see* amendment 11 of this Supplement).

UNITS.

page 82.

31 For Austria, speed of upper wind, *insert* :—m./s.

32 For France, speed of upper wind, *substitute* km./h.

Add :—

		Pressure.	Temperature.	Speed of Upper Wind
33.	Malta - -	mb.	°F.	m.p.h.
34.	Switzerland -	mm.	°C.	—

TIME TABLE.

35. *Alter as indicated in above amendments.*

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SUPPLEMENT No. 3 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 13*th December*, 1922.

GREAT BRITAIN.

1. *Page* 12, *Great Britain* (*d*), *paragraph* 5.

Add note :—

(5) When bad weather conditions prevail on the normal air routes between Croydon and the Channel, reports from certain stations on an alternative route are now available at Croydon and Lympne for communication to pilots of machines in flight. The places from which information is available at these times are the Isle of Grain, North Foreland and Deal.

GERMANY.

2. (1.12.22.)*

Page 35, *Germany* (*b*), *paragraph* 1.

For details of wave length substitute :—

5250 m. c.w. (5700 m. c.w. at 1550 G.M.T.).

HOLLAND.

3. (27.11.22.)

Page 44, *Holland* (*c*), *paragraph* 4.

In Part I. of 0745 *message read* :—Stations 1 to 3.

In Part I. of 0845 *message read* :—Stations 4 to 6.

N.B.—No change is made in the remaining messages in the description of which the references are to the forms of the 0745 and 0845 messages prior to this latest amendment.

NORWAY.

4. (1.12.22.)

Page 49, *paragraph* 4.

At end of Part II. of 0750 *message add* :—

CHHH, where

C = form of cloud in which the pilot balloon was lost.

HHH = height of this cloud in decametres.

* Date from which change takes effect.

z (5)19201 375 12/22 E & S

SWEDEN.

5. *Page* 57.

Observations of upper air temperature and humidity transmitted at the end of the Swedish synoptic messages are in the code :—

GGU_1U_2 OOTTT PPBBB HHTTT PPBBB

where GG = Hour of observation (G.M.T.).

U_1 and U_2 are to be decoded as follows :—

U_1 5 = kite ascent.
6 = captive balloon ascent.
7 = aeroplane ascent.
8 = ballon-sonde ascent.

U_2 3 = observations during ascent.
4 = observations during descent.
5 = mean of observations during ascent and descent.
6 = no indication whether data relate to ascent or descent.
8 = observations uncertain.

HH = height above sea-level in hundreds of metres.
TTT = corresponding temperature in degrees and tenths Centigrade.
PP = corresponding relative humidity (99 = 100 %).
BBB= corresponding pressure in whole millimetres.

The second and third groups (OOTTT PPBBB) relate to conditions at the level of the station.

The stations concerned are :—

44 Malmslätt 58° 25′ N. 15° 32′ E., altitude 115 m.
05 Porjus 66° 55′ N. 19° 45′ E., altitude 365 m.

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SUPPLEMENT No. 4 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 20th December, 1922.

NORWAY.

1. (1.12.22.)

Page 51.—*Add particulars of new issue* :—

NORWAY (*c*).
"POLAR FRONT" REPORT.

1. Transmitting Station - Bergen.
Call Signal - - - L.G.N.
Messages directed to - C.Q.
Wave Length - - 2400m.—c.w.
Times of Sending - - 0955 G.M.T. (based on observations at 0700 G.M.T.).
2055 G.M.T. (based on observations at 1800 G.M.T.).

2. —

3. *Code.*—Special Code.

4. *Form of Individual Messages.*

Messages commence with word "Meteo."

0955 *Message.*

Part I. commencing with the word "Situation" :—

Pairs of groups of the form
BBK″D′D′ F′LLll
relating to the more important depressions and anticyclones over North-West Europe and the Atlantic Ocean at 0700 G.M.T.

BB = Barometric pressure, in whole millibars, in the centre of the depression or anticyclone (the initial figures 10 or 9 being omitted).
K″ = Probable variation of barometric pressure in the centre (Table I. below).
D′D′ = Direction from which the centre is moving, on scale 00 to 32.
(08 = from the East, 16 = from the South, etc.) 50 is added to this number when a depression is referred to.

F′ = Speed of movement of the centre on a scale the unit of which is a degree at the Equator (60 nautical miles) per 12 hours.
F′ = 9 indicates any speed greater than 8 units.
LL = N. latitude } of the centre in question in whole
ll = Longitude } degrees.
(Longitudes East of Greenwich are indicated by adding 50.)
(See Para. 5 for meaning of "Central.")

Part II. Preceded by word "Fronter":—
Information relating to the "Polar Front" and to "Families of Cyclones,"* contained in groups of four figures of the form
NNnf
NN = Index number of the "family."
(counting from the beginning of the year).
n = Index number, in the "family," of the member described in the succeeding groups.
(1 = first member, 2 = second member, etc., 9 = last member (generally followed by a great break-through of "Polar Air" and the formation of an anticyclone).
x = number not yet determined.)
f describes the "front" most characteristic of this member (Table II. below).
Following a group of the form NNnf are two or more groups of the form F′LLll, decoded as in Part I., but relating to points on the "front" in question instead of to the centres of depressions or anticyclones. These points are always given in such an order that the movement of the front is towards the right of a person standing at the first point and looking towards the second, and so on. If several "fronts" are given, the information relating to the different "fronts" is separated by a diæresis (. .) (Morse – · · · –).

Part III. preceded by word "Veirvarsler";
Forecasts in plain language (Norwegian) for four sections of the west coast of Norway extending from Lindesnes (South Cape of Norway) and Leka (near Bronnoy).

* For definitions of the terms employed, *see*:—
(*a*) J. Bjerknes and H. Solberg; Meteorological Conditions for the formation of Rain, Geofysiske Publikationer, Vol. II, No. 3, Kristiania 1921.
(*b*) *Ibid.*: Life Cycle of Cyclones and the Polar Front Theory of Atmospheric Circulation, Geof. Publ., Vol. III, No. 1, Kristiania, 1922.

(*Contd.*)

Part IV. preceded by word "Stormvarsler"
Warnings in plain language (Norwegian) of winds of Beaufort force 7 or more in the same areas as Part III. When the wind is not likely to exceed force 6 or when stronger winds already existing are likely to decrease without marked change of direction, the words "Stormvarsler—Ingen" are sent.

2055 *Message.*—Same form as 0955 message, but relating to the situation at 1800 G.M.T.

5. *Note.*—In part I. of a message the word "Central" indicates that the two groups following describe an extensive stationary depression which will determine the wind currents in its region for several days.

6. *Special Codes.*

I.—(K″) *Probable variation of pressure in the centre of a depression or an anticyclone during the ensuing* 12 *hours.*

Code figure

0	= pressure will remain almost constant.	
1	= will rise slowly	Depression "filling up" or Anticyclone increasing in intensity.
2	= rise	
3	= will rise rapidly	
4	= will rise very rapidly	
5	= will fall slowly	Depression growing deeper or Anticyclone decreasing in intensity.
6	= will fall	
7	= will fall rapidly	
8	= will fall very rapidly	
9	= will fall abnormally rapidly	
x	= No determination possible.	

II.—(f) *Character of the most noteworthy "front" in the system* NNn.

Code figure
1 = a "cold front," not very well marked.
2 = a "cold front," well marked.
3 = a "cold front," very pronounced.
4 = a "cold front," violent.
5 = a "warm front," not very well marked.
6 = a "warm front," well marked.
7 = a "warm front," very pronounced.
8 = an occlusion,* not very well marked.
9 = an occlusion, well marked.
0 = an occlusion, very pronounced.

* An occlusion occurs when the cold air in the rear of a "disturbance" catches up the cold front and displaces (vertically) the warm air. The "disturbance" may be a fully-fledged cyclone or a secondary irregularity.

(*Contd.*)

(*Supplement No. 4 to M.O. 252.*)

TIME TABLE.

2. *Pages* 83 *and* 84.

Incorporate times of Norway (*c*) *as above.*

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SUPPLEMENT No. 5 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 10*th January*, 1923.

GREAT BRITAIN.

1. *Page* 7, *paragraph* 4. *Insert after* "Atlantic":— *the letters* "I_nI_n."

Add after "standard meanings" "From February 1st, 1923, the report for each ship will be preceded by a two-figure Index group allotted to the ship to enable recipients of the messages to identify two consecutive reports from the same ship."

ESTHONIA.

2. *Page* 20, *paragraph* 1.

For call signal E.L.N. *substitute* A.Z.A.
For time of sending 2100 G.M.T. *substitute* 2050 G.M.T.

FRANCE.

3. (22.12.22.)

Supplement No. 1, *amendment No.* 8, *and Supplement No.* 2, *amendment No.* 12.

Observations are now included from three additional American stations:—

JU	Juneau - - -	58° 21′ N.	134° 20′ W.
TN	Tanana - - -	66° 00′ N.	151° 00′ W.
DH	Dutch Harbour -	53° 30′ N.	166° 55′ W.

The observations are preceded by a group of the form ddtt, indicating the date and hour of observation.

GERMANY.

4. *Page* 33, *Germany* (*a*) *and Suppl. No.* 1, *amendments Nos.* 12 *and* 15.

Particulars of Germany (*a*) are now as follows:—

1. Transmitting Station Königswusterhausen.
Call Signal - - L.P.
Messages directed to C.Q.
Wave Length - 5700 m. c.w.

x (5)19381 Wt 22511—7905/89 375 1/23 E & S

(*Contd.*)

SUPPLEMENT No. 5 TO M.O. 252.

Times of Sending - 0840 G.M.T. (observations at 0700 G.M.T.) S.; I.
1440 G.M.T. (observations at 1300 G.M.T.) S.; I.
1940 G.M.T. (observations at 1800 G.M.T.) S.; I.

2. *Stations.*

Original list as amended by amendment No. 15 of Supplement No. 1.

3. *Code.*—As before.

4. *Form of Individual Messages.*—Messages commence with words " Obs Deutschland."

0840 *message.*—As 0900 message in original particulars, page 34.

1440 *message.*—I_nI_n BBBDD FWTTW''' βbb where W''' is past weather in code on page 39, paragraph 6.

1940 *message.*—I_nI_n BBBDD FWTTW' βbb

5. *Note.*
6. *Special Codes* } as before, pages 34 and 35.

5. *Page* 35, *Germany* (*b*), *paragraph* 1.

For wave length substitute 5700 m. c.w.
(Amendment No. 2 of Supplement No. 3 is cancelled.)

6. *Suppl. No.* 1, *amendment No.* 13, *Germany* (*b*).

For 1550 G.M.T. *substitute* 1450 G.M.T.

7. *Suppl. No.* 1, *amendment No.* 15, *Germany* (*b*).

For 1550 *on first line of page* 10 *substitute* 1450.
In second line of page 10 *delete* Germany.

(All German Stations are now included under Germany (*a*), *see* amendment 4 above.)

8. *Suppl. No.* 1, *amendment No.* 14, *Germany* (*c*).

For 1605 G.M.T. *substitute* 1505 G.M.T.

HUNGARY.

9. (1.1.23.)

Page 45, *paragraph* 1.

For wave length substitute 4400 *m. c.w.*
For time of sending substitute 0910 G.M.T.
For " observations at 0600 G.M.T." *substitute* " observations at 0700 Local Mean Time."

LATVIA.

10. *Page* 48, *paragraph* 1.

For time of sending substitute 0715 G.M.T.
(Amendment No. 21 of Supplement No. 2 is cancelled).

(Contd.)

SUPPLEMENT No. 5 TO M.O. 252.

ROUMANIA.

11. (1.1.23.)

Pages 53 *and* 54.

1. Times of Sending
For 0750 *substitute* - 0830 G.M.T. (observations at 0700 G.M.T. at Bucharest and 0600 G.M.T. at other stations) S., U.W.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Bucharest	44° 25′ N.	26° 06′ E.
02	Craiova	44° 18′ N.	23° 48′ E.
03	Bolgrad	45° 41′ N.	28° 37′ E.
04	Kishinev	47° 01′ N.	28° 50′ E.
05	Czernowitz	48° 17′ N.	25° 57′ E.
06	Piatra Neamț	46° 53′ N.	26° 24′ E.
07	Sulina	45° 10′ N.	29° 40′ E.
08	Constantsa	44° 10′ N.	28° 40′ E.
09	Tecuci	45° 51′ N.	27° 27′ E.
10	Râmnicu Sărat	45° 23′ N.	27° 04′ E.
11	Sibiu	45° 48′ N.	24° 09′ E.
12	Turnu Severin	44° 38′ N.	22° 40′ E.
13	Temișoara	45° 45′ N.	21° 14′ E.
14	Caransebeș	45° 26′ N.	22° 15′ E.
15	Jassy	47° 10′ N.	27° 37′ E.

3. *Code.*—Observations from Bucharest in New International. [*See* p. 65 (Code of Nov., 1920, introduced July 15th, 1921.)*] Observations from other stations in Old International (modified).

4. *Form of Individual Messages.*—Messages commence with words " Meteo-Bucuresti."

0150 *message.*—Station 01 only.—BBBDD FwwTT cbWVH ALaNh.

0830 *message.*—Part I. Station 01.—BBBDD FwwTT cbWVH ALaNh RRmmr.

Stations 02 to 15.—I_nI_n BBBDD FWTTR where R is amount of rainfall during preceding 24 hours in New International Code (*see* Code VIII. (*a*), page 76).

Part II.—Upper winds between 0500 and 0600 G.M.T. at Station 01.—$h_1$ddvv, etc.

1350 *message.*—Same form as 0150 message.

1850 *message.*—Station 01 only.—BBBDD FwwTT cbWVH ALaNh RRMMr.

5. *Note.*—For units *see* page 82.

* Amendments of Sept. 1921 not yet introduced.

(Contd.)

SUPPLEMENT No. 5 TO M.O. 252.

TIME TABLE.

12. *Page* 83.

Alter as indicated in above amendments.

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M.O. 252. **Supplement No. 6.**

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SUPPLEMENT No. 6 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 25th January, 1923.

GREAT BRITAIN.

1. *Supplement No.* 1, *amendment No.* 2, *Great Britain* (*a*).

Reports from Faröes and Iceland.

In future, amount of rainfall (RR) and time of commencement of precipitation (r) will be given in the case of Thorshavn (91) and Reykjavik (95). In the 0800 and 1900 messages the fifth data group for each of these two stations will be of the form RR - - r, this group being additional to those at present included.

FRANCE.

2. (1.12.22.)

Page 28, *France* (*c*), *paragraph* 1.

For call signal Z.M. *substitute* F.N.B.

ICELAND.

3.

Page 47.—Before Jugo Slavia insert **ICELAND.**

See Supplement No. 1, *paragraph* 2 *and Supplement No.* 6, *paragraph* 1 for details of reports from Iceland issued by Great Britain.

ROUMANIA.

4. *Supplement No.* 5, *amendment No.* 11.

Delete footnote.

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M.O. 252. **Supplement No. 7.**

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(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 12*th February*, 1923.

GREAT BRITAIN.

1. (15.2.23.)

Page 7, *Great Britain* (*a*), *paragraph* 4.

To particulars of 0600 *message add* :—

Observations at Horta (Azores) are added after the groups relating to British stations. They refer to 2300 G.M.T. of the previous day and are preceded by the word "Horta."

Code : New International (modified form).

BBBDD FwwTT cbWVH CN– – –

Pressure is in millibars and temperature in degrees F.

2. (15.2.23).

Page 12, *Great Britain* (*d*), *paragraph* 5.

To note (2) *add* :—

Observations at 0700 G.M.T. from Madeira are added to the 1135 message or to a later one, according to time of receipt of the observations in London.

Station :—

Name.	Index.	Lat.	Long.
Funchal	"Madeira"	32° 37′ N.	16° 54′ W.

Code :—New International abbreviated form

BBDDF WTTK′R

where W is present weather in Old International Code [Code I., p. 80].

Pressure is in millibars and temperature in degrees F.

7 (5)19543 Wt 22511—7905/89 375 2/23 E & S (*Contd.*)

SUPPLEMENT No. 7 TO M.O. 252.

FRANCE.

3. *Page* 32, *France* (*d*) *and France* (*e*).

Some changes have been made in these issues, particulars of which will be supplied on application to the Director, Meteorological Office, Air Ministry, Kingsway, W.C.2.

HOLLAND.

4. (1.2.23.)

Page 44, *Holland* (c), *paragraphs* 2 *and* 4.

Delete station 4, (The Hague).

ITALY.

5. *Page* 45, *paragraph* 2.

Add station :—

21 Vigna di Valle 41° 54′ N. 12° 27′ E.

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SUPPLEMENT No. 8 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 9th *March* 1923.

BELGIUM.

1. (24.3.23.)

Page 17, *Belgium* (*b*).

To paragraph 2 *add new station :—*

03 Aerodrome of Haren (near Brussels).

To paragraph 4 *add in all messages :—*

Station 03.—xI_nI_n wwVhL.

GREECE.

2. (10.2.23.)

Cancel amendment No. 16 *of Supplement No.* 1, *and substitute new particulars :—*

1. Transmitting Station - - Athens.
Call Signal - - - - S.X.G.
Messages directed to - - C.Q.
Wave Length - - - 3600 m. spk.
Time of Sending.—0705 G.M.T. (observations at 0600 G.M.T.) S.

Information has also been received that an issue is being arranged at 1035 G.M.T. (morning observations) S.

(*Contd.*)

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(5)19743 Wt 22511—7905/89 375 3/23

(Supplement No. 8 to M.O. 252.)

2. *Stations.*

Index.	*Name.*	*Latitude.*	*Longitude.*
01	Athens*	37° 58′ N.	23° 45′ E.
02	Corfu*	39° 35′ N.	19° 56′ E.
03	Zante*	37° 47′ N.	20° 55′ E.
04	Salonika*	40° 37′ N.	22° 59′ E.
05	Volos*	39° 24′ N.	22° 58′ E.
06	Mitilini*	39° 08′ N.	26° 30′ E.
07	Andros*	37° 47′ N.	24° 57′ E.
08	Santorini*	36° 25′ N.	25° 26′ E.
09	Canea*	35° 30′ N.	24° 02′ E.
10	Candia*	35° 19′ N.	25° 09′ E.
11	Sollum	31° 30′ N.	25° 15′ E.
12	Alexandria	31° 11′ N.	29° 51′ E.
13	Suez	29° 56′ N.	32° 35′ E.
14	Limassol	34° 41′ N.	33° 05′ E.
15	Jassy*	47° 10′ N.	27° 36′ E.
16	Bucharest*	44° 25′ N.	26° 06′ E.
17	Sulina*	45° 09′ N.	29° 40′ E.
18	Constantsa*	44° 11′ N.	28° 39′ E.
19	Craiova*	44° 19′ N.	23° 48′ E.
20	Crikvenica	45° 10′ N.	14° 11′ E.
21	Sarajevo	43° 54′ N.	18° 30′ E.
22	Belgrade	44° 47′ N.	20° 26′ E.
23	Sofia	42° 45′ N.	23° 15′ E.
24	Constantinople	41° 03′ N.	28° 55′ E.

3. *Code.*—Observations at Athens in 0705 message in New International. [*See* page 65 (Code of Nov. 1920 with amendments of Sept. 1921, introduced 20th April 1922).] Other observations in modified Old International.

4. *Form of individual messages.*

0705 *message*, commencing with "Météo Athénes 1."

Station 01 only :—BBBDD FwwTT cbWVH ALaNh RRmmr.

1035 *message*, commencing with "Météo Athénes 2."

I_nI_n BBDD FWTT βbbR

where R has the same meaning as in the New International Code (*see* Code VIII. (*a*) page 76) the period, however, being only the preceding 12 hours in the case of stations marked with an *asterisk* in the list above. The remaining symbols relate to the Old International Code.

5. *Note.*—For units, *see* page 82.

(Contd.)

(Supplement No. 8 to M.O. 252.)

NORWAY.

3. *Pages* 49 *to* 51.

Observations from **Amundsen's Polar Expedition Ship "Maud"** are included from time to time in the messages issued from Christiania with index number 01, in the form :—

$I_nI_nt't'$ BBBDD FwwTT cbWVH ALaNh $RRrsF_m$

where t't' is the hour of observation and the other symbols are as in § (4), page 50.

Latest information gives the position of the ship as 73° 04′ N., 173° E.

POLAND.

4. (26.2.23.)

Pages 51 *to* 53.

The New International Code is now being employed in Polish synoptic messages.

ROUMANIA.

5. (14.2.23.)

Page 53, *paragraph* 1.

Substitute new wave length 5800 m.

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M.O. 252. **Supplement No. 9.**

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SUPPLEMENT No. 9 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 16th March, 1923.

GREAT BRITAIN.

1. (21.3.23.)

Supplement No. 2, amendment No. 5, Great Britain (g) :—

Delete the sign † against stations 25, 26, 79, 80, 81, 82, 83, 84. (For these stations W_1 will in future have the meaning of the New International Code.)

FINLAND.

2. (1.3.23).

Page 21, *paragraph* 1.

Delete line commencing "0255 G.M.T."

Page 22, *paragraph* 4.

Delete 0255 *message completely.*

HOLLAND.

3. (15.3.23.)

Page 42, *Holland (b).*

On days when there is no occasion to transmit Part II. of the 2315 message (*see* § 5, note 3), this message will not, in future, be transmitted at all.

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SUPPLEMENT No. 10 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 4th April 1923.

GREAT BRITAIN.

1. (8.4.23.)

Supplement No. 2, *amendment No.* 5, *Great Britain* (*g*) :—

Delete sign † *against Station* 95. (For this station w_1 will in future have the meaning of the New International Code.)

FINLAND.

2. *Page* 21, *paragraph* 1.

Substitute wave length 5700 m. c.w.

3. (15.3.23.)

Page 21, *paragraph* 2.

Add station :—

06 Kajaani, lat. 64° 13′ N., long. 27° 46′ E.

Page 22, *paragraph* 5.

Add note :—

(2) The observations at 1800 G.M.T. at stations 05 and 06, are issued in the 0855 message of the next day, preceding the observations at 0700 G.M.T. at those stations.

PORTUGAL.

4. *Page* 53.

Observations from certain Portuguese stations are contained in an issue from Monsanto at 0950 G.M.T. (call signal, C.T.V.; wave length, 2400 m. cw.; address, C.Q.). The observations appear to be in the New International Code. (Pressure in millimetres and temperature in degrees Centigrade.) Station names are given in full, and include, in general, Lisbon, Oporto (41° 09′ N., 08° 34′ W.), Coimbra (40° 12′ N., 08° 30′ W.), Funchal, and Angra (38° 40′ N., 27° 05′ W.).

(*Contd.*)

x (5)19882 Wt 375 4/23 E & S

(Supplement No. 10 to M.O. 252.

ROUMANIA.

5. (20.3.23.)

Page 53, *paragraph* 1.

Substitute new wave length 8150 m. c.w.

(Amendment No. 5 of Supplement No. 8 is accordingly cancelled.)

UNITS.

6. (26.2.23.)

Page 82, *Poland, speed of upper wind.*

For m./s. *substitute* km./h.

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SUPPLEMENT No. 11 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 8th May, 1923.

GREAT BRITAIN.

1. (30.4.23.)

Page 10, *Great Britain* (*d*), *paragraphs* 1 *and* 4. *Also Supplement No.* 2, *amendment No.* 4.

Reinstate the 0635 message, which was discontinued on Nov. 1, 1922, for the winter months.

2.

Pages 11 *and* 12, *Great Britain* (*d*).

Paragraph 4.

For particulars of 1235 *and* 1535 *messages substitute*—

Part I.—Same form as Part I. of 0935 message, omitting station 75.

Part II.—Same form as Part II. of 0535 message.

Paragraph 5.

Add note :—

(6) When a report from Beachy Head is received too late for inclusion in the corresponding hourly route message it is included in the next hourly route message issued, the time of observation (G.M.T.) being added in a four figure group GGgg (hours and minutes) after the index number thus :—

$xI_nI_nV_s$ GGgg wwVhL etc.

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3. (1.5.23.)

Page 14, *Great Britain* (*e*), *paragraph* 4.

Delete note (4) *relating to Line Squall information and substitute :—*

(4) Occurrences of *Squalls* and *Thunderstorms* are reported in the following code either in routine messages or in special messages at other times :—

Storm Name of Station GGgg $d_1F_mw_2TT$

where GGgg = time of occurrence (hours and minutes) G.M.T.
d_1 = direction *from* which phenomena approached the observer. (1 = N.E., 2 = E., 3 = S.E., ... 7 = N.W., 8 = N.).
F_m = extreme force of wind with the squall or thunderstorm. (0 = 10, 1 = 11, 2 = 12, 3 = 0–3, 4 = 4, 5 = 5, etc.).
w_2 = weather (*see* below).
TT = temperature after arrival of storm. (degrees F.).

Code for weather. (w_2).

Weather.	Without thunder.	With thunder.
No precipitation - -	1	5
Rain - - - -	2	6
Snow - - - -	3	7
Hail - - - -	4	8

Example :—" Storm Farnborough 1425 68437."

Interpretation. At Farnborough at 25 minutes past 2 in the afternoon (G.M.T.), a storm arrived from the West; the wind reached gale force (8) and hail fell; there was no thunder; temperature fell to 37° F.

4. (1.5.23.)

Page 10. *After* " Hourly Reports (London-Continental Aerial Routes ") *add* " See also p. 15, under Great Britain (f)."

Page 15. *Great Britain* (f). *Add :—*

WARNINGS OF SQUALLS OR THUNDERSTORMS.

Warnings of *Squalls* or *Thunderstorms* which are reported from stations lying on or near aerial routes are broadcasted from the Air Ministry (call signal G.F.A.) on a wave length of 1400 m. The messages are issued in the code of p. 14, note (4).

5. (4.5.23.)

Page 10, *Great Britain* (*d*), *paragraphs* 1 *and* 4.

Alter all times of sending to 36 *minutes past the hour instead of* 35.

BELGIUM.

6. (4.5.23.)

Page 17, *Belgium* (*b*), *paragraphs* 1 *and* 4.

Alter all times of sending to 22 *minutes past the hour instead of* 24.

FINLAND.

7. (1.5.23.)

Page 21, *paragraph* 1, *Times of Sending. To particulars of each message add letters* U.W. *after letter* S.

Page 22, *paragraph* 4.

To 0855 *message add :—*

Part II. preceded by word " Pilot." Upper winds, generally at 0700 G.M.T., at stations 01 and 02 :—

$I_nI_n\ h_1ddv_1v_1$ etc.

where v_1v_1 is wind speed in m./s.,
and the remaining symbols are as in the New International Code.

In 1455 *message*

renumber Part II as Part III and insert :—

Part II. Upper winds as in Part II of 0855 message, if not already included in that message.

To 1955 *message add :—*

Part II. Upper winds as in Part II of 0855 message, if not already included in 0855 or 1455 messages.

HOLLAND.

8. (4.5.23.)

Page 43, *Holland* (*c*), *paragraphs* 1 *and* 4.

Alter times of sending to 44 *minutes past the hour instead of* 45.

NORWAY.

9. (1.4.23.)

Page 50, *paragraph* 5.

Delete note (3) *completely.*

(Atmospheric pressure at Dombaas is now reduced to sea level in a more exact manner).

10. (1.5.23.)

Supplement No. 4, *amendment No.* 1., *Norway* (*c*) (" *Polar Front*" *Report*).

Paragraph 1.

For wave length substitute 1850 m. c.w.
For times of sending substitute 0950 G.M.T. *and* 2050 G.M.T.

11.

Page 50. *Norway* (*a*).

Paragraph 5. *Add note :—*

(3) In order that observations of wind at heights above 6,000 m. may be reported, the International code for height (h_1) is extended as in paragraph 6 below.

Paragraph 6. *Add :—*

Extension of Code for height at which upper wind is reported (h_1).

Code Number.	Height.	Height.	Height.
0	0	7,000	17,000
1	200	8,000	18,000
2	500	9,000	19,000
3	1,000	10,000	20,000
4	1,500	11,000	21,000
5	2,000	12,000	22,000
6	3,000	13,000	23,000
7	4,000	14,000	24,000
8	5,000	15,000	25,000
9	6,000	16,000	26,000

Example :—32426 83031 22112 01610

give wind at 1,000, 5,000, 9,000, and 17,000 metres.

12.

Page 49, *paragraph* 2. *Add station :—*

02 Quade Hook (Spitzbergen) (C) 78° 57′ N. 11° 42′ E.

POLAND.

13.

Pages 51 *to* 53 *and Supplement No.* 8, *amendment No.* 4.

The use of the New International Code is confined to " surface " observations.

Upper winds are still reported in the original code on page 53.

ROUMANIA.

14. (15.4.23.).

Page 53, *and Supplement No.* 5, *amendment No.* 11.

Paragraph 1.

For time of sending 0830 G.M.T. *substitute* 0845 G.M.T.

Paragraph 4.

For 0830 message *substitute* 0845 message.

UNITS.

15. (1.5.23.).

Page 82. *For Finland, speed of upper wind, insert* m./s.

16.

Page 82, *Poland, speed of upper wind.*

For km./h. *substitute* m./s.

(Amendment No. 6 of Supplement No. 10 is cancelled).

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SUPPLEMENT No. 12 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 30th May 1923.

GREAT BRITAIN.

1. (15.5.23.)

Page 10, *paragraphs* 1 *and* 4. *Also Supplement No.* 2, *amendment No.* 4.

Reinstate the 0535 message (now issued at 0536) which was discontinued on November 1, 1922, for the winter months.

2. (15.5.23.)

Page 10, *paragraphs* 1 *and* 4. *Also Supplement No.* 1, *amendment No.* 3, *and Supplement No.* 2, *amendment No.* 3.

Reinstate the 0435 message (now issued at 0436), which was discontinued on October 14, 1922, for the winter months.

FRANCE.

3. (25.4.23.)

Page 28, *France* (*c*), *paragraphs* 1 *and* 4. *Also Supplement No.* 1, *amendment No.* 9, *and Supplement No.* 2, *amendment No.* 15.

Reinstate 0428 message, which was discontinued October 7, 1922, for the winter months.

HOLLAND.

4. (14.5.23.)

Page 43, *Holland* (*c*), *paragraphs* 1 *and* 4. *Also Supplement No.* 1, *amendment No.* 17.

Reinstate 0645 message (now issued at 0644 G.M.T.) which was discontinued on July 24, 1922.

x (5)20183 Wt 125—8570 375 5/23 E & S A

MALTA.

5. (21.5.23.)

Page 48 *and Supplement No.* 2, *amendment No.* 23.
For paragraph 1 *substitute :—*

1. Transmitting station - Calafrana.
Call signal - - - G.H.A.
Messages directed to - C.Q.
Wave length - - 4,800 m.c.w.
Times of sending - - 0740 G.M.T. (observations at 0700 G.M.T.), S., U.W.
1840 G.M.T. (observations at 1800 G.M.T.), S., U.W.

In paragraph 4 *for* 0730 *and* 1850 *read* 0740 *and* 1840 *respectively.*

6. *Paragraph* 3.

Delete words " Forecast in plain language."

Paragraph 4.

Delete Part III. of 0740 *message.*

In 1840 *message add :—*

Part II. Same form as Part II. of 0740 message.

PORTUGAL.

7. *Page* 53.

Insert particulars after those for Poland. (*See also Supplement No.* 10, *Amendment No.* 4) *:—*

1. Transmitting Station - Monsanto.
Call Signal - - C.T.V.
Message directed to - - C.Q.
Wave length - - - 600 m. spk. (for first transmission).
2,400 m. c.w. (for second transmission five minutes later).

Times of sending :—

0945 G.M.T. (observations at 0700 G.M.T.) S., O.
2130 G.M.T. (observations at 1800 G.M.T.) S., O.

2. *Stations.* Include in general :—

Index.	Name.	Latitude.	Longitude.
Name in full.	Lisbon	38° 42′ N.	09° 08′ W.
	Oporto	41° 09′ N.	08° 34′ W.
	Coimbra	40° 12′ N.	08° 30′ W.
	Funchal	32° 37′ N.	16° 54′ W.
	Angra	38° 40′ N.	27° 05′ W.

3. *Code.* Mainly New International. [*See* page 65 (Code of November 1920 with amendments of September 1921, introduced March ?, 1923, the date of commencement of this issue)].

Ship observations are in the form adopted at the meeting of the International Commission for Weather Telegraphy, November, 1920, and not in the modified form recommended at the meeting in September, 1921.

Details of Swell in special note.

4. *Form of Individual Messages.*—Messages commence with words " Météo Portugal ".

0945 *message.*

Part I.—(Station name in full).
BBBDD FwwTT cbWVH ALaNh RRmmr mar $pD_1D_1k\theta$.
Part II.—Ship observations, preceded by word " Navires "—
$QLLLx_1$ $1111x_2$ $BBDDx_3$ $FvKdx_4$ $wwGGx_5$ $TTttx_6$ $CNWrx_7$ $y_1y_2y_3y_4z$
where 1111 is the longitude in degrees and tenths and the remaining symbols have the standard meanings.

2130 *message.*

Part I.—

(Station name in full) BBBDD FwwTT cbWVH ALaNh RRMMr mar $pD_1D_1k\theta$.

Part II.—Same form as Part II. of 0945 message.

5. *Note*

(1) For units *see* page 82.

(2) All land stations are treated as inland stations, *i.e.*, maximum and minimum temperatures are given in all cases in the fifth data group. (*See* page 69, § 1, (*a*).)

6. *Special Codes.*

Swell.

Swell is represented in a group of the form $pD_1D_1k\ \theta$ preceded by identification letters " mar ".

Here,
p = period of swell in seconds. O = 10 seconds or more.
D_1D_1 = direction from which swell comes.
(Scale 01 to 32, as for surface wind.)
k = height of swell on a progressive scale from 0 to 9.
θ = tendency of swell at time of observations.

0 No change	7 increasing slowly
1 decreasing slowly	8 increasing
2 decreasing	9 increasing rapidly
3 decreasing rapidly.	

SPAIN.

8. *Page* 52, *paragraph* 2.

Add new stations :—

V A	Valencia	39° 28′ N.	00° 22′ W.
L A	Larache	35° 15′ N.	06° 09′ W.
S E	Seville	37° 23′ N.	06° 00′ W.

TURKEY.

9. *Page* 59.

Add particulars after those for Switzerland :—

TURKEY.

1. Transmitting station - Osmanie (Constantinople).
Call signal - - - O.S.M.
Messages directed to - U.A.
Wave length - - 7,500 m.c.w.
Times of sending - 0830 G.M.T. (observations at 0700 G.M.T. and 0100 G.M.T. day of issue, and 1800 G.M.T. previous day), S., U.W.
2000 G.M.T. (observations at 1300 G.M.T.), S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	Constantinople.	41 03′ N.	28 55′ E.

3. *Code.*

The special code employed in the French national issues from the Eiffel Tower.

4. *Form of Individual Messages.*

Messages commence with words "Meteo Consple a Phiserar Paris."

0830 *Message.*

0700 I_nI_n BBBTT cbb(SV_s) $DDFN_1V$ $d_1d_1f_1n_1h$ $W_1W_1pA_1a_1$ mmR_1R_1d
Pilot I_nI_nGG d_1d_1vv d_1d_1vv, etc.
0100 I_nI_n BBBTT cbbp $DDFN_1V$
1800 I_nI_n BBBTT cbb(SV_s) $DDFN_1V$ $d_1d_1f_1n_1l$. $W_1W_1pA_1a_1$ MMt_2t_2d
containing in order, as indicated, surface observations at 0700 G.M.T., upper winds, surface observations at 0100 G.M.T. and at 1800 G.M.T., the last referring to the previous evening. For meaning of symbols *see* details of French national issues from Eiffel Tower (page 23 and Supplement No. 2, amendment No. 11).

2000 *Message.*

1300 I_nI_n BBBTT cbb(SV_s) $DDFN_1V$ $d_1d_1f_1n_1h$ $W_1W_1pA_1a_1$.

5. *Note.*—(1) For units *see* page 82.

(2) These issues are organised by the French National Meteorological Office.

UNITS.

10. *Page* 82.

After Poland insert :—Portugal mm. °C.

11. *Page* 82.

Add :—

Turkey mm. C/ km./h.

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SUPPLEMENT No. 13 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 20th June, 1923.

GREAT BRITAIN.

1. (–.6.23.)

Reports from the *Islands Falk*, of the Danish Navy, cruising off the south and west coasts of Greenland, will be included in the British Synoptic Issues.

Amend as follows :—

page 6, *paragraph* 2. Add :—

Index.	Station.
97	"*Islands Falk*."

page 7, *paragraph* 3. *Add* :—

Code, New International for observations from a Coastal Station, preceded by two groups giving the position of the station and the time of observation.

page 7, *paragraph* 4.

To part 1 *of* 0800 *message add* :—

Station 97. PQLLL lllGG BBBDD FwwTT cbWVH ALaNh RRSVsr.

To 1400 *message add* :—

Station 97 as at 0800, but last group omitted.

To 1900 *message add* :—

Station 97 as at 0800.

page 7, *paragraph* 5.

To note (1) *add* :—

In the case of Station 97 the unit of pressure is the millibar and of temperature the degree Fahrenheit.

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SUPPLEMENT No. 14 TO M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 18th July, 1923.

GREAT BRITAIN.

1. (5.7.23.)
Supplement No. 2, *Amendment No.* 5, *Great Britain* (*g*) :—
Delete sign X *against station* 30. (For this station observations at 0700 G.M.T. are now included in the 0850 message and observations at 1300 G.M.T. in the 1450 message.)

MALTA.

2.
Page 48 *and Supplement No.* 2, *Amendment No.* 23; *also Supplement No.* 12, *Amendments Nos.* 5 *and* 6.
To paragraph 1, *add* :—
1340 G.M.T. (observations at 1300 G.M.T.) S., U.W.
To paragraph 4, *add* :—
1340 *Message* :—
Part I.—BBBDD FwwTT cbWVH ALaNh.
Part II.—Same form as Part II. of 0740 message.

NORWAY.

3. (1.7.23.)
Page 49, *paragraph* 2.
Add stations :—

52 Strømskag,	(C) 63° 23′ N.,	7° 48′ E.
57 Ona,	(C) 62° 52′ N.,	6° 33′ E.
59 Runde,	(C) 62° 24′ N.,	5° 39′ E.

Page 50, *paragraph* 5.
In note (2) *add station numbers* 52, 57, 59.

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SUPPLEMENT No. 15 to M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 7th August 1923.

GREAT BRITAIN.

1. (1.8.23.)

Page 8, *Great Britain* (*b*).

In addition to the 0800 G.M.T. report from Horta being included in an hourly route message (*see* M.O. 252, page 12) it will in future be added in the same code to the 0915 G.M.T. "General Inference" when available in time.

2. (24.7.23.)

Supplement No. 2, *Amendment No.* 5, *Great Britain* (*g*).

The 1450 message will in future contain observations at 0700 G.M.T. from as many of the Italian Stations in the list as are available, instead of from Genoa and Rome (or two alternative stations) only.

BELGIUM.

3. (23.7.23.)

Page 17, *Belgium* (*b*), *paragraph* 4.

The groups giving "surface" observations at Brussels in the 0722, 1022, 1322, 1622 and 1822 messages, are now followed by groups of check figures, formed in the same way as those used in the British reports from individual stations to the Meteorological Office [Great Britain (*e*), page 13.]

GERMANY.

4. (6.8.23.)

Page 33, *Germany* (*a*).

The New International Code is now to be used in these messages.

x 20617 Wt 125—8570/P 23 375 8/23

5. (6.8.23.)

Page 35, *Germany* (*b*).

The following code is now to be used for "surface" and ship observations :—

(*a*) "Surface" observations—

Observations at 0100 G.M.T. I_nI_n BBBDD FwwTT cbWVH.

,, ,, 0700 ,, I_nI_n BBBDD FwwTT cbWVH ALaNR.

,, ,, 1800 ,,

,, ,, 1300 ,, I_nI_n BBBDD FwwTT cbWVH ALaNh.

Exception.—In the case of stations marked with an asterisk in the list below, the following code will however be used :—

0700 G.M.T. BBBDD FwTT BbbRR
Other times. BBBDD FwTT Bbb

where the symbols have the meaning of the Old International Code.

(*b*) Ship observations—

PQ'LLL lllZZ BBDDF wwvKd TTttC.
Where Q' is the quarter of the globe :—

	Lat.	Long.
1 =	N	W
2 =	N	E
3 =	S	W
4 =	S	E

ZZ is the hour of observation (Central European time; subtract one hour to get G.M.T.) and the remaining symbols are as in the New International Code.

New List of Stations.

21. Helder.
22. Flushing.
23. Copenhagen.
24. Skagen.
25. Hanstholm.
26. Haparanda.
27. Härnosand.
28. Karlstad.
29. Stockholm.
30. Wisby.
31. Spitzbergen.
32. Ingoy.
33. Valdersund.
34. Kinn.
35. Bjornoya.
36. Rost.
37. Jan Mayen.
38. Utsire.
39. Lerwick.
40. Scilly.
41. Tynemouth.
42. Valencia.
43. Stornoway.
44. Holyhead.
45. Yarmouth.
46. Blacksod.
47. Calshot.
48. Thorshavn.
49. Seydisfjord.
50. Vestmanna.
51. *Riga.
52. Warsaw.
53. Lemberg.
54. Pinsk.
55. Rochefort.
56. Bayonne.
57. Clermont.
58. Dijon.
59. Brest.
60. Paris.
61. Perpignan.
62. Toulon.

