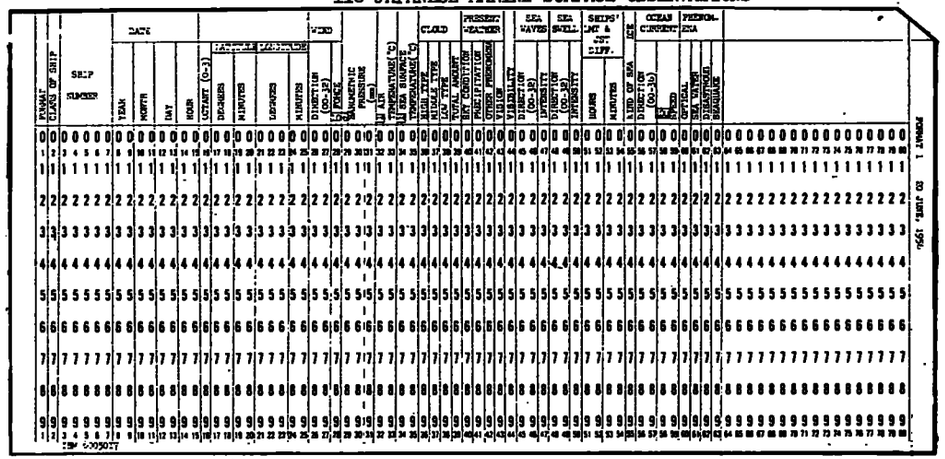
118 JAPANESE MARINE SURFACE OBSERVATIONS



NOTE: Period 1939-1943 was punched on a card other than the above; however, the same columnar alignment as the above sample.

AREA COVERAGE

The ocean areas wherever Japanese Ships operated, except observations made at Ocean Weather Stations (OSV's) "X" and "T", and Japanese Antarctic Whaling Ships (see Deck 187 for the latter), and the Japanese Antarctic Research Ship "Soya" are not punched in this deck. A card inventory by ten degree squares are maintained at the National Weather Records Center (NWRC), Asheville, North Carolina.

PERIOD OF RECORD

Part of 1939 through part of 1953. (See Deck 119 for period beginning part of 1953-part of 1960. These data are punched on Format 2 and differ in codes and columnar alignment.)

OBSERVATION TIME

The hours 06, 12, 18, 24 Local Mean Time (LMT). (24 is midnight of day ending.) However, special observations were taken between these hours at the discretion of the observer.

The difference between Ship's LMT and Japanese Standard Time (JST) is punched in columns 51-54. JST is the 135 E. Meridian Time and is + 9 hours from GCT.

The ship's LMT was computed once daily as follows: The LMT of the ship changed continuously with the ship's movement. The time used on the ship's log for any given day, however, was the LMT for one of the meridians which the ship was reckoned to cross during that day. The particular meridian selected for the LMT was sometimes the mid-point of the reckoned meridional distance for that day and sometimes the meridian crossed at 00 GMT. The logs do not distinguish which of the methods were used.

CODE

The codes are in special Japanese codes. Any variations of the observation codes were converted prior to punching.

SOURCE

The cards in this deck were punched directly from the Japanese Ships' Logs by the Japanese Meteorological Agency for the U. S. Weather Bureau.

MISSING DATA

If an element(s) was missing within an observation the card columns for that element(s) were left blank. If an entire observation was missing, no identification card was punched.

COLUMNS AND ELEMENTS PUNCHED

Columns 1-64 were punched when data were available for the following elements: (Columns 65-80 are blank.)

Wind Direction and Beaufort Force
Pressure (corrected) in millimeters
Temperature of Air
Temperature of Sea
Cloud Type, High, Middle and Low
Total Cloud Amount
Present Weather
Visibility
Sea Direction and Height
Swell Direction and Height
Ice Description
Ocean Current Direction and Speed
Special Phenomena

ADDITIONAL REMARKS

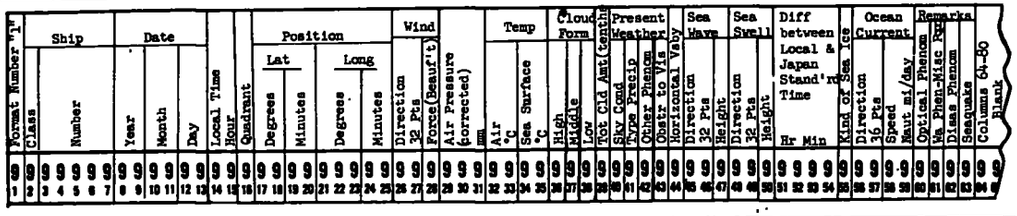
1. The approximate total number of cards in Deck 118, Format 1 is 812,000 cards.

