SEVERE LOCAL STORMS, JANUARY, 1932

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path (yards)	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Grand Rapids, Mich.	1					Glaze	Considerable damage to telephone, electric, and power lines.	Official, U. S. Weather Bureau.
Eldridge (near), Tex.	11	2:30 p. m.	50	2	$2,000	Tornado	4 small houses wrecked; implements damaged; 1 person injured.	Do.
Hockley (near), Tex.	11	3:30 p. m.			30,000	do	4 buildings demolished, several damaged; poultry killed; telephone lines broken; several persons injured.	Do.
Port Angeles, Wash.	11				15,000	Wind	7 fishing boats wrecked and a tug sunk	Do.
Montana	11				90,000	do	Damage confined chiefly to buildings, fences, signboards and trees; communication services interrupted; greatest destruction in southern division.	Do.
Hamilton, Miss., and vicinity.	12	4:30 p. m.		3	25,000	Probably tornado	5 homes destroyed and practically all other buildings damaged; 30 persons injured.	Official, U. S. Weather Bureau, and Montgomery Advertiser (Ala.).
Murfreesboro, Tenn.	12	7:30 p. m.				Wind	Trees uprooted; signboards blown down; warehouse unroofed.	Official, U. S. Weather Bureau.
Alabama (west-central)	12			10	65,000	Tornado	Many homes demolished; livestock killed; telephone service impaired.	Official, U. S. Weather Bureau, and Montgomery Advertiser (Ala.).
Alexander and Pulaski Counties to Richland and Lawrence Counties, Ill.	12				34,000	Wind	Wire service interrupted; roofs, plate glass, signs, and light buildings damaged; 2 persons injured.	Official, U. S. Weather Bureau.
Canyon City, Colo. (Wolf Park).	12				1,000	do	House wrecked; garage blown over	Do.
Chickasaw, Simpson, and Forrest Counties, Miss.	12					High winds and thunder-squalls.	Character of damage not reported	Do.
Indiana	12	P. m.			10,600	Wind	Buildings, smokestacks, and power lines damaged.	Do.
Millbrook, Ala., and vicinity.	12				12,000	Tornado	Many homes and other buildings destroyed or damaged; poultry killed.	Official, U. S. Weather Bureau, and Montgomery Advertiser (Ala.)
Columbus, Ohio, and vicinity.	13					Wind	Damage chiefly to roofs, windows, wires, and trees.	Official U. S. Weather Bureau.
Eaton (near), Tenn.	14	5.30 p. m.		10	75,000	Tornado	9 substantial buildings wrecked; several persons injured; path 8 miles long.	Do.
Grand Rapids, Mich.	14–15				6,000	Thunderstorms	Dairy barn and contents destroyed by lightning; 3 horses killed.	Do.
Columbus, Ohio	26	10:30 p. m.	20		3,500	Probably tornado	Buildings wrecked or damaged; billboards demolished; 1 person hurt; path about 400 yards long.	Do.
Evansville, Ind.	26				2,000	Wind	Some damage to property	Do.
New York City, N. Y.	27					do	Signs, windows, and trees damaged; 10 persons injured.	Do.

RIVERS AND FLOODS

By MONTROSE W. HAYES

[In charge River and Flood Division]

There were floods in January in the South Atlantic and Gulf States, in the Ohio Basin, and in the lower Mississippi Valley. In parts of Iowa, Missouri, and Oregon there were minor overflows of a local character. Some of the floods had not begun to recede at the end of January, and information concerning the others is not complete. A discussion of them will, therefore, appear in a later issue of the REVIEW.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, W. F. MCDONALD in charge]

NORTH ATLANTIC OCEAN

By F. A. YOUNG

Pressure.—As shown by Table 1, the average pressure at Reykjavik, Iceland, was 0.44 below normal, which indicates that the Icelandic LOW was unusually well developed, although during the last few days of the month there was an intrusion of high pressure in this region.

Along the coast of northern Europe, cyclonic conditions prevailed during the greater part of the first half of the month, while comparatively high barometric readings were the rule during the last decade, and the average pressure was not far from normal.

The North Atlantic HIGH was fairly well developed from the 4th to 8th, 13th to 17th, and 26th to 28th, while, as shown by Table 1, the average at Horta for the month is slightly below normal and at Madeira considerably above, indicating that the crest of this HIGH was some distance southeast of its usual position.

