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WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

Over the northern steamer lanes the weather during February would not be considered as unusually stormy for a winter month. In the region between the Bermudas and Azores, however, the number of days with gales was considerably above the normal, and vessels between the fortieth and fiftieth parallels encountered winds of hurricane force, as shown by reports in table.

The North Atlantic HIGH was unusually well developed during the first 15 days of the month, while from the 16th to the 28th low pressure was the rule over this area, and on only one day during the latter period was the barometric reading at Horta equal to, or above, the normal for the month. The Icelandic LOW was unusually inactive, as indicated by the abnormally high barometer recorded at Lerwick, during practically the entire month.

The number of days with fog was somewhat below normal over the Grand Banks and middle section of the steamer lanes, and above off the coast of Europe and that part of the American coast between the thirty-fifth and fortieth parallels, as well as in the Gulf of Mexico.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian). North Atlantic Ocean, February, 1929*

Stations	Average pressure	Departure [1]	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland	29.45	([2])	29.92	18th	28.62	21st.
Belle Isle, Newfoundland	29.88	+0.13	30.46	7th	29.40	23d.[3]
Halifax, Nova Scotia	30.08	+0.10	30.54	6th	29.56	20th.
Nantucket	30.07	+0.01	30.44	13th	29.76	1st.[3]
Hatteras	30.10	−0.03	30.42	24th	29.68	28th.
Key West	30.04	−0.04	30.16	2d [3]	29.84	6th.
New Orleans	30.07	−0.03	30.46	23d	29.78	26th.[3]
Cape Gracias, Nicaragua	29.92	−0.05	29.98	3d [3]	29.84	6th.
Turks Island	30.11	+0.03	30.18	21st [3]	29.98	5th.
Bermuda	[4] 30.18	+0.04	30.42	26th	29.82	17th.
Horta, Azores	30.05	−0.08	30.60	10th	29.26	18th.
Lerwick, Shetland Islands	30.07	+0.35	30.61	28th	29.73	23d.
Valencia, Ireland	29.87	−0.03	30.57	28th	29.52	15th.
London	30.09	+0.09	30.74	28th	29.65	24th.

[1] From normals shown on Hydrographic Office Pilot Chart, based on observations at Greenwich mean noon, or 7 a. m., seventy-fifth meridian time.
[2] No normal available.
[3] And on other date or dates.
[4] Average of 24 observations.

On the 1st there were two depressions over the ocean; the first central about 200 miles east of Nantucket and the second near 57° N., 35° W. By the 2d both of these LOWS had moved eastward and moderate to strong gales prevailed between the Bermudas and Newfoundland and westerly winds of force 7 to 8 over the eastern section of the steamer lanes. On the 3d strong gales occurred between the forty-fifth and fiftieth parallels and thirtieth and forty-fifth meridians, as well as off the coast of Spain.

From the 4th to 10th moderate weather was the rule, with the exception of a disturbance from the 8th to 10th, north of the fifty-fifth parallel and east of the thirtieth meridian. On the 11th St. Johns, Newfoundland, was near the center of a LOW, with moderate to strong westerly gales in the southerly quadrants. From the 11th to 14th land stations on the coast of Great Britain, as well as vessels in the vicinity, reported easterly to southerly winds of force 7 to 9.

On the 12th northwesterly winds of hurricane force were encountered near mid-ocean, as shown by report from the American S. S. *Sagaporack* in table.

On the 14th an area of high pressure was over eastern Canada, with a barometric reading of 30.50 inches at Sydney, while a vessel near Bermuda reported a reading of 29.57 inches. The steep gradient was responsible for easterly winds of gale force over the area between these two localities, accompanied by comparatively high barometric readings.

Charts VIII to XI show the conditions from the 15th to 18th, inclusive, when the most extensive and severe disturbance of the month covered a large portion of the ocean, the storm area extending as far south as the thirtieth parallel. On the 19th the center of this LOW was near 48° N., 30° W., and strong northerly gales still prevailed in the westerly quadrants, while southerly winds of force 7 to 9 also occurred between the forty-fifth and fiftieth parallels, east of the twentieth meridian. By the 20th the conditions had moderated somewhat, but on the 21st the middle section of the steamer lanes was covered by a well developed disturbance, while southerly gales were also reported along the American coast, between Hatteras and New York.

On the 22d the western disturbance was central off the west coast of Newfoundland, the storm area extending to the thirtieth parallel, while northerly gales also occurred between the Azores and the fifty-fifth parallel and the twenty-fifth and thirtieth meridians. On this date the trade wind in the Caribbean Sea was unusually strong, as shown by report in table from Danish M. S. *Asia*.

