

DEUTSCHE SEEWARTE MARINE OBSERVATIONS

This reference manual was prepared for use with punched card deck 192. This card deck was punched by the German Meteorological Service during the Nazi regime from German ship observations made during the period 1859-1939.

Two significant card decks of comparable size were captured by the Allies during the course of World War II. This card deck was captured by the British and the Kopenhagener Schluessel card deck (191) was captured by the United States. Agreement was reached during 1946 whereby each meteorological service would exchange with the other a complete reproduction of the card deck which they held.

Copies of most of the codes and coding instructions used by the German Meteorological Service preparatory to the punching of this card deck were received with the reproduced cards. After these instructions were translated and studied it was found that they were incomplete. Some additional information was obtained from other sources but it was necessary to reconstruct, from the cards, some codes and instructions. It is believed that original records, from which this card deck was punched, were destroyed during the course of the war.

Weather Elements Punched

Wind direction and force
Present weather
Pressure - Observed (mb and mm)
Characteristic and amount of change
Visibility
Temperature - Air
Water
Air-water temperature difference
Cloud - Type of low, middle, high
Total amount
Amount of low clouds
Sea - Direction
State
Swell - Direction
Type
Relative Humidity
Beaufort weather and remarks

General Practices

Hours of observation:

Approximately 90% of the observations were made at 0000, 0400, 0800, 1200, 1600, 2000 GMT. These were made during the entire period of record, 1859-1939.

In addition, there is a group which comprises approximately 10% of the total observations which has observations made at 0000, 0600, 1200, 1800 GMT. These observations begin in 1930.

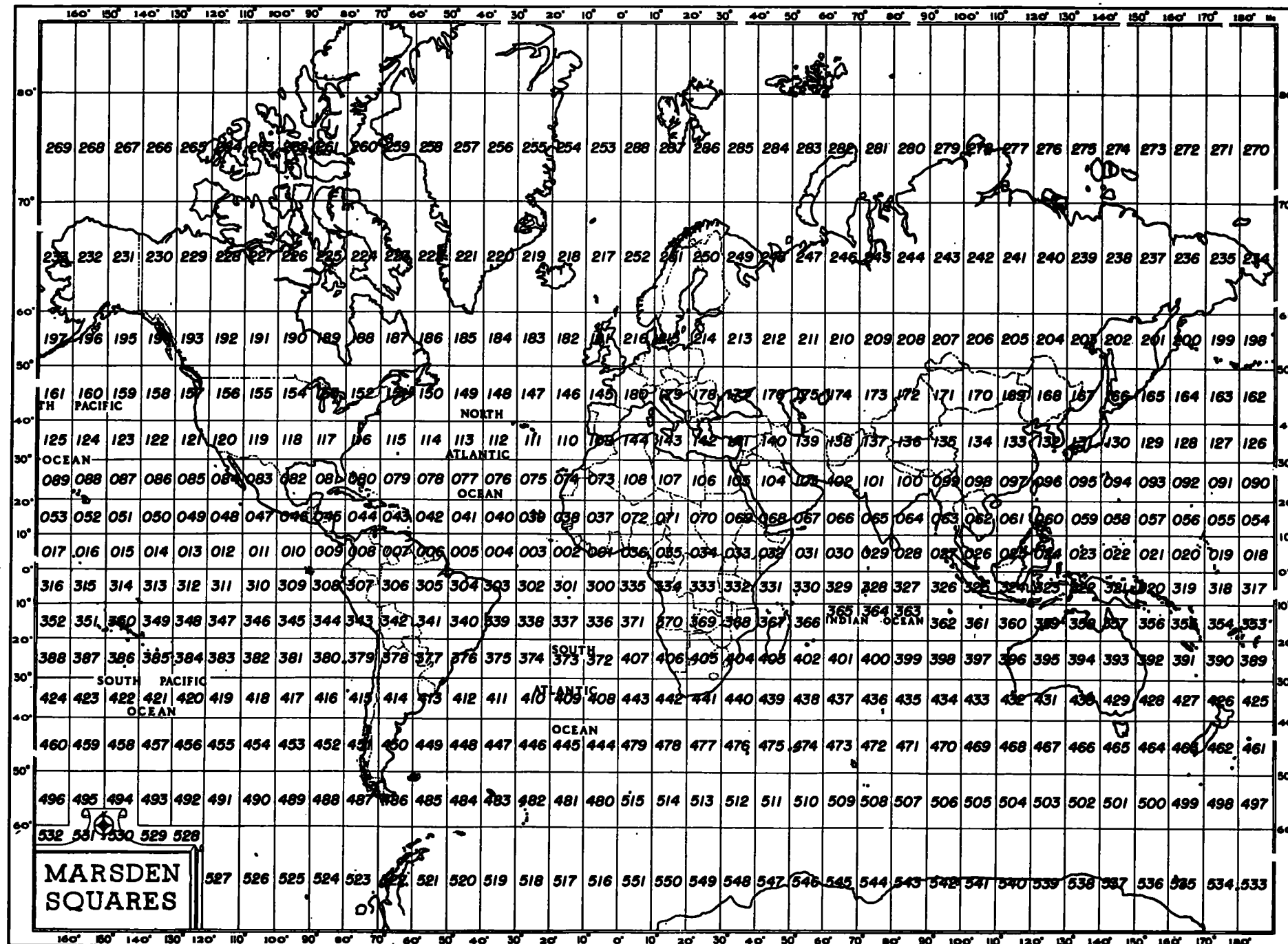
All directions are true north in columns 21-22, 48-49, 51-52.

