

## NORTH PACIFIC OCEAN, SEPTEMBER 1935

By WILLIS E. HURD

**Atmospheric pressure.**—Owing to the passage of a number of low-pressure areas across northern waters of the North Pacific Ocean during September 1935, the Aleutian cyclone showed considerable intensity, as indicated by the average pressure, 29.77 inches (practically normal), at Dutch Harbor. Despite this development over the eastern Aleutians, pressures were approximately 0.10 inch above normal at St. Paul Island and over most of the Gulf of Alaska.

Anticyclonic conditions prevailed off the Washington and Canadian coasts and extended thence southwestward nearly to Midway Island, although broken at times by depressions from the northward.

Over most of the islands of the Far East, except the Nansei Group, pressures were below the normal for the month; and at Guam, Manila, and Chichishima, were the lowest in several years of record for September.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, North Pacific Ocean, September 1935, at selected stations

Station	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Point Barrow.....	29.88	-0.02	30.44	8	29.12	26
Dutch Harbor.....	29.77	+0.01	30.44	17	28.68	25
St. Paul.....	29.80	+0.09	30.42	17	28.76	30
Kodiak.....	29.84	+0.13	30.34	7	29.04	25
Juneau.....	29.98	+0.06	30.32	24	29.38	14
Tatoosh Island.....	30.01	+0.01	30.30	16	29.54	15
San Francisco.....	29.92	-0.02	30.11	15	29.76	17
Mazatlan.....	29.82	-0.00	29.90	20	29.74	24
Honolulu.....	29.96	-0.04	30.02	7	29.84	27
Midway Island.....	29.98	-0.03	30.12	8, 9, 10	29.74	17
Guam.....	29.74	-0.09	29.81	3	29.60	22
Manila.....	29.73	-0.04	29.84	29	29.44	14
Hong Kong.....	29.75	-----	29.89	13, 27, 28	29.59	6, 16
Naha.....	29.76	-0.00	30.00	27, 28	29.32	6
Chichishima.....	29.80	-0.06	29.94	1, 11, 12, 27	29.28	24
Nemuro <sup>1</sup> .....	29.97	-----	30.14	16	29.46	26

<sup>1</sup> Data for 21 days, well distributed over the month.

NOTE.—Data based on 1 daily observation only, except those for Juneau, Tatoosh Island, San Francisco, and Honolulu, which are based on 2 observations. Departures are computed from best available normals related to time of observation.

**Cyclones and gales.**—During the first third of September, only three days with gale winds of extra-tropical origin were reported from ships traversing the northern routes of the North Pacific. These winds occurred mostly near the Kuril Islands, and were of fresh to strong gale force only. The greater part of the storminess experienced in Japanese waters throughout September was due to three typhoons which moved well into northern latitudes. It was not until the very close of the month, on the 30th, that an energetic extra-tropical cyclone to the eastward of northern Japan caused the heaviest extra-tropical gale of the month, a wind of force 11, near 41° N., 149° E.

After the 10th of September the usual early autumn degree of storminess prevailed along the northern routes. This did not become at all pronounced, however, until the 18th to 20th, when gales of force 9 to 10 were experienced to the southward of the eastern Aleutians, within the region bounded roughly by latitudes 45°–50° N., longitudes 160°–170° W.

Two deep cyclones, with central pressures below 29 inches, passed over the Aleutians and vicinity during the last decade. The earlier reached its greatest intensity on the 23d to 25th and caused rather widespread storminess along the northern routes between about 145° and 175° W. No gales were reported, however, in excess of

force 9. The latter cyclone reached its greatest depth on the 29th and 30th over the Bering Sea and the eastern Aleutians, and its highest wind-force, NW., 10, on the 30th, near 48° N., 176° E. The lowest barometer reading reported by a ship in northern waters this month was 28.59, read on the American Steamship *New York*, near 52° N., 169° W., on the 30th.

The record of further upper-latitude high winds of the month is found in the adjoined table of gales.

**Typhoons.**—Two very severe, and two lesser, typhoons occurred in far eastern waters this month. These are fully described in the subjoined article by the Rev. Bernard F. Doucette, S. J., of the Manila Observatory.

The weather in the American Tropics was quiet, the only gale reported being of force 7, on the 30th, south of the Gulf of Tehuantepec.

**Fog.**—Fog decreased materially along most of the northern routes, except near the American coast, since the preceding September, and was mostly observed on a few days during the first decade. With approach to American waters, fog increased over that observed in the previous month, and most generally was encountered during the latter half of the month. It was reported on 1 to 3 days in most of the 5° squares along the northern routes; on 9 days along the Washington and Oregon coasts; and on 12 days along the California coast.

## TYPHOONS AND DEPRESSION OVER THE FAR EAST, SEPTEMBER 1935

By BERNARD F. DOUCETTE, S. J.

[Weather Bureau, Manila, P. I.]

There are four typhoons to report for this month. Two of these typhoons were remarkable because of their irregular courses and also their great intensity, since they occurred almost simultaneously. Brief accounts of these disturbances are given below.

**Typhoon of September 1 to 12.**—This typhoon formed northeast of Guam on the 1st, moved west-northwest, changing to north-northwest as it approached the Nansei Islands on the 6th so that it passed between Naha and Oshima. It then recurved to the northeast, crossed southern Chosen (Korea) on the 9th and later continued on an easterly course across Japan and the one hundred and fiftieth meridian, where gales of force 9 accompanied the disturbance on the 11th and 12th. This typhoon had little effect upon the weather of the Philippines.

**Typhoon of September 10 to 19.**—This is the only typhoon of the month to cross any portion of the Philippine Archipelago. There was a trough of low pressure from Indochina across the Philippines to the Marianas 2 days before the typhoon formed.

Concerning the origin of this typhoon, the following notes give some idea of a complicated situation from September 8 to 12, during which time a persistent low-pressure area finally resulted in a definite depression to the north-northwest of Palau, which seemed to move toward the archipelago and then disappear just as another center formed (Sept. 11, 6 a. m.). The latter continued on a west-northwest course gradually changing to the northwest and then inclining to the west-northwest as it crossed central Luzon on the night of the 14th–15th. It passed a short distance north of Baler, Tayabas Province, and continued toward the Lingayen Gulf, moving west-northwest, and passing between Dagupan, Pangasinan Province, and Baguio, Mountain Province. The morning of September 15 found it moving north-west, but it changed quite suddenly to a west course