

A Science Service Feature

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? WHY THE WEATHER ?

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COAST IS WARMER THAN INLAND

Regions immediately bordering upon the Atlantic coast, and particularly islands and promontories, the one encircled, the other nearly surrounded by the ocean, have milder winter climates than commonly are experienced inland. The reason is the dominating effect of extensive, relatively warm water surfaces, instead of the chilling influence of snowfields or frozen, bare ground. Because of its great depth and enormous amount of stored heat the sea does not, in middle latitudes, cool rapidly enough to fall to freezing temperature, which in the case of salt water is 28 degrees Fahrenheit, instead of the 32 degrees at which fresh water crystallizes.

For example, the ocean water off Atlantic City averages about 70 degrees in summer and 40 degrees in winter. Off Boston the average is 60 degrees or thereabouts in summer and 30 degrees Fahrenheit in winter. The winds that strike an island such as Nantucket or Marthas Vineyard must first pass over surfaces not excessively cold, while in regions inland all winds must blow over snow-covered or frozen ground, both of which commonly are much colder than the ocean. Therefore these islands have what is known as a marine climate, and the same is true to a lesser degree of the land which lies close to the coast. In a marine climate in mid-latitudes much of the winter precipitation which inland falls as snow takes the form of rain, and such snow as does fall is likely to melt quickly.

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