Only significant digits were punched in columns 32-34, 36-38, 40-42.

Form of Punch Card Used

An 80-column card, IBM 782911, was used. A sample of the card form is shown below.

| DAY | MONTH | YEAR | CODE | SHEET | NUMBER | SHIP | POSITION | WIND | WEATHER | TEMPERATURE | CLOUDS | SEA | SWELL | PRESSURE | AIR | WEATHER | BEAUFORT | REMARKS |
|-----|-------|------|------|-------|--------|------|----------|------|---------|-------------|--------|-----|-------|----------|-----|---------|----------|---------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |



| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 90 | | | | | | | | | 99 |
| 80 | | | | | | | | | |
| 70 | | | | | | | | | |
| 60 | | | | | | | | | |
| 50 | | | | | | | | | |
| 40 | | | | | | | | | |
| 30 | | | | | | | | | |
| 20 | | | | | | | | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |

| | |
|---|---|
| 3 | 4 |
| 1 | 2 |

SQUARES ARE ALWAYS ORIENTED
SO THAT THE LOWEST NUMBER IS
NEAREST THE INTERSECTION OF
THE GREENWICH MERIDIAN AND
THE EQUATOR.

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|--------------------------|---------|--|--|---------------------|---|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 1-2 | Day | 01-31 | Day of month | 99 = Day not recorded. | | <p>Cols. 6, 7 <u>Type of Logbooks</u></p> <p>00 = Small coastal sailing vessel</p> <p>01 = Sailing vessel</p> <p>02 = Steamer</p> <p>03 = Warship</p> <p>04 = Small boat weather book</p> <p>05 = Fishing steamer</p> <p>06 = Logbook Form 1, 7 Groups</p> <p>Observation time according to GMT</p> <p>07 = Logbook Form 2, 4 Groups</p> <p>Observation time according to local time</p> <p>08 = Logbook Form 3, 4 Groups</p> <p>Observation time according to GMT</p> <p>09 = Denmark</p> <p>10 = Norway</p> <p>11 = Holland</p> <p>13 = France</p> <p>30 = Norway</p> <p>Observations according to the Copenhagen code without clouds observations.</p> <p>40 = France</p> <p>Separate code.</p> <p>41 = Denmark</p> <p>Separate code.</p> <p>60 = Instrument observations only.</p> <p>Mainly published meteorological data from German and foreign research expeditions.</p> <p>61 = Weather information by Beaufort code.</p> <p>Clouds code prior to 1930.</p> <p>62 = Weather information word description.</p> <p>Clouds code prior to 1930.</p> <p>64 = Weather and clouds by Copenhagen code</p> <p>65 = Weather by Copenhagen code.</p> <p>Clouds code prior to 1930.</p> <p>Converted to 1930 code for punching</p> |
| 3 | Month | 1-9 | January-September | | | |
| | | 0,x/0 | October | | | |
| | | x,x/1 | November | | | |
| | | y,x/2 | December | | | |
| 4-5 | Year | 59-99 | 1859-1899 | x overpunch in col. 5. | | |
| | | 00-39 | 1900-1939 | In supplementary cards | | |
| 6-7 | Logbook Type | | | See Reporting Practices note. | | |
| 8-13 | Code Sheet Number | | 60 observations to page. | x overpunch in col. 10 = 4 a.m. temp. in cols. 78-80.* | | |
| | | | * Included in supplementary cards | | | |
| 14-16 | Ship Position | 001-999 | Marsden 10° square | See Marsden chart, page 2. | | |
| 17-18 | Ship Position | 00-99 | Marsden 1° square | See Marsden chart, page 2. 181, x/04 is punched in cols. 14-18. Observations from Bristol Channel. | | |
| 19-20 | Hour | 00-23 | 0000-2300 GMT | | | |
| | | 50-73 | Ship time (IST Plus 50) | | | |
| | | 99 | Time not recorded | | | |
| 21-22 | Wind Direction | 00 | Calm | 33 = variable winds. | | |
| | | 02 | NNE | | | |
| | | 04 | NE | | | |
| | | 06 | ENE | | | |
| | | 08 | E | | | |
| | | 10 | ESE | | | |
| | | 12 | SE | | | |
