

A Science Service Feature

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? WHY THE WEATHER ?

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THE FORCE OF THE WIND

"How strong was the wind?" is the question asked after a destructive storm. The answer to this question is likely to be misleading, because it is nearly always stated in terms of speed rather than force, and the relation between these two things is not generally understood.

The force of a wind can be indicated accurately by saying what pressure it exerts (in pounds per square foot, for example) upon a surface at right angles to its path. This pressure varies approximately as the square of the wind's speed. Thus a wind of 20 miles an hour blows about four times as hard as one of 10 miles an hour and a wind of 30 miles an hour about nine times as hard.

The word "about" must be used in these statements, because the exact relation between speed and pressure is somewhat different for different wind-velocities, besides varying with the density of the air and the shape and dimensions of the surface against which the wind blows.

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