The daily barometric readings at Belle Isle and Halifax show the usual rapid changes that are to be expected in winter in that region, while at both of these stations there was a slight positive departure, for the month as a whole.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, January, 1932*

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland [1]	29.44	(2)	30.00	[3] 29	28.78	13
Reykjavik, Iceland [1]	29.22	−0.44	30.33	30	28.23	15
Lerwick, Shetland Islands [1]	29.69	−0.01	30.68	26	28.76	6
Valencia, Ireland [1]	29.98	+0.08	30.81	27	28.81	10
Lisbon, Portugal [1]	30.36	+0.21	30.53	3	29.80	11
Madeira [1]	30.27	+0.17	30.44	[3] 5	29.96	25
Horta, Azores [1]	30.12	−0.04	30.38	13	29.75	3
Belle Isle, Newfoundland [1]	29.82	+0.02	30.22	27	28.96	31
Halifax, Nova Scotia [1]	30.06	+0.08	30.70	12	29.32	28
Nantucket [4]	30.10	+0.06	30.61	11	29.35	3
Hatteras [4]	30.20	+0.06	30.56	31	29.63	9
Bermuda [1]	30.22	+0.06	30.54	13	29.78	5
Turks Island [1]	30.10	+0.05	30.20	[3] 13	29.90	9
Key West [4]	30.11	+0.01	30.29	31	29.86	1
New Orleans [4]	30.13	0.00	30.53	31	29.68	29
Cape Gracias, Nicaragua [1]	29.93	−0.05	29.98	[3] 13	29.88	[3] 1

[1] All data based on a. m. observations only, with departures computed from best available normals related to time of observations.
[2] No normal available.
[3] And on other date or dates.
[4] Corrected 24-hour means, based on more than 1 observation daily.

Charts VIII, IX, X, and XI, show the conditions on the 12th, 17th, 27th, and 30th, respectively, when the severest storms of the month occurred.

During the first and last decades of the month, there were a number of moderate disturbances between the Bermudas and the American coast, and during these periods gales were also reported by a number of vessels between the Azores and fiftieth meridian.

The following extracts from news reports give an idea of the damage to life and property wrought by various storms off the coast of Europe and on the northern steamer lanes:

London, January 6.—Steamer *Jersey City*, buffeted by a 50-mile gale and mountainous seas, was drifting off the Scilly Isles to-day with her engines crippled.

London, January 10.—A gale raged the length of English Channel to-day and did considerable damage along the south coast of Great Britain.

Brooklyn Eagle, January 14.—Arriving many hours late due to storms, the North German Lloyd liner *Bremen* docked at her pier late last night. The *Bremen* left Cherbourg January 8, and found the weather fairly good until the 10th, when she encountered a west-northwest gale. For 20 hours thereafter, according to her commander, Capt. Leopold Zeigenbein, she was forced to run at reduced speed, with the wind of hurricane force. The next day, January 11, she was again forced to cut her speed, when the wind blew at times 100 miles an hour, accompanied by snow. Another 8-hour speed reduction on January 12, when a north-northwest snow storm, driven by terrific winds, sent big waves crashing across the liner's deck.

Brooklyn Eagle, January 20.—The Holland American liner *Veendam* docked this morning, a day and a half late as a result of the most severe Atlantic storm this winter. The following vessels were also delayed on account of heavy weather: German S. S. *Europa*, British S. S. *Antonia*, Italian M. S. *Vulcania*, French S. S. *France*, and American S. S. *American Merchant*.

Cyclones and gales.—According to the Pilot Chart January is usually the stormiest month of the year over the North Atlantic. Many cyclonic storms with wind of force 10 to 12 were reported during the current month, but the number of days with gales was slightly if any above the normal over the northern steamer lanes, although on a number of days the storm area extended unusually far south.

As to be expected in January the northern section of the ocean was traversed by one cyclone after another, and some of these were unusually deep and severe. South of the 50th parallel, the number of days with gales was fairly well distributed, and three vessels reported disturbances between the 25th and 30th parallels while, as shown in table of storms, the American S. S. *Tegucigalpa* encountered a "norther" of force 11, while at Vera Cruz, Mexico.

The lowest pressure since December, 1929, over the North Atlantic during an extratropical storm was recorded by the Norwegian S. S. *Bergensfjord*. While this vessel was in 58° N., 24° 55′ W., on the 17th, the corrected reading from the mercurial barometer was 27.81 inches, with highest force of wind 11. On the previous day the American S. S. *Quaker City* encountered a SW. wind, force 12, while in 58° 40′ N., 15° 18′ W. This was undoubtedly the severest storm of the month, although there were a number of others that were responsible for a great deal of damage.

