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A Science Service Feature

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? WHY THE WEATHER ?

Dr. Charles F. Brooks,  
of Clark University.

Tells How

RAIN MELTS LITTLE SNOW

When the old winter snow is still lying on the ground a characteristic spring rain has a temperature probably of not over 50 degrees Fahrenheit. It can be shown that it requires 1 inch of rain at this temperature to melt enough ice or snow to make  $1/8$  inch of water. Snow always contains much air, even dense old snow may be assumed to be half water and half air. So it follows that the one inch of spring rain, with a temperature of 50 degrees Fahrenheit, will melt about  $1/4$  inch of snow cover.

But during such a rain, accompanied by a good wind, it is often apparent that the snow is disappearing very rapidly. Conduction from the wind itself, although the air temperature may be lower than that of the rain, will warm and melt some snow. A more important cause of melting, however, when the wind is warm and humid, is condensation on the snow surface of moisture from the wind. This occurs when the dewpoint of the wind is above freezing. When condensation occurs heat is liberated, so much in fact that the condensation of  $1/30$  of an inch on the snow surface would be sufficient to melt  $1/4$  inch of snow, or as much as was melted by a whole inch of rainfall.

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