

551.506 (265.2)

NORTH PACIFIC OCEAN

By WILLIS E. HURD

Gales were more widespread over the North Pacific Ocean in November than in October, but, except in isolated localities, were not so severe. In October several gales of hurricane force resulted from typhoons near the Philippines and east of Japan; in November the highest reported wind force was 11, occurring in connection with extra-tropical cyclones, two west and one east of the one hundred and eightieth meridian. On the 9th and 10th the Norwegian steamer *Handicap* encountered one of these storm winds in the neighborhood of 46° N., 170° E. The American steamer *President Jackson* experienced the second on the 15th and 16th near 46° N., 158° E., in both cases pressure falling below 29 inches. On the 24th and 25th the American steamer *Lurline* fell in with similarly severe gales near 41° N., 137° W. In addition scattered gales of force 10 occurred on several dates. Storm conditions along the upper coast of the United States were, however, considerably severer than in October. Tatoosh Island, Wash., recorded a maximum velocity of 72 miles from the east on the 20th, beside other winds of 60 or more miles an hour on the 11th, 19th, 21st, and 29th.

No typhoons appear to have formed in the Far East, at least none of great extent. The American steamer *Stockton*, bound toward Manila, on the 4th experienced "a local disturbance reaching force 6-7 from south-southeast, with a heavy south-southeasterly swell running." This was in 19° 02' N., 144° 25' E., and was due to a depression central slightly to the westward on that date. This depression, slightly intensified, was central near 27° N., 140° E., on the following day, but thereafter was lost to observation.

Northers were frequent over the Gulf of Tehuantepec, though steamers reported none of force higher than 9. Gales of force 8 and 9 occurred here on the 5th, 6th, 9th, 10th, 15th, 18th, 20th, 22d, and 23d.

A storm of moderate intensity crossed central Japan on the 13th and 14th, and another disturbance, coming out of the Eastern Sea on the 21st, proceeded along the southern coast of Japan on the 22d, thence up the east coast on the 23d, whence it disappeared at sea. A storm of much greater intensity came out of Siberia on the 24th. It covered the Japan Sea on the 26th, crossed extreme northern Japan on the 27th, and was over the far western Aleutians at the close of the month.

As November opened the Aleutian low extended from central Alaska to the Hawaiian Islands, with the eastern North Pacific HIGH lying between the one hundred and eightieth meridian of west longitude and the American

coast from eastern Alaska southward. After the 10th of the month the LOW retreated northward, and by the 13th the HIGH dominated the eastern half of the ocean below the 45th parallel, except for a narrow trough of the LOW which was wedged southward along the one hundred and fiftieth meridian. On the 14th this southern extension was cut off from the main cyclone, then central over the eastern part of Bering Sea, and from it a new cyclone developed rapidly near 35° N., 142° W., giving moderate to whole gales over a narrow area midway between California and the Hawaiian Islands. An isolated portion of this new cyclone cut its way to the Washington coast, which it entered on the 15th, but the main storm area spread gradually from its center of the 14th, until by the 22d it covered the whole northern half of the ocean east of the one hundred and eightieth meridian, which great area it dominated until the end of the month, causing irregularly distributed gales throughout the period.

The following table gives an idea of the atmospheric pressure at selected land stations:

TABLE 1.—Averages, departures, and extremes of atmospheric pressures at sea level at indicated hours, North Pacific Ocean, November, 1926

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	<i>Inches</i>	<i>Inch</i>	<i>Inches</i>		<i>Inches</i>	
Dutch Harbor ^{1,2}	29.44	-0.15	30.26	19th.....	28.78	4th.
St. Paul ¹	29.54	-0.08	30.36	18th.....	28.74	2d.
Kodiak ¹	29.56	+0.02	30.40	19th.....	28.84	11th.
Midway Island ¹	30.02	-0.05	30.22	14th.....	29.74	25th.
Honolulu ¹	30.04	+0.02	30.12	22d.....	29.88	1st.
Juneau ¹	29.83	+0.07	30.45	18th.....	29.04	11th.
Tatoosh Island ^{1,4}	29.86	-0.11	30.49	16th.....	29.17	24th.
San Francisco ^{3,4}	30.04	-0.06	30.36	14th.....	29.60	28th.
San Diego ^{3,4}	30.04	+0.04	30.22	15th.....	29.75	7th.

¹ P. m. observations only.

² 29 days.

³ A. m. and p. m. observations.

⁴ Corrected to 24-hour mean.

At Honolulu the prevailing wind was from the north-east, with an average velocity of 8.1 miles per hour. During the daylight hours of the 14th, which was an exceptionally windy day, the average velocity was 27 miles an hour, with a maximum of 48 miles from the east. Only 0.12 inch of rain fell, which is 3.72 inches below the normal, and is the least of record for the month, and near the least for any month in 41 years.

Fog conditions did not differ materially from those of October, most frequent fog being observed along the American coast from a little north of San Francisco down to Cape San Lucas. Along the northern and central steamship routes it occurred on a few scattered days, but was especially widespread on the 15th and 16th.

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DETAILS OF THE WEATHER IN THE UNITED STATES

GENERAL CONDITIONS

The month as a whole may be classed as "cool and wet," with the reservation that parts of the area experienced the opposite conditions. It is noted that precipitation for the last several months has been above the normal over very considerable areas; the current month in the Pacific Coast States and the Plateau region gave abundant rains.

An unusual feature of the month was the occurrence of fully developed tornadoes as elsewhere mentioned. The usual details follow.—A. J. H.

CYCLONES AND ANTICYCLONES

By W. P. DAY

The low-pressure areas were mostly of the Pacific type, especially toward the end of the month, when the air pressure averaged above the normal at Fort Simpson in the Mackenzie Valley. And for a similar reason most of the migratory HIGHS were of the so-called Alberta type. There were 19 low-pressure areas, four of which developed considerable intensity over the Plains States and gave severe weather as they passed over the Lake region. The high-pressure areas numbered 14 and 9