U.S. Marine Meteorological Journals: 1879-1893

Journal HEADER RECORD (one keyed for each Journal)

Pos. No.	Total # of Positions	Description	Keying Instructions
1	1	Journal header record	1 = Journal header record. A "1" in the first position identifies this as a journal header record which can be used to sort the information.
2-4	3	Microfilm reel number	The number (#) from the microfilm roll (e.g. # 002, 003,010,102, etc.).
5-8	4	Journal #	Marine Meteorological Journal number, right justified, zero filled.
9-12	4	Frame number	The microfilm frame number found at the top of the frame (e.g. 0084) containing the Journal # and name of ship. This page was inserted at time of filming and indicates the beginning of the Journal.
13-38	26	Name of ship	The name of ship as it appeared in the journal . Left justified, blank filled. During filming a hand printed page was inserted before each journal indicating the Journal number and the name of the ship.
39-40	2	Journal edition	The last two digits of the year the edition was issued (e.g. 1878 = 78, 1883 = 83, 1884 = 84, 1886 = 86). The edition year is located on the journal's title page. Different journal editions may or may not have different keying formats.
41-42	2	Rig (Type of ship)	Rig (type of ship) as it appeared at the beginning of the journal. 01 = ship 02 = bark or barque 03 = barkentine or barquentine 04 = brigantine 05 = schooner 06 = frigate 99 = not identified
43	1	Construction material	1 = wood 2 = iron 3 = composite 4 = not identified
44	1	Type of vessel	1 = sailing ship 2 = steamer

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Journal HEADER RECORD (one keyed for each Journal)

Pos. No.	Total # of Positions	Description	Keying Instructions
			3 = not identified
45-47	3	Length of vessel	The length of ship in feet rounded to the nearest whole foot. Right justified, blank filled.
48-49	2	Beam (width)	The width of the ship in feet rounded to the nearest whole foot. Right justified, blank filled.
50-64	15	Commander	As it appeared in the Journal. Left justified, blank filled.
65-66	2	Nation of registry	01 = American 02 = British 03 = Chinese 04 = French 05 = Austrian 06 = Dutch 07 = Russian 08 = German 09 = Canadian 10 = Belgian 11 = Danish 12 = Italian 13 = Norwegian 14 = Nova Scotian 15 = Portuguese 16 = Scottish 17 = Swedish 21 = Singaporean 99 = undefined
67	1	Screw or paddle	1 = screw 2 = paddle 3 = not indicated
68-69	2	Depth of hold of the ship (hold)	The depth of the lower interior part in feet rounded to the nearest whole foot.
70-73	4	Tonnage	The ship’s weight (displacement)in tons rounded to the nearest whole ton, right justified, blank filled.
74	1	Barometer type	1 = aneroid 2 = mercurial

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Journal HEADER RECORD (one keyed for each Journal)

Pos. No.	Total # of Positions	Description	Keying Instructions
75-76	2	Height above sea-level	The height the barometer was carried above sea-level in feet, right justified, zero filled.
77-84	8	Date barometer last compared	The date the barometer was last compared to the standard; day, month, year: e.g. 25101879.
85-109	25	Barometer location	A description of the location of the barometer on board the ship.
110	1	Barometer units	1 = inches 2 = millimeters 3 = millibars 4 = unable to determine 5 = Paris inches
111-115	5	Barometer correction	The fixed barometer correction. Position 111 contains the sign (“+” or “-“). Positions 114-115 contain the correction to hundredths of an inch, decimal implied. Positions 112-113 contain the correction to one inch or more. Right justified blank, filled. Examples: - A correction of +1.02 is keyed with Position 111 = +, “ 112 = blank “ 113 = 1 “ 114 = 0 “ 115 = 2 When the correction is less than 1 inch, positions 112-113 will be blank. - A correction of -.04 Position 111 = - “ 112-113 = blank “ 114 = 0 “ 115 = 4
116	1	Thermometer mounted?	Are the thermometers mounted as recommended in the journal introduction? 1 = yes 2 = no 3 = not indicated
117	1	Sea surface temperature	Method of sea surface temperature measurement.

