

occurred in the oceanic belt of high pressure, occasioned by a depression of some magnitude advancing eastward and southeastward from the western part of the ocean. It was this depression that gave rise to the principal gales of the month along the northern steamer lanes. By the 27th this area of low pressure had reached the Gulf of Alaska and the region southeastward therefrom where it lost energy and broke up into minor depressions.

On the 29th a fresh disturbance appeared at Dutch Harbor, occasioning the lowest pressure of the month, 29.02 inches. On the same date the American steamship *Grays Harbor*, in latitude $50^{\circ} 48' N.$, longitude 168°

$15' W.$, reported a pressure of 28.90 inches, the lowest reading for the month thus far reported by any observing vessel.

The month closed with a pressure distribution quite similar to that at the beginning; that is, with the California-Pacific high fairly well established in its normal position and a depression over the Aleutians.

The weather at Honolulu was warm and dry. East winds predominated, the average hourly velocity being 10.1 miles per hour, or 1.1 miles above the normal. The maximum velocity was 31 miles per hour, from the east, occurring on the 1st.

TYPHOONS AND DEPRESSIONS

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[Weather Bureau, Manila, P. I.]

ONE TYPHOON OVER NORTHERN LUZON IN MAY, 1930

There was only one typhoon over the Philippines during this month of May. It followed a track quite proper to the month, traversing the Archipelago twice, once moving westward, and then, in its movement to the east after it recurved to north, northeast and east, passed to the west and northwest of northern Luzon.

The observations received up to June 6 do not show that this typhoon was very deep in any part of its track, yet it caused considerable damage by the long duration of squalls and rains in the western provinces of northern Luzon.

The typhoon appeared for the first time in our weather map of 6 a. m., May 19, near 144° longitude E. and 5° latitude N. It moved northwestward on the 19th and 20th, and passed over or very near Yap in the afternoon of the 20th. It moved much inclined to the north from the evening of the 20th until the night of the 21st to 22d when it took a westerly direction. Its center crossed northern Luzon not far north of Baguio in the evening and night of the 24th. Once in the China Sea it was noticed soon that the typhoon had a tendency to recurve northeastward. It moved northward on the 25th and advanced very slowly on the 26th and 27th, while inclining more and more to the northeast and east. Its center was then less than 100 miles to the northwest of Luzon. On the 28th the typhoon moved decidedly eastward across the Balintang Channel near to the south of Basco, but on the 29th it took again a northerly direction. Finally on the 31st it inclined again northwestward, and filled up gradually over the western part of the Eastern Sea on June 1 to 2.

The approximate position of the center at 6 a. m. May 19 to June 1, was as follows:

May 19, 6 a. m., $144^{\circ} 00'$ longitude E, $5^{\circ} 20'$ latitude N.
May 20, 6 a. m., $139^{\circ} 45'$ longitude E, $8^{\circ} 10'$ latitude N.
May 21, 6 a. m., $136^{\circ} 45'$ longitude E, $12^{\circ} 30'$ latitude N.
May 22, 6 a. m., 134° longitude E, $16^{\circ} 20'$ latitude N.

May 23, 6 a. m., $129^{\circ} 20'$ longitude E, $17^{\circ} 15'$ latitude N.
May 24, 6 a. m., 125° longitude E, $17^{\circ} 30'$ latitude N.
May 25, 6 a. m., $118^{\circ} 55'$ longitude E, 17° latitude N.
May 26, 6 a. m., $119^{\circ} 30'$ longitude E, $19^{\circ} 10'$ latitude N.
May 27, 6 a. m., $119^{\circ} 50'$ longitude E, $19^{\circ} 35'$ latitude N.
May 28, 6 a. m., $120^{\circ} 15'$ longitude E, $19^{\circ} 50'$ latitude N.
May 29, 6 a. m., 124° longitude E, $20^{\circ} 25'$ latitude N.
May 30, 6 a. m., $125^{\circ} 05'$ longitude E, $23^{\circ} 50'$ latitude N.
May 31, 6 a. m., $125^{\circ} 05'$ longitude E, $26^{\circ} 05'$ latitude N.
June 1, 6 a. m., $124^{\circ} 30'$ longitude E, $27^{\circ} 15'$ latitude N.

The American steamers *President McKinley*, *Tacoma*, and *President Taft* were well under the influence of this typhoon over the China Sea to the northwest, west and south of the center. A gale from W. (8) and WSW. (9), respectively, were reported by the steamers *President McKinley* and *Tacoma* on the 25th.

Besides this typhoon there was another depression or typhoon, of not much importance for the Philippines, over the China Sea. It moved northwestward from the Paracels on the 17th, crossed Hainan on the 18th, and entered the Continent on the 19th north of Gulf of Tongking.

FALL OF PUMICE

Mr. P. E. Troup, second officer and observer on the steamship *American Dragon*, Capt. C. H. Bruun, San Francisco toward Shanghai, reports a fall of pumice, as follows:

May 12, 2.30 a. m.: Approximate position, latitude $48^{\circ} 53' N.$, longitude $172^{\circ} 16' W.$ Noticed a strong peculiar smell of gas; sky overcast with a fresh west by north breeze. At daylight ship was covered with a fine ash. The peculiar smell lasted till about noon.

The following note in regard to this occurrence is taken from the Hydrographic Bulletin of June 18, 1930:

H. B. Metcalfe, an officer of the British steamer *Empress of Russia*, Capt. A. J. Holland, reports that May 13, 1930, in latitude $51^{\circ} 06' N.$, longitude $178^{\circ} 33' W.$, extensive fields of floating pumice were encountered, which appeared to be about 2 inches deep in the larger fields, and ranged from the size of a pinhead to that of a large bean. Some of the patches were from 2 to 3 acres in extent, while others were much smaller, and reached north and south as far as could be seen. The vessel passed through continuous patches for 30 miles.