2. It should be noted that Swell Height Codes were changed from 7 point code to a 9 point code in 1953 (Deck 118 Formats 1 to Deck 119 Format 2). The period 1947-1950 the swell was reported with the 9 point Douglas Scale.

3. Occasionally the ship's drift (current speed) was not recorded for a single day, but was included as the total drift on the last day of a two or more day period. When this was done, the total drift distance recorded was converted to a 24 hour period average.

CORRECTIONS

Any errors detected in this manual should be called to the attention of Director, National Weather Records Center, or Chief, Data Processing Division, Climatic Center, USAF. Please give specific instances of error, and correct information if available.



CARD CONTENT

Column	Item or Element	Symbolic Letter	Card Code	Card Code Definition	Remarks
1-63	All elements		Blank	Missing Data	Card columns left blank in columns 1-63 indicate missing data unless otherwise indicated in the respective codes. All elements were converted to the described codes and units before punching.
1	Format		1	Format Number for Deck 118	
2	Ship class		0-5	See Code 1.	
3-7	Ship Number		00000-99999	Indicates ship's name	Arbitrarily assigned number for each ship stamped on the upper left side of record.
8-9	Year		37-53	1937-1953	
10-11	Month		01-12	January-December	
12-13	Day of Month		01-31		
14-15	Hour LMT		06, 12, 18, 24		See Page 1, Observation Time.
16	Quadrant		0-3,	See Code 2.	
17-20	Latitude				North and South indicated in column 16
17-18	Degrees	°	00-90	degrees and	
19-20	Minutes	'	00-59	minutes	
21-25	Longitude				East and West indicated in column 16.
21-23	Degrees	°	000-180	degrees and	
24-25	Minutes	'	00-59	minutes	
26-27	Wind Direction		00-32	See Code 3.	The 16 points of a 32 point compass is most frequently used.
28	Wind Force	F	0-9 X/0 X/1 X/2 See Code 4	Beaufort Force 0-9 Beaufort Force 10 Beaufort Force 11 Beaufort Force ≥ 12 Hurricane ≥ 73 m.p.h. or 64 knots	At standard height 6m. above water
29-31	Barometric Sea Level Pressure (Corrected)		000-999 X/000-X/999	700.0 through 799.9mm in 1/10 millimeters 600.0 through 699.9mm	X-overpunch in column 29 indicates the hundreds position value is 6 rather than 7.

CARD CONTENT

Column	Item or Element	Symbolic Letter	Card Code	Card Code Definition	Remarks
32-33	Air Temperature	TT	00-99 X/01-X/99	0 through 99 °C -1 through -99 °C	1/10 °C values are dropped and punched in whole °C. X-overpunch in tens position equals minus (-) values.
34-35	Sea Surface Temperature		00-99 X/01-X/99	0 through 99 °C -1 through -99 °C	1/10 °C values were dropped and punched in whole °C. X-overpunch in tens position equals minus (-) values.
36-39	Clouds				
36	High Type	C_H	0-7	See Code 5.	
37	Middle Type	C_M	0-3	See Code 6.	
38	Low Type	C_L	0-9	See Code 7.	
39	Total Amount		0-9 X	0-9/10 sky covered 10/10, total sky covered or obscured	
40-43	Present Weather				
40	Sky Condition		Blank 0-5	See Code 8.	
41	Type of Precipitation		Blank 0-9 X/0-X/5	See Code 9.	
42	Other Phenomena		Blank 0-9, X	See Code 10.	
43	Obstruction to Vision		Blank 0-3	See Code 11.	
44	Visibility	V	0-9	See Code 12.	
45-46	Direction of Sea Waves		00-32, XX	See Code 3.	See Remarks Columns 26-27.
47	Sea Waves Height	S	0-9, X	See Code 13.	
48-49	Direction of Sea Swell		00-32	See Code 3.	See Remarks Columns 26-27.
50	Swell Height	K	0-7	See Code 14.	See page 1, Additional Remarks, paragraph 2.
51-54	Time Difference between ships and JST		00-21	Ship's time is 00-21 hours slow from JST	See page 1, Observation Time. X in column 51 and Blank in columns 52-54 indicate time difference missing
51-52	Hours		X0-X3 or 30-33	Ship's time is 0-3 hours fast from JST	
53-54	Minutes		00-59	00-59 Minutes	
55	Kind of Ice	C_2	0-9, X	See Code 15.	Covers the preceeding 6 hours.
56-57	Current Direction		00-36	See Code 16.	Direction toward which ocean current is moving Normally reported once daily on the 1200 LMT.

