

The 5°-square adjacent to Maine, western Nova Scotia, and Cape Cod, namely 40° to 45° N., 65° to 70° W., led all other North Atlantic squares, with 23 days of fog. The period just preceding the middle of the month was the period with least fog in this area.

Fog was noted on about half the days of the month off the coast of New Jersey, but to southward reports were few, and south of the latitude of Hatteras there was practically no fog. Between the 15th and 65th meridians, south of 40° north latitude, no fog has been reported.

Several accidents due to fog have come to our notice, but there was apparently no loss of life connected with any. On the night of the 5-6th a barge sank after a collision in Long Island Sound. On or about the 24th a steamer grounded near Halifax, N. S., but soon was refloated. The last day of June saw three fog accidents in New England waters; also it was probably this day that the Norwegian steamship *Aranda*, bound into the Gulf of St. Lawrence, grounded off one of the Magdalen Islands and is expected to be a total loss.

OCEAN GALES AND STORMS, JUNE 1937

Vessel	Voyage		Position at time of lowest barometer		Gale began June—	Time of lowest barometer June—	Gale ended June—	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
<b>NORTH ATLANTIC OCEAN</b>													
Georgian, Am. S. S.	New York	Cristobal	12 12 N.	78 35 W.	1	5p, 1	1	29.83	SE	SE, 6	SE	SE, 6	
Toloa, Am. S. S.	Santa Marta	Kingston	11 36 N.	74 18 W.	3	7a, 3	3	29.81	ENE	ENE, 6	E	E, 6	None.
Kentucky, Dan. S. S.	Oslo	Portland, Me.	56 52 N.	26 20 W.	4	2p, 4	6	29.22	SW	W	W	W, 9	SW-W.
Hannah, Du. S. S.	Bremen	Montreal	56 22 N.	23 43 W.	4	10a, 5	5	29.17	SE	SSW, 8	SSW	S, 9	S-N.
Standard, Am. S. S.	Aruba	New York	39 42 N.	73 36 W.	14	7p, 14	14	29.76	WSW	WSW, 9	W	WSW, 9	SW-W.
Marinao, Ital. S. S.	Djidjelli	Gloucester, N. J.	38 10 N.	72 40 W.	14	--, 15	15	29.88	SSW	SW, 8	SW	SW, 8	SSW-W-SW.
Toloa, Am. S. S.	Kingston	Colon	13 25 N.	78 30 W.	17	3p, 18	18	29.80	E	E, 6	ENE	E, 6	
<b>NORTH PACIFIC OCEAN</b>													
Empress of Asia, Br. S. S.	Victoria, B. C.	Yokohama	51 25 N.	143 57 W.	1	4p, 31	1	29.38	S	S, 8	SW	SW, 9	S-SSW.
Pres. Grant, Am. S. S.	Yokohama	Victoria, B. C.	38 28 N.	146 47 E.	1	Mdt, 1	3	29.27	ENE	N, 9	W	NW, 10	NE-NW.
Tai Ping, Nor. M. S.	do	San Francisco	38 30 N.	150 00 E.	1	2a, 2	3	29.10	E	SSW, 9	WNW	W, 10	S-W.
Pres. Jefferson, Am. S. S.	Victoria, B. C.	Yokohama	42 10 N.	149 45 E.	2	5a, 2	2	29.20	E	NNE, 10	NW	NNE, 10	NE-N.
San Diego Maru, Jap. M. S.	Osaka	San Francisco	39 41 N.	150 29 E.	1	6a, 2	3	29.00	E	W, 7	WNW	W, 8	S-W.
San Pedro Maru, Jap. M. S.	Yokohama	Los Angeles	40 40 N.	156 30 E.	1	Noon, 2	3	29.29	SE	SW, 7	W	SSE, 9	S-WSW.
Thames Maru, Jap. S. S.	Port Alice	Kobe	44 48 N.	156 58 E.	2	10p, 2	3	29.86	E	NE, 8	NW	NW, 9	E-N-NW.
Silverpalm, Br. M. S.	Cebu	San Francisco	42 50 N.	177 13 W.	2	6a, 3	2	29.44	S	SW, 5	SW	S, 5	
Nako Maru, Jap. M. S.	Yokohama	Los Angeles	43 21 N.	166 22 E.	2	Noon, 3	4	29.16	ESE	SW, 9	WNW	SW, 9	SW-WSW.
Salawati, Du. M. S.	Manila	do	39 16 N.	175 24 E.	3	3p, 3	4	29.78	S	SSW, 7	WNW	SSW, 9	SSW-WSW.
Empress of Asia, Br. S. S.	Victoria	Yokohama	50 45 N.	179 02 W.	3	9p, 3	3	29.33	S	NE, 5	ESE	ESE, 8	ESE-NE.
Tai Ping, Nor. M. S.	Yokohama	San Francisco	43 10 N.	179 00 E.	5	2p, 6	6	29.42	ESE	WNW, 9	NW	NNW, 9	ESE-WNW-NW
San Pedro Maru, Jap. M. S.	do	Los Angeles	41 33 N.	152 03 W.	10	--, 10	10	29.49	SW	S, 9	S	S, 9	S-W.
Scottsburg, Am. S. S.	Manila	do	45 46 N.	178 05 W.	14	Noon, 14	17	29.10	W	W, 9	W	W, 9	
Shoyo Maru, Jap. M. S.	Kudamatsu	do	40 30 N.	137 30 W.	15	10a, 15	15	29.33	WSW	W, 9	NW	WNW, 9	W-WNW.
Chatanooga City, Am. S. S.	Hilo	Balboa	17 05 N.	117 50 W.	16	4p, 16	16	29.74	NNE	SSE, 7	SSE	W, 3	WNW-S-SE.
Scottsburg, Am. S. S.	Manila	Los Angeles	42 21 N.	140 00 W.	21	Noon, 21	22	29.58	SW	SW, 8	SE	SW, 8	
Nitro, U. S. N.	San Diego	Balboa	18 00 N.	104 00 W.	25	11a, 25	25	29.63	E	E, 10	SE	E, 10	ENE-SSE.
Iowan, Am. S. S.	Balboa	Los Angeles	18 36 N.	104 42 W.	25	6a, 25	25	29.64	E	ENE, 9	WNW	ENE, 9	SE-ENE.
Silverbelle, Br. M. S.	Cebu	do	17 55 N.	130 28 E.	30	4p, 30	41	29.54	NW	NE, 12	E	NE, 12	NW-NE-SE.