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Journal HEADER RECORD (one keyed for each Journal)

Pos. No.	Total # of Positions	Description	Keying Instructions
		method	1 = bucket 2 = intake 3 = as directed in the journal's instructions 4 = not indicated

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Voyage HEADER RECORD (one keyed for each leg of a voyage)

Pos. No.	Total # of Positions	Description	Keying Instructions
1	1	Voyage header record as a voyage header information.	2 = Voyage header record. A “2" in in the first position identifies this record which can be used to sort the
2-4	3	Microfilm reel number	The number (#) from the microfilm roll (e.g. # 002, 003,010,102, etc.).
5-8	4	Journal #	Marine Meteorological Journal number, right justified, zero filled. Note: positions 2-8 have the same values that appear in the journal header record constituting a unique number connecting the header information with the data.
9-12	4	Starting Frame #	The microfilm frame # found at the top of the frame (e.g. 0084) where the voyage begins. This number applies to the entire voyage, even if the voyage resides on several sequential frames.
13-32	20	From city	The departure port as it appears on the form.
33-52	20	To city	The destination port as it appears on the form.

Note: The starting frame number (positions 9-12) changes when a ship begins a return voyage or starts a second voyage (or leg) to another destination. The departure port and destination port should also change. This is the only purpose of the voyage header.

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Voyage HEADER RECORD (one keyed for each leg of a voyage)

Pos. No.	Total # of Positions	Description	Keying Instructions
1	1	Daily record	3 = Daily information record. A "3" in the first position identifies this as the daily information record. This is information available in the journal once per day between the morning and afternoon observations.
2-4	3	Microfilm reel number	The number (#) from the microfilm roll (e.g. # 002, 003,010,102, etc.).
5-8	4	Journal #	Marine Meteorological Journal number, right justified, zero filled. Note: positions 2-8 have the same values that appear in the Journal and voyage header records constituting a unique number connecting the header information with the data.
9-12	4	Starting frame #	This frame number should match the starting frame # in the voyage record insuring a connection between the header information and the data.
13-16	4	Frame #	The number at the top of each microfilm frame on which the daily information appeared.
17-20	4	Year	As indicated on the form.
21-22	2	Month	As indicated on the form.
23-24	2	Day	As indicated on the form.
25-28	4	Distance	Distance run by log since preceding Run by Log Noon. Positions 25-27 contain the distance in whole knots. Right justified and zero filled. Position 28 contains knots to tenths (0-9). Blank if not reported.
29-33	5	Latitude by account at noon	Positions 29-30 = degrees Positions 31-32 = minutes Blank if missing. Position 33 = hemisphere (N or S) Note: Blank if hemisphere was not indicated. Blank if latitude is missing. If tenths of degrees were given, they were converted to minutes and placed in positions 31-32.

Voyage HEADER RECORD (one keyed for each leg of a voyage)

Pos. No.	Total # of Positions	Description	Keying Instructions
34-39	6	Longitude by account at noon	Positions 34-36 = degrees Positions 37-38 = minutes Position 39 = hemisphere (E or W) Note: Same rules as for latitude.
40-44	5	Latitude by observation at noon	Positions 40-41 = degrees Positions 42-43 = minutes Blank if missing. Position 44 = hemisphere (N or S) Note: Blank if hemisphere was not indicated. Blank if latitude is missing. If tenths of degrees were given, they were converted to minutes and placed in positions 42-43.
45-50	6	Longitude by chronometer from forenoon observation	Positions 45-47 = degrees Positions 48-49 = minutes Position 50 = hemisphere (E or W) Note: Same rules as for latitude.
51-54	4	Current during past 24 hours	Current speed. Positions 51-52 contain knots (e.g. 01). Right justified and zero filled. Positions 53-54 contain hundredths of knots. Blank if not reported. If speed was reported in tenths of knots, they were placed in position 53 and position 54 was zero filled.
55-61	7	Current direction	The direction towards which the currents were moving. Left justified, blank filled.

