

A Science Service Feature

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? WHY THE WEATHER ?

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ICE CRYSTALS

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All ice crystals are regarded as based on a hexagonal pattern, though in occasional specimens alternate members are suppressed, so that the crystal becomes trigonal, and in rarer cases crystals are found with twelve main branches instead of six. While they all conform to this general plan, the number of their possible shapes appears to be unlimited. The late Wilson A. Bentley photographed under the microscope in the course of nearly half a century about five thousand of these fascinating objects, most of them found in the flakes of snow that fell on his Vermont farm, and no two were exactly alike.

Only a little is known about the circumstances that determine the pattern of an ice crystal. Of the crystals that originate in the atmosphere, the simpler kinds, in the shape of columns, needles and hexagonal plates without branches, occur in greatest abundance at high levels, where the temperature is low, and where they must grow slowly because the air contains little water vapor. They float in the lofty cirrus and cirro-stratus clouds, where they reveal their presence by forming haloes around the sun and moon, and in our latitudes they are most likely to fall as fine and scanty snow in the rear - i.e., on the western and northwestern side - of a storm area.

The more complex crystals, especially those with branching extensions, occur at higher temperatures and in air of greater humidity. They fall most abundantly in the heavier snows at the front of a storm and occur, along with water droplets, in the lower clouds, but produce no haloes.

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