| | | 14 | SSE | | | |
| | | 16 | S | | | |
| | | 18 | SSW | | | |
| | | 20 | SW | | | |
| | | 22 | WSW | | | |
| | | 24 | W | | | |
| | | 26 | WNW | | | |
| | | 28 | NW | | | |
| | | 30 | NNW | | | |
| | | 32 | N | | | |
| 23-24 | Wind Force Beaufort 0-12 | 0 | < 1 Knots | Calm. | | |
| | | 1 | 1 to 3 " | Light air. | | |
| | | 2 | 4 to 6 " | Light breeze. | | |
| | | 3 | 7 to 10 " | Gentle breeze. | | |
| | | 4 | 11 to 16 " | Moderate breeze. | | |
| | | 5 | 17 to 21 " | Fresh breeze. | | |
| | | 6 | 22 to 27 " | Strong breeze. | | |
| | | 7 | 28 to 33 " | High wind (Moderate gale). | | |
| | | 8 | 34 to 40 " | Gale (Fresh gale). | | |
| | | 9 | 41 to 47 " | Strong gale. | | |
| | | 10 | 48 to 55 " | Whole gale. | | |
| | | 11 | 56 to 63 " | Storm. | | |
| | | 12 | > 63 " | Hurricane. | | |
| 25-26 | Present Weather | 00-19 | Abbreviated description of sky and special phenomena | | ww | |
| | | 00 | Cloudless | | | |
| | | 01 | Partly cloudy | | | |
| | | 02 | Cloudy | | | |
| | | 03 | Overcast | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|-----------------------------------|-------|---|---|---------------------|--------------------------------|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 25-26 | Present Weather (Continued) | 04 | Low fog | Whether on ground or over sea. | | |
| | | 05 | Haze | Visibility \geq 1100 yards. | | |
| | | 06 | Dust devils seen | | | |
| | | 07 | Distant lightning | | | |
| | | 08 | Light fog | Visibility between 1100 yards and 2200 yards. | | |
| | | 09 | Fog at a distance | But not at ship. | | |
| | | 10 | Precipitation within sight | | | |
| | | 11 | Thunder | Without precipitation at ship. | | |
| | | 12 | Duststorm within sight | But not at ship. | | |
| | | 13 | Ugly, threatening weather | | | |
| | | 14 | Squally weather | | | |
| | | 15 | Heavy squalls | In last three hours. | | |
| | | 16 | Waterspouts seen | | | |
| | | 17 | Visibility reduced by smoke or volcanic ashes | Smoke caused by industrial, grass, or forest fires. | | |
| | | 18 | Duststorm | Visibility $>$ 1100 yards. | | |
| | | 19 | Signs of tropical storm (hurricane) | | | |
| | | 20-29 | Precipitation in last hour but not at time of observation | | | |
| | | 20 | Precipitation (rain, drizzle, hail, snow or sleet) | In the last hour but not at time of observation. | | |
| | | 21 | Drizzle (other than showers) | | | |
| | | 22 | Rain (other than showers) | | | |
| | | 23 | Snow (other than showers) | | | |
| | | 24 | Rain and snow mixed (other than showers) | | | |
| | | 25 | Rain shower(s) | | | |
| | | 26 | Snow shower(s) | | | |
| | | 27 | Hail or rain and hail shower(s) | | | |
| | | 28 | Slight thunderstorm | | | |
| | | 29 | Heavy thunderstorm | | | |
| | | 30-39 | Duststorms and storms of drifting snow | Visibility $<$ 1100 yards. | | |
| | | 30 | Dust or sand storm | | | |
| | | 31 | Dust or sandstorm has decreased | | | |
| | | 32 | Dust or sandstorm no appreciable change | | | |
| | | 33 | Dust or sandstorm has increased | | | |
| | | 34 | Line of duststorm | | | |
| | | 35 | Storm of drifting snow | | | |
| | | 36 | Slight storm of drifting snow | Generally low. | | |
| | | 37 | Heavy storm of drifting snow | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|-----------------------------------|-------|-------------------------------------|--|---------------------|--------------------------------|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 25-26 | Present Weather (Continued) | 38 | Slight storm of drift- ing snow | Generally high. | | |