A disturbance that on the 24th was central near 42° N., 40° W., moved rapidly eastward, and from this date until the 27th westerly gales swept the middle and eastern sections of the steamer lanes, between the fortieth and fiftieth parallels.

WATERSPOUT

Capt. B. W. Lyons, master of the S. S. *Canadian Britisher*, has furnished the Weather Bureau with the following description of a waterspout observed by him on February 18, 1929, in the Florida Straits:

Position, latitude 25° 50′ N., longitude 79° 45′ W.; wind NE., 2, temperature of air, 76°, sea, 77°. Witnessed when first forming, at 9 a. m., at which time the waterspout appeared as a cone-shaped mass let down from nimbus cloud, altitude about 1,500 feet. At 9:05 a. m. the spout had reached the sea beyond the horizon.

The waterspout was a perfectly vertical, slender column, retaining its uprightness throughout, but gradually becoming very large in diameter—about 100 feet. It traveled in a southeasterly direction with a clockwise movement until within about 4 miles of the ship, when, beginning at the surface of the sea, it gradually broke away and drew up to the clouds. By 9:20 a. m. it had dispersed.

During the progression of the waterspout the sea was heavily agitated at its base, and it appeared that a heavy mist, similar to that accompanying a waterfall, was raised all around it from the sea to a height of about 100 feet. In the immediate rear was a "wake" of agitated water and, trailing, lower lying mist by which the direction traveled could be easily determined.

A photograph of the waterspout as it appeared at 9.15 a. m. is reproduced herewith.

OTHER WATERSPOUTS

Vega, U. S. S.; Capt. F. M. Robinson, commander, U. S. N.; observer, O. B. Earle, lieutenant, U. S. N.; Corinto to Boston; 1 p. m., February 3 in 34° 20′ N., 74° 52′ 30″ W.

Upon entering Gulf Stream the temperature of the water was 68°, while that of the air was 42°. This resulted in rapid evaporation of sea water, and numerous steam jets could be seen rising from surface of sea. In many cases the steam formed vapor spouts with the appearance of waterspouts at a distance. These

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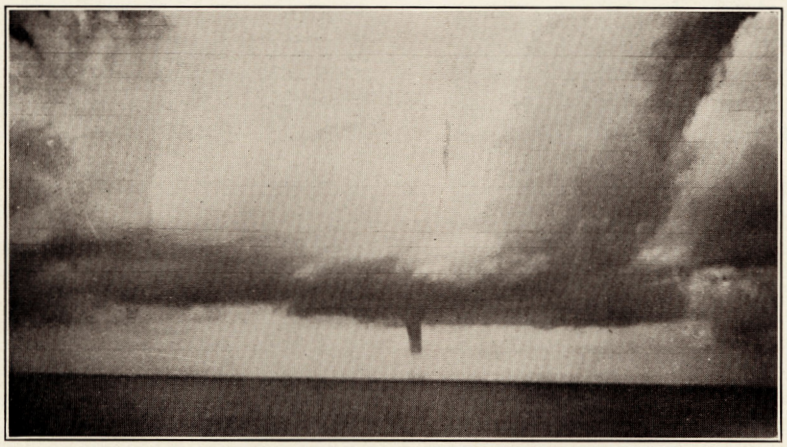

FIGURE 1.—Waterspout observed by Capt. B. W. Lyons, master S. S. *Canadian Britisher*, February 18, 1929, in latitude 25° 50′ N. and longitude 79° 45′ W.

vapor spouts rose until they reached the clouds, twisting and turning as a true waterspout. When the edge of the Gulf Stream was reached there was a well-defined line between the current and ocean, and the temperature of water dropped suddenly some 20 degrees upon crossing the line in 35° 45′ N., 75° 09′ W. at 5:40 p. m.

Steel Ranger, American S. S.; Capt. R. C. Forbes; observers, ship's officers; Port Said to Newport News.

From 10 to 10:20 a. m. on the 28th a large waterspout was observed about 6 miles north of ship in 32° 03′ N., 31° 58′ W., moving east slowly, temperature of air 65°. This appeared the usual funnel shape protruding from a dark nimbus cloud. On the sea level considerable disturbance was noticed.

Coahoma County, American S. S.; Capt. Robert J. K. Doring; observer, R. Jensen; February 9, in 38° 47′ N., 53° 50′ W., at 10:15 a. m., local mean time.

