

quent, and the surface air greatly cleared. Consequently fog decreased rapidly from August along the steamship routes, but increased in Alaskan waters, where reports indicate a far greater prevalence than usual. Fog continued relatively frequent along our western coast.

The following table shows the atmospheric pressures for several island and coast stations for September. It will be observed that a rather abnormal gradient existed between Juneau, with a plus pressure departure of 0.17 inch, and Tatoosh Island, with a minus departure of 0.03 inch.

Station	Average pressure	Departure from normal	Highest	Date	Lowest	Date
Dutch Harbor <sup>1</sup>	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
St. Paul <sup>1</sup>	29.84	+0.14	30.26	8th.	28.98	18th
Kodiak <sup>1</sup>	29.97	+0.27	30.42	24th	29.18	20th
Midway Island <sup>1</sup>	29.96	-0.11	30.08	15th	29.82	9th
Honolulu <sup>1</sup>	29.97	-0.03	30.07	16th	29.84	9th
Juneau <sup>2</sup>	30.07	+0.17	30.38	28th	29.60	14th
Tatoosh Island <sup>3</sup>	29.98	-0.03	30.19	30th	29.49	16th
San Francisco <sup>4</sup>	29.93	-0.01	30.21	29th	29.76	16th
San Diego <sup>4</sup>	29.88	0.00	30.04	7th	29.71	14th

<sup>1</sup> P. m. observations only.

<sup>2</sup> Data insufficient.

<sup>3</sup> 25 days.

<sup>4</sup> And other dates.

<sup>5</sup> 26 days.

<sup>6</sup> 27 days.

<sup>7</sup> A. m. and p. m. observations.

<sup>8</sup> Corrected to 24-hour mean.

East winds continued to prevail at Honolulu, and kona winds occurred infrequently. The average velocity was 8.8 miles per hour; the maximum velocity, 30 miles NE. on the 29th. Rainfall continued to be less than the normal.

Tropical cyclones in both east and west longitudes were moderately frequent and of dangerous strength. The following article by the Rev. José Coronas, S. J., of the Manila Observatory, describes the movements of such typhoons as occurred in the Far East up to and including September 18. In addition to the steamers mentioned in that report as being heavily involved in the typhoon south of Korea on the 6th, a special report from the British steamer *Teucer* shows that this vessel experienced considerable difficulty in crossing the Yellow Sea from western Japan to the Yangtse River. The captain intended sailing along the northern edge of the storm on the 5th and thus cut ahead of the approaching center, favored by the fresh easterly winds. In the evening, however, he decided this could not be done, and the *Teucer* was headed S. 15° E. at 10 p. m. Throughout the 6th she steamed against the generally southerly winds, encountering gales of force 11, but escaping the storm center. At midnight of the 6th she was able to resume her course in winds that were rapidly hauling to SW. Press reports indicate considerable damage to life and property in Korea resulting from this storm.

A further press report speaks of an intense storm, accompanied by "the worst floods Japan has experienced in 50 years," which swept the Empire, especially the central districts, during the night of the 30th. Our maps show a considerable depression nearing southern Japan on the morning of the 30th, and near Tokyo 24 hours later. From the 28th to the 30th the American steamer *West Jena*, from Kobe, experienced the strong to hurricane winds of this typhoon, which delayed her within the area bounded by 31° to 34° N., 135° to 138° E. for more than 48 hours.

From the American Tropics come various reports of severe storms this month. On the 8th and 9th the American steamer *Mericos H. Whittier*, Iquique to San Pedro,

encountered a SSW. to SW. storm of exceptional violence for the region so far south, the vessel being in 4° 23' N., 92° 13' W. at 6 a. m. of the 8th. During that day heavy rain squalls, with winds sometimes attaining force 12, were experienced. The gales continued until the 9th, generally from the SW., lowest given pressure, 29.75 (uncorrected), at 6 a. m. of the 9th.

The *Mericos H. Whittier* again encountered SW. gales on the 12th. These continued until the afternoon of the 14th, but rose to force 11 at 4 p. m. of the 13th, pressure falling to 29.44 (uncorrected), at 6 a. m. of the 14th. Unfortunately the vessel did not record its positions during this storm, but from the dates given, taken in conjunction with its earlier and subsequent known positions, it must have experienced the same cyclone that was encountered by the American steamer *Betterton*, on the 14th, in 16° 09' N., 105° 30' W. The disturbance reported by the American steamer *Edgemoor* on the 13th, in 8° 05' N., 85° 15' W. (see table), seems hardly to have been identical with the previously mentioned storm of the same date, though further information may connect the two.

A shipping report from the American steamer *West Calera*, which left San Pedro on the 21st, bound for Sydney, Australia, states that this vessel, when 1,832 miles from the sailing port, on the 29th, encountered a severe hurricane. No further data concerning the storm are available at this writing.

**Waterspout.**—American steamer *Enterprise*, San Francisco toward Hilo: "September 13, 1925. In 35° 18' N., 128° 03' W., at 5.58 p. m., passed waterspout about 40 feet high traveling NE. 20 miles per hour."

#### DUST OVER INDIAN OCEAN

Reports of dust at sea come from the following vessels: American steamer *Egremont*, 13° 32' N., 43° E. (southern part of Red Sea): 7th: "Thick sand." American steamer *President Harrison*: "9th, at 9 p. m. When passing Aden 10 miles distant encountered a slight sandstorm, or at least for 30 minutes in cloud of dust. Very little breeze from off shore."—W. E. H.

#### THREE WELL-DEVELOPED TYPHOONS IN THE FAR EAST DURING SEPTEMBER 1 TO 18

By REV. JOSÉ CORONAS, S. J.

[Weather Bureau, Manila, P. I.]

Our weather maps showed three well-developed typhoons in the Far East during the first half of the month. At the time we are writing this (Sept. 25) there is another big typhoon over 300 miles to the east of central Luzon moving WNW. The U. S. Army transport *Thomas* and the U. S. Navy transport *Charumont* are well under the influence of this typhoon in their way from Guam to Manila. Details concerning this typhoon will be given in our article for next month.

The first typhoon of this month of September had formed already on August 27 to 28 over the western Carolines to the south of Guam, near 145° longitude E. and 10° latitude N. It moved first NNW. and almost north until the early morning of the 30th, passing near Guam to the west in the evening of the 29th. The barometric minimum observed there was 740 mm. (29.13 inches) at 7 p. m., a gale blowing from the E. and SE. quadrants.

On the 30th and 31st of August the typhoon moved WNW. and W. by N., but on September 1 it inclined again northward, keeping a NW. and NNW. direction