

The following reports of waterspouts have been received:

British S. S. *Princess May*, Capt. R. Thompson; observer, W. R. Hunter, Cuba toward Philadelphia.

July 1, 1930, at 12.30 E. S. T., in 34° 01' N., 75° 15' W., a violent squall, reaching force 6 and traveling NE., accompanied by a heavy rain, sheet lightning, and thunder. At this time the barometer read 30.06 inches, temperature of air 79° F., of water at surface 79° F. In rear of squall two waterspouts formed and rose about

20 feet in the air. They both lasted for about three minutes and then subsided.

American S. S. *Fred W. Weller*, Capt. S. Purdy; observer, F. Marcus; Corpus Christi toward Boston.

July 27, 6.50 a. m. Observed two incomplete waterspouts to the eastward of American Shoals Lighthouse (24° 20' N., 81° 40' W.). Both lasted four minutes, then the upper and lower parts did not join. Twenty minutes later heavy showers of rain from the direction of the waterspouts.

OCEAN GALES AND STORMS, JULY, 1930

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
Porto Rico, Am. S. S.	San Juan	New York	39 52 N	73 56 W	July 6	10 p., 6	July 6	29.87	WSW	WSW, 12.	WSW	WSW, 12.	Steady.
Oranian, Br. S. S.	Avonmouth	Montreal	52 40 N	50 08 W	July 9	8 a., 9	July 9	29.57	S	S, 4	S	S, 8	Do.
Statendam, Du. S. S.	Rotterdam	New York	40 58 N	61 52 W	July 11	5 p., 11	July 11	29.71	SSW	SW, 8	SW	SW, 8	SSW-S.
Indiana, Br. S. S.	Huelva	Baltimore	35 02 N	69 50 W	July 8	9 p., 12	July 12	29.93	SW	SW, 8	NW	SW, 8	SW-NW.
Jean Jadot, Belg. S. S.	New York	Antwerp	40 33 N	62 15 W	July 13	4 a., 13	July 13	29.90	SSW	SSW, 6	SSE	—, 10	—
California, Fr. S. S.	Havre	New York	41 07 N	61 12 W	July 14	—, 14	July 14	29.68	S	S, 2	SW	—, 8	SSE-S-SW.
Schuykill, Br. M. S.	Baytown	Liverpool	47 58 N	28 26 W	July 17	3 p., 18	July 20	29.82	SSE	SSE, 8	N	—, 9	SSE-E-N.
Schenectady, Am. S. S.	New York	Copenhagen	58 25 N	15 40 W	July 25	10 p., 25	July 26	29.35	SE	SE, 8	SE	SSE, 9	SE-SSE.
Sarcotis, Am. S. S.	Havre	New York	49 28 N	7 20 W	July 28	4 a., 28	July 29	29.82	WSW	WSW, 4	NW	W, 8	Steady.
Do.	do.	do.	44 42 N	29 20 W	July 31	2 p., 31	Aug. 1	29.73	WSW	W, 9	NNW	W, 10	WSW-W.
Georgia, Dan. S. S.	Norfolk	Rotterdam	47 26 N	26 12 W	July 29	8 a., 31	do.	29.51	SW	WNW, 8	NNW	—, 9	WNW-NNW.
NORTH PACIFIC OCEAN													
Kentucky, Am. S. S.	Davao, P. I.	San Francisco	44 16 N	162 21 W	July 4	4 a., 5	July 5	29.96	ENE	ENE, 8	ENE	ENE, 8	Steady.
Fres. Hayes, Am. S. S.	Manila	do.	17 23 N	140 24 E	July 7	9 a., 7	July 7	29.88	ESE	ESE, 7	ESE	ESE, 8	Do.
Tecumseh, Br. S. S.	Yokohama	San Pedro	38 36 N	155 07 E	July 10	Noon, 10	July 10	29.29	E	E, —	ESE	ENE, 8	E-ENE.
Triumph, Am. M. S.	Newchwang	Hong Kong	26 50 N	122 10 E	July 13	Md., 13	July 14	29.14	E	ESE, 9	SSE	ESE, 9	ESE-S.
Liberator, Am. S. S.	Hong Kong	Honolulu	24 04 N	132 32 E	July 26	Noon, 26	July 26	29.97	NW	W, —	SE	W, 8	W-WSW.
Taiyo Maru, Jap. S. S.	Yokohama	San Francisco	35 06 N	141 45 E	July 29	3 a., 30	July 31	29.75	NE	E, 7	S	SE, 8	ENE-ESE.
SOUTH ATLANTIC OCEAN													
Brasilien, Dan. S. S.	Barry	River Plate	29 00 S	46 58 W	July 14	2 a., 14	July 16	29.84	SW	SW, 8	WSW	WSW, 10	SW-WSW.

NORTH PACIFIC OCEAN

By WILLIS E. HURD

Pressure conditions on the North Pacific Ocean during July, 1930, were more than ordinarily devoid of gradient, and therefore little conducive to the production of rough weather. Over the greater part of the ocean in middle, and even in higher, latitudes anticyclonic conditions prevailed even more completely than in the previous June, when the North Pacific HIGH covered a large and almost unbroken area. In July the Aleutian Low had practically vanished, and only a few and comparatively unimportant cyclones appeared from time to time in the Bering Sea and in Alaskan waters of the Pacific. Such northern depression as persisted was central considerably to the northward of the Aleutian chain. The departures from the normal barometric pressure, as indicated in the following table, were slightly above in middle and upper latitudes and, as shown by the figures for Honolulu and Midway Island, slightly below in more southern waters.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, at indicated hours, North Pacific Ocean and adjacent waters, July, 1930

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
Point Barrow ¹	Inches 29.84	Inch	Inches 30.12	29th	Inches 29.50	20th.
Dutch Harbor ¹	30.04	+0.02	30.38	5th	29.74	28th.
St. Paul ¹	29.92	+0.07	30.32	16th	29.50	29th.
Kodiak ¹	29.99	+0.03	30.18	6th	29.66	18th.
Midway Island ¹	30.07	-0.01	30.20	1st	29.94	10th.
Honolulu ⁶	29.99	-0.03	30.07	8th	29.89	13th.
Juneau ⁶	30.08	+0.03	30.27	17th	29.85	3d.
Tatoosh Island ⁷	30.13	+0.06	30.28	30th	29.94	2d.
San Francisco ⁷	29.96	+0.01	30.14	29th	29.80	3d.
San Diego ⁷	29.90	+0.01	30.05	23d	29.74	12th.

¹ P. m. observations only.

² For 24 days.

³ For 28 days.

⁴ For 29 days.

⁵ For 30 days.

⁶ A. m. and p. m. observations.

⁷ Corrected to 24-hour mean.

It is significant that, as deduced from a goodly number of reports, hardly a gale of higher than moderate force occurred along the northern steamship routes. Such a