

640804

SHIPS' CODE CARD

CODE FORMS

FM 21-VI Code Form for Selected Ships, Groups 1-16. The first seven groups should normally be reported on all occasions. Any of the remaining groups may be omitted when the relevant observations are lacking.

FM 22-VI Code Form for Supplementary Ships, Groups 1-7.

CODING INSTRUCTIONS

- (i) If the group D_{SVSapp} is not reported, 30 is added to GG.
- (ii) If the groups $N_h C_L h C_M C_H$ and D_{SVSapp} are not reported, 60 is added to GG.
- (iii) If the group D_{SVSapp} is included, the preceding seven groups must be completed, using a solidus (/), where necessary to replace data not reported.
- (iv) A check should always be made to see that there is no inconsistency between present weather (ww) and visibility (VV).
- (v) When temperatures are coded to the nearest degree, they should be recorded in the logbook to the nearest 0.1 degree (except dew-point).

MISCELLANEOUS

- (i) Observing ships should continue to make observations in coastal waters as far as is practicable. Reports from the North Sea and English Channel are especially useful.
- (ii) Whenever very poor visibility renders it imprudent to make a full observation, groups 1-5 should be recorded and transmitted. If even this is not possible, a short entry should be made at the end of the watch, stating what the ship's position and the visibility were at the synoptic hour.

