

WEATHER OF THE MONTH

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

GENERAL CONDITIONS.

By A. J. HENRY.

Pressure in the Northern Hemisphere in October is highest over east-central Asia with the crest of the high in Siberia; it is lowest in high latitudes with minima in the neighborhood of Iceland and the Aleutians. The belt of high pressure that encircles the Northern Hemisphere in winter begins to assume definite form in October.

NORTH PACIFIC OCEAN.

By F. G. TINGLEY, Meteorologist.

Stormy weather prevailed off the east coast of Japan during the early days of the month but no special reports have been received to indicate that conditions were of unusual severity. The British S. S. *Harold Dollar*, Capt. M. Ridely, from Kobe (Oct. 1) for Vancouver, encountered heavy weather from the 2d to the 6th, the wind at times reaching hurricane force. The lowest barometer recorded was 29.16 inches on the 3d. It is not known as yet whether this storm was of tropical origin.

Vessels in the mid-Pacific experienced winds of gale force on the 7th and 8th, with barometer readings of approximately 29.00 inches.

During the period from the 19th to the 22d a typhoon prevailed to the south and southeast of Japan, several reporting vessels coming within its field of influence. Warnings received by wireless by the British S. S. *Slavic Prince*, Capt. T. H. Burch, from Honolulu for Yokohama, and noted in the weather report received from that vessel, show that at 6 a. m. of the 20th the center was near latitude 20° N., long. 141° E., and that the typhoon was then traveling in a northwesterly direction. At 6 a. m. of the 21st the center was near lat. 27° N., 140° E., direction northeast. Lowest barometer, 27.95 inches. The *Slavic Prince* experienced winds of force 12 from the southwest on the 22d and the barometer dropped to 28.94 inches, observed reading. Ship's position at this time, latitude 30° 41' N., longitude 149° E.

The British S. S. *Crown of Cadiz*, Capt. Y. S. Gyve, from Honolulu for San Francisco, encountered a northwesterly gale on the 17th and 18th, when in latitude 36° 50' N., longitude 124° 50' W., during which the wind reached force 10. The lowest barometer observed was 29.59 inches, on the 18th.

NORTH AMERICA.

By A. J. HENRY.

Current reports thus far available indicate that October, 1919, was true to its general character as a month of transition only in certain parts of the area under observation; in other words, summer conditions as to temperature and precipitation prevailed over large areas in the south-central portion of the United States, while low temperature and more than the usual amount of snow was the rule, in places at least, in mountain districts of the west as far south as the 37th parallel. The outstanding features of the month were the heavy precipitation over tributaries of the Mississippi in the West Gulf States and the severe cold in the Dakotas and the northern tier of States westward to the Rocky Mountains.

NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

The average pressure for the month was considerably above the normal at land stations on the American coast from Newfoundland to Florida, and also along the coast of Europe and in the Bermudas; in the Azores it was somewhat lower than usual, and in consequence the average gradient from the Azores HIGH toward the Icelandic LOW was comparatively slight, and on a number of days this reversal of normal conditions was responsible for light to moderate easterly winds, instead of the usual westerlies, over the eastern section of the steamer lanes.

On October 4 there was, as shown on Chart IX, a well-developed LOW central near latitude 42°, longitude 47°. The observer on the British S. S. *Bardic* states in the storm log: "Gale began on the 4th; lowest barometer 28.94 inches at 9 p. m. on the 4th; position 42° 16' N., 45° 17' W. End of gale on the 6th; highest force 12; shifts of wind near time of lowest barometer reading, S-SE. to N-NE." Between the time of observations on the 4th and the 5th the movement of this storm was slight, although it had increased considerably in intensity and extent, and on the 5th, as shown on Chart X, a number of vessels in the vicinity encountered violent gales. During the next 24 hours the easterly drift was hardly noticeable, and on the 6th (see Chart XI) the center was near latitude 44°, longitude 38°, with no material change in the wind velocities since the previous day. Mr. H. T. Rutherford, second officer of the American S. S. *William N. Page*, stated in an interesting report of this storm that it was encountered by the vessel while en route from Philadelphia to Rotterdam, and caused considerable damage to the ship and injury to a number of the crew, and if it had lasted 12 hours longer the vessel would never have been able to hold out against it.

From the 6th to the 13th the pressure was well above the normal in the vicinity of the south coast of Iceland, and below normal at the Azores, while there was a well-developed HIGH between the 30th meridian and the European coast during the greater part of this period.

On the 9th and 10th a LOW of limited area was central near latitude 45°, longitude 42°, and gales of from 50 to 65 miles an hour were reported from vessels in the vicinity. On the 14th there was a second disturbance in the same locality, and the observer on the British S. S. *Marengo* states in the storm log: "Storm began on the 13th. Lowest barometer reading 29.45 inches; position 46° 13' N., 40° 55' W. End of gale on the 16th. Highest force of wind, 12." The storm area extended unusually far south, as vessels near latitude 37°, longitude 44° reported northwesterly gales of 50 miles an hour. This LOW moved slowly eastward during the period from the 14th to the 17th, gradually decreasing in extent, and on the latter date the center was near latitude 44°, longitude 55°, moderate to strong gales being reported by a few vessels near the center.

From the 18th to the 22d the pressure distribution between the Azores and the north was more nearly normal, and light to moderate winds were the rule in the intermediate region, with the exception that on the 21st a LOW covered a limited area near the 50th parallel and 25th meridian, with southerly winds of gale force in the eastern quadrants.

