



THE FOLLOWING DESCRIPTION HAS BEEN EXTRACTED FROM A NOAA/NESDIS/EDS/NCC REPORT ENTITLED “[CLIMATE OF VERMONT](#)”, CLIMATOGRAPHY OF THE UNITED STATES No. 60.

● *CLIMATE OVERVIEW*

Like other New England states, the climate of Vermont can be described as changeable; with a large range of diurnal and annual temperatures; great differences between the same seasons in different years; and considerable diversity from place to place. Factors such as elevational differences, terrain variations and distance from water bodies like Lake Champlain and the Atlantic Ocean, have led to three [climatological divisions](#) across the state (Western, Northeastern and Southeastern). The Western division is a relatively narrow band running the full length of the state west of the Green Mountains. It is least affected by the Atlantic Ocean influences. The Northeastern division is the largest of the three and includes the northeastern, north-central and east-central parts of Vermont with the exception of a narrow segment along the Connecticut River Valley in the east-central region. This latter segment is included in the Southeastern Division due to its lower elevation.

[Winds](#) come primarily from the west, so that Vermont can be said to lie in the “prevailing westerlies”. In winter, this is primarily a northwesterly flow that becomes southwesterly during the summer. The local wind flow is influenced by the topography such that many areas have prevailing winds that blow parallel to a valley. The contrasting air brought into the region by the westerlies interacts to produce low-pressure storm systems. Relative to most other sections of the country, a large number of these storms pass over or near to Vermont. The air masses that affect the state tend to be a) cold, dry air from the North American subarctic, b) warm, moist air from the Gulf of Mexico and other subtropical waters, and c) cool, damp air from the North Atlantic Ocean. The [pathways of the air masses](#) passing through Vermont are constantly changing so that the origins of our air today may be very different from tomorrow.

There is no single controlling factor in the weather regime, but rather a variety of weather patterns. Thus, weather averages alone are usually insufficient for important planning purposes. Typically, the movement of the above mentioned contrasting air masses and the relatively frequent passage of low pressure systems leads to a bi-weekly alternation from fair to [cloudy](#) or stormy conditions, often with abrupt changes in temperature,

moisture, [sunshine](#), wind direction and speed. This sequence is neither regular nor persistent, and weather patterns can remain the same for several days or even weeks. Vermont weather is therefore changeable, both on the short and long time scales. A given month or season will display varying characteristics over the years, but a normal month or season tends to be the exception rather than the rule.

● **TEMPERATURE**

[Average temperatures](#) vary according to factors like the elevation, slope and local features such as urbanization. As of 1994, the lowest temperature on record was -50 F on December 30, 1933 at Bloomfield (elevation 915 feet). The highest temperature on record of 105 F occurred at Vernon (elevation 310 feet) on July 4, 1911.

Summer temperatures tend to be uniform across the state. The frequency of days during which the maximum reaches at least 90 F varies with location and from year to year. Such high daytime readings can be followed by nighttime temperatures of 60 F or lower. The average daily temperature range is 20 -30 F, with more variation observed in the southern parts of the state than the north.

[Winter temperatures](#) vary more than their summer counterparts from one place to the next. The daily temperature range of about 20 F is much less than the summer range. Many locations experience sub-zero days on a regular basis.

● **PRECIPITATION**

[Precipitation](#) is received throughout the year, although in the northern and western sections of the state the winter amounts are somewhat less than those observed during the summer. The influence of the North Atlantic Ocean on the [precipitation regimes](#) is best observed in southeastern Vermont, becoming weaker with increasing distance from the ocean. Most of the precipitation is generated by frontal systems. During the summer, thunderstorms are responsible for the heaviest local rainfall intensities. Road washouts, flooding and soil erosion are occasional effects of such storms.

Freezing rain occasionally occurs, sometimes more than once per winter in certain regions. In January 1998, a widespread icing event took place across the northwestern part of Vermont, surrounding New England states and southernmost parts of three Canadian provinces. Although 2.11 inches of rain were received on January 8, 1998 at the peak of this ice storm, the record daily total stands at 8.77 inches on November 3-4, at Somerset during the 1927 flood.

● **SNOWFALL**

Yearly [snowfall totals](#) vary except along parts of the Connecticut River Valley and the western division where typical values range from 55 to 65 inches. Totals vary dramatically with elevation over short distances. Large differences are also observed from one season to the next, from one location to the next as well as for the same month over different years. During most winters, several snowstorms of 5 inches or more are to be expected.

Blizzards of a variety of magnitudes have been observed, ranging from the Great

Blizzard of 1888 to the Super Storm of 1993. On February 25, 1969 33 inches of snow were recorded at St. Johnsbury. Many of the more severe blizzards tend to be nor'easters which generate very strong winds, heavy rain or snow.

Other types of severe weather tend to be less common. Among these are tornadoes, with the most recent outbreak being observed near Bennington in June 1998. The most notable tornado occurred on June 23, 1782 which crossed the southern part of the state and entered New Hampshire near Weathersfield.



[Vermont State Climatologist homepage](#)

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