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NORTH PACIFIC OCEAN

By WILLIS EDWIN HURD

There was somewhat less cloudiness over the northern sailing routes of the North Pacific Ocean in October than during the previous several months. Fog also was comparatively infrequent, and was general only on the 2d, 3d, 4th, and 8th. It was observed on 15 days along the American coast between Vancouver and San Diego, with the area of maximum frequency lying between 35° and 40° N.

Little change was evident in the distribution of storminess over that of September, except that gales occurred more often in the American than in the Asiatic area, with the maximum frequency north of the thirtieth parallel along the general region of the Seattle-Honolulu route. No wind forces exceeding 10 were recorded until the last of the month, when two observations of force 11 were made in widely separated areas—one near 48° N., 135° W., on the 28th; the other near 44° N., 157° E., on the 29th. At this time also vessels reported some of the lowest pressures observed in the eastern North Pacific Ocean.

Pressure was abnormally high this month at the three island stations of the central and northern Pacific, which are usually taken as the basis of barometric conditions in their respective neighborhoods. Honolulu's mean of 30.05 inches, with departure from the normal of plus 0.05, was unusually high. At Midway Island the mean p. m. pressure was 30.07, or 0.06 inch above the normal. Here from the 8th to the 26th the departures were strongly positive. At Dutch Harbor observations received for 22 days gave a mean of 29.98, or 0.28 above the normal. There were some rapid and violent fluctuations, as on the 8th, when the pressure dropped to 0.46 inch below normal, and on the 10th, when it rose to 0.67 inch above. During the first 7 and last 4 or 5 days, however, pressure was continuously very high. At Honolulu the highest pressure was 30.18, on the 29th, lowest, 29.88, on the 4th; Midway Island, highest, 30.32, on the 19th, lowest, 29.78, on the 4th; Dutch Harbor, highest, 30.66, on the 5th, lowest, 29.00, on the 15th.

The Aleutian Low was less well developed over southern Bering Sea than during September. After the 8th its principal center, as a rule, lay over the Gulf of Alaska. The lowest land pressure in this region was 28.82, at Kodiak, on the 15th. On the 27th the cyclone center moved considerably southward and for the remainder of the month lay slightly off or over Vancouver. At Juneau the October pressure was 29.64 inches. This reading on the northeast edge of the cyclone showed a departure from the average of -0.23 inch.

The easternmost north Pacific anticyclone was strong and well developed until the 14th, when it was bisected by a southward spread of the Gulf of Alaska cyclone. The HIGH regained its lost area during the 15th, but was again cut in two on the 17th, and by the 20th low pressure was general over the extreme eastern part of the ocean. The HIGH continued as a shallow, irregular belt below latitude 30° or 35° until near the end of the month, when it strengthened and spread northwestward and extended from southern California across the Hawaiian region, thence into Bering Sea.

The weather at Honolulu was windy and cloudy. The average wind velocity, 9.9 miles per hour, was the

highest on record for October; and the maximum velocity, at the rate of 33 miles an hour from the east, was next to the record for the month. Only one previous October, that of 1916, had less sunshine.

In the American tropical area there seems to have been no storm development, though rough, squally weather occurred on several days. The American S. S. *Peter Kerr*, Panama to San Pedro, reported "moderate gales and rain squalls" from 7° 08' N., 81° 12' W., to 15° 27' N., 96° 56' W., on October 12 to 17.

In Asiatic waters several typhoons and depressions occurred, and have received treatment elsewhere in this REVIEW. The only report thus far received by the Weather Bureau from a vessel experiencing one of these typhoons is from the American S. S. *Scottsburg*, Honolulu to Manila, and relates to one of the less intense disturbances mentioned in the report by Father Coronas. Said the observer:

In 13° 57' N., 128° 40' E., at 2 p. m., encountered heavy squall with wind shifting from SE. to SSW., increasing from force 3 to force 6, barometer 29.60. At 4 p. m. barometer 29.54, rainy weather with rough head sea. At midnight wind increased to force 7, with 9 during severe squalls, WSW. barometer 29.58, in 13° 30' N., 26° 45' E.

A fair idea of the brisk air movements over the northern and central routes may be obtained from the adjoined table of gale and storm reports. The gales were mostly associated with the fluctuating activities of the Aleutian Low rather than with progressing cyclones.

An especially interesting report is that of the American schooner *Irene*, Honolulu to Grays Harbor. This vessel weathered a series of gales, force 8 to 10, from the 20th to the 30th of the month, while between positions 31° N., 159° W., and 42° N., 137° W. The roughest weather was met with on the 27th and 28th. To quote from the captain's report:

27th.—About 3 a. m. glass started to fall, wind SE. Glass fell rapidly until 7 a. m., when wind hauled SW., barometer 29.36, wind increasing till about force 10, mountainous seas running. After 10 a. m. glass rising slowly, wind about the same in force until midnight. During the time SW. gale was blowing glass was pumping violently, moving as much as two-tenths in the squalls. Kept this up even after the gale moderated and glass had risen to 30.06. During the most of the gale could feel the difference in pressure on eardrums, so much that some of the men could hardly hear when they got below.

VERY FEW TYPHOONS IN THE FAR EAST DURING SEPTEMBER, 1924

By REV. JOSÉ CORONAS, S. J.

[Weather Bureau, Manila, P. I.]

Up to the present (September 24) not a single depression or typhoon has occurred during this month over or near the Philippines. Even in the whole Far East we have to mention only one well-developed and intense typhoon over the Loochoos and close to Formosa and a few other depressions of no great importance.

The Formosa typhoon, September 3 to 8.—This typhoon appeared on our weather map of the 3d near 136° longitude E. and 22° latitude N. It moved WNW., and at 6 a. m. of the 5th its center was clearly situated in about 127° longitude E. and 25° latitude N. In the early morning of the 6th, when the center was in about 26° latitude N. and 124° longitude E., the typhoon began to move W. by S., passing very close to north Formosa in the afternoon. The lowest barometric minimum