1 Barometer uncorrected.  
 2 May.  
 3 Position approximate.  
 4 July.

NORTH PACIFIC OCEAN, JUNE 1937

By WILLIS E. HURD

*Atmospheric pressure.*—The Aleutian Low continued in an abnormally high state of development for the month during June 1937, as in the previous May, with average center over eastern Aleutian waters, the mean pressure at Dutch Harbor being 29.73, which is 0.17 inch below the normal. The lowest barometer readings of the month were 28.90 inches, at Kodiak, on the 1st, and 28.88, read on the British steamer *Talhythibus*, near 51° N., 174° W., on the 15th.

High pressure was central in the vicinity of Midway Island, where the average barometer, 30.14 inches, was 0.09 above the normal.

In the Far East, the encroachment of the continental low on the sea area is shown by the average barometer, 29.65 inches, at Hong Kong, and the average of 29.72 inches at Naha, in the Nansei Islands, both readings being below the normal.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, North Pacific Ocean, June 1937, at selected stations

Station	Average pressure	Departure from normal	Highest	Date	Lowest	Date
Point Barrow	29.80	-0.19	30.12	9	29.50	7
Dutch Harbor	29.73	-0.17	30.36	27	29.18	15, 16
St. Paul	29.79	-0.07	30.32	27	29.34	17
Kodiak	29.81	-0.10	30.40	3	28.90	1
Juneau	29.94	-0.07	30.58	3	29.35	18
Tatoosh Island	29.99	-0.03	30.34	24	29.59	16
San Francisco	29.96	0.00	30.19	11	29.74	27
Mazatlan	29.87	+0.04	29.96	12	29.74	25
Honolulu	30.05	+0.01	30.13	12	29.95	2
Midway Island	30.14	+0.09	30.28	27	29.94	24
Gusam	29.84	-0.03	29.92	11	29.77	26
Manila	29.76	+0.01	29.83	10, 14, 28	29.65	22
Hong Kong	29.65	-0.05	29.76	10	29.50	17
Naha	29.72	-0.03	29.83	1, 2, 10	29.53	18, 19
Chichishima	29.80	-0.11	30.00	4	29.53	29
Nemuro	29.95	-----	30.18	29	29.77	26

NOTE.—Data based on 1 daily observation only, except those for Juneau, Tatoosh Island, San Francisco and Honolulu, which are based on 2 observations. Departures are computed from best available normals related to time of observation.

*Extratropical cyclones and gales.*—Although several traveling cyclones, as well as fluctuating depressions peculiar to the Aleutian low, appeared over upper waters of the North Pacific Ocean in June 1937, there were no storms of great intensity in the extratropics. Gales in this region in no instance exceeded 10 in force, and were largely reported as occurring during the first decade. The few gales of the middle and last decades were scattered as to time and locality and of force no higher than 9.

The severest storm affecting the weather of the upper steamship routes was that which came from the south of Japan on the 1st, and moved northeastward toward the Aleutians, then southeastward and eastward toward British Columbia, the coast of which it entered on the 9th. From the 1st to 3d a rather wide area of storminess lay east of northern and central Japan, several ships reporting gales of force 10, principally on the 2d, between 35°–45° N., 145°–155° E. Farther eastward, almost to midocean, gales of force 8–9 occurred on the 3d to 5th. No later gales were reported in connection with this cyclone, and no further gales were reported in upper east longitudes during the remainder of the month.