Voyage HEADER RECORD (one keyed for each leg of a voyage)

Pos. No.	Total # of Positions	Description	Keying Instructions
1	1	Data record	4 = Data record. A “4" in the first position identifies this as a data record with the following format. This number was incremented to indicate any format changes. There was only a need for one additional data format, “5".
2-4	3	Microfilm reel number	The number (#) from the microfilm roll (e.g. # 002, 003,010,102, etc.).
5-8	4	Journal #	Marine Meteorological Journal number, right justified, zero filled. Note: positions 2-8 have the same values that appear in the journal, voyage and daily header records constituting a unique number connecting the header information with the data.
9-12	4	Starting frame #	This frame number should match the starting frame # in the voyage record insuring a connection between the header information and the data.
13-16	4	Frame #	The frame number at the top of each microfilm frame on which the daily information appeared.
17-20	4	Year	As indicated on the form.
21-22	2	Month	As indicated on the form.
23-24	2	Day	As indicated on the form.
25	1	Time indicator	1 = AM (local) 2 = PM (local)
26-27	2	Hour	Hour, right justified, zero filled. (E.g. 2 = 02)
28-30	3	Ship’s speed	Positions 28-29 contain knots, right justified, zero filled (e.g. 14 = 14, 2 = 02). Position 30 contains tenths of knots. Blank if missing.
31	1	Compass indicator	1 = points 2 = degrees 3 = not indicated Blank = field not available on form Note: this indicator reflects the following four

Daily Information Record

Pos. No.	Total # of Positions	Description	Keying Instructions
		entries: Course Steered, Compass Correction, Leeway, and Ship's true course. This indicator is not available in every journal format.	
32-38	7 as	Course steered by compass	Direction (e.g. "SE by S" is keyed SEXS; where X represents "by"), left justified, blank filled.
		Note: Directions were often reported to a finer resolution than a 32 point scale by using a fraction of a point. For example, "SSE 3/4 S" meant 3/4 of a point south of south southeast. Occasionally only the 4 major compass directions were used followed by a numeric value and N, S, E, or W. This represented how far the course was off the primary major compass direction, up to but not including 90 degrees: for example, "E 7½ S" represented seven and a half points south of east or approximately SSE.	
		Values were coded by dropping the "/" and keying only the numerals:	1/8 = 18 1/4 = 14 3/8 = 38 1/2 = 12 5/8 = 58 3/4 = 34 7/8 = 78 1 = 1 1 1/8 = 118 1 1/4 = 114 1 1/2 = 112 . 7 3/4 = 734 etc.
		Most reports are only to a quarter of a point resolution. For example, "E by S 3/4 S" would be coded as EXS34S.	
39-40	2	Compass correction	Compass correction in either points or degrees as indicated in the compass indicator (position 31). Right justified, zero filled. *see footnote
41-47	7	Ship's true course	Same rules as Course Steered (positions 32-38). *see footnote
48-54	7	Wind direction (magnetic)	Mean magnetic (compass) wind direction. Same rules as Course Steered (positions 32-38).

Daily Information Record

Pos. No.	Total # of Positions	Description	Keying Instructions
55-61	7	True wind direction	True wind direction. Same rules as Course Steered (positions 32-38). * see footnote
62-63	2	Mean Beaufort force	Beaufort force (01-12), right justified, zero filled.
64-67 as Left	4	Barometer	Barometer in inches or millimeters indicated in the header record. justified, blank filled.
68	1	Temperature indicator	1 = Fahrenheit 2 = Centigrade 3 = Attached thermometer is Fahrenheit. Dry bulb, wet bulb and water temperature are Centigrade. 4 = Attached thermometer is Centigrade. Dry bulb, wet bulb and water temperature are Fahrenheit. 5 = Water temperature is Centigrade with other temperatures in Fahrenheit. 6 = Dry bulb and wet bulb are Centigrade with other temperatures in Fahrenheit.
69-72	4	Attached thermometer	Positions 69-71 contain temperature in whole degrees. Position 71 contains units, position 70 contains tens. Hundreds or a negative sign may be placed in position 69. Positions 69-71 are right justified, blank filled. Position 72 is reserved for temperatures reported to tenths of a degree if available, otherwise it is blank. If the temperature was reported in fractions or to hundredths of a degree, it was rounded to the nearest tenth of a degree (e.g. 1/4 =.3 and .06 =.1) and placed in position 72.
73-76	4	Air temperature (dry bulb)	Positions 73-75 contain whole degrees. Position 76 contain degrees to tenths. Same rules as attached thermometer (positions 69-72).
77-80	4	Wet bulb temperature	Positions 77-79 contain whole degrees. Position 80 contains degrees to tenths. Same rules as attached thermometer (positions 69-72).
81-84	4	Water temperature (sea surface	Positions 81-83 contain whole degrees. Position 84 contains