TABLE FOR FINDING THE DEW POINT (°C.) FOR USE WITH STEVENSON SCREEN ONLY

Dry Bulb	Depression of Wet Bulb																								Dry Bulb		
°C.	0°	0.2°	0.4°	0.6°	0.8°	1.0°	1.2°	1.4°	1.6°	1.8°	2.0°	2.5°	3.0°	3.5°	4.0°	4.5°	5.0°	5.5°	6.0°	6.5°	7.0°	7.5°	8.0°	8.5°	9.0°	°C.	
40	40	40	40	39	39	39	39	38	38	38	38	37	36	36	35	34	34	33	33	32	31	30	30	29	28	40	
39	39	39	39	38	38	38	38	37	37	37	37	36	35	35	34	33	33	32	31	30	29	28	28	27	26	39	
38	38	38	38	37	37	37	37	36	36	36	36	35	34	34	33	32	31	30	29	29	28	27	26	26	25	38	
37	37	37	37	36	36	36	36	35	35	35	34	34	33	33	32	31	30	30	29	28	28	27	26	25	24	37	
36	36	36	35	35	35	35	34	34	34	34	33	33	32	31	31	30	29	29	28	27	26	26	25	24	23	36	
35	35	35	34	34	34	34	33	33	33	33	32	32	31	30	30	29	28	28	27	26	26	25	24	23	22	35	
34	34	34	33	33	33	33	32	32	32	32	31	31	30	29	29	28	27	27	26	25	25	24	23	22	21	34	
33	33	33	32	32	32	32	31	31	31	31	30	30	29	28	28	27	26	26	25	24	23	22	21	20	19	33	
32	32	32	31	31	31	31	30	30	30	30	29	29	28	27	27	26	25	25	24	23	22	21	20	19	18	32	
31	31	31	30	30	30	30	29	29	29	29	28	28	27	26	26	25	24	23	22	21	21	20	19	18	17	31	
30	30	30	29	29	29	29	28	28	28	28	27	27	26	25	24	24	23	22	21	20	19	18	17	16	15	30	
29	29	29	28	28	28	28	27	27	27	27	26	26	25	24	23	22	22	21	20	19	18	17	16	15	14	29	
28	28	28	27	27	27	27	26	26	26	26	25	25	24	23	22	21	20	20	19	18	17	16	15	14	13	28	
27	27	27	26	26	26	26	25	25	25	25	24	24	23	22	21	20	19	18	17	16	15	14	13	12	11	27	
26	26	26	25	25	25	25	24	24	24	24	23	23	22	21	20	19	18	17	16	15	14	13	12	11	10	26	
25	25	25	24	24	24	24	23	23	23	23	22	22	21	20	19	18	17	16	15	14	13	12	11	10	9	25	
24	24	24	23	23	23	23	22	22	22	22	21	21	20	19	18	17	16	15	14	13	12	11	10	9	8	24	
23	23	23	22	22	22	22	21	21	21	21	20	20	19	18	17	16	15	14	13	12	11	10	9	8	7	23	
22	22	22	21	21	21	21	20	20	20	20	19	19	18	17	16	15	14	13	12	11	10	9	8	7	6	22	
21	21	21	20	20	20	19	19	19	18	18	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	21	
20	20	20	19	19	19	18	18	18	17	17	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	20	
19	19	19	18	18	18	17	17	17	16	16	16	15	14	13	12	11	10	8	7	6	5	3	1	0	-3	19	
18	18	18	17	17	17	16	16	16	15	15	15	14	13	12	11	9	8	7	6	4	3	1	-1	-3	-5	18	
17	17	17	16	16	16	15	15	15	14	14	14	13	12	10	9	8	7	6	4	3	1	-1	-3	-5	-7	17	
16	16	16	15	15	15	14	14	14	13	13	13	12	11	10	9	8	7	6	4	3	1	-1	-3	-5	-7	16	
15	15	15	14	14	14	13	13	12	12	12	12	11	11	10	9	8	7	6	4	3	1	0	-2	-5	-7	-10	15
14	14	14	13	13	13	12	12	12	11	11	11	10	9	8	7	6	4	3	1	0	-2	-5	-7	-10	-13	14	
13	13	13	12	12	11	11	11	10	10	9	9	8	7	6	4	3	1	0	-2	-4	-7	-9	-13	-17	-18	13	
12	12	12	11	11	10	10	10	9	9	8	8	7	6	4	3	1	0	-2	-4	-6	-9	-12	-16	-17	-18	12	
11	11	11	10	10	9	9	9	8	8	7	7	6	4	3	1	0	-2	-4	-6	-8	-12	-15	-16	-17	-18	11	
10	10	10	9	9	8	8	8	7	7	6	6	5	4	3	2	0	-2	-3	-6	-8	-11	-15	-19	-19	-20	10	
9	9	9	8	8	7	7	6	6	5	5	5	4	3	2	1	0	-2	-3	-6	-8	-10	-14	-18	-18	-19	9	
8	8	8	7	7	6	6	5	5	4	4	4	3	2	1	0	-1	-3	-5	-7	-10	-13	-17	-17	-18	-19	8	
7	7	7	6	6	5	5	4	4	3	3	3	2	1	0	-1	-2	-4	-6	-9	-12	-16	-16	-17	-18	-19	7	
6	6	6	5	5	4	4	3	3	2	1	1	0	0	-1	-2	-3	-5	-7	-9	-11	-15	-15	-16	-17	-18	6	
5	5	5	4	4	3	3	2	1	1	0	0	0	-1	-2	-3	-4	-6	-8	-11	-14	-15	-15	-16	-17	-18	5	
4	4	4	3	2	2	1	1	0	0	-1	-2	-3	-4	-5	-6	-7	-9	-11	-14	-18	-18	-19	-20	-21	-22	4	
3	3	3	2	1	1	0	0	-1	-2	-2	-3	-4	-5	-6	-7	-8	-10	-13	-17	-17	-18	-19	-20	-21	-22	3	
2	2	1	1	0	0	-1	-1	-2	-3	-3	-4	-5	-6	-7	-8	-9	-11	-14	-16	-16	-17	-18	-19	-20	-21	2	
1	1	0	0	-1	-1	-2	-2	-3	-4	-4	-5	-6	-7	-8	-9	-10	-12	-15	-19	-19	-20	-21	-22	-23	-24	1	
0	0	-1	-1	-2	-2	-3	-4	-4	-5	-6	-7	-8	-9	-10	-11	-12	-14	-18	-18	-19	-20	-21	-22	-23	-24	0	
-1	-1	-2	-2	-3	-4	-4	-5	-6	-6	-7	-8	-9	-10	-11	-12	-13	-15	-18	-18	-19	-20	-21	-22	-23	-24	-1	
-2	-2	-3	-4	-4	-5	-6	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-17	-20	-20	-21	-22	-23	-24	-25	-26	-2	
-3	-3	-4	-5	-5	-6	-7	-8	-9	-9	-10	-11	-12	-13	-14	-15	-16	-18	-21	-21	-22	-23	-24	-25	-26	-27	-3	
-4	-5	-5	-6	-7	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-20	-23	-23	-24	-25	-26	-27	-28	-29	-4	
-5	-6	-6	-7	-8	-9	-10	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-21	-24	-24	-25	-26	-27	-28	-29	-30	-5	
-6	-7	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-23	-26	-26	-27	-28	-29	-30	-31	-32	-6	
-7	-8	-9	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22	-24	-27	-27	-28	-29	-30	-31	-32	-33	-7	
-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22	-23	-24	-26	-29	-29	-30	-31	-32	-33	-34	-35	-8	
-9	-10	-11	-12	-13	-14	-15	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-28	-31	-31	-32	-33	-34	-35	-36	-37	-9	
-10	-11	-12	-13	-14	-15	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-29	-32	-32	-33	-34	-35	-36	-37	-38	-10	
-11	-12	-13	-14	-16	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-30	-33	-33	-34	-35	-36	-37	-38	-39	-11	
-12	-13	-14	-16	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-31	-34	-34	-35	-36	-37	-38	-39	-40	-12	
-13	-15	-16	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-32	-35	-35	-36	-37	-38	-39	-40	-41	-13	
-14	-16	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-33	-36	-36	-37	-38	-39	-40	-41	-42	-14	
-15	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-32	-34	-37	-37	-38	-39	-40	-41	-42	-43	-15	
-16	-18	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-32	-33	-35	-38	-38	-39	-40	-41	-42	-43	-44	-16	
-17	-19	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-32	-33	-34	-36	-39	-39	-40	-41	-42	-43	-44	-45	-17	

Note. In the table, lines are ruled to draw attention to the fact that above the line evaporation is going on from a water surface, while below the line it is going on from an ice surface (wet-bulb temperature below 0°C.). Owing to this, interpolation must not be made between figures on different sides of the line.

99 L _a L _a L _a		(2) Q _c L _o L _o L _o L _o		(3) YY GG i _w			(4) N dd ff			(5) VV ww W			(6) PPP TT		(7) N _h C _L h C _M C _H				
Ship's Report Indicator Figure	Latitude Degrees and Tenths	Quadrant of the Globe	Longitude Degrees and Tenths	Day of the month GMT	Time of observation to nearest hour GMT	Wind Indicator	Total Amount of Cloud	Direction of Surface Wind Degrees True	Speed of Surface Wind Knots	Horizontal Visibility	Present Weather	Past Weather	Barometric Pressure	Air Temperature	Amount of Cloud of Type C _L or C _M	Form of Cloud of Type Cu, Cb, Sc, St.	Height of Base of Lowest Cloud	Form of Cloud of Type Ac, As, Ns.	Form of Cloud of Type Ci, Cs, Cc.

L_aL_aL_a—LATITUDE, degrees and tenths
L_oL_oL_oL_o—LONGITUDE, degrees and tenths

Divide the minutes by 6 and disregard the remainder.

