A Science Service Feature

Released on receipt
but intended for use
February 9, 1929

? WHY THE WEATHER ? Mailed February 2, 1929

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TEMPERATURE AND WIND

A correspondent requests information about the "effect of wind on temperature," and asks, "Is it colder in the wind or in a wind-break?"

The answer to this question depends upon what the inquirer means by "it". If he is talking about the temperature of the air, as measured by a thermometer, then the answer is that the wind has no effect on the temperature. A thermometer exposed to the full force of a high wind will read the same as a neighboring thermometer surrounded by a screen of some sort and thus sheltered from the wind.

Probably, however, our correspondent is thinking about the comparative effects of still and moving air upon human sensations of heat and cold. Air at any given temperature usually feels colder when the wind is blowing than when it is not. This is because the wind constantly carries away air heated by contact with the body and replaces it by air not thus heated. When the skin is moist with perspiration the wind also cools the body by increasing the rate of evaporation, which is a cooling process.

There are two exceptions to these statements. The internal temperature of human body in health is always very close to 98.6 degrees Fahrenheit. If the temperature of the surrounding air is higher than this, the wind brings more heat to the body than it carries away and is thus a heating agency instead of a cooling one. Again, if the air is fully charged with moisture (relative humidity 100 per cent.), evaporation is at a standstill whether the wind is blowing or not.

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