63. Zürich.
64. Lugano.
65. Belgrade.
66. *Sofia.
67. Helsingfors.
68. Sortavala.
75. Prague.
76. *Budapest.
77. Madrid.
78. Corunna.
79. Mahon.
80. *Venice.
81. *Rome.
82. *Messina.
83. Rabat.
84. Oran.
85. Bizerta.
86. Horta.

ITALY.

6. *Page* 45, *paragraph* 1.

For call signal I.D.O. *substitute* I.C.C.

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SUPPLEMENT No. 16 to M.O. 252.

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 31*st August*, 1923.

GREAT BRITAIN.

1. (10.9.23).

Supplement No. 2, *Amendment No.* 5, *Great Britain* (*g*).

Delete sign † *against stations* 23, 24, 74, 75, 76.

(For these stations w_1 will, from September 10th, 1923, have the meaning of the New International Code.)

EGYPT.

2. (1.9.23.)

Page 64.

Insert following particulars of new issue:

EGYPT.

1. Transmitting Station - - - - Abu Zabal.
Call Signal - - - - - - S U C.
Messages directed to - - - - C Q.
Wave length - - - - - 11,000 m. c.w.
Time of sending - - - - 0955 G.M.T.

(Observations at 0600 h. and 1800 h. G.M.T. for Helwan and Alexandria and at 0600 h. for remaining stations) S., U.W.

x (5)20762 Wt 125—8570/P 23 375 9/23

2. *Stations.*—A selection from the following :—

Index.	Name.	Latitude.	Longitude.
01	Helwan	29° 52′ N.	31° 20′ E.
02	Alexandria	31° 12′ N.	29° 53′ E.
03	Port Said	31° 16′ N.	32° 19′ E.
04	Siwa	29° 12′ N.	25° 29′ E.
05	Mersa Matruh	31° 22′ N.	27° 14′ E.
06	Asyut	27° 11′ N.	31° 13′ E.
07	Aswan	24° 02′ N.	32° 53′ E.
08	Halfa	21° 55′ N.	31° 19′ E.
09	Khartoum	15° 37′ N.	32° 33′ E.
10	Haifa	32° 48′ N.	34° 59′ E.
11	Gaza	31° 30′ N.	34° 27′ E.
12	Ramleh	31° 54′ N.	34° 54′ E.
13	Candia	35° 20′ N.	25° 08′ E.
14	Limassol	34° 41′ N.	33° 03′ E.

3. *Code.*—New International, abbreviated form (*see* page 71, (4)), modified as indicated below.

4. *Form of individual message.*

Message commences with words " Meteo Egypt."
Station 01. I_nI_n BBDDF $w_1TTK'R$ h_1ddvv h_1ddvv h_1ddvv h_1ddvv BBDDF $w_1TTK'W$.
Station 02. I_nI_n BBDDF $w_1TTK'R$ BBDDF $w_1TTK'W$.
Other stations. I_nI_n BBDDF $w_1TTK'R$.

The last two groups in the messages for stations 01 and 02 refer to observations at 1800 G.M.T. of the previous day.

5. *Note* 1.—Units are millibars, degrees centigrade, and kilometres per hour for upper wind.

2. Pilot balloon ascents are made as near 0600 G.M.T. as possible.

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(5)20795 Wt 13563—9305/824 750 10/23 A 2

I.—INTRODUCTION.

(*a*) The issues of which particulars are included in this publication are the central and local issues in Great Britain, but only the chief central issues in other countries. For particulars of local issues in these countries application should be made to the central meteorological institutes in the countries concerned.

(*b*) In the following pages the details of the meteorological messages transmitted by each country are arranged on a uniform plan. The first paragraph in each case contains details of the wireless transmission, *e.g.*, transmitting station, call signal, &c. The time of sending of each message is followed by the time of the "surface" observations contained in it, and by symbols indicating the nature of the information given. The meanings of the symbols are :—

S. "Surface" observations (*i.e.*, observations other than those mentioned below) from land stations.
U.W. Observations of upper wind.
U.A.T. Observations of upper air temperature and humidity.
O. Observations from ships at sea.
I. Observations of ice conditions.
G. Statement of general meteorological situation.
F. Forecast.

The second paragraph gives the names of the meteorological observing stations, with their index numbers, positions and altitudes above mean sea level. (The positions are in many cases approximate only, and are not necessarily the exact co-ordinates of the meteorological stations.) This is followed in the next paragraph by an indication whether the messages are in the (New) International Code, the Old International Code, or a special code. If the New International Code is employed then the symbols used in the succeeding paragraphs have the standard meanings appropriate to that Code (*see* Section IV., p. 88). Similarly, if the Old International Code is in use the symbols employed in the following paragraphs have the standard meanings of Section V., p. 103. Any symbols with special meanings are explained where they occur.

The fourth paragraph treats each message individually, giving the symbolic form of the observations from a typical station (or stations). The full message consists of a collection of observations, each in this form, from the set of stations given in the second paragraph.

The fifth paragraph contains miscellaneous notes, and the final paragraph the full specification of any special codes employed in the messages.

(*c*) This issue of particulars of the messages from different countries has been brought up to date according to the information available on 1st October, 1923. Amending notices will be issued from time to time as alterations are required. Purchasers of this Edition will be informed when such notices are issued and when a new Edition is ready, if they notify the Director of the Meteorological Office of their desire to receive this information.

(*d*) When reports from stations outside Great Britain are included in British issues by W/T, the values of pressure are expressed in millibars, the unit adopted provisionally for international use at the International Meteorological Conference at Paris in 1919.

For reports of temperatures, degrees Fahrenheit and for reports of upper wind, miles per hour are used in all British issues.

Exception.—The reports from Iceland and Thorshavn are reissued from G.F.A. in the same units as received (mm. and ° C.) in order to avoid the delay in issue which might be caused by conversion.

II.—PARTICULARS OF REPORTS ISSUED BY GREAT BRITAIN.

GREAT BRITAIN (*a*).

Synoptic Reports.

1. Transmitting Station - - - - London (Air Ministry)
Call Signal - - - - - - G.F.A.
Messages directed to - - - - C.Q.
Wave Length - - - - - 4100 m. c.w.
Times of sending :—
0200 G.M.T. (observations at 0100 G.M.T.) S., U.W., U.A.T., O.
0600 G.M.T. (observations at 0100 G.M.T.) S., U.W., U.A.T., O.
0800 G.M.T. (observations at 0700 G.M.T.) S., U.W., U.A.T., O.
1400 G.M.T. (observations at 1300 G.M.T.) S., U.W., U.A.T., O.
1900 G.M.T. (observations at 1800 G.M.T.) S., U.W., U.A.T., O.

2. *Stations* :—

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
(a) *British Isles*—				
01	LERWICK (C) -	60° 09′ N.	01° 08′ W.	54
03	STORNOWAY (C) -	58° 11′ N.	06° 22′ W.	51
04	Wick (C) - -	58° 27′ N.	03° 06′ W.	81
05	Castlebay (C) - -	56° 57′ N.	07° 29′ W.	37
06	Nairn (L) - -	57° 36′ N.	03° 52′ W.	82
07	ABERDEEN (C) -	57° 10′ N.	02° 06′ W.	46

C = Coastal Station. L = Inland Station.

2. *Stations*—continued.

09	Leuchars (L)	56° 23′ N.	02° 53′ W.	20
10	MALIN HEAD (C)	55° 23′ N.	07° 24′ W.	72
11	RENFREW (L)	55° 52′ N.	04° 24′ W.	40
12	INCHKEITH (C)	56° 02′ N.	03° 08′ W.	190
13	Eskdalemuir (L)	55° 19′ N.	03° 12′ W.	794
15	TYNEMOUTH (C)	55° 01′ N.	01° 25′ W.	71
20	BLACKSOD PT. (C)	54° 06′ N.	10° 04′ W.	327
22	Donaghadee (C)	54° 38′ N.	05° 32′ W.	37
25	Flamborough (C)	54° 07′ N.	00° 05′ W.	190
31	Birr Castle (L)	53° 06′ N.	07° 56′ W.	175
33	HOLYHEAD (C)	53° 18′ N.	04° 39′ W.	15
34	Liverpool (C)	53° 24′ N.	03° 04′ W.	188
35	Shotwick (L)	53° 14′ N.	03° 00′ W.	16
36	Manchester (L)	53° 26′ N.	02° 13′ W.	98
38	Spurn Head (C)	53° 34′ N.	00° 07′ E.	26
41	Birmingham (L)	52° 28′ N.	01° 56′ W.	542
42	Castle Bromwich (L)	52° 31′ N.	01° 48′ W.	270
43	Nottingham (L)	52° 56′ N.	01° 09′ W.	82
44	CRANWELL (L)	53° 02′ N.	00° 31′ W.	256
45	YARMOUTH (C)	52° 35′ N.	01° 43′ E.	10
50	VALENCIA (C)	51° 56′ N.	10° 15′ W.	30
51	Roche's Point (C)	51° 47′ N.	08° 15′ W.	32
52	PEMBROKE (C)	51° 41′ N.	05° 11′ W.	149
53	Leafield (L)	51° 50′ N.	01° 33′ W.	556
54	ROSS-ON-WYE (L)	51° 54′ N.	02° 34′ W.	202
56	Larkhill (L)	51° 11′ N.	01° 48′ W.	470
57	Andover (L)	51° 12′ N.	01° 31′ W.	250
58	Farnborough (L)	51° 15′ N.	00° 45′ W.	234
60	Kew (L)	51° 28′ N.	00° 19′ W.	18
61	CROYDON (L)	51° 21′ N.	00° 07′ W.	242
62	Biggin Hill (L)	51° 19′ N.	00° 03′ E.	610
63	Clacton (C)	51° 47′ N.	01° 09′ E.	54
64	Shoeburyness (C)	51° 32′ N.	00° 47′ E.	11
65	Grain (C)	51° 27′ N.	00° 43′ E.	7
66	Lympne (L)	51° 05′ N.	01° 01′ E.	340
67	Deal (C)	51° 15′ N.	01° 24′ E.	20
68	N. Foreland (C)	51° 22′ N.	01° 27′ E.	188
70	SCILLY (C)	49° 56′ N.	06° 18′ W.	131
71	Falmouth (Pendennis) (C)	50° 09′ N.	05° 03′ W.	238
72	Plymouth (C)	50° 22′ N.	04° 08′ W.	147
73	Portland Bill (C)	50° 32′ N.	02° 27′ W.	19
74	CALSHOT (C)	50° 49′ N.	01° 18′ W.	12
75	Beachy Head (C)	50° 44′ N.	00° 15′ E.	525
76	Dungeness (C)	50° 55′ N.	00° 58′ E.	21
77	GUERNSEY (C)	49° 26′ N.	02° 33′ W.	318
78	Jersey (C)	49° 12′ N.	02° 11′ W.	25
81	St. Catherine's Pt. (C)	51° 27′ N.	01° 17′ W.	120

C = Coastal Station. L = Inland Station.

2. *Stations*—continued.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
(b) *Denmark (The Faeroes)*—				
91	Thorshavn	62° 03′ N.	06° 45′ W.	84
(c) *Iceland*—				
92	Seydisfjord	65° 20′ N.	13° 40′ W.	
93	Akureyri	65° 40′ N.	18° 04′ W.	20
94	Isafjord	66° 15′ N.	23° 30′ W.	
95	Reykjavik	64° 09′ N.	21° 55′ W.	16
96	Vestmanö	63° 26′ N.	20° 15′ W.	23
(d) *Portugal (Azores)*—				
"Horta"	Horta	38° 32′ N.	28° 38′ W.	98

3. *Code.—British Isles.*—New International. [*See* page 88 (Code of Nov. 1920 introduced March 1st, 1921, amendments of Sept. 1921 introduced Jan. 1st, 1922).]

(Ship observations are in the form adopted at the meeting of the International Commission for Weather Telegraphy, November, 1920, and not in the modified form recommended at the meeting in September, 1921.)

The Faeroes and Iceland.—New International.

[Special form, *see* page 94, (introduced July 1st, 1922).]

Azores.—New International (modified form).

4. *Form of Individual Messages.*

0200 Message.

Part I. Stations 01 to 78.—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).

Part II. preceded by word "Pilot." Upper winds :—I_nI_n $h_1$ddvv &c. *See* Note (10) § 5.

Part III. preceded by word "Temp." Upper air temperatures and humidities :—I_nI_n YYGG BBTTH &c., where YY is the day of the month and GG the hour of the day G.M.T.

Part IV. preceded by word "Ships." Ship reports from the Atlantic :—I_nI_n QLLLx_1 llllx_2 BBDDx_3 FvKdx_4 wwGGx_5 TTttx_6 CNWrx_7 $y_1y_2y_3y_4$z, where llll is the longitude in degrees and tenths and the remaining symbols have the standard meanings.*

0600 Message.

Part I.—Repetition of Part I. of 0200 message, completed if further information available. (Ship reports for the past 24 hours are given in this message.)

* In the code for present weather ww in these ship reports 03 = fine or fair, with exceptional visibility, and 13 = cloudy or overcast, with exceptional visibility. This is the original (Nov. 1920) form of the present weather code.

Part II. preceded by word "Horta."—Observations at 2300 G.M.T. of previous day, at Horta :—
BBBDD FwwTT cbWVH CN – – –.

Parts III. and IV.—Repetition of Parts II. and III. of 0200 message.

Part V.—Repetition of Part IV. of 0200 message, together with all reports from British ships for the past 23 hours which, owing to limitation of the length of messages, were not issued in the 0800, 1400 and 1900 messages of the preceding day.

0800 Message.

Part I. Stations 01 to 78.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV).
Stations 91 and 95.—I_nI_n BBcbb BBBDD FwwTT cbWVH ALaNh RR – – r.
Stations 92, 93, 94, 96.—I_nI_n BBcbb BBBDD FwwTT cbWAN.

Parts II., III., IV.—Same form as Parts II., III., and IV. of 0200 message.

1400 Message.

Part I. Stations 01 to 78.—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).
Stations 91 and 95.—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).
Stations 92, 93, 94, 96.—I_nI_n BBBDD FwwTT cbWAN.

Parts II., III., and IV.—Same form as Parts II., III., and IV. of 0200 message.

1900 Message.

Part I. Stations 01 to 78.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV).
Stations 91 and 95.—I_nI_n BBBDD FwwTT cbWVH ALaNh RR – – r.
Stations 92, 93, 94, 96.—I_nI_n BBBDD FwwTT cbWAN.

Parts II., III., and IV.—Same form as Parts II., III., and IV. of 0200 Message.

5. *Note.*

(1) For units, *see* p. 106. In the case of stations 91 to 96 the unit of pressure is the mm. and of temperature the degree Centigrade.

(2) Stations regularly included are printed in capital letters in the list above. If a regular station should be missing on any occasion a neighbouring station is inserted if available.

(3) Nephoscope observations (group C_1ddVV) of medium or high cloud do not always refer to the station to which the cloud group is assigned in the synoptic message, but may have been made at a neighbouring station, not included in the message, if no nephoscope observations are available from the synoptic station itself. Nephoscope groups are usually not given for more than 6 or 8 stations, which are normally sufficient to give a representation of the upper cloud motion over the British Isles.

(4) Reports received too late for inclusion in the 0800 and 1400 messages are added to the 0835 and 1435 G.M.T. hourly route messages (*see* p. 12).

1000 G.M.T. observations from Valencia, Plymouth and Calshot, 0800 G.M.T. observations from the Azores, 0700 G.M.T. observations from Madeira, and additional ship reports are also added to the hourly route messages (*q.v.*).

(5) At British Stations, for reports at the standard hours (0100, 0700, 1300 or 1800 G.M.T.), the figure W (past weather) always refers to the preceding period of 5, 6 or 7 hours since the last standard hour.

For reports at other hours W refers to the period since the preceding report or the preceding standard hour, whichever is shorter. In the case of past weather referred to in the specification of the present weather code (ww), the period is the hour preceding the time of observation.

(6) The reports from stations 91 to 96 are usually distributed amongst those from British Stations in accordance with the recommendation of paragraph (*l*) p. 45 of M.O. 242, 'Report of the Third Meeting of the Commission for Weather Telegraphy.'

(7) On occasions when reports from any of the Icelandic stations are received in London too late for inclusion in the synoptic message containing British observations made at the same hour, they are added to a later routine message transmitted from the Air Ministry, as follows :—

Reports normally included in message issued at :—	*If late, added to message issued at :—*	*If still later, added to message issued at :—*
0800 G.M.T.	0915 G.M.T.	1400 G.M.T.
1400 G.M.T.	1450 G.M.T.	1900 G.M.T.
1900 G.M.T.	2000 G.M.T.	0600 G.M.T.

In all cases where the reports are issued late they commence with an indication of their nature, thus :—
"Iceland 0700."

(8) The two-figure index groups which precede reports of observations from ships are merely intended to enable recipients to identify two consecutive reports from the same ship. Accordingly the names of the ships corresponding to the index numbers employed are not published.

(9) In cases where breakdown of the main set, or other delay in commencing transmission on 4,100 metres is occasioned, should transmission not have been commenced at the expiration of ten minutes the message will be issued on 1,400 metres commencing at ten minutes after the routine hour.

(10) The heights for upper winds are given in feet, as shown in the last column of Code XI., p. 101.

GREAT BRITAIN (*b*).

INTERNATIONAL COLLECTIVE MESSAGE.

1. Transmitting Station - London (Air Ministry).
Call Signal - - - G.F.A.
Message directed to - C.Q.
Wave Length - - 4100 m. c.w.
Times of Sending :—

0850 G.M.T. (observations at 0700 G.M.T. and for certain stations at 1800 G.M.T. previous day) S.
1450 G.M.T. (observations at 1300 G.M.T. and for certain stations at 0700 G.M.T.) S.

2. *Stations*—

01	Jan Mayen	33	Björnöya (Bear Island)
		34	Spitzbergen
02	Ingöy	35	Vardö
		36	Abisko
03	Brönnöy	37	Röst
		38	Valdersund
04	Lister	39	Utsire
		40	Oksö
05	Kinn	41	Bergen
		42	Faerder
06	Haparanda	43	Stensele
		44	Härnosand
		45	Östersund
07	Stockholm	46	Wisby
		47	Karlstad
		48	Särna
08	Copenhagen	49	Hammeren
09	Blaavandshuk	50	Hanstholm
		51	Skagen
10	Helder		
11	Flushing	52	de Bilt
		53	The Hague
12	Brussels		
13	Paris	54	Amiens
		55	Romilly
14	Brest	56	St. Mathieu
		57	Ushant
15	Rochefort	58	Ile d'Aix
		59	Toulouse
16	Bayonne	60	Bordeaux
		61	Cherbourg
17	Lyons	62	Dijon
		63	Valenciennes
18	Mainz	64	Strasbourg
		65	Metz
19	Marignane	66	Toulon
		67	Le Hâvre
20	Zürich	68	Berne
		69	Geneva
21	Corunna ×	70	Madrid ×
		71	Valladolid ×
22	Horta ×	72	Ponta Delgada ×
		73	Funchal† ×
23	Berlin ×	74	Hamburg ×
		75	Swinemünde ×
24	Munich	76	Vienna
		77	Linz† ×
		78	Innsbruck† ×
25	Warsaw	79	Lemberg
		80	Łódź
		81	Cracow ×
26	Posen	82	Tarnów
		83	Lublin ×
		84	Pinsk ×
27	Prague	85	Košice
		86	Cheb ×
		87	Stará Ďala ×
28	Genoa† ×	88	Leghorn† ×
		89	Florence† ×
29	Rome† ×	90	Taranto† ×
		91	Pesaro† ×
30	Malta	92	Palermo† ×
		93	Cagliari† ×
31	Helwan ×	94	Limassol† ×
32	Gibraltar	95	Lisbon ×

For positions of stations *see* lists under heading of individual countries. The following stations do not appear in any other list :—

	Latitude.	Longitude.	Altitude. Feet.
Cherbourg	49° 39′ N.	01° 39′ W.	
Pesaro	43° 55′ N.	12° 53′ E.	45
Ushant	48° 28′ N.	05° 10′ W.	
Ile d'Aix	46° 02′ N.	01° 10′ W.	

3. *Code.*—New International [*see* page 94 (4) (Code of Sept. 1921 introduced July 3rd, 1922, the date of commencement of this issue)].

4. *Form of Individual Messages.*

0850 *Message.* I_nI_n BBDDF w_1TTK'R
where for stations indicated † in the list above w_1 represents present weather in the Old International Code. (*See* Code I., page 103.)

1450 Message.

Observations at 1300 G.M.T.—I_nI_n BBDDF w_1TTK'W.

Observations at 0700 G.M.T.—I_nI_n BBDDF w_1TTK'R.

5. *Note.*—

(1) For units *see* p. 106. (British units employed throughout.)

(2) The alternative stations in the second column of the list in paragraph 2 are only used when the information for the corresponding station in the first column is missing (the first available alternative station being taken) with the exception that *all* the available Italian observations for 0700 are sent in the 1450 message.

(3) For stations marked × the observations sent on the 0850 issue relate to 1800 G.M.T. of the previous day and those on the 1450 issue to 0700 G.M.T. of same day.

(4) Reports from Icelandic Stations are occasionally added in code to the 1450 message (*see* Great Britain (a)).

GREAT BRITAIN (*c*).

Hourly Reports (London–Continental Aerial Routes).

(*See also* p. 19, under Great Britain (*f*)).

1. Transmitting Station - London (Air Ministry).
Call Signal - - - G.F.A.
Messages directed to - Z.M., B.A.V. and S.T.B.
Wave Length - - - 1680 m. c.w.
Times of Sending—

0336 G.M.T.* (observations at 0300 G.M.T.) S.
0436 G.M.T.* (observations at 0400 G.M.T.) S.
0536 G.M.T.* (observations at 0500 G.M.T.) S.
0636 G.M.T.* (observations at 0600 G.M.T.) S.
0736 G.M.T. (observations at 0700 G.M.T.) S., U.W.
0836 G.M.T. (observations at 0800 G.M.T.) S., F.
0936 G.M.T. (observations at 0900 G.M.T.) S., U.W.
1036 G.M.T. (observations at 1000 G.M.T.) S.
1136 G.M.T. (observations at 1100 G.M.T.) S., U.W., F.
1236 G.M.T. (observations at 1200 G.M.T.) S.
1336 G.M.T. (observations at 1300 G.M.T.) S., U.W.
1436 G.M.T. (observations at 1400 G.M.T.) S., F.
1536 G.M.T. (observations at 1500 G.M.T.) S.
1636 G.M.T. (observations at 1600 G.M.T.) S.

* *See* note 7 § 5.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
61	Croydon (L) -	51° 21′ N.	00° 07′ W.	242
62	Biggin Hill (L)	51° 19′ N.	00° 03′ E.	610
65	Isle of Grain (C)	51° 27′ N.	00° 43′ E.	7
66	Lympne (L) -	51° 05′ N.	01° 01′ E.	340
67	Deal (C) -	51° 15′ N.	01° 24′ E.	20
68	North Foreland (C)	51° 22′ N.	01° 27′ E.	188
75	Beachy Head (C) -	50° 44′ N.	00° 15′ E.	525
76	Dungeness (C)	50° 55′ N.	00° 58′ E.	21

(C) = Coastal Station, (L) = Inland Station.

3. *Code.*

New International, with a check figure added in certain cases. [*See* page 94 (Code of Nov. 1920 introduced March 1st, 1921, code of Sept. 1921 introduced Jan. 1st, 1922).]

Forecasts in code of M.O.244.*

4. *Form of Individual Messages.*—Messages commence with word "Meteor," followed by a four-figure group indicating the time G.M.T. at which the observations were made, *e.g.*, 1400 (= 2 p.m.).

0336 Message.

Part I.—Stations 61, 62, 66,—x$I_nI_n(V_s)$ wwVhL NDDFW.

Where x is a check figure, being the units digit in the sum of the figures wwVhL.

Part II. preceded by letters CDN :—Observations at Croydon five minutes before time of transmission of message in form wwVhL.

0436 Message.

Part I.—Stations 61 and 66,—$I_nI_n(V_s)$ BBBDD FwwTT cbWVh ALaNh (C_addF_1S).

Station 62,—x$I_nI_n(V_s)$ wwVhL NDDFW (C_addF_1S).

Part II.—Same form as Part II. of 0336 message.

0536 Message.—Same form as 0336 message.

0636 Message.—Same form as 0336 message.

0736 Message.

Part I.—Stations 61 and 66.—$I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh (C_addF_1S).

Stations 62 and 75.—x$I_nI_n(V_s)$ wwVhL NDDFW (C_addF_1S.)

* M.O. 244. Forecast Code for the Abbreviation of Weather Forecasts transmitted by Telegraphy or Radiotelegraphy. (H.M.S.O., 1*s.* net.)

Part II.—Station 61 or 66.—Upper winds :—I_nI_n 49GG $h_1$ddvv &c., where GG is the hour (G.M.T.) of the pilot-balloon ascent.

Part III.—Same form as Part II. of 0336 message.

0836 Message.

Part I.—Same form as Part I. of 0336 message.

Part II.—Preceded by word "Forecast." Forecast for S.E. England for period of daylight following the time of issue.

Part III.—Same form as Part II. of 0336 message.

Part IV.—Reports received too late for inclusion in the general synoptic message issued from Air Ministry at 0800 G.M.T. (for code *see* p. 8).

0936 Message.

Part I.—Stations 61, 62, 66, 75—$xI_nI_n(V_s)$ wwVhL NDDFW. Station 76—$I_nI_nV_s$.

Part II.—Same form as Part II. of 0736 message. Only included if no pilot balloon ascent was available for the 0736 message and one has become available since.

Part III.—Same form as Part II. of 0336 message.

1036 Message.

Part I.—Stations 61, 62, 66, as in Part I. of 0736 message.

Part II.—Same form as Part II. of 0336 message.

Part III.—Observations at 1000 G.M.T. from stations 50 (Valencia), 72 (Plymouth), and 74 (Calshot), in the form :—I_nI_n BBBDD FwwTT cbWVH ALaNh.

1136 Message.

Part I.—Same form as Part I. of 0936 message, omitting station 76.

Part II.—Same form as Part II. of 0736 message.

Part III.—Same form as Part II. of 0836 message.

Part IV.—Same form as Part II. of 0336 message.

1236 Message.—Same form as Part I. of 0936 message, omitting station 75, and Part II. of 0336 message.

1336 Message.—Same form as 0736 message.

1436 Message.

Parts I. and II. same form as Parts I. and II. of 0836 message.

Part III.—Same form as Part II. of 0336 message.

Part IV.—Reports received too late for inclusion in the general synoptic message issued from Air Ministry at 1400 G.M.T. (for code *see* p. 8).

1536 Message.—Same form as 1236 message.

1636 Message.—Same form as Parts I. and II. of 1036 message.

5. *Note.*

(1) For units *see* p. 106.

(2) (*a*) Observations at 0800 G.M.T. from the Azores are added to the first route report sent after the reception of the observations at the Meteorological Office, London.

Stations.

Name.	Index.	Latitude.	Longitude.	Altitude (feet).
Horta*	"Horta"	38° 32′ N.	28° 38′ W.	98
Ponta Delgada	"P.D."	37° 45′ N.	25° 41′ W.	56

Code.—New International (modified form) BBBDD Fwwmm cbWVH CNRRS. Pressure is in millibars and minimum temperature in degrees F.

(*b*) Observations at 0700 G.M.T. from Madeira are added to the 1136 message or to a later one, according to time of receipt of the observations in London.

Station.

Name.	Index.	Lat.	Long.	Altitude (feet).
Funchal	"Madeira"	32° 37′ N.	16° 54′ W.	82

Code.—New International abbreviated form :—

BBDDF WTTK′R,

where W is present weather in Old International Code (Code I., p. 103).

Pressure is in millibars and temperature in degrees F.

(3) Reports from ships at sea are added to the next hourly route report issued after their reception in the Meteorological Office, London. Code as in general synoptic issue (p. 7).

(4) The word "botley" when it occurs in a message is followed by a statement in plain language of the conditions on the North Downs (Botley Hill) as viewed from Biggin Hill, when such a statement adds material information to that contained in the rest of the message.

(5) When bad weather conditions prevail on the normal air routes between Croydon and the Channel, reports from certain stations on an alternative route (Isle of Grain, North Foreland and Deal) are included in Part I. of the hourly messages in the form :—

$xI_nI_nV_s$ wwVhL

(6) When a report from Beachy Head is received too late for inclusion in the corresponding hourly route message it is included in the next hourly route message issued, the time of observation (G.M.T.) being added in a four-

* *See also* "General Inference," p. 17.

figure group GGgg (hours and minutes) after the index number thus :—

$xI_nI_nV_s$ GGgg wwVhL NDDFW (C_addF_1S).

(7) The 0336, 0436, 0536 and 0636 messages are discontinued during the winter months and are not usually issued at all on Sundays.

(8) In connection with the aerial route to COLOGNE, messages are transmitted hourly as follows :—

Transmitting Station	-	Cologne (50° 56′ N., 06° 59′ E.).
Call Signal - -	-	G.E.K.
Wave Length -	-	1680 m. c.w.
Times of Sending -	-	Hourly from 0716 G.M.T. to 1516 G.M.T.

Form of Messages :—

Meteo Koln GGgg G.M.T. wwVhL NDDFW

Reports from Aachen are included occasionally, usually once or twice a day, thus :—

Aachen GGgg* G.M.T. wwVhL NDDFW

(9) For aviation reports from *St. Catherine's Pt.*, *see* p. 22, note (6).

GREAT BRITAIN (*d*).

GENERAL INFERENCE† AND FORECASTS.

(i) *General Inference† in plain language.*

1. Transmitting Station	-	London (Air Ministry).
Call Signal - -	-	G.F.A.
Messages directed to	-	C.Q.
Wave Length - -	-	4100 m. c.w.

Times of Sending—

0915 G.M.T. (based on observations at 0700 G.M.T.) G.F.;
2000 G.M.T. (,, ,, ,, 1800 G.M.T.) G.F.;

2. —

3. —

4. *Form of Message.*—" General Inference " in plain language.

Example.—Pressure has again become high over Iceland, and a deep depression over the Skagerak region is increasing in intensity. The resultant North-westerly to Northerly wind current over the British Isles will maintain rather cold weather with local showers and variable skies during the next day or two.

* Only included if observation refers to a different hour of observation from that immediately preceding the time of issue.

† This report is transmitted at eight words a minute for the benefit of amateurs.

5. *Notes* :—

(1) Reports from Icelandic stations are occasionally added in code to these messages [*see* Great Britain (*a*)].

(2) When available in time, the 0800 G.M.T. report from Horta is added at the end of the 0915 G.M.T. General Inference in the same code as it is added later to an " Hourly Report " [*see* Great Britain (*c*), p. 15, Note (2) § 5].

(3) The 2000 message is followed by a forecast, preceded by " Group 999," in the code of M.O.244 (*see* below).

(ii) *Forecasts in Code.*

1. Transmitting Station	-	London (Air Ministry).
Call Signal - -	-	G.F.A.
Messages directed to	-	Various addresses* (not issued broadcast).
Wave Length - -	-	1300 m. c.w. (except " Group 999 " which is sent on a wave-length of 4100 m. c.w.).

Times of Sending.—These vary slightly, but are normally about
0900 G.M.T. (based on observations at 0700 G.M.T.) G., F.
1500 G.M.T. (,, ,, ,, 1300 G.M.T.) G., F.
2000 G.M.T. (,, ,, ,, 1800 G.M.T.) G., F.

2.—

3. *Code.*—" Forecast code for the Abbreviation of Weather Forecasts transmitted by Telegraphy or Radio-telegraphy." [M.O. Publication 244. (H.M.S.O. 1*s.* net; postage 1½*d.*)]

4. *Form of Individual Messages.*—Five-figure groups followed by check figure groups.

Messages commence with the word " Group " followed by a three-figure number denoting the area to which the forecast is applicable.

5. *Note.*—The area covered by the forecast is, however, also included in the coded text of the message in each case. Normally the areas within which the different forecasts are applicable are, roughly, as follows :—

Group 111	-	Southern England (central part) : Dorset, Wiltshire, Berkshire, Hampshire.
Group 222	-	South-east England : London, Middlesex, Essex, Surrey, Sussex, Kent.
Group 333	-	Yorkshire, Lincolnshire, Nottinghamshire.
Group 444	-	South-east Scotland (places within a 50-mile radius of North Berwick).

* Periods may occur when there is no address in a particular group, in which case it is not issued.

Group 555 - South-west England : Devonshire and Cornwall.
Group 666 - North-west district : Lancashire, Cheshire, Shropshire, and North Wales.
Group 999 - England and southern Scotland taken collectively. The forecast for this group is appended to the "General Inference" issued at 2000 G.M.T. (*see* above), and is transmitted on a wave-length of 4100 m. c.w.

(iii) *Forecasts in plain language.*

Forecasts in plain language are also issued by wireless telephony in the evening from the different issuing stations of the British Broadcasting Co.

GREAT BRITAIN (*e*).

Western Seaboard Reports for Mariners.

1. Transmitting Stations* - Land's End. Malin Head.
Call Signals - - - G.L.D. G.M.H.
Messages directed to - C.Q. C.Q.
Wave Lengths - - 600 m. spk. 600 m. spk.
Times of Sending - - 0915 G.M.T. 0900 G.M.T.
(observations at 0700 G.M.T.), G., F., S.
2115 G.M.T. 2100 G.M.T.
(observations at 1800 G.M.T.), G., F., S.

2. *Stations.*

Name.	Latitude.	Longitude.	Altitude (feet).
Stornoway - - -	58° 11′ N.	06° 22′ W.	51
Blacksod Point - -	54° 06′ N.	10° 04′ W.	327
Holyhead - - -	53° 18′ N.	04° 39′ W.	15
Scilly - - -	49° 58′ N.	06° 18′ W.	131
Dungeness - - -	50° 55′ N.	00° 58′ E.	21

3. *Code.*
Observations in special code.
Forecast in plain language.

4. *Form of Individual Messages.*—Messages commence with word "Western."

All Messages.

Part I.—Statement of general meteorological situation and forecast for 24 hours for the Western Seaboard of the British Isles. *Example* :—Deep depression Iceland moving East, forecast wind west to north-west, strong or gale, hail showers.

* Provisional.

Part II.—Observations at above stations in the form :—
$BBDFV_s$ $BBDFV_s$ $BBDFV_s$ $BBDFV_s$ $BBDFV_s$ K′K′K′K′K′ where of the first five groups, the first refers to Stornoway, the second to Blacksod Point, the third to Holyhead, the fourth to Scilly and the fifth to Dungeness, while of the figures of the last group the first refers to Stornoway, the second to Blacksod, and so on.

Here :—
BB is the corrected barometer in millibars, to the nearest whole millibar, the initial figure 9 or 10 being omitted.
D is the direction of the wind on scale 0–8 : 0 = calm, 1 = N.E., 2 = E., &c., 7 = N.W., 8 = N.,
F is the wind force on Beaufort scale,
V_s is visibility in New International Code (p. 98), and K′ is barometric tendency in New International Code (p. 97).

5. *Note.*—In the case of missing observations a hyphen is inserted in the place of each missing figure.

GREAT BRITAIN (*f*).

Gale Warnings.

Gale warnings, issued by the Meteorological Office, are broadcasted from certain wireless stations on a wave length of 600 m. spark. They are preceded by the International Safety Signal (TTT) and are repeated three times at intervals of ten minutes. Should the warning be sent during the period when one operator ships are not keeping watch the procedure is repeated at the commencement of the next single operator watch.

The transmitting stations are the following :—

Malin Head Radio
Valencia Radio
Seaforth Radio (Liverpool)
Fishguard Radio
Wick Radio.
Cullercoats Radio (Newcastle).
Niton Radio (I. of W.).
Land's End Radio.

Example of such a warning :—"Gale warning. S.W. gale expected up to about noon Sunday, between Plymouth and Clacton."

Warnings of Squalls or Thunderstorms.

Warnings of *Squalls* or *Thunderstorms* which are reported from stations lying on or near aerial routes are broadcasted from the Air Ministry (call signal G.F.A.) on a wave-length of 1400 m. The messages are issued in the code of p. 22, note (4).

GREAT BRITAIN (*g*).

REPORTS TO THE METEOROLOGICAL OFFICE FROM INDIVIDUAL STATIONS AND SHIPS AT SEA.

A. From Land Stations.

1 & 2. *Stations.*

Station.	Call Signal.	Wave Length.	Times of Sending	Times of Observation.
Cranwell (L)	G.F.C.	1300 m. c.w.	0105 G.M.T.	0100 G.M.T.
Guernsey (C)	G.E.Y.	,,		
Cranwell (L)	G.F.C.	,,		
Leuchars (L)	G.F.D.	,,		
Grain (C)	G.F.G.	,,		
Andover (L)	G.F.I.	,,		
S. Farnborough (L).	G.F.Q.	,,	0705 ,,	0700 ,,
Calshot (C)	G.F.L.	,,	1305 ,,	1300 ,,
Plymouth (C)	G.F.M.	,,	1805 ,,	1800 ,,
Guernsey (C)	G.E.Y.	,,		
Shotwick (L)	G.F.O.	,,		
Renfrew (L)	G.E.R.	,,	0705 ,,	0700 ,,
			1305 ,,	1300 ,,
Plymouth (C)	G.F.M.	,,		
Calshot (C)	G.F.L.	,,	1005 ,,	1000 ,,
Renfrew (L)	G.E.R.	,,		
Shotwick (L)	G.F.O.	,,	1005 ,,	1000 ,,
			1605 ,,	1600 ,,

(C) = Coastal Station. (L) = Inland Station.

(For position of stations *see* p. 6.)

All the above stations employ small power for this particular work. The transmissions are varied according to circumstances without previous warning. The stations transmit in rotation at approximately the times mentioned above.

3. *Code.*—New International (slightly modified for National use).

4. *Form of Individual Messages.*

0105 Message.—As 1005 message.

0705 Message.

Part I.—Inland stations.—BBBDD FwwTT cbWVH ALaNh RRmmr (neph C_1ddVV) SSS$m_g m_g$ $x'_1x'_2x'_3x'_4x'_5$ $x'_6x'_7z'$ – – $y'_1y'_2y'_3y'_4y'_5$.

Coastal Stations.—BBBDD FwwTT cbWVH ALaNh RRSV$_s$r (neph C_1ddVV) SSS$m_g m_g$ MMmm– $x'_1x'_2x'_3x'_4x'_5$ $x'_6x'_7x'_8z'$– $y'_1y'_2y'_3y'_4y'_5$,

where SSS = duration of bright sunshine on the previous day in hours and tenths,

and $m_g m_g$ = minimum temperature on grass during preceding night in whole degrees F.

Part II. preceded by index group 49867 (and sometimes also by word "pilot"). Upper winds in form :— $h_2d_1d_1vv$ $h_2d_1d_1vv$ &c. (*see* § 6 below).

1005 Message.

Part I.—BBBDD FwwTT cbWVH ALaNh (neph C_1ddVV) $x'_1x'_2x'_3x'_4x'_5$ z'– – – – $y'_1y'_2y'_3y'_4y'_5$.

Part II.—Same form as Part II. of 0705 message.

1305 Message.

Part I.—BBBDD FwwTT cbWVH ALaNh (neph C_1ddVV) eeee– $x'_1x'_2x'_3x'_4x'_5$ x'_6z'– – – $y'_1y'_2y'_3y'_4y'_5$ where the group eeee gives the state of the ground in the special code below § (6), at the following times in order :—1800 G.M.T. (previous day), 0100 G.M.T., 0700 G.M.T., 1300 G.M.T.

1605 Message.—Same from as 1005 message.

1805 Message.

Part I.—BBBDD FwwTT cbWVH ALaNh RRjjr (neph C_1ddVV) $x'_1x'_2x'_3x'_4x'_5$ x'_6 z'– – – $y'_1y'_2y'_3y'_4y'_5$.

Part II.—Same form as Part II. of 0705 message.

5. *Note.*

(1) For units *see* p. 106.

(2) A message may be preceded by Beaufort letters amplifying the past weather figure (W) in the message and referring to the same period (for definition of period *see* p. 9, § 5, note (5)). The message may also be followed by Beaufort letters indicating the weather during the period previous to this.

The letter a, n, i or j preceding a Beaufort letter, qualifies it as follows :—

a = "heavy."
n = "light."
i = "intermittent."
j = "within sight" (used only in connection with precipitation).

Repetition of a Beaufort letter indicates "continuous."

(3) The check figure groups $x'_1x'_2x'_3x'_4x'_5$ &c. refer to all the figure groups preceding them in the message. x'_1 is obtained by adding the figures of the first group and retaining the units figure, x'_2 from the second group, and so on. y'_1 is obtained by adding the first figure of all the groups and retaining the units figure, y'_2 from the second figure of all the groups, and so on. z' is the sum of all the "x'" check figures (or all the "y'" check figures). The "x'" check figures and "z'" are arranged, as

indicated in §3 above, in groups of 5 figures, hyphens being used to complete the group if necessary.

(4) Occurrences of *Squalls* and *Thunderstorms* are reported in the following code either in routine messages or in special messages at other times :—

Storm Name of Station GGgg $d_1F_mw_2TT$

where GGgg = time of occurrence (hours and minutes) G.M.T.

d_1 = direction *from* which phenomena approached the observer. (1 = N.E., 2 = E., 3 = S.E., ... 7 = N.W., 8 = N.).

F_m = extreme force of wind with the squall or thunderstorm. (0 = 10, 1 = 11, 2 = 12, 3 = 0–3, 4 = 4, 5 = 5, etc.).