Observed a large waterspout apparently traveling in a southeasterly direction. The funnel-shaped cloud overhead, which was very conspicuous and extended to a considerable height, curved at quite an angle to its path of progression. Altogether, about five minutes elapsed before it passed out of sight. It formed very rapidly and was at first mistaken for a ship on fire at a distance. The clouds overhead were strato-cumulus and to our northwest was a small rain squall. The wind was SSW., force 5, aboard ship.

OCEAN GALES AND STORMS FEBRUARY, 1929

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			° ′	° ′				Inches					
Mercier, Belg. S. S.	Antwerp	New York	49 47 N.	30 00 W.	Feb. 1	8 a., 1	Feb. 2	29.13	S	S., 9	W	SW., 11	S.-WSW.
Samland, Belg. S. S.	do	do	42 10 N.	56 46 W.	1	10 a., 2	3	29.08	WNW	N., 6	N	NW., 10	SW.-W.-NW.
President Monroe, Am. S. S.	Marseille	do	37 36 N.	50 23 W.	2	2 p., 2	3	29.57	S	SW., 10	WNW	SW., 10	Steady.
Mercier, Belg. S. S.	Antwerp	do	48 08 N.	39 50 W.	3	11 a., 3	4	29.26	S	SW., 11	WSW	SW., 11	S.-W.-WSW.
Arminco, Belg. S. S.	Port Arthur	Liverpool	42 35 N.	53 10 W.	10	8 a., 11	11	29.73	SW	NW., 8	N	NW., 9	SW.-NW.
Sagaporack, Am. S. S.	Bergen	Portland, Me.	54 40 N.	32 30 W.	8	2 a., 12	13	29.29	WSW	SW., 10	NW	W., 12	
West Hika, Am. S. S.	Mobile	Rotterdam	49 42 N.	6 28 W.	11	1 a., 12	13	29.47	F	E., 8	E	E., 11	Steady.
Cold Harbor, Am. S. S.	Boston	Manchester	52 08 N.	6 09 W.	12	7 a., 13	13	29.54	SE	SE., 9	SE	SE., 9	Steady.
Leopold L. D., Fr. S. S.	Gibraltar	Philadelphia	37 49 N.	71 04 W.	13	6 a., 14		29.83	E	NNE., 11		NNE., 11	
West Celina, Am. S. S.	Houston	Liverpool	39 06 N.	54 06 W.	14	8 a., 14	16	29.27	W	SW., 8	NW	W., 12	SW.—NW.
Mississippi, Br. M. S.	Halifax	London	45 15 N.	50 30 W.	15	2 a., 15	20	28.52	E	NE., 11	NW	NE., 11	E.-NNE.
George Peirce, Am. S. S.	Galveston	Bremen	43 46 N.	38 55 W.	14	9 p., 16	16	28.39	WSW	N., 4	N	SE., 12	
Sitoebondo, Du. S. S.	Dutch East Indies.	New York	37 10 N.	62 35 W.	14	5 p., 16	17	29.46	SE	SW., 9	NW	SSW., 10	SW.-W.
Gonzenheim, Ger. S. S.	Norfolk	Bremen	41 31 N.	46 51 W.	15	4 a., 16	17	28.85	SW	WNW., 12	NNW	—, 12	WSW.-WNW.
Vulcania, Ital. M. S.	Gibraltar	New York	41 30 N.	46 02 W.	15	4 a., 16	16	28.88	E	WSW., 11	WNW	WNW., 12	WSW.-WNW.
West Arrow, Am. S. S.	Antwerp	do	38 15 N.	39 06 W.	15	—, 16	17	29.46	SSW	W., 11	NW	W., 11	WSW.-W.
München, Ger. S. S.	New York	Cobh	40 44 N.	55 30 W.	16	3 a., 17	19	28.89	S	WSW., 4	NW	NW., 11	S.-WSW.
West Celina, Am. S. S.	Houston	Liverpool	42 00 N.	39 35 W.	18	9 a., 18	20	29.47	NW	NW., 10	NW	NW., 10	WNW.-NW.