Q_c—QUADRANT OF THE GLOBE

(Table 1)

Code Figures	Lat.	Long.	Code Figures	Lat.	Long.
1	N	E	5	S	W
3	S	E	7	N	W

YY—DAY OF THE MONTH (GMT)

01 = First day of the month
02 = Second day of the month . . etc.

GG—TIME OF OBSERVATION, to nearest hour GMT, 00 to 23

See coding instructions on front cover

i_w—WIND SPEED INDICATOR

(Table 2)

Code Figures	Wind speed estimated	speed in
0	Wind speed from anemometer	metres/sec.
1	Wind speed from anemometer	metres/sec.
3	Wind speed estimated	speed in
4	Wind speed from anemometer	knots

N, N_h—SCALE FOR CLOUD AMOUNT

(Table 3)

Code Figures	Amount of Sky Covered	Code Figures	Amount of Sky Covered
0	Cloudless.	7	$\frac{1}{2}$ or overcast with openings.
1	Trace or $\frac{1}{8}$.	8	Completely overcast.
2	$\frac{1}{4}$ (one-quarter)	9	Sky obscured by fog or other phenomenon.
3	$\frac{1}{2}$ (three-eighths)		
4	$\frac{3}{4}$ (one-half)		
5	$\frac{5}{8}$ (five-eighths)		
6	$\frac{7}{8}$ (three-quarters)		

dd—DIRECTION OF SURFACE WIND

(Table 4)

True direction from which the wind is blowing, to the nearest ten degrees, given in the first two figures of the 360° notation thus :

Code Figures	Directions
00	Calm. (This can only be reported if ff=00.)
01 = 010°	In the case of half way values the higher ten degrees value is coded
18 = 180°	
36 = 360°	
99	variable

ff—SPEED OF SURFACE WIND

(Table 5)

Note:—The Beaufort Number is used here only as a means of estimating wind speed. The speed should be estimated as accurately as possible, e.g. a "high" force 4 might be reported as 15 knots (code figure 15). Otherwise the code figure corresponding to the mean wind speed for the Beaufort Force should be reported.

(a) If at night difficulty is found in estimating wind force by the state of the sea, then it may be estimated by the appearance of the funnel smoke or the feel of a wetted finger, making allowance for course and speed of ship. (b) Fetch, depth, swell, heavy rain and tide effects should be considered when estimating the wind from the appearance of the sea. (c) In coastal waters with an offshore wind, heights will be smaller and waves will be steeper.

Code Figures (speed in knots)	Mean wind speed (knots)	Beaufort number	Description	Appearance of the Sea (if the Fetch and Duration of the Blow have been Sufficient to Develop the Sea Fully)	Probable Height of Waves in metres
00	00	0	Calm	Sea like a mirror	Aver. Max.
01-03	02	1	Light air	Scalelike ripples, without foam crests	0-1 0-1
04-06	05	2	Light breeze	Small wavelets, still short but more pronounced, crests have a glassy appearance and do not break	0-2 0-3
07-10	09	3	Gentle breeze	Large wavelets; crests break, foam glassy; perhaps scattered white horses	0-6 1-0
11-16	13	4	Moderate breeze	Small waves, becoming longer; fairly frequent white horses	1-0 1-5
17-21	18	5	Fresh breeze	Moderate waves, taking a more pronounced long form; many white horses are formed. Chance of some spray	2-0 2-5
22-27	24	6	Strong breeze	Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray	3-0 4-0
28-33	30	7	Near gale	Sea heaps up; white foam begins to be blown in streaks along the direction of the wind	4-0 5-5
34-40	37	8	Gale	Moderately high waves of greater length; edges of crests begin to break into spindrift; the foam is blown in well-marked streaks along the direction of the wind	5-5 7-5
41-47	44	9	Strong gale	High waves; dense streaks of foam along wind; sea begins to "roll"; spray may affect visibility	7-0 10-0
48-55	52	10	Storm	Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface mostly white; rolling heavy and shocklike; visibility affected	9-0 12-5
56-63	60	11	Violent storm	Exceptionally high waves (medium-sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along wind; everywhere edges of crests are blown into froth; visibility affected	11-5 16-0
64 and over	—	12	Hurricane	Sea white with spray; foam and spray fill air; visibility very seriously affected	14

VV—HORIZONTAL VISIBILITY

(Table 6)

Coarse Scale (for ordinary marine use)

Note:—If the horizontal visibility is not the same in different directions, the shorter distance should be given for VV. If the visibility is between two of the distances in the table, the code figure for the smaller distance is reported.

Code Figures	Visibility	Code Figures	Visibility
90	<50m <0.03 n miles	95	2 km 1.1 n miles
91	50 m 0.03 n miles	96	4 km 2.2 n miles
92	0.2 km 0.1 n miles	97	10 km 5.5 n miles
93	0.5 km 0.3 n miles	98	20 km 11 n miles
94	1 km 0.5 n miles	99	≥50 km ≥27 n miles

WW—PRESENT WEATHER

(Table 7)

Use highest code figure applicable (except that 17 takes preference over 20 to 49 incl.)
00-49 NO PRECIPITATION AT SHIP AT TIME OF OBSERVATION

00-03 Change of Sky in Last Hour

- 00 Cloud development not observed or not observable.
- 01 Clouds dissolving or becoming less developed.
- 02 State of sky on the whole unchanged.
- 03 Clouds forming or developing.
- 04-09 Haze, Dust, Sand or Smoke
- 04 Visibility reduced by smoke, e.g. veldt or forest fire, industrial smoke, volcanic ash.
- 05 Haze.
- 06 Widespread dust in suspension in the air, not raised by wind at or near ship at time of observation.
- 07 Blowing spray at the station.
- 08 Dust devils within last hour. (Not for marine use.)
- 09 Duststorm or sandstorm within sight at the time of observation or during the preceding hour.

