wind of 10 meters a second, through a period of 8 seconds, the period should be 4 seconds or else the time required to attain the new rate of 10 meters higher a second should be 4 seconds instead of 2, since the complete cycle from minimum to maximum and *vice versa* in a steady airstream requires that acceleration and deceleration are equal in length.

The Diurnal Variation of Free-Air Temperature [1]

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Due to the combined effects of solar radiation, re-radiation between the ground, clouds and atmosphere, convection, changes of phase of water, advection, and conduction a diurnal temperature period exists at the surface and for some distance above the ground in the free-air. The characteristics of this period were computed for various levels in the free-air at six aerological stations in the United States from series of kite flights made over a number of years at these stations. It was found that the data used were sufficient in number to indicate with a fair degree of reliability the nature of the period up to heights of about 1000 m. above ground but that above about 1200 m. the true nature of the period in many cases was not disclosed. It was found that the diurnal temperature range decreased rapidly with altitude immediately off the ground and then somewhat less rapidly up to about 1000 to 1200 m. above ground. At this and greater heights the range usually was less than 1°C. and decreased only very slowly with increase in altitude. The maximum and minimum was found to occur later in the day with increasing altitude up to the heights just mentioned. At greater heights there was no apparent regularity of the time of occurrence of the maximum or minimum. A curve showing the variation of the time of maximum or minimum with altitude is considered to be a better criterion of reliability in the results than one showing the variation of range with altitude.

Discussion—Mr. H. H. Clayton remarked that at Blue Hill it was found that an afternoon minimum occurred at about 1500 m. instead of at 2000 m. as was found at Ellendale in summer. He said that he believed this daytime minimum to be caused by the formation of cumulus clouds.

[1] Published in full in *Mo. Weather Rev.*, Mar., 1933, 61:61-80, tables, 14 figs.

OTHER MEETINGS

The April meeting of the National Academy of Sciences in Washington included a meteorological paper by H. Helm Clayton, "Solar variations and atmospheric pressure." Mr. Clayton also addressed the American Academy of Arts and Sciences, in Boston, on this subject on May 10. An abstract of the paper was published in *Science*, June 9, 1933, p. 568.

The April meeting of the American Geophysical Union is fully reported in a 521-page volume just issued by the National Research Council. The 11 papers of the Section of Meteorology occupy 42 pages. Separates of this section may be had for 25c from Dr. John A. Fleming, Gen'l. Secy., Am. Geophysical Union, 5241 Broad Branch Road, N.W., Washington, D. C.

The Pacific Science Congress, held at Victoria and Vancouver early in June, included a number of meterological papers, details concerning which will be published in a later BULLETIN.

The Salt Lake City meeting of the