Samland, Belg. S. S.	New York	Antwerp	49 15 N.	12 40 W.	19	8 a., 19	20	29.68	SSE	—, 10	SSE	S., 10	
Asia, Fr. S. S.	Providence	Lisbon	40 00 N.	51 52 W.	20	5 p., 20	20	29.74	SSW	SSW., 12	SSW	SSW., 12	SSW.-W.
Berlin, Ger. S. S.	New York	Bremerhaven	40 19 N.	70 29 W.	21	4 p., 21	22	29.35	E	SSW., 5	W	ESE., 10	ESE.-S.-SW.
Albert Ballin, Ger. S. S.	Hamburg	New York	43 00 N.	41 00 W.	21	4 a., 21	21	29.75	SW	W., 8	NNW	NW., 10	
Asia, Dan. M. S.	St. Thomas	Canal Zone	11 25 N.	77 05 W.	21	4 p., 22	22	29.88	ENE	ENE., 8	NNE	NE., 9	ENE.-NE.
Egremont, Am. S. S.	Port Said	Boston	36 30 N.	54 30 W.	23	6 a., 23	24	29.83	WSW	WSW., 8	WNW	WNW., 10	WSW.-NNW.
City of Alton, Am. S. S.	Rotterdam	do	39 22 N.	46 38 W.	23	2 a., 24	26	29.08	W	WSW., 10	NW	NW., 12	WSW.-NW.
Yeifuku Maru, Jap. S. S.	New York	Hamburg	45 38 N.	34 05 W.	24	4 p., 24	26	28.05	SSE	W., 12	WNW	W., 12	W.-NW.
Shenandoah, Am. S. S.	Port Arthur	Dublin	44 50 N.	34 37 W.	24	6 p., 24	26	28.42	SSE	WSW., 12	WSW	—, 12	W.-WSW.
Saco, Am. S. S.	Antwerp	Boston	48 22 N.	35 29 W.	24	Noon, 24	27	29.37	E	E., 6	WNW	WSW., 12	W.-WSW.
Patagonier, Belg. S. S.	do	New York	48 29 N.	29 53 W.	24	2 a., 25	26	28.01	SE	SE., —	W	SE., 12	SSE.-W.
Anacortes, Am. S. S.	New York	Glasgow	49 29 N.	37 27 W.	24	8 a., 25	25	28.83	NW	NW., —	W	NW., 11	NW.-N.-NW.
Grete, Ger. S. S.	Charleston	Bremen	42 30 N.	41 30 W.	28	8 p., 28	Mar. 1	29.23	SSW	W., 6	WSW	—, 9	SSE.-W.-WSW.
NORTH PACIFIC OCEAN													
China Arrow, Am. S. S.	Hong Kong	San Pedro	40 19 N.	169 07 W.	Feb. 2	10 a., 3	3	29.51	SSE	SSW., 7	SSW	SSE., 9	SSE.-SSW.
Milluna, Br. S. S.	Sydney	Yokohama	27 55 N.	142 35 E.	2	2 p., 2	3	29.28	NW	NW., —	NW	NW., 10	Steady.
President Madison, Am. S. S.	Honolulu	do	34 35 N.	155 10 E.	2	p., 2	3	28.80		WSW., 8	NW	WNW., 10	WSW.-WNW.
Taibu Maru, Jap. S. S.	Miike	William Head	47 52 N.	177 10 W.	3	4 p., 3	3	28.19	SSE	SSE., 7	S	SE., 9	SE.-S.
Tahchee, Br. S. S.	San Pedro	Yokohama	31 07 N.	171 28 E.	3	Noon, 3	3	29.51	S	S., 9	WSW	WSW., 10	S.-WSW.
Pennsylvania, Am. S. S.	Yokohama	San Francisco	47 15 N.	176 50 E.	3	2 a., 4	4	28.03	SE	S., 8	SW	SSW., 9	SE.-S.-SW.
Emp. of Asia, Br. S. S.	do	Vancouver	46 58 N.	170 12 E.	3	8 a., 4	4	27.84	NNW	W., 11	S	W., 11	NNW.-W.-S.
California, Am. S. S.	Otaru	San Francisco	47 00 N.	159 00 W.	5	3 a., 5	5	28.77	S	S., 10	SW	S., 10	S.-SW.
Golden Peak, Am. S. S.	San Francisco	Yokohama	31 43 N.	175 50 W.	8	4 p., 8	8	29.48	S	SSW., 8	WSW	SSW., 8	S.-WSW.
Hayo Maru, Jap. S. S.	Muroran	Vancouver	49 21 N.	162 05 W.	8	Noon, 9	9	28.98	SSE	SE., 8	S	SE., 10	SE.-S.
Dalblair, Br. S. S.	Moji	Portland	49 35 N.	166 10 W.	8	3 a., 9	9	28.49	SE	SE., 11	SW	SE., 11	