TT = temperature after arrival of storm. (degrees F.).

w_2 = weather in the code :—

Weather.	Without thunder.	With thunder.
No precipitation	1	5
Rain	2	6
Snow	3	7
Hail	4	8

Example :—" Storm Farnborough 1425 68437."

Interpretation. At Farnborough at 25 minutes past 2 in the afternoon (G.M.T.), a storm arrived from the West; the wind reached gale force (8) and hail fell; there was no thunder; temperature fell to 37° F.

(5) The word " neph " in a message indicates that a group containing nephoscope observations follows. When no such observations are available the word " neph " and the group C_1ddVV are omitted entirely.

(6) The 0700 and 1800 messages from Calshot are followed by aviation reports from *St. Catherine's Point* in the form :—

$xI_nI_nV_s$ wwVhL NDDFW $C_a$ddF_1S RRjjH.

6. *Special Codes.—Upper Winds.*

The wind at each height is expressed by a group of the form $h_2d_1d_1vv$ where :—

h_2 indicates the height in thousands of feet, thus 0 = surface, 1 = 1000 feet, 2 = 2000 feet, &c. If the record extends above 9000 feet, further groups are added in which 0 = 10,000 feet, 1 = 11,000 feet, &c.

d_1d_1 is wind direction on scale 0 — 72 (degrees from North, through East, divided by 5 and rounded off to nearest whole number).

vv is wind speed in miles per hour.

*State of the Ground** (e).

Code figure.

0 = dry ground.
1 = wet ground.
2 = soft (muddy) wet ground.
3 = bare ground† frozen (but less than 2 inches deep).
4 = bare ground† frozen (but more than 2 inches deep).
5 = dew (or wet grass but not wet ground).
6 = Hoar frost in 0100 G.M.T. and 0700 G.M.T. reports : " skating to-day " in 1300 G.M.T. and 1800 G.M.T. reports.
7 = Snow (thin layer); often not continuous.
8 = Snow (deep : impeding traffic : usually a continuous layer).
9 = glazed roads (ice on roads from frozen rain or melted snow).

B. From Ships at Sea.

Ships transmit their reports to the Post Office shore station at Devizes (call sign G.K.U.) on a wave length of 2100 m.cw. The observations are made at 0100, 0700, 1300 and 1800 G.M.T., and are transmitted by ships as soon after these times as possible. Code as in British synoptic reports (p. 7).

III.—PARTICULARS OF REPORTS ISSUED BY OTHER COUNTRIES : EUROPE.

AUSTRIA.

1. Transmitting Station - Laaerberg (near Vienna).
Call Signal - - - O.H.L. (or O.H.D.).
Message directed to - - C.Q.
Wave length - - - 5700 m. c.w.
(3500 m. spk. in case of breakdown of main plant.)

Times of Sending :—

0820 G.M.T. (observations at 2000 and 0600 G.M.T.) S.
1520 G.M.T. (observations at 1300 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Vienna - -	48° 15′ N.	16° 22′ E.	664
02	Sonnblick - -	47° 03′ N.	12° 57′ E.	10,190
03	Feldkirch - -	47° 14′ N.	09° 36′ E.	1,552
04	Innsbruck - -	47° 16′ N.	11° 24′ E.	1,903

* The ground observed is as far as possible representative.
† Ground without vegetation of any kind, even grass.

2. *Stations*—cont.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
05	Salzburg - -	47° 48′ N.	13° 02′ E.	1,414
06	Linz - - -	48° 19′ N.	14° 17′ E.	886
07	Graz - -	47° 04′ N.	15° 28′ E.	1,211
08	Klagenfurt -	46° 37′ N.	14° 18′ E.	1,476
09	Obir - - -	46° 30′ N.	14° 29′ E.	6,696

3. *Code.*—Old International.

4. *Form of Individual Messages.*—Messages commence with words "Météo Wien."

0820 Message.—I_nI_n BBBDD FWTTW′ BBBDD FWTTC βbbRR MMmm, where the first two groups refer to 2000 G.M.T. of the previous day.

1520 Message.—I_nI_n BBBDD FWTTC.

5. *Note.*

(1) For units *see* p. 106.

(2) In the case of the high level stations (Sonnblick and Obir) barometric pressure is not reduced to sea level. In the case of Sonnblick the pressure will normally lie between 475 and 540 mm. and in the case of Obir between 555 and 618 mm.

BELGIUM.

Special Reports for Aerial Routes.

1. Transmitting Station - Brussels.
Call Signal - - - O.P.O. (or O.P.V.H.).
Messages directed to - C.Q.
Wave Length - - - 1680 m. c.w.
Times of Sending :—

0322 G.M.T.* (observations at 0300 G.M.T.) S.
0422 G.M.T.* (observations at 0400 G.M.T.) S.
0522 G.M.T.* (observations at 0500 G.M.T.) S.
0622 G.M.T.* (observations at 0600 G.M.T.) S.
0722 G.M.T. (observations at 0700 G.M.T.) S., U.W.
0822 G.M.T. (observations at 0800 G.M.T.) S.
0922 G.M.T. (observations at 0900 G.M.T.) S.
1022 G.M.T. (observations at 1000 G.M.T.) S.
1122 G.M.T. (observations at 1100 G.M.T.) S.
1222 G.M.T. (observations at 1200 G.M.T.) S.
1322 G.M.T. (observations at 1300 G.M.T.) S., U.W.
1422 G.M.T. (observations at 1400 G.M.T.) S.
1522 G.M.T. (observations at 1500 G.M.T.) S.
1622 G.M.T. (observations at 1600 G.M.T.) S.
1822 G.M.T. (observations at 1800 G.M.T.) S., U.W.

* *See* § (5), Note 2.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Brussels (Uccle) -	50° 48′ N.	04° 22′ E.	328
02	Ostend - -	51° 14′ N.	02° 55′ E.	
03	Haren (aerodrome near Brussels).			

3. *Code.*—New International (for hourly reports), with addition of check figures. [*See* page 94 (Code of Nov. 1920 introduced July 6th, 1921, code of Sept. 1921 introduced Jan. 1st, 1922).]

4. *Form of Individual Messages.*—Messages commence with words "Avis pour Aviation" followed by time of observation G.M.T.

0322 Message.—Station 01.—xI_nI_n wwVhL NDDFW.
Station 03.—xI_nI_n wwVhL.
where x is a check figure, being the units digit in the sum of the figures wwVhL.

0422 Message.—Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh ($C_a$dddF_1S).
Station 03.—xI_nI_n wwVhL,

0522, *0622* *Messages* :—Same form as 0322 message.

0722 Message.
Part I.—Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr $x'_1x'_2x'_3x'_4x'_5$ z′---- $y'_1y'_2y'_3y'_4y'_5$.
Station 03.—xI_nI_n wwVhL.
Part II. preceded by word "pilot." Upper winds at station 01 :—h_1 ddvv &c.
Part III. *See* Note (3), § 5.

0822 Message.—Stations 01 and 02.—$xI_nI_n(V_s)$ wwVhL NDDFW.
Station 03.—xI_nI_n wwVhL.

0922 Message.
Part I.—Same form as 0822 message.
Part II.—*See* Note (3), § 5.

1022 Message.
Part I.—Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh $x'_1x'_2x'_3x'_4z'$ $y'_1y'_2y'_3y'_4y'_5$.
Stations 02 and 03 as in 0822 message.
Part II.—*See* Note (3), § 5.

1122 Message.—Same form as 0822 message.

1222 Message.—Same form as 0822 message.

1322 Message.
Part I.—Same form as Part I. of 1022 message.
Part II.—Same form as Part II. of 0722 message.
Part III.—*See* Note (3), § 5.

1422 Message.—Same form as 0822 message.

1522 Message.—Same form as 0822 message.

1622 Message.—Same form as Part I. of 1022 message.

1822 Message.—Same form as 0722 message.

5. *Note.*

(1) For units *see* p. 106.

(2) The 0322, 0422, 0522 and 0622 messages are discontinued during the winter months.

(3) In certain messages observations from stations in the Rhine area are included in an abbreviated form of the Special Code employed by the French National Meteorological Office, particulars of which are given in the Notes issued by that Office. These observations are repeated from the French local issue from Metz.

(4) The check figure groups $x'_1x'_2x'_3x'_4x'_5$ &c. are formed in exactly the same way as for the messages in Great Britain (*g*) A. *See* p. 21, § 5. Note (3).

BULGARIA.

1. Transmitting Station - Sofia.
Call Signal - - - F.F.
Message directed to - C.Q.
Wave Length - - - 3500 m. spk.
Times of Sending - - 0655 G.M.T. (observations at 0530 G.M.T.) S.
1355 G.M.T. (observations at 1230 G.M.T.) S.

2. *Station.*—Name, Sofia; latitude, 42° 42′ N.; longitude, 23° 20′ E.; altitude, 1,804 feet.

3. *Code.*—Old International.

4. *Form of Individual Messages.*—Messages commence with words "Météo Sofia."

0655 Message.

Part I.—Preceded by group 0530. Observations at 0700 *local time* (about 0530 G.M.T.). BBBDD FWTTC βbbRR MMmm.

Part II.—Reports for aviation in the form :—
GGgg (Station Name) ..... d′d′v′v′ d′d′v′v′, etc.
Where GGgg = time of observation (hours and minutes) G.M.T., the dots represent a seven-figure group giving information as to visibility, cloud, etc., and the groups of the form d′d′v′v′ (sent in the case of Sofia only) give winds at the six heights, 500 m., 1,000 m., 1,500 m., 2,000 m., 2,500 m., 3,000 m. Here d′d′ = direction of upper wind on scale 01–32, as for surface wind.

v′v′ = speed of upper wind in m./s.

1355 Message.—Preceded by group 1230. Observations at 1400 *local time* (about 1230 G.M.T.) BBBDD FWTT βbb.

5. *Note.*—For units *see* p. 106.

CZECHOSLOVAKIA.

1. Transmitting Station - Prague.
Call Signal - - - P.R.G.
Message directed to - C.Q.
Wave Length - - - 4500 m. c.w.
Times of Sending :—
0930 G.M.T. (observations at 0700 G.M.T.) S., U.W.
1530 G.M.T. (observations about 1300 G.M.T.) S.
2030 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Prague - - -	50° 04′ N.	14° 26′ E.	833
05	Cheb - - -	50° 05′ N.	12° 24′ E.	1,585
06	Milešovka - -	50° 33′ N.	13° 56′ E.	2,753
22	Vajnory-Bratislava -	48° 13′ N.	17° 12′ E.	436
23	Stará Ďala - -	47° 52′ N.	18° 12′ E.	394
25	Košice - - -	48° 44′ N.	21° 14′ E.	679
32	Olomouc - - -	49° 36′ N.	17° 16′ E.	863
34	Nitra - - -	48° 19′ N.	18° 05′ E.	538

3. *Code.*—New International. [*See* page 88. (Code of Nov. 1920, with amendments of Sept. 1921 introduced 1st Jan., 1922.)]

4. *Form of Individual Messages.*—Messages commence with words "Météo Tchecoslovaque."

0930 Message.

Part I.—Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRmmr (C_1ddVV).
Stations 05 to 32.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRmmr.

Part II.—Preceded by word "Sondages." Upper winds from stations 01, 05, 22, 32, 34.—I_nI_n $h_1$ddvv &c.

1530 Message.

Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).
Stations 05 to 32.—I_nI_n BBBDD FwwTT cbWVH ALaNh.

2030 Message.

Station 01.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRMMr (C_1ddVV).
Stations 05 to 32. I_nI_n BBBDD FwwTT cbWVH ALaNh RRMMr.

5. *Note.*—For units *see* p. 106.

DENMARK (*a*).

Synoptic Reports.

1. Transmitting Station - Lyngby (near Copenhagen).
   Call Signal - - - O.X.E.
   Messages directed to - C.Q.
   Wave Length - - - 3650 m. c.w.
   Times of Sending :—
   0735 G.M.T. (observations at 0700 G.M.T.) S.
   1335 G.M.T. (observations at 1300 G.M.T.) S.
   1835 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Copenhagen - -	55° 42′ N.	12° 37′ E.	16
02	Skagen - - -	57° 44′ N.	10° 38′ E.	10
03	Hanstholm - -	57° 07′ N.	08° 36′ E.	151
04	Blaavandshuk - -	55° 33′ N.	08° 05′ E.	49
05	Hammeren - -	55° 17′ N.	14° 46′ E.	253

3. *Code.*
   New International [*see* page 88 (Code of Nov. 1920 with amendments of Sept. 1921 introduced 1st July 1922)].

4. *Form of Individual Messages.*—Messages commence with words "Météo Danois."
   0735 Message.
   I_nI_n BBBDD FwwTT cbWVH ALaNh RRSV$_s$r (C_1ddVV).
   1335 Message.
   I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).
   1835 Message.
   Same form as 0735 message.

5. *Note.*
   (1) For units *see* p. 106.
   (2) Observations omitted from one message are transmitted at the beginning of the next. In this case the time of observation is indicated by appending the hour of the observation to the index number of the station.

DENMARK (*i*).

Ice Reports.

1. Transmitting Station - Copenhagen.
   Call Signal - - - O.X.A.
   Messages directed to - C.Q.
   Wave Length - - - 600 m. spk.
   Times of Sending :—
   1100 G.M.T. and 2100 G.M.T.

During the winter a summary of ice conditions in Danish waters is transmitted *en clair* (in English).

DENMARK.

The Faeroes.

See under Great Britain (*a*).

ESTONIA.

1. Transmitting Station - Revel.
   Call Signal - - - A.Z.A.
   Message directed to - - C.Q.
   Wave Length - - - 2000 m. spk.
   Times of Sending :—
   0725 G.M.T. (observations at 0700 *local time*) S.; I.
   1250 G.M.T. (observations at 1300 *local time*) S.
   2055 G.M.T. (observations at 2100 *local time*) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
1	Revel - - -	59° 26′ N.	24° 48′ E.	157
2	Dorpat - - -	58° 23′ N.	26° 43′ E.	246
3	Filsand - - -	58° 23′ N.	21° 49′ E.	23
4	Hungerburg - -	59° 28′ N.	28° 03′ E.	13

Stations for Ice Reports.

Name.	Latitude.	Longitude.
Zerel - - - -	57° 55′ N.	22° 04′ E.
Filsand - - -	58° 23′ N.	21° 49′ E.
Dagerort - - -	58° 56′ N.	22° 05′ E.
Kynö - - -	58° 06′ N.	23° 58′ E.
Werder - - -	58° 34′ N.	23° 30′ E.
Worms - - -	59° 02′ N.	23° 08′ E.
Pakerort - - -	59° 23′ N.	24° 03′ E.
Revel - - -	59° 26′ N.	24° 48′ E.
Stenskär - - -	59° 49′ N.	26° 23′ E.

3. *Code.*
   New International (modified).
   Ice reports in special code.

4. *Form of Individual Messages.*
   0725 Message.
   Part I.—I_n BBBDD FwwTT cb_1b_1RR MMmmW where W is past weather in New International Code and b_1b_1 is amount of barometric tendency in tenth mm.
   Part II.—Information as to ice conditions at above stations, in order, in same code as in messages from Königswusterhausen (p. 45).
   1250 Message.
   Observations at 1300 *Local Time.*—I_n BBBDD FwwTT.
   2055 Message.
   Observations at 2100 *Local Time.*—I_n BBBDD FwwTT.

5. *Note.*
   (1) For units *see* p. 106.
   (2) Missing observations are replaced by the letter "x."

FINLAND.

1. Transmitting Station - Sandhamn.
Call Signal - - - O.J.A.
Message directed to - - C.Q.
Wave Length - - - 5700 m. c.w.
(1500 m. for ICE REPORT.)

Times of Sending :—

0855 G.M.T. (observations at 0700 G.M.T. and for some stations at 1800 previous day) S.; U.W.

1455 G.M.T. (observations at 1300 G.M.T.) S.; U.W.; I.

1955 G.M.T. (observations at 1800 G.M.T.) S.; U.W.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Helsingfors (C)	60° 10′ N.	24° 57′ E.	38
02	Sortavala (L)	61° 42′ N.	30° 41′ E.	56
03	Vaasa (C)	63° 05′ N.	21° 32′ E.	
04	Kuopio (L)	62° 54′ N.	27° 40′ E.	327
05	Sodankylä (L)	67° 22′ N.	26° 39′ E.	6
06	Kajaani (L)	64° 13′ N.	27° 46′ E.	479

(C) = Coastal Station; (L) = Inland Station.

Regions to which Ice Reports refer :—

AA Fairway Viborg—Trångsund.
Fairway Trångsund—Rödhäll.
Outside Rödhäll.
Fairway Kotka—Rankö.
Outside Rankö.
Outside Luppi.

BB Helsingfors S. Harbour and neighbourhood.
Outside Sveaborg.
Outside Gråskärsbådarna.
At Porkala.
Outside Kallbådan.
The sea outside Jusarö.

CC Hangö Harbour and neighbourhood.
At Russarö.
The outer Sea of Rus..ö.
Hangö Western Fjärd.
Åbo Harbour to Stora Bocken.
Erstan Fjärd.

DD Widskär Fjärd.
Around Utö.
The outer Sea off Utö.
Skiftet.
At Ledsund.
The Sea off Mariehamn.

EE The Archipelago of Raumo.
The inner Sea off Raumo.
Region of Relandersgrund.
Mäntyluoto and neighbourhood.
Outside Kallo and Räfsö.
The outer Sea off Räfsö.

FF Fairway Rönnskär—Vaasa.
Fairway Norrskär—Vaasa.
Archipelago of Jakobstad.
The Sea off Jakobstad.
Fairway to Toppila.
Fairway to Kemi.

3. *Code.*

New International. [*See* page 88. (Code of Nov. 1920, with amendments of Sept. 1921 introduced 1st Jan., 1922.)]

Ice reports in special code.

4. *Form of Individual Messages.*—Messages commence with words "Météo Finland."

0855 Message.

Part I.—I_nI_n. BBBDD FwwTT cbWVH ALaNh RRjjr.

Part II. preceded by word "Pilot." Upper winds, generally at 0700 G.M.T., at stations 01 and 02 :—

I_nI_n $h_1$ddv′v′ etc., where v′v′ is wind speed in m./s., and the remaining symbols are as in the New International Code.

1455 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh.

Part II.—Upper winds as in Part II. of 0855 message, if not already included in that message.

Part III. — AA $J_1J_1'J_1J_1'J_1J_1'$ $J_1J_1'J_1J_1'J_1J_1'$ BB $J_1J_1'J_1J_1'J_1J_1'$ $J_1J_1'J_1J_1'J_1J_1'$ &c., where J_1 represents ice conditions for the morning and J_1' their effect on navigation (in special codes below, § 6) for the thirty-six regions in order in the list above. (*See* also § 5, p. 79.)

1955 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr.

Part II.—Upper winds as in Part II. of 0855 message, if not already included in 0855 or 1455 messages.

5. *Note.*

(1) For units *see* p. 106.

(2) The observations at 1800 G.M.T. at stations 05 and 06 are issued in the 0855 message of the next day, preceding the observations at 0700 G.M.T. at those stations.

6. *Special Codes.*

Ice Conditions (J_1).

0. Clear of ice.
1. Light ice.
2. Close slush.
3. Fixed sheet of ice.
4. Drift ice.
5. Band of packed ice.
6. Close packed drift ice.
7. Rift in the ice parallel to the coast.
8. Screwing in the ice.
9. Coarse ice masses.
x. No information.

Effect on Navigation (J_1'.)

0. Navigation unhindered.
1. Navigation for steamers unhindered, for sailing vessels troublesome.
2. Navigation for weak steamers troublesome, for sailing vessels precarious.
3. Navigation only possible for strong steamers without ice breaker.
4. Navigation only possible for steamers strengthened for ice without help of ice breaker.
5. Navigation channel kept open.
6. Navigation kept going by help of ice breaker.
7. Navigation interrupted.
8. Sea mist, fog, snow.
9. Navigation closed.
x. No information.

FRANCE (*a*).

Synoptic Reports.

1. Transmitting Station - Paris (Eiffel Tower).
Call Signal - - - F.L.
Messages directed to - C.Q.
Wave Length - - - 7300 m. cw. (6500 m. cw. in case of break-down of usual plant.)

Times of Sending :—

0220 G.M.T. (observations at 0100 G.M.T.) S., U.W., O.
0820 G.M.T. (observations at 0700 G.M.T.) S., U.W., O.
1420 G.M.T. (observations at 1300 G.M.T.) S., U.W., O.
1920 G.M.T. (observations at 1800 G.M.T.) S., U.W., O.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Rochefort (C) - -	45° 55′ N.	00° 59′ W.	28
02	Bayonne (L) - -	43° 30′ N.	01° 30′ W.	11
03	Bordeaux (L) - -	44° 50′ N.	00° 42′ W.	
04	Brussels (L) - -	50° 48′ N.	04° 22′ E.	328
05	Cherbourg (C) -	49° 39′ N.	01° 39′ W.	59
06	Clermont Ferrand (L)	45° 47′ N.	03° 11′ E.	
07	Dijon (L) - -	47° 16′ N.	05° 05′ E.	725
08	St.-Inglevert (C) -	50° 52′ N.	01° 44′ E.	395
09	Limoges (L) - -	45° 52′ N.	01° 17′ E.	972
10	Lyons (L) - -	45° 44′ N.	04° 55′ E.	640
11	Brest (C) - - -	48° 22′ N.	04° 31′ W.	

2. *Stations*—continued.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
12	Nîmes (L) - -	43° 51′ N.	04° 24′ E.	193
13	Mainz (L) - -	49° 59′ N.	08° 06′ E.	375
14	Montpellier (L) -	43° 37′ N.	03° 59′ E.	
15	Paris (Le Bourget) (L)	48° 57′ N.	02° 26′ E.	149
16	Perpignan (L) - -	42° 42′ N.	02° 52′ E.	98
17	Lorient (L) - -	47° 42′ N.	03° 20′ W.	75
18	Rennes (L) - -	48° 06′ N.	01° 40′ W.	131
19	Strasbourg (L) -	48° 33′ N.	07° 38′ E.	495
20	Toulon (C) - -	43° 07′ N.	05° 53′ E.	
21	Toulouse (L) - -	43° 33′ N.	01° 23′ E.	
22	Tours (L) - -	47° 27′ N.	00° 42′ E.	361
23	Antibes (C) - -	43° 35′ N.	07° 07′ E.	4
24	Pontarlier (L) - -	46° 54′ N.	06° 20′ E.	2,733
25	Saint Raphaël (C) -	43° 25′ N.	06° 45′ E.	7
26	Ajaccio (L) - -	41° 55′ N.	08° 45′ E.	5
27	Argentan (L) - -	48° 45′ N.	00° 01′ W.	585
28	Amiens (L) - -	49° 54′ N.	02° 24′ E.	139
29	Cosne (L) - -	47° 25′ N.	03° 01′ E.	553
30	Le Havre (C) - -	49° 31′ N.	00° 04′ E.	321
31	Marignane (C) -	43° 26′ N.	05° 16′ E.	18
32	Metz (L) - - -	49° 07′ N.	06° 11′ E.	696
33	Montélimar (L) -	44° 35′ N.	04° 43′ E.	245
34	Romilly (L) - -	48° 30′ N.	03° 45′ E.	269
35	Valenciennes (L) -	50° 20′ N.	03° 32′ E.	173
36	Abbeville (L) - -	50° 08′ N.	01° 50′ E.	233
37	Nancy (L) - -	48° 39′ N.	06° 09′ E.	1,237
38	Saint-Dizier (L) -	48° 39′ N.	04° 56′ E.	467
39	Epinal (L) - -	48° 12′ N.	06° 32′ E.	1,247
40	Mulhouse (L) - -	47° 46′ N.	07° 25′ E.	787
41	Avord (L) - -	47° 03′ N.	02° 39′ E.	557
42	Angoulême (L) -	45° 40′ N.	00° 13′ E.	443
43	Orléans (L) - -	47° 56′ N.	01° 53′ E.	395
44	Poitiers (L) - -	46° 35′ N.	00° 18′ E.	407
46	Puy-de-Dôme (L) -	45° 46′ N.	02° 56′ E.	4,757
47	Pic-du-Midi (L) -	42° 56′ N.	00° 08′ E.	9,380
48	Mont-Ventoux (L) -	44° 09′ N.	05° 17′ E.	6,234
49	Mont-Aigoual (L) -	44° 08′ N.	03° 35′ E.	5,098
51	Zürich (L) - -	47° 23′ N.	08° 33′ E.	1,617
52	Berne (L) - -	46° 57′ N.	07° 26′ E.	1,877
53	Geneva (L) - -	46° 12′ N.	06° 09′ E.	1,329
54	Lugano (L) - -	46° 00′ N.	08° 57′ E.	906
55	Säntis (L) - -	47° 15′ N.	09° 20′ E.	8,202
61	Utrecht (de Bilt) (L)	52° 06′ N.	05° 11′ E.	10
62	Helder (C) - -	52° 58′ N.	04° 45′ E.	19
63	Flushing (C) - -	51° 26′ N.	03° 34′ E.	26
64	Groningen (L) - -	53° 13′ N.	06° 33′ E.	29

3. *Code.*

Surface observations and upper winds at French stations in special code. Observations at other stations and on ships in New International. (*See* p. 88.)

4. *Form of Individual Messages.*—

0220 Message.

Part I.—Commencing with the words "Météo France."
Stations 01 to 49, except 04. I_nI_n BBBTT $cb_1b_1w_3$ $DDFN_1V$.
b_1b_1 = amount of barometric tendency in tenths of a mm.
w_3 = present phenomenon in Code 1 below (§6).
N_1 = total amount of cloud in Code 4 below (§6).
Other letters have standard meanings of New International Code.

Part II.—Commencing with the word "Pilot." Upper winds :—
I_nI_nGG d'd'vv d'd'vv.....
(*See* Code 7 below (§6.))

Part III.—Commencing with the word "Navires." Ship observations :—
(I_nI_n) $Q''LLLx_1$ $Pllx_2$ $BBDDx_3$ $FvKdx_4$ $wwGGx_5$ $y_1y_2y_3y_4z$.
[alternatively (I_nI_n) $PQ''LLL$ lllGG BBDDF. *See* Note 6, (§5).]
where Q″ is the quarter of the globe in the special Code 8 below, §6.

0820 Message.

Part I.—Commencing with the words "Météo France."
Stations 01 to 49, except 04.—I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d'd'F'n'h) $W_1W_1w_3A_1a_1$ $mmR_1R_1d_3$.
d'd' = Direction of lowest cloud on Scale 01–32.
F' = Speed ,, ,, ,, Code 5 below
n' = Amount ,, ,, ,, ,, 4 ,,
W_1W_1 = Evolution of weather ,, 6 ,,
A_1 = Form of cloud below 2500 m. ,, 2 ,,
a_1 = ,, ,, ,, above ,, ,, 3 ,,
} § (6)
R_1R_1 = Rainfall in mm. for 24 hours ended 7h, G.M.T. in Code VIII., page 100.
d_3 = Direction of motion of upper cloud on scale (0–8), 0 = no motion, 1 = from NE, 2 = from E, etc.
b_1b_1, w_3, N_1 as in 0220 message.
Other letters have standard meanings of New International Code.

Part II.—Same form as Part II. of 0220 message.

Part III.—Commencing with the words "Météo Suisse, Belgique, Hollande."
Stations 04 and 51 to 64 :—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV).
For special particulars relating to station 55 *see* p. 80.

Part IV.—Same form as Part III. of 0220 message.

1420 Message.

Part I.—Commencing with the words "Météo France."
Stations 01 to 49, except 04 :—
I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d'd'F'n'h) $W_1W_1w_3A_1a_1$.

Part II.—Same form as Part II. of 0220 message.

Part III.—Commencing with the words "Météo Suisse, Belgique, Hollande."
Stations 04 and 51 to 64 :—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).

Part IV.—Same form as Part III. of 0220 message.

1920 Message.

Part I.—Commencing with the words "Météo France" :—
Stations 01 to 49, except 04 :—I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d'd'F'n'h) $W_1W_1w_3A_1a_1$ $MMT_2t_2d_3$ where t_2t_2 is the depression of the wet bulb below the dry in tenths of a degree C.
When the depression is 10° or above the word "Sec" is added at the end of the message, denoting that 10° must be added to the value given by t_2t_2.

Parts II., III., IV. :—Same form as corresponding parts of 0820 message.

5. *Note.*

(1) For units *see* p. 106.

(2) At the following high level stations the barometric pressure is not reduced to sea level. The normal limits for the readings are—

Puy-de-Dôme	- 600 mm.–670 mm.
Pic-du-Midi -	- 495 mm.–560 mm.
Mont-Ventoux	- 568 mm.–630 mm.
Mont-Aigoual	- 593 mm.–659 mm.
Säntis - -	- 520 mm.–585 mm.

(3) The letter "x" is used to denote missing observations.

(4) When there is no cloud below 2500 m. the group d'd'F'n'h is omitted entirely.

(5) The two-figure index groups which sometimes precede reports of observations from ships, are merely intended to enable recipients to identify consecutive reports from the same ship.

(6) The alternative form for ship observations mentioned in § 4, is used to shorten the message, when such observations are numerous. In this case an indication is given by the use of the words "Code abrégé."

6. *Special Codes.*

Code 1.—*Present Phenomenon* (w_3).

0 = "no meteor" (*i.e.*, present weather determined by total amount of cloud, N_1).
1 = Continuous rain or drizzle.
2 = Continuous snow.
3 = Rain showers, intermittent rain or hail showers.
4 = Snow showers.
5 = Thunderstorm (with or without squall).
6 = Squall (or line squall), or rain and hail, or heavy rain showers.
7 = Squall, wind very strong at or near the surface.
8 = Thick mist or fog; visibility below 1000 m.
9 = Mist or fog of sharply defined height.

Code 2.—*Form of low cloud* (*below* 2500 *m*) (A_1).

0 = No low cloud.
1 = St. or Fr. St. or both.
2 = Cu. or Fr. Cu. or both.
3 = St. and Cu. or St. and St. Cu.
4 = St. Cu. alone.
5 = Nb. and Cu.
6 = Cu. Nb. and Cu.
7 = Nb. and Cu. Nb.
8 = Cu. Nb. alone.
9 = Nb. alone.

Code 3.—*Form of Upper cloud* (*above* 2500 *m.*) (a_1).

0 = No high or middle cloud observable.
1 = Ci. alone.
2 = Ci. Cu. alone or Ci. Cu. and Ci.
3 = Ci. St. alone or Ci. St. and Ci.
4 = Cirro-cloud and A. Cu.
5 = Cirro-cloud and A. St.
6 = Cirro-cloud and A. Cu. and A. St.
7 = A. Cu. alone visible.
8 = A. Cu. and A. St.
9 = A. St. (uniform or alone visible).

Code 4.—*Amount of Cloud* (N_1).

0 = No cloud, sky clear.
1 = Sky almost clear, traces of cloud or detached cloud.
2 = $\frac{1}{10}$ to $\frac{2}{10}$ covered.
3 = $\frac{3}{10}$ to $\frac{4}{10}$,,
4 = $\frac{5}{10}$ to $\frac{6}{10}$,,
5 = $\frac{7}{10}$ to $\frac{8}{10}$ covered.
6 = $\frac{9}{10}$ covered.
7 = Overcast, with interstices.
8 = Entirely overcast.
9 = Observation of cloud amount impossible.

Code 5.—*Speed of Cloud* (F′).

Speed in m./s. = 4F′—2, where F′ is figure reported, but 0 = no observation, and 9 is > 32 m./s.

Code 6.—"*Evolution of Weather*" W_1W_1 (*Abbreviated Form*).

	0	1	2	3	4	5	6	7	8	9
0	b_0	b_0/cb	b_1	b_1/cb	b_1	b_1/cb	b(bc)	b/bc)/cb	c(o)+	c(o)/cb
1	c	c/b	o⊕	o⊕/b	bco	bco/b	c(o)	c(o)	o	f(m)
2	o	o+	o/o+(r_0)	or_0	o	o	o/rr	orr	o/ss	oss
3	c(o)	c(o)/o(r)	c(o)	c(o)/pbc	c(o)p	c(o)p/o(r)	c(o)ps(h)(r)	c(o)ps(h)(r)/o(r)	cpq	cpq/o(r)
4	bc(c)	bc(c)	c(o)	jtlc(o)	c(o)	tlc(o)	tlc(o)/c	bco	bco	—

Use of Table.—To find the symbol corresponding with 25, for example, find 2 in the left hand column and run the eye along to the column headed 5; this gives in this case the symbol "o."

The letters have their ordinary significance; ⊕ = halo; a "solidus" (/) divides actually existing weather from previous conditions, the more recent conditions preceding the solidus; the absence of a solidus indicates that the conditions have been the same during the previous six hours. A suffix "$_0$" thus r_0, denotes slight; but b_0 denotes an entirely clear sky, b_1 indicating the presence of a small amount of cloud. A plus sign (+) indicates that the cloud amount has increased during the preceding six hours.

Repetition of letters, thus rr, indicates continuity. Letters in brackets are either alternative to the immediately preceding letter or else indicate that the corresponding condition may or may not have occurred, thus o(r) following a solidus indicates that the present conditions were preceded by an overcast sky with or without rain. The apparent duplication in the above table (*e.g.*, 18, 20, 24 and 25, all correspond "o") arises from difference in the cloud forms specified in the original code.

Note.—(1) If the number expressing the evolution of the weather is 50 or above the presence of an obscuring layer of fog or low stratus cloud during the preceding 6 hours is indicated. The above table should be referred to after subtracting 50 from the code figures.

(2) The above is an abbreviated form of the code, set out in Beaufort letters. The full code is given in a publication of the French National Meteorological Office:—"Radiogrammes Météorologiques d'intérêt général." Etienne Chiron, 40, Rue de Seine, Paris.

Upper Winds. (d'd'vv)

Code 7.

Upper winds are reported at the following six heights, in order :—500 m., 1,000 m., 1,500 m., 2,000 m., 3,000 m., 4,000 m. above station level.

d'd' = direction of upper wind on scale 01–32, as for surface winds.

vv = speed of upper wind in km/h. For speeds over 99 km/h. 50 is added to the number expressing the direction (d'd'), and the last two digits only of the speed are given.

Code 8.

Quarter of Globe (*Q''*).

Code figure.	Latitude.	Longitude.	
1	N.	W.	Barometer in millibars; temperature in ° F.
2	N.	E.	
3	S.	W.	
4	S.	E.	
5	N.	W.	Barometer in millibars or millimetres; temperature in ° C.
6	N.	E.	
7	S.	W.	
8	S.	E.	

FRANCE (*b*).

INTERNATIONAL COLLECTIVE REPORTS.

1. Transmitting Station - Paris (Eiffel Tower).
Call Signal - - - F.L.
Messages directed to - C.Q.
Wave Length - - - 7300 m. c.w. (2,600 spk. at 1005 G.M.T.)
Times of Sending - - 0400 G.M.T. (observations at 0100 G.M.T.) S., O.
1005 G.M.T. (observations 0100 G.M.T. at American stations; 0700 G.M.T. at other stations) S., O.
1600 G.M.T. (observations at 1300 G.M.T.) S., O.
2100 G.M.T. (observations at 1800 G.M.T.) S., O.

2. *Stations.*

01	Paris.	06	Lyons	11	Brest.
02	Madrid.	07	San Fernando.	12	Algiers.
03	Vienna.	08	Munich.	13	Warsaw.
04	Stockholm.	09	Haparanda.	14	Brönnöy.
05	Lerwick.	10	Thorshavn.	15	Renfrew.

2. *Stations*—continued.

16	Bucharest.	39	Brussels.	62	Corfu.
17	Tunis.	40	Valencia (Ireland).	63	Magdeburg.
18	Prague.			64	Barcelona.
19	Ingöy.	41	Rabat.	65	Moscow.
20	Seydisfjord.	42	Lisbon.	66	Deir-es-Zoor.
21	Košice.	43	Horta.	67	Limassol.
22	Genoa.	44	Messina.	68	Malin Head.
23	Lemberg.	45	Reykjavik.	69	Valladolid.
24	Copenhagen.	46	Helwan.	70	Petrograd.
25	Perpignan.	47	Oran.	71	Sevastopol.
26	Lister.	48	Cassel.	72	Canea.
27	Corunna.	49	Malta.	73	Jan Mayen.
28	Ancona.	50	Constantinople.	74	Córdoba.
29	Helsingfors.	51	Taranto.	75	Orenbourg.
30	Mahon.	52	Sofia.	76	Venice.
31	Budapest.	53	Bizerta.	77	Damascus.
32	Holyhead.	54	Tripoli.	78	Mygbugten.
33	Zürich.	55	Agadir.	79	Muslimie.
34	Utrecht (de Bilt).	56	Athens.	80	Waigatch.
		57	Funchal.	81	Spitzbergen.
35	Rome.	58	Tangier.	82	Astrakhan.
36	London.	59	Belgrade.	83	Omsk.
37	Hamburg.	60	Pertusato.	84	Kiev.
38	Bordeaux.	61	Florence.		

For positions of stations see lists under individual countries, except for the following :—

Pertusato - - -	41° 22′ N.	09° 11′ E.	
Magdeburg - -	52° 08′ N.	11° 38′ E.	184 feet
Omsk - - -	54° 58′ N.	73° 23′ E.	295 feet

Stations in N. America.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
J	St. John's, N.F. -	47° 34′ N.	52° 42′ W.	125
S	Sydney, N.S. -	46° 10′ N.	60° 10′ W.	35
FP	Father Pt. - -	48° 31′ N.	68° 19′ W.	20
PN	Parry Sound - -	45° 19′ N.	80° 00′ W.	688
WR	White River - -	48° 35′ N.	85° 16′ W.	1,244
WI	Winnipeg - -	49° 53′ N.	97° 07′ W.	760
LP	Le Pas - - -	53° 49′ N.	101° 15′ W.	860
ED	Edmonton - -	53° 33′ N.	113° 30′ W.	2,150
T	Nantucket - -	41° 17′ N.	70° 06′ W.	12
WA	Washington - -	38° 54′ N.	77° 03′ W.	112
H	Hatteras - -	35° 15′ N.	75° 40′ W.	11
C	Charleston - -	32° 47′ N.	79° 56′ W.	48
B	Bermuda - -	32° 18′ N.	64° 46′ W.	151
K	Key West - -	24° 33′ N.	81° 48′ W.	22
LR	Little Rock - -	34° 45′ N.	92° 20′ W.	

2. *Stations*—continued.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
NV	Nashville	36° 10′ N.	86° 47′ W.	546
V	Cleveland	41° 30′ N.	81° 42′ W.	762
CH	Chicago	41° 53′ N.	87° 37′ W.	823
DU	Duluth	46° 47′ N.	92° 06′ W.	1,132
HN	Huron	44° 21′ N.	98° 14′ W.	1,306
SLC	Salt Lake City	40° 46′ N.	111° 54′ W.	4,360
HL	Helena	46° 34′ N.	112° 04′ W.	4,110
DV	Denver	39° 45′ N.	105° 00′ W.	5,292
RO	Roseburg	43° 13′ N.	123° 20′ W.	510
TAT	Tatoosh	48° 23′ N.	124° 44′ W.	86
SF	San Francisco	37° 48′ N.	122° 26′ W.	155
DI	San Diego	32° 43′ N.	117° 10′ W.	87
FW	Fort Worth	32° 43′ N.	97° 15′ W.	670
EP	El Paso	31° 47′ N.	106° 30′ W.	3,762
JU	Juneau	58° 21′ N.	134° 20′ W.	
TN	Tanana	65° 12′ N.	152° 00′ W.	243
DH	Dutch Harbour	53° 55′ N.	166° 30′ W.	13

3. *Code.*—New International [*see* page 94 (4); (Code of Sept. 1921 introduced Oct. 15th, 1922)].
American observations in "special code."

4. *Form of Individual Messages.*
Messages commence with "O.N.M."

0400 Message.
Part I. preceded by words "Météo Europe":—
I_nI_n BBDDF w_1TTK′R.

Part II. preceded by word "Navires."
Observations from ships:—
PQ″LLL lllGG BBDDF,
where Q″ is the quarter of the globe (*see* France (*a*), p. 38, code 8).

1005 Message.
Parts I. and II. same form as 0400 message.

Part III., preceded by words "Météo Amérique."
YYGG I_nI_n BBDF
I_nI_n BBDF
etc.

where YY is the day of the month, GG the hour of observation G.M.T., BB the barometric pressure to the nearest whole millimetre, D the direction of surface wind on scale 1 to 8 (1 = N.E., 2 = E., etc.) and F the wind force on Beaufort scale. At the end the names of the stations with highest and lowest pressure are repeated in full each followed by a group of the above form BBDF.

Part IV., preceded by word "Navires."—Observations from American ships in the Western N. Atlantic:—
I_nI_n PQ″LLL lllGG BBDDF TTTW
where Q″ is the quarter of the glove (*see* France (*a*), p. 38, Code 8), W is present weather in Old International Code (p. 103) and the remaining symbols are in New International Code. (TTT is given to nearest half degree Centigrade, the original observations being to nearest degree F.; also for DD, 00, 04, 08, etc. alone are used, the original observations received from America being on scale 1 to 8).

1600, *2100* } *Messages.* Same form as 0400 message.

5. *Note.*—(1) For units *see* page 106.
(2) The 0400 message ("Météo Europe") is repeated from Le Bourget (F.N.B., 1680 m. c.w.) at 0550 G.M.T.

FRANCE (*c*).

Special Reports for Aerial Routes.

1. Transmitting Station - Paris (Le Bourget).
Call Signal - - - F.N.B.
Message directed to - C.Q.
Wave Length - - 1680 m. c.w.

