

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[By the Marine Division, W. F. McDONALD in Charge]

NORTH ATLANTIC OCEAN

By W. F. McDONALD

The pressure situation.—The average barometric pressure for December, 1931, indicated in general a weakening of the usual Icelandic Low, which occurred during the middle and latter part of the month. For the month as a whole the barometer averaged one-third of an inch above normal on the Irish coast, with excess pressures in lesser amounts at all stations representing the north-eastern Atlantic area. (See Table 1.) Pressure departures were slightly below normal over the northwestern Atlantic, central over the Canadian Maritime Provinces, where storms were most numerous and quite persistent. Normal pressures prevailed in mid-Atlantic and over the West Indies.

The Atlantic HIGH was well developed at the opening of the month, dominating the whole ocean between the American and European coasts south of latitude 45°. About the end of the first week, however, the continuity of this HIGH was broken by the southward extension of a deep LOW over Newfoundland, and high pressure attained full transoceanic development thereafter in only one or two brief spells. High pressure was remarkably persistent over western Europe and also during much of the month, between the Azores and the European coast. A severe cold wave was reported from western Europe about the 20th.

Cyclones and gales.—Storminess was more pronounced over the western than over the eastern portion of the Atlantic, but the month did not rank as an unusually stormy December. The total number of gales reported from ship routes was rather less than usual for the month, although whole gales or stronger were encountered at some place on the northern routes on about two-thirds of the days in the month, but in most cases the gales occurred west of longitude 30°. Within the last 10 days, gale conditions were reported far southward over the western Atlantic as a result of the development of several slow-moving LOWS which combined to form a persistent cyclonic storm central near Newfoundland but extending its influence at times well southward past Bermuda.

The highest winds of the month in no case exceeded force 11, although gales of that severity were reported by

four ships, all westbound from north European ports, the German steamship *Dresden* and the American steamship *West Harcuvar* on the 5th, the American steamship *Ensley City* on the 15th, and the American steamship *Seattle Spirit*, on the 16th, as shown in the table of selected storm reports which accompanies this summary.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, December, 1931

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Reykjavik, Iceland ¹	29.55	+0.08	30.26	29	28.73	8
Lerwick, Shetland Islands ¹	29.88	+0.16	30.61	21	28.66	4
Valencia, Ireland ¹	30.27	+0.33	30.62	12	29.46	3
Lisbon, Portugal ¹	30.27	+0.16	30.50	4	29.89	30
Madeira ¹	30.12	+0.03	30.37	21	29.81	29
Horta, Azores ¹	30.15	+0.01	30.48	8	29.67	15
Belle Isle, Newfoundland ¹	29.69	-0.01	30.16	6	29.04	28
Halifax, Nova Scotia ¹	29.86	-0.09	30.44	9	29.38	15
Nantucket ¹	30.03	-0.02	30.61	8	29.50	22
Batteras ¹	30.16	+0.03	30.57	8	29.85	4
Bermuda ¹	30.15	+0.03	30.40	4	29.78	29
Turks Island ¹	30.12	+0.09	30.20	13	30.02	29
Key West ¹	30.07	-0.01	30.18	19	29.80	31
New Orleans ¹	30.07	-0.06	30.40	15	29.61	30
Cape Gracias, Nicaragua ¹	29.90	-0.08	29.96	25	29.84	11

¹ All data based on a. m. observations only, with departures compiled from best available normals related to time of observations.
² Corrected 24-hour means, based on more than one observation daily.
³ And other date or dates.

Charts VIII to XI cover selected days in December, to illustrate the stormier portions of the month on the North Atlantic.

Unusually heavy seas accompanying the storm of December 16th (shown on Chart IX) were reported in news dispatches to have made navigation exceedingly difficult for the eastbound Anchor liner *Tuscania*, which was forced on several occasions to come about to face the sea, and was once overwhelmed by a huge following wave that caused the death of one passenger and injured a number of others on deck at the time.

Fog.—Fog was mostly confined to the region of the Grand Banks and the New England coast, being reported in one or more localities on about half the dates in the month, but in no single 5-degree square on more than four days. Six dates with fog were reported from coastal waters of the northwestern Gulf of Mexico.

OCEAN GALES AND STORMS, DECEMBER, 1931

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Low est 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													
Grete, Ger. S. S.	Hamburg	New York	50 12 N	27 30 W	Dec. 1	3 p, 1	Dec. 2	28.98	SSE	SSW, 8	WNW	—, 10	SSE-SW.
Examella, Am. S. S.	Lisbon	do	43 00 N	35 58 W	Nov. 30	1 a, 1	do	29.70	S	W, 9	S	S, 10	S-SW-W.
West Harcuvar, Am. S. S.	Hamburg	Boston	50 20 N	26 09 W	Dec. 1	Noon, 2	do	29.36	SW	WSW, 7	W	WSW, 10	WSW-W.
Titus, Du. S. S.	Port Barrios	Amsterdam	41 37 N	48 40 W	Dec. 2	4.30 p, 2	do	29.28	SSE	N, 10	NNE	—, 10	SSE-S-W-N.
Winnebago, Br. S. S.	New York	Avonmouth	48 32 N	30 40 W	Dec. 3	Mdt, 3	Dec. 5	29.23	SSE	WSW, 9	SW	WNW, 10	SSE-WSW.
Polybius, Am. S. S.	Manchester	Beaumont, Tex.	53 27 N	4 38 W	Dec. 2	Noon, 3	Dec. 7	29.28	S	SW, 10	NW	W, 10	S-W.
Otho, Am. S. S.	St. Vincent	New York	37 30 N	65 30 W	Dec. 4	6 p, 4	Dec. 5	29.68	SW	SW, 6	NW	SW, 10	SW-W-NW.
Dresden, Ger. S. S.	Cobb	do	44 00 N	55 18 W	Dec. 5	3 p, 5	Dec. 8	29.02	SSW	SSW, —	NNW	NNW, 11	SSW-WNW.
West Harcuvar, Am. S. S.	Hamburg	Boston	48 56 N	40 12 W	do	11 p, 5	Dec. 7	29.20	WSW	S, 6	S	WSW, 11	S-WSW.
Missouri, Br. S. S.	London	New York	47 44 N	33 58 W	Dec. 6	5 p, 6	do	29.59	S	SW, 9	WSW	SW, 9	SW-WSW.
Cerintus, Br. S. S.	Port Arthur	Antwerp	47 26 N	10 03 W	do	Noon, 6	do	29.68	NW	WNW, 5	N	NNW, 9	W-WNW-W.
Aden Maru, Jap. S. S.	Fowey	Portland, Me.	43 26 N	60 37 W	Dec. 7	3 p, 7	do	29.29	W	W, 8	W	W, 10	—, 10
Tiger, Nor. S. S.	Harstad, Norway	Baton Rouge	61 58 N	20 15 W	do	10 a, 7	do	28.96	SSE	SE, 10	SW	—, 10	SE-SW.
Examella, Am. S. S.	Lisbon	New York	41 50 N	58 32 W	do	6 a, 8	Dec. 9	29.43	S	WNW, 7	N	—, 10	WNW-W-NW.