From the 22d to the 28th the general weather conditions were not far from normal, and a number of reports were received from widely scattered positions in the steamer lanes denoting more or less heavy weather at different times during that period.

On the 29th St. Johns, Newfoundland, was the center of a Low (see Chart XII) that afterwards developed into an unusually severe disturbance, as shown on Charts XIII and XIV for October 30 and 31, respectively. The observer on the Norwegian S. S. *Harald* stated in the storm log: "Gale began on the 29th. Lowest barometer, 28.98 inches at 2 p. m. on the 29th; position 47° 53' N., 50° 00' W. End of gale on the 31st; highest force of wind 12." The observer on the British S. S. *Régina* reports as follows: "Gale began on the 29th. Lowest barometer 29.00 inches at 8 a. m. on the 30th; position 46° 14' N., 44° 00' W. End of gale on the 31st; highest force of wind, 10." On the 30th the storm area extended from the coast of Newfoundland to the thirtieth meridian, and from the thirty-ninth to the fiftieth parallels. By the 31st this area had contracted somewhat, although very heavy northwest gales accompanied by rain and snow were reported from a limited region in the southwest quadrant of the Low, which was on that day central near latitude 51°, longitude 42°.

Fog was apparently unusually rare during the month, as in only one 5-degree square was it reported on more than one day.

NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

BRITISH ISLES.

One of the chief features (one might perhaps describe it as the ruling factor) in the weather of a very remarkable month, was the almost complete absence of the mild and humid southwesterly winds which prevail with so much energy in an ordinary October. * * *

The general rainfall expressed as a percentage of the average was: England and Wales, 59; Scotland, 57;

Ireland, 42; British Isles, 55. Taken generally the month was probably one of the driest Octobers of which there is any record.¹

In London (Camden Square) the month was dull and cold. The rainfall was the lowest for October in the 62 years' record with the single exception of October, 1897. Mean temperature, 45.7°, or 4.4° below the average, and the lowest for October since 1892.—*Symons's Meteorological Mag.*, London, Nov., 1919, p. 121.

HEAT WAVE DECREASES WINE PRODUCTION IN MADEIRA.

[Consul W. L. Jenkins, Funchal, Madeira, Sept. 27, 1919.]

In the middle of August the estimate for this year's wine production in Madeira was 11,000 pipes, or 1,452,000 gallons. From August 21 to 28, however, the island was almost "smothered" by what is locally called a "Leste." This means a wind from the east, which, coming as it does from the Sahara Desert, is extremely warm and is often accompanied by small particles of sand. During this period the minimum temperature in the shade was 70° F. and the maximum 101°. The temperature in the sun was as high as 135°. The grapes dried up rapidly, and although many of them were just about ready to be picked at that time, present estimates place this year's wine production at only 7,000 pipes, or 924,000 gallons, representing a depreciation of nearly 40 per cent on the previous estimate.—*Commerce Reports 718, Nov. 5, 1919.*

FLOODS IN EASTERN SPAIN.

According to statements in the *Times*, London, of October 2 and 4, 1919, heavy floods have occurred throughout eastern Spain following abnormal rainfall and hail. In Valencia it is stated the ricefields were inundated to a depth of many feet and the harvest ruined. The damage caused by the water is estimated to exceed \$2,000,000, and over 100 people have been drowned. Thirty villages and the port of Cartagena were isolated and it was necessary to send a Spanish warship with provisions and military engineers to Cartagena where the road and rail communications were cut.—*Quart. Jour. Roy. Met'l Soc., London, Oct., 1919, p. 352.*

¹ Cf. *Nature* (London), Nov. 20, 1919, p. —.

DETAILS OF WEATHER OF THE UNITED STATES.

CYCLONES AND ANTICYCLONES.

By A. J. HENRY.

Cyclones.—Eight principal and a number of secondary cyclones have been plotted on Chart III. The great majority of the cyclones appeared as rather ill-defined barometric depressions over the Canadian Northwest, only two of which, however, can be clearly traced across the continent. As a result cyclonic control of the weather was pronounced in the Northwest, but not elsewhere, probably by reason of the extension of high pressure over southeastern United States.

Anticyclones.—Twelve anticyclones, eight of which appeared in the Canadian Northwest and four on the Pacific coast, have been plotted on Chart II. Seven reached the Atlantic and the remainder dissipated over the continent. No anticyclone penetrated below the 37th parallel. It is interesting to note that none of the North Pacific anticyclones passed across the continent except in a single instance and that was probably due to merging with an Alberta anticyclone in the lower lake region. The dominant control of the weather during the month was anticyclonic except below the 37th parallel.

THE WEATHER ELEMENTS.

By P. C. DAY, Climatologist and Chief of Division.

[Dated: Weather Bureau, Washington, Dec. 1, 1919.]

PRESSURE AND WINDS.

The distribution of the mean atmospheric pressure over the United States and Canada, and the prevailing direction of the winds for October, 1919, are graphically shown on Chart VII, while the means at the several stations, with the departures from the normal, are shown in Tables I and III.

PRESSURE.

The first few days of the month were without notable pressure variations save that barometer readings were generally higher than average over both the Atlantic and Pacific coast districts, and below average in the interior portions of the country. Near the end of the first decade, however, pressure had risen to well above normal over New England and the Canadian Maritime Provinces, had fallen decidedly in the Middle West and was high and rising in the Canadian Northwest.