Times of Sending:—

(*a*) 0328 G.M.T.* (observations at 0300 G.M.T.) S.
0428 G.M.T.* (observations at 0400 G.M.T.) S.
0528 G.M.T.* (observations at 0500 G.M.T.) S., U.W.
0628 G.M.T.* (observations at 0600 G.M.T.) S.
0728 G.M.T. (observations at 0700 G.M.T.) S.
0828 G.M.T. (observations at 0800 G.M.T.) S.
0928 G.M.T. (observations at 0900 G.M.T.) S., U.W.
1028 G.M.T. (observations at 1000 G.M.T.) S.
1128 G.M.T. (observations at 1100 G.M.T.) S.
1228 G.M.T. (observations at 1200 G.M.T.) S., U.W.
1328 G.M.T. (observations at 1300 G.M.T.) S.
1428 G.M.T. (observations at 1400 G.M.T.) S.
1528 G.M.T. (observations at 1500 G.M.T.) S.
1628 G.M.T. (observations at 1600 G.M.T.) S.

(*b*) 0750 G.M.T., 1050 G.M.T., 1250 G.M.T., 1750 G.M.T. } F.

* *See* note (3), § 5.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
15	Paris (Le Bourget) -	48° 56′ N.	02° 26′ E.	149
08	Calais (St. Inglevert)	50° 52′ N.	01° 44′ E.	395
36	Abbeville - - -	50° 08′ N.	01° 50′ E.	233
35	Valenciennes - -	50° 20′ N.	03° 32′ E.	173
30	Le Havre - - -	49° 23′ N.	00° 04′ E.	321
53	Beauvais - - -	49° 30′ N.	02° 05′ E.	325
54	Compiègne - -	49° 25′ N.	02° 50′ E.	134

3. *Code.*—" Surface " observations in New International Code, with a check figure added in certain cases. [*See* p. 94 (introduced March 26th 1922).] Upper winds in New International Code (from October 15th, 1922). Forecasts in plain language.

4. *Form of Individual Messages.*—Messages commence with words " Météo Phisérar " followed by a group of four figures indicating time of observation G.M.T.

(*a*) *0328 Message.*

Part I. preceded by letters PLBA.—$xI_nI_n(V_s)$ wwVhL NDDFW. Where x is a check figure, being the units digit in the sum of the figures wwVhL.

Part II. GG25 xI_nI_n wwVhL (observations at Paris only, made at time indicated by group GG25 GMT, 25 minutes after normal hour of observation GG).

0428 Message.

Part I. preceded by letters PLBA.—$I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh (C_adF_1S).

Part II.—Same form as Part II. of 0328 message.

0528 Message.

Part I. preceded by letters PLBA $xI_nI_n(V_s)$ wwVhL NDDFW.

Part II. preceded by word " Pilot " :—I_nI_n h_1ddvv h_1ddvv .....

Part III.—Same form as Part II. of 0338 message.

Part IV.—*See* § 5, note (2).

0628 Message.—Same form as Parts I., III. and IV. of 0528 message.

0728 Message.

Part I. preceded by letters PLBA. Stations 15, 08 and 35 :—$I_nI_n(V_s)$ BBBDD FwwTT cbWVH ALaNh (C_adF_1S).

Stations 36, 53, 54 and 30 :—$xI_nI_n(V^s)$ wwVhL NDDFW (C_adF_1S).

Part II.—Same form as Part II. of 0328 message.

Part III.—*See* § 5, note (2).

0828 Message.—Same form as 0628 message.

0928 Message.—Same form as Parts I., II. and III. of 0528 message.

1028 Message.—Same form as 0728 message.

1128 Message.—Same form as 0628 message.

1228 Message.—Same form as 0528 message.

1328 Message.—Same form as Parts I. and II. of 0728 message, but station 30 in full code, as stations 15, 08 and 35.

1428, *1528* *Message.*—Same form as 0628 message.

1628 Message.—Same form as 0728 message.

(*b*) *0750*, *1050*, *1250*, *1750* *Messages.*—Forecasts for London—Paris—Brussels—Strasbourg Aerial Routes in plain language. (*See* § 6.)

5. *Note.*

(1) For units *see* p. 106.

(2) Observations at stations lying on aerial routes other than from Paris to London, Brussels or Amsterdam, in a special code, details of which are included in the Notes issued by the French National Meteorological Office, Paris.

(3) The 0328, 0428, 0528 and 0628 messages are discontinued during the winter months.

6. *Special Codes.*

Forecasts.

These give the probable *changes* with reference to the actua weather given in the last hourly message.

They are given in plain language under four different headings, each commencing with the letters AL followed by one of the letters A, B, C or D. Thus :—

After the letters ALA follows information as to state of sky, height of cloud, precipitation.

After the letters ALB follows information as to wind at surface.

After the letters ALC follows information as to wind at 1,000 m. (3,000 feet).

After the letters ALD follows information as to visibility.

The forecasts are given for different areas, the different parts commencing with the letters PARS.

Index.	Region.
PARSA - - - - -	Paris to Abbeville.
PARSB - - - - -	Abbeville to English Coast.
PARSC - - - - -	Paris to Noyon.
PARSD - - - - -	Noyon to Brussels.

The letters PARS may be followed by one or by several letters *e.g.*, PARSABC, indicating that the following sentence refers to the three districts A, B and C.

When no change is anticipated in any particular division the word "NIL" is sent.

The indices PARSF to PARSL relate to aerial routes from Paris other than to London, Brussels and Amsterdam.

GERMANY. (*a*)

Synoptic Reports.

1. Transmitting Station - Königswusterhausen.
   Call Signal - - - L.P.
   Messages directed to - C.Q.
   Wave Length - - - 5700 m. c.w.
   Times of Sending - - 0840 G.M.T. (observations at 0700 G.M.T.) S.; I.
   1440 G.M.T. (observations at 1300 G.M.T.) S.; I.
   1940 G.M.T. (observations at 1800 G.M.T.) S.; I.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Borkum (C) - - -	53° 35′ N.	06° 40′ E.	26
02	Keitum (C) - - -	54° 54′ N.	08° 22′ E.	26
03	Hamburg (L) - -	53° 33′ N.	09° 58′ E.	85
04	Swinemünde (C) - -	53° 56′ N.	14° 16′ E.	33
05	Danzig (L) - - -	54° 21′ N.	18° 40′ E.	72
06	Memel (C) - - -	55° 43′ N.	21° 08′ E.	26
07	Aachen (L) - - -	50° 47′ N.	06° 06′ E.	673
08	Cassel (L) - - -	51° 20′ N.	09° 31′ E.	650
09	Berlin-Steglitz (L) -	52° 27′ N.	13° 19′ E.	138
10	Dresden (L) - - -	51° 03′ N.	13° 45′ E.	361
11	Breslau (L) - - -	51° 07′ N.	17° 02′ E.	410
12	Frankfurt (L) - -	50° 07′ N.	08° 41′ E.	322
13	Karlsruhe (L) - -	49° 01′ N.	08° 25′ E.	394
14	Munich (L) - - -	48° 09′ N.	11° 34′ E.	1,726
16	Zugspitze - - -	47° 25′ N.	11° 00′ E.	9,724
17	Kahler Asten - -	51° 11′ N.	08° 30′ E.	2,795
18	Brocken - - -	51° 48′ N.	10° 37′ E.	3,766
19	Fichtelberg - - -	50° 27′ N.	12° 53′ E.	3,979
20	Vienna (L) - - -	48° 15′ N.	16° 22′ E.	664

Stations for Ice Reports.

Place.	Latitude.	Longitude.	Area represented.
Brüsterort -	54° 57′ N.	19° 59′ E.	Sea channel.
Pillau - -	54° 40′ N.	19° 56′ E.	Harbour and roadstead.
Swinemünde -	53° 56′ N.	14° 16′ E.	Harbour and roadstead.

Stations for Ice Reports—continued.

Place.	Latitude.	Longitude.	Area represented.
Travemünde -	53° 57′ N.	10° 51′ E.	Harbour and roadstead.
Holtenau -	54° 23′ N.	10° 08′ E.	Kiel Canal to Brunsbüttel.
Brunsbütteler-koog.	53° 54′ N.	09° 08′ E.	Off-lying area in the Elbe.
Hamburg -	53° 33′ N.	09° 59′ E.	Off-lying area in the Elbe.
Brake (Weser)	53° 19′ N.	08° 29′ E.	Off-lying area in the Weser.
Nesserland (Ems).	53° 21′ N.	07° 11′ E.	Off-lying area in the Ems and harbour.

3. *Code.*—New International. [*See* p. 88 (Code of Nov., 1920 with amendments of Sept., 1921 introduced Aug. 6th, 1923)]. Ice reports in special code.

4. *Form of Individual Messages.*
   Messages commence with words "Obs. Deutschland."
   0840 Message.
   Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr.
   Part II.—(Winter only).—JJ′JJ′JJ′ JJ′JJ′JJ′ JJ′JJ′JJ′ where J represents ice conditions and J′ their effect on navigation (in the special codes below, § 6) for the nine stations in order in the list above.
   1440 Message.—I_nI_n BBBDD FwwTT cbWVH ALaNh.
   1940 Message.—Same form as Part I. of 0840 message.

5. *Notes.*—(1) For units, *see* p. 106.
   (2) At the following high level stations the barometric pressure is not reduced to sea level. The normal limits for the readings are

Zugspitze - - -	490 mm.—553 mm.
Kahler Asten - -	648 mm.—718 mm.
Brocken - - -	624 mm.—690 mm.
Fichtelberg - - -	618 mm.—685 mm.

6. *Special Codes.*

	Ice Conditions (J).
0 - - - -	Open water.
1 - - - -	Thin loose ice.
2 - - - -	Drift ice.
3 - - - -	Thin covering of ice.
4 - - - -	Close pack ice.
5 - - - -	Difficult drift ice.
6 - - - -	Thick covering of ice.
7 - - - -	Heavy drift ice.
8 - - - -	Heavy masses of ice.
9 - - - -	Not known.

Effect on Navigation (J').

0 - Conditions not known owing to fog, snow, &c.
1 - Navigation practicable.
2 - Navigation difficult for sailing vessels.
3 - Navigation difficult, but practicable for sailing vessels assisted by tugs.
4 - Navigation very difficult. Closed to sailing vessels.
5 - Navigation only practicable for large steamers.
6 - Navigation only practicable with the assistance of ice-breakers.
7 - Navigation closed.
8 - Navigation channel kept open by ice-breakers.
9 - Not known.

GERMANY (*b*).

International Collective Reports.

1. Transmitting Station - Königswusterhausen.
Call Signal - - - L.P.
Messages addressed to - C.Q.
Wave Length - - 5700 m. c.w.

Times of sending :—

0650 G.M.T.	(For hours of observation *see* under details of each message below, § 4.)	S; O.
0850 G.M.T.		S; O.
1450 G.M.T.		S; O.
1950 G.M.T.		S; O.

2. *Stations*—

21	Helder.	41	Tynemouth.	61	Perpignan.
22	Flushing.	42	Valencia.	62	Toulon.
23	Copenhagen.	43	Stornoway.	63	Zürich.
24	Skagen.	44	Holyhead.	64	Lugano.
25	Hanstholm.	45	Yarmouth.	65	Belgrade.
26	Haparanda.	46	Blacksod.	66	*Sofia.
27	Härnosand.	47	Calshot.	67	Helsingfors.
28	Karlstad.	48	Thorshavn.	68	Sortavala.
29	Stockholm.	49	Seydisfjord.	75.	Prague.
30	Wisby.	50	Vestmanö.	76	*Budapest.
31	Spitzbergen.	51	*Riga.	77	Madrid.
32	Ingöy.	52	Warsaw.	78	Corunna.
33	Valdersund.	53	Lemberg.	79	Mahon.
34	Kinn.	54	Pinsk.	80	*Venice.
35	Björnöya.	55	Rochefort.	81	*Rome.
36	Röst.	56	Bayonne.	82	*Messina.
37	Jan Mayen.	57	Clermont.	83	Rabat.
38	Utsire.	58	Dijon.	84	Oran.
39	Lerwick.	59	Brest.	85	Bizerta.
40	Scilly.	60	Paris.	86	Horta.

For position stations *see* lists under individual countries.

3. *Code.*
New International* [modified form of code for national synoptic messages, *see* p. 88 (Code of Nov., 1920, with amendments of Sept., 1921, introduced Aug. 6th, 1923)].
Ship reports in New International (first four groups) with an additional special group.

4. *Form of Individual Messages.*
Messages commence with "Funkobs Nacht" at 0650.
"Funkobs I." at 0850.
"Funkobs II." at 1450.
"Funkobs III." at 1950.

0650 Message.—Code below [Note (2), § 5].
Observations at 0100 G.M.T. from Hamburg, Great Britain, Poland, France.
Observations at 1800 G.M.T. (previous day) preceded by word "Nachtrag" from Prague, Budapest, Spain, Italy, North Africa.

0850 Message.—Code below [Note (2), § 5].
Observations at 0700 G.M.T. from Holland, Denmark, Sweden, Norway, Great Britain, Iceland, Estonia, Poland, France, Switzerland, Belgrade, Bucharest, Sofia, Athens, Finland.

1450 Message.—Code below [Note (2), § 5].
Observations at 1300 G.M.T. from Holland, Denmark, Sweden, Norway, Great Britain, Iceland, Poland, France, Switzerland, Belgrade, Bucharest, Sofia, Finland, Russia.
Observations at 0700 G.M.T., preceded by word "Nachtrag" from Prague, Budapest, Spain, North Africa, Horta.

1950 Message.—Code below (Note (2), § 5).
Observations at 1800 G.M.T. from Holland, Denmark. Sweden, Norway, Great Britain, Iceland, Poland, France, Switzerland, Belgrade, Bucharest, Sofia, Finland.
Observations at 1300 G.M.T., preceded by word "Nachtrag" from Prague, Budapest, Spain, North Africa, Horta.

5. *Note.*
(1) For units, *see* p. 106.
(2) The Code used in the various messages is :—

Observations at 0100 G.M.T.		I_nI_n BBBDD FwwTT cbWVH.
,, ,, 0700 ,,		I_nI_n BBBDD FwwTT cbWVH ALaNR.
,, ,, 1800 ,,		
,, ,, 1300 ,,		I_nI_n BBBDD FwwTT cbWVH ALaNh,

where the symbols have the meaning of the New International Code.

* But see note (2), § 5.

Exception.—In the case of stations marked with an asterisk in the list above, the following code is however used :—

Observations at 0700 G.M.T. BBBDD FWTT βbbRR,

Observations at other times. BBBDD FWTT βbb,

where the symbols have the meaning of the Old International Code, *see* p. 103.

(3) The time of observation is indicated in the messages by prefixing two figures, giving the hour of observation. to the index number of the first station observing at this time, *e.g.*, the group 1401 means that the observations at station 01 and the following stations were made at 1400. The group 0849, coming later in the same message, indicates that the observations at station 49 and subsequent stations refer to the time 0800. *Central European Time* being used, one hour must be subtracted to obtain Greenwich Mean Time.

(4) When observations from any stations in the list of paragraph 2 are missing, observations from neighbouring stations are included in the messages with the station names in full.

(5) Ship observations are sometimes included, preceded by the word "Dampfer" or "Schiff," in the code :—

PQ'LLL lllZZ BBDDF wwvKd TTttC.

Where Q' is the quarter of the globe :—

	Lat.	Long.
1 =	N	W
2 =	N	E
3 =	S	W
4 =	S	E

ZZ is the hour of observation (Central European time; subtract one hour to get G.M.T.) and the remaining symbols are as in the New International Code.

GERMANY (*h*).

General Reports for Aviation.

1. Transmitting Station - Königswusterhausen.
Call Signal - - - L.P.
Messages directed to - C.Q.
Wave Length - - 5700 m. c.w.
Times of Sending :—

0635 G.M.T.
0905 G.M.T.
1505 G.M.T.
2005 G.M.T.
} Observations at times specified in messages. } S., U.W., U.A.T., G., F.

2. *Station* names are given in full in each message.

3. *Code.*—Upper air observations in Special code (Lindenberg Code). Summary of flying conditions and forecast in plain language.

4. *Form of Individual Messages.*—Messages commence with "Nachrichten für Luftfahrer, Lindenberg."

All Messages.

Collected European observations of upper winds, temperatures and humidities in Lindenberg Code (*see below*).
Summary of conditions as to upper wind, cloud, &c., with forecast for Central Germany, in plain language.

5. *Note* (1).—For units, *see* p. 106.

(2) When transmission cannot be made from Königswusterhausen the messages are transmitted from Lindenberg (call signal LI, wave length 900 m. c.w.) about 0700, 0920, 1620 and 2020 G.M.T.

6. *Special Codes.*

Lindenberg Code for Upper Air Information.

Upper Winds.—HHd'd'F″ HHd'd'F″.....c_1d'd'f ZZWVc'.

Upper Air Temperature, &c.—HHTTT PPDDF″ HHTTT PPDDF″..... ZZWVc'.

(Note.—c_1d'd'f is a nephoscope group identified by its only containing four figures.)

The symbols have the following meanings :—

ZZ = Hour of observation (Central European Time. Subtract one hour to get G.M.T.).
W = Present weather in Old International Code (p. 103).
V = Horizontal visibility in New International Code. (p. 98).
c' = Barometric tendency (Code I. below).
HH = Height above sea level in hectometres.
d'd' = Wind direction at height HH or direction from which upper cloud moves. (Scale : 0–32) (08 = East, &c.)
F″ = Wind force at height HH. (Code II. below.)
c_1 = Kind of upper cloud observed by nephoscope. [New International Code, p. 99.]
f = Velocity-height ratio.
TTT = Temperature at height HH in degrees and tenths Centigrade (500 added for negative values).
PP = Percentage relative humidity (98 means 98 to 100 per cent.; 99 means "impossible to report").

CODE I.

Barometric Tendency (c').

		(in 3 hours).
0	No appreciable variation:	less than 0·5 mm.
1	Slow fall	0·5 mm. to 1·4 mm.
2	Moderate fall	1·5 mm. to 2·4 mm.
3	Rapid fall	2·5 mm. to 3·4 mm.
4	Very rapid fall	more than 3·4 mm.
5	Slow rise	0·5 mm. to 1·4 mm.
6	Moderate rise	1·5 mm. to 2·4 mm.
7	Rapid rise	2·5 mm. to 3·4 mm.
8	Very rapid rise	more than 3·4 mm.
9	Unsteady or impossible to report.	

CODE II.

Wind Speed (F").

This is expressed in metres per second.
For values 10 to 19, the number 33 is added to the figures giving wind direction d'd', thus 578 means W. 18 m./s.
For values 20 to 29, the number 67 is added to the figures giving wind direction d'd', thus 973 means NNW 23 m./s.
Values above 29 m./s. are given in words, thus
" 979 36 sekm " means NNW 36 m./s.
A calm is expressed as 000.

GIBRALTAR.

1. Transmitting Station - Gibraltar.
Call Signal - - - B.W.W.
Messages directed to - G.F.A.
Wave Length - - 4000 m. c.w.
Times of Sending:—
0730 G.M.T. (observations at 0700 G.M.T.) S.
1840 G.M.T. (observations at 1800 G.M.T.) S.

2. *Station.*—Name, Gibraltar; latitude, 36° 06′ N.; longitude 05° 21′ W.; altitude, 53 feet.

3. *Code.*—New International (amplified by addition to the morning message of a group containing grass minimum temperature).

4. *Form of Individual Messages.*

0730 Message. — BBBDD FwwTT cbWVH ALaNh RRmmr xxxm$_G$m$_G$, where m$_G$m$_G$ is the grass minimum temperature in whole degrees F.

1840 Message.—BBBDD FwwTT cbWVH ALaNh RRMMr.

5. *Note.*

(1) For units, *see* p. 106.

(2) Reports not issued on Sundays.

GREECE.

1. Transmitting Station - - Athens.
Call Signal - - - - S.X.G.
Messages directed to - - C.Q.
Wave Length - - - 3600 m. spk.
Times of Sending.—0705 G.M.T. (observations at 0600 G.M.T.) S.
1035 G.M.T. (morning observations) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Athens* - - -	37° 58′ N.	23° 43′ E.	351
02	Corfu* - - -	39° 35′ N.	19° 56′ E.	67
03	Zante* - - -	37° 47′ N.	20° 55′ E.	12
04	Salonika* - -	40° 37′ N.	22° 59′ E.	79
05	Volos* - - -	39° 24′ N.	22° 58′ E.	24
06	Mitilini* - -	39° 08′ N.	26° 30′ E.	
07	Andros* - - -	37° 47′ N.	24° 57′ E.	148
08	Santorini* - -	36° 25′ N.	25° 26′ E.	738
09	Canea* - - -	35° 30′ N.	24° 02′ E.	91
10	Candia* - - -	35° 19′ N.	25° 09′ E.	88
11	Sollum - - -	31° 30′ N.	25° 15′ E.	
12	Alexandria - -	31° 11′ N.	29° 51′ E.	
13	Suez - - -	29° 56′ N.	32° 35′ E.	
14	Limassol - -	34° 40′ N.	33° 01′ E.	26
15	Jassy* - - -	47° 10′ N.	27° 36′ E.	328
16	Bucharest* - -	44° 25′ N.	26° 06′ E.	276
17	Sulina* - - -	45° 09′ N.	29° 40′ E.	6
18	Constantsa* - -	44° 11′ N.	28° 39′ E.	118
19	Craiova* - -	44° 19′ N.	23° 48′ E.	361
20	Crikvenica - -	45° 10′ N.	14° 41′ E.	16
21	Sarajevo - -	43° 52′ N.	18° 26′ E.	2,100
22	Belgrade - -	44° 48′ N.	20° 28′ E.	433
23	Sofia - - -	42° 42′ N.	23° 20′ E.	1,804
24	Constantinople -	41° 02′ N.	28° 58′ E.	

3. *Code.*—Observations at Athens in 0705 message in New International. [*See* page 88 (Code of Nov. 1920 with amendments of Sept. 1921, introduced 20th April 1922).]
Other observations in modified Old International.

* *See* § 4.

4. *Form of individual messages.*

0705 Message, commencing with "Météo Athénes 1."

Station 01 only :—BBBDD FwwTT cbWVH ALaNh RRmmr.

1035 Message, commencing with "Météo Athénes 2."

I_nI_n BBDD FWTT βbbR

where R has the same meaning as in the New International Code (*see* Code VIII. (*a*) page 100) the period, however, being only the preceding 12 hours in the case of stations marked with an *asterisk* in the list above. The remaining symbols relate to the Old International Code.

5. *Note.*—For units, *see* page 106.

HOLLAND (*a*).

Synoptic Reports.

1. Transmitting Station - Soesterberg.
Call Signal - - - S.T.B.
Messages directed to - C.Q.
Wave Length - - - 1900 m. c.w.
Times of Sending :—
0730 G.M.T. (observations at 0700 G.M.T.) S., U.W., U.A.T.
1330 G.M.T. (observations at 1300 G.M.T.) S., U.W., U.A.T.
1505 G.M.T. U.A.T.
1830 G.M.T. (observations at 1800 G.M.T.) S., U.W., U.A.T.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude. (feet).
01	Helder (C) - -	52° 58′ N.	04° 45′ E.	19
02	Flushing (C) - -	51° 26′ N.	03° 34′ E.	26
03	de Bilt (L) - -	52° 06′ N.	05° 11′ E.	10

(C) = Coastal Station, (L) = Inland Station.

3. *Code.*—New International. [*See* page 88 (Code of Sept. 1921 introduced March 13th, 1922, the date of commencement of this synoptic message).]

4. *Form of individual Messages.*—Messages commence with words "Meteo Holland."

0730 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddvv).

Part II. preceded by word "pilot." Upper winds from stations 01 and 03.—$h_1$ddvv &c.

Part III. preceded by word "temp." Upper air temperatures from stations 01 and 03.—1_n1_n YYGG BBTTH &c., where YY is the day of the month and GG the hour of the day (G.M.T.) when the observations were made.

1330 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddvv).

Parts II. and III.—Same form as Parts II. and III. of 0730 message.

1505 Message.—Same form as Parts II. and III. of 0730 message.

1830 Message.—Same form as 0730 message.

5. *Note.*—For units, *see* p. 106. In the nephoscope reports, the speed (vv) is in km./h.

HOLLAND (*c*).

Special Reports for Aerial Routes.

1. Transmitting Station - Soesterberg.
Call Signal - - - S.T.B.
Messages directed to - G.F.A., Z.M. and H.S.
Wave Length - - - 1680 m. c.w.
Times of Sending :—
0444 G.M.T.* (observations at 0420 G.M.T.) S.
0544 G.M.T.* (observations at 0520 G.M.T.) S.
0644 G.M.T.* (observations at 0620 G.M.T.) S.
0744 G.M.T. (observations at 0700 G.M.T.) S.
0844 G.M.T. (observations at 0820 G.M.T.) S., F.
0944 G.M.T (observations at 0920 G.M.T.) S., F.
1044 G.M.T (observations at 1000 G.M.T.) S., F.
1144 G.M.T. (observations at 1120 G.M.T.) S.
1244 G.M.T. (observations at 1220 G.M.T.) S., F.
1344 G M.T. (observations at 1300 G.M.T.) S , F.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
1	Helder - - -	52° 58′ N.	04° 45′ E.	19
2	Flushing - - -	51° 26′ N.	03° 34′ E.	26
3	de Bilt - - -	52° 06′ N.	05° 11′ E.	10
5	Schiphol - - -	52° 19′ N.	04° 48′ E.	
6	Rotterdam - -	51° 54′ N.	04° 29′ E.	12

3. *Code.*

New International. [*See* page 94 (Code of Nov. 1920 introduced April 11th, 1921, code of Sept. 1921 introduced Oct. 3rd, 1921).]

Forecasts in plain language.

4. *Form of Individual Messages.*—Messages commence with words "Meteo Holland" followed by time of observation G.M.T.

* *See* § 5, note (3).

0444 Message.

Station 5 or 6. $I_n(V_s)$ wwVhL NDDFW.

0544 } *Messages* same form as 0444 message.
0644 }

0744 Message.

Part I.—Stations 1 to 3 $I_n(V_s)$ BBBDD FwwTT cbWVH ALaNh ($C_a$ddF$_1$S).

Part II. Stations 5 and 6. $I_n(V_s)$ wwVhL NDDFW.

0844 Message.

Part I.—Stations 5 and 6. $I_n(V_s)$ wwVhL NDDFW.

Part II.—Forecast for London-Amsterdam aerial route, in plain language (English) and Amsterdam-Paris aerial route (French).

0944 Message.

Part I.—Stations 2, 5 and 6. $I_n(V_s)$ wwVhL NDDFW.

Part II.—Same form as Part II. of 0844 message (revised forecast).

1044 Message.

Part I.—Same form as 0744 message.

Part II.—Same form as Part II. of 0844 message (revised forecast).

1144 Message.—Same form as Part I. of 0844 message.

1244 Message.—Same form as 0844 message.

1344 Message.—Same form as 1044 message.

5. *Note.*

(1) For units, *see* p. 106.

(2) Upper winds preceded by word "Pilot" and upper air temperatures preceded by word "Temp." may be added to any of the above messages or form a separate message at 1505 G.M.T. [*See* Holland (*a*).] Code :—New International as in Dutch synoptic messages, page 52.

(3) The 0444, 0544, and 0644 messages are discontinued during the winter months. No hourly route messages are issued on Sundays.

HUNGARY.

1. Transmitting Station - Csepel (near Budapest).
Call Signal - - - H.B.
Message directed to - - C.Q.
Wave Length - - - 4400 m. c.w.
Time of Sending.—0910 G.M.T. (observations at 0700 *Local Mean Time*) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Budapest - -	47° 30′ N.	19° 02′ E.	427
02	Szombathely -	47° 15′ N.	16° 36′ E.	702
03	Kaposvár - -	46° 22′ N.	17° 48′ E.	443
04	Szeged - - -	46° 15′ N.	20° 09′ E.	295
05	Debreczen - -	47° 31′ N.	21° 38′ E.	423

3. *Code.* Old International.

4. *Form of Individual Message.*—Messages commence with words "Meteor Hongrois."
0910 Message.—I_nI_n BBBDD FWTTC βbbRR MMmm.

5. *Note.*—For units, *see* p. 106.

ICELAND.

See under Great Britain (*a*).

ITALY.

1. Transmitting Station - Rome.
Call Signal - - - I.C.C.
Messages directed to - C.Q.
Wave Length - - - 11,000 m. c.w.
Times of Sending :—
0930 G.M.T. (observations at 0700 G.M.T.) S., U.W.
2045 G.M.T. (observations at 1800 G.M.T.) S., U.W.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Turin - - -	45° 04′ N.	07° 41′ E.	906
02	Milan - - -	45° 28′ N.	09° 11′ E.	
03	Trento - - -			
04	Padua - - -	45° 24′ N.	11° 52′ E.	102
05	Trieste - - -	45° 38′ N.	13° 46′ E.	233
06	Genoa - - -	44° 24′ N.	08° 55′ E.	178
07	Florence - -	43° 46′ N.	11° 15′ E.	238
08	Leghorn - -	43° 33′ N.	10° 18′ E.	46
09	Ancona - -	43° 37′ N.	13° 32′ E.	20
10	Chieti - - -	42° 22′ N.	14° 11′ E.	1,118
11	Rome - - -	41° 54′ N.	12° 28′ E.	166
12	Maddalena - -	41° 15′ N.	09° 25′ E.	
13	Naples - - -	40° 52′ N.	14° 15′ E.	
14	Brindisi - -	40° 38′ N.	17° 57′ E.	10
15	Cagliari - -	39° 13′ N.	09° 05′ E.	246
16	Messina - -	38° 12′ N.	15° 33′ E.	116
17	Palermo - -	38° 06′ N.	13° 20′ E.	233
18	Vittoria - -	36° 57′ N.	14° 30′ E.	
19	Taranto - -	40° 29′ N.	17° 15′ E.	125
20	Venice - - -	45° 26′ N.	12° 20′ E.	69
21	Vigna di Valle (near Rome).			

3. *Code.*

"Surface" observations in Old International (slightly modified).
Upper winds in special code.

4. *Form of Individual Messages.*

0930 Message.—I_nI_n BBBDD FWTTW′ βbbRR MMmmu F′d′F′d′F′d′ F′d′F′d′F′d′.

2045 Message.—I_nI_n BBBDD FWTTu F′d′F′d′F′d′ F′d′F′d′F′d′.

where F′ is speed and d′ direction of upper wind in special codes below (§ 6).

5. *Note.*

(1) For units, *see* p. 106.

(2) The letter "x" is employed to denote missing information.

6. *Special Codes.*

Upper Winds.

Upper winds are reported at the following six heights, in order:—500 m., 1000 m., 1500 m., 2000 m., 3000 m., 4000 m. above mean sea level.

Speed of Upper Wind (F′).

Code Number.	Speed in metres per second.
0	From 0 to 1
1	,, 1 ,, 3
2	,, 3 ,, 5
3	,, 5 ,, 7
4	,, 7 ,, 9
5	,, 9 ,, 11
6	,, 11 ,, 13
7	,, 13 ,, 15
8	,, 15 ,, 17
9	above 17

Direction of Upper Wind (d′).

Reported on scale 1 to 8, where 1 = from N, 2 = from NE, ... and 8 = from NW.

LATVIA.

1. Transmitting Station - Libau.
Call Signal - - - K.C.B.
Message directed to - - C.Q.
Wave Length - - - 1200 m. spk.

Times of Sending.—0720 G.M.T. (observations at 0700 *local time, i.e.*, about 0530 G.M.T.) S.
1350 G.M.T. (observations at 1300 G.M.T.) S., U.W., U.A.T., G., I.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Riga - - -	56° 59′ N.	24° 05′ E.	8
02	Libau - - -	56° 31′ N.	21° 00′ E.	12
03	Malnova - -	56° 47′ N.	27° 44′ E.	391
04	Daugavpils - -	55° 53′ N.	26° 30′ E.	391
05	Windau - -	57° 24′ N.	21° 34′ E.	12
06	Preekuli - -	57° 19′ N.	25° 23′ E.	402

Stations for Ice Reports.

Libau - - -	56° 31′ N.	21° 00′ E.
Windau - - -	57° 24′ N.	21° 34′ E.
Mikelbaka - -	57° 36′ N.	21° 59′ E.
Kolkasrags N.W. -	57° 48′ N.	22° 38′ E.
Kolkasrags N.E. -		
Kolkasrags S.E. -		
Riga (Sea) - -	57° 04′ N.	24° 01′ E.
Riga (harbour) -	56° 57′ N.	24° 06′ E.
Ainaschi - -	57° 52′ N.	24° 21′ E.

3. *Code.*

"Surface" observations in Old International (modified).
Upper air observations and Ice reports in special code.
Statement of general situation in plain language.

4. *Form of Individual Messages.*

0720 Message.

I_nI_n BBBDD FWTTH βbbRR MMmmW_2, where H is relative humidity in New International Code (p. 99) and W_2 is weather in past 24 hours in Code V., p. 105, except that 6 = "precipitation mainly during the night."

1350 Message.

Part I.—Station 01 only:—

I_nI_n BBBDD FWTTW_3 βbbHC′,
where W_3 is weather during morning* in Code V., p. 105, and C′ is the predominating cloud feature (§ 6 below).

Part II.—Preceded by word "Pilot." Upper winds at Riga in Lindenberg Code, p. 49:—
HHd′d′F″ HHd′d′F″ ..... C_1d′d′f ZZWVc′.

* Except that 4 = slight precipitation; 5 = heavy rain; 6 = heavy snowfall.

Part III.—Preceded by word "Temp." Upper air temperature at Riga in Lindenberg Code, p. 49 :—
HHTTT PPDDF" HHTTT PPDDF".....ZZWVc'.

Part IV.—Statement of general meteorological situation in plain language.

Part V.—(Winter only). Ice reports of the same day at above stations in order in same code as in German messages, p. 45 :—
JJ'JJ'JJ' JJ'JJ'JJ' JJ'JJ'JJ'.

6. *Special Codes.*

Code Figure.	*Predominating Cloud Feature (C').*
0	Cloudless pale blue sky.
1	Cirrus.
2	Cirro-stratus.
3	Cirro-cumulus.
4	Cumulus and cumulo-stratus.
5	Stratus and strato-cumulus.
6	Heavy dark clouds.
7	Several cloud layers.
8	Uniform grey sky.
9	Cloudless deep blue sky.

MALTA.

1. Transmitting Station - - - - - Calafrana.
Call Signal - - - - - - G.H.A.
Messages directed to - - - - - C.Q.
Wave Length - - - - - - 4800 m. c.w.
Times of Sending :—0740 G.M.T. (observations at 0700 G.M.T.) S., U.W.
1340 G.M.T. (observations at 1300 G.M.T.) S., U.W.
1840 G.M.T. (observations at 1800 G.M.T.) S., U.W.

2. *Station.*—Latitude 35° 54′ N., Longitude 14° 31′ E. Alt. 193 feet.

3. *Code.*—New International for Coastal Station (*see* page 92), amplified by addition to morning message of a group giving maximum and minimum temperature.

4. *Form of Individual Messages :*
0740 Message.
Part I.—BBBDD FwwTT cbWVH ALaNh RRSV$_s$r MMmm.
Part II.—Preceded by word "Pilot"—h$_1$ddvv, etc.
1340 Message.
Part I.—BBBDD FwwTT cbWVH ALaNh.
Part II.—Same form as Part II. of 0740 message.
1840 Message.
Part I.—BBBDD FwwTT cbWVH ALaNh RRSV$_s$r.
Part II.—Same form as Part II. of 0740 message.

5. *Note.*—For units *see* page 106. Heights for upper winds are in feet as used in British Reports, *see* p. 101, Code XI., last column.

NORWAY (*a*).

Synoptic Reports.

1. Transmitting Station - Christiania.
Call Signal - - - L.C.H.
Messages directed to - C.Q.
Wave Length - - - 8000 m. c.w.

Times of Sending :—
0750 G.M.T. (observations at 0700 G.M.T.) S., U.W., O.
1350 G.M.T. (observations at 1300 G.M.T.) S., U.W., O.
1850 G.M.T. (observations at 1800 G.M.T.) S., U.W., O.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
02	Quade Hook (Spitzbergen) (C).	78° 57′ N.	11° 42′ E.	
05	Green Harbour (Spitzbergen)(C).	78° 02′ N.	14° 14′ E.	37
10	Ingöy (C) - -	71° 04′ N.	24° 09′ E.	
12	Tromsö (C) - -	69° 39′ N.	18° 58′ E.	147
16	Mygbugten (C) -	73° 30′ N.	21° 30′ W.	
20	Aalesund (C) -	62° 28′ N.	06° 10′ E.	47
22	Valdersund (C) -	63° 52′ N.	09° 45′ E.	
27	Kinn (C) - -	61° 33′ N.	04° 48′ E.	
30	Oksö (C) - -	58° 04′ N.	08° 04′ E.	37
32	Lister (C) - -	58° 06′ N.	06° 34′ E.	
35	Björnöya (Bear Island) (C).	74° 28′ N.	19° 15′ E.	
40	Andenes (C) - -	69° 20′ N.	16° 08′ E.	23
42	Röst (C) - -	67° 30′ N.	12° 04′ E.	17
47	Jan Mayen (C) -	70° 59′ N.	08° 19′ W.	
50	Bergen (C) - -	60° 24′ N.	05° 19′ E.	146
52	Strömskag (C) -	63° 23′ N.	07° 48′ E.	
55	Faerder (C) - -	59° 02′ N.	10° 32′ E.	29
57	Ona (C) - -	62° 52′ N.	06° 33′ E.	31
59	Runde (C) - -	62° 24′ N.	05° 39′ E.	
60	Vardö (C) - -	70° 22′ N.	31° 08′ E.	33
70	Brönnöy (C) - -	65° 28′ N.	12° 13′ E.	21
80	Utsire (C) - -	59° 18′ N.	04° 53′ E.	165
82	Skudesnaes (C) -	59° 09′ N.	05° 16′ E.	11
90	Dombaas (L) -	62° 05′ N.	09° 07′ E.	2,113
	Pilot Balloon Stations :—			
97	Bergen - - -	60° 24′ N.	05° 19′ E.	146
98	Tromsö - -	69° 39′ N.	18° 58′ E.	147
99	Aas - - -	59° 40′ N.	10° 46′ E.	280

(C) = Coastal Station; (L) = Inland Station.

3. *Code.*

Surface observations and upper winds in New International [*see* p. 88 (Code of Nov. 1920 introduced July 1st, 1921, amendments of Sept. 1921 introduced Jan. 1st, 1922.).]
Ship reports in New International (first four groups) with additional special groups.

4. *Form of Individual Messages.*—Messages commence with words "Météo Norvégien."

0750 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV).

Part II.—Preceded by word "Pilot"—Upper winds.—I_nI_n $h_1$ddvv.....chhh, where—

C = form of cloud in which the pilot balloon was lost.

hhh = height of this cloud in decametres.

Part III. preceded by word "Ships"—Ship reports.—PQLLL lllGG BBDDF wwvKd ALaNF$_m$ $d_sd_s$rsW TTTHc bbttt,
where

F_m = maximum force of wind since time of preceding observation (*see* § 6).

d_sd_s = ship's course on scale 01–32 (08 = E., 16 = S., &c.)

s = time of cessation of precipitation on same scale as for time of commencement in New International Code (p. 101) [o = no rain or rain still falling]

and the remaining symbols have the meanings of the New International Code (*see* p. 88).

1350 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).

Parts II. & III.—Same form as Parts II. & III. of 0750 message.

1850 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV).

Parts II. & III.—Same form as Parts II. & III. of 0750 message.

5. *Note.*

(1) For units *see* p. 106.

(2) Stations 12, 22, 27, 30, 42, 50, 52, 57, 59, 82 are not transmitted regularly but only when normal stations are missing.

(3) In order that observations of wind at heights above 6,000 m. may be reported, the International Code for height (h_1) is extended as in paragraph 6 below.

(4) Reports from Swedish ships as well as Norwegian ships are included in these messages.

(5) Observations omitted from one message are transmitted at the beginning of the next. In this case the time of observation is indicated by appending the hour of the observation to the index number of the station.

(6) Observations from *Amundsen's Polar Expedition Ship "Maud"* are included from time to time in the messages issued from Christiania with index number 01, in the form :—

I_nI_nGG BBBDD FwwTT cbWVH ALaNh RRrsF$_m$, where the symbols are as in § 4, above.

Latest information gives the position of the ship as 74° N., 170° 30′ E. (March, 1923).

6. *Special Codes.*

Maximum Wind Force (F_m).

Code Figure.	Beaufort Number.
0	10
1	11
2	12
3	0 to 3
4	4
5	5
6	6
7	7
8	8
9	9

Extension of code for height (h_1) *at which upper wind is reported.*

Code Number.	Height.	Height.	Height.
0	0	7,000	17,000
1	200	8,000	18,000
2	500	9,000	19,000
3	1,000	10,000	20,000
4	1,500	11,000	21,000
5	2,000	12,000	22,000
6	3,000	13,000	23,000
7	4,000	14,000	24,000
8	5,000	15,000	25,000
9	6,000	16,000	26,000

Example :—32426 83031 22112 01610
give wind at 1,000, 5,000, 9,000, and 17,000 metres.

NORWAY (*j*).

"Polar Front" Reports.

1. Transmitting station - Bergen.
   Call Signal - - - L.G.N.
   Messages directed to - C.Q.
   Wave Length - - 1850 m. c.w.
   Times of Sending - - 0950 G.M.T. (based on observations at 0700 G.M.T.).
   2050 G.M.T. (based on observations at 1800 G.M.T.).