Daily Information Record

Pos. No.	Total # of Positions	Description	Keying Instructions
		temperature)	degrees to tenths. Same rules as attached thermometer (positions 69-72).
85-89	5	Present weather	State of the weather by symbol, left justified, blank filled. Present weather may consist of 1 to 5 characters. Present weather codes: b = Clear blue sky c = Cloudy weather d = Drizzling or light rain f = Fog, or foggy weather g = Gloomy, or dark, stormy-looking weather h = Hail l = Lightning m = Misty weather o = Overcast p = Passing showers of rain q = Squally weather r = Rainy weather or continuous rain s = Snow, snowy weather, or snow falling t = Thunder v = Variable weather w = Wet, or heavy dew z = Hazy
90-91	2	Clouds	Forms of clouds by symbols Code symbols cloud type ci Cir Cirrus cc Cir Cum Cirrocumulus cs Cir Str Cirrostratus cu Cum Cumulus sc Cum Str Stratocumulus ns Nimb Nimbostratus st Str Stratus cn Cum & Nimb Cumulus & Nimbostratus
92-93	2	Clear skies	Proportion of clear sky in tenths (01-10), right justified, zero filled.
94-97	4	Sea state	State of the sea. This field may consist of from one to four characters. Left justified, blank filled.

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Daily Information Record

Pos. No.	Total # of Positions	Description	Keying Instructions
			Sea state code: b = Broken or irregular sea c = Chopping, short, or cross sea g = Ground swell h = Heavy sea l = Long rolling sea m = Moderate sea or swell r = Rough sea s = Smooth sea t = Tide rips

Data Record

Pos. No.	Total # of Positions	Description	Keying Instructions
1	1	Data record	5 = Data record. A “5" in the first position identifies this as a data record with the following format. This number was advanced to indicate any format changes. The “5" data record indicator was added to modify the format so the compass correction field could be expanded to meet keying needs.
2-4	3	Microfilm reel number	The number (#) from the microfilm roll (e.g. # 002, 003,010,102, etc.).
5-8	4	Journal #	Meteorological Journal Number, right justified, zero filled. Note: Positions 2-8 have the same values that appear in the Journal, voyage, and daily header records constituting a unique number connecting header information with the data.
9-12	4	Starting frame #	This frame number should match the starting frame # in the voyage record insuring a connection between the header information and the data.
13-16	4	Frame #	The frame number at the top of each frame from which the daily information was extracted.
17-20	4	Year	As indicated on the form.
21-22	2	Month	As indicated on the form.
23-24	2	Day	As indicated on the form.
25	1	Time indicator	1 = AM (local) 2 = PM (local)
26-27	2	Hour	Hour, right justified, zero filled. (E.g. 2 = 02)
28-30	3	Ship’s speed	Positions 28-29 contain the speed in knots, right justified, zero filled (e.g. 14 = 14, 2 = 02). Position 30 contains tenths of knots. Blank if missing.
31	1	Compass indicator	1 = points 2 = degrees 3 = not indicated Blank = field not available on form

* Footnote: Fields flagged with an asterisk (*) are not included in many of the Journals. They begin to appear after the 1884 edition.

Data Record

Pos. No.	Total # of Positions	Description	Keying Instructions
			Note: this indicator reflects the following four entries: Course Steered, Compass Correction, Leeway, and Ship's True Course. This indicator is not available on every journal form.
32-38	7	Course steered by compass	Direction (e.g. "SE by S" is keyed as SEXS where X represents "by"). Left justified, blank filled.
			Note: Directions were often reported to a finer resolution than a 32 point scale by using a fraction of a point. For example, "3/4 S" means 3/4 of a point towards the South.
			These values were coded using the same rules found in the format for Data record format "4", positions 32-38. Examples: 1/8 = 18 1/4 = 14 3/8 = 38 1/2 = 12 . . 7 3/4 = 734 etc.
			Most reports are only to a quarter of a point resolution. For example "E by S 3/4 S" would be coded as EXS34S.
39-40	2	Blank fields	The compass correction was moved to the end of the record in this format.
41-47	7	Ship's true course	Same rules as Course Steered (positions 32-38). *see footnote
48-54	7	Wind Direction (Magnetic)	Mean magnetic (compass) wind direction. Same rules as Course Steered (positions 32-38).
55-61	7	True Wind Direction	True wind direction. Same rules as Course Steered (positions 32-38). *see footnote
62-63	2	Mean Beaufort	Beaufort force code of 01 through 12.

