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NORTH PACIFIC OCEAN

By WILLIS E. HURD

On the 28th there was a deep depression central near latitude 48° N., longitude 35° W., which was apparently surrounded by moderate winds only. This increased in intensity during its easterly movement, and on the 29th winds of hurricane force were encountered in a limited area near the 50th parallel, between the 20th and 30th meridians. Storm log:

British S. S. *Michigan*:

Gale began on the 28th, wind WSW. Lowest barometer 29.29 inches at 11 p. m. on the 28th, wind WSW. 11, in latitude 50° 32' N., longitude 27° 40' W. End on the 30th, wind W. Highest force of wind 12; shifts SW.-WSW.-W.

On the 30th this LOW was over the British Islands and had begun to fill in. On the 30th there was a second disturbance central near latitude 45° N., longitude 40° W., and vessels in the southerly quadrants reported westerly gales of force 8-10. Storm log:

German S. S. *Albert Ballin*:

Gale began on the 29th, wind SSE. Lowest barometer 29.38 inches at 2 a. m. on the 30th, wind SW. S, in latitude 44° 10' N., longitude 37° 32' W. End on the 30th, wind NW. Highest force of wind 11, W.; shifts SW.-WSW.-W.

SOUTH ATLANTIC OCEAN

By ALBERT J. McCURDY, Jr.

Weather reports received from vessels that traversed the southern shipping routes in April, 1924, indicate that stormy conditions prevailed off the South American coast in the first and last decades of the month.

During the first of these periods three vessels encountered fresh to whole gales. These were the German S. S. *Bayern*, and the British steamships *Damerara* and *Gloria de Larrinaga*.

The *Damerara*, Capt. T. A. Hill, proceeding from Brazil toward Liverpool, on the 1st encountered a westerly gale accompanied by heavy rain squalls. Mr. A. Hambly, fifth officer, reports that the lowest pressure observed was 29.56 inches, this occurring at 2 p. m., in the River Plate. The wind at this time was WNW., force 8, thence shifted to W. by S., and increased to a strong gale. This gale ended on the 2d, wind W. by S. Highest force of wind 9.

On the 2d the *Bayern*, Capt. H. Molchin, proceeding from Hamburg to Buenos Aires, encountered the same gale while in 35° S., 54° W., reporting conditions similar to those experienced by the *Damerara*. Mr. K. Schubert, observer, states that the lowest barometer, 29.52 inches, was recorded at 4 a. m., on the 2d. The wind at this time was W. by S., force 11.

On the same date the *Gloria de Larrinaga*, Capt. J. J. Doyle, proceeding from Cardiff to Buenos Aires, came within its influence, experiencing west-northwesterly winds, force 8, accompanied by high seas. Mr. F. J. O'Hara, 2d officer, reported the lowest observed pressure, 29.67 inches, occurring in 32° S., 51° W. This gale ended on the 3d, wind SW. by S.

The Danish S. S. *Nevada*, Capt. K. R. Fischer, proceeding from Buenos Aires to Newport News, on April 26 encountered a westerly gale accompanied by heavy squalls and rain. Mr. K. K. Kjolhede, observer, states that the lowest pressure observed was 29.96 inches (uncorrected), occurring at 10 a. m., in 29° 16' S., 47° 07' W. The wind at this time was W., force 10. Similar conditions continued throughout the 27th.

During April there was a considerable decrease in storm intensity on the North Pacific over that of the preceding month. Many liners reported no storm winds whatever, while the majority of those vessels recording gales observed no forces exceeding 9. Occasionally a force of 10 indicated some increase in cyclonic or anti-cyclonic activity, and on one date, the 29th, a full hurricane wind of several hours' duration was encountered.

A considerable amount of precipitation occurred over some areas, noticeable in the Hawaiian and eastern tropical regions, and snow and sleet fell in higher latitudes on several scattered days throughout the month. Along the coast of the United States from San Francisco northward rainfall was deficient.

Apart from the prevalence of the Aleutian cyclone over the Gulf of Alaska, no cyclonic storms of much importance appeared in American coast waters. From the 14th to the 17th moderate gales occurred along these shores between the 40th parallel and Cape San Lucas, due to the considerable gradient between the eastern North Pacific high pressure area and a cyclone then central over the Western States.

On the 20th low pressure began forming on the eastern boundary of the HIGH, or near 35° N., 135° W., and on the 21st and 22d moved in upon the continent. This condition resulted in moderate to strong gales along the coasts of Washington, Oregon, and northern California from the 22d to the 24th. The maximum force recorded was 10 from the north on the 22d, experienced by the Norwegian S. S. *Ranenfjord* while steaming up the coast in latitude 40° 58' N., longitude 124° 40' W.

To the southward of Cape San Lucas the winds were for the most part light during April, calms and variables being frequent, but northwesterly winds being prevalent. Over and to the southward of the Gulf of Tehuantepec north to northwest gales of forces 8 to 9 were reported on the 17th, 18th, and 19th, accompanied by a slight fall in pressure.

The northeast trades prevailed in the Hawaiian region. Some slight depressions appeared in this area, and that of the 6th gave Honolulu a maximum wind velocity for five minutes of 48 miles an hour from the southwest, this breaking previous records for the month. This was the wettest April on record here, as well as the second cloudiest. On the 21st and 22d another depression entered the Hawaiian area. It, however, gave very little wind, but did produce an extraordinary downpour of rain which amounted to 7.99 inches at Honolulu during the two days. The depression had moved northward into the sphere of the Aleutian LOW by the 25th.

In the Far East a few continental lows entered upon the Pacific. One on the 1st to 3d from northern Japan caused moderate gales of forces 7 to 9 which were experienced by vessels to the eastward of the archipelago. A depression which left China near the 30th parallel on the 5th also caused moderate gales on that and the following day over neighboring waters and to the southward of Japan. No high winds from depressions of later date in this general region have been reported.

The Aleutian LOW, as a fluctuating storm area, was well defined almost throughout the month, with its center of activity lying east of the Alaska Peninsula