2. —

3. *Code.*—Special Code.

4. *Form of Individual Messages.*

Messages commence with word "Meteo."

0950 Message.

Part I. commencing with the word "Situation":—

Pairs of groups of the form

BBK″D′D′ F′LLll

relating to the more important depressions and anticyclones over North-West Europe and the Atlantic Ocean at 0700 G.M.T.

BB = Barometric pressure, in whole millibars, in the centre of the depression or anticyclone (the initial figures 10 or 9 being omitted).

K″ = Probable variation of barometric pressure in the centre (Table I. below).

D′D′ = Direction from which the centre is moving, on scale 00 to 32.

(08 = from the East, 16 = from the South, etc.) 50 is added to this number when a depression is referred to.

F′ = Speed of movement of the centre on a scale the unit of which is a degree at the Equator (60 nautical miles) per 12 hours. 9 indicates any speed greater than 8 units.

LL = N. latitude } of the centre in question in whole
ll = Longitude } degrees.

(Longitudes East of Greenwich are indicated by adding 50.)

(*See* Para. 5 for meaning of "Central.")

Part II. Preceded by word "Fronter":—

Information relating to the "Polar Front" and to "Families of Cyclones,"* contained in groups of four figures of the form

NNnf

NN = Index number of the "family"
(Counting from the beginning of the year).

n = Index number, in the "family," of the member described in the succeeding groups.
(1 = first member, 2 = second member, &c., 9 = last member (generally followed by a great breakthrough of "Polar Air" and the formation of an anticyclone). x = number not yet determined.)

f describes the "front" most characteristic of this member (Table II. below).

Following a group of the form NNnf are two or more groups of the form F′LLll, decoded as in Part I., but relating to points on the "front" in question instead of to the centres of depressions or anticyclones. These points are always given in such an order that the movement of the front is towards the right of a person standing at the first point and looking towards the second, and so on. If several "fronts" are given, the information relating to the different "fronts" is separated by a diæresis (..) (Morse – · · · –).

Part III. Preceded by word "Veirvarsler";

Forecasts in plain language (Norwegian) for four sections of the west coast of Norway extending from Lindesnes (South Cape of Norway) and Leka (near Brönnöy).

Part IV. Preceded by word "Stormvarsler."

Warnings in plain language (Norwegian) of winds of Beaufort force 7 or more in the same areas as Part III. When the wind is not likely to exceed force 6 or when stronger winds already existing are likely to decrease without marked change of direction, the words "Stormvarsler—Ingen" are sent.

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* For definitions of the terms employed, *see* :—

(*a*) J. Bjerknes and H. Solberg; "Meteorological Conditions for the Formation of Rain," *Geofysiske Publikationer*, Vol. II., No. 3. Kristiania, 1921.

(*b*) *Ibid.*, "Life Cycle of Cyclones and the Polar Front Theory of Atmospheric Circulation," *Geof. Publ.*, Vol. III., No. 1. Kristiania, 1922.

2050 Message.—Same form as 0950 message, but relating to the situation at 1800 G.M.T.

5. *Note.*—In part I. of a message the word "Central" indicates that the two groups following describe an extensive stationary depression which will determine the wind currents in its region for several days.

6. *Special Codes.*

I.—(K″) *Probable variation of pressure in the centre of a depression or an anticyclone during the ensuing* 12 *hours.*

Code figure

0 = pressure will remain almost constant.		
1 = will rise slowly	Depression "filling up" or Anticyclone increasing in intensity.	
2 = rise		
3 = will rise rapidly		
4 = will rise very rapidly		
5 = will fall slowly	Depression growing deeper or Anticyclone decreasing in intensity.	
6 = will fall		
7 = will fall rapidly		
8 = will fall very rapidly		
9 = will fall abnormally rapidly		
x = No determination possible.		

II.—(f) *Character of the most noteworthy "front" in the system* NNn.

Code figure

1 = a "cold front," not very well marked.
2 = a "cold front," well marked.
3 = a "cold front," very pronounced.
4 = a "cold front," violent.
5 = a "warm front," not very well marked.
6 = a "warm front," well marked.
7 = a "warm front," very pronounced.
8 = an occlusion,* not very well marked.
9 = an occlusion, well marked.
0 = an occlusion, very pronounced.

POLAND.

1. Transmitting Station - Warsaw.
Call Signal - - - W.A.R.
Messages directed to - C.Q.
Wave Length - - - 2400 m. spk.

* An occlusion occurs when the cold air in the rear of a "disturbance" catches up the cold front and displaces (vertically) the warm air. The "disturbance" may be a fully-fledged cyclone or a secondary irregularity.

Times of Sending:—

0215 G.M.T. (observations at 0100 G.M.T.) S.
0815 G.M.T. (observations at 0700 G.M.T.) S., U.W.
1415 G.M.T. (observations at 1300 G.M.T.) S., U.W.
1915 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Posen (L) - -	52° 24′ N.	16° 51′ E.	325
02	Warsaw (L) - -	52° 13′ N.	21° 01′ E.	364
03	Vilna (L) - -	54° 41′ N.	25° 18′ E.	466
04	Łódź (L) - -	51° 46′ N.	19° 29′ E.	719
05	Lublin (L) - -	51° 15′ N.	22° 35′ E.	633
06	Cracow (L) - -	50° 04′ N.	19° 57′ E.	738
07	Tarnów (L) - -	50° 01′ N.	21° 00′ E.	732
08	Lemberg (L) - -	49° 50′ N.	24° 01′ E.	1,043
09	Kielce (L) - -	50° 52′ N.	20° 36′ E.	1,348
10	Bromberg (L) -	53° 08′ N.	18° 00′ E.	177
11	Zakopane (L) -	49° 17′ N.	19° 58′ E.	2,723
12	Pińsk (L) - -	52° 07′ N.	26° 06′ E.	469
13	Danzig (L) - -	54° 21′ N.	18° 40′ E.	36
14	Puck (C) - -	54° 43′ N.	18° 25′ E.	16
15	Hela (C) - -	54° 36′ N.	18° 48′ E.	20
16	Rozywie (C) - -	54° 50′ N.	18° 21′ E.	16
17	Chojnice (L) - -	53° 42′ N.	17° 34′ E.	594
18	Grudziadz (L) -	52° 29′ N.	18° 45′ E.	82
19	Toruń (L) - -	53° 01′ N.	18° 36′ E.	171
20	Cieszyn (L) - -	49° 45′ N.	18° 38′ E.	1,014
21	Przemyśl (L) -	49° 47′ N.	22° 47′ E.	669
22	Sniatyń (L) - -	48° 26′ N.	25° 34′ E.	797
23	Zdołbunow (L) -	50° 30′ N.	26° 15′ E.	643
24	Kiwerce (L) - -	50° 49′ N.	25° 29′ E.	656
25	Brest-Litovsk (L) -	52° 05′ N.	23° 40′ E.	446
26	Białowieza (L) -	52° 42′ N.	23° 51′ E.	591
27	Suwałki (L) - -	54° 06′ N.	22° 56′ E.	558
28	Baranowicze (L) -	53° 09′ N.	26° 02′ E.	755
29	Turmont (L) - -	55° 43′ N.	26° 26′ E.	328
30	Białystok - -	53° 08′ N.	23° 10′ E.	446

(C) = Coastal Station, (L) = Inland Station.

3. *Code.*

"Surface" observations in New International [*see* p. 88 (new code introduced February 26th, 1923)].

4. *Form of Individual Messages.*—Messages commence with words "Météo Pologne."

0215 Message.—I_nI_n BBBDD FwwTT cbWVH ALaNh.
0815 Message.
Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr.

Part II.—Upper winds.—d'd'v'v'd' d'v'v'd'd' v'v'd'd'v' v'd'd'v'v' d'd'v'v' (*see* § 6, below).

1415 Message.

Part I.—Same form as 0215 Message.

Part II.—Same form as Part II. of 0815 message.

1915 Message.—Same form as Part I. of 0815 message.

5. *Note.*—For units, *see* p. 106.

6. *Special Codes. Upper Winds.*

Upper winds are reported at the following six heights, in order: 500 m., 1,000 m., 1,500 m., 2,000 m., 3,000 m., 4,000 m. Four figures (d'd'v'v') correspond to each height, the whole being grouped as indicated in § 4 above.

d'd' = direction of upper wind on scale 01 to 32, as for surface winds.

v'v' = speed of upper wind in m./s.

PORTUGAL.

1. Transmitting Station - Monsanto.
Call Signal - - - C.T.V.
Message directed to - C.Q.
Wave Length - - 600 m. spk. (for first transmission). 2,400 m. c.w. (for second transmission five minutes later).

Times of sending:—

0945 G.M.T. (observations at 0700 G.M.T.) S., O.
2130 G.M.T. (observations at 1800 G.M.T.) S., O.

2. *Stations.* Include in general:—

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
Name in full.	Lisbon - -	38° 42′ N.	09° 08′ W.	312
	Oporto - -	41° 09′ N.	08° 34′ W.	328
	Coimbra -	40° 12′ N.	08° 30′ W.	463
	Funchal - -	32° 37′ N.	16° 54′ W.	82
	Angra - -	38° 39′ N.	27° 14′ W.	144

3. *Code.* Mainly New International. [*See* page 88 (Code of November, 1920, with amendments of September, 1921, introduced March ?, 1923, the date of commencement of this issue).]

Ship observations are in the form adopted at the meeting of the International Commission for Weather Telegraphy, November, 1920, and not in the modified form recommended at the meeting in September, 1921.

Details of Swell in special code.

4. *Form of Individual Messages.*—Messages commence with words "Météo Portugal."

0945 Message.

Part I.—(Station name in full) BBBDD FwwTT cbWVH ALaNh RRmmr mar $pD_1D_1k\theta$.

Part II.—Ship observations, preceded by word "Navires"—
$QLLLx_1$ $llllx_2$ $BBDDx_3$ $FvKdx_4$ $wwGGx_5$ $TTttx_6$ $CNWrx_7$ $y_1y_2y_3y_4z$,

where 1111 is the longitude in degrees and tenths and the remaining symbols have the standard meanings.

2130 Message.

Part I.—(Station name in full) BBBDD FwwTT cbWVH ALaNh RRMMr mar $pD_1D_1k\theta$.

Part II.—Same form as Part II. of 0945 message.

5. *Note.*

(1) For units *see* page 106.

(2) All land stations are treated as inland stations, *i.e.*, maximum and minimum temperatures are given in all cases in the fifth data group. (*See* page 92, § (1), (*a*).)

6. *Special Codes. Swell.*

Swell is represented in a group of the form $pD_1D_1k\theta$ preceded by identification letters "mar."

Here,

p = period of swell in seconds. 0 = 10 seconds or more.

D_1D_1 = direction from which swell comes. (Scale 01 to 32, as for surface wind.)

k = height of swell on a progressive scale from 0 to 9.

θ = tendency of swell at time of observation.

0 No change	7 increasing slowly.
1 decreasing slowly.	8 increasing.
2 decreasing.	9 increasing rapidly.
3 decreasing rapidly.	

PORTUGAL, AZORES and MADEIRA.

See GREAT BRITAIN (*a*), (*c*) and (*d*).

[Information has been received that 1300 and 1800 G.M.T. observations at stations in the Azores are also transmitted from Faleiras (P.Q.T., 1000 m. spk.) at 1330 and 1830 G.M.T. respectively and that these messages are repeated 20 minutes later from Monsanto (C.T.V., 1000 m. spk.)

Form :—

1300 G.M.T. :—BBDDx_1 FwwHx_2 cbWVx_3 ANTTx_4 KdGGx_5 $y_1y_2y_3y_4z$.

1800 G.M.T. :—BBDDx_1 FwwHx_2 cbWVx_3 ANMMx_4 RRSrx_5 KdGGx_6 $y_1y_2y_3y_4z$

where symbols have meaning of New International Code.]

ROUMANIA.

1. Transmitting Station - Bucharest-Herastrau.
Call Signal - - - B.U.C.
Message directed to - C.Q.
Wave Length - - - 8,150 m. c.w.

Times of Sending :—

0150 G.M.T. (observations at 0100 G.M.T.) S.
0845 G.M.T. (observations at 0700 G.M.T. at Bucharest and 0600 G.M.T. at other Stations) S., U.W.
1430 G.M.T. (observations at 1300 G.M.T.) S.
1930 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Bucharest - -	44° 25′ N.	26° 06′ E.	276
02	Craiova - -	44° 19′ N.	23° 48′ E.	361
03	Bolgrad - -	45° 41′ N.	28° 37′ E.	229
04	Kishinev - -	47° 02′ N.	28° 48′ E.	371
05	Czernowitz - -	48° 17′ N.	25° 57′ E.	
06	Piatra Neamt -	46° 56′ N.	26° 22′ E.	1,063
07	Sulina - - -	45° 09′ N.	29° 40′ E.	6
08	Constantsa - -	44° 11′ N.	28° 39′ E.	118
09	Tecuci - - -	45° 49′ N.	27° 26′ E.	
10	Râmnicu Sărat -	45° 23′ N.	27° 03′ E.	417
11	Sibiu - - -	45° 47′ N.	24° 09′ E.	1,361
12	Turnu Severin -	44° 38′ N.	22° 33′ E.	230
13	Temișoara - -	45° 47′ N.	21° 17′ E.	302
14	Caransebeș - -	45° 25′ N.	22° 13′ E.	
15	Jassy - - -	47° 10′ N.	27° 36′ E.	328

3. *Code.*—Observations from Bucharest in New International. [*See* p. 88 (Code of Nov., 1920, introduced July 15th, 1921, modifications of Sept., 1921, introduced ? date).] Observations from other stations in Old International (modified).

4. *Form of Individual Messages.*—Messages commence with words "Meteo-Bucuresti."

0150 Message.—Station 01 only.—BBBDD FwwTT cbWVH ALaNh.

0845 Message.

Part I.—Station 01.—BBBDD FwwTT cbWVH ALaNh RRmmr.

Stations 02 to 15.—I_nI_n BBBDD FWTTR where R is amount of rainfall during preceding 24 hours in New International Code (*see* Code VIII. (*a*), p. 100).

Part II.—Upper winds between 0500 and 0600 G.M.T. at Station 01.—$h_1$ddvv, etc.

1430 Message.—Same form as 0150 message.

1930 Message.—Station 01 only.—BBBDD FwwTT cbWVH ALaNh RRMMr.

5. *Note.*—For units *see* page 106.

RUSSIA (i).

1. Transmitting Station - New Holland.
Call Signal - - - R.A.C.
Messages directed to - C.Q.
Wave Length - - - 1600 m. spk.

Times of Sending—

0910 G.M.T. } (observations at 2000 G.M.T., of previous
1515 G.M.T. } day, and 0600 G.M.T. of day of issue) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
	(a) Russia.			
01	Alexandrowsk -	69° 12′ N.	33° 28′ E.	98
02	Kandalaksha -	67° 08′ N.	32° 26′ E.	
03	Kem - - -	64° 57′ N.	34° 39′ E.	43
04	Petrograd -	59° 56′ N.	30° 16′ E.	16
05	W. Wolocheck -	57° 35′ N.	34° 34′ E.	548
06	Gorky - -	54° 17′ N.	30° 59′ E.	646
07	Moscow - -	55° 46′ N.	37° 40′ E.	512
08	Koursk - -	51° 45′ N.	36° 12′ E.	771
09	Woronege - -	51° 36′ N.	38° 59′ E.	492
10	Zemetchino -	53° 30′ N.	42° 37′ E.	420
11	Archangel - -	64° 33′ N.	40° 32′ E.	23
12	Schenkoursk -	62° 06′ N.	42° 54′ E.	174
13	Kargopol - -	61° 30′ N.	38° 57′ E.	420
14	Oust-Sysolsk -	61° 41′ N.	50° 51′ E.	335
15	Waigatch - -	69° 43′ N.	59° 48′ E.	
16	Dickson - -	73° 30′ N.	80° 23′ E.	
17	Obdorsk - -	66° 31′ N.	66° 35′ E.	105
18	Tr. Petchersk -	62° 42′ N.	56° 13′ E.	403
19	Vjatka - -	58° 37′ N.	49° 40′ E.	607
20	Ekaterinburg -	56° 50′ N.	60° 38′ E.	958
21	Kazan - -	55° 47′ N.	49° 08′ E.	279
22	Simbirsk - -	54° 18′ N.	48° 21′ E.	58

Stations—continued.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
23	Orenbourg	51° 45′ N.	55° 06′ E.	371
24	Astrakhan	46° 21′ N.	48° 02′ E.	−46
25	Saratow	51° 32′ N.	46° 03′ E.	217
26	Kiev	50° 27′ N.	30° 30′ E.	600
27	Loubny	50° 01′ N.	33° 02′ E.	440
28	Elisavetgrad	48° 31′ N.	32° 17′ E.	404
29	Taganrog	47° 12′ N.	38° 57′ E.	131
30	Kertch	45° 21′ N.	36° 29′ E.	13
31	Theodosia	45° 02′ N.	35° 24′ E.	20
32	Sevastopol	44° 37′ N.	33° 31′ E.	75
33	Stavropol	45° 03′ N.	41° 59′ E.	1,866
35	Oust-Zylma	65° 27′ N.	52° 10′ E.	89

(*b*) *Other Countries.*

40	Jan Mayen	54	Hanstholm	68	Vienna
41	Spitzbergen	55	Vaasa	69	Flushing
42	Bear Island	56	Kuopio	70	Calais
43	Ingöy	57	Helsingfors	71	St. Mathieu
44	Röst	58	Dorpat	72	Paris
45	Valdersund	59	Riga	73	Mainz
46	Utsire	60	Memel	74	Biarritz
47	Abisko	61	Danzig	75	Limoges
48	Särna	62	Berlin	76	Toulon
49	Haparanda	63	Hamburg	77	Mahon
50	Härnösand	64	Dresden	78	Ajaccio
51	Stockholm	65	Warsaw	79	Tunis
52	Kalmar	66	Pinsk	80	Florence
53	Copenhagen	67	Lemberg		

Where positions of stations are not given see lists under individual countries.

3. *Code.* Old International (modified).

4. *Form of Individual Messages.*—Messages commence with the words "Météo Russe."

0910 Message.

Part I.—I_nI_n BBBDD FWTTT BBBDD FWTTT bbbRR.

where TTT is the temperature of the air in degrees and tenths and bbb is the amount of barometric tendency in tenths of mm., 500 being added to indicate negative tendency. The first two groups refer to 2000 G.M.T. of previous day, and the last three groups to 0600 G.M.T. of day of issue.

Part II.—Commencing with the word "Retardées." I_nI_nYY BBBDD FWTTT BBBDD FWTTT bbbRR where YY is the day of the month; if two groups only are sent they refer to 2000 G.M.T. of that day; if three groups, they refer to 0600 G.M.T.; if five groups are sent, the first two refer to 2000 G.M.T. of the day previous to the given date.

1515 Message.—Same form as Part I. of 0910 Message.

5. *Note.*—For units, *see* p. 106.

RUSSIA (ii).

1. Transmitting Station - Moscow.
Call Signal - - - R.A.J. (or R.A.I.).
Messages directed to - C.Q.
Wave Length - - - 5000 m. spk.
Time of Sending - - 2210 G.M.T. (observations at 0700 G.M.T.) S.

2. *Stations.*

List of Stations as given in Russia (i), § 2.
Station names are given in full.

3. *Code.*

Old International (modified as in Russia (i) § 3.)

4. *Form of Individual Messages.*—Same form as Russia (i) 0910 message, station names being given instead of index numbers (I_nI_n), the word "Retardées" omitted, and each part preceded by the relevant day of the week in Russian. (In Part II. this replaces the YY of Russia (i).)

5. *Note.*

(1) For units, *see* p. 106.

(2) At some stations the barometric tendency is given in the form βbb and 50 is added to the number giving wind direction (DD) when the tendency is negative.

(3) English equivalents of Russian words for days of the week :—

Poniedielnik	= Monday.
Wtornik	= Tuesday.
Srjeda	= Wednesday.
Czetwierg	= Thursday.
Pjatnica	= Friday.
Subbota	= Saturday.
Woskresenja	= Sunday.

SPAIN.

1. Transmitting Station - Carabanchel (Madrid).
Call Signal - - - E.G.C.
Messages directed to - C.Q.
Wave Length - - - 2000 m. spk.

Times of Sending :—

0930 G.M.T. (observations at 0700 G.M.T.) S., U.W.
1530 G.M.T. (observations at 1300 G.M.T.) S., U.W.; G.; F.
2030 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
MD	Madrid	40° 24′ N.	03° 41′ W.	2,188
LC	Corunna	43° 22′ N.	08° 25′ W.	82
SF	San Fernando	36° 28′ N.	06° 12′ W.	93
BA	Barcelona	41° 23′ N.	02° 09′ E.	
SA	Santander	43° 29′ N.	03° 49′ W.	46
VD	Valladolid	41° 39′ N.	04° 43′ W.	2,329
ZA	Saragossa	41° 38′ N.	00° 53′ W.	778
MA	Mahon	39° 53′ N.	04° 16′ E.	141
BD	Badajoz	38° 54′ N.	06° 58′ W.	640
CD	Córdoba	37° 53′ N.	04° 49′ W.	403
AI	Alicante	38° 21′ N.	00° 30′ W.	79
AL	Almería	36° 50′ N.	02° 30′ W.	46
ME	Melilla	35° 16′ N.	02° 58′ W.	
TE	Tetuán	35° 32′ N.	05° 22′ W.	
IZ	Izaña (Teneriffe)	28° 15′ N.	16° 40′ W.	7,759
BI	Bilbao (Algorta)	43° 15′ N.	02° 55′ W.	56
MG	Málaga	36° 44′ N.	04° 26′ W.	138
VA	València	39° 28′ N.	00° 22′ W.	59
LA	Larache	35° 15′ N.	06° 09′ W.	
SE	Seville	37° 23′ N.	06° 00′ W.	98
GR	Granada	37° 11′ N.	03° 38′ W.	2,231

3. *Code.*—Special code.

4. *Form of Individual Messages.*—Messages commence with letters "S.M.E."

0930 Message.

Stations SF, LC and MA :—

I_nI_n BBBDD Fw_1w_1TT $c_1b_1b_1RR$ $C_2d_2C_3d_3u$ d′d′v′v′ d′d′v′v′ etc.

Other stations :—

I_nI_n BBBDD Fw_1w_1TT $c_1b_1b_1RR$ $C_2d_2C_3d_3N_h$ d′d′v′v′ d′d′v′v′, etc.,

where

w_1w_1 = present weather.
c_1 = characteristic of barometric tendency.
C_2, C_3 = forms of cloud to which d_2 and d_3 refer.
N_h = cloudiness of horizon.
d′d′ = direction of upper wind.
v′v′ = speed of upper wind.

} *See* special codes (§ 6).

d_2 = direction of motion of low cloud (scale 0–9. 0 = no cloud; 1 = from N.E.; 2 = from E., &c. 9 = no observation).

d_3 = direction of motion of high cloud on same scale as d_2.

b_1b_1 = amount of barometric tendency (millibars and tenths per three hours),

and the remaining symbols have the same significance as in the Old International Code (page 103).

1530 Message.

Stations SF, LC and MA :—

I_nI_n BBBDD Fw_1w_1TT $c_1b_1b_1W_1W_1$ $C_2d_2C_3d_3u$ d′d′v′v′ d′d′v′v′, etc.

Other stations :—

I_nI_n BBBDD Fw_1w_1TT $c_1b_1b_1W_1W_1$ $C_2d_2C_3d_3N_h$ d′d′v′v′ d′d′v′v′, etc.,

where W_1W_1 = past weather in special code below (§ 6). This is followed by groups containing sea conditions and forecasts in special code.

2030 Message.—First four stations only.—Same form as 0930 message but containing no observations of upper winds.

5. *Note.*

(1) For units, *see* p. 106.

(2) If a figure is missing from a set of observations, the letter "x" is inserted in its place.

If a complete set of observations is missing the word "falta" is transmitted after the index letters of the station.

(3) For stations not reporting at 1800 G.M.T. the amount of rainfall (RR) given in the 0700 message refers to the preceding 24 hours. For stations reporting both at 0700 G.M.T. and 1800 G.M.T. the amount refers to the preceding 13 hours in the morning report and the preceding 11 hours in the evening report.

6. *Special Codes.*

Present Weather (w_1w_1). } For particulars, *see* M.O. 237, pp. 29–33 (International Meteorological Committee, Minutes of a Meeting of Members, London, July, 1919).

Past Weather (W_1W_1). } Also Annex G of the Convention for the Regulation of Aerial Navigation (H.M. Stationery Office, London, 1920).

Characteristic of Barometric Tendency (c_1).

Code Figure.

0	Steady.
1	Rising.
2	Rising, then steady.
3	Rising, then falling.
4	Falling or steady, then rising.
5	Falling.
6	Falling, then steady.
7	Falling, then rising.
8	Rising or steady, then falling.
9	Line squall.

Form of Low Cloud (C_2).

0	No low cloud.
1	Fracto-cumulus.
2	Mammato-cumulus.
3	Low strato-cumulus.
4	High strato-cumulus.
5	Nimbus.
6	Cumulus.
7	Cumulo-nimbus.
8	Stratus.
9	No observation.

Form of High Cloud (C_3).

0	No high cloud.
1	Cirrus.
2	Cirro-stratus.
3	Cirro-cumulus.
4	False cirrus.
5	Thin alto-stratus.
6	Thick alto-stratus.
7	Alto-cumulus (low).
8	Alto-cumulus (high).

Cloudiness of Horizon (N_h).

0	All the horizon without cloud.
1	Clouds in the North part of the horizon.
2	Clouds in the East part of the horizon.
3	Clouds in the South part of the horizon.
4	Clouds in the West part of the horizon.
5	All the horizon covered with clouds except the first quadrant.
6	All the horizon covered with clouds except the second quadrant.
7	All the horizon covered with clouds except the third quadrant.
8	All the horizon covered with clouds except the fourth quadrant.
9	All the horizon covered with cloud.

Upper Winds (d'd'v'v').

These are reported by five groups each of the form d'd'v'v', referring respectively to the five heights shown in the table below.

d'd' = wind direction (scale 01–32; where 08 = E.; 16 = S.; 24 = W.)

v'v' = wind speed in metres per second.

Station.	Heights above M.S.L. at which upper winds are reported.
Saragossa	500 m., 1000 m., 2000 m., 3000 m., 4000 m.
Badajoz	500 m., 1000 m., 2000 m., 3000 m., 4000 m.
Madrid	1000 m., 2000 m., 3000 m., 4000 m., 5000 m.
Granada	1000 m., 2000 m., 3000 m., 4000 m., 5000 m.
Valladolid	1000 m., 2000 m., 3000 m., 4000 m., 5000 m.
Izaña	3000 m., 4000 m., 5000 m., 6000 m., 7000 m.
All other stations	250 m., 500 m., 1000 m., 2000 m., 3000 m.

SWEDEN (*a*).

Synoptic Reports.

1. Transmitting Station - Karlsborg.
   Call Signal - - - S.A.J.
   Messages directed to - C.Q.
   Wave Length - - - 4200 m c.w.
   Times of Sending :—
   0740 G.M.T. (observations at 0700 G.M.T.) S.; U.W., U.A.T.
   1340 G.M.T. (observations at 1300 G.M.T.) S.; U.W., U.A.T.
   1840 G.M.T. (observations at 1800 G.M.T.) S., U.A.T.
2. *Stations* :—

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Karesuando (L)	68° 27′ N.	22° 30′ E.	1,091
02	Riksgränsen (L)	68° 25′ N.	18° 07′ E.	1,711
03	ABISKO (L)	68° 21′ N.	18° 47′ E.	1,175
04	Kiruna (L)	67° 51′ N.	20° 14′ E.	1,663
05	Suorvajaure (L)	67° 32′ N.	18° 14′ E.	
07	Gällivare (L)	67° 08′ N.	20° 40′ E.	1,198
09	Jockmock (L)	66° 36′ N.	19° 51′ E.	838
11	HAPARANDA (L)	65° 50′ N.	24° 09′ E.	30
14	Piteå (L)	65° 19′ N.	21° 29′ E.	28
15	STENSELE (L)	65° 04′ N.	17° 10′ E.	1,044
16	Gäddede (L)	64° 30′ N.	14° 07′ E.	1,050
19	Umeå (L)	63° 49′ N.	20° 17′ E.	55
21	Storlien (L)	63° 19′ N.	12° 06′ E.	1,945

2. *Stations*—continued.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
22	ÖSTERSUND (L)	63° 11′ N.	14° 39′ E.	1,077
24	HÄRNÖSAND (C)	62° 37′ N.	17° 57′ E.	67
26	Sveg (L) - -	62° 03′ N.	14° 25′ E.	1,135
27	Bjuråker (L) - -	61° 52′ N.	16° 34′ E.	237
28	SÄRNA (L) - -	61° 41′ N.	13° 07′ E.	1,430
30	Gävle (L) - -	60° 40′ N.	17° 10′ E.	68
31	Falun (L) - -	60° 37′ N.	15° 38′ E.	390
32	Gustafsfors (L) -	60° 10′ N.	13° 47′ E.	
34	Uppsala (L) - -	59° 51′ N.	17° 37′ E.	79
35	Vasterås (L) - -	59° 37′ N.	16° 33′ E.	58
36	KARLSTAD (L) -	59° 23′ N.	13° 30′ E.	172
37	STOCKHOLM (L)-	59° 21′ N.	18° 03′ E.	144
38	Örebro (L) - -	59° 16′ N.	15° 13′ E.	105
39	Strömstad (L) -	58° 56′ N.	11° 11′ E.	29
41	Askersund (L) -	58° 53′ N.	14° 54′ E.	318
42	Nyköping (L) -	58° 45′ N.	17° 01′ E.	55
44	Linköping (L) -	58° 25′ N.	15° 38′ E.	222
45	Skara (L) - -	58° 24′ N.	13° 27′ E.	377
46	Vanersborg (L) -	58° 23′ N.	12° 20′ E.	178
47	Ulricehamn (L) -	57° 48′ N.	13° 25′ E.	895
48	JÖNKÖPING (L) -	57° 47′ N.	14° 10′ E.	321
49	Västervik (L) -	57° 46′ N.	16° 39′ E.	43
50	Borås (L) - -	57° 43′ N.	12° 56′ E.	466
51	Göteborg (L) -	57° 42° N.	11° 58′ E.	54
52	WISBY (C) - -	57° 39′ N.	18° 18′ E.	36
55	Växjö (L) - -	56° 53′ N.	14° 49′ E.	564
57	Halmstad (C) -	56° 40′ N	12° 52′ E.	33
58	KALMAR (C) -	56° 40′ N.	16° 22′ E.	33
59	Karlshamn (C) -	56° 10′ N.	14° 52′ E.	41
61	Kristianstad (L) -	56° 02′ N.	14° 10′ E.	36
62	Lund (L) - -	55° 42′ N.	13° 12′ E.	124
63	Malmö (L) - -	55° 37′ N.	13° 02′ E.	
65	Bjuröklubb (C) -	64° 29′ N.	21° 35′ E.	
78	Ölands Norra Udde (C) - - -	57° 22′ N.	17° 06′ E.	

Stations reporting Upper Air Temperature.

44	Malmslätt - -	58° 25′ N.	15° 32′ E.	377
05	Porjus - - -	66° 55′ N.	19° 45′ E.	1,197

(C) = Coastal Station, (L) = Inland Station.

3. *Code.*—New International (cloud and nephoscope groups modified). [*See* page 88 (Code of Nov. 1920, introduced July 1st, 1921; amendments of Sept. 1921 introduced Jan. 1st, 1922).]

4. *Form of Individual Messages.*—Messages commence with words "Météo Suède."

0740 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddV′V′).

For meaning of V′V′ *see* § 5 (2).

Part II. preceded by word "Pilot." Upper winds from stations 03, 22, 37.—I_nI_nGG $h_1$ddvv, &c.

Part III.—Preceded by word Temp. Upper air temperatures and humidities :—

GGU_1U_2 HHTTT PPBBB HHTTT PPBBB..... (*See* § 6.)

1340 Message.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddV′V′).

Parts II. and III.—Same form as Parts II. and III. of 0740 message.

1840 Message.—Same form as Parts I. and III. of 0740 message.

5. *Notes.*

(1) For units *see* p. 106.

(2) In the nephoscope group the unit for V′V′ is such that the actual speed is given in metres per second by the expression $\frac{h}{1000}$ V′V′, where h is the height of the cloud in metres.

(3) Observations omitted from one message are transmitted at the beginning of the next. In this case the time of observation is indicated by appending the hour of the observation to the index number of the station.

(4) The stations in capital letters in above list are normally transmitted with a selection of others.

6. *Special Codes.*

Interpretation of Cloud Group (ALaNh).

Swedish observers are instructed that "A" shall be the form of the predominant *low cloud* and "L" the amount of *low cloud*, "a" the form of predominant *high cloud*, and "N" the total amount of cloud. Most observers denote by "0" not only St. or Fr. St., but also absence of cloud, respectively low or high. The following are examples of the interpretation of the cloud group :—

Date.	Time.	Station.	Cloud Group.	Low Cloud.	High Cloud.	Total Amount.
Sept. 14th, 1921 -	1800	Karlstad	6404x	St.Cu. 4	Nil	4
Sept. 14th, 1921 -	1800	Särna -	00289	Nil	Ci. St. 8	8
Sept. 14th, 1921 -	1800	Haparanda	70x0x	Nb. 10	Unknown	10
Sept. 14th, 1921 -	0700	Abisko -	69x95	St. Cu. 9	Unknown	9

Upper Air Temperature.

Observations of upper air temperature and humidity are reported in the form :—

GGU_1U_2 HHTTT PPBBB HHTTT PPBBB.....

where GG = Hour of observation (G.M.T.).

U_1 and U_2 are to be decoded as follows :—

U_1 5 = kite ascent.
6 = captive balloon ascent.
7 = aeroplane ascent.
8 = ballon-sonde ascent.

U_2 3 = observations during ascent.
4 = observations during descent.
5 = mean of observations during ascent and descent.
6 = no indication whether data relate to ascent or descent.
8 = observations uncertain.

HH = height above sea-level in hundreds of metres (00 = station level).

TTT = corresponding temperature in degrees and tenths Centigrade.

PP = corresponding relative humidity (99 = 99 or 100 per cent.).

BBB = corresponding pressure in whole millimetres.

SWEDEN (*i*).

Ice Reports.

1. Transmitting Station - Karlsborg.
Call Signal - - - S.A.J.
Messages directed to - - C.Q.
Wave Length - - - 2500 m. spk.
Time of sending :—
1215 G.M.T. (after the weather bulletin).

2. Regions to which the Ice Reports refer :—

AA.
- Channel from the sea to Karlsborg.
- Sea outside Rödkallen.
- Channel to Luleå through Tjufholm sund.
- Sea outside Gåsören.
- West Quarken.
- Sea outside Skag.
- Sea outside Hernö.
- Ångermanälven above Svanö.
- „ below „

BB.
- Sea outside Bremö.
- Channel : Bremö to Draghällen light.
- Alnö sund.
- Sea outside Lilljungfrun.
- Sea outside Eggegrund.
- North Channel to Gävle.
- Öregrunds grepen.
- Visible area around Grundkallen light-vessel.
- Sea outside Söderarm.

CC.
- Sea outside Sandhamn.
- Channel : Sandhamn to Stockholm.
- Sea outside Landsort.
- Channel : Landsort to Stockholm.
- Channel : Häfringe to Oxelösund.
- Kalmarsund, north of Kalmar.
- Kalmarsund, south of Kalmar.
- South entrance to Kalmarsund.
- Sea outside Karlshamn.

DD.
- South entrance to Öresund.
- Flint rännan.
- Sea outside Helsingborg.
- North entrance to Öresund.
- Sea outside Halmstad.
- Sea outside Varberg.
- Sea outside Vinga.
- Channel : Vinga to Göteborg.
- Sea outside Smögen.

3. *Code.* Special Ice Code (*see* § 6).

4. *Form of Individual Messages.*

AA $J_2J_2'J_2J_2'J_2J_2'$ $J_2J_2'J_2J_2'J_2J_2'$ $J_2J_2'J_2J_2'J_2J_2'$ and similar groups for the areas BB, CC, DD.

Where J_2 represents ice conditions and J_2' their effect on navigation for the nine regions, in order, in each of the four main areas given in the list above.

5. *Note.*—When the conditions are the same in all regions in one main area the message for that area is shortened to J_2J_2' *e.g.*, AA 23.

If the conditions should be the same in two or more main areas, the message would be still further shortened to, say, AA BB J_2J_2'.

6. *Special Codes.*

Ice Conditions (J_2).

0	-	Clear of ice.	6	-	Heavy fixed ice.
1	-	Loose sludge and pancake ice.	7	-	Heavy drift ice.
2	-	Spread drift ice.	8	-	Pack ice.
3	-	Packed sludge.	9	-	Screw ice.
4	-	Fixed ice.	×	-	No information.
5	-	Drift ice.			

Navigation Conditions (J_2').

0	-	Navigation unobstructed.
1	-	Navigation difficult for sailing vessels.
2	-	Navigation difficult for sailing vessels or possible with the help of tugs.
3	-	Navigation stopped for sailing vessels.
4	-	Navigation only possible for powerful steamers.
5	-	Navigation only possible with help of ice-breaker.
6	-	Channel kept open by ice-breaker.
7	-	Navigation stopped.
8	-	Navigation closed.
9	-	Condition unknown on account of fog, snow, &c.
×	-	No information.

SWITZERLAND.

Observations at five stations in Switzerland are included in the messages issued from the Eiffel Tower (*see* France (*a*)). The New International Code is employed (from October 1st, 1922).

In the case of observations from the mountain station "Säntis" the following particulars are to be noted :—

The expression "in the neighbourhood" in the "present weather" code (ww) refers to a radius of 20 kilometres.

The visibility reported is that towards the plain.

In the cloud group ALaNh the form Nimbus is not observed. Code figures 7 and 8 indicate respectively small cumulus and large cumulus. When there are clouds below the summit of the mountain an appropriate value for L is inserted, but this amount is not included in the total amount of Cloud N.

In the code for cloud height (h), the figures 0 to 3 give the height above sea-level of the cloud above the summit.

0 = 2,500–3,000 m.; 1 = 3,000–3,500 m.;
2 = 3,500–4,000 m.; 3 = above 4,000 m.

Figures 4 to 9 give the height above sea-level of the upper surface of the cloud below the summit, the height being estimated from the height of the neighbouring mountains. When both kinds of cloud are present, clouds below the summit are selected for the telegram.

TURKEY.

1. Transmitting Station - Osmanie (Constantinople).
Call Signal - - - O.S.M.
Messages directed to - - U.A.
Wave Length - - - 7,500 m. c.w.
Times of Sending :—
0830 G.M.T. (observations at 0700 G.M.T. and 0100 G.M.T. day of issue, and 1800 G.M.T. previous day), S., U.W.
2000 G.M.T. (observations at 1300 G.M.T.), S.

2. *Station.*

Index.	Name.	Latitude.	Longitude.
01	Constantinople.	41° 02′ N.	28° 58′ E.

3. *Code.*
The special code employed in the French national issues from the Eiffel Tower.

4. *Form of Individual Msesages.*
Messages commence with words "Météo Consple. à Phisérar Paris."

0830 *Message.*
0700 I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ d′d′f′n′h $W_1W_1w_3A_1a_1$ $mmR_1R_1d_3$.
Pilot I_nI_nGG d′d′vv d′d′vv, etc.
0100 I_nI_n BBBTT $cb_1b_1w_3$ $DDFN_1V$.
1800 I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ d′d′f′n′h $W_1W_1w_3A_1a_1$ $MMt_2t_2d_3$
containing in order, as indicated, surface observations at 0700 G.M.T., upper winds, surface observations at 0100 G.M.T. and at 1800 G.M.T., the last referring to the previous evening. For meaning of symbols *see* details of French national issues from Eiffel Tower (page 34).
2000 *Message.*
1300 I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ d′d′f′n′h $W_1W_1w_3A_1a_1$.

5. *Note.*
(1) Units as France (page 106).
(2) These issues are organised by the French National Meteorological Office.

YUGO-SLAVIA. (S.H.S.)

1. Transmitting Station - Belgrade.
Call Signal - - - H.F.B.
Messages directed to - - C.Q.
Wave Length - - - 4600 m. c.w.
Times of Sending :—
0740 G.M.T. (observations at 0700 G.M.T.) S.
1330 G.M.T. (observations at 1300 G.M.T.) S.
1830 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Belgrade	44° 48′ N.	20° 28′ E.	433
02	Crikvenica	45° 10′ N.	14° 41′ E.	16
03	Sarajevo	43° 52′ N.	18° 26′ E.	2100
04	Zagreb	45° 49′ N.	15° 58′ E.	533

3. *Code.*—New International [*see* page 88 (Code of November 1920 introduced January 1st, 1922)].

4. *Form of Individual Messages.*—Messages commence with "Meteo S.H.S."

0740 *Message.*—I_nI_n BBBDD FwwTT cbWVH ALaNh RRmmr (C_1ddVV).

1330 *Message.*—I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).

1830 *Message.*—I_nI_n BBBDD FwwTT cbWVH ALaNh RRMMr (C_1ddVV).

5. *Note.*—For units *see* page 106.

NORTH AFRICA.

EGYPT.

1. Transmitting Station - Abu Zabal.
Call Signal - - - S.U.C.
Message directed to - - C.Q.
Wave Length - - - 11,000 m. c.w.