| | | 39 | Heavy storm of drifting snow | | | |
| | | 40-49 | Fog | Visibility < 1100 yards. | | |
| | | 40 | Fog | | | |
| | | 41 | Moderate fog | In last hour but not at the time of observation. | | |
| | | 42 | Thick fog | | | |
| | | 43 | Fog, sky discernable | Has become thinner during the last hour. | | |
| | | 44 | Fog, sky not discern- able | | | |
| | | 45 | Fog, sky discernable | No appreciable change during the last hour. | | |
| | | 46 | Fog, sky not discern- able | | | |
| | | 47 | Fog, sky discernable | Has begun or become thicker during the last hour. | | |
| | | 48 | Fog, sky not discern- able. | | | |
| | | 49 | Fog in patches | | | |
| | | 50-59 | Drizzle | Precipitation consisting of numerous minute drops. | | |
| | | 50 | Drizzle | | | |
| | | 51 | Slight drizzle | Intermittent | | |
| | | 52 | | Continuous | | |
| | | 53 | Moderate drizzle | Intermittent | | |
| | | 54 | | Continuous | | |
| | | 55 | Thick drizzle | Intermittent | | |
| | | 56 | | Continuous | | |
| | | 57 | Drizzle and fog | | | |
| | | 58 | Drizzle and rain | Slight or moderate. | | |
| | | 59 | | Thick. | | |
| | | 60-69 | Rain | | | |
| | | 60 | Rain | | | |
| | | 61 | Slight rain | Intermittent | | |
| | | 62 | | Continuous | | |
| | | 63 | Moderate rain | Intermittent | | |
| | | 64 | | Continuous | | |
| | | 65 | Heavy rain | Intermittent | | |
| | | 66 | | Continuous | | |
| | | 67 | Rain and fog | | | |
| | | 68 | Rain snow mixed | Slight or moderate | | |
| | | 69 | | Heavy | | |
| | | 70-79 | Snow | | | |
| | | 70 | Snow or snow and rain mixed | | | |
| | | 71 | Slight snow in flakes | Intermittent | | |
| | | 72 | | Continuous | | |
| | | 73 | Moderate snow in flakes | Intermittent | | |
| | | 74 | | Continuous | | |
| | | 75 | Heavy snow in flakes | Intermittent | | |
| | | 76 | | Continuous | | |
| | | 77 | Snow and fog | | | |
| | | 78 | Grains of snow | (Frozen drizzle). | | |
| | | 79 | Ice crystals or frozen raindrops | (U.S. definition - sleet). | | |
| | | 80-89 | Shower(s) | | | |
| | | 80 | Shower(s) | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|-----------------------------------|---------|---|--|---------------------|--------------------------------|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 25-26 | Present Weather (Continued) | 81 | Rain shower(s) | Slight or moderate. | | |
| | | 82 | | Heavy. | | |
| | | 83 | Snow shower(s) | Slight or moderate. | | |
| | | 84 | | Heavy. | | |
| | | 85 | Rain and snow shower(s) | Slight or moderate. | | |
| | | 86 | | Heavy. | | |
| | | 87 | Shower(s) of snow pellets | | | |
| | | 88 | Shower(s) of hail or rain and hail | Slight or moderate. | | |
| | | 89 | | Heavy. | | |
| | | 90-99 | Thunderstorm | | | |
| | | 90 | Thunderstorm | | | |
| | | 91 | Rain at time of obser- vation | Thunderstorm during the last hour but not at time of observation. | | |
| | | 92 | Snow or snow and rain mixed at time of obser- vation | | | |
| | | 93 | Thunderstorm, slight without hail but with rain (or snow) | At time of observation. | | |
| | | 94 | Thunderstorm, slight with hail | | | |
| | | 95 | Thunderstorm, moderate without hail but with rain (or snow) | | | |
| | | 96 | Thunderstorm, moderate with hail | | | |
| | | 97 | Thunderstorm, heavy, without hail, but with rain (or snow) | | | |
| | | 98 | Thunderstorm, combined with duststorm | | | |
| | | 99 | Thunderstorm, heavy with hail | | | |
| | | Blank | Unknown | | | |
| 27-29 | Air Pressure | 000-999 | 700.0-799.9 mm. | Exceptions: X-overpunched in column 27 indicates 800.0-899.9. X-overpunched in column 28 indicates 600.0-699.9. | mm to tenths | |
