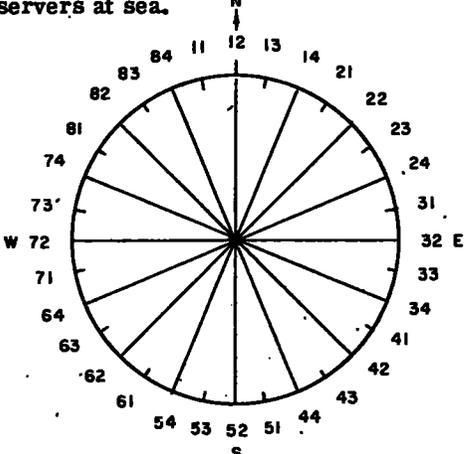


CARD CONTENT					SOURCE CONTENT		
Col- umns	Item	Code	Code Definition	Code	Remarks	Units or Symbols	Reporting and Coding Practices
1	Ship Number	1 2 3 4 5 6	Vestfold Skytteren Kosmos II Kosmos I Svend Foyn Hektoria	7 8 9 0 X	Thorshammer Ole Wegger Sir James Clark Ross Solglimt Thorshavet		
2	Season	2 3 4 5	1932-1933 1933-1934 1934-1935 1935-1936	Season 6 7 8	1936-1937 1937-1938 1938-1939		Season indicated the months September thru December of one year and month January thru May of the following year as one season.
3-4	Day of Month	01-31					
5	Month of Season	1 2 3 4 5	September October November December January	6 7 8 9	February March April May		Month of season. <u>Note:</u> <u>Not</u> month of year.
6-8	Latitude 1/10°	000- 899	0-89.9° South	Punched in degrees and tenths			Position is given for 1200 GMT. When it was calculated for other hours, the position at 1200 GMT was found by interpolation.
9-12	Longitude	0000- 3599	Reckoned eastward from 0.0°-359.9°	Punched in degrees and tenths. Origin starting at 0 or Greenwich meridian.			
13	Hemisphere	1 2	East Longitude West Longitude	To be used for eventual recoding of Longitude.			
14-15	Hour (GMT)	00-23	00-23 hours GMT	00 = midnight of day beginning			Most of the ships' observations were taken at synoptic hours 00, 06, 12, 18 GMT; however, ships #1 and #8 took observations at 03, 09, 15, 21 hours GMT in season 3. Ship #9 in seasons 5 and 6.
16-18	Pressure (corrected) Mbs.	000-999 Blank	700.0-1099.9 Mbs. Missing	Last three digits of sea level pressure to 1/10 mbs. The values denoting hundreds and thousands of mbs. were not punched.			Pressures were corrected for instrumental errors, to normal gravity, to 0°C. and to sea level.
19	Air Tempera- ture	0 1	Negative (-) value Positive (+) value	Indicator			The air temperatures were measured with aspiration thermometer. The instrument was held outside the rail on the windward side for four minutes, then taken inside the rail for temperature reading.
20-22	Tempera- ture value to 1/10°C.	000-999 Blank	0.0°C. thru 99.9°C. Missing	Positive and negative values indicated in col. 19.			* See page 3.
23	Sea Tem- perature	0 1	Negative (-) value Positive (+) value	Indicator			The surface temperature of the sea was measured by engine intake tube.
24-25	Sea Tem- perature value to 1/10°C.	01-99 Blank	0.1°C. thru 9.9°C. Missing	Units and tenths. Possible range +9.9°C. thru -9.9°C. +49.8°F. thru +14.2°F. Positive and negative values indicated in col. 23.			
26-27	Present Weather	00-99	See table 1, page 4	1929 Copenhagen ww code			Recorded in 1929 code.
28	Total Cloud Amount	0-8 9 Blank	0 - 10/10 Sky obscured Missing	See table 2, page 4			Observed in 10ths then converted to 8ths for punching according to table 2.
29	Visibility	0-9 Blank	See table 3, page 4 Missing				
30	Past Weather	0-9 Blank	See table 4, page 4 Missing				