Time of Sending :—

0955 G.M.T. (observations at 0600 and 1800 G.M.T. (previous day) for Helwan and Alexandria and at 0600 G.M.T. for remaining stations). S., U.W.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Helwan	29° 52′ N.	31° 20′ E.	379
02	Alexandria	31° 12′ N.	29° 53′ E.	105
03	Port Said	31° 16′ N.	32° 19′ E.	
04	Siwa	29° 12′ N.	25° 29′ E.	—75
05	Mersa Matruh	31° 22′ N.	27° 14′ E.	
06	Asyut	27° 11′ N.	31° 13′ E.	
07	Aswan	24° 02′ N.	32° 53′ E.	327
08	Halfa	21° 55′ N.	31° 19′ E.	
09	Khartoum	15° 37′ N.	32° 33′ E.	1,279
10	Haifa	32° 48′ N.	34° 59′ E.	
11	Gaza	31° 30′ N.	34° 27′ E.	
12	Ramleh	31° 54′ N.	34° 54′ E.	
13	Candia	35° 20′ N.	25° 08′ E.	88
14	Limassol	34° 41′ N.	33° 03′ E.	26

3. *Code.*—New International [modified form of Abbreviated Code, *see* (4) page 94 (introduced September 1st, 1923)].

4. *Form of Individual Messages.*—Messages commence with the words "Meteo Egypt."

0955 *Message.*—Station 01 :—
I_nI_n BBDDF w_1TTK′R $h_1$ddvv $h_1$ddvv $h_1$ddvv BBDDF w_1TTK′W.

Station 02.—I_nI_n BBDDF w_1TTK′R BBDDF w_1TTK′W.

Other Stations.—I_nI_n BBDDF w_1TTK′R.

(The last two groups in the case of stations 01 and 02 refer to 1800 G.M.T. of the previous day).

5. *Notes.*

(1) For units *see* page 106.

(2) A selection only of the stations are sent.

(3) Pilot balloon ascents are made as near to 0600 G.M.T. as possible.

MOROCCO, ALGERIA AND TUNISIA (i).

1. Transmitting Station - Médiouna.
Call Signal - - - C.N.M.
Messages directed to - - C.Q.
Wave Length - - - 5000 m. c.w.

Times of Sending :—

0200 G.M.T. (observations at 0100 G.M.T.) S.; O.
0800 G.M.T. (observations at 0700 G.M.T.) S.; U.W.; O.
1400 G.M.T. (observations at 1300 G.M.T.) S.; O.
1900 G.M.T. (observations at 1800 G.M.T.) S.; O.

2. *Stations.*

Index.	Name.	Latitude.	Lon itude.	Altitude (feet).
Morocco.				
01	TANGIER	35° 45′ N.	05° 47′ W.	161
03	RABAT	34° 02′ N.	06° 46′ W.	210
04	Casablanca	33° 37′ N.	07° 34′ W.	176
06	Mogador	31° 30′ N.	09° 42′ W.	20
07	AGADIR	30° 26′ N.	09° 32′ W.	732
09	Meknes	34° 13′ N.	04° 01′ W.	1,772
10	FEZ	34° 06′ N.	04° 53′ W.	1,362
11	Taza	34° 07′ N.	03° 40′ W.	1,620
12	Ujda	34° 41′ N.	01° 56′ W.	1,903
13	Marrakesh	31° 27′ N.	08° 00′ W.	1,509
14	Midelt	32° 41′ N.	05° 36′ W.	4,593
15	BU DNIB	32° 00′ N.	03° 07′ W.	3,051

2. *Stations*—continued.

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
Algeria.				
31	ORAN (La Sénia)	35° 42′ N.	00° 41′ W.	174
32	ALGIERS (Hussein-Dey)	36° 45′ N.	03° 02′ E.	13
33	SETIF	36° 11′ N.	05° 24′ E.	3,602
34	BISKRA	34° 51′ N.	05° 44′ E.	443
35	Touggourt	33° 06′ N.	06° 04′ E.	226
36	Ouargla	31° 55′ N.	05° 10′ E.	515
37	In-Salah	27° 08′ N.	02° 27′ E.	
38	Colomb-Béchar	31° 38′ N.	02° 13′ W.	2,579
39	Béni-Abbès	30° 00′ N.	02° 21′ W.	
40	Timimoun	29° 12′ N.	00° 02′ E.	
41	Laghwat	33° 48′ N.	02° 53′ E.	2,464
42	Aïn-Sefra	32° 48′ N.	00° 36′ W.	3,526
43	El-Goléa	30° 33′ N.	03° 04′ E.	1,256
44	El-Oued	33° 21′ N.	06° 54′ E.	230
45	Ghardaïa	32° 29′ N.	03° 40′ E.	1,726
46	Adrar	27° 28′ N.	00° 05′ E.	
Tunisia.				
61	TUNIS	36° 48′ N.	10° 10′ E.	95
62	BIZERTA (Carouba)	37° 17′ N.	09° 52′ E.	30
63	Sfax	34° 44′ N.	10° 45′ E.	26
64	Médinine	33° 14′ N.	10° 05′ E.	
65	Tozeur	34° 10′ N.	08° 06′ E.	164
66	Ben Gardane	33° 08′ N.	11° 10′ E.	
67	Susa	35° 50′ N.	10° 34′ E.	
68	Metlaoui	34° 20′ N.	08° 22′ E.	741
69	Qabes	33° 51′ N.	10° 01′ E.	26
Other Stations.				
80	Funchal	32° 37′ N.	16° 54′ W.	82
81	Angra	38° 39′ N.	27° 14′ W.	144

3. *Code.*—As in the French issues from the Eiffel Tower (France (*a*), page 32).

4. *Form of Individual Messages.*—Messages commence with words "Météo Rabat."

0200 Message.

Part I.—Stations 03, 07, 31, 32, 61 :—

I_nI_n BBBTT $cb_1b_1w_3$ $DDFN_1V$.

Part II.—Preceded by word "Navires," observations from ships :—

(I_nI_n) $Q''LLLx_1$ $Plllx_2$ $BBDDx_3$ $FvKdx_4$ $wwGGx_5$ $y_1y_2y_3y_4z$.

0800 Message.

Part I.—Stations in Morocco :—

I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d′d′F′n′h) $W_1W_1w_3A_1a_1$ $mmR_1R_1d_3$.

(Index number and first three groups only for Stations 07, 15).

Part II.—Preceded by word "Pilot." Upper winds :—

I_nI_nGG d′d′vv d′d′vv.....

Part III.—Same form as Part II. of 0200 message.

1400 Message.

Part I.—Stations in Morocco, Algeria and Tunisia :—

I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d′d′F′n′h) $W_1W_1w_3A_1a_1$.

Part II.—Same form as Part II. of 0200 message.

1900 Message.

Part I.—Stations in Morocco, Algeria and Tunisia :—

I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d′d′F′n′h) $W_1W_1w_3A_1a_1$ $MMt_2t_2d_3$.'

Part II.—Same form as Part II. of 0200 message.

5. *Note.*

(1) For units *see* page 106.

(2) Stations 07 and 15 send index number and first three groups only of "surface" observations.

(3) Upper winds are grouped as a separate part of the message if possible, as indicated above, but each may follow the "surface" observations at the corresponding station, the index word "Pilot" being used in every case.

MOROCCO, ALGERIA AND TUNISIA (ii).

1. Transmitting Station - Oran (Ain-el-Turck).
Call Signal - - - F.U.K.
Messages directed to - - C.Q.
Wave Length - - - 3500 m. c.w.

Times of sending :—

0140 G.M.T. (observations at 0100 G.M.T.) S.
0905 G.M.T. (observations at 0700 G.M.T.) S.
1345 G.M.T. (observations at 1300 G.M.T.) S.
1845 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations*
3. *Code* } as Morocco, Algeria and Tunisia (i).

4. *Form of Individual Messages.*—Messages commence with words "Météo Oran."

0140 Message.—Stations 31, 32 and 61.

0905 Message.—Stations in Morocco and Algeria.

1345, *1845* } *Messages.*—Stations in Algeria and Tunisia.

In all cases in same code as in corresponding message from Médiouna (*see* p. 83).

5. *Note.*—For units *see* page 106.

MOROCCO, ALGERIA AND TUNISIA (iii).

1. Transmitting Station - Bizerta (Sidi-Abdallah).
Call Signal - - - F.U.A.
Messages directed to - C.Q.
Wave Length - - - 5150 m. c.w.

Times of Sending :—
0120 G.M.T. (observations at 0100 G.M.T.) S.
0920 G.M.T. (observations at 0700 G.M.T.) S.; U.W.
1330 G.M.T. (observations at 1300 G.M.T.) S.
1830 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations*, 3. *Code* } as in Morocco, Algeria and Tunisia (i).

4. *Form of Individual Messages.*—Messages commence with words "Météo Afrique."

0120.—Station 61.

0920 Message.—Stations in Morocco, Algeria and Tunisia (surface observations and upper winds).

1330, *1830* } *Messages.*—Stations in Tunisia.

In all cases in same Code as in corresponding messages from Médiouna (*see* p. 83).

5. *Note.*—(1) For units *see* p. 106.

(2) The 0920 message is followed by a repetition of the 0850 message issued from Djedeidé (Beirūt), giving observations from five stations in Syria, and commencing with the words "Météo Syrie." (*See* below.)

SYRIA.

1. Transmitting Station - Djedeidé (Beirūt).
Call Signal - - - U.A.B.
Messages directed to - C.Q.
Wave Length - - - 6100 m. c.w.

Times of Sending :—
0850 G.M.T. (observations at 0700 G.M.T.) S.
1950 G.M.T. (observations at 1800 G.M.T.) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.
01	DAMASCUS - -	33° 31′ N.	36° 14′ E.
02	MUSLIMIE - -	36° 21′ N.	37° 08′ E.
03	DEIR-ES-ZOOR -	35° 20′ N.	40° 11′ E.
04	Rakka - - -	35° 56′ N.	39° 03′ E.
05	Hasseitje - -	36° 12′ N.	40° 50′ E.
06	Palmyra - -	34° 18′ N.	38° 34′ E.
07	Homs - - -	34° 46′ N.	36° 46′ E.
08	Deraa - - -	32° 40′ N.	36° 08′ E.
09	Sorveida - -	32° 37′ N.	36° 25′ E.
10	Rayack - -	33° 52′ N.	36° 00′ E.
11	Ksara - - -	33° 49′ N.	35° 35′ E.
15	DJEDEIDE (Beirūt)	33° 54′ N.	35° 32′ E.
16	LATAKIA - -	35° 30′ N.	35° 44′ E.

3. *Code.*—As in the French issues from the Eiffel Tower (*see* France (*a*), p. 32).

4. *Form of Individual Messages :*—Messages commence with the words "Météo Syrie."

0850 Message.

I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d'd'F'n'h)
$W_1W_1w_3A_1a_1$ $mmR_1R_1d_3$

1950 Message.

I_nI_n BBBTT $cb_1b_1(SV_s)$ $DDFN_1V$ (d'd'F'n'h)
$W_1W_1w_3A_1a_1$ $MMt_2t_2d_3$

where the letters have the same meanings as in France (*a*) § 4 (p. 34).

5. *Note.*

(1) For units *see* p. 106.

(2) The first of these messages is retransmitted from Bizerta (Sidi-Abdallah), call signal F.U.A., on a wave length of 5150 m. (c.w.) at the end of the 0920 message.

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.
(5) Special Form for reports from Iceland and the Faeroes.

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. 99).

a = Form of *predominating cloud highest* in the scale of cloud forms when more than one type of cloud exists (*see* Code VI., p. 99).

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.)

* 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 5*s*.
(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.

$B_1B_1B_1$ = Pressure in whole millibars at an "inversion of temperature" in upper air reports.

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 20–29 the second figure only is reported and 67 is added to the wind direction number. Tendencies greater than 29 are reported as 29.

bb = Amount of barometric tendency during the three hours preceding the time of observation expressed in half-millibars or half-millimetres.

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. 99).

C_1 = Form of cloud observed by nephoscope; usually one of the two highest layers present (*see* Code VI., p. 99).

C_a = Form of low cloud observed by nephoscope in reports for aviation (*see* Code VI., p. 99).

c = Characteristic of barometric tendency during the period of 3 hours preceding the time of observation (*see* Code II., p. 97).

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). 50 added if speed greater than 99 units. (*See* explanation of vv below.)

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.")

F_1 = Approximate speed of low cloud (*see* Code XIV., p. 102).

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. 99).

h = Height of base of lowest cloud present (*see* Code VII., p. 99).

H_1 = Heights at which upper air temperature and humidity are reported (no code figure telegraphed) (*see* Code XII., p. 102).

h_1 = Height at which upper wind is reported (*see* Code XI., p. 101).

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. 101).

K′ = Amount and characteristic of barometric tendency expressed by a single figure (*see* Code II.(*a*), p. 97).

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 102).

RR = Rainfall [at 7 a.m. for preceding 13 hours and at 6 p.m. for preceding 11 hours (*see* Code VIII., page 100)].

R = Amount of rainfall for the preceding 24 hours (*see* Code VIII.(*a*), p. 100).

r = Time of commencement of precipitation (*see* Code X., p. 101).

S = State of the sea and swell (coast stations) (*see* Code IX., p. 100).

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.

t_1t_1 = 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. 98).

v = Visibility at sea from ships at sea (*see* Code IV.(*a*), p. 98).

V_s = Visibility towards the sea (from coast stations) (*see* Code IV., p. 98).

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 (for values greater than 99 the last two figures only are used, and 50 is added to the number indicating wind direction dd).

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. 98).

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. 95).

w_1 = The initial figure of the code ww, thus indicating the general state of the weather.

x_1 = A check figure obtained by adding the first four figures of the group and taking the units figure in the sum so obtained.

x_2, x_3, x_4, x_5 = Check figures obtained in a similar manner.

y_1 = 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.

y_2, y_3, y_4 = 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 (C_1ddVV),

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

BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV),

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 C_1ddVV, containing cloud observations by nephoscope, is omitted entirely* if no such observations are available.

(*b*) *Upper Winds* are reported by groups of the form $h_1$ddvv, 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 H_1 (p. 102) in order.

Inversions are reported at the end by groups ooooo $B_1B_1B_1t_1t_1$, the first being an index group indicating that an inversion is reported, while $B_1B_1B_1$ is the pressure in whole millibars at the height of the inversion and t_1t_1 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

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

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, I_1I_1, I_2I_2, &c., preceding them.

I_1I_1 BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV).
I_2I_2 BBBDD FwwTT cbWVH ALaNh RRjjr (C_1ddVV).
I_3I_3 BBBDD, &c., ...
&c.
&c.

Pilot I_1I_1 $h_1$ddvv $h_1$ddvv $h_1$ddvv.
I_2I_2 $h_1$ddvv $h_1$ddvv $h_1$ddvv.
I_3I_3 $h_1$ddvv, &c.
&c.
&c.

Temp. I_1I_1 BBTTH BBTTH, &c. - - - - - - - - - - - - ooooo
$B_1B_1B_1t_1t_1$, &c.
I_2I_2 BBTTH BBTTH, &c. - - - - - - - - - - - - - ooooo
$B_1B_1B_1t_1t_1$, &c.
I_3I_3 BBTTH, &c., ...
&c.
&c.

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

(2) Reports from Ships at Sea.

These are in the form :—

QLLLx_1 Plllx_2 BBDDx_3 FvKdx_4 wwGGx_5 $y_1y_2y_3y_4$z

{CNTTd$_s$ WrttK′ (if temperature on Fah. scale).
{CNTTT Wrttt (if temperature on C. scale).

An alternative form for use without check figures is :—

PQLLL lllGG BBDDF wwvKd.

{CNTTd$_s$ WrttK′ (if temperature on Fah. scale).
{CNTTT Wrttt (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_adDF_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_adDF_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_adDF_1S is available the whole group is omitted. In all other cases hyphens are used, in the normal way*, to denote lack of information.

(4) Abbreviated Reports for Collective Messages covering a whole Continent.

The form of report for each station is :—

BBDDF w_1TTK'R for observations at 0700 G.M.T. ;

BBDDF w_1TTK'W for observations at other hours.

(5) Special Form for Reports from Iceland and the Faeroes.

Observations at 0100 and 0700 G.M.T. reported together—

Thorshavn and Reykjavik :—

BBcbb BBBDD FwwTT cbWVH ALaNh RRSV_sr (C_1ddVV),

Other stations :—BBcbb BBBDD FwwTT cbWAN, where the first group in each case refers to 0100 G.M.T.

Observations at 1300 and 1800 G.M.T.—

Thorshavn and Reykjavik :—

1300 :—BBBDD FwwTT cbWVH ALaNh (C_1ddVV).

1800 :—BBBDD FwwTT cbWVH ALaNh RRSV_sr (C_1ddVV).

Other stations, 1300 and 1800 :—BBBDD FwwTT cbWAN.

* *See* footnote, page 92.

III.—SPECIFICATION OF THE SCALES.

Code I.

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

Notes.—(i) 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.

(ii) In selecting the number for w w no account is to be taken of phenomena which occurred more than 1 hour before the time of observation, but only of phenomena which occurred during the interval of 1 hour preceding the fixed hour of observation.

(iii) Numbers 20–29 are not to be used unless visibility is less than 2 kilometres or 1 nautical mile.

		Code figures.
Fine or *Fair* (Cloud 0–5)	Cloud has decreased	00
	No apparent change	01
	Cloud has increased	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
Cloudy or *Overcast* (Cloud 6–10)	Cloud has decreased	10
	No apparent change	11
	Cloud has increased	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*	Fog or mist but clear in zenith	just begun 20
	,, and apparently overcast.	just begun 27
	,, but clear in zenith	intermittent 22
	,, and apparently overcast.	intermittent 23
	,, but clear in zenith	for some time. Has become thinner. 24
	,, and apparently overcast.	for some time. Has become thinner. 25
Fog or Mist	Fog or mist but clear in zenith	for some time 26
	,, and apparently overcast.	for some time 27
	,, but clear in zenith	for some time. Has become thicker. 28
	,, and apparently overcast.	for some time. Has become thicker. 29

		Code figures.
Passing Showers.	Slight with rain	30
	,, hail or rain and hail	31
	,, sleet	32
	,, snow	33
	Heavy with rain; has become better	34
	,, rain	35
	,, rain; has become worse	36
	,, hail or rain and hail	37
	,, sleet	38
	,, snow	39
Drizzle	Slight occasional	40
	,, continuous	41
	,, but has increased	42
	Moderate but has decreased	43
	,, occasional	44
	,, continuous	45
	,, but has increased	46
	Thick but has decreased	47
	,, occasional	48
	,, continuous	49
Rain	Slight occasional	50
	,, continuous	51
	,, but has increased	52
	Moderate but has decreased	53
	,, occasional	54
	,, continuous	55
	,, but has increased	56
	Heavy but has decreased	57
	,, occasional	58
	,, continuous	59
Snow or *Snow and Hail.*	Slight occasional	60
	,, continuous	61
	,, but has increased	62
	Moderate but has decreased	63
	,, occasional	64
	,, continuous	65
	,, but has increased	66
	Heavy but has decreased	67
	,, occasional	68
	,, continuous	69
Sleet or *Rain and Snow.*	Slight occasional	70
	,, continuous	71
	,, but has increased	72
	Moderate but has decreased	73
	,, occasional	74
	,, continuous	75
	,, but has increased	76
	Heavy but has decreased	77
	,, occasional	78
	,, continuous	79

		Code figures.
Hail or *Rain and Hail.*	Slight occasional	80
	,, continuous	81
	,, but has increased	82
	Moderate but has decreased	83
	,, occasional	84
	,, continuous	85
	,, but has increased	86
	Heavy but has decreased	87
	,, occasional	88
	,, continuous	89
Thunderstorm (or Line squall)	Slight thunderstorm without hail	90
	,, ,, with hail	91
	Moderate thunderstorm without hail	92
	,, ,, with hail	93
	Heavy thunderstorm without hail (without gale)	94
	,, ,, with hail (gale)	95
	,, ,, without hail (with gale)	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

Code figure.		
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.
	4	Thick fog.
Precipitation.	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 ($1\frac{1}{4}$ miles).
5 = Objects not visible at 4,000 metres ($2\frac{1}{2}$ miles).
6 = Objects not visible at 10,000 metres ($6\frac{1}{4}$ miles).
7 = Objects not visible at 20,000 metres ($12\frac{1}{2}$ miles).
8 = Objects not visible at 50,000 metres ($31\frac{1}{4}$ 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 $\frac{1}{2}$ 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 excellent, 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_l C_1 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:—

Specification of certain meanings.

Code figures.	Meaning.
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	3 to 5 mm.
4	6 to 10 mm.
5	11 to 15 mm.
6	16 to 20 mm.
7	21 to 30 mm.
8	31 to 50 mm.
9	above 50 mm.

Code IX.

State of Sea and Swell (S).

Code figure.		
0	No swell	Calm or slight sea.
1	Moderate swell	
2	Heavy swell.	
3	No swell.	Moderate sea.
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.	and sea smooth to moderate.
1	Moderate swell.	
2	Heavy swell.	
3	Long low swell.	
4	Confused swell.	
5	No or slight swell.	and sea rough.
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	16,000
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. If in km. per hour.	If in miles per hour.	Limits of Speed. 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 (01–32), where 02 = NNE, 04 = NE, &c. 32 = N., 00 = 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., below).

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. 104).

β is characteristic of barometric tendency (*see* Code III., p. 104).

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. 105, 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.

u is sea disturbance (*see* Code IV., p. 104).

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. 105).

(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 FWTTC βbbRR MMmmu.

III.—SPECIFICATION OF THE SCALES.

Code I.

State of the Sky (W).

Code figure.		Code figure.	
0	Sky cloudless.	5	Rain.
1	Sky $\frac{1}{4}$ covered.	6	Snow.
2	Sky $\frac{1}{2}$ covered.	7	Mist.
3	Sky $\frac{3}{4}$ covered.	8	Fog.
4	Sky overcast.	9	Thunderstorm.

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

Code II.

Direction of Upper (Cirro-) Cloud (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.
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.
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).

Code figure.

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, TEMPERATURE AND UPPER WIND SPEED.

Country.	Surface. Pressure.	Surface. Temperature.	Speed of Upper Wind.
Europe.			
Great Britain	mb.*	° F.*	m.p.h.
Austria	mm.	° C.	m./s.
Belgium	mm.	° C.	km./h.
Bulgaria	mm.	° C.	
Czechoslovakia	mm.	° C.	km./h.
Denmark	mm.	° C.	
Estonia	mm.	° C.*	
Finland	mm.	° C.	m./s.
France	mm.	° C.	km./h.
Germany	mm.	° C.*	m./s.
Gibraltar	mb.	° F.	
Greece	mm.	° C.	
Holland	mm.	° C.	km./h.
Hungary	mm.*	° C.*	
Italy	mm.	° C.	2m./s.
Latvia	mm.	° C.	m./s.
Malta	mb.	° F.	m.p.h.
Norway	mb.	° C.	km./h.
Poland	mm.	° C.	m./s.
Portugal	mm.	° C.	
Roumania	mm.	° C.	km./h.
Russia	mm.	° C.	
Spain	mb.	° C.	m./s.
Sweden	mm.*	° C.*	m./s.
Turkey	mm.	° C.	km./h.
Jugo-Slavia	mm.	° C.	
N. Africa and Syria.			
Egypt	mb.	° C.	km./h.
Morocco, Algeria and Tunisia	mm.	° C.	km./h.
Syria	mm.	° C.	

Note (1).—mb. = millibar. m.p.h. = miles per hour.
mm. = millimetre. km./h. = kilometres per hour.
m./s. = metres per second.

(2) The above list gives the units employed by each country for all its issues, whether containing observations from stations in other countries or not. Any departures are noted where they occur; for the practice in case of British Issues, *see* I.—Introduction, § (*d*), p. 5.

* Same units employed for upper air temperature and pressure.

VII.—TIME-TABLE.

Time G.M.T.	Station and Country.	Call Signal.	Wave length† (metres).	Page
0105††	Great Britain (*g*)	—	1,300	20
0120	Sidi-Abdallah (Morocco, etc. (iii.)).	F.U.A.	5,150	86
0140	Ain-el-Turck (Morocco, etc. (ii.))	F.U.K.	3,500	85
0150	Bucarest (Roumania)	B.U.C.	8,150	68
0200	Air Ministry (Great Britain (*a*))	G.F.A.	4,100	5
0200	Médiouna (Morocco, etc. (i.))	C.N.M.	5,000	83
0215	Warsaw (Poland)	W.A.R.	2,400 (Spk.)	64
0220	Eiffel Tower (France (*a*))	F.L.	7,300	32
0322*	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
0328*	Le Bourget (France (*c*))	F.N.B.	1,680	41
0336*	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
0400	Eiffel Tower (France (*b*))	F.L.	7,300	38
0422*	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
0428*	Le Bourget (France (*c*))	F.N.B.	1,680	41
0436*	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
0444*	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
0522*	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
0528*	Le Bourget (France (*c*))	F.N.B.	1,680	41
0536*	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
0544*	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
0600	Air Ministry (Great Britain (*a*))	G.F.A.	4,100	5
0622*	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
0628*	Le Bourget (France (*c*))	F.N.B.	1,680	41
0635	Königswusterhausen (Germany (*h*)).	L.P.	5,700	48
0636*	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
0644*	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
0650	Königswusterhausen (Germany (*b*)).	L.P.	5,700	46
0655	Sofia (Bulgaria)	F.F.	3,500 (Spk.)	26
0705††	Great Britain (*g*)	—	1,300	20
0705	Athens (Greece)	S.X.G.	3,600 (Spk.)	51
0716	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
0720	Libau (Latvia)	K.C.B.	1,200 (Spk.)	56

Time G.M.T.	Station and Country.	Call Signal.	Wave length† (metres).	Page
0722	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
0725	Revel (Estonia)	A.Z.A.	2,000 (Spk.)	29
0728	Le Bourget (France (*c*))	F.N.B.	1,680	41
0730	Gibraltar	B.W.W.	4,000	50
0730	Soesterberg (Holland (*a*))	S.T.B.	1,900	52
0735	Lyngby (Denmark (*a*))	O.X.E.	3,650	28
0736	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
0740	Calafrana (Malta)	G.H.A.	4,800	58
0740	Karlsborg (Sweden (*a*))	S.A.J.	4,200	75
0740	Belgrade (Yugo-Slavia)	H.F.B.	4,600	81
0744	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
0750	Christiania (Norway (*a*))	L.C.H.	8,000	59
0750	Le Bourget (France (*c*))	F.N.B.	1,680	41
0800	Médiouna (Morocco, etc. (i.))	C.N.M.	5,000	83
0800	Air Ministry (Great Britain (*a*))	G.F.A.	4,100	5
0815	Warsaw (Poland)	W.A.R.	2,400 (Spk.)	64
0816	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
0820	Eiffel Tower (France (*a*))	F.L.	7,300	32
0820	Laaerberg (Austria)	O.H.L. (or O.H.D.)	5,700	23
0822	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
0828	Le Bourget (France (*c*))	F.N.B.	1,680	41
0830	Osmanie (Turkey)	O.S.M.	7,500	81
0836	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
0840	Königswusterhausen (Germany (*a*)).	L.P.	5,700	44
0844	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
0845	Bucarest (Roumania)	B.U.C.	8,150	68
0850	Beirūt (Syria)	U.A.B.	6,100	86
0850	Königswusterhausen (Germany (*b*)).	L.P.	5,700	46
0850	Air Ministry (Great Britain (*b*))	G.F.A.	4,100	10
0855	Sandhamn (Finland)	O.J.A.	5,700	30
0900††	Air Ministry (Great Britain (*d* (ii.)).	G.F.A.	1,300	17
0900	Malin Head (Great Britain (*e*))	G.M.H.	600 (Spk.)	18
0905	Ain-el-Turck (Morocco, etc. (ii.))	F.U.K.	3,500	85
0905	Königswusterhausen (Germany (*h*)).	L.P.	5,700	48
0910	Budapest (Hungary)	H.B.	4,400	54
0910	New Holland (Russia (i.))	R.A.C.	1,600 (Spk.)	69

Time G.M.T.	Station and Country.	Call Signal.	Wave length† (metres).	Page
0915	Land's End (Great Britain (*e*))	G.L.D.	600 (Spk.)	18
0915	Air Ministry (Great Britain (*d* (i.))	G.F.A.	4,100	16
0916	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
0920	Sidi-Abdallah (Morocco, etc. (iii.))	F.U.A.	5,150	86
0922	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
0928	Le Bourget (France (*c*))	F.N.B.	1,680	41
0930	Prague (Czechoslovakia)	P.R.G.	4,500	27
0930	Carabanchel (Spain)	E.G.C.	2,000 (Spk.)	71
0930	Rome (Italy)	I.C.C.	11,000	55
0936	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
0944	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
0945	Monsanto (Portugal)	C.T.V.	2,400 / 600 (Spk.)	66
0950	Bergen (Norway (*j*))	L.G.N.	1,850	62
0955	Abu Zabal (Egypt)	S.U.C.	11,000	82
1005	Eiffel Tower (France (*b*))	F.L.	2,600 (Spk.)	38
1005††	Great Britain (*g*)	—	1,300	20
1016	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
1022	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1028	Le Bourget (France (*c*))	F.N.B.	1,680	41
1035	Athens (Greece)	S.X.G.	3,600 (Spk.)	51
1036	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
1044	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
1050	Le Bourget (France (*c*))	F.N.B.	1,680	41
1100	Copenhagen (Denmark (*i*))	O.X.A.	600 (Spk.)	28
1116	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
1122	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1128	Le Bourget (France (*c*))	F.N.B.	1,680	41
1136	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
1144	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
1215	Karlsborg (Sweden (*i*))	S.A.J.	2,500 (Spk.)	78
1216	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
1222	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1228	Le Bourget (France (*c*))	F.N.B.	1,680	41
1236	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
1244	Soesterberg (Holland (*c*))	S.T.B.	1,680	53

Time G.M.T.	Station and Country.	Call Signal.	Wave length† (metres).	Page
1250	Le Bourget (France (*c*))	F.N.B.	1,680	41
1250	Revel (Estonia)	A.Z.A.	2,000 (Spk.)	29
1305††	Great Britain (*g*)	—	1,300	20
1316	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
1322	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1328	Le Bourget (France (*c*))	F.N.B.	1,680	41
1330	Belgrade (Yugo-Slavia)	H.F.B.	4,600	81
1330	Sidi-Abdallah (Morocco, etc. (iii))	F.U.A.	5,150	86
1330	Soesterberg (Holland (*a*))	S.T.B.	1,900	52
1330	Faleiras (Portugal)	P.Q.T.	1,000 (Spk.)	67
1335	Lyngby (Denmark (*a*))	O.X.E.	3,650	28
1336	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
1340	Karlsborg (Sweden (*a*))	S.A.J.	4,200	75
1340	Calafrana (Malta)	G.H.A.	4,800	58
1344	Soesterberg (Holland (*c*))	S.T.B.	1,680	53
1345	Ain-el-Turck (Morocco, etc. (ii))	F.U.K.	3,500	85
1350	Libau (Latvia)	K.C.B.	1,200 (Spk.)	56
1350	Christiania (Norway (*a*))	L.C.H.	8,000	59
1350	Monsanto (Portugal (*a*))	C.T.V.	1,000 (Spk.)	67
1355	Sofia (Bulgaria)	F.F.	3,500 (Spk.)	26
1400	Médiouna (Morocco, etc. (i))	C.N.M.	5,000	83
1400	Air Ministry (Great Britain (*a*))	G.F.A.	4,100	5
1415	Warsaw (Poland)	W.A.R.	2,400 (Spk.)	64
1416	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
1420	Eiffel Tower (France (*a*))	F.L.	7,300	32
1422	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1428	Le Bourget (France (*c*))	F.N.B.	1,680	41
1430	Bucarest (Roumania)	B.U.C.	8,150	68
1436	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
1440	Königswusterhausen (Germany (*a*))	L.P.	5,700	44
1450	Königswusterhausen (Germany (*b*)).	L.P.	5,700	46
1450	Air Ministry (Great Britain (*b*))	G.F.A.	4,100	10
1455	Sandhamn (Finland)	O.J.A.	5,700	30
1500††	Air Ministry (Great Britain (*d*)ii)	G.F.A.	1,300	17
1505	Königswusterhausen (Germany) (*h*)).	L.P.	5,700	48
1505	Soesterberg (Holland (*a*))	S.T.B.	1,900	52

Time G.M.T.	Station and Country.	Call Signal.	Wave length† (metres).	Page
1515	New Holland (Russia (i))	R.A.C.	1,600 (Spk.)	69
1516	Cologne (Great Britain (*c*))	G.E.K.	1,680	16
1520	Laaerberg (Austria)	O.H.L. (or O.H.D.)	5,700	23
1522	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1528	Le Bourget (France (*c*))	F.N.B.	1,680	41
1530	Prague (Czechoslovakia)	P.R.G.	4,500	27
1530	Carabanchel (Spain)	E.G.C.	2,000 (Spk.)	71
1536	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
1600	Eiffel Tower (France (*b*))	F.L.	7,300	38
1605††	Great Britain (*g*)	—	1,300	20
1622	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1628	Le Bourget (France (*c*))	F.N.B.	1,680	41
1636	Air Ministry (Great Britain (*c*))	G.F.A.	1,680	12
1750	Le Bourget (France (*c*))	F.N.B.	1,680	41
1805††	Great Britain (*g*)	—	1,300	20
1822	Brussels (Belgium)	O.P.O. (or O.P.V.H.)	1,680	24
1830	Sidi-Abdallah (Morocco, etc. (iii))	F.U.A.	5,150	86
1830	Belgrade (Yugo-Slavia)	H.F.B.	4,600	81
1830	Soesterberg (Holland (*a*))	S.T.B.	1,900	52
1830	Faleiras (Portugal)	P.Q.T.	1,000 (Spk.)	67
1835	Lyngby (Denmark (*a*))	O.X.E.	3,650	28
1840	Karlsborg (Sweden (*a*))	S.A.J.	4,200	75
1840	Gibraltar	B.W.W.	4,000	50
1840	Calafrana (Malta)	G.H.A.	4,800	58
1845	Ain-el-Turck (Morocco, etc. (ii))	F.U.K.	3,500	85
1850	Christiania (Norway (*a*))	L.C.H.	8,000	59
1850	Monsanto (Portugal (*a*))	C.T.V.	1,000 (Spk.)	67
1900	Médiouna (Morocco, etc. (i))	C.N.M.	5,000	83
1900	Air Ministry (Great Britain (*a*))	G.F.A.	4,100	5
1915	Warsaw (Poland)	W.A.R.	2,400 (Spk.)	64
1920	Eiffel Tower (France (*a*))	F.L.	7,300	32
1930	Bucarest (Roumania)	B.U.C.	8,150	68
1940	Königswusterhausen (Germany (*a*)).	L.P.	5,700	44
1950	Königswusterhausen (Germany (*b*)).	L.P.	5,700	46
1950	Beirūt (Syria)	U.A.B.	6,100	86

Time G.M.T.	Station and Country.	Call Signal.	Wave length† (metres).	Page
1955	Sandhamn (Finland) - -	O.J.A.	5,700	30
2000	Air Ministry (Great Britain (*d*) (i)).	G.F.A.	4,100	16
2000††	Air Ministry (Great Britain (*d*) ii).	G.F.A.	1,300	17
2000	Osmanie (Turkey) - - -	O.S.M.	7,500	81
2005	Königswusterhausen (Germany (h)).	L.P.	5,700	48
2030	Prague (Czechoslovakia) - -	P.R.G.	4,500	27
2030	Carabanchel (Spain) - - -	E.G.C.	2,000 (Spk.)	71
2045	Rome (Italy) - - - -	I.C.C.	11,000	55
2050	Bergen (Norway (*j*)) - -	L.G.N.	1,850	62
2055	Revel (Estonia) - - -	A.Z.A.	2,000 (Spk.)	29
2100	Eiffel Tower (France (*b*)) - -	F.L.	7,300	38
2100	Copenhagen (Denmark (*i*))	O.X.A.	600 (Spk.)	28
2100	Malin Head (Great Britain (*e*)) -	G.M.H.	600 (Spk.)	18
2115	Land's End (Great Britain (*e*)) -	G.L.D.	600 (Spk.)	18
2130	Monsanto (Portugal) - -	C.T.V.	2,400 600 (Spk.)	66
2210	Moscow (Russia (ii)) - - -	R.A.J. (or R.A.I.)	5,000 (Spk.)	71

* These messages are discontinued during the winter months and are not usually issued at all on Sundays.

† "Continuous wave" unless otherwise stated.

†† Approximate time.

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METEOROLOGICAL OFFICE.

SUPPLEMENT No. 1 TO M.O. 252. (*2nd Edition.*)

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 13th December 1923.

GREAT BRITAIN.

1. (1.12.23.)*

Page 5, *Great Britain* (*a*).

§1. Stations 04, 22, 51 and 72 will be included regularly in these messages.

2. *Page* 8.

§4. 1900 Message, Part I, *add* to stations 91 and 95 "(C_1ddVV)."

3. *Page* 20, *Great Britain* (*g*).

§4. In each message *insert*, before BBBDD, the two-figure group I_nI_n.

4. (10.12.23.)

Page 18, *Great Britain* (*e*).

§1. *Delete* Lands End, G. L. D. and *substitute* Valencia, G. C. K.

5. (1.1.24.)

Page 5. *Great Britain* (*a*) §1.

Add 1940 G.M.T. (observations at 1800 G.M.T.) S., O. and amend Time-Table (p. 111) accordingly.

Page 8, §4, 0600 *message* :—

Part V., amend to read thus :—". . . the 0800, 1400, 1900 and 1940 messages . . ."

After 1900 message *add* 1940 *message*.

Part I.—Ship reports not previously issued since 0600.

Part II.—1800 G.M.T. reports from Horta in the form—
"Horta" BBBDD FwwMM cbWVH CNRRS.

* The date given after the number of an amendment is that at which it comes into force.

x (5)21364 Wt 125—8570/P 23 375 12/23

Part III.—Observations from Iceland (when received too late for inclusion in 1900 message).

Page 9, *Great Britain* (*a*) :—

§5. Note (7) : for 0915 G.M.T. *substitute* 0850 G.M.T.
for 2000 G.M.T. *substitute* 1940 G.M.T.

6. (1.1.24.)

Page 12, *Great Britain* (*b*) §4 :—

Add to 0850 message :—

" Part II.—0800 G.M.T. observations from Horta, in the code of note (2*a*) §5, p. 15."

§5 Note (4) *instead* of " the 1450 message " *read* " these messages."

7. (1.1.24.)

Page 17, *Great Britain* (*d*), (ii).

Delete particulars of Forecasts in Code (including footnote), and *substitute* the following (amending the Time-Table (p. 107) accordingly).

(ii) *Forecasts in code* :—

1. Transmitting station - London (Air Ministry).
Call Signal - - - G.F.A.
Messages directed to - Various addresses (not issued broadcast).
Wave Length - - 4,100 m. c.w.
Time of Sending - - 1950 G.M.T. (based on observations at 1800 G.M.T.) G., F.

2. ——

3. *Code*—" Forecast Code for the Abbreviation of Weather Forecasts transmitted by Telegraphy or Radio-telegraphy." [M.O. Publication 244. (H.M.S.O. 1*s.*; postage 1½*d.*)]

4. *Form of Individual Messages.*—Messages commence with the words " Group 999," then five-figure groups (followed by check-figure groups) give a forecast for England and Southern Scotland taken collectively.

5. ——

8. (1.1.24.)

Page 16, *Great Britain* (*d*).

§1. For Times of Sending :—

Substitute :—

0900 G.M.T. (based on observations at 0700 G.M.T.) G., S., F.

2000 G.M.T. (,, ,, ,, 1800 G.M.T.) G., S., F.

and amend Time-Table (p. 109) accordingly.

§2. *Insert* :—

Stations.

Index.	Name.	
1	Stornoway	For positions and heights *see* pages 5 and 6.
2	Malin Head	
3	Valencia	
4	Holyhead	
5	Scilly	
6	Guernsey	
7	Dungeness	
8	Yarmouth	
9	Tynemouth	
0	Wick	

§3. *Insert* :—

Code

Observations in Special Code.
General Inference and Forecasts in plain language.

§4. *Delete completely*

and *substitute* following new particulars.

Form of Messages.—Messages commence with the words " Weather Shipping."

0900 *Message.*

Part I.—Commencing with the word " Inference." General Inference in plain language.

Part II.—0700 G.M.T. commencing with the words " Station Reports."

Observations at 10 stations in the form
$I_nK^1wwV_s$ BBDDF where
I_n is the index number of the station and the other symbols have the meanings of the New International Code, p. 88.

Part III.—Forecasts in plain language of wind and visibility for 12 hours for the areas given below : the name of the area, and, when subdivision is necessary, that of the district will precede each forecast.

WESTERN AREA.—The sea and coasts eastward of the 100 fathom line from Cape Wrath to Scilly.

Districts.—HEBRIDES.—District N. and W. of Bloody Foreland Rathlin I. and Islay.

SHANNON.—West Coast of Ireland from Bloody Foreland to the Fastnet.

SEVERN.—South Coast of Ireland, Bristol Channel and approaches.

MERSEY.—The Irish Sea and approaches.

CLYDE.—The North Channel and approaches to Clyde.

SOUTHERN AREA.—The English Channel from Dover to the 100 fathom line.

Districts.—CHANNEL.—West of Portland.
WIGHT.—East of Portland.

EASTERN AREA.—The North Sea south of Lat. 61° N., and east of Long. 5° W. in the north and to the Straits of Dover in the south.