| 30 | Visibility | 0 | Dense fog | 0-49 yards. | | |
| | | 1 | Thick fog | 50-199 yards. | | |
| | | 2 | Fog | 200-499 yards. | | |
| | | 3 | Moderate fog | Less than 1/2 nautical mile. | | |
| | | 4 | Thin fog | 1/2 but less than 1 nautical mile. | | |
| | | 5 | Poor visibility | 1 but less than 2 nautical miles. | | |
| | | 6 | Moderate visibility | 2 but less than 5 nautical miles. | | |
| | | 7 | Good visibility | 5 but less than 10 nautical miles. | | |
| | | 8 | Very good visibility | 10 but less than 30 nautical miles. | | |
| | | 9 | Excellent visibility | 30 or more nautical miles. | | |
| | | X | Unknown | | | |
| | | Blank | Unknown | | | |
| 31 | Air Temperature Indicator | X | Minus values | | | |
| | | Blank | Plus values | | | |
| | | | | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|---|---------|--|---|---------------------|--------------------------------|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 32-34 | Air Temperature | 000-999 | 00.0°C - 99.9°C | When reported in whole degrees, col. 34 is blank. | °C to tenths | |
| 35 | Water Temperature Indicator | X | Minus values | | | |
| | | Blank | Plus values | | | |
| 36-38 | Water Temperature | 000-999 | 00.0°C - 99.9°C | When reported in whole degrees, col. 38 is blank. | °C to tenths | |
| 39 | Air-Water Temperature Difference Indicator | X | Water temperature greater than air temp- erature | | | |
| | | Blank | Air temperature greater than water temperature. | | | |
| 40-42 | Air-Water Temperature Difference | 000-999 | 00.0°C - 99.9°C | | °C to tenths | |
| 43 | Low Cloud Type | 0 | No low clouds | | | |
| | | 1 | Cumulus of fine weather | | | |
| | | 2 | Cumulus, heavy and swelling, without anvil top | | | |
| | | 3 | Cumulonimbus | | | |
| | | 4 | Stratocumulus formed by flattening of cumulus | | | |
| | | 5 | Layer of stratus or stratocumulus | | | |
| | | 6 | Low broken up clouds of bad weather | | | |
| | | 7 | Cumulus of fine weather and stratocumulus | | | |
| | | 8 | Heavy or swelling cumulus, or cumulo- nimbus, and strato- cumulus | | | |
| | | 9 | Heavy or swelling cumulus (or cumulo- nimbus) and low ragged clouds of bad weather | | | |
| | | X | Unknown | | | |
| | | Blank | Unknown | | | |
| 44 | Middle Cloud Type | 0 | No middle clouds | | | |
| | | 1 | Typical altostratus, thin | | | |
| | | 2 | Typical altostratus, thick (or nimbostratus) | | | |
| | | 3 | Altostratus, or high stratocumulus, sheet at one level only. | | | |
| | | 4 | Altostratus in small isolated patches; in- dividual clouds often show signs of evapora- tion and are more or less lenticular in in shape | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|-------------------------------------|-------|---|---------|---------------------|--------------------------------|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 44 | Middle Cloud Type (Continued) | 5 | Alto cumulus arranged in more or less parallel bands, or an ordered layer advancing over sky | | | |
| | | 6 | Alto cumulus formed by a spreading out of the tops of cumulus | | | |
| | | 7 | Alto cumulus associated with altostratus or altostratus with a partially alto cumulus character | | | |
| | | 8 | Alto cumulus castellatus, or scattered cumuliform tufts | | | |
| | | 9 | Alto cumulus in several sheets at different levels, generally associated with thick fibrous veils of cloud and a chaotic appearance of the sky. | | | |
| | | X | Unknown | | | |
| | | Blank | Unknown | | | |