In connection with the cyclone in which the *Talthybius* reported the lowest barometer of the month, as previously noted, on the 15th, the American steamer *Scottsburg* encountered rough weather from the 14th to 17th, with a maximum wind-force of 9 on the 14th, near 46° N., 178° W.

On the eastern part of the ocean, roughly within the area 40°–52° N., 135°–152° W., gales of force 8–9 were reported on only four dates, the 1st, 10th, 15th, and 21st.

*Tropical cyclones.*—In the Far East one typhoon appeared at the end of the month between the Marianas and the Philippines. The British motorship *Silverbelle*, near 18° N., 130½° E., encountered a hurricane wind on the afternoon of the 30th, lowest barometer 29.54 inches.

The storm moved westward and was over northern Luzon on July 2. There is no information yet available as to its intensity after the 30th, but it will receive further notice in the July issue of the REVIEW.

In the southeastern North Pacific a tropical cyclone showed signs of developing at some distance south of Acapulco on the 23d. On the morning of the 24th there was a low central near 13° N., 102° W., moving northward toward the Mexican coast. At 6 a. m. of the 25th the American steamer *Iowan* had an east-northeast gale of force 9, lowest barometer 29.64, a little south of Manzanillo, and at 10 a. m. the U. S. S. *Nitro* had an east gale of force 10, barometer 29.63, in 18° N., 104° W. Thereafter the storm appears to have moved northwestward and to have dissipated on the 26th near the mouth of the Gulf of California.

There were evidences of the formation of a tropical cyclone southwest of the Revillagigedo Islands on the 16th. The American steamship *Chattanooga City* reported a west gale of force 8 near 17° N., 118° W., barometer 29.74. The wind shifts observed on the vessel between noon and 4 p. m. were from north-northeast changing to west-northwest, west, south, and southeast. The disturbance was moving westward.

*Fog.*—Foggy weather was frequent, as is usual in June, particularly along the western part of the northern routes where, a day or two to the eastward of northern Japan, ships reported fog on nearly half the days of the month. South of the Aleutians fog was not reported, but it was observed in higher west longitudes, east of 160° W., on 7 days. In middle latitudes for the strip between 31° and 36° N., longitudes 180° and 155° E., there were 14 days with fog. In American coastal waters fog occurred on 7 days off Lower California, and on 3 or 4 days only along the coast of the United States.

CLIMATOLOGICAL TABLES

CONDENSED CLIMATOLOGICAL SUMMARY

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

TABLE 1.—Condensed climatological summary of temperature and precipitation by sections, June 1937

[For description of tables and charts, see REVIEW, January, p. 29]

Section	Temperature								Precipitation						
	Section average	Departure from the normal	Monthly extremes						Section average	Departure from the normal	Greatest monthly		Least monthly		
			Station	Highest	Date	Station	Lowest	Date			Station	Amount	Station	Amount	
Alabama.....	80.2	+1.9	5 stations.....	103	125	Valley Head.....	51	23	3.66	-0.54	Robertsdale.....	7.83	Belgreen.....	In.	0.34
Arizona.....	75.6	-1.2	Buckeye.....	118	30	McNary.....	26	3	.47	+1.13	Santa Marguerita...	2.40	6 stations.....		.00
Arkansas.....	73.8	+1.6	Hot Springs.....	108	27	Dutton.....	45	7	4.94	+1.90	Corning.....	9.55	Little Rock.....		1.66
California.....	67.5	-6	2 stations.....	120	21	Ellery Lake.....	13	1	.63	+1.28	Crescent City (near)	8.03	74 stations.....		.00
Colorado.....	61.7	+1	Las Animas.....	111	24	2 stations.....	15	15	1.93	+1.52	Sedgwick.....	5.27	Paonia.....		T
Florida.....	80.4	+6	2 stations.....	100	17	Plant City.....	57	1	5.71	-1.95	Cottage Hill.....	12.86	Cedar Keys.....		.45
Georgia.....	79.8	+1.6	do.....	101	11	Blairsville.....	47	23	4.30	-1.09	Abbeville.....	9.02	Newnan.....		.64
Idaho.....	59.5	-8	Hollister.....	106	21	Pelton Ranch.....	17	5	1.68	+1.38	Deception Creek...	6.02	Glenns Ferry.....		T
Illinois.....	71.7	+1	2 stations.....	102	14	Sycamore.....	37	11	5.07	+1.00	Freeport.....	8.65	Rock Island.....		2.06
Indiana.....	71.0	-5	do.....	100	24	La Porte.....	39	11	4.56	+1.78	Howe.....	10.19	Williams.....		1.43
Iowa.....	69.0	-6	Oakland.....	108	24	2 stations.....	36	9	3.80	-1.81	Hampton.....	7.49	Greenfield.....		1.09
Kansas.....	74.3	+5	5 stations.....	109	123	do.....	38	5	3.27	-1.71	Parsons.....	9.93	Richfield.....		.63
Kentucky.....	74.3	+4	Bowling Green.....	99	25	do.....	46	12	4.52	+1.39	Shepherdsville.....	7.09	Vanceburg.....		2.51

1 Other dates also.