



## Weather and Climate

Climate and weather are not the same!

Climate is a general term to express broad patterns—for example, Colorado's climate is sunny with warm summers and cold winters.

Weather applies to specific movements of air masses, levels of precipitation, and temperature fluctuations at specific times of the year.

With the Continental Divide running northwest to southeast through the center of the park, two distinct weather and climate patterns are created. Typical of the east (Estes Park) side is a dryer, semi-arid climate with annual precipitation of approximately 13 inches. The west (Grand Lake) side is marked by a moister climate with almost 20 inches of annual precipitation.

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### Altitude

The high country of Rocky Mountain National Park has extreme weather patterns caused by the altitude and arctic-like conditions of the alpine tundra on Longs Peak and along Trail Ridge Road.

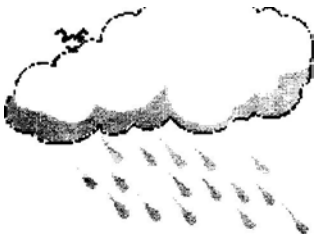
The weather can change very rapidly with little warning!

It may snow even in July. In the subalpine areas, such as at Bear Lake—9,475 feet (2,888 *m*)—the weather can be very severe at any time of the year.

Below 9,400 feet (2,865 *m*) the weather is usually more moderate. A wide variation between day and night temperatures is also typical of mountain weather.

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### Seasonal Patterns Winter and Spring



#### Winter (December, January, February, March)

Lower elevations on the east slope of Rocky Mountain National Park are usually free of deep snow. At higher elevations arctic conditions prevail. Sudden blizzards, high winds, and deep snowpack are common. The west side of the park experiences more snow, less wind, and clear cold days during these months.

#### Spring (April and May)

Spring comes to the montane environs—elevations 8,000 feet to 9,500 feet (2,438 to 2,895 *m*)—in late April, although snowfall is not uncommon at this time of year. Unpredictable weather alternates between warm and cold, wet and dry. In June spring is just reaching the subalpine country—9,500 feet to 11,500 feet (2,895 to 3,505 *m*)—while summer is on the plains.

Wildflowers begin blooming at lower elevations in late April or early May, while many trails are still snow-covered. Usually in late May Trail Ridge Road opens for the season.

## Seasonal Patterns

### Summer and Fall

#### Summer (June, July, August)

On the alpine tundra—11,500 feet to 13,000 feet (3,505 to 3,962 m) wildflowers bloom from late June to mid-July. Summer days in July and August often reach the 70s or 80s and drop into the 40s at night. Afternoon thunderstorms are a normal pattern throughout the park. Be prepared for temperature drops of 10-20°.

#### Fall (September, October, November)

September and October bring clear, crisp air, blue skies, and generally dry weather. An early snowstorm may occur. Aspen leaves usually start changing colors by mid-September. Elk mating season begins in September and continues through most of October. Trail Ridge Road usually closes for the winter by mid-October.

## Monthly Weather Summary



**January** is the coldest month. At Bear Lake (9,475 feet/2,888m) there is normally a base of 25 feet of snow.

**February** can bring gusty winds and an average snowfall of 10.6 inches..

**March** receives more moisture than January and February, usually in the form of snow.

**April** is often a wet month with one or two inches of precipitation—rain at lower elevations and snow higher up. Trails are still snow covered.

**May** finds the lower elevations snow-free, but snowstorms still occur. Precipitation is generally less than one inch. A pattern of afternoon showers, typical of this region, begins and lasts through summer.