| 45 | High Cloud Type | 0 | No high clouds | | | |
| | | 1 | Cirrus, delicate, not increasing, scattered and isolated masses | | | |
| | | 2 | Cirrus, delicate, not increasing, abundant but not forming a continuous layer | | | |
| | | 3 | Cirrus of anvil clouds, usually dense | | | |
| | | 4 | Cirrus, increasing, generally in the form of hooks ending in a point or in a small tuft | | | |
| | | 5 | Cirrus (often in polar bands) or cirrostratus advancing over the sky but not more than 45° above the horizon | | | |
| | | 6 | Cirrus (often in polar bands) or cirrostratus advancing over the sky and more than 45° above the horizon | | | |
| | | 7 | Veil of cirrostratus covering the whole sky | | | |
| | | 8 | Cirrostratus not increasing and not covering the whole sky | | | |
| | | 9 | Cirrocumulus predominating, associated with a | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|-----------------------------------|-------|--------------------------|----------------------------------|---------------------|--------------------------------|
| Col- umns | item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 45 | High Cloud Type (Continued) | 9 | small quantity of cirrus | | | |
| | | X | Unknown | | | |
| | | Blank | Unknown | | | |
| 46 | Total Cloud Amount | 0 | No clouds | | | |
| | | 1 | 1/10 | | | |
| | | 2 | 2/10 | | | |
| | | 3 | 3/10 | | | |
| | | 4 | 4/10 | | | |
| | | 5 | 5/10 | | | |
| | | 6 | 6/10 | | | |
| | | 7 | 7/10 | | | |
| | | 8 | 8/10 | | | |
| | | 9 | 9/10 | | | |
| | | X | 10/10 | | | |
| | | Blank | Unknown | | | |
| | | 0 | No low clouds | | | |
| 47 | Low Cloud Amount | 1 | 1/10 | | | |
| | | 2 | 2/10 | | | |
| | | 3 | 3/10 | | | |
| | | 4 | 4/10 | | | |
| | | 5 | 5/10 | | | |
| | | 6 | 6/10 | | | |
| | | 7 | 7/10 | | | |
| | | 8 | 8/10 | | | |
| | | 9 | 9/10 | | | |
| | | X | 10/10 | | | |
| | | Blank | Unknown | | | |
| 48-49 | Sea Direction | 00 | Calm | | | |
| | | 02 | NNE | | | |
| | | 04 | NE | | | |
| | | 06 | ENE | | | |
| | | 08 | E | | | |
| | | 10 | ESE | | | |
| | | 12 | SE | | | |
| | | 14 | SSE | | | |
| | | 16 | S | | | |
| | | 18 | SSW | | | |
| | | 20 | SW | | | |
| | | 22 | WSW | | | |
| | | 24 | W | | | |
| | | 26 | WNW | | | |
| | | 28 | NW | | | |
| | | 30 | NNW | | | |
| | | 32 | N | | | |
| 50 | State of Sea | Blank | Unknown | | | |
| | | 0 | Calm | Approximate height in feet: 0 | | |
| | | 1 | Very quiet | 0 to 1 | | |
| | | 2 | Quiet | 1 to 2 | | |
| | | 3 | Light movement | 2 to 3 | | |
| | | 4 | Moderate | 3 to 5 | | |
| | | 5 | Fairly rough | 5 to 8 | | |
| | | 6 | Rough | 8 to 12 | | |
| | | 7 | High | 12 to 20 | | |
| | | 8 | Very high | 20 to 40 | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|---------------|--------------------------------|--|---|---|---------------------|--------------------------------|
| Col - umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 50 | State of Sea (Continued) | 9 | Very heavy Confused sea | Approximate height in feet: (Cont'd) Over 40 Confused sea punched as "x" overpunch in Col. 53 | | |
| 51-52 | Swell Direction | 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 | Calm NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW N | | | |
| 53 | Swell Type | 0 1 2 3 4 5 6 7 8 9 X Blank | No swell Very low Low Light Moderate swell, average length Fairly heavy Heavy swell, short High Very high Very heavy Confused Unknown | When sea condition is not given, an X (not X overpunch) indicates confused sea and swell. Confused sea punched as "x" overpunch in col. 53 | | |