CARD CONTENT

Column	Item or Element	Symbolic Letter	Card Code	Card Code Definition	Remarks
58-59	Current Speed		00 01-99 X/00- X/99	No current 1-99 miles per day 100-199 miles X-overpunch in column 58.	Ship's drift in nautical miles in past 24 hours. Normally punched on the 1200 LMT observation card only. See page 1, Additional Remarks.
60-63	Special Phenomena				(a) Covers the past 6 hours. (b) Blank when none occurred. (c) The highest code is given priority when two or more conditions occur in each category
60	Optical Phenomena		1-8	See Code 17.	
61	Sea Water Phenomena or Lithometers		1-9	See Code 18.	
62	Disastrous Phenomena		1-5	See Code 19.	
63	Seaquake		1-9, X	See Code 20.	
64			X	Indicates 65-80 are blank	
65-80	Blank		Blank	Not used	These columns are always blank.

CODE TABLES

When coding a meteorological report, symbolic letters are replaced by figures, which specify the value or the state of the corresponding element. In some cases, the specification of the symbolic letter (or group of letters) is sufficient to permit a direct transcription into figures (e.g., GG or PPP). In other cases, these figures are obtained by means of a special code table for each element.

The codes elaborated to this end, as far as they are in world-wide use, have been adopted by the World Meteorological Organization (WMO) and are called international meteorological code tables. These same codes are used inversely for decoding observations and thus making available the information contained in them.

Besides the specifications given by the code tables in world-wide use, other sets of code tables are established by the WMO for regional use. Further arbitrary codes have been necessary by the use of data in card decks which were never encoded into WMO forms.

Only codes pertinent to this card deck are included in the present manual. They appear in the order in which the elements were introduced in the description of the card content. They are numbered consecutively, and if applicable, the corresponding WMO code numbers are shown.

Code 1

Ships Class

Code	Description
0	Weather Ship
1	University Scientific Expedition Ship
2	Maritime Ship of Government Agency
3	Naval ship
4	Privately owned Merchant or Cargo Ship
5	Privately owned Fishing Boat

Code 2

Quadrant

Code	Description
0	N Latitude and W Longitude
1	N Latitude and E Longitude
2	S Latitude and W Longitude
3	S Latitude and E Longitude

Code 3

dd - Wind Direction

Code	Limits in Whole Degrees 32 Points	Limits in Whole Degrees 16 of 32 Points	Direction	
00	Calm		C	(6)
01	06-16		N/E	(5)
02	17-28	12-33	NNE	
03	29-39		NE/N	(1)
04	40-50	35-56	NE	
05	51-61		NE/E	
06	62-73	57-78	ENE	
07	74-84		E/N	
08	85-95	79-101	E	(2)
09	96-106		E/S	
10	107-118	102-123	ESE	
11	119-129		SE/E	
12	130-140	124-146	SE	(3)
13	141-151		SE/S	
14	152-163	147-168	SSE	
15	164-174		S/E	
16	175-185	169-191	S	(4)
17	186-196		S/W	
18	197-208	192-213	SSW	
19	209-219		SW/S	
20	220-230	214-236	SW	(5)
21	231-241		SW/W	
22	242-253	237-258	WSW	
23	254-264		W/S	
24	265-275	259-281	W	(6)
25	276-286		W/N	
26	287-298	282-303	WNW	
27	299-309		NW/W	
28	310-320	304-326	NW	(7)
29	321-331		NW/N	
30	332-343	327-348	NNW	
31	344-354		N/W	
32	355-005	349-011	N	(8)
XX	Variable or Confused			

Even values of code are used when coding 16 points of 32 point compass which was most frequently used.

/ = by

Value in parenthesis indicates grouping of code between lines are 6 point reduction.