10-12 Shallow Fog or Mist

- 10 Mist (visibility 1000 metres or more).
- 11 Shallow fog in patches Not deeper than 10 m at sea or 2 m ashore.
- 12 Shallow fog, more or less continuous

13-16 Phenomena Within Sight but not at Station

- 13 Lightning visible, no thunder heard.
- 14 Precipitation, not reaching the ground or surface of sea.
- 15 Precipitation beyond 3 miles, reaching surface.
- 16 Precipitation within 3 miles, reaching surface.
- 17 Thunder audible during the 10 minutes preceding the time of observation, but no precipitation at time of observation.

18-19 Phenomena Within Last Hour or at Time of Observation

- 18 Squall(s).
- 19 Funnel cloud(s). (Tornado cloud or waterspout.)

20-29 Phenomena Within Last Hour but not at Time of Observation

- 20 Drizzle (not freezing) or snow grains)
- 21 Rain (not freezing) Not in showers.
- 22 Snow
- 23 Rain and snow, or ice pellets
- 24 Drizzle or rain, freezing
- 25 Shower(s) of rain.
- 26 Shower(s) of snow, or of rain and snow.
- 27 Shower(s) of hail, or of hail and rain.
- 28 Fog in the past hour but not at present (visibility was less than 1000 m now is 1000 m or more).
- 29 Thunderstorm, with or without precipitation or lightning. See also 91-94.

30-39 Duststorm, Sandstorm, Drifting or Blowing Snow

- 30 Duststorm or sandstorm, decreasing*, slight or moderate.
- 31 Duststorm or sandstorm, unchanging*, slight or moderate.
- 32 Duststorm or sandstorm, increasing*, slight or moderate.
- 33 Duststorm or sandstorm, decreasing*, severe.
- 34 Duststorm or sandstorm, unchanging*, severe.
- 35 Duststorm or sandstorm, increasing*, severe.
- 36 Drifting snow, below eye level, slight or moderate.
- 37 Drifting snow, below eye level, heavy.
- 38 Blowing snow, above eye level, slight or moderate.
- 39 Blowing snow, above eye level, heavy.

(*These terms refer to development during the preceding hour.)

40-49 Fog at Time of Observation

40 Fogbank at a distance at the time of observation, but not at ship during last hour, the fog extending to a level above that of the observer. (Visibility 1000 m or more).

41-49 Visibility less than 1000m.

- 41 Fog in patches.
- 42 Fog, thinning in last hour, sky discernible.
- 43 Fog, thinning in last hour, sky not discernible.
- 44 Fog, unchanging in last hour, sky discernible.
- 45 Fog, unchanging in last hour, sky not discernible.
- 46 Fog, beginning or thickening in last hour, sky discernible.
- 47 Fog beginning or thickening in last hour, sky not discernible.
- 48 Fog, depositing rime, sky discernible.
- 49 Fog, depositing rime, sky not discernible.

50-99 PRECIPITATION AT SHIP AT TIME OF OBSERVATION. (The intensity of the precipitation reported is that at the actual time of observation. The term "intermittent" indicates that either the precipitation began, or that there were breaks during the preceding hour, without presenting the character of a shower).

50-59 Drizzle

- 50 Slight drizzle. Intermittent.
- 51 Slight drizzle. Continuous.
- 52 Moderate drizzle. Intermittent.
- 53 Moderate drizzle. Continuous.
- 54 Dense drizzle. Intermittent.
- 55 Dense drizzle. Continuous.
- 56 Freezing drizzle. Slight.
- 57 Freezing drizzle. Moderate or dense.
- 58 Drizzle and rain. Slight.
- 59 Drizzle and rain. Moderate or dense.

60-69 Rain

- 60 Slight rain. Intermittent.
- 61 Slight rain. Continuous.
- 62 Moderate rain. Intermittent.
- 63 Moderate rain. Continuous.
- 64 Heavy rain. Intermittent.
- 65 Heavy rain. Continuous.
- 66 Freezing rain. Slight.
- 67 Freezing rain. Moderate or heavy.
- 68 Rain or drizzle and snow. Slight.
- 69 Rain or drizzle and snow. Moderate or heavy.

70-79 Solid Precipitation, Not in Showers

- 70 Slight fall of snow flakes. Intermittent.
- 71 Slight fall of snow flakes. Continuous.
- 72 Moderate fall of snow flakes. Intermittent.
- 73 Moderate fall of snow flakes. Continuous.
- 74 Heavy fall of snow flakes. Intermittent.
- 75 Heavy fall of snow flakes. Continuous.
- 76 Ice prisms With or without fog.
- 77 Snow grains
- 78 Isolated starlike snow crystals
- 79 Ice pellets.

80-90 Showery Precipitation. No thunder at time of observation or during preceding hour

- 80 Slight rain shower(s).
- 81 Moderate or heavy rain shower(s).
- 82 Violent rain shower(s).
- 83 Slight shower(s) of rain and snow.
- 84 Moderate or heavy shower(s) of rain and snow.
- 85 Slight snow shower(s).
- 86 Moderate or heavy snow shower(s).
- 87 Slight showers of soft or small hail*.
- 88 Moderate or heavy showers of soft or small hail*.
- 89 Slight showers of hail* Not associated
- 90 Moderate or heavy showers of hail* with thunder.

(*The hail may be accompanied by rain, snow, or both.)