| 54 | Past Weather | 0-9 | See note in Remarks | Col. 54 Past Weather | | |
| 55 | Ship's Course | 0 1 2 3 4 5 6 7 8 9 X Blank | Ship hove to. NE E SE S SW W NW N All directions or no definite direction Unknown Unknown | 0 = Fair (cloudiness or slightly cloudy). Visibility 1,000 m. No precipitation in the concerned period of time. 1 = Variably cloudy. Visibility 1,000 m. No precipitation in the concerned period of time. 2 = Predominantly heavy clouds or overcast. Visibility 1,000 m. No precipitation in the period of time concerned. 3 = Sandstorm, duststorm, visibility 1,000 m. No precipitation in period of time concerned. 4 = Fog or very dense haze. Visibility 1,000 m. No precipitation in period of time concerned. 5 = Drizzle (not showers). 6 = Rain (not showers). 7 = Snow and rain mixed (not showers). 8 = Showers (without a thunderstorm). 9 = Thunderstorm. | | |
| 56 | Ship's Speed | 0 1 2 3 4 5 6 | Ship stopped 1 to 3 knots 4 to 6 knots 7 to 9 knots 10 to 12 knots 13 to 15 knots 16 to 18 knots | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|---|-----------------|--|---|-----------------------|---|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 56 | Ship's Speed (Continued) | 7 | 19 to 21 knots | | | |
| | | 8 | 22 to 24 knots | | | |
| | | 9 | More than 24 knots | | | |
| | | X | Unknown | | | |
| | | Blank | Unknown | | | |
| 57 | Pressure Change Character- istic | 0 | Rising, then falling | Barometer now higher than or the same as 3 hours ago. | | |
| | | 1 | Rising, then steady; or rising, then rising more slowly | | | |
| | | 2 | Unsteady | | | |
| | | 3 | Steady or rising | | | |
| | | 4 | Falling or steady, then rising; or rising, then rising more quickly | | | |
| | | 5 | Falling, then rising | Barometer now lower than 3 hours ago. | | |
| | | 6 | Falling, then steady; or falling, then fall- ing more slowly | | | |
| | | 7 | Unsteady | | | |
| | | 8 | Falling | | | |
| | | 9 | Steady or rising, then falling; or falling, then falling more quickly | | | |
| | | X | Unknown | | | |
| | | Blank | Unknown | | | |
| 58-59 | Pressure Change | 00-99 | 1/5 millibar | x overpunch in col. 58 = 100/5 Mbs. | 1/5 Mb. | Pressure change in the last three hours. |
| 60-61 | Pressure Change | 00-99 | 0.0-9.9 millimeters | x overpunch in col. 60 = 10.0-19.9 mm. x overpunch in col. 61 = 20.0-29.9 mm. | Mm. | |
| 62-63 | Relative Humidity | 01-99 | 1% - 99% | | Whole percent- age | |
| | | 00 | 100% | | | |
| 64-68 | Air Pressure | 00000- 10999 | 0000.0 to 1099.9 mb. | When reported to whole mbs., col. 68 is blank. | Mb to tenths | |
| 69-70 | | Blank | See remarks | Certain lightships have punched precipitation amounts. | | |
| 71 | Weather Beaufort and Remarks | 0 | Clear | Not punched if cloud amount reported in tenths in column 46. | | 01 = 7/10 to 1 mm. 02-90 = 02 - 90 mm. 91-96 = 1/10 - 6/10 mm. 97 = trace or less than 1/10 mm. 98 = precip. greater than 90.4 mm. 99 = precip. indeterminate. |
| | | 1 | Less than 1/2 cloud cover | | | |
| | | 2 | Sky 1/2 covered by clouds | | | |
| | | 3 | Sky 3/4 covered by clouds | | | |
| | | 4 | Overcast | | | |
| | | 5 | No cloud reported | | | |
| | | 9 | No weather reported | | | |
| 72 | | 0 | Fog | Punched when no weather reported or when cloud amount reported in column 46 with no other weather. | | |
| | | 1 | Thick fog | | | |
| | | 2 | Smoke | | | |
| | | 3 | Dense smoke | | | |
| | | 4 | Visibility clear | | | |
| | | 5 | Visibility very clear | | | |
| | | 6 | Haze | | | |
| | | 7 | Gloomy | | | |
| | | 8 | Threatening | | | |