CARD CONTENT							SOURCE CONTENT	
Col- umns	Item	Code	Code Definition		Remarks		Units or Symbols	Reporting and Coding Practices
31-32	Wind Direction			Mid Value in Degrees				The direction and force of the wind were estimated in accordance with the common instructions for observers at sea. 
		<u>Code</u>	<u>32 pt. compass</u>		<u>Code</u>	<u>32 pt. compass</u>	<u>Mid Value in Degrees</u>	
		00	Calm					
		11	31 N x W	349	51	15 S x E	169	
		12	32 N	360	52	16 S	180	
		13	01 N x E	011	53	17 S x W	191	
		14	02 NNE	023	54	18 SSW	203	
		21	03 NE x N	034	61	19 SW x S	214	
		22	04 NE	045	62	20 SW	225	
		23	05 NE x E	056	63	21 SW x W	236	
		24	06 ENE	068	64	22 WSW	248	
		31	07 E x N	079	71	23 W x S	259	
		32	08 E	090	72	24 W	270	
		33	09 E x S	101	73	25 W x N	281	
		34	10 ESE	113	74	26 WNW	293	
41	11 SE x E	124	81	27 NW x W	304			
42	12 SE	135	82	28 NW	315			
43	13 SE x S	146	83	29 NW x N	326			
44	14 SSE	158	84	30 NNW	338			
			Blank		Missing			
33-34	Wind Speed (Knots)	<u>Code (kts.)</u>	<u>Observed Beaufort code</u>	<u>Code (kts.)</u>	<u>Observed Beaufort code</u>			Beaufort wind force was observed and recorded, then converted to knots by Norway for punching according to code indicated. Note: The equivalent mean speed in knots are slightly different from the 1929 International code, the differences between successive mean speeds were smoothed.
		00	0	31	7			
		02	1	37	8			
		05	2	44	9			
		09	3	51	10			
		14	4	58	11			
		19	5	66	12			
		25	6	Blank	Missing			
	Missing Data					Missing data were punched by an "X" punch in the first column of the field of the missing data, particularly prevalent in the temperature and dew point.		* (Page 2) Air temperatures higher than 0.0°C. have been omitted (a) when the ship was in the ice, and the air temperature was greater than 3.9°C., or when the air temperature minus the sea temperature was greater than 3.9°C. in light winds without precipitation or fog (fine weather); (b) at noon in fine weather when the air temperature was more than 3.0°C. warmer than the sea temperature, and the air temperature had risen more than 1.9°C. from the morning and fell more than 1.9°C. before night.

Code Table 1 ww cols. 26-27

Symbols ww—Present weather

00-19. ABBREVIATED DESCRIPTION OF SKY AND SPECIAL PHENOMENA

- 00 Cloudless.
- 01 Partly cloudy.
- 02 Cloudy.
- 03 Overcast.
- 04 Low fog, whether on ground or over sea.
- 05 Haze (visibility 1,000 m., 1,100 yards or more).
- 06 Dust devils seen.
- 07 Distant lightning.
- 08 Light fog (visibility between 1,000 m. and 2,000 m., 1,100 yards and 2,200 yards)
- 09 Fog at a distance, but not at station (or ship).
- 10 Precipitation within sight.
- 11 Thunder, without precipitation at station (or ship).
- 12 Duststorm within sight, but not at station (or ship).
- 13 Ugly, threatening sky.
- 14 Squally weather.
- 15 Heavy squalls
- 16 Waterspouts seen } in last 3 hours.
- 17 Visibility reduced by smoke (industrial, grass or forest fires), or volcanic ashes.
- 18 Duststorm (visibility greater than 1,000 m., 1,100 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).
 - 21 Drizzle
 - 22 Rain
 - 23 Snow
 - 24 Rain and snow, mixed
 - 25 Rain shower(s).
 - 26 Snow shower(s).
 - 27 Hail, or rain and hail shower(s).
 - 28 Slight thunderstorm.
 - 29 Heavy thunderstorm.
- } other than showers. In last hour but not at time of observation.

30-39. DUSTSTORMS AND STORMS OF DRIFTING SNOW (visibility less than 1,000 meters, 1,100 yards)

- 30 Dust or sand storm;
 - 31 Dust or sand storm has decreased.
 - 32 Dust or sand storm, no appreciable change.
 - 33 Dust or sand storm has increased.
 - 34 Line of duststorms.
 - 35 Storm of drifting snow.
 - 36 Slight storm of drifting snow
 - 37 Heavy storm of drifting snow
 - 38 Slight storm of drifting snow
 - 39 Heavy storm of drifting snow
- } generally low
- } generally high.