Districts.—THAMES.—Thames Estuary and its approaches.
HUMBER.—East Coasts from Yarmouth to Tweed.
TAY.—East Coast of Scotland including Moray Firth.
SHETLANDS.—Orkneys and Shetlands.
FORTIES.—Eastward to Norway and north of line Tweed to Lindesnäs.
DOGGER.—Eastward to Denmark and south of line Tweed to Lindesnäs.

Part IV.—Commencing with the word "Outlook."
Outlook indicating weather beyond the period of 12 hours.

2000 *Message.*

Same form as 0900 message, Part II. containing observations taken at 1800 G.M.T.

EXAMPLE OF A COMPLETE MESSAGE.

Weather Shipping :—

Inference.—A deep depression over the North Channel which is moving East North East will cause strong winds or gales in all districts with much rain at first. Improving weather will spread across the country in its rear.

Station Reports.— 17535 99041 2155– 93283 34117
12266 46356 97208 55167 13267 65417
19185 77124 15206 87526 14186 97275
99206 0856– 00146

Forecasts.—Western Area Districts Mersey Severn Shannon westerly gale veering and moderating visibility becoming good Districts Clyde Hebrides strong northerly wind moderating visibility moderate (full stop) Southern area strong westerly to north westerly winds District Wight visibility poor District Channel visibility becoming good (full stop) Eastern Area Districts Dogger Humber Thames south westerly gales visibility poor Districts Tay Forties southerly winds strong to gale backing visibility poor district Shetlands fresh easterly winds visibility moderate (full stop) Outlook eastern area northerly gales western area temporary improvement.

§5. Notes

Delete notes (1), (2) and (3).

Substitute :—

(1) There is a pause in the transmission of these messages from 0915 to 0918 and from 2015 to 2018.

Delete 2nd footnote on p. 16.

Delete footnote on p. 15 and *substitute* "Reports from Horta are only included in these messages when received after the transmission of the 0850 message (*see* p. 12, §4)."

AUSTRIA.

9. (13.9.23.)

Page 24, §4.

To 0820 Message *add* "Part II.—Upper winds at Vienna in New International Code: ZZ $h_1$ddvv &c., where ZZ is hour of observation in Central European Time, and h_1 height (above M.S.L.) in Code XI, p. 101. Speed of upper wind in km./h." (Amend table on p. 106 accordingly.)

BELGIUM.

10. (6.10.23.)

Page 25, §4,

0422 Message, Station 01, *delete* particulars and *add* "Same form as 0322 Message."
0722 Message, Part I, Station 01, after RRjjr *add* "($C_a$ddF_1–)."
1022 Message, Part I after ALaNh *add* "$C_a$ddF_1–)."
0322 Message, *delete* station 03

FRANCE.

11. (1.9.23.)

Page 32, *France* (*a*), §2.

Add station 45 Le Puy (L) 45° 02′ N. 03° 53′ E.
Instead of (L) read (C) after names of Stations 02, 03, 16, 17, 26.

12. *Page* 34, *France* (*a*), §4.

0220 *Message*, Part III. From 1st December, 1923, the following code for ship observations will be used :—

(I_nI_n) PQ″LLL 111GG BBDDF wwvKd
$A_1n'a_1N_1w_3$ $d_sd_srsW_3$ $TTcb_1b_1$

where s is time of ending of precipitation (*see* p. 60, §4), W_3 the weather during the last hour in the same code as w_3 (p. 36, §6, Code 1) and d_sd_s the ship's course on scale 01–32 (08 = from East).

But for ships with index numbers above 49 *see* Morocco, Algeria and Tunisia (i).

13. *Page* 38, *France* (*b*), §2.

Add station 85, Port Etienne.

14. *Page* 41, *France* (*b*), §5.

Add Note (3). Information relating to pressure maxima and minima may be added to these messages in the form

MAX name of station BBDDF name of station BBDDF &c.

MIN name of station BBDDF name of station BBDDF.

SPAIN.

15. (15.10.23.)

Page 71, *Spain*, §2.

Add station TN Sta Cruz de Tenerife 28° 19′ N. 16° 30′ W. 79 ft.

MOROCCO, ALGERIA, AND TUNISIA.

16. (1.9.23.)

Page 84, *Morocco, Algeria and Tunisia* (i), §2.

Add the following stations :—

82	Port Etienne	20° 37′ N.	17° 04′ W.
83	Dakar	14° 48′ N.	17° 33′ W.

17. §4, 0200 Message, Part II.

Delete and substitute the following :—

Preceded by word "Navires," observations from ships in the Western Mediterranean in the form :

I_nI_n PQ″LLL 111GG BBDDF $w_3W_3vSN_1$ $A_1n'a_1b_1b_1$.

Index numbers of ships using this code are from 50 upwards.

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SUPPLEMENT No. 2 TO M.O. 252 (*2nd Edition*)*

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 12*th February*, 1924.

GREAT BRITAIN.

18.* *Page* 6, *Great Britain* (*a*), § 2.

Amend station heights to read :—

Station No. 15 : –118 ft. ; No. 20 : –10 ft. ; No. 57 : –295 ft. ; No. 72 : –82 ft. ; No. 92 : –26 ft. ; No. 93 : –13 ft. ; No. 94 : –13 ft. ; No. 95 : –92 ft. ; No. 96 : –433 ft.

19. (20.2.24.)

Page 18, *Great Britain* (*e*), § 1.

Alter Times of Sending from Malin Head to :— 0930 and 2130 G.M.T. and *amend* Time-table (p. 107) accordingly.

FINLAND.

20. *Page* 30, *Finland*, § 1.

Amend Times of Sending to read :—

0855 G.M.T. (observations at 0700 G.M.T. and for some stations at 2100 *local time* previous day) S., U.W.
1455 G.M.T. (observations at 1300 G.M.T. at Helsingfors and at 1400 *local time* at other stations) S., U.W., I.
1955 G.M.T. (observations at 1800 G.M.T. at Helsingfors and at 2100 *local time* at other stations) S., U.W.

21. § 2.

Amend heights of stations to read :—

Station No. 03 : –33 ft. ; No. 04 : –275 ft. ; No. 05 : –590 ft. ; No. 06 : –463 ft.

Add station 07 Tampere (L)–61° 30′ N., 23° 46′ E., 392 ft.

§ 5, *Note* (2).

Instead of 1800 G.M.T. *read* 2100 *local time*.

* The numbering of amendments to M.O. 252 (*2nd Ed.*) is irrespective of the division into Supplements.

x (5)21775 Wt 125—8570 375 2/24

FRANCE.

22. *Page* 33, *France* (*a*), § 2.
Station 16 : *correct* longitude to : 02° 54′ E.

23. (1.12.23.)
Page 36, *France* (*a*), § 6.
Code 1. Figure 9,
instead of "Mist or fog of sharply defined height"
read "Mist or fog of appreciable vertical thickness (*see* p. 43, § 5, Note (4))."

24. *Page* 43, *France* (*c*), § 5.
Add note (4). The word BRUMALT may be added to figure groups from a station in the list in § 2 and indicates the observation of "mist or fog of appreciable vertical thickness." This means that mist or fog observed at the surface is of such a thickness that it will not permit the blue sky to be seen at all, or that, although the surface visibility is fairly good, it is very difficult to see objects a short distance away in a vertical direction, *e.g.*, pilot-balloons, aeroplanes, etc., without, however, this low visibility being due to the presence of a definite layer of stratus.

25. *Page* 42, *France* (*c*), § 2.
Station 53 : *correct* position to : 49° 27′ N., 02° 07′ E.

GERMANY.

26. (1.2.24.)
Page 44, *Germany* (*a*), § 2.
Insert station 15 Bamberg 49° 53′ N., 10° 53′ E. 944 ft.

27. (1.2.24.)
Page 46, *Germany* (*b*), § 1.
After 0650 add an asterisk and the following footnote : "This message follows immediately after the 0635 message of Germany (*h*) (p. 48) without a break."

28. (1.2.24.)
Page 47, § 5.
Delete codes given in Note (2) and *substitute* :—
I_nI_nBBB. DDFww. TTcbN
where the symbols have the meaning of the New International Code.

29. (1.2.24.)
Page 48, *Germany* (*h*), § 1.
For Times of Sending *substitute* :—
0635, 0900, 1500 and 2000 G.M.T. and amend Time-Table (p. 107) accordingly.

30. *Page* 49, § 5.
In Note (2) *amend* times of sending to : 0640, 0915, 1515 and 2015 G.M.T.

GREECE.

31. (1.1.24.)
Page 51, *Greece*, § 2.
Delete stations 11 to 24 and *substitute* :—

		Latitude.	Longitude.	Altitude (feet).
11	Argostoli*	38° 10′ N.	20° 30′ E.	26
12	Calamate*	37° 02′ N.	22° 08′ E.	157
13	Larissa*	39° 36′ N.	22° 23′ E.	244
14	Missolonghi*	38° 22′ N.	21° 27′ E.	3
15	Nauplie*	37° 34′ N.	22° 48′ E.	32
16	Navos*	37° 06′ N.	25° 24′ E.	16
17	Hierapetra*	35° 0′ N.	25° 43′ E.	
18	Yannina*	39° 47′ N.	20° 55′ E.	1594

19	Alexandria.	35	Sulina.*
20	Limassol.	36	Kishinev.*
21	Port Said.	37	Jassy.*
22	Siwa.	38	Temişoara.*
23	Asyut.	39	Sibiu.*
24	Haifa.	40	Sofia.
25	Gaza.	41	Constantinople.
26	Damascus.	42	Belgrade.
27	Muslimie.	43	Sarajevo.
28	Deir-es-Zoor.	44	Crikvenica.
29	Palmyra.	45	Zagreb.
30	Ksara.	46	Ancona.
31	Djedeidé.	47	Taranto.
32	Latakia.	48	Messina.
33	Bucharest.*	49	Malta.
34	Constantsa.*	50	Bizerta.

For positions of stations 19 to 50 *see* lists under individual countries.

HOLLAND.

32. (29.1.24.)
Page 52, *Holland* (*a*), § 1.
Add to Times of Sending :—
0830 G.M.T., U.W., U.A.T. and *amend* Time-table (p. 108) accordingly.
After 1505 G.M.T. *add* U.W.
Page 53, *Holland* (*c*), § 1.
Add to all messages : (U.W., U.A.T.).

33. *Page* 54, § 5.
Amend note (2) to read :—
Upper winds, preceded by word "Pilot," and upper air temperatures, preceded by word "Temp.," up to 1500 m. may be added to any of the above messages, the complete observations being sent later in the 0830 or 1505 message. [*See* Holland (*a*) etc.]

34. (5.2.24.)

Page 53, *Holland* (*c*), § 2.

Add station 4 Groningen 53° 13′ N. 06° 33′ E. 29 ft.

Add height for station 5 : –10 ft.

Page 54, § 4.

Add to 0744 message only : station 4 BBBDD FwwTT cbWxH xxxNx

NORWAY.

35. (1.2.24.)

Page 61, *Norway* (*a*), § 5.

Note (6).—Latest information gives the position of the "Maud" as 75° 13′ N., 156° 45′ E.

PORTUGAL.

36. (1.1.24.)

Page 66, *Portugal*, § 1, *and page* 67, § 4.

Amend Times of Sending to read :—

0840 and 1940 and *alter* Time-table (p. 107) accordingly.

Page 67, § 4.

In 0840 message, Part II, *delete* particulars after word "Navires" and *substitute* :—

PQLLL lllGG BBDDF wwvKd

RUSSIA.

37. (15.1.24.)

Page 69, *Russia* (i).

Delete particulars and *substitute* following, amending Time-table (p. 107) accordingly :—

1. Transmitting Station - Petrograd (Detskoye Selo).
   Call Signal - - R.E.T.
   Messages directed to - C.Q.
   Wave Length - - 7,100m. c.w.
   Times of sending :—
   0915 G.M.T. (Russian and Siberian observations at 2100 previous day and 0700 *local time*) S., U.W.
   1100 G.M.T. (European observations at corresponding hours, as given under individual countries) S.

2. *Stations.*

Index.	Name.	Latitude.	Longitude.	Altitude (Feet.)
01	Alexandrowsk -	69° 12′ N.	33° 28′ E.	98
02	Kandalaksha -	67° 08′ N.	32° 26′ E.	
03	Kem - - -	64° 57′ N.	34° 39′ E.	43
04	Archangel - -	64° 33′ N.	40° 32′ E.	23

Index.	Name.	Latitude.	Longitude.	Altitude (Feet.)
05	Mezen - - -	65° 50′ N.	44° 16′ E.	52
06	Oust-Tzylma -	65° 27′ N.	52° 10′ E.	89
07	Matotchkin-Shar -	73° 16′ N.	56° 24′ E.	
08	Vaigach - -	70° 24′ N.	58° 48′ E.	
09	Morra Sale - -	69° 43′ N.	66° 48′ E.	
10	Dickson - -	73° 30′ N.	80° 23′ E.	
11	Obdorsk - -	66° 31′ N.	66° 35′ E.	105
12	Petrograd - -	59° 56′ N.	30° 16′ E.	16
13	Padany - -	63° 15′ N.	33° 15′ E.	
14	Shenkursk - -	62° 08′ N.	42° 54′ E.	174
15	Vologda - -	59° 13′ N.	39° 54′ E.	407
16	Oust-Sysolsk -	61° 40′ N.	50° 51′ E.	335
17	Tcherdyn - -	60° 24′ N.	56° 31′ E.	538
18	V. Louki - -	56° 21′ N.	30° 31′ E.	341
19	Yaroslav - -	57° 37′ N.	39° 55′ E.	262
20	Vjatka - - -	58° 37′ N.	49° 40′ E.	607
21	Gorky - - -	54° 17′ N.	30° 59′ E.	646
22	Moscow - -	55° 46′ N.	37° 40′ E.	512
23	N. Novgorod -	56° 20′ N.	44° 00′ E.	518
24	Kazan - - -	55° 47′ N.	49° 08′ E.	279
25	Ekaterinbourg -	56° 50′ N.	60° 38′ E.	958
26	Kiev - - -	50° 27′ N.	30° 30′ E.	600
27	Koursk - -	51° 45′ N.	36° 12′ E.	771
28	Zemetchino - -	53° 30′ N.	42° 37′ E.	420
29	Ufa - - -	54° 43′ N.	55° 56′ E.	558
30	Elisavetgrad -	48° 31′ N.	32° 17′ E.	404
31	Poltava - -	49° 35′ N.	34° 34′ E.	531
32	Kharkov - -	50° 00′ N.	36° 14′ E.	459
33	Lugansk - -	48° 35′ N.	39° 20′ E.	197
34	Saratow - -	51° 32′ N.	46° 03′ E.	217
35	Orenbourg - -	51° 45′ N.	55° 06′ E.	371
36	Odessa - - -	46° 29′ N.	30° 44′ E.	213
37	Taganrog - -	47° 12′ N.	38° 57′ E.	131
38	Tzaritzyn - -	48° 42′ N.	44° 31′ E.	151
39	Sevastopol - -	44° 37′ N.	33° 31′ E.	75
40	Theodosia - -	45° 02′ N.	35° 24′ E.	20
41	Kerch - - -	45° 21′ N.	36° 29′ E.	13
42	Stavropol - -	45° 03′ N.	41° 39′ E.	1,866
43	Astrakhan - -	46° 21′ N.	48° 02′ E.	— 46
44	Gouriev - -	47° 07′ N.	51° 55′ E.	— 59
45	Emba - - -	48° 49′ N.	58° 13′ E.	761
46	Sotchi - - -	43° 34′ N.	39° 36′ E.	256
47	Batoum - -	41° 40′ N.	41° 38′ E.	10
48	Tiflis - - -	41° 43′ N.	44° 48′ E.	1,341
49	Petrovsk - -	43° 00′ N.	47° 30′ E.	128
50	Baku - - -	40° 21′ N.	49° 51′ E.	7
51	Tobolsk - -	58° 12′ N.	68° 14′ E.	348
52	Omsk - - -	54° 59′ N.	73° 22′ E.	295

Index.	Name.	Latitude.	Longitude.	Altitude (Feet).
53	Akmolinsk	51° 12′ N.	71° 50′ E.	1,148
54	Semipalatinsk	50° 24′ N.	80° 13′ E.	685
55	F. Alexandrovsky (Urityky).	44° 30′ N.	50° 16′ E.	79
56	Ak-Mechet	44° 51′ N.	65° 27′ E.	394
57	Bairam-Ali	37° 40′ N.	62° 05′ E.	783
58	Krasnovodsk	40° 00′ N.	52° 59′ E.	— 49
59	Askhabad (Poltoratsk).	37° 57′ N.	58° 23′ E.	738
60	Tashkent	41° 20′ N.	69° 18′ E.	1,516
61	Alma-Ata	43° 15′ N.	76° 53′ E.	
62	Doudinka	69° 07′ N.	87° 00′ E.	141
63	V. Imbatskoe	63° 07′ N.	88° 01′ E.	
64	Eniseisk	58° 27′ N.	92° 06′ E.	308
65	Kirensk	57° 47′ N.	108° 07′ E.	886
66	Tomsk	56° 30′ N.	84° 58′ E.	410
67	Bratski-Ostrog	56° 04′ N.	101° 50′ E.	1,066
68	Barnaul	53° 20′ N.	83° 48′ E.	558
69	Irkutsk	52° 16′ N.	104° 19′ E.	1,509
70	Yakutsk	62° 01′ N.	130° 43′ E.	328
71	Blagovyeshchensk	50° 15′ N.	127° 31′ E.	492
72	Khabarovsk	48° 28′ N.	135° 03′ E.	
73	Vladivostock	43° 07′ N.	131° 55′ E.	56

101 Isafjord.	124 Valencia.	147 Belgrade.
102 Seydisfjord.	125 Holyhead.	148 Kishinev.
103 Thorshavn.	126 Scilly.	149 Bucharest.
104 Spitzbergen.	127 Helder.	150 Venice.
105 Jan Mayen.	128 Hamburg.	151 Rome.
106 Brönnöy.	129 Danzig.	152 Taranto.
107 Ingöy.	130 Dresden.	153 Messina.
108 Röst.	131 Munich.	154 Sofia.
109 Kinn.	132 Vienna.	155 Constantinople.
110 Utsire.	133 Vilna.	156 Athens.
111 Haparanda.	134 Warsaw.	157 Candia.
112 Stensele.	135 Pinsk.	158 Limassol.
113 Särna.	136 Lemberg.	159 Alexandria.
114 Härnösand.	137 Calais.	160 Horta.
115 Stockholm.	138 Paris.	161 Corunna.
116 Kalmar.	139 Mainz.	162 Madrid.
117 Kuopio.	140 Brest.	163 Mahon.
118 Helsingfors.	141 Rochefort.	164 Agadir.
119 Riga.	142 Clermont.	165 Rabat.
120 Skagen.	143 Bayonne.	166 Algiers.
121 Stornoway.	144 Toulon.	167 Bizerta.
122 Donaghadee.	145 Ajaccio.	168 Malta.
123 Tynemouth.	146 Geneva.	

For positions of stations 101 to 168 *see* lists under individual countries.

3. *Code.* Surface observations — Old International (modified).

Upper wind observations—New International Code.

4. *Form of Individual Messages.*

Messages commence with the words " Météo Russe."

0915 *Message.*

Part I.—I_nI_n BBBDD FWTTT BBBDD FWTTT bbbRR, where TTT is the temperature of the air in degrees and tenths and bbb is the amount of barometric tendency in tenths of m.m., 500 being added to indicate negative tendency.

The first two groups refer to 2100 *local* time of previous day, and the last three groups to 0700 *local* time of day of issue.

Part II.—Commencing with the word " Retardées ":—

I_nI_nYY BBBDD FWTTT BBBDD FWTTT bbbRR, where YY is the day of the month.

Part III.—Observations of upper wind, commencing with the word " Pilot."

I_nI_nGG $h_1$ddvv $h_1$ddvv, etc.

1100 *Message.*

Same form as Part I. of 0915 message, three index figures being given for European stations outside Russia.

5. *Note.*—For units, *see* p. 106.

38. *Page* 71, *Russia* (ii), § 1.

Amend Time of Sending to read :—2210 G.M.T. (observations at 0700 *local* time) S.

§ 4.

Instead of 0910 *read* :—0915.

THE (NEW) INTERNATIONAL CODE.

39. (10.9.23).

Page 92, *New International Code* (I.).

Before y_1 *insert* YY = Day of Month.

Page 93, *New International Code* (II.).

In lines 25, 27 and 29 after Temp. I_1I_1 and, similarly, after I_2I_2 and I_3I_3, *insert* the Group YYGG.

UNITS EMPLOYED BY EACH COUNTRY.

40. *Page* 106, *Units.*

Russia. *Insert* under "Speed of Upper Wind": km./h.

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Issued on 14*th March*, 1924.

GREAT BRITAIN.

41. (1.4.24.)

Page 5, *Great Britain* (*a*), § 1.

To Times of Sending *add*
0840 G.M.T. (observations at 0700 G.M.T.) S., O.
and *amend* Time-table (p. 108) accordingly.

42. (14.2.24.)

Page 6, *Great Britain* (*a*), § 2.

Delete Station 65 entirely.
Add Station 47 Felixstowe (C). 51° 57′ N. 01° 20′ E. 21 ft.

43. (1.4.24.)

Page 7, § 4.

From 0600 message, Part I., *delete* words in brackets.

Page 8, § 4.

Amend 0600 message, Part V., to read: "Repetition of Part IV. of 0200 message, but containing all reports from British ships received since 1940 of preceding day."

NEW ISSUE.

After 0800 message *insert*:—

0840 *Message.*

Part I.—Ship reports received since 0600 and not included in 0800 message.

Part II.—Any 0700 G.M.T. British and Icelandic reports received too late to be included in 0800 message.

In 1940 message, *amend* Part I. to read: Ship reports received since 0840 but not previously issued.

Add Part III.—Any 1800 G.M.T. British and 1300 G.M.T. and 1800 G.M.T. Icelandic reports received too late to be included in 1900 message.

(5)21986 Wt 125—8570/P 23 375 3/24

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GREAT BRITAIN.

No. (1.4.24.)

Page 5, Great Britain (a), § 1:

To Times of Sending add

0840 G.M.T. (observations at 0700 G.M.T.) S. C. and cancel Time-table (p. 108) accordingly.

No. (1.4.24.)

Page 6, Great Britain (a), § 2.

Delete Station 85 entirely.

Add Station 47 Felixstowe (O). 51° 57' N. 01° 20' E. 24 ft.

No. (1.4.24.)

Page 7, § 4.

From 0600 message, Part I., delete words in brackets.

Page 8, § 4.

Amend 0600 message, Part V., to read: "Repetition of Part IV. of 0200 message, but containing all reports from British ships received since 1940 of preceding day."

New Item.

After 0800 message insert:—

0840 Message.

Part I.—Ship reports received since 0600 and not included in 0800 message.

Part II.—Any 0700 G.M.T. British and Icelandic reports received too late to be included in 0800 message.

Add Part III.—Any 1300 G.M.T. and 1800 G.M.T. and 1800 G.M.T. Icelandic reports received too late to be included in 1900 message.

44. (1.4.24.)

Page 9, § 5, *Note* (4).

In first paragraph *amend* wording so that it reads: "British reports received too late for inclusion in the 1400 message are added to the 1436 G.M.T. hourly route message. (*see* p. 12).

In second paragraph, *delete* the word *additional*.

In the Table in Note (7), for 0850 *read* 0840 (or 0850), and in the *last* column, for 1900 *read* 1900 (or 1940).

45. (14.2.24.)

Page 13, *Great Britain* (*c*), § 2.

Delete Station 65 entirely.

Add Station 64 Shoeburyness (C) 51° 32′ N. 00° 47′ E. 11 ft.

Page 15, § 5, *Note* (5).

For Isle of Grain *substitute* Shoeburyness.

46. (1.4.24.)

Page 14, Great Britain (*c*), § 4.

In 0836 message, *delete* Part IV.

Page 15, § 5, Note (3).

Prefix the note by the words "Whenever possible."

47. (14.2.24.)

Page 20, *Great Britain* (*g*), §§ 1 & 2.

For Grain (C) G.F.G. *substitute* Felixstowe (C) G.F.F.

BELGIUM.

48. (11.1.24.)

Page 24, *Belgium*, § 1.

Add to all Times of Sending: U.A.T.

Page 26, § 5.

Add Note (5):

Upper air temperatures near Brussels, preceded by the word "Temp." may be added to any of the above messages in the form: Temp 01 YYGG BBTTH, etc. (The groups denoting inversions are not used.)

An observation is issued in the first hourly message for which it is available. If this is not a 0722, 1322 or 1822 message the observation is re-issued in the next message at one of these times.

DENMARK.

49. *Page* 28, *Denmark* (*i*), §1.

Add

Transmitting Station	Blaavand Radio.
Call Signal	O.X.B.
Messages directed to	C. Q.
Wave Length	600 m. spk.

Times of Sending:—1120 G.M.T. and 2120 G.M.T.

(The messages are issued both from O.X.A. and O.X.B.)

and amend Time-table (p. 107) accordingly.

GIBRALTAR.

50. *Page* 51, *Gibraltar*, § 5.

Add Note (3) For meaning of Beaufort Letters *see* Note (2), § 5 of Great Britain (g), p. 21.

ITALY.

51. (1.3.24.)

Page 55, *Italy*, § 1.

Amend as follows:—

Call Signal	I.D.O.
Wave Length	10,850 m. cw.
Times of Sending	0850 G.M.T. 1950 G.M.T.

and *correct* Time-table (p. 107) accordingly.

§ 2.

Insert the following altitudes:—
Station 02: 482 ft.; station 12: 525 ft.

Page 56, § 3.

Code. *Substitute*: New International.

§§ 4 *and* 6.

Delete particulars. Details for these paragraphs will be included in a later Supplement.

NORWAY.

52. *Page* 60, *Norway* (*a*), § 4.

To 0750 Message, Part III., *add*: bb = amount of barometric tendency in half-millibars, 50 being added to negative amounts.

§ 5.

Note (2): *delete* stations 22, 27 and 42, and *add* 40 and 70.
Note (4): *insert* after Swedish, "and Danish".

53. *Page* 62, *Norway* (*j*), § 4.

Insert in line 31 : " 49 and 99 denote ' direction unknown '."

Page 63, *line* 28.

Instead of four *read* five.

Page 63, *line* 30.

Instead of Leka *read* Rörvik.

PORTUGAL.

54. (1.1.24.)

Page 66, *Portugal*, § 1.

Instead of 600 m. spk. *read* 1000 m. spk. and *amend* Time-table (p. 107) accordingly.

SUPPLEMENT No. 2.

55. *Amendments* 18 *and* 21.

Delete all hyphens.

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GREAT BRITAIN.

56. (24.3.24.)

Page 10, *Great Britain* (*a*), § 5.

Add Note (11). *Interpretation of Cloud Group.*—In the event of two or more types of cloud being present in small amount, so that the total amount of sky covered (N) does not exceed one tenth, two forms are reported and the amount of the lower is coded as one tenth. In such a case a cloud group of the form 81116 would occur. This would be interpreted as: a little cumulus, a little cirrus, total amount of cloud not more than one tenth.

When a very small amount of cloud of one type occurs it is coded as one tenth. Thus a cloud group as, for example, 81816 would be interpreted as: cumulus, *up to* one tenth.

Cloud amount 10 is only used when the sky is quite overcast, with no patches of clear or blue sky visible at all.

(*See* International Code, page 90, footnote.)

57. (1.5.24.)

Page 11, *Great Britain* (*b*), § 2.

For stations 24, 27 and 85 *add* ×.
For stations 28 and 94 *delete* †.

58. *Page* 12, *Great Britain* (*b*), § 4.

Amend 0850 message to read:

Observations at 0700 G.M.T.—I_nI_n BBDDF w_1TTK′R
Observations at 1800 G.M.T.—I_nI_n BBDDF w_1TTK′W
where for stations ... etc.

59. (2.4.24.)

Page 12, *Great Britain* (*c*), § 1.

After the 0836, 0936, . . . and 1636 G.M.T. messages *add* (U.A.T.).

x (5)22171 Wt 375 4/24 E & S

60. (2.4.24.)

Page 16, § 5.

Add Note (10). Upper air temperatures preceded by the word " temp. " may be added to the 0836, 0936, . . . and 1636 G.M.T. messages in the code of Great Britain (*a*), p. 7, § 4. The observations will nevertheless be re-issued in the next message under Great Britain (*a*), p. 5.

61. *Page* 18, *Great Britain* (*e*), § 1.

Amend times of sending to 0918 G.M.T. and 2118 G.M.T. in the case of Valencia and *correct* Time-table (p. 107) accordingly.

FINLAND.

62. (1.4.24.)

Page 30, *Finland*, § 1.

Correct wave-length, for synoptic messages and ice report, here and in Time-table (p. 107) to 1500 m. c.w.

FRANCE.

63. (3.10.24.)

Page 42, *France* (*c*), § 4.

Certain changes have been introduced in the coding of these messages, details of which will be given later.

GERMANY.

64. *Page* 44, *Germany* (*a*), § 2.

Delete station 08 and *substitute :*

08 Magdeburg 52° 08′ N. 11° 38′ E. 180 ft.

65. (1.4.24.)

Page 46, *Germany* (*b*), § 1.

Delete asterisk and footnote.

66. *Page* 46, *Germany* (*b*), § 2.

Delete stations 24, 35, 51, 57, and 67 to 86.

Page 47, § 4.

In all messages *delete* : Estonia, Bucharest, Athens, Finland, Russia.

In 0650 message *delete* paragraph commencing " Observations at 1800 ".

In 1450 message *delete* paragraph commencing " Observations at 0700 ".

In 1950 message *delete* paragraph commencing " Observations at 1300 ".

67. (1.4.24.)

Page 48, *Germany* (*h*), § 1.

Delete 0635 and 2000 G.M.T. and *amend* Time-Table (p. 107) accordingly.

After 5700 m. c.w. *add in brackets :* for *summary of conditions* at end of 0900 message, 900 m. c.w. from Lindenberg (Call signal G. I.)

Page 49, § 5.

In Note (2) *delete* 0640 and 2015 G.M.T.

HOLLAND.

68. (8.4.24.)

Page 53, *Holland* (*c*), § 2.

Add station 7 Maastricht 50° 51′ N. 05° 41′ E. 164 ft.

69. *Page* 54, § 4.

Add to 0744 message only : station 7 in the same code as station 4.

MALTA.

70. (1.5.24.)

Page 58, *Malta*, §§ 1 & 4.

Amend Times of Sending to : 0735 G.M.T., 1335 G.M.T. and 1835 G.M.T., correcting Time-table (p. 107) accordingly.

SWEDEN.

71. *Page* 75, *Sweden* (*a*), § 2.

Insert station heights as follow : station 05 : 1394 ft. ; 32 : 722 ft. ; 63 : 30 ft. ; 65 : 121 ft. ; 78 : 13 ft.

Add :

Station 10 Boden 65° 50′ N. 21° 40′ E. 39 ft.

Correct station 57 to read : Halmstad (L).

Stations reporting upper air temperature.

Delete station 05 entirely.

72. *Page* 76, § 3.

Delete the words " cloud and ".

73. *Page* 77, § 4.

0740 message : *amend* Part II to read :

Part II. preceded by word " Pilot ". Upper winds from stations 03, 10, 22, 37 and 44. $I_nI_nGG\ h_1ddv'v'$ . . . &c.

§ 6.

Delete paragraph entitled : Interpretation of Cloud Group.

THE (NEW) INTERNATIONAL CODE.

74. *Page* 90, *New International Code.* (*I.*)

To " L " and " N " *add* an asterisk and *insert* the following footnote :

* In accordance with the resolution of the International Meteorological Committee at Vienna in 1873, the figure 0 is only used when the sky is quite free from cloud and the figures 10 when it is entirely overcast.

Thus " N " can never be zero so long as there is any cloud. The Vienna resolution does not explicitly determine what should be done when there are two or more types of cloud present in small amount, as regards the figure to be reported as " L ".

In Great Britain the same procedure is adopted for " L " as for " N," *i.e.* " L " is always 1 if " N " is 1.

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GREAT BRITAIN.

75. (1.5.24.)

Page 11, *Great Britain* (*b*), § 2.

Cancel Amendment 57 with respect to stations 27 and 85.

CZECHOSLOVAKIA.

76. (1.5.24.)

Page 27, *Czechoslovakia*, §§ 1 & 4.

Amend Times of Sending here and in Time-table (p. 107) to read : 0750, 1350 and 1850 G.M.T.

FINLAND.

77. (1.5.24.)

Page 30, *Finland*, §§ 1, 4 & 5.

Amend Times of Sending here and in Time-table (p. 107) to read : 0830, 1430 and 1930 G.M.T.

GREECE.

78. (1.5.24.)

Page 51, *Greece*, § 1.

Amend Times of Sending to read :

0945 G.M.T. (observations at 0600 G.M.T. at Athens and morning observations at other stations.).S.
1545 G.M.T. (observations at 1200 G.M.T.).S.

and *correct* Time-table (p. 107) accordingly.

§ 3.

Delete the words " in 0705 message."

Page 52, § 4.

Amend as follows :

0945 *Message*, commencing with " Meteo Athenes."
Station 01 : BBBDD FwwTT cbWVH ALaNh RRmmr.
Other stations : I_nI_n BBDD FWTT βbbR
where R etc. .... Old International Code.
1545 *Message* : Station 01 only.

x (5)22211 Wt 137—10187 375 4/24 E & S

HUNGARY.

79. (1.5.24.)

Page 54, *Hungary*, §§ 1 & 4.

Amend Time of Sending here and in Time-table (p. 108) to read : 0835 G.M.T.

NORWAY.

80. (15.4.24.)

Page 59, *Norway* (*a*), § 1.

Amend Wave Length to 5430 m. and *correct* Time-table (p. 107) accordingly.

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GREAT BRITAIN.

(1.6.24.)

81. CHANGE OF SHIPS' CODE:—

Page 7, *Great Britain* (*a*), § 3.

Delete paragraph in brackets commencing "Ship observations, &c.... ") and *substitute* the following:

(Ship observations in the New International Code (4 groups) followed by two check figure groups and two groups for National use.)

Page 7, *Great Britain* (*a*), § 4.

0200 Message: *Delete* Part IV and *substitute* the following:

Part IV preceded by word "Ships." Ship reports from the Atlantic in the code: I_nI_n PQLLL 111GG BBDDF wwvKd $y_1'y_2'y_3'y_4'y_5'$ $x_1'x_2'x_3'x'_4z'$ CNWUx_7 TTttx_8 where U denotes the occurrence of 'unusual phenomena' (*see* special code, § 6, p. 10), and the remaining symbols have the standard meanings. For the method of compilation of check figure groups *see* Note (3), p. 21, and also p. 92.

Delete footnote.

[x] (5)22272 Wt 137—10187 375 5/24

82. *Page* 10, *Great Britain* (*a*).

Add §6. *Special Codes.*

Unusual Phenomena reported by ships at sea. (*U*).

0. None of the following remarks appropriate.
1. Appearances indicate that a tropical storm has formed.
2. Appearances indicate that a tropical storm is forming.
3. Heavy squalls during last three hours.
4. Squally weather.
5. Barometer *falling* very rapidly (more than 2 millibars an hour).
6. Barometer *rising* very rapidly (more than 2 millibars an hour).
7. Wind has increased decidedly during the last hour.
8. Wind has decreased decidedly during the last hour.
9. Unusually red sunset (or sunrise).

83. *Page* 15, *Great Britain* (*c*), §5, *Note* (2).

Amend as follows: Horta—altitude 213 ft.
Ponta Delgada—37° 44′ N., 25° 40′ W. 72 ft.

GREECE.

84. (1.5.24.)

Page 52, *Greece*, §4.

Add to 0945 Message after RRmmr: (C_1ddVV).

Add to 1545 Message: BBBDD FwwTT cbWVH AlaNh (C_1ddVV).

HOLLAND.

85. (30.4.24.)

Page 53, *Holland* (*c*), §1.

Add to times of sending:

1444† G.M.T. (observations at 1420 G.M.T.) S.,

and *insert* footnote as follows:

† Mondays only.

Correct Time-Table (p. 110) similarly.

Page 54, § 4.

Add: 1444 *Message.*—Same form as Part I. of 0844 message.

This message is only issued on Mondays.

PORTUGAL.

86. *Page* 66, *Portugal*, §2.

Amend altitude of Angra to 98 ft.
and *correct* p. 84 similarly.

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GREAT BRITAIN.

87. (1.6.24.)

Page 6, *Great Britain* (*a*), § 2.

Delete stations 25 and 43.

Add 37 Harrogate. 54° 00′ N. 01° 36′ W. 480 ft.

88. *Page* 20, *Great Britain* (*g*), §§ 1 *and* 2.

In the second line of the Table *delete* Guernsey (C) G.E.Y.

After Calshot (C) (line 14) and before Renfrew (L) *insert* Cranwell (L) — G.F.C. ,, 1005 ,, 1000 ,,

DENMARK.

89. *Page* 28, *Denmark* (*a*), § 1.

To each Time of Sending *add :* 0.

§ 4.

To each message *add :*

Part II. preceded by the word " Navires ".

Reports from ships in the code : PQLLL lllGG BBDDF wwvKd CNTTT Wrttt

HOLLAND.

90. (22.5.24.)

Page 52, *Holland* (*a*), § 4.

To 0730 message, Part III *add :* After each inversion group ($B_1B_1B_1t_1t_1$) a supplementary group in the form $T_1T_1T_1H_1H_1$ is added giving the temperature to tenths of a degree Centigrade ($T_1T_1T_1$) at the base of the inversion, and the vertical thickness in decametres (H_1H_1) from the base up to the point where the temperature begins to fall again.

(5)22421 Wt 137—10187 375 6/24

91. After the 0730 message *insert :*

0830 *Message.* Same form as Parts II and III of 0730 Message.

SPAIN.

92. (1.6.24.)

Page 71, *Spain*, § 1.

Amend wave-length here and in Time-Table (p. 107) to: 2650 m. c.w.

MOROCCO, ALGERIA, AND TUNISIA.

93. (15.5.24.)

Page 83, *Morocco, etc.*, (i), § 1.

Amend wave-length to 3,600 m. cw. provisionally, and correct Time-Table (p. 107) accordingly.

Page 86, *Morocco, etc.*, (iii), § 1.

Amend wave-length to 3600 m. cw. provisionally, and correct Time-Table (p. 107) accordingly.

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SUPPLEMENT No. 8 TO M.O. 252. (*2nd Edition.*)

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 23rd July 1924.

GREAT BRITAIN.

94. (1.6.24.)

Page 17, *Great Britain* (*d*), "*General Inference and Forecasts*" (i).

§5. *Add* note (2).—In order to avoid ambiguity between the words Ireland and Iceland, the latter word is always repeated whenever it occurs in the "Weather Shipping" Inference.

AUSTRIA.

95. (10.6.24.)

Page 23, *Austria.*

Substitute new particulars in 1–4 and *amend* time-table, page 107, accordingly :—

1. Transmitting Station - - Deutsch–Altenburg.
Call Signal - - - - O.H.O.
Messages directed to - - C.Q.
Wave Length - - - - 3050 m. cw.
Time of sending :—
0820 G.M.T. (observations at 2000 and 0600 G.M.T.) S.

2. *Stations*—

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	*VIENNA* -	48° 15′ N	16° 22′ E	664
02	*KLAGENFURT*	46° 37′ N	14° 18′ E	1,476
03	*SONNBLICK* -	47° 03′ N	12° 57′ E	10,190
04	Villach - -	46° 35′ N	13° 15′ E	1,647
05	Graz - - -	47° 04′ N	15° 28′ E	1,211
06	Obir - - -	46° 30′ N	14° 29′ E	6,696

(5)22706 Wt 137—10187 375 7/24

3. *Code.*—Mixed New and Old International.

4. *Form of Individual Messages.*—Messages commence with the words " Météo d'Autriche."

0820 Message :—

I_nI_n BBBDD FWTTW$_1$ BBBDD FWTTH βbbRR MMmmV where W$_1$ is past weather, H, relative humidity and V, visibility in the New International Code and the remaining symbols have the meaning of the Old International Code.

5. *Notes.*—As before.

ESTONIA.

96. *Page* 29, *Estonia*, §1.

Substitute new particulars :—

Transmitting Station - - -	Haapsalu.
Call Signal - - - - -	A.Z.I.
Messages directed to - - -	C.Q.
Wave Length - - - -	3600 m. cw.

Times of sending :—

0725 G.M.T. (observations at 0700 *local* time) S. ; I.

2015 G.M.T. (observations at 1300 and 2100 *local* time) S.

Amend *Annual* time-table, 107 accordingly.

§ 4. *Add* Messages commence with the words " Météo Eesti."

Delete 1250 message completely.

For 2055 message *substitute* :—

2015 *Message.*

Observations at 1300 local time followed by observations at 2100 local time.

I_n BBBDD FwwTT.

FRANCE.

97. (1.8.24).

Page 34, *France* (*a*), §3.

Substitute the following :—

Surface observations at French Stations in a special code. All other observations in New International. (*See* p. 88.)

§4. In 0220 message, for code of Part II *substitute* I_nI_nGG $h_1$ddvv etc.

In 0820 message, for cb_1b_1 (SV$_s$) *substitute* cb_1b_1jj and for mmR$_1$R$_1$d$_3$ *substitute* RRd$_3$—

Delete R$_1$R$_1$ = Rainfall, etc.