| CARD CONTENT | | | | | SOURCE CONTENT | |
|--------------|---|------|---|---------|---------------------|--------------------------------|
| Col- umns | Item | Code | Code Definition | Remarks | Units or Symbols | Reporting and Coding Practices |
| 73 | Weather Beaufort and Remarks (Continued) | 0 | Drizzle (spray) | | | |
| | | 1 | Thick drizzle | | | |
| | | 2 | Rain | | | |
| | | 3 | Heavy rain | | | |
| | | 4 | Rain showers, rain squall | | | |
| | | 5 | Heavy rain showers, heavy rain squalls | | | |
| | | 7 | Snow showers, snow squall | | | |
| | | 8 | Heavy snow showers, heavy snow squall | | | |
| | | 9 | Drizzle shower | | | |
| 74 | | 0 | Snow | | | |
| | | 1 | Heavy snow | | | |
| | | 2 | Hail, graupel | | | |
| | | 3 | Heavy hail, heavy graupel | | | |
| | | 4 | Snow graupel | | | |
| | | 5 | Heavy snow graupel | | | |
| | | 6 | Rain and snow | | | |
| | | 7 | Heavy rain and snow mixed | | | |
| 75 | | 0 | Intermittent lightning | | | |
| | | 1 | Continuous lightning | | | |
| | | 2 | Intermittent thunder | | | |
| | | 3 | Continuous thunder | | | |
| | | 4 | Thunderstorm | | | |
| | | 5 | Intense thunderstorm | | | |
| | | 6 | Spray with rain | | | |
| | | 7 | Heavy spray with rain | | | |
| | | 8 | Rain and hail (graupel) | | | |
| 76 | | 9 | Heavy rain and hail (graupel) | | | |
| | | 0 | Squalls | | | |
| | | 1 | Heavy squalls | | | |
| | | 2 | Ground fog | | | |
| | | 3 | Damp fog | | | |
| | | 4 | Wet fog | | | |
| | | 5 | Coastal fog | | | |
| | | 6 | Sun ring | | | |
| | | 7 | Sun halo | | | |
| | | 8 | Moon ring | | | |
| 77 | | 9 | Moon halo | | | |
| | | X | Water spout (wind spout) | | | |
| | | 0 | Dew | | | |
| | | 1 | Heavy dew | | | |
| | | 2 | Duststorm | | | |
| | | 3 | Frost | | | |
| | | 4 | Hoar frost | | | |
| | | 5 | Glaze | | | |
| | | 6 | Ice, floating ice, ice pack | | | |
| | | 7 | Iceberg | | | |

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