

## WEATHER OF THE MONTH.

## WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

## GENERAL REMARKS.

The month of August was without distinctive characteristics; the areas of high and low pressure were few and not abnormal in respect to number or intensity. In fact, the contrary was true; i. e., the LOWS and HIGHS were of less than the usual August normal in number and of rather feeble development. No storm occurred that required a general issue of warnings of winds dangerous to shipping, and the issue of small-craft warnings for restricted areas was all that was required. Another abnormal meteorological phase was the entire absence of disturbances of tropical origin. The apparent reason for this is seen in the extension of the northeast trades throughout the month well southward across the Caribbean Sea and the Gulf of Mexico, probably because of the abnormal development of the oceanic high pressure to the northward of these areas. It is inferred that the "belt of calms" in which hurricanes commonly originate was at all times during the month far south, relatively speaking, of its normal position.

## NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

The distribution of the average pressure for the month was remarkable in many respects, as it was considerably above the normal at land stations on the coasts of Nova Scotia and Newfoundland, and the positive departures were unusually large in the British Isles, while the pressure was nearly normal in the West Indies and Gulf of Mexico and slightly below in the Azores.

August is usually a quiet month on the Atlantic and the month under discussion was no exception to the general rule, as few gales were reported by vessels in the steamer lanes.

The number of days with fog was apparently somewhat above the normal over the Banks of Newfoundland and considerably so in the vicinity of the British Isles, while it was not reported on more than two days in any 5° square outside of these localities.

From the 1st to the 6th the Azores HIGH was well developed, with light to moderate winds prevailing over practically the entire ocean, while during this period a few reports of fog were received from vessels on the Banks of Newfoundland and in midocean. On the 7th the barometer reading at Horta, Azores, was below the normal, and a well-developed LOW was central near latitude 42°, longitude 45°. The storm log of the American S. S. *Bellingham* is as follows: "Gale began on the 6th. Lowest barometer 29.70 inches at 8 p. m. on the 6th; position, latitude 42° 25' N., longitude 46° 25' W. End of gale on the 7th. Highest force of wind 9; shifts of wind near time of lowest barometer W. by S. to NW." This disturbance drifted slowly eastward and on the 8th and 9th moderate gales were encountered by vessels between the fortieth meridian and the Azores, and on the latter date the barometer at Horta registered 30 inches with a SW. wind of about 40 miles an hour. At the same time a HIGH was central off the Irish coast with pressure above normal in Icelandic waters, and in consequence southerly and southeasterly winds superseded the usual westerlies over an extensive territory between the European coast and the thirty-fifth meridian,

From the 10th to the 22d relatively high pressure prevailed over the greater part of the ocean, with slight gradients and light to moderate winds. From the 10th to the 13th fog was encountered on the Banks of Newfoundland and in British waters; on the 14th none was recorded, and from the 15th to the 18th a few fog reports were received from vessels in widely scattered positions, while from the 19th to the 22d the ocean was comparatively free.

From the 23d to the 25th the pressure was below the normal at the Azores and a HIGH was central off the European coast, while light to moderate winds prevailed over practically the entire ocean, with fog on the Banks of Newfoundland and off the coast of Scotland.

Charts IX and X give the conditions on the 26th and 27th, respectively, showing the only severe disturbance of the month. The storm log of the American S. S. *Conehatta* is as follows: "Gale began on the 25th. Lowest barometer 29.57 inches at noon on the 27th; position, latitude 42° 30' N., longitude 46° 20' W. End of gale on the 28th. Highest force of wind 10; wind steady from the N. to NNW." The observer on the Japanese S. S. *Tokkai Maru*, states that the lowest barometer reading was 28.90 inches at 2 p. m. on the 26th; position, latitude 46° 00' N., longitude 46° 40' W. He does not, however, give the highest force or shifts in wind. By the 28th this low had drifted slightly toward the northeast, diminishing in intensity, as only two vessels in the storm area recorded velocities as high as 40 miles an hour. On the 28th fog was reported off the coast of Nova Scotia and in the middle section of the steamer lanes, while on the 29th it was confined to northern European waters.