Fog.—The number of days on which fog was reported in different sections of the ocean, is as follows: Along the American coast, between the 35th and 45th parallels, from 3 to 9 days. Over the Grand Banks, from 4 to 6 days. Over the steamer lanes, east of the 45th meridian, from 1 to 2 days. In the western section of the Gulf of Mexico, on 6 days.

OCEAN GALES AND STORMS, JANUARY, 1932

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	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN			° ′	° ′				*Inches*					
Charles H. Cramp, Am. S. S.	New York	Canal Zone	39 30 N	73 54 W	Jan. 1	3 a., 1	Jan. 1		E	E, 8	E	E, 10	Steady.
Nishima, Am. S. S.	New Orleans	Bremen	48 42 N	26 38 W	Jan. 2	8 a., 2	Jan. 6	29.38	S	S, 7	WNW	—, 9	Variable.
Extavia, Am. S. S.	Lisbon	New York	37 00 N	61 17 W	do	4 p., 2	Jan. 2	29.64	SSE	SSE, —	N	—, 10	SSE-NW.
Europa, Ger. S. S.	Cherbourg	do	41 49 N	62 02 W	Jan. 3	4 p., 3	Jan. 4	29.38	ESE	N, 7	N	NE, 10	
Norwegian, Br. S. S.	Liverpool	Bermuda	36 52 N	49 34 W	Jan. 1	6 a., 3	Jan. 5	29.65	NNW	S, 8	NE	WSW, 10	SW-W.
Lafcomo, Am. S. S.	Galveston	Barcelona	36 10 N	25 10 W	Jan. 2	4 a., 3	Jan. 3	29.84	SW	SSW, 9	NW	—, 9	SSW-NW.
Elmsport, Am. S. S.	Corpus Christi.	Liverpool	40 35 N	57 15 W	do	3 a., 4	Jan. 4	29.20	SE	NE, 10	NNW	NE, 10	NE-NNW.
Lobos, Br. M. S.	Canal Zone	do	48 16 N	16 00 W	Jan. 1	3 a., 4	do	29.69	S	SSW, 9	W	SSW, 9	SSW-W.
Comanche, Br. S. S.	Baytown	London	34 43 N	63 04 W	Jan. 4	1 p., 4	Jan. 6	29.73	NE	NE, 6	NE	—, 9	Steady.
Delshaven, Du. S. S.	Rotterdam	Baltimore	29 46 N	52 48 W	Jan. 5	11 a., 6	do	29.86	NE	NE, 9	ENE	NE, 9	NNE-NE.
Wilhelm A. Riedemann, Danzig M. S.	Aruba	Southampton.	48 30 N	14 09 W	Jan. 4	—, 6	Jan. 7	29.48	SSW	WSW, 11	SSW	WSW, 11	WSW-WNW.
Prusa, Am. S. S.	Sevilla	New Orleans	27 36 N	57 25 W	Jan. 6	4 p., 6	Jan. 7	29.86	NE	NE, 10	NE	NE, 10	
West Ekonk, Am. S. S.	New Orleans	Liverpool	47 20 N	34 00 W	Jan. 8	8 p., 8	Jan. 11	29.25	SW	SW, 10	W	SW, 10	NW-SW.
Tegucigalpa, Hond. S. S.	do	Vera Cruz	Vera Cruz, Mex.		do	8 & 9	Jan. 9	30.28	N	N, —	N	N, 11	Steady.
Elmsport, Am. S. S.	Corpus Christi.	Liverpool	47 05 N	35 55 W	Jan. 7	5 a., 9	Jan. 10	29.63	WSW	NW, 8	NNW	WSW, 10	Do.
Bremen, Ger. S. S.	Cherbourg	New York	50 00 N	18 00 W	Jan. 9	6 p., 9	do	28.72	SSW	WSW, 8	NW	NW, 10	SW-W-NW.
Montoso, Am. S. S.	Porto Rico	Boston	39 40 N	70 00 W	do	7 a., 10	do	29.22	NNE	ENE, 10	N	N, 11	NE-ENE-NE.