Hawaii Maru, Jap. S. S.	Los Angeles	Yokohama	32 18 N.	160 45 E.	8	9 p., 10	10	29.44	SSW	NW., 5	NW	SW., 9	WSW.-NW.
Reiyo Maru, Jap. S. S.	Vancouver	Osaka	54 35 N.	172 05 W.	9	2 p., 9	11	27.95	E	SE., 11	SSW	SE., 11	SE.-S.
Steel Voyager, Am. S. S.	Honolulu	Yokohama	34 45 N.	140 00 E.	9	8 p., 12	13	29.44	SW	W., 7	SW	WNW., 11	W.-WSW.
Chief Capilano, Br. S. S.	Shanghai	Muroran	39 11 N.	136 57 E.	10	4 p., 10	10	29.54	NNW	WNW., 7	NW	NW., 9	WNW.-NW.
Wisconsin, Am. S. S.	Hong Kong	San Francisco	34 10 N.	148 00 E.	10	2 a., 11	11	29.42	WNW	NW., 11	NW	NW., 11	WNW.-NW.
Ryufuku Maru, Jap. S. S.	Canal Zone	Yokohama	28 53 N.	159 10 E.	10	5 a., 11	12	29.50	SW	WSW., 4	WNW	W., 9	
Koyo Maru, Jap. S. S.	Miike	Portland	46 55 N.	172 15 W.	10	Mdt., 10	12	29.23	SSW	SE., 7	S	SSE., 9	SSW.-SE.-S.
Mojave, Am. S. S.	San Pedro	Balboa	15 07 N.	96 03 W.	11	3 a., 11	11	29.95	ENE	ENE., 6	NNE	NNE., 10	
Golden Peak, Am. S. S.	San Francisco	Yokohama	32 00 N.	178 00 E.	11	2 a., 12	13	29.48	S	SW., 8	WNW	W., 10	S.-SW.-W.
Montana, Am. S. S.	China	Seattle	49 40 N.	173 10 W.	12	6 a., 12	12	28.46	SE	SE., 7	SW	SW., 10	S.-SW.
Hawaii Maru, Jap. S. S.	Los Angeles	Yokohama	33 42 N.	152 14 E.	11	2 a., 13	14	29.12	SW	SSW., 11	WNW	SSW., 11	S.-SW.-W.
Dryden, Am. S. S.	Honolulu	do	30 35 N.	146 15 E.	12	10 p., 12	14	29.55	SW	SW., 7	NW	W., 9	SW.-W.
Wisconsin, Am. S. S.	Hong Kong	San Francisco	36 50 N.	155 00 E.	13	8 a., 13	13	28.83	SW	SW., 10	NW	NW., 12	SW.-NW.
Pres. Jackson, Am. S. S.	Honolulu	Yokohama	33 10 N.	162 18 E.	13	7 a., 14	14	29.46	SSW	WSW., 8	W	S., 9	SW.-W.
Tatsuno Maru, Jap. S. S.	Yokohama	San Francisco	40 50 N.	158 00 E.	13	2 p., 13	15	28.84	NE	N., 7	W	NW., 9	5 pts.
Shabonee, Br. S. S.	Nagasaki	San Pedro	41 52 N.	176 00 E.	18	6 a., 18	19	29.00	NW	NW., 7	NW	WNW., 9	NW.-WNW.
Tahchee, Br. S. S.	Yokohama	do	39 38 N.	150 43 E.	18	9 a., 18	20	28.66	SE	S., 7	NNW	E., 11	S.-E.
Golden Sun, Am. S. S.	San Francisco	Kobe	38 04 N.	148 45 E.	19	2 p., 19	20	29.08	SSE	NNW., 9	NW	NNW., 10	SSE.-NNW.
Hakubasan Maru, Jap. S. S.	Yokohama	Seattle	44 21 N.	156 00 E.	19	Noon, 21	22	28.74	ENE	W., 6	W	NE., 9	
Hamburg Maru, Jap. S. S.	do	San Francisco	37 40 N.	167 02 E.	19	4 p., 20	25	29.42	SSE	SW., 8	NNW	SW., 9	
Chief Capilano, Br. S. S.	Muroran	Vancouver	50 00 N.	178 45 E.	20	Mdt. 21	24	28.85	ESE	ESE., 5	SW	ESE., 10	ESE.-S.
Manukai, Am. S. S.	Hawaii	San Francisco	23 05 N.	154 48 W.	21	3 p., 21	21	29.83	NNE	NE., 8	NE	NE., 8	NE.-N.
Alabama Maru, Jap. S. S.	Yokohama	Victoria	50 15 N.	156 15 W.	22	2 a., 23	25	28.77	SSE	S., 9	W	S., 9	
Olympia, Am. S. S.	Wei Hai Wei	San Francisco	47 08 N.	163 36 E.	25	Noon, 25	Mar. 3	29.34		E., 8	W	E., 9	Steady.