91-94 Thunderstorm† during the Preceding Hour but not at the Time of Observation

- 91 Slight rain Precipitation occurring at time of observation.
- 92 Moderate or heavy rain
- 93 Slight snow, or rain and snow mixed, or hail
- 94 Moderate or heavy snow, or rain and snow mixed, or hail

95-99 Thunderstorm at Time of Observation

- 95 Slight or moderate thunderstorm without hail Precipitation occurring at time of observation.
- 96 Slight or moderate thunderstorm with hail
- 97 Heavy thunderstorm without hail
- 98 Thunderstorm with dust or sandstorm.
- 99 Heavy thunderstorm with hail Ditto.

(†Thunder heard; lightning may or may not be seen.)

W—PAST WEATHER

(Table 8)

Code Figures	Weather in past 6 hours, or since last observation if not over 6 hours ago.
0	Cloud covering half or less of sky throughout period.
1	Cloud covering more than half of sky during part of period and half or less during part of period.
2	Cloud covering more than half of sky throughout period.
3	Sandstorm, duststorm, or blowing snow.
4	Fog or ice fog or thick haze.
5	Drizzle.
6	Rain.
7	Snow, or rain and snow mixed.
8	Shower(s).
9	Thunderstorm(s), with or without precipitation.

The highest applicable figure should be selected. An exception is made, however, in cases where the precipitation, etc., is confined to the past hour, and is sufficiently well indicated by the ww code figure.

(8) D. v. a pp				(12) 0 T. T. T. T. d			(13) 1 T. T. T. w t			(14) 2 I. E. E. S. R. s				(15) 3 P. P. P. w H. w H. w			(16) d. d. d. P. H. w H. w			(17) ICE c. i. S. i. b. i. D. i. z. i				
Ship's Course	Ship's Speed	Characteristic of Barometric Tendency	Amount of Barometric Tendency	Group Indicator Figure	Difference between Air and Sea Temps.	Dew Point	Group Indicator Figure	Sea Surface Temp. in Degrees and Tenths	Tenths Figure of the Air Temp.	Group Indicator Figure	Type of Ice Accretion	Thickness of Ice Accretion	Rate of Ice Accretion	Group Indicator Figure	Period of Waves	Height of Waves	Direction of Swell	Period of Swell	Height of Swell	Concentration of Ice	Stage of Development	Ice of Land Origin	Bearing of Ice Edge	Ice Situation and Trend of Conditions

PPP—PRESSURE IN MILLIBARS AND TENTHS

Initial 9 or 10 is omitted, e.g. 998.0 mb. is coded as 980, and 1014.7 mb as 147.

TT—AIR TEMPERATURE IN WHOLE DEGREES

Note.—If the tenths figure (t_T) of the air temp. is not being reported in the group 1T_wT_wT_wT_w, TT is rounded off to the nearest whole degree.

Negative Celsius temperatures have 50 added for coding, ignoring the minus sign, e.g. -3.4°C. is coded as 53.

Negative Fahrenheit temperatures are subtracted from 100 for coding, e.g. -4.3°F. is coded as 96.

Group N_hC_LhC_LC_L: Names of cloud types are abbreviated in Tables 9, 11 and 12. They are given in full in Ships' Code and Decode Book.

N_h—TOTAL AMOUNT OF SKY COVERED BY LOW (OR MEDIUM, IF NO LOW) CLOUD

Same Code Table as for N. (Table 3)

C_L—CLOUD OF TYPES, Cu, Cb, Sc, St.

Code (Table 9)
Figure: to be decided by the following order of priority:

/ Cloud C_L not visible owing to darkness, fog, sand-storm, etc.

0 No clouds of type C_L.

9 Cb present: the upper part of at least one is clearly fibrous or striated.

3 Cb present: none of the upper parts is clearly fibrous or striated.

4 Sc, formed from the spreading out of Cu, is present.

8 Cu and Sc present, with bases at different levels.

2 Cu of moderate or strong vertical extent is present.

If none of the above cloud types is present choose whichever one of the following represents the greatest amount of sky cover:

1 Cu predominant with little vertical extent and seemingly flattened or ragged Cu, other than that associated with bad weather.

5 Sc predominant, other than that formed by the spreading out of Cu.

6 St predominant in a more-or-less continuous sheet or layer, or in ragged shreds (other than ragged St of bad weather), or both.

7 Ragged St and/or ragged Cu predominant both associated with bad weather.

h—HEIGHT OF BASE OF LOWEST CLOUD IN THE SKY

(Table 10)

If sky is not visible owing to fog, / is reported. If there is a fog, and sky is visible through it, the cloud is reported as if no fog were present. A height exactly equal to one of the heights in the table is reported by the higher code figure.

Code Figures	Height in Feet	Code Figures	Height in Feet
0	Zero to 150	6	3,000-5,000
1	150-300	7	5,000-6,500
2	300-600	8	6,500-8,000
3	600-1,000	9	No low cloud below 8,000
4	1,000-2,000	/	Height unknown
5	2,000-3,000		

C_M—CLOUD OF TYPES, Ac, As, Ns

Code (Table 11)
Figure: to be decided by the following order of priority:

/ Cloud C_M not visible owing to darkness, fog, sand-storms, etc.

0 No clouds of type C_M.

9 Ac present in chaotic sky, with or without As or Ns.

8 Ac present with sproutings in the form of turrets or battlements, or with small cumuliform tufts; with or without As or Ns.