Code 4

F - Force of Surface Wind
BEAUFORT SCALE OF WIND

Beaufort Number	Descriptive Term	Velocity equivalent at a standard height of 6 meters above Sea: Mean Velocity in Knots	Meters/Sec.	km/h	m.p.h.
0	Calm	<1	0-0.2	<1	<1
1	Light Air	1-3	0.3-1.5	1-5	1-3
2	Light Breeze	4-6	1.6-3.3	6-11	4-7
3	Gentle Breeze	7-10	3.4-5.4	12-19	8-12
4	Moderate Breeze	11-16	5.5-7.9	20-28	13-18
5	Fresh Breeze	17-21	8.0-10.7	29-38	19-24
6	Strong Breeze	22-27	10.8-13.8	39-49	25-31
7	Near Gale	28-33	13.9-17.1	50-61	32-38
8	Gale	34-40	17.2-20.7	62-74	39-46
9	Strong Gale	41-47	20.8-24.4	75-88	47-54
10	Storm	48-55	24.5-28.4	89-102	55-63
11	Violent Storm	56-63	28.5-32.6	103-117	64-72
12	Hurricane	64-	32.7-	118-	73-

Code 5

C_H - Type of High Cloud

Code	Symbol	Description
0		No High Clouds
1	CK	Cirrocumulus
2	C	Cirrus
3	CS	Cirrostratus
4	C & CK	Cirrus & Cirrocumulus
5	C & CS	Cirrus & Cirrostratus
6	CK & CS	Cirrocumulus & Cirrostratus
7	CK & CS & C	Cirrocumulus & Cirrostratus & Cirrus

Code 6

C_M - Type of Middle Cloud

Code	Symbol	Description
0		No Middle Clouds
1	SC	Altostratus
2	KC	Altocumulus
3	KC & SC	Altocumulus & Altostratus

Code 7

C_L Type of Low Cloud

Code	Symbol	Description
0		No low clouds
1	KN&N or S	Cumulonimbus & Nimbus or Stratus
2	KN & SK	Cumulonimbus & Stratocumulus
3	KN	Cumulonimbus
4	S.FS	Stratus, Fractostratus
5	N.NS	Nimbus, Nimbostratus
6	K.FK	Cumulus, Fractocumulus
7	K&SK	Cumulus & Stratocumulus
8	SK	Stratocumulus
9	F or ≡	Fog

When two or more low clouds were reported that could not be described by the above code, the lowest code (not "0") was given preference.

between clouds indicate and/or

Code 8

Total Sky Cover

Code Figure	Symbol	Description	Coverage
0	b	Blue sky	0 to ≤ 3/10
1	bc	Partly cloudy	4/10-7/10
2	c	Cloudy	8/10
3	K or CK	High overcast with high clouds predominating	8/10-10/10
4	O or OC	Low Overcast	8/10-10/10
5	KO	High overcast with low overcast	8/10-10/10
Blank		Sky obscured or missing obscured sky indicated by column 39 as an X.	

Code 9

Type of Precipitation

Code	Symbol	Description
0	d	drizzle
1	d & r	drizzle and rain
2	d & p	drizzle and passing showers
3	d & s	drizzle and snow
4	r	rain
5	r & p	rain and passing showers
6	r & s	rain and snow
7	p	passing showers
8	p & s	passing showers and snow
9	s	snow
		X/ indicates X-overpunch of digit indicated
X/0	rs	sleet (ice, rain, snow together)
X/1	h	hail
X/2	h & d	hail and drizzle
X/3	h & r	hail and rain
X/4	h & p	hail and passing showers
X/5	h & s	hail and snow
Blank		No precipitation occurring at time of observation

Note: When 3 or more types of precipitation were recorded 2 combined types were punched in the order of preference: 1. Hail, 2. Sleet, 3. Snow, 4. Rain, 5. Showers, 6. Drizzle.

Code 10

other phenomena

Code	Symbol	Description
0	w	Dew
1	x	Hoarfrost
2	g	Gloomy Weather Sky covered by Low Clouds Rain seems to be falling, but showers or storm are absent
3	e	Wet without Rain Atmosphere feels wet or moist. Dew may be observed on cool surfaces
4	u	Ugly Weather Tendency to storm - sky covered by fast moving clouds and rain or strong winds are expected momentarily
5	q	Squalls
6	l	Lightning
7	t	Thunder
8	t & l	Thunder and Lightning
9	q & l	Squall with Lightning or
	q & t	Squall with Thunder
X	q & t & l	Squall with Thunder & Lightning
Blank		None of the above phenomena observed.

Code 11

Obstructions to Vision

Code	Symbol	Description
0	v	Unusual Visibility Object visible at 750 km.
1	z	Haze
2	m	Mist
3	F	Fog
Blank		None of the above

Note: Precipitation is not coded as an obstruction to vision.

