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Released upon receipt
but intended for use
March 20, 1934

? WHY THE WEATHER ?

Mailed March 13, 1934

HIGH-LEVEL WINDS

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The air of the much talked about second-story of the atmosphere -- the stratosphere -- was generally thought of a few years ago as being comparatively tranquil, but a great deal of evidence to the contrary has come to light. Bright meteors often leave long trails behind them, which may persist for several minutes or even, in rare cases, more than an hour; meanwhile drifting with the wind. The heights of these trails have been measured in a number of cases by means of simultaneous observations from two or more places, and then, from the angular movement of the drifting train, the actual drifting speed has been worked out.

Several cases summarized in 1907 by the late Prof. C.C. Trowbridge indicate that speeds as high as 100 miles an hour are not uncommon. In one case a train seen about 60 miles high over New England was drifting at about 125 miles an hour. More recently J.E. Clark, in England, has found from numerous observations of a bright fireball seen Feb. 22, 1909, that between heights of 49½ and 51 miles the train lay in a streak of west wind of over 170 miles an hour, while at a height of 51½ miles it was in an east wind blowing 200 miles an hour.

Measurements of high-level winds can also be obtained by observing the drift of certain varieties of cloud peculiar to the stratosphere. So-called "nacreous" or "mother-of-pearl" clouds are from 12 to 18 miles aloft, and one recently observed by accurate methods in Norway was found to be drifting horizontally at a speed of 170 miles an hour.

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