

A Science Service Feature

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? WHY THE WEATHER ?

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CUSHIONS OF COLD AIR

We usually experience strong winds when the barometer is rising or falling rapidly. The barometer may fall prodigiously for some hours with scarcely a stir of air. This does not mean there is no wind, but it does indicate that the wind due to that difference in pressure is not affecting the surface air. Pressure cannot fall without air leaving the place.

This paradox is the result of a cushion of cold surface air which, by virtue of its great density in contrast to that of the warm damp wind blowing over it from the south, can be displaced only with difficulty. A southerly gale may blow over such a cushion of air for many hours, slowly wearing it down, till with a series of sudden blasts the warm wind breaks through to the surface. Branches snap off; the thermometer does some high jumping, shooting upward 10 or 20 degrees, with some rapid falls interspersed as straggling whiffs of cold air pass; dew forms on the outsides of buildings, windows, autos; the air has a steamy odor.

Numerous examples of the same sort could be cited from last fall and this. A recent one, showing nicely on the weather map for October 24, 1926, occurred on the front of the first Texas low of this season. Air over central New England was virtually calm, with a gentle movement from the north, and temperatures of 40 or 50 at the surface. The sky was heavily clouded and a steady rain was setting in. South-eastern and southern coastal New England had a brisk to strong south wind with temperatures above 50. At Block Island the velocity was 34 miles per hour, Not till later 14 hours/did the southerly gale descend onto Worcester. Then the temperature rose from 43 to 66. (All rights reserved by Science Service, Inc.)

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