7 Ac present with As and Ns.

6 Ac formed by the spreading out of Cu or Cb, with no As or Ns present.

5 Ac, progressively invading the sky. No As or Ns present.

4 Ac continually changing in appearance. No As or Ns present.

7 Ac present at two or more levels. No As or Ns present.

7 or 3 Ac at one level: the greater part is opaque (C_M=7) or is semi-transparent (C_M=3). No As or Ns present.

2 No Ac, but Ns present, or As which is mostly opaque.

1 No Ac nor Ns, but As present which is semi-transparent.

C_H—CLOUD OF TYPES Ci, Cs, Cc

Code (Table 12)
Figure: to be decided by the following order of priority:
/ Cloud C_H not visible owing to darkness, fog, sand-storm, etc.

0 No clouds of type C_H.

9 Cc alone or predominantly greater than other C_H clouds combined.

7 Cs covering the whole sky, with or without Ci or Cc. Cs, not increasing, not covering whole sky.

6 Cs progressively invading the sky: the continuous veil extends more than 45° above horizon but does not cover whole sky.

5 Cs progressively invading whole sky but the continuous veil does not reach 45° above the horizon.

4 Ci invading the sky. No Cs present.

3 Dense Ci originating from Cb. No Cs present.

2 or 1 Dense, turreted or tufted Ci greater than (C_H=2) or less than (C_H=1) combined sky cover of Ci in the form of filaments, strands or hooks.

D.—COURSE MADE GOOD DURING THE LAST THREE HOURS

(Table 13)

(If this group is omitted and further groups follow, add 30 to GG).

Code Figures	True Direction	Code Figures	True Direction
0	Ship hove to.	5	SW.
1	NE.	6	W.
2	E.	7	NW.
3	SE.	8	N.
4	S.	9	No information.

V_s—SHIP'S AVERAGE SPEED during last three hours

(Table 14)

Code Figures	Speed	Code Figures	Speed
0	Ship stopped.	5	21 to 25 knots.
1	1 to 5 knots.	6	26 to 30 "
2	6 to 10 "	7	31 to 35 "
3	11 to 15 "	8	36 to 40 "
4	16 to 20 "	9	Over 40 "

a—CHARACTERISTIC CHANGES IN ATMOSPHERIC PRESSURE in last three hours (for ships with barographs)

Code Figures	Description	Barometer
0	Increasing then decreasing	same or higher than 3 hours ago.
1	Increasing then steady; or increasing then increasing more slowly	Barometer higher than 3 hours ago.
2	Increasing (steadily or unsteadily)	
3	Decreasing or steady then increasing; or increasing, then increasing more rapidly	
4	Steady	Barometer same or lower than 3 hours ago.
5	Decreasing, then increasing	
6	Decreasing then steady; or decreasing then decreasing more slowly	Barometer lower than 3 hours ago.
7	Decreasing (steadily or unsteadily)	
8	Steady or increasing, then decreasing; or decreasing, then decreasing more rapidly	

pp—CHANGE OF ATMOSPHERIC PRESSURE IN 3 HOURS PRECEDING OBSERVATION in Tenths of Millibars

Note.—When the change is greater than 9.9 mb. pp is coded as 99 and an additional group 99ppp, where ppp is the total change in millibars and tenths, will be included after D_sV_s app.

0—INDICATOR FIGURE, TEMPERATURE GROUP FOLLOWS

T_sT_s—DIFFERENCE BETWEEN AIR AND SEA TEMPERATURES

Note.—If the air temp. is below the sea temp., 50 is added to the code figures.

Celsius: Report in half-degrees Celsius (Centigrade), e.g. Air temp. 14.2°C., Sea temp. 12.9°C., Air-Sea=1.3°C., TsTs=03; Air temp. 12.1°C., Sea temp. 12.9°C., Air-Sea=-0.8°C., TsTs=52.

Fahrenheit: Report in whole degrees Fahrenheit, e.g. Air temp. 50.4°F., Sea temp. 49.6°F., Air-Sea=0.8°F., TsTs=01; Air temp. 53.6°F., Sea temp. 55.4°F., Air-Sea=-1.8°F., TsTs=52.

T_dT_d—TEMPERATURE OF DEW POINT in whole Degrees

Same instructions apply as for TT.
Dew point figures are obtained from the table on the back of the card for °F. and from that on the front of the card for °C.

1—INDICATOR FIGURE, SEA TEMPERATURE GROUP FOLLOWS

T_wT_wT_w—SEA SURFACE TEMPERATURE IN DEGREES AND TENTHS

Note.—Negative Celsius temperatures have 500 added for coding, e.g. -1.6°C is coded as 516.

t_T—TENTHS FIGURE OF THE AIR TEMPERATURE

2—INDICATOR FIGURE, ICE ACCRETION GROUP FOLLOWS

I.—TYPE OF ICE ACCRETION

(Table 19)

Code Figures	Description
1	Icing from ocean spray
2	Icing from fog
3	Icing from spray and fog
4	Icing from rain
5	Icing from spray and rain

E_sE_s—THICKNESS OF ICE IN CM

R_s—RATE OF ICE ACCRETION

(Table 20)

Code Figures	Description
0	Ice not building up
1	Ice building up slowly
2	Ice building up rapidly
3	Ice melting or breaking up slowly
4	Ice melting or breaking up rapidly

3—INDICATOR FIGURE, WAVE GROUP FOLLOWS

P_wP_w—PERIOD OF WAVES IN SECONDS

H_wH_w—HEIGHT OF WAVES OR SWELL in units of ½ metres

E.g. 01=0.5 metre, 02=1 metre.

If there is a swell with no wind waves the group 3P_wP_wH_wH_w is to be reported as 30000.

d_wd_w—DIRECTION FROM WHICH SWELL WAVES ARE COMING in tens of Degrees, as for Wind

(Table 4)

Code Figure 00=Calm, no waves.
18=180°.
36=360°.
99=Confused, direction indeterminate.