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Data Record

Pos. No.	Total # of Positions	Description	Keying Instructions
		Force	Right justified, zero filled.
64-67 as	4	Barometer	Barometer in inches or millimeters indicated in header record. Left justified, blank filled.
68	1	Temperature Indicator	1 = Fahrenheit 2 = Centigrade 3 = Attached thermometer is Fahrenheit. Dry bulb, wet bulb and water temperature are Centigrade. 4 = Attached thermometer is Centigrade. Dry bulb, wet bulb and water temperature are Fahrenheit 5 = Water temperature is Centigrade; Dry bulb and wet bulb temperature are Fahrenheit. 6 = Dry bulb and wet bulb temperature are Centigrade; water temperature is Fahrenheit.
69-72	4	Attached thermometer	Positions 69-71: temperature in whole degrees. Position 71: units Position 70: tens Hundreds or a negative sign may be placed in position 69. Positions 69-71 are right justified, blank filled. Position 72 is reserved for temperatures reported to tenths of a degree if available, otherwise it is blank. If the temperature was reported in fractions or to hundredths of a degree, it was rounded to the nearest tenth of a degree (e.g. 1/4 =.3 and .06 =.1) and placed in position 72.
73-76	4	Air temperature (dry bulb) degrees to tenths. (positions 69-72).	Positions 73-75 contain whole degrees. Position 76 contains Same rules as attached thermometer
77-80	4	Wet bulb temperature degrees to tenths. (positions 69-72).	Positions 77-79 contain whole degrees. Position 80 contains Same rules as attached thermometer
81-84	4	Water temperature (sea surface temperature)	Positions 81-83 contain whole degrees. Position 84 contains degrees to tenths. Same rules as

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Data Record

Pos. No.	Total # of Positions	Description	Keying Instructions
			attached thermometer (positions 69-72).
85-89	5	Present Weather	State of the weather by symbol, left justified, blank filled. Present weather may consist of 1 to 5 characters. Present weather codes: b = Clear blue sky c = Cloudy weather d = Drizzling or light rain f = Fog, or foggy weather g = Gloomy, or dark, stormy-looking weather h = Hail l = Lightning m = Misty weather o = Overcast p = Passing showers of rain q = Squally weather r = Rainy weather or continuous rain s = Snow, snowy weather, or snow falling t = Thunder v = Variable weather w = Wet, or heavy dew z = Hazy
90-91	2	Clouds	Forms of clouds by symbols Code Symbols Cloud type ci Cir Cirrus cc Cir Cum Cirrocumulus cs Cir Str Cirrostratus cu Cum Cumulus sc Cum Str Stratocumulus ns Nimb Nimbostratus st Str Stratus cn Cum & Nimb Cumulus & Nimbostratus
92-93	2	Clear Skies	Proportion of clear sky in tenths (01-10), right justified, zero filled.
94-97	4	Sea State	State of the sea. This field may consist of from one to four characters. Left justified, blank filled.

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Data Record

Pos. No.	Total # of Positions	Description	Keying Instructions
			Codes for sea state: b = Broken or irregular sea c = Chopping, short, or cross sea g = Ground swell h = Heavy sea l = Long rolling sea m = Moderate sea or swell r = Rough sea s = Smooth sea t = Tide rips
98	1	Compass correction indicator	1 = points 2 = degrees 3 = not indicated Blank = field not available on form
99-102	4	Compass correction	Compass correction in either points or degrees as indicated in position 98 (compass correction indicator). Positions 99-101 contain whole degrees or points, position 102 contains tenths of degrees or points. Position 102 is blank if entry was not reported to tenths. Positions 99-101 are right justified, zero filled. * see footnote
103	1	Direction of correction	Direction of correction: 1 = east 2 = west

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