Code 12

V - Horizontal visibility

Code Figure	Km.	Yards (Approx.)	Statute Miles (Approx.)	Nautical Miles (Approx.)
0	<0.05	<55	<1/32	
1	0.05	55	1/32	
2	0.2	220	1/8	
3	0.5	550	5/16	1/4
4	1	1,100	5/8	1/2
5	2	2,200	1 1/4	1
6	4	4,400	2 1/2	2
7	10	11,000	6 1/4	5
8	20	22,000	12 1/2	10
9	≥ 50	≥ 55,000	≥ 31 1/4	> 25

If the observed visibility is between two of the reportable distances as given in the table, the code figure for the lower reportable distance is reported.

Maximum visible distance regardless of direction.

Code 13

S - Sea Waves Heights

Code	Description	Height Feet	Height Meters
0	Calm	0	0
1	Very Smooth	< 1	0.3
2	Smooth	1-2	0.3-0.6
3	Slight	2-3	0.6-1.0
4	Moderate	3-5	1.0-1.5
5	Rather Rough	5-8	1.5-2.5
6	Rough	8-12	2.5-4.0
7	High	12-20	4.0-7.0
8	Very High	20-40	7.0-13
9	Phenomenal	> 40	> 13
X	Variable or Confused		

Note: When the height is the exact value for two codes the lower code was punched

Code 14

K - Swell Heights

Code	Description	Height Approx. Feet	Height Meters
0	No Swell	0	0
1	Slight	< 1-1	0.1-0.4
2	Moderate	2-4	0.5-1.4
3	Rather Rough	5-8	1.5-2.4
4	Rough	9-12	2.5-3.9
5	Heavy	13-17	4.0-5.4
6	Very Heavy	18-22	5.5-6.9
7	Abnormal	≥ 23	≥ 7.0

Code 15

C_2 - Type of Ice

Code	Description
0	No sea ice
1	New Ice
2	Fast Ice
3	Drift Ice
4	Ice field
5	Packed (Compact) Slush or strips of hummocked Ice
6	Open lead near shore
7	Heavy Fast Ice
8	Heavy Drift Ice
9	Hummocked Ice
X	Ice Jamming

When two or more Ice codes were reported the highest code figure was punched.

Code 16

Code figure		Code figure	
00	Calm	19	185° - 194°
01	5° - 14°	20	195° - 204°
02	15° - 24°	21	205° - 214°
03	25° - 34°	22	215° - 224°
04	35° - 44°	23	225° - 234°
05	45° - 54°	24	235° - 244°
06	55° - 64°	25	245° - 254°
07	65° - 74°	26	255° - 264°
08	75° - 84°	27	265° - 274°
09	85° - 94°	28	275° - 284°
10	95° - 104°	29	285° - 294°
11	105° - 114°	30	295° - 304°
12	115° - 124°	31	305° - 314°
13	125° - 134°	32	315° - 324°
14	135° - 144°	33	325° - 334°
15	145° - 154°	34	335° - 344°
16	155° - 164°	35	345° - 354°
17	165° - 174°	36	355° - 4°
18	175° - 184°		

Code 17

SpSp - Special Phenomena

Columns 60-63 - (Blank means none occurred.) The highest code figure was punched covering the previous 6 hours for each category when 2 or more kinds of phenomena were reported in one category.

Code	Description
1	Afterglow
2	Morningglow
3	Halo
4	Corona
5	Abnormal Refraction
6	Mirage
7	St Elmo's Fire
8	Aurora

The highest code was punched when two or more types of optical phenomena were reported.

Code 18

Sea Water Phenomena or Lithometers

Column 61

Code	Description
1	Discolored Water
2	Rip Tide
3	Abnormal Tide
4	Rip Current
5	Dust Fall
6	Fall of Volcanic Ash
7	Pumice
8	Marine Volcano
9	Graupel

Code 19

Disastrous Phenomena - Column 62

Code	Description
1	High Water
2	Squall
3	Tidal Wave
4	Eye of Storm
5	Water Spout

Code 20

Seaquake (Kaishin) - Rudolph Scaler Quantity

Column 63

Code	Description	Remarks
1	Weak Sound	Cannot be felt on deck
2	Felt	Man awakened from sleep
3	Very Slight	Felt as if a heavy mass were dropped on deck
4	Slight	Slight shock felt as if a heavy anchor was dropped rapidly
5	Moderate	Shock felt as if the ship ran upon a coral reef or sand bar
6	Rather Strong	Cups, glasses, etc. are vibrated
7	Strong	Unable to stand on deck
8	Very Strong	Furniture, mast, etc. are trembled, compass, thermometers may be broken
9	Disastrous	Ship is pushed to one side and cannot be navigated
X	Very Disastrous	Men on deck are brought down, heavy objects are thrown upward, ship may be broken