P_w—PERIOD OF SWELL WAVES

(Table 21)

Code Figures	Period	Code Figures	Period
5	5 sec. or less	0	10 sec.
6	6 "	1	11 "
7	7 "	2	12 "
8	8 "	3	13 "
9	9 "	4	14 sec. or more.

ICE—INDICATOR—ICE GROUP FOLLOWS

Effective 1st January 1979

C_i—CONCENTRATION OR ARRANGEMENT OF SEA ICE

(Table 22)

Code Figure	
0	No ice
1	Ship in open lead more than 1 n. mile wide or ship in fast ice with boundary beyond limit of visibility.
2-5 Ice concentration uniform.	
2	Open water or very open pack ice, $\angle \frac{1}{8}$ concentration.
3	Open pack ice $\frac{1}{8}$ to $\angle \frac{1}{4}$ concentration.
4	Close pack ice $\frac{1}{4}$ to $\angle \frac{1}{2}$ concentration.
5	Very close pack ice $\frac{1}{2}$ to $\angle \frac{3}{4}$ concentration.
6-9 Sea ice concentration not uniform.	
6	Strips and patches of pack ice with open water between.
7	Strips and patches of close or very close pack ice with areas of lesser concentration between.
8	Fast ice with open water, very open or open pack ice to seaward of the ice boundary.
9	Fast ice with close or very close pack ice to seaward of the ice boundary.
/	Unable to report, because of darkness, poor visibility or because ship is more than 0.5 n. mile away from ice edge.

Ship in
ice or
within
0.5 n. mile
of ice

S_i—STAGE OF DEVELOPMENT

(Table 23)

Code Figure	
0	New ice only (frazil ice, grease ice, slush, shuga).
1	Nilas or ice rind, $\angle 10$ cm thick.
2	Young ice (grey ice, grey-white ice) 10-30 cm thick.
3	Predominantly new and/or young ice with some first-year ice.
4	Predominantly thin first-year ice with some new and/or young ice.
5	All thin first-year ice (30-70 cm thick).
6	Predominantly medium first-year ice (70-120 cm thick) and thick first-year ice (>120 cm thick) and some thinner (younger) first-year ice.
7	All medium and thick first-year ice.
8	Predominantly medium and thick first year ice with some old ice (usually more than 2 metres thick).
9	Predominantly old ice.
/	Unable to report, because of darkness, poor visibility or only ice of land origin visible or ship is more than 0.5 nautical mile away from ice edge.

b_i—ICE OF LAND ORIGIN

(Table 24)

Code Figure	
0	No ice of land origin.
1	1-5 icebergs, no growlers or bergy bits.
2	6-10 icebergs, no growlers or bergy bits.
3	11-20 icebergs, no growlers or bergy bits.
4	Up to and including 10 growlers and bergy bits—no icebergs.
5	More than 10 growlers and bergy bits—no icebergs.
6	1-5 icebergs with growlers and bergy bits.
7	6-10 icebergs with growlers and bergy bits.
8	11-20 icebergs with growlers and bergy bits.
9	More than 20 icebergs with growlers and bergy bits—a major hazard to navigation.
/	Unable to report—because of darkness, poor visibility or only sea ice is visible.

D_i—BEARING OF PRINCIPAL ICE EDGE

(Table 25)

Code Figures	Description	Code Figures	Description
0	Ship in shore or flaw lead.	6	Ice edge towards West.
1	Ice edge towards N.E.	7	Ice edge towards N.W.
2	Ice edge towards East.	8	Ice edge towards North
3	Ice edge towards S.E.	9	Not determined (ship in ice).
4	Ice edge towards South.	/	Unable to report, because of darkness, poor visibility or only ice of land origin visible.
5	Ice edge towards S.W.		

Z_i—ICE SITUATION AND TREND OVER PRECEDING 3 HRS.

(Table 26)

Code Figure		
0	Ship in open water with floating ice in sight.	
1	Ship in easily penetrable ice; conditions improving.	Ship in ice
2	Ship in easily penetrable ice, conditions not changing.	
3	Ship in easily penetrable ice, conditions worsening.	
4	Ship in ice difficult to penetrate; conditions improving.	
5	Ship in ice difficult to penetrate; conditions not changing.	
6-9 Ice difficult to penetrate, conditions worsening.		
6	Ice forming and floes freezing together.	
7	Ice under slight pressure.	
8	Ice under moderate or severe pressure.	
9	Ship beset.	
/	Unable to report—because of darkness or poor visibility.	

CONVERSION TABLE

For converting inches of mercury to millibars at 0° C and Standard Gravity 980.665 cm/sec².

