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A Science Service Feature

? WHY THE WEATHER ? Mailed October 5, 1932

By Charles Fitzhugh Talman,  
Authority on Meteorology.

MOUNTAIN EDDIES

"Sometimes," says Dr. W.J. Humphreys of the U.S. Weather Bureau, "one is surprised when, having climbed a mountain with a strong wind at his back, he finds, on going down the opposite side, a wind in his face. He is puzzled to know how the wind can blow up the mountain on both sides at the same time.

"The mountain does the trick. As the wind crosses the crest, it tends to go on in the same direction at that level, but it also catches up some of the air beneath it and drags it along, just as the air in the tube of an atomizer is pulled out, and with it some of the liquid beneath, by the blast across its top. This depletion of the air between the side of the mountain and the sheet of crossing wind -- a start toward the production of a vacuum -- necessarily leads to an inflow of an equal amount of air from outside, and the most available source is down the mountain. Hence a wind crossing a mountain range induces a return eddy current up the lee slope, which is a great puzzle to the uninitiated -- and a great worry to the student of physics who tries to explain it, with all the mathematical and other details, to the satisfaction of an exacting professor!"

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