On the 30th and 31st there were indications of a disturbance north of the fifty-fifth parallel, and between the twenty-fifth and fortieth meridians, although not enough observations have been received from vessels in that region to determine accurately its position or extent. Regarding this low, the observer on the British S. S. *Melmore Head* states in his storm log: "Gale began on the 30th. Lowest barometer 29.61 inches at 4 p. m. on the 30th; position, latitude 56° 17' N., longitude 32° 20' W. End of gale on the 31st. Highest force of wind 8; shifts of wind near time of lowest barometer SSW. to WSW." On the 30th and 31st fog was observed on the Banks of Newfoundland and off the British coast, the greater part of the steamer routes being free.

## NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

August is usually a quiet month on the North Pacific Ocean, except that the typhoon season is at its height in Asiatic waters. During this month on an average three or four of these tropical storms occur each year.

In the August just past two typhoons prevailed, as indicated by reports thus far received, one at the beginning, the other at the end of the month. The early part of the history of the first belongs to July, the latter part of the second to September.

On July 31 warnings were broadcast by meteorological services in the Far East giving information of the presence of a depression having its center in latitude 23° N., longitude 133° E. By August 2 the center had moved

to latitude 28° N., longitude 131° E. On the latter date the depth of the center and the direction of movement of depression, as received radio by one of the reporting ships of the Weather Bureau were, respectively, at 6 a. m., 29.29 inches, NW.; at noon, 29.37 inches, NW.; at 6 p. m., 29.31 inches, N.W. It was doubtless this storm that affected shipping to the east of Japan on the 4th and 5th.

On August 4 the Japanese S. S. *Celebes Maru*, Capt. J. Kurimura, from Yokohama for San Francisco, began to feel the influence of this depression. Mr. J. Nakagawa, second officer and observer, states that at 3 p. m. the barometer was falling rapidly and the sky assuming a threatening appearance. The barometer continued to fall until 3.30 a. m. of the 5th, at which time there was a whole gale, with occasional squalls of hurricane force, and a very high sea. The vessel was laboring and plunging violently and shipping dangerous seas all the time. The lowest barometer occurred at 4 a. m. of the 5th, 29.09 inches, uncorrected. At that hour there was a SSE. gale, force 10. Position of ship, latitude 38° 50' N., longitude 148° 50' E. The shifts of the wind during the storm were ENE., E., SE., SSE., S.; highest force, 12, S.

Regarding the typhoon at the close of the month but little is known as yet. Press dispatches would indicate that it was of a severe character. At Manila several vessels in the harbor sustained damage and a number of lighters were wrecked. The following notes regarding these losses were taken from the *New York Maritime Register*:

*Montrose* (Br. S. S.)—London, September 2:

A typhoon occurred at Manila on August 31 and the following vessels in port received damage: Steamer *Montrose* (Br.) from New York via Shanghai, etc., had sternpost broken; steamer *Colusam* from Calcutta, etc., for San Francisco, broke her moorings—only a small portion of her cargo is damaged; steamer *Eyreumont Castle* (Br.) from New York via Hongkong, etc., was slightly damaged.

*Eastern Mariner* (S. S.)—Manila, September 2:

Steamer *Eastern Mariner*, from New York via Karatsu, etc., with oil, is aground in harbor here after encountering a typhoon; believed not badly damaged. A number of lighters were wrecked in the typhoon and the native crews are missing.

Aside from these storms of tropical origin in Asiatic waters the month was a quiet one. In a total of 134 reports that have been examined, representing 1,267 daily observations, gales were reported on but 26 days, as follows: Force 7 on 10 days; force 8 on 12 days; force 9 on 2 days; force 10 on 1 day; force 12 on 1 day. The

last-named gale was that experienced by the *Celebes Maru*, already referred to. Fog was encountered on 104 days, mainly in the form of occasional banks. Of the reports examined, 22 were from vessels on coastwise routes, principally between Panama and Pacific coast ports of the United States and Canada.