In 1920 message, for cb_1b_1 (SV$_s$) *substitute* cb_1b_1jj and for MMt$_2$t$_2$d$_3$ *substitute* RRt$_2$t$_2$d$_3$.

Page 38, §6.

Delete code 7.

98. (1.7.24).

Page 35, §4.

Add to 1420 and 1920 messages " *see* also §5 note (7)."

§5. *Add* Note (7). 1000 G.M.T. and 1600 G.M.T. observations from Ouessant (Index No. 162) and Socoa (079) (near Bayonne) will be added to the first of the following transmissions from Eiffel Tower (F.L.) after their receipt.

1135 G.M.T. 2600 m. cw.
1420 G.M.T. 7300 m. cw.
1920 G.M.T. 7300 m. cw.

2045 G.M.T. Observations at Brest, Lorient and Cherbourg will be added to the following transmission :—

2100 G.M.T. 7300 m. cw.

The code for the above messages is I_nI_nGG BBBTT cb_1b_1 (SV$_s$) DDFN$_1$V (d^{1}d^{1}F^{1}n^{1}h) W$_1$W$_1$w$_3$A$_1$a$_1$.

Page 38, *France* (*b*), §1.

Add at end of paragraph :—

(*see* also Note (7), p. 36).

GERMANY.

99. (1.7.24).

Page 44, *Germany* (*a*), §2.

Correct list of stations as follows :—

02	Löningen	52° 44′ N.	07° 45′ E.	85 feet.
20	Grünberg	51° 56′ N.	15° 30′ E.	488 ,,

100. *Page* 46, *Germany* (*b*), §2.

In the list of stations *delete* 23, 25–31, 47, 55, 56, 58–66.

and *substitute* only

61	Vienna	66	Sofia
62	Budapest	67	Genoa
63	Zürich	68	Ancona
64	Lugano	69	Rome
65	Belgrade	70	Venice

Page 47, §4.

In 0850, 1450 and 1950 messages *delete* Denmark, Sweden and France and *add* Italy.

NORWAY.

101. (10.6.24).

Page 59, *Norway* (*a*), §1.

Add to Times of Sending.

1050 G.M.T. (observations at 1000 G.M.T.) S., 0.
1650 G.M.T. (observations at 1600 G.M.T.) S., 0.
and *amend* Time-table (p. 107) accordingly.

§4. *Add* to 0750 message :
This message may contain 0100 G.M.T. observations from Jan Mayen in the same form as Part I. of 1350 message.

Add

1050 *message*

Part I. 1000 G.M.T. observations from Jan Mayen in same form as 1350 message.
Part II. Observations received too late to be included in 0750 message.
Part III. Same form as Part III of 0750 message.

1650 *message*

Part I. 1600 G.M.T. observations from Jan Mayen in the same form as Part I of 1350 message.
Part II. Same form as Part III of 0750 message.

ROUMANIA.

102. (10.7.24).

Page 68, *Roumania*, §1.

Amend wave length and times of sending here and in Time-table (p. 107) as follows :—

Wave Length - 7500 m. cw.
Times of sending- 0150, 0750, 1350 and 1850 G.M.T.

§3. *Delete* the words " from Bucharest " and " observations from other stations in Old International (modified)."

§4. From " 0845 Message " onwards *substitute* the following :—

0750 *Message*

Part I. Station 01,—BBBDD FwwTT cbWVH AlaNh RRmmr.
Part II. Stations 02 to 15 :—I_nI_n BBBDD FwwTT cbRRr.
Part III. Preceded by the word " Pilot." Upper winds between 0500 and 0600 G.M.T. at stations 01 and 12,—$h_1$ddvv, &c.

1350 *Message.*

Part I. Same form as 0150 message.
Part II. Preceded by the word " Retardé." Observations received too late to be included in Parts II and III of 0750 message.

1850 *Message.*

Station 01,—BBBDD FwwTT cbWVH ALaNh RRMMr.

MOROCCO, ALGERIA AND TUNISIA.

103. (1.7.24).

Page 83, *Morocco, &c.* (i), §2.

To the list of stations *add* :—

05	Safi - -	32° 18′ N.	09° 15′ W.	—
08	Ouezzan -	34° 48′ N.	05° 34′ W.	538 ft.
16	Guercif - -	34° 14′ N.	03° 21′ W.	—
17	Kasbah Tadla -	32° 36′ N.	06° 16′ W.	1,640 ft.

and for No. 14 *substitute*—

Asaka - - -	32° 52′ N.	04° 53′ W.	4,590 ft.

104. (1.8.24).

§4. Correct code of 0800 and 1900 messages as France (*a*) §4, amendment No. 99, attached.

SYRIA.

105. (1.8.24).

Page 87, *Syria*, §4.

Correct codes as France (*a*) §4, amendment No. 99, attached.

UNITS EMPLOYED BY EACH COUNTRY.

106. (15.5.24).

Page 106, *Units.*

After Sweden *insert*—

Switzerland	mm.	° C.	—

107. (18.6.24).

Amend Belgium to :—Pressure mm** and *add* footnote :—
** Upper air pressure in mb.

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BELGIUM.

108. (15.7.24.)

Page 26, *Belgium*, § 5.

Add Note (6)—

Special messages are transmitted from O.P.V.H. (or O.P.V.O.) on 1400 m. c.w. when the horizontal visibility at one of the stations in § 2 is observed to decrease to below 1000 metres and again to below 200 metres.

Form of messages :

Fog GGgg Name of Station wwVhL.

The 5-figure group may be replaced by the distance (en clair) of the farthest object visible.

Similar messages are sent when the visibility improves from below 200 metres to above 500 metres for at least 10 minutes.

These messages are repeated in the next hourly aerial route report.

FINLAND.

109. (15.7.24.)

Page 30, *Finland*, § 1.

Correct wave-length to 5,500 m. c.w. and *amend* Time-Table (p. 107) accordingly.

NORWAY.

110. (15.7.24.)

Page 61, *Norway* (*a*), § 5.

Add Note (7)—

For about a month upper air temperature observations from station 91, Kjeller (59° 58′ N., 11° 02′ E., 361 ft.), in the New International Code, may be included in any of the above messages. (Pressure in mb.)

(29.7.24.)

The transmissions under Norway (a) are being transferred from Christiania to Bergen for a period of 2 or 3 weeks; call signal, L.G.N.; wave-length, 1,850 m. c.w.; times of sending unchanged.

z (5)22760 Wt 137—10187 375 7/24 E & S

SWITZERLAND.

111. (15.5.24.)

NEW ISSUE.

Page 80, *Switzerland* (*c*).

1. Transmitting station - - - Dubendorf.
   Call Signal - - - - H.B.K.
   Messages directed to - - - C.Q.
   Wave Length - - - - 1,980 m. c.w.

Times of Sending :—

0608 G.M.T. (observations at 0600 G.M.T.) S.
0708 G.M.T. (observations at 0700 G.M.T.) S.
0808 G.M.T. (observations at 0800 G.M.T.) S.
0908 G.M.T. (observations at 0900 G.M.T.) S.
1008 G.M.T. (observations at 1000 G.M.T.) S.
1108 G.M.T. (observations at 1100 G.M.T.) S.
1308 G.M.T. (observations at 1300 G.M.T.) S.

2. *Stations.*

Index.	Station.	Latitude.	Longitude.	Altitude (feet).
050	Dubendorf - -	47° 24′ N.	08° 37′ E.	
051	Zürich - -	47° 23′ N.	08° 33′ E.	1,623
052	Berne - -	46° 57′ N.	07° 26′ E.	1,876
053	Geneva - -	46° 12′ N.	06° 09′ E.	1,329
054	Lugano - -	46° 00′ N.	08° 57′ E.	905
055	Säntis - -	47° 15′ N.	09° 20′ E.	8,202
056	Jungfraujoch -	46° 32′ N.	07° 58′ E.	
057	Lausanne - -	46° 31′ N.	06° 38′ E.	1,810
058	Weissenstein -	47° 15′ N.	07° 30′ E.	4,215
150	Eglisau - -	47° 35′ N.	08° 31′ E.	
151	Romanshorn -	47° 33′ N.	09° 23′ E.	
152	Frauenfeld - -	47° 34′ N.	08° 54′ E.	1,394
153	Winterthur -	47° 30′ N.	08° 44′ E.	1,459
154	Wohlen (Aarg) -	47° 21′ N.	08° 17′ E.	
155	Muri (Aarg) -	47° 16′ N.	08° 20′ E.	1,583
156	Sursee - -	47° 10′ N.	08° 06′ E.	1,657
157	Huttwil - -	47° 07′ N.	07° 50′ E.	
158	Burgdorf - -	47° 04′ N.	07° 37′ E.	1,804
159	Fribourg - -	46° 47′ N.	07° 09′ E.	2,214
251	Lenzburg - -	47° 23′ N.	08° 11′ E.	
252	Olten - - -	47° 21′ N.	07° 54′ E.	?1,312
253	Herzogenbuchsee	47° 12′ N.	07° 42′ E.	
254	Aarberg - -	47° 03′ N.	07° 17′ E.	
255	Payerne - -	46° 49′ N.	06° 57′ E.	
256	Romont - -	46° 41′ N.	06° 55′ E.	2,506
257	Rolle - - -	46° 28′ N.	06° 21′ E.	
551	Heiden - -	47° 27′ N.	09° 32′ E.	
552	Wallenstadt -	47° 08′ N.	09° 19′ E.	

3. *Code.*—New International (slightly modified).

4. *Form of Individual Messages.*

0608 *Message.* Stations 050, 058, 059, 150—
$I_nI_nI_n$ wwVhL NDDFW

0708 *Message.* Part I. Stations 051 to 058—
$I_nI_nI_n$ BBBDD FwwTT cbWVH
An′aN_1h $C_a$ddF′
where n′ is the amount of low cloud of Form A, N_1 the total amount of cloud, F′ the speed of cloud of Form C_a, in codes 4 and 5 respectively, p. 36.

Part II. Stations 151 to 153—$I_nI_nI_n$ wwVhL NDDFW

Part III. Forecast.

0808 *Message.* Part I.—Same form as 0608 message.
Part II.—Forecast.

0908 *Message.* Station 050 in form of 0608 message.

1008 *Message.* Part I.—Stations 050, 057 and 154 to 257 in same form as 0608 message.
Part II.—Forecast.

1108 *Message.* Same form as Parts I. and II. of 0708 message.

1308 *Message.* Same form as Parts I. and II. of 0708 message.

5. *Notes.* (1) For units, *see* page 106.

(2) A group of two figures may be added to the observations from Weissenstein giving in a special code particulars of fog, mist and clouds on the plain between the Jura mountains and the Alps. (For details of this code *see* "Annexe aux Codes des émissions météorologiques suisses par T.S.F. pour le trafic aérien.")

112. ERRATA.

In Supplement No. 8, Amendment 96,

for "*Annual* time-table, 107" *read* "*Amend* time-table, p. 107."

In Amendments 104 and 105, for "99" *read* "97."

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SUPPLEMENT No. 10 to M.O. 252 (*2nd Edition*).

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GREAT BRITAIN.

113. (1.10.24).

Page 10, *Great Britain* (*b*) § 2.

To station 76 Vienna *add* †.

Delete 77, Linz x† and 78 Innsbruck x† and *substitute* 77 Vajnory and 78 Klagenfurt.

After 58 Ile d'Aix *add* 96 Tours.

Before 28 Genoa *add* 97 Ajaccio.

114. (1.10.24).

Page 16, *Great Britain* (*d*) *and Supplement No.* 1, *Amendment* 8, § 2.

To list of stations *add*

FOREIGN 1. Reykjavik†
2. Thorshavn†

and *insert* a footnote : † These stations give landward visibility.

In § 4 for 10 stations *read* 12 stations and, in the example of a complete message, after 00146 *insert*

" FOREIGN 10108 96064
25127 04163."

FRANCE.

115. (1.9.24).

Page 32, *France* (*a*), § 2. *Delete* station 02 and *substitute* :—

02 Socoa (C) 43° 23′ N. 01° 41′ W. ——

D (5)23003 Wt 137—10187 375 9/24 A

GERMANY.

116. (7.8.24).

Page 44, *Germany* (*a*), § 1, *amend* wave length here and in Time-table (p. 107) to 3,350 m. c.w.

Page 46, *Germany* (*b*), § 1, *amend* wave length to 3,350 m. c.w.

In §§ 1 and 4, for 0650 *substitute* 0645.

Correct Time-table (p. 107) accordingly.

117. (7.8.24).

Page 48, *Germany* (*h*), for § 1 *substitute* :—

1. Transmitting Station - - - Königswusterhausen.
   Call Signal - - - - - L.P. (L.I. for forecasts).
   Messages direct to - - - - C.Q.
   Wave Length - - - - - 3,350 m. c.w.
   (900 m. c.w. for forecasts.)

Times of sending :—

0900 G.M.T. } { observations at times specified in messages } S., U.W., U.A.T., G., F.
1545 G.M.T. }

Correct Time-table (p. 107) accordingly.

LATVIA.

118. (1.8.24).

Page 56, *Latvia*.

Substitute the following particulars and *amend* Time-table (p. 107) accordingly.

1. Transmitting Station - - - - - Libau.
   Call Signal - - - - - - - K.C.B.
   Messages directed to - - - - - C.Q.
   Wave Length - - - - - - 2,650 m. c.w.
   Times of sending :—
   0810 G.M.T. (observations at 0700 G.M.T.*) S., U.W., U.A.T.
   1025 G.M.T., I., G., F.
   1410 G.M.T. (observations at 1300 G.M.T.) S., U.W., U.A.T.
   1910 G.M.T. (observations at 1800 G.M.T.) S., U.A.T.

2. *Stations* :—

Index.	Name.	Latitude.	Longitude.	Altitude (feet).
01	Riga - -	- 56° 59′ N.	24° 05′ E.	8
02	Libau - -	- 56° 31′ N.	21° 00′ E.	12
03	Malnova -	- 56° 47′ N.	27° 44′ E.	391
04	Daugavpils -	- 55° 53′ N.	26° 30′ E.	391
*05	Windau -	- 57° 24′ N.	21° 34′ E.	12
*06	Preekuli -	- 57° 19′ N.	25° 23′ E.	402

* Observations at these stations are made at 0700, 1300 and 2100 *local* time.

Stations for Ice Reports :—

		Latitude.	Longitude.
1.	Pape - - -	- 56° 10′ N.	21° 02′ E.
2.	Libau - - -	- 56° 31′ N.	21° 00′ E.
3.	Akmansrags -	- 56° 50′ N.	20° 04′ E.
4.	Windau - -	- 57° 24′ N.	21° 34′ E.
5.	Lizerorte - -	- 57° 34′ N.	21° 43′ E.
6.	Mikelbaka - -	- 57° 56′ N.	21° 59′ E.
7.	Kolkasrags N.W.	- 57° 48′ N.	22° 38′ E.
8.	Kolkasrags N.E.		
9.	Kolkasrags S.E.		
10.	Mersrags - -	- 57° 22′ N.	23° 07′ E.
11.	Riga (Sea) - -	- 57° 04′ N.	24° 01′ E.
12.	Riga (Harbour) -	- 56° 57′ N.	24° 06′ E.
13.	Ainaschi - -	- 57° 52′ N.	24° 21′ E.

3. *Code*.—New International for an inland station (*see* p. 88). Ice reports, gale warnings and statement of meteorological situation in special codes.

4. *Form of Individual Messages*.—Messages commence with the words "Meteo Latvia."

0810 *Message*.

Part I.—I_nI_n BBBDD FwwTT cbWVH ALaNh RRmmr

Part II.—Preceded by word "Pilot" : Upper Winds.
Riga YYGG $h_1$ddvv &c.

Part III.—Preceded by word "Temp." : Upper air temperatures and humidities.
Riga YYGG BBTTH &c.

1025 *Message*.

Part I.—Ice Reports for the same morning at the stations given above (§ 2) in order in the same code as German messages (*see* pp. 45 and 46).

JJ′JJ′JJ′ JJ′JJ′JJ′ JJ′JJ′JJ′ JJ′JJ′JJ′ JJ′

Part II.—Gale warnings, valid until 0700 next day, in a special code (*see* § 6, below) for the following six districts in order in the form—

ggggggg

1. The Skagerrak.
2. Kattegat.
3. South Baltic.
4. North Baltic.
5. Gulf of Bothnia.
6. Gulfs of Riga and Finland.

Part III.—State of sea and swell at 0700 G.M.T. at the same 13 stations as for ice reports in the form—

SSSSS SSSSS SSS

where S has the meaning of the New International Code.

Part IV.—General weather situation in the form—

" LL " B_1LLlllD_1 " LL " B_1LLlllD_1 &c.
" HH " B_2LLlllD_2 " HH " B_2LLlllD_2 &c.

Where " LL " indicates " low."

B_1 ,, degree of development of the " low " in code 2, § 6.
LL ,, latitude in whole degrees.
ll ,, longitude in whole degrees.
D_1 ,, direction of movement of the " low " in code 4, § 6.

and similarly—

" HH " indicates " high."

B_2 ,, degree of development of the " high " in code 3, § 6.
LL ,, latitude in whole degrees.
ll ,, longitude in whole degrees.
D_2 ,, direction of movement of the " high " in code 5, § 6.

Part V.—Navigation warnings, etc., in plain language (English).

1410 *Message.*

Part I. I_nI_n BBBDD FwwTT cbWVH ALaNh.
Part II. and III. Same form as Parts II. and III. of 0810 message.

1910 *Message.*

Part I. I_nI_n BBBDD FwwTT cbWVH ALaNh RRMMr.
Part II. Same form as Part III. of 0810 message.

5. For units *see* p. 106.

6. *Special Codes.*

Code 1. *Gale Warning* (g).

0. No storm warning.
1. Gale (force 7–10) from between N. and W.
2. ,, ,, ,, ,, S. and W.
3. ,, ,, ,, ,, N. and E.
4. ,, ,, ,, ,, S. and E.
5. ,, ,, without given direction.
6. Storm (force 11–12) from between N. and W.
7. ,, ,, ,, ,, S. and W.
8. ,, ,, ,, ,, N. and E.
9. ,, ,, ,, ,, S. and E.
X No information.

Code 2. *Intensity of Depression* (B_1).

1. 755–760 mm.
2. 750–755 ,,
3. 745–750 ,,
4. 740–745 ,,
5. 735–740 ,,
6. 730–735 mm.
7. 725–730 ,,
8. 720–725 ,,
9. 715–720 ,,
0. 710–715 ,,

Code 3. *Intensity of Anticyclone* (B_2).

1. 760–763 mm.
2. 763–766 ,,
3. 766–770 ,,
4. 770–774 ,,
5. 774–778 ,,
6. 778–782 mm.
7. 782–786 ,,
8. 786–790 ,,
9. 790–796 ,,
0. above 796 mm.

Code 4. *Direction of Movement of Depression* (D_1).

1. to N.
2. ,, NNE.
3. ,, NE.
4. ,, ENE.
5. ,, E.
6. to ESE.
7. ,, SE.
8. ,, SSE.
9. ,, S.

Movement to west is given *en clair.*

Code 5. *Direction of Movement of Anticyclone* (D_2).

1. to N.
2. ,, NE.
3. ,, E.
4. ,, SE.
5. to S.
6. ,, SW.
7. ,, W.
8. ,, NW.

NORWAY.

119. (16.8.24).

Page 59, *Norway* (*a*).

The transmissions from Christiania (L.C.H.) have now been resumed on a wave length of 5,400 m. c.w.

120. (6.9.24).

Page 61, *Norway* (*a*), § 5.

For Note (7) *substitute*

(7) Between 6th and 20th September, observations of upper air temperatures from Horten (Station 93, Lat. 59° 20′ N., Long. 10° 28′ E., at sea level) may be included in any of the above messages.

SPAIN.

121. (1.8.24).

Page 72, *Spain*, §§ 1 *&* 4.

For 0930 G.M.T. *read* 0900 G.M.T. and *correct* Time-table (p. 109) accordingly.

MOROCCO, ETC.

122. (1.9.24).

Page 83, *Morocco, etc.* (*i*), § 2.

In Amendment 103, for 16 *read* 17 and for 17 *read* 16.

Add also 18 Timadit, Lat. 33° 14′ N., Long. 05° 04′ W., 6,562 feet.

123. (28.8.24).

For a period of 10 to 15 days, during repairs, the transmissions from Médiouna will be made on a wave length of 1,500 m. spk.

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GREAT BRITAIN.

124. (15.9.24.)

Page 10, *Great Britain* (*a*), § 5.

Add Note (12).

Observations from British Ships in the Western North Atlantic in the code of § 4 above (0200 message, Part IV) are sent via America to France and are retransmitted from Paris, generally in the following messages:

From Le Bourget (F.N.B.) at 0928 G.M.T. on 1680 m. c.w.
Eiffel Tower (F.L.) at 1005 G.M.T.on 2600 m. spk.
Eiffel Tower (F.L.) at 1135 G.M.T. on 2600 m. c.w.

These observations are indicated by the words "Navires britanniques Ouest Atlantique." In the 1005 message the first four groups only of the code are used.

BELGIUM.

125. (10.9.24.)

Page 25, *Belgium*, § 4.

To 0722 message, Part I, before station 03 *add:*

0100 G.M.T. observations from self-recording instruments at Brussels in the form

I_nI_nGG BBBDD FwwTT cbWNH

FINLAND.

126. (1.10.24.)

Page 30, *Finland*, § 2.

For the regions to which Ice Reports refer *substitute* the list given below and in § 4 *instead of* thirty-six regions *read* sixty regions.

AA Björkö Sound.
Region of Werkkomatala.
The Sea W. from Björkö.
Fairway Wiborg–Trångsund.
Fairway Trångsund–Rödhäll.
Outside Rödhäll.

(5)23099 Wt 137—10187 375 10/24

BB Kotka Harbour and neighbourhood.
Outside Rankö.
Outside Luppi.
The Sea E. from Hogland.
The Sea S. from Hogland.
The Sea W. from Hogland.

CC Helsingfors S. Harbour and neighbourhood.
Outside Sveaborg.
Outside Gråskärsbådarna.
At Porkala.
Outside Kallbådan.
Barösunds Fjärd.

DD The Sea outside Jusarö.
Hangö Harbour and neighbourhood.
At Russarö.
The outer Sea off Russarö.
Hangö W. Fjärd.
S. Gullkrona Fjärd.

EE Åbo Harbour to Stora Bocken.
Ersten Fjärd.
Widskär Fjärd.
Around Utö.
The outer Sea off Utö.
Skiftet.

FF At Ledsund.
E. of Nyhamn.
The Sea outside Kobbaklintar.
Archipelago of Mariehamn.
W. of Eckerö.
The Sea towards Sälskär.

GG The Archipelago of Raumo.
The inner Sea off Raumo.
Region of Relandersgrund.
Mäntyluoto Harbour and neighbourhood.
Outside Kallo and Räfsö.
The Outer Sea off Räfsö.

HH Wasklot Harbour and neighbourhood.
Storhästen to Ensten.
Entrance of Rönnskär.
Entrance of Norskär.
Jacobstad Harbour.
Ådö roadstead.

II The sea outside Mässkär.
Yxpila Harbour.
Inside Tankar.
The Sea off Tankar.
Brahestad roadstead.
The Sea towards Nahkiainen.

JJ The Sea off Isokraaseli to N.
Outer Harbours of Uleåborg.
Fairway to Uleåborg.
The Sea off Marjaniemi.
Kemi Harbours.
The Sea off Kemi.

FRANCE.

127. (15.9.24.)

Page 36, *France* (*a*), § 5.

Add Note (8): For code of British ships' reports included in these messages *see* page 10, Great Britain (*a*) § 5, Note (12).

128. (15.9.24.)

Page 40, *France* (*b*), § 4.

In 0400 message, Part II, *add* to the code for ship observations the group wwvKd.

To § 5 *add* Note (4):

For code of British ships' reports included in these messages *see* page 10, Great Britain (*a*) § 5, Note (12).

129. (15.9.24.)

Page 43, *France* (*c*), § 5.

Add Note (5): For code of British ships' reports included in these messages *see* page 10, Great Britain (*a*) § 5, Note (12).

HOLLAND.

130. (1.9.24.)

Page 53, *Holland* (*c*), § 2.

Add station 8 Noord-Hinder (Lightship) 51° 35′ N. 02° 37′ E. —.

In § 4 to 0744 and 1344 messages *add* station 8 BBBDD FwwTT cbWVx ALaNh.

131. (15.9.24.)

Page 52, *Holland* (*a*), § 2.

Add Station 08 Noord-Hinder (Lightship) (C) 51° 35′ N. 02° 37′ E. —.

ITALY.

132.

Page 56, *Italy*, § 4.

Insert the following particulars:

4. *Form of Individual Messages.*

0850 *Message.*

Part I. I_nI_n BBBDD FwwTT cbWVH ALaNh RRjjr C_1ddVV.

Part II. Upper winds, preceded by word "Pilots." I_nI_n $h_1$ddvv &c.

1950 *Message.*

Same form as 0850 message.

POLAND.

133. (8.9.24.)

Page 64, *Poland*, § 1.

Substitute the following particulars and *amend* time table (p. 107) accordingly.

Transmitting station - - - -	Grudziadz.
Call Signal - - - - -	A.X.K.
Messages directed to - - - -	C.Q.
Wave length - - - - -	10,300 m. c.w.

Times unchanged.

PORTUGAL.

134. (15.6.24.)

It has now been ascertained that the following corrections are necessary :—

Page 66, *Portugal*, § 1.

Delete particulars of wave length and *substitute* :—

3000 m. c.w. at 0835 G.M.T.
2400 m. c.w. at 1935 G.M.T.

For times of sending *substitute* 0835 and 1935 G.M.T.
Amend time table page 107 accordingly.

Page 67 § 4.

Amend times of messages to 0835 and 1935.

135. *Page* 67, *Portugal, Azores and Madeira.*

Messages are now also transmitted at 0830 and 2330 G.M.T. containing observations made at 0800 and 2300 G.M.T. respectively.

UNITS EMPLOYED BY EACH COUNTRY.

136. *Page* 106, *Units.*

For speed of Upper Winds from Italy *instead of* 2m./s. *read* km./h.

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GREAT BRITAIN.

137. (1.10.24.)

Page 20, *Great Britain* (*g*), §§ 1 & 2.

Amend the wave-lengths of the various stations as follows :—

Cranwell, Leuchars, Shotwick, Renfrew :	1,160 m. c.w.
Andover, South Farnborough :	1,210 m. c.w.
Felixstowe, Calshot, Plymouth, Guernsey :	1,300 m. c.w.

and *correct* time-table (p. 107) accordingly.

FRANCE.

138. (25.10.24.)

Page 38, *France* (*b*).

§1. *Add* to times of sending :—
0940 G.M.T. (American observations at 0100 G.M.T.)
S., O. and correct time-table (p. 109) accordingly.
After 1005 G.M.T. *amend* words in brackets to read :—
(observations at 0700 G.M.T.)

139. § 2. Before J. St. John's *insert* :—

—Belle Isle* 51° 55′ N. 55° 20′ W. 436 ft.
To St. John's *add* an asterisk and *insert* footnote—
* *see* § 5, Note (5).

140. *Page* 40, § 4.

Before 1005 message *insert.*

NEW ISSUE.

0940 *message*—
Preceded by words "Météo Amérique Atlantique."
Part I. Commencing with the word "Amérique." American observations in the form of Part III. of 1005 message, with, perhaps, the addition of a five-figure group (LLlID), preceded by the word "cyclone," indicating the latitude, longitude, and direction of movement (0 = stationary, 1 = N.E., 2 = East, etc.) of the disturbance.

x (5)23217 Wt 137—10187 375 10 24 E & S

Part II. Commencing with the words "Atlantique Oriental." Ships' observations in the form of Part II. of 0400 message.

Part III. Commencing with the words "Atlantique occidental." Ships' observations in the form of Part IV. of 1005 message.

Part IV. Commencing with the words "Britannique." Observations from British Ships in the code of Great Britain (*a*), page 7, § 4, 0200 message (Part IV.).

Part V. Commencing with the word "Açores." Observations from the Azores in the form:
Name of station BBDDF w, TTK'R.

141. *Page* 40, § 4, 1005 *message.*

Parts III. and IV. of this message now constitute the 0940 message.

142. *Page* 41, § 5. *Add* Note (5).

Observations from Belle Isle and St. John's may contain two groups, of which the first refers to 1300 G.M.T. of previous day and the second to 0100 G.M.T. of day of issue. If only one group is sent it refers to 1300 of previous day.

ROUMANIA.

143. (1.11.24.)

Page 68, *Roumania*, § 1.
Add to times of sending:
1030 G.M.T. (Same as previous message) S., U.W. and *correct* time-table (p. 109) accordingly.

§ 4. Insert after 0750 message:
1030 *message.* Same form as 0750 message.

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CZECHOSLOVAKIA.

144. (18.12.24.)

Page 27, *Czechoslovakia*, § 1.

Amend as follows and *correct* time-table (p. 107):—

Call Signal	...	O.K.P.
Wave-length	...	6,120 m. c.w.

ESTONIA.

145. *Page* 29, *Estonia*, § 4.

In 2015 message *delete* the code and *substitute* "in the code of Part I. of 0725 message; the maximum, minimum and rainfall readings refer to the period since last observation."

FINLAND.

146. (1.1.25.)

Page 30, *Finland*, § 2.

Add Station 08 Abô 60° 27′ N. 22° 16′ E. 69 ft.
Station 09 Inari 68° 57′ N. 26° 49′ E. 502 ft.

GERMANY.

147. *Page* 45, *Germany* (*a*), § 5.

Add Note (3):—

Observations from German ships are included in these messages in the form

PQLLL 111ZZ BBDDF wwvKd ALaNh TTttW

where ZZ is the hour of observation in Central European Time.

x (5)23525 Wt 137—10187 375 12/24

148. (20.11.24.)

Page 46, *Germany* (*b*), § 2.

Add to list of stations :—

American Stations—

AA	0	St. John's, N.F.	BB	0 Hatteras	CC 0 Salt Lake City
	1	Sydney, N.S.		1 Charleston	1 Helena
	2	Father Pt.		2 Bermuda	2 Denver
	3	Parry Sound		3 Key West	3 Roseburg
	4	White River		4 Little Rock	4 Tatoosh
	5	Winnipeg		5 Nashville	5 San Francisco
	6	Le Pas		6 Cleveland	6 San Diego
	7	Edmonton		7 Chicago	7 Fort Worth
	8	Nantucket		8 Duluth	8 El Paso
	9	Washington		9 Huron	9 Belle Isle

For positions *see* France (*b*), p. 39.

In § 4 *add* to 0645 message.

Part II. American observations for 0100 G.M.T. in the form—

AA	I_nBBDF	I_nBBDF etc.
BB	I_nBBDF	etc., etc.,
CC	etc., etc.	

ROUMANIA.

149. (1.1.25.)

Page 68, *Roumania*, § 1.

Delete 0150 message ; *amend* wave-length to 8,300 m. c.w. (11,300 m. c.w. at 1350).

Correct time-table (p. 107) accordingly.

RUSSIA.

150. (15.12.24.)

Page 70, *Russia* (i), § 4.

Add to 1100 message :

This message may be preceded by an ice report in plain language (English).

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GREAT BRITAIN.

151. (1.2.25.)

Page 10, *Great Britain* (*a*), § 5.

Add note (13) :

In the 0800, 1400 and 1900 messages an additional group in the form $N_0w_0w_0Ci\ W_0$ will be added at the end of the observations from Aberdeen (07), Cranwell (44), Valencia (50), and Plymouth (72). The meanings of the symbols are given in Circulars S.C.N.1 and S.C.N.2.

152. NEW ISSUE (1.3.25.)

Page 5, *Great Britain* (*a*), § 1.

Add to times of sending :

1050 G.M.T. (observations at 1000 G.M.T. and for one station at 0800 G.M.T.) S.0.
1650 G.M.T. (observations at 1600 G.M.T.) S.0.

and *correct* time-table (p. 107) accordingly.

Page 7, § 4.

Insert :

1050 *message.*

Part I.—Stations 03, 50, 72 and 74.—
I_nI_n BBBDD FwwTT cbWVH ALaNh (C_1ddVV).

Part II.—0800 G.M.T. observations from Horta in the form
" Horta " BBBDD Fwwmm cbWVH CNRRS.

(Part III.—Late Icelandic observations.)

Part IV.—Ship Reports.

1650 *Message.*

Parts I, II, and III.—In same form as Parts I, III, and IV of 1050 message.

z (5)23697 Wt 137—10187 375 1/25

156. (1.3.25.)

Page 8, Note (4).

Page 13, Great Britain (c). §4.

Delete Part III. of 1025 message.

Page 15, Note (2).

Delete Horta and footnote.

157. (13.1.25.)

Page 23, § 5.

Add Note (13).

In the 0600, 1100 and 1800 messages an additional group in the form $N_0w_0w_0C(W)_0$ will be added at the end of the observations from Aberdeen (07), Cranwell (44), Valencia (30), and Plymouth (03). The meanings of the symbols are given in Circulars S.C.N.1 and S.C.N.2.

158. (15.1.25.)

Page 33, France (c) § 2.

Delete Station 24 and substitute

24 Mont Salève 46° 01′ N. 06° 07′ E. 3,201 ft.

159. (18.1.25.)

Page 36, § 3.

Add Note (9).

An additional group is added at the end of the 0700 and 1800 observations from stations 11, 15, 24 and 31 in the form $N_0w_0w_0C(W)_0$, the symbols having the meanings given in Circulars S.C.N.1. and S.C.N.2.

The group may also be added to the Swiss and Dutch observations.

160. (20.1.25.)

Page 46, Germany (c), § 1 and 4.

Delete the words "1000 G.M.T." observations from 1,100 m. at 0645, and substitute "1030 G.M.T. and 1930 G.M.T. according to the current time-table (p. 107) accordingly."

Page 14, Great Britain (c). §4.

Delete Part III. of 1025 message.

Page 15, Note (2).

Delete Horta and footnote.

161. (22.1.25.)

Page 10, Great Britain (a), § 5.

Add Note (13).

In the 0600, 1100 and 1800 messages an additional group in the form $N_0w_0w_0C(W)_0$ will be added at the end of the observations from Aberdeen (07), Cranwell (44), Valencia (30), and Plymouth (03). The meanings of the symbols are given in Circulars S.C.N.1 and S.C.N.2.

162. (23.1.25.)

Page 5, Great Britain (a), § 2.

Add to times of sending "1030 G.M.T. (observations at 1000 G.M.T.) and for one station at 0800 G.M.T. (observations at 0600 G.M.T.) S.O. and correct time-table (p. 107) accordingly."

Page 7, § 4.

1030 message.

Part I.—Stations 03, 30, 72 and 74.

Part II.—Icelandic observations from Horta.

Part III.—Arctic Reports.

Part IV.—Ship Reports.

1030 Message.

Parts I., II. and III.—In same form as Parts I., III. and IV. of 1000 message.

153. (1.3.25.)

Page 9, *Note* (4).

Delete the words "1000 G.M.T. observations from . . . . and Calshot."

Page 14, *Great Britain* (*c*), §4.

Delete Part III. of 1036 message.

Page 15, *Note* (2).

Delete Horta and footnote.

154. (12.1.25.)

Page 20, *Great Britain* (2), §§ 1 *and* 2.

In the table *delete* Plymouth (C) (line 13) and *insert* after Shotwick (L) (line 16): Plymouth (C).

155. (1.2.25.)

Page 22, § 5.

Add Note (7):

The 0705, 1305, and 1805 messages from Cranwell and Plymouth will include an additional group at the end of the observations in the form $N_0w_0w_0CiW_0$. The meanings of the symbols are given in Circulars S.C.N.1 and S.C.N.2.

FRANCE.

156. (15.1.25.)

Page 33, *France* (*a*) § 2.

Delete Station 24 and *substitute*

24 Mont Salève 46° 04′ N. 06° 03′ E. 3,291 ft.

157. (15.1.25.)

Page 36, § 5.

Add Note (9).

An additional group is added at the end of the 0700 and 1800 observations from stations 11, 15, 24 and 31 in the form $N_0w_0w_0CiW_0$, the symbols having the meanings given in Circulars S.C.N.1. and S.C.N.2.

The group may also be added to the Swiss and Dutch observations.

GERMANY.

158. (20.1.25.)

Page 44, *Germany* (*a*), §§ 1 *and* 4.

Amend times of sending to read: 0720, 1320 and 1820 G.M.T. and *correct* time-table (p. 107) accordingly.

159. (20.1.25.)

Page 46, *Germany* (*b*), §§ 1 *and* 4.

Amend wave-length and times of sending to read: 1,100 m. at 0645, 0840, 1440 and 1940 G.M.T. and *correct* time-table (p. 107) accordingly.

MOROCCO, ETC.

160. *Page* 85, *Morocco, etc.* (*i*) § 5.

Add Note (4):

An additional group may be added to the end of the 0700 and 1800 observations from Rabat and Tunis in the form $N_0w_0w_0CiW_0$, the symbols having the meanings given in circulars S.C.N.1 and S.C.N.2.

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GREAT BRITAIN.

161. (10.2.25.)

Page 6, Great Britain (a), § 2.

Add Station 48 Dunkeld 56° 33' N., 03° 35' W. 100 ft.

(1.2.26.)

For 34 Liverpool (c) *read* : 34 Liverpool (La).

162. (1.2.25.)

Page 13, Great Britain (c), § 3.

Amend second paragraph to read :

Forecasts in a special code consisting of up to six groups each of five figures.

Delete footnote.

FRANCE.

163. (9.2.25.)

Page 43, France (c), § 3.

These forecasts are now given in a special code consisting of up to six groups each of five figures.

GERMANY.

164. (1.2.25.)

Page 48, Germany (b), § 1.

For time of sending 1945

substitute 1480 (immediately after Frankfurt II) and

Amend time table (p. 110) accordingly.

NORWAY.

165. (1.2.26.)

Page 61, Norway (a), § 3.

Add : Note (3). An additional group for the form $N_w w_w CW_c$ will be added to the observations from Lista (58), the symbol having the meanings given in Circulars S.C.N.1 and S.C.N.2.

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GREAT BRITAIN.

161. (10.2.25.)

Page 6, *Great Britain* (*a*), § 2.

Add Station 48 Duxford 52° 06′ N., 00° 08′ E. 100 ft.

(1.3.25.)

For 34 Liverpool (*c*) *read :* 34 Liverpool (L).

162. (1.2.25.)

Page 13, *Great Britain* (*c*), § 3.

Amend second paragraph to read :

Forecasts in a special code consisting of up to six groups each of five figures.

Delete footnote.

FRANCE.

163. (2.2.25.)

Page 43, *France* (*c*), § 6.

These forecasts are now given in a special code consisting of up to six groups each of five figures.

GERMANY.

164. (1.2.25.)

Page 48, *Germany* (*h*), § 1.

For time of sending 1545

substitute 1450 (immediately after Funkobs II) and *amend* time table (p. 110) accordingly.

NORWAY.

165. (1.2.25.)

Page 61, *Norway* (*a*), § 5.

Add Note (8) : An additional group in the form $N_o w_o w_o C i W_o$ will be added to the observations from Lister (32), the symbols having the meanings given in Circulars S.C.N.1 and S.C.N.2.

x (5)23765 Wt 137—10187 375 2/25

M.O. 252. (2nd Edition.) Supplement No. 15.

AIR MINISTRY.

METEOROLOGICAL OFFICE.

SUPPLEMENT No. 15 TO M.O. 252. (2nd Edition.)

(Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.)

Issued on 5th February 1925.

GREAT BRITAIN.

161. (10.2.25.)

Page 9, Great Britain (a). § 2.

Add Station 18 Buxton 53° 16′ N., 00° 08′ E. 100 ft.

(1.3.25.)

For 34 Liverpool (c) read: 34 Liverpool (L).

162. (12.2.25.)

Page 13, Great Britain (c). § 3.

Amend second paragraph to read:

Forecasts in a special code consisting of up to six groups each of five figures.

Delete footnote.

FRANCE.

163. (2.2.25.)

Page 13, France (c). § 6.

These forecasts are now given in a special code consisting of up to six groups each of five figures.

GERMANY.

164. (1.2.25.)

Page 43, Germany (b). § 1.

For time of sending 1545 substitute 1530 (immediately after Funkstelle II) and amend time table (p. 110) accordingly.

NORWAY.

165. (1.2.25.)

Page 61, Norway (c). § 6.

Add Note (3): An additional group in the form N.w.w.(IW.) will be added to the observations from Stations Warsaw (02) and Danzig (13), the symbols having the meanings given in Circulars S.C.N.1 and S.C.N.2.

FOR OFFICIAL USE.

M.O. 252 (2nd Edition).* Supplement No. 16.

M.O. 252 (3rd Edition).* Supplement No. 1.

AIR MINISTRY:
METEOROLOGICAL OFFICE. 13 JUN 1925

Particulars of Meteorological Reports issued by Wireless Telegraphy in Great Britain and the Countries of Europe and North Africa.

Supplement issued on 10th March, 1925.

GREAT BRITAIN.

L. (3.3.25.)

Delete entries and substitute

0830 message. BIRUD. FwaTT. GLWYH.

1430 & 2130 message. BIRUD. FwaTT. GLWYH.

1830 message. BIRUD. FwaTT. GLWYH.

Wireless Service (ed.), 3 V.

Add. to 1930 and 1950 messages, Part I. station 91 (Thorshavn).

NORWAY.

2. (3.3.25.)

Norway (ed.), 55-1 and 2.

For times of sending 1930 and 1950 substitute 1915 and 1945 and amend time table at end of book accordingly.

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* These amendments apply both to the second edition and to the third edition which is now in the press.

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