

NOTES, ABSTRACTS, AND REVIEWS

Weather reports by teletype to airports.—Regular twice daily weather reports from practically all stations in the United States, Canada and Alaska, including upper-air data from about 20 aerological stations, are now being retransmitted morning and night by teletype printers direct from the Weather Bureau at Washington to the airports at Hadley Field, N. J., Bellefonte, Pa., and Cleveland, Ohio, on the eastern sector of the transcontinental airway. This new service was inaugurated on the night of February 6, 1929, as an addition to the program of weather information already made available to aviators and others along this air route.

Under present arrangements, transmission of these reports begins promptly at 8:15 o'clock a. m. and p. m. and continues for 20 minutes. There is then a break of 25 minutes for exchange of reports between the airway stations themselves and for other necessary traffic over the wire. At 9 o'clock the sending of weather reports from Washington is resumed, and continues until all have been sent, which is, as a rule, not later than 9:25 o'clock. The reports are sent at a uniform rate of about 40 words a minute, and are received in typewritten form on tape at the airways.

Formerly, only a limited number of reports were furnished the airports in question by radio. The new method makes it possible for the airports to receive a far more complete list of reports, and much more promptly.

At Hadley Field and Cleveland these reports are charted and used in connection with detailed advices and weather information furnished to the fliers. Copies of the map are posted also and made accessible to air mail and commercial pilots.

In addition to those at Hadley Field, Cleveland, and Washington, teletype printers, with apparatus for both sending and receiving, are also located along the airway at Mercer, Brookville, Kylertown and Northampton, Pa., with the prospect that other landing fields will be similarly equipped from time to time. All machines in the system are connected by a leased wire, which carries in addition to the weather reports from Washington and necessary messages from field to field, hourly reports of weather and landing conditions at each point. At the end of each hour a summary of these conditions and, when necessary, a statement regarding expected changes in weather is prepared at Cleveland, and distributed by the teletype system.

Symposium on nomenclature of cyclones and anticyclones.—The second half of the Weather Bureau staff meeting of April 17, 1929, was devoted to a discussion of the nomenclature of cyclones and anticyclones in the very special sense of the expressions "secondary" cyclones and "secondary" anticyclones. The object of the discussion was first to determine whether practice in the Weather Bureau is uniform respecting the expression "secondary" cyclone and second, to clearly define the differences in structure and behavior, if any, between the so-called secondary and primary cyclones.

The consensus of view with respect to the first was that the definition of the "secondary" originally laid down by Abercromby,¹ agrees closely in principle with that held by members of the Weather Bureau staff.

It developed in the discussion that one form of barometric depression—viz, a small cyclone within a greater

one, which in Great Britain is classed as a secondary—is rarely observed on the weather charts of the Western Hemisphere. The discussion also showed almost complete unanimity in the opinion that there are no essential differences either in form or behavior of the two groups commonly known as primary and secondary cyclones. The expression "secondary" anticyclone found few supporters.—A. J. H.

*Remarkable clouds at high altitudes*² (condensed from Nature, London, February 16, 1929).—Prof. Carl Stormer, who has given us such splendid photographs of the aurora borealis has observed and photographed specimens of the noctilucent clouds that were so much in evidence after the volcanic eruption of Krakatoa some forty-odd years ago. Professor Stormer observed and photographed these clouds in December, 1926, and again in January 13, 1929. On the last-named date he was so fortunate as to have his two aurora stations of Oslo and Oscarborg in operation immediately after sunset, and was thereby able to secure more than 90 simultaneous photographs. The material thus secured is unique in the history of the observation of noctilucent clouds and he was able to calculate their height from abundant and trustworthy material. The altitude of these clouds as thus determined was about 25 kilometers; some were a little greater and some a little less.—A. J. H.

New equipment for Observatorio del Salto, Santiago, Chile (by J. Bustos Navarrete, director).—The Observatorio del Salto has just received a spectroactinometer for measuring the intensity of luminous and ultra-violet solar radiation. The measurements will be made by means of photoelectric cells and an electrometer.

The variations of the three spectral regions, thermic (infra-red), luminous and ultra-violet, are in close relation to one another. In general, an increase in the total radiation is accompanied by a marked increase in the ultra-violet, while a decrease in the total is accompanied by a relative increase in the infra-red.

Owing to the sensitiveness of the instrument, it will be possible to detect slight variations in the total solar radiation, since radiation in narrow spectral bands may be extrapolated to zero air mass with small error, and from the variations in these bands the variation in the total may be inferred.

Meteorological summary for Chile, February, 1929 (by J. Bustos Navarrete, Observatorio del Salto, Santiago, Chile).—Atmospheric circulation was characterized by moderateness. Scattered rains fell in the south between Concepcion and Magallanes, while in the central there was somewhat more precipitation than in January.

The most important depressions that were attended by unsettled weather and rain were those charted in the following periods: 3d, 5th-6th, 9th-12th, and 20th. All of these depressions crossed the extreme south.

The only anticyclonic center worthy of mention was that of the 13th-15th, dominating conditions in the extreme southern region. In consequence of the marked difference in pressure established between that region and the central zone there developed on the following days, until the 17th, violent south winds on the coast.

In comparison with the preceding month February was not so warm in the central zone and not so rainy in the southern zone.—Translated by W. W. R.

¹ Principles of Weather Forecasting, p. 23.

² Cf. Noctilucent clouds and unpublished measurements of their velocity, by Archenhold. This REVIEW 56: 278-80.