

A Science Service Feature

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? WHY THE WEATHER ? Mailed March 20, 1928

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TEMPERATURE SURVEYS

The study of local temperature contrasts due to topography is a matter of special interest in connection with frost problems, and many elaborate "temperature surveys" have been carried out in recent years in fruit-growing districts as a guide to the location of orchards, the installation of orchard-heaters and the application of frost predictions.

At the last meeting of the American Meteorological Society, Prof. C.F. Brooks, of Clark University, described the results of practice surveys of this character, which he made last autumn with the aid of several of his students while in camp near Greenfield, Mass., in the Connecticut Valley. Before sunrise on the morning of the first killing frost in October the temperature ranged from 26 and 28 degrees in valleys and low places to 34 and 36 degrees on steep hills 200 to 400 feet higher. Two successful orchards were found to have temperatures at or above the freezing point, while the neighboring lowlands, hardly 100 yards distant, were 4 to 6 degrees colder. However, valleys containing good-sized bodies of water were decidedly warmer than those without, on account of the presence of fog in the former.

At midday hardly less striking differences were found with different exposures. In one case, despite the equalizing effect of a brisk wind, a south-facing slope had a temperature of 72, while on a nearby hilltop the thermometer registered 64. One afternoon in calm weather the temperature was 77 on the sunny side of a hill and only 60 in a wooded valley. Large differences in humidity accompanied these temperature differences.

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