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? WHY THE WEATHER ?

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"TOO COLD TO SNOW"

"It is too cold to snow", is ^a relatively true statement not uncommonly heard in cold weather. What is meant is not that no snow can occur at the temperatures prevailing, but that it is too cold for much snow to fall. It is never too cold to snow, although often the extreme dryness of very cold air makes heavy snowfall unlikely. The heaviest snowfalls occur usually when the temperature in the snowing cloud is near freezing. Under such conditions the moisture present is over three times as great as at zero Fahrenheit. On December 15, 1924, two inches or more of snow, enough to make 0.20 inch of water, quite a respectable amount, fell at Calgary, Alberta, while the lower air temperatures ranged from 24 degrees below zero Fahrenheit downward. This snow came from a much warmer wind, apparently the remnant of a chinook wind above the cold surface layer.

Even though much of our snow comes from clouds warmer than the air at the ground, there is apparently no natural temperature so low as to preclude the formation of snow or frost. We constantly observe cirrus clouds, composed of snow crystals, at heights where the temperatures are always far below freezing, summer and winter. The usual winter temperatures at the heights where cirrus clouds form appear to be not higher than 40 degrees below zero. The highest cirrus clouds form at the upper limits of convection, where the temperatures average 65 degrees below zero Fahrenheit, and where temperatures lower than 100 degrees below zero have been recorded.

(Tomorrow: Polar Vs. Equatorial Air Streams)

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