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A Science Service Feature

? WHY THE WEATHER ?

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AIR FULL OF SNOW

In a heavy snow flurry, when innumerable big flakes are falling, we often say, "The air is full of snow." While this seems to be true, few realize how far from scientific fact it is. In a heavy snowstorm each cubic meter of air might contain half a gram of snow. A cubic meter of new fallen snow weighs about 100 kilograms, therefore the space during an intense fall of snow might be said to be but 1/200,000th full of snow.

Suppose a certain amount of vapor is precipitated as snow, the crystals usually occupy about ten times as much space as would raindrops representing the same amount of moisture. Snowfall, therefore, often appears denser than rainfall, it obstructs the view more and is of a more smothering quality. In reality, snow never falls at the excessive rates sometimes reached by rain in cloudbursts.

Snow seldom accumulates on the ground at a rate exceeding 2 inches per hour, which is roughly the water equivalent of 0.2 inch of rain. Luckily for us, it is impossible for condensation to occur very rapidly at freezing temperatures. Otherwise if we translated a Panama cloudburst into terms of snow, we should have nearly twenty-five inches of snow dumped down in three minutes! or converting a case of heavy rain in California, about 9 feet of snow in an hour.

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