28.00	948.2	28.60	968.5	29.20	988.8	29.80	1009.1	30.40	1029.5
28.01	948.5	28.61	968.8	29.21	989.2	29.81	1009.5	30.41	1029.8
28.02	948.9	28.62	969.2	29.22	989.5	29.82	1009.8	30.41	1030.1
28.03	949.2	28.63	969.5	29.23	989.8	29.83	1010.2	30.43	1030.5
28.04	949.5	28.64	969.9	29.24	990.2	29.84	1010.5	30.44	1030.8
28.05	949.9	28.65	970.2	29.25	990.5	29.85	1010.8	30.45	1031.2
28.06	950.2	28.66	970.5	29.26	990.9	29.86	1011.2	30.46	1031.5
28.07	950.6	28.67	970.9	29.27	991.2	29.87	1011.5	30.47	1031.8
28.08	950.9	28.68	971.2	29.28	991.5	29.88	1011.9	30.48	1032.2
28.09	951.2	28.69	971.6	29.29	991.9	29.89	1012.2	30.49	1032.5
28.10	951.6	28.70	971.9	29.30	992.2	29.90	1012.5	30.50	1032.8
28.11	951.9	28.71	972.2	29.31	992.6	29.91	1012.9	30.51	1033.2
28.12	952.3	28.72	972.6	29.32	992.9	29.92	1013.2	30.52	1033.5
28.13	952.6	28.73	972.9	29.33	993.2	29.93	1013.5	30.53	1033.9
28.14	952.9	28.74	973.2	29.34	993.6	29.94	1013.9	30.54	1034.2
28.15	953.3	28.75	973.6	29.35	993.9	29.95	1014.2	30.55	1034.5
28.16	953.6	28.76	973.9	29.36	994.2	29.96	1014.6	30.56	1034.9
28.17	953.9	28.77	974.3	29.37	994.6	29.97	1014.9	30.57	1035.2
28.18	954.3	28.78	974.6	29.38	994.9	29.98	1015.2	30.58	1035.6
28.19	954.6	28.79	974.9	29.39	995.3	29.99	1015.6	30.59	1035.9
28.20	955.0	28.80	975.3	29.40	995.6	30.00	1015.9	30.60	1036.2
28.21	955.3	28.81	975.6	29.41	995.9	30.01	1016.3	30.61	1036.6
28.22	955.6	28.82	976.0	29.42	996.3	30.02	1016.6	30.62	1036.9
28.23	956.0	28.83	976.3	29.43	996.6	30.03	1016.9	30.63	1037.3
28.24	956.3	28.84	976.6	29.44	997.0	30.04	1017.3	30.64	1037.6
28.25	956.7	28.85	977.0	29.45	997.3	30.05	1017.6	30.65	1037.9
28.26	957.0	28.86	977.3	29.46	997.6	30.06	1017.9	30.66	1038.3
28.27	957.3	28.87	977.7	29.47	998.0	30.07	1018.3	30.67	1038.6
28.28	957.7	28.88	978.0	29.48	998.3	30.08	1018.6	30.68	1038.9
28.29	958.0	28.89	978.3	29.49	998.6	30.09	1019.0	30.69	1039.3
28.30	958.3	28.90	978.7	29.50	999.0	30.10	1019.3	30.70	1039.6
28.31	958.7	28.91	979.0	29.51	999.3	30.11	1019.6	30.71	1040.0
28.32	959.0	28.92	979.3	29.52	999.7	30.12	1020.0	30.72	1040.3
28.33	959.4	28.93	979.7	29.53	1000.0	30.13	1020.3	30.73	1040.6
28.34	959.7	28.94	980.0	29.54	1000.3	30.14	1020.7	30.74	1041.0
28.35	960.0	28.95	980.4	29.55	1000.7	30.15	1021.0	30.75	1041.3
28.36	960.4	28.96	980.7	29.56	1001.0	30.16	1021.3	30.76	1041.7
28.37	960.7	28.97	981.0	29.57	1001.4	30.17	1021.7	30.77	1042.0
28.38	961.1	28.98	981.4	29.58	1001.7	30.18	1022.0	30.78	1042.3
28.39	961.4	28.99	981.7	29.59	1002.0	30.19	1022.4	30.79	1042.7
28.40	961.7	29.00	982.1	29.60	1002.4	30.20	1022.7	30.80	1043.0
28.41	962.1	29.01	982.4	29.61	1002.7	30.21	1023.0	30.81	1043.3
28.42	962.4	29.02	982.7	29.62	1003.0	30.22	1023.4	30.82	1043.7
28.43	962.8	29.03	983.1	29.63	1003.4	30.23	1023.7	30.83	1044.0
28.44	963.1	29.04	983.4	29.64	1003.7	30.24	1024.0	30.84	1044.4
28.45	963.4	29.05	983.7	29.65	1004.1	30.25	1024.4	30.85	1044.7
28.46	963.8	29.06	984.1	29.66	1004.4	30.26	1024.7	30.86	1045.0
28.47	964.1	29.07	984.4	29.67	1004.7	30.27	1025.1	30.87	1045.4
28.48	964.4	29.08	984.8	29.68	1005.1	30.28	1025.4	30.88	1045.7
28.49	964.8	29.09	985.1	29.69	1005.4	30.29	1025.7	30.89	1046.1
28.50	965.1	29.10	985.4	29.70	1005.8	30.30	1026.1	30.90	1046.4
28.51	965.5	29.11	985.8	29.71	1006.1	30.31	1026.4	30.91	1046.7
28.52	965.8	29.12	986.1	29.72	1006.4	30.32	1026.8	30.92	1047.1
28.53	966.1	29.13	986.5	29.73	1006.8	30.33	1027.1	30.93	1047.4
28.54	966.5	29.14	986.8	29.74	1007.1	30.34	1027.4	30.94	1047.7
28.55	966.8	29.15	987.1	29.75	1007.5	30.35	1027.8	30.95	1048.1
28.56	967.2	29.16	987.5	29.76	1007.8	30.36	1028.1	30.96	1048.4
28.57	967.5	29.17	987.8	29.77	1008.1	30.37	1028.4	30.97	1048.8
28.58	967.8	29.18	988.1	29.78	1008.5	30.38	1028.8	30.98	1049.1
28.59	968.2	29.19	988.5	29.79	1008.8	30.39	1029.1	30.99	1049.4

To convert barometer readings above 30.99" or below 28.00" to millibars, multiply by 33.8639. Encode the tens, units, and first decimal digits of the result.