

the American S. S. *West Keats*, NW., 10, lowest pressure 29.02 inches, in 49° 50' N., 166° W., on the 28th; and the British S. S. *Tahchee*, SSW., 9, lowest pressure 29.54 inches, in 45° 22' N., 146° 20' W. On the 30th the rough weather of the previous week showed signs of abatement.

Fog conditions, as drawn from ships' observations, indicate some slight clearing up since August. Scattered fog, however, occurred all along the northern routes, being particularly frequent to the westward of the 180th meridian. Between the 35th and 40th parallels, off the California coast, fog was reported on 9 days.

NOTE.

The American S. S. *Algonquin*, Capt. W. S. Harriman, Observer J. L. Patton, reports: "September 2, 8:30 p. m., latitude 14° 27' N., longitude 95° 57' W. A number of waterspouts to southward."

GALES ON THE SOUTH PACIFIC OCEAN.

By WILLIS E. HURD.

On the 7th and 8th of September, 1923, the British S. S. *Doonholm*, Capt. W. R. S. Branigan, experienced a southwest gale, force 7, lowest pressure 29.47 inches, in latitudes 43° 29' S., to 42° S., longitudes 155° 20' E. to 151° E., while on a voyage from Dunedin, New Zealand, toward Melbourne.

On the 8th and 9th of the month the British S. S. *Niagara*, Capt. J. T. Rolls, Sydney toward Auckland, experienced heavy squalls for several hours, near latitude 34° 50' S., between longitudes 168° and 175° E. The highest force of the wind was 10 from the NE., on the 9th, lowest pressure 29.57 inches.

The British S. S. *Doonholm* again encountered a northwest to southwest storm in latitude 38° S., longitude 145° E., on the 20th. The highest wind force was SW. 10, lowest pressure 29.06.

EIGHT TYPHOONS IN THE FAR EAST DURING AUGUST, 1923.

By Rev. JOSÉ CORONAS, S. J.

[Weather Bureau, Manila, P. I.]

There were no less than eight typhoons shown by our weather maps in the Far East during the month of August. Although only two of them traversed the Philippine Islands, yet several others influenced us a great deal in our weather, particularly with heavy rains and floods in the western part of Luzon. The monthly total rainfall for Manila and a few other stations of western Luzon, with the respective difference from the normal of August, will be of interest to our readers.

| Stations. | Monthly total. | Difference from normal. |
|-------------------------|----------------|-------------------------|
| | mm. | mm. |
| Manila..... | 1, 147.6 | +737.3 |
| Iba..... | 2, 401.2 | +1, 329.8 |
| Dagupan..... | 1, 189.3 | +434.8 |
| Baguio..... | 2, 378.7 | +1, 133.6 |
| San Fernando Union..... | 1, 487.2 | +705.1 |
| Vigan..... | 1, 151.7 | +492.8 |

The heaviest rains for 24 hours were those of Baguio, 533.4 mm.; San Fernando Union, 394.7 mm., and Iba, 288.7 mm. The heaviest daily rainfall for Manila was 197.4 mm.

The Babuyanes typhoon, August 3.—This typhoon was probably formed on July 29 to 30 to the east of southern Luzon, not far from 128° longitude E. and 13° or 14° latitude N. Its track was somewhat indefinite until 6 a. m. of August 2, when we could situate the center quite approximately in 125° longitude E., between 17° and 18° latitude N. Hence, it moved WNW., passing through the Babuyanes Islands about 40 miles to the north of Aparri in the afternoon of the 3d and entering China to the NE. of Hongkong in the afternoon of the 5th. The approximate position of the center at 6 a. m. for the period August 3 to 5 was as follows:

August 3, 6 a. m., 122° 35' longitude E.; 18° 50' latitude N.

August 4, 6 a. m., 118° 45' longitude E.; 20° 30' latitude N.

August 5, 6 a. m., 116° 00' longitude E.; 22° 15' latitude N.

The Loochoos and China typhoon, August 3 to 8.—This typhoon was first noticed in our weather maps in the afternoon of the 3d in about 138° longitude E. and 23° latitude N. It moved WNW. toward the Loochoos, the barometer at Naha having fallen at 6 p. m. of the 6th to about 722 mm. Between the Loochoos and China the typhoon inclined westward. The approximate position of the center at 6 a. m. of the 6th to 8th was:

August 6, 6 a. m., 129° 40' longitude E.; 25° 30' latitude N.

August 7, 6 a. m., 125° 00' longitude E.; 27° 20' latitude N.

August 8, 6 a. m., 119° 15' longitude E.; 26° 55' latitude N.

The Meiacosima and China typhoon, August 8 to 11.—The first part of the track of this typhoon is somewhat uncertain, although it probably formed on August 3 to 4 south of Guam near 145° longitude E. and 10° latitude N., moving northwestward until August 6 and then westward on the 7th and part of the 8th. The center can easily be situated in our weather map of the 8th, 6 a. m., near 130° longitude E., between 18° and 19° latitude N.; and at 6 a. m. of the 9th in about 127° longitude E., between 20° and 21° latitude N. The typhoon was moving then NNW. and so it struck the Meiacosima group of islands about 150 miles east of northern Formosa on the 10th. The station of Ishigakihima reported at 6 a. m. of that day a barometer as low as 722.5 mm. with hurricane winds from the N. From Meiacosima the typhoon inclined northwestward and entered China in the morning of the 11th between 27° and 28° latitude N. Once in China it moved again NNW., gradually recurving to the NE. on the 12th, and traversed Manchuria on the 13th.

The Batanes and Hongkong typhoon, August 17 and 18.—The first part of this typhoon is somewhat uncertain and indefinite, although we are inclined to believe that it is the same as was shown in our weather map at 2 p. m. of the 11th to the SSW. of Guam in about 143° longitude E. and 11° latitude N. If this be the case, we have to suppose that after moving NNW. from the 11th to the 13th, it inclined decidedly to the W. on the 13th and 14th. The center was clearly situated at 6 a. m. of the 16th, between 20° and 21° latitude N. and in about 127° longitude E. It was moving almost due W.