**June** receives an inch or more of rain. Snow remains on Longs Peak and on other high mountains.

**July** is the warmest month. An inch or more of rain falls. Old Fall River Road opens by July 4th.

**August**, the wettest month, can average two inches of rain. Cold fronts occur late in the month.

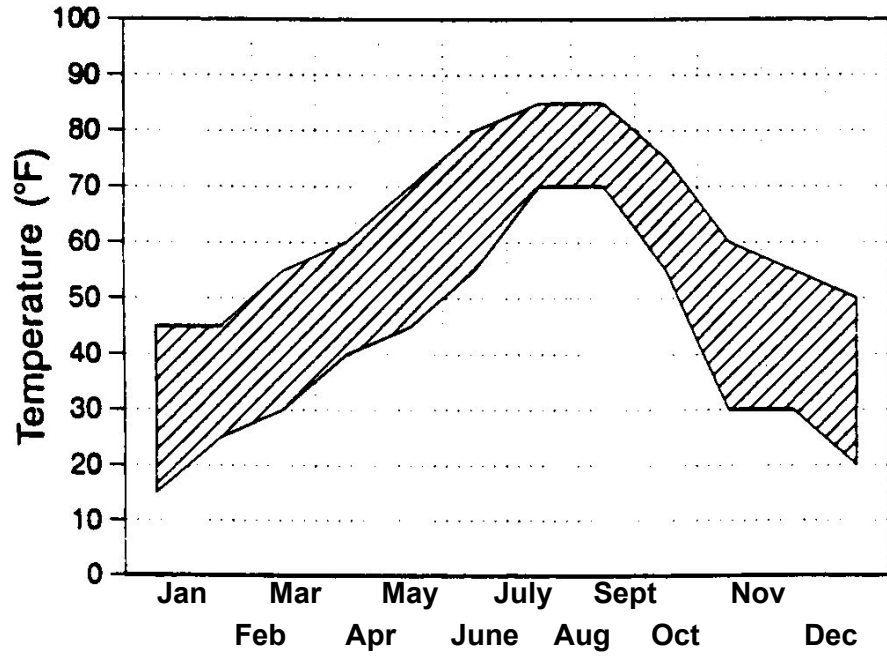
**September** weather is a mix of rain and snow. Trail Ridge Road may close temporarily. Normally Old Fall River Road closes by the end of the month.

**October** brings an inch or more of precipitation to the mountains with most falling on the west side. Trail Ridge Road usually closes for the winter about mid-month.

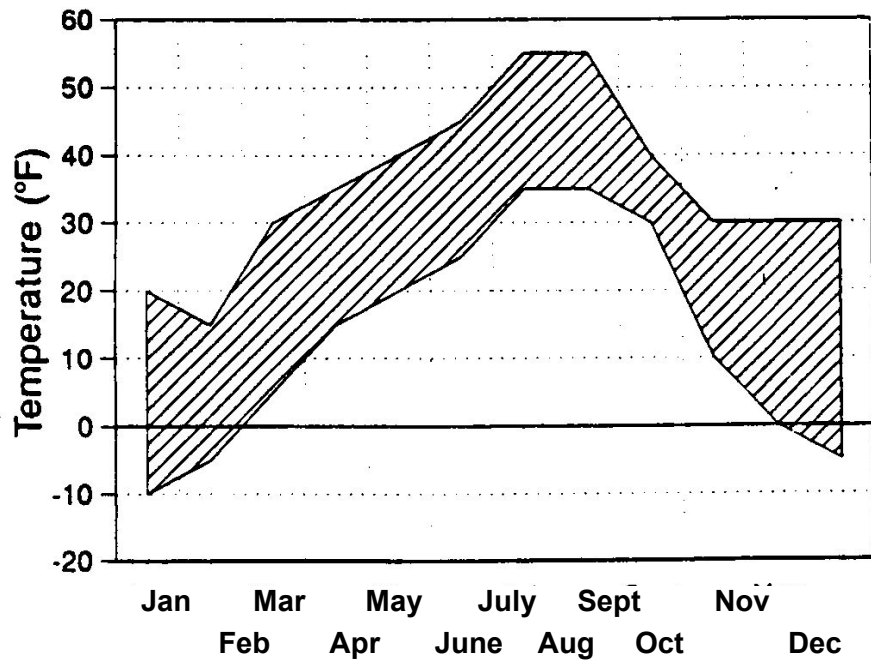
**November** precipitation, in the form of snow, is usually light early in the month with a chance of heavier snowfall late in the month.

**December** snowfall is typically sparse. Gusty winds prevail. Temperatures are quite variable.

## Average Range of Daytime Temperatures



## Average Range of Nighttime Temperatures



**High country travelers need to heed the dangers of thunderstorms and lightning during the summer months.**

Park information is available at 970-586-1206 or on-line at [www.nps.gov/romo](http://www.nps.gov/romo)

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