

A Science Service Feature

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? WHY THE WEATHER ?

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MOUNTAIN AIR

This is a wonderful time of year for climbing. From every vantage point autumn colors may be seen. In the north, the hills and mountains are in their full glory; in the middle Atlantic states the valley bottoms have their colors and the slopes are also beginning to turn. The air on a clear cool day is most exhilarating. One may climb without the overheating to be endured with even the thinnest clothing in summer. The air is crisp and the humidity low.

As you climb a mountain there is more than a change in scene. There is a real change of air. Those who live on a hill or who have been up a mountain, on a clear day can appreciate this. Below you is the hazy, if not foggy or smoky, air of the lowlands; at your level and above is the clear, uncontaminated free air, divided from that below as if by a sharp line. Looking abroad from the mountain peak one seems to be separated from the rest of the world by a sea of haze below, in which the outlines of lower hills and mountains stand out more or less dimly up to the level of the top of the haze.

A difference in humidity and temperature also marks the contrast between the lower air and the free air at heights varying from a few hundred feet in the morning to a few thousand on a clear afternoon. On the average it is 10 degrees Fahrenheit colder for each 3,000 or 4,000 feet ascent on a mountain. In the daytime the contrast may be twice as great, for the body of air that bathes the mountain top is much less readily heated than the smaller quantities more or less entrapped in the valleys below. The amount of water vapor in mountain air is usually very much less than that in lowland air; at 8,000 feet it averages about half the total near sea level.

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