Pressure was generally below normal throughout the month on the Asiatic side and during the first half in Bering Sea and the Gulf of Alaska. In the latter waters an effect of this distribution was to cause persistent easterly winds. Mr. Perry Christiansen, observer on the American S. S. *Northwestern* (Seattle for Alaskan ports, Capt. Wm. Jensen), states that throughout the voyage lasting from July 30 to August 15 there were continuous strong SE. to NE. winds on Prince William Sound and across the Gulf of Alaska, with heavy rain. The wind at times almost reached the force of a gale. Lowest barometer reading, 29.28 inches, corrected.

Following the depression of the 4th and 5th east of Japan, to which reference has been made, a strong anticyclone moved southward over Kamchatka and spread slowly eastward. Central readings on the 5th and 6th reached 30.50 inches. By the 12th this high pressure was south of the Aleutians and beginning to affect the region of the permanent North Pacific anticyclone to the eastward, readings as high as 30.60 and 30.62 inches (normal central pressure, 30.30 inches) being reported on the 17th and 18th, respectively, to the northeastward of the Hawaiian Islands. Winds reaching gale force prevailed along the North American coast on these dates. The influence of this high pressure was more or less apparent until the close of the month. During the period from the 16th to the 20th another anticyclone developed over the western portion of the ocean and moved eastward, its center approximately following the fortieth parallel. This also had the effect of reinforcing the permanent anticyclone and readings above the normal for the month were reported on a number of days, as high as 30.56 inches on the 25th.

An incident of the fog conditions on the California coast, associated with this high pressure, was the grounding of the Dutch S. S. *Arakan*, near Point Reyes Light on August 31. An account of this grounding appears on page 466.

## NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

*Canada*.—Regina, Saskatchewan, Aug. 5.—For the second time within a few days a cyclone [tornado] swept through the Estevan district. Several buildings were blown down and the temporary structures at the fair grounds were demolished.

No loss of life has been reported. Telephone wires for miles around were blown down and there was no direct communication with the district.—*Washington Star*, Aug. 5, 1920.

*Alaska*.—Dawson, Yukon, Aug. 10.—\* \* \* Millions of feet of timber has been destroyed by forest fires which swept both banks of the Peel River for 160 miles. The season has been unusually dry and the river is so low that the steamer *Thistle* is stalled in Ross River.—*Washington Star*, Aug. 10, 1920.

*Japan*.—Tokio, Aug. 20.—Serious floods continue in northern and southern Japan. \* \* \* In the Iwate prefecture 11 persons have been drowned and 4,600 houses submerged, 100 of them being destroyed. Fifty bridges also have gone down, and crops and roads have been ruined. \* \* \*

The town of Thukumo, on the island of Shikoku, vir-

tually has been destroyed. Seventy bodies have been recovered in the muddy streets there. \* \* \*

There has been considerable damage at Osaka. \* \* \* —*Washington Star*, Aug. 21, 1920.

*Philippine Islands*.—Manila, Aug. 17.—Collapse of a mountain top on this island, in a recent storm, buried an entire Igorotte village under hundreds of feet of earth, blotting out the lives of 70 natives. \* \* \* —*Washington Star*, Aug. 20, 1920.

*India*.—London, Aug. 11.—Simla reports that abnormal monsoonal winds have caused floods throughout the country. A number of villages in Bengal were swept away, and large areas of country in various districts destroyed. In Calcutta many streets were deeply flooded and heavy damage done to goods and property.—*The Samoa Times*, Apia, Samoa, Aug. 14, 1920.

*Chile*.—Santiago, Aug. 13.—The first snowstorm here in more than a decade occurred yesterday, about 6 inches falling. In the mountains the storm assumed blizzard proportions, interrupting communications between the coast and the cities of the central provinces.—*Washington Post*, Aug. 14, 1920.