West Camak, Am. S. S.	Rotterdam	New Orleans	49 46 N	1 14 W	do	4 p., 10	Jan. 15	29.23	S	S, 9	SSW	S, 9	S-SW.
Meanticut, Am. S. S.	Houston	Havre	39 05 N	74 16 W	Jan. 10	2 p., 11	Jan. 12	29.60	SSW	WSW, 9	NNW	NNW, 10	SW-W-NNW.
West Eldara, Am. S. S.	Rotterdam	Boston	50 30 N	20 05 W	Jan. 12	6 p., 12	Jan. 14	29.05	SW	SSW, 10	W	SW, 11	SW-NW.
Nevada, Dan. S. S.	South Shields	New York	57 34 N	20 45 W	do	Noon, 12	Jan. 15	28.23	SE	SSE, 8	W	WSW, 11	SE-S-W.
Elmsport, Am. S. S.	Corpus Christi.	Liverpool	49 50 N	20 05 W	do	4 p., 12	Jan. 14	29.02	WSW	WSW, 10	WSW	WSW, 11	Steady.
France, Fr. S. S.	Havre	New York	49 00 N	22 50 W	Jan. 14	Mdt., 15	Jan. 17	29.23	SW	SW, 9	NW	WNW, 10	
Motocarline, Belg. M. S.	Baytown	Antwerp	43 40 N	45 54 W	Jan. 16	8 p., 16	Jan. 18	29.66	NNW	NNW, 7	NW	NNW, 9	NNW-NW.
Ala, Am. S. S.	New York	Rotterdam	46 50 N	35 48 W	do	8 p., 16	do	29.31	W	SW, 10	NW	SW, 10	SW-W.
Quaker City, Am. S. S.	Dundee	Philadelphia	58 40 N	13 28 W	do	6 a., 16	Jan. 20	29.25	S	—, 7	SW	—, 12	
Berlin, Ger. S. S.	Bremerhaven	New York	49 42 N	20 00 W	do	8 p., 17	Jan. 22	29.50	SSW	SSW, 9	WNW	NW, 11	SSW-WNW.
Bergensfjord, Nor. S. S.	Bergen	do	58 00 N	24 55 W	Jan. 14	9 a., 17	Jan. 17	27.81	SE	SSW, 10	WSW	WSW, 11	SSW-WSW.
East Indian, Am. M. S.	Chester	Havre	46 14 N	38 10 W	Jan. 19	1 a., 19	Jan. 19	29.63	S	SW, 10	W	SW, 10	SSW-W.
Ootmarsum, Du. S. S.	Barry	Habana	32 42 N	30 58 W	do	9 a., 19	Jan. 20	30.06	N	N, 8	N	N, 9	Steady.
Henri Jasper, Belg. S. S.	Antwerp	New York	43 18 N	47 30 W	Jan. 21	6 p., 21	Jan. 22	29.66	W	W, 9	W	W, 9	Do.
Quaker City, Am. S. S.	Dundee	Philadelphia	53 34 N	37 40 W	Jan. 22	8 p., 22	Jan. 23	29.96	NE	—, 8	NW	—, 10	
Simaloer, Du. S. S.	Oran	Boston	36 08 N	44 10 W	Jan. 23	8 p., 23	Jan. 24	29.53	S	SW, 9	WNW	—, 10	SSW-WSW.
Winnebago, Br. S. S.	Manchester	New York	53 45 N	29 54 W	Jan. 22	7 a., 23	Jan. 26	28.84	S	SW, 10	WSW	SW, 10	SW-W.
Shickshinny, Am. S. S.	Savannah	Liverpool	45 22 N	41 45 W	Jan. 21	11 p, 24	Jan. 24	29.40	N	N, 8	NW	NE, 10	N-NW.
Bilderdijk, Du. S. S.	New York	Rotterdam	49 10 N	31 59 W	Jan. 24	8 p., 25	Jan. 25	29.52	ESE	SSE, 7	SSE	SSE, 9	ESE-SE-SSE.
Steel Navigator, Am. S. S.	Alexandria	New York	33 00 N	58 02 W	Jan. 25	6 a., 26	Jan. 26	29.76	WSW	W, 10	NNW	NW, 11	W-NW.
Simaloer, Du. S. S.	Oran	Boston	39 57 N	60 02 W	Jan. 27	11 p., 27	Jan. 29	29.56	SSE	S, —	NNW	—, 11	S-SW.
Queenswood, Br. S. S.	Boston	Charleston	33 40 N	77 20 W	Jan. 26	3 a., 27	Jan. 27	30.09	SE	SW, 8	W	SW, 8	S-SW.