

No. 373

A Science Service Feature

July 22

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
of Clark University,
discusses:

MOUNTAIN TEMPERATURES

The cautious climber who sets forth on a mountain trip, burdens himself with a sweater even though the day may be warm. For on the mountain he knows it will be not only windier but considerably cooler than below. Records from many sounding balloons, which carry instruments up into the free air, show that in general we may expect that the higher we go the cooler it will be. A decrease of 10 degrees Fahrenheit per 3500 feet in elevation is a common rate in summer time.

In the case of mountains, this temperature difference between different levels is likely to be still greater. For winds are frequently forced to rise in passing over mountains, and, in rising, expand and cool to a temperature below that of neighboring air at the same height. Similarly, these rising winds make mountain tops and ridges more frequently cloudy than the free air. Many weather observations have been made on Mt. Washington. Here it has been shown that the temperatures on top of the mountain are commonly below those obtained from kites at the same altitude flown from the base, and that snow occurs on the mountain top when it is not falling in the free air at the same level some distance off.

(Tomorrow: Views From Mountains)

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