40-49. FOG (visibility less than 1,000 meters, 1,100 yards)

- 40 Fog.
 - 41 Moderate fog in last hour
 - 42 Thick fog in last hour
 - 43 Fog, sky discernible
 - 44 Fog, sky not discernible
 - 45 Fog, sky discernible
 - 46 Fog, sky not discernible
 - 47 Fog, sky discernible
 - 48 Fog, sky not discernible
 - 49 Fog in patches.
- } but not at time of observation.
- } has become thinner during last hour.
- } no appreciable change during last hour.
- } has begun or become thicker during last hour.

50-59. DRIZZLE (precipitation consisting of numerous minute drops)

- 50 Drizzle.
 - 51 Intermittent
 - 52 Continuous
 - 53 Intermittent
 - 54 Continuous
 - 55 Intermittent
 - 56 Continuous
 - 57 Drizzle and fog.
 - 58 Slight or moderate
 - 59 Thick
- } slight drizzle.
- } moderate drizzle.
- } thick drizzle.
- } drizzle and rain.

60-69. RAIN

- 60 Rain.
 - 61 Intermittent
 - 62 Continuous
 - 63 Intermittent
 - 64 Continuous
 - 65 Intermittent
 - 66 Continuous
 - 67 Rain and fog.
 - 68 Slight or moderate
 - 69 Heavy
- } slight rain.
- } moderate rain.
- } heavy rain.
- } rain and snow, mixed.

70-79. SNOW

- 70 Snow (or snow and rain, mixed).
 - 71 Intermittent
 - 72 Continuous
 - 73 Intermittent
 - 74 Continuous
 - 75 Intermittent
 - 76 Continuous
 - 77 Snow and fog.
 - 78 Grains of snow (frozen drizzle).
 - 79 Ice crystals; or frozen raindrops (sleet—U. S. definition).
- } slight snow in flakes.
- } moderate snow in flakes.
- } heavy snow in flakes.

80-89. SHOWER(S)

- 80 Shower(s).
 - 81 Shower(s) of slight or moderate
 - 82 Shower(s) of heavy
 - 83 Shower(s) of slight or moderate
 - 84 Shower(s) of heavy
 - 85 Shower(s) of slight or moderate
 - 86 Shower(s) of heavy
 - 87 Shower(s) of snow pellets
 - 88 Shower(s) of slight or moderate
 - 89 Shower(s) of heavy
- } rain.
- } snow.
- } rain and snow.
- } hail, or rain and hail.

90-99. THUNDERSTORM

- 90 Thunderstorm.
 - 91 Rain at time
 - 92 Snow, or snow and rain
 - 93 Thunderstorm, slight, without hail, but with rain (or snow)
 - 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
- } thunderstorm during last hour, but not at time of observation.
- } at time of observation.

NOTE.—In coding present weather (ww) the observer will use the highest applicable number.

Code Table 2 N col. 28

Symbol N—Total amount of all clouds
Symbol N_h—Amount of low cloud

Code figures	Proportion of sky covered (in tenths)	Code figures	Proportion of sky covered (in tenths)
0	0.	7	More than 0.9 but with openings.
1	Less than 0.1.	8	Sky completely covered with clouds.
2	0.1.	9	Sky obscured by fog, duststorm, or other phenomenon.
3	0.2 to 0.3.		
4	0.4 to 0.6.		
5	0.7 to 0.8.		
6	0.9.		

Code Table 3 vv col. 29

Symbol V—Visibility

Code figures	Visibility
0	Dense fog. (Objects not visible at 50 yards.)
1	Thick fog. (Objects not visible at 200 yards.)
2	Fog. (Objects not visible at 500 yards.)
3	Moderate fog. (Objects not visible at 1/2 nautical mile.)
4	Thin fog. (Objects not visible at 1 nautical mile)
5	Poor visibility. (Objects not visible at 2 nautical miles.)
6	Moderate visibility. (Objects not visible at 5 nautical miles.)
7	Good visibility. (Objects not visible at 10 nautical miles.)
8	Very good visibility. (Objects not visible at 30 nautical miles.)
9	Excellent visibility. (Objects visible at more than 30 nautical miles.)

Code Table 4 W col. 30

Symbol W—Past weather

Code figures	Weather
0	Fair (clear or slightly clouded).
1	Variable sky.
2	Mainly overcast.
3	Sandstorm or duststorm or storm of drifting snow.
4	Fog or thick dust haze (visibility less than 1,000 meters, 1,100 yards).
5	Drizzle.
6	Rain.
7	Snow or sleet.
8	Showers.
9	Thunderstorm.

