

A Science Service Feature

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? WHY THE WEATHER ?

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CHINOOK

Near the mouth of the Columbia River once lived the Chinooks, a tribe of Indians. Some early traders on the Columbia gave the name of "Chinook" to the warm Southwest wind blowing from the district where these Indians lived. Now the name is applied most generally to the strikingly warm dry winds which often descend from the Rockies on to the Great Plains. In Montana, the temperature may be 20 degrees Fahrenheit with the ground snow covered. Suddenly comes a blast of warm air, causing the temperature to rise perhaps 20 or 30 degrees in a few minutes, and 70 or 80 degrees in the course of several hours. Snow melts and may even disappear entirely, so that starving cattle are able to get food. Sometimes, the warm <sup>wind</sup> ceases almost as suddenly as it began; cold air surges back and the temperature falls, perhaps to its original level.

The Chinook resembles the Alpine "foehn" or "Schneefresser" (snow-eater), or the relatively warm winds of the high ice caps of Greenland and Antarctica. It may seem odd that such warm winds should come down from snow-covered mountains. In each case, the wind first rose in passing over the range. Expanding and cooling caused it to precipitate some of its moisture. But as long as precipitation occurs, heat is liberated, thus the air could not continue to cool greatly during its ascent and reached the summit not much colder but considerably drier than at the start. The dry wind descending on the lee side of the mountains or ice cap was then so much warmed by compression that it reached a temperature well above freezing. On the east coast of Greenland, the temperature has risen to 81 degrees Fahrenheit with a descending gale off the inland ice.

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