

# Weather and Climate of Mt. Charleston

Mt. Charleston is the highest elevation in far southern Nevada at 11,918 feet and thus the tallest of the Spring Mountains. Weather conditions can vary greatly on the mountain depending on elevation, orientation of terrain and location, and also differ tremendously from the nearby valley floors. Temperatures can vary by 3°F to 5°F for each thousand feet (1°C to 3°C for every 304 meters).

The lower elevations of Mt. Charleston are generally drier and warmer than those higher up. Because of its' considerable height, Mt. Charleston is able to intersect much of the moisture that moves in from Pacific storm systems. As a result, storms passing through southern Nevada originating from the Pacific tend to produce much more precipitation on Mt. Charleston than in nearby valleys. Sometimes precipitation from these storms will only fall on Mt. Charleston while surrounding valleys remain dry and even sunny. In the summer months when monsoon moisture moves into the area and heating of an unstable air mass occurs, thunderstorms tend to build over the higher terrain first. As a result, storms often develop earlier in the day over Mt. Charleston than in nearby lower elevations.

## Temperatures, Precipitation and Snowfall

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year
<b>Avg. High</b>	43.2°F 6.2°C	43.6°F 6.4°C	47.6°F 8.7°C	54.3°F 12.4°C	63.9°F 17.7°C	72.9°F 22.7°C	78.0°F 25.5°C	77.3°F 25.2°C	70.8°F 21.6°C	60.2°F 15.7°C	50.5°F 10.3°C	44.4°F 6.9°C	59.0°F 15.0°C
<b>Avg. Low</b>	20.4°F -6.4°C	20.8°F -6.2°C	24.6°F -4.1°C	30.4°F -0.9°C	37.6°F 3.1°C	44.8°F 7.1°C	51.6°F 10.9°C	51.1°F 10.6°C	43.6°F 6.4°C	34.8°F 1.6°C	27.1°F -2.7°C	20.7°F -6.3°C	34.0°F 1.1°C
<b>Record High and Year</b>	70°F 21°C 1990	69°F 21°C 1989	73°F 23°C 1988	79°F 26°C 1989	86°F 30°C 1988	93°F 34°C 1986	98°F 37°C 1988	93°F 34°C 1986	90°F 32°C 1986	83°F 28°C 1989	79°F 26°C 1989	69°F 21°C 1989	98°F 37°C 1988
<b>Record Low and Year</b>	-11°F -24°C 1993	-15°F -26°C 1989	-4°F -20°C 1995	7°F -14°C 1999	11°F -12°C 1994	17°F -8°C 1995	31°F -1°C 1995	30°F -1°C 1995	17°F -8°C 1995	7°F -14°C 1994	-5°F -21°C 1994	-18°F -28°C 1990	-18°F -28°C 1990
<b>Normal Precip.</b>	3.92 in 0.99cm	3.70 in 1.30cm	2.44 in 0.76cm	1.01 in 0.30cm	0.65 in 0.08cm	0.27 in 0.13cm	2.10 in 0.18cm	2.66 in 0.33cm	1.44 in 0.53cm	1.89 in 0.18cm	1.23 in 0.46cm	3.76 in 0.76cm	25.07 in 5.99 cm
<b>Wettest Amount and Year</b>	14.45in 36.7cm 2005	13.87in 35.2cm 1993	11.23in 28.5cm 1995	4.50 in 11.4cm 1999	3.04 in 7.7 cm 1987	1.76 in 4.5 cm 1987	15.55in 39.5cm 1984	8.31 in 21.1cm 2005	9.81 in 24.9cm 1997	13.03in 33.1cm 2004	5.28 in 13.4cm 1996	19.00in 48.3cm 2010	41.12in 104.4cm 2005
<b>Driest Amount and Year</b>	0.06 in 0.20cm 2003	0.40 in 1.00cm 2002	0.18 in 0.50cm 1999	0.00 in 0.00cm 2008	Trace Trace 2007*	0.00 in 0.00cm 2014*	0.00 in 0.00cm 1993	0.00 in 0.00cm 2002	Trace Trace 2000*	0.00 in 0.00cm 2014	0.00 in 0.00cm 1999	0.00in 0.00cm 1950	11.87 in 30.10cm 1989
<b>Normal Snow</b>	21.9 in 55.6cm	28.1 in 71.4cm	18.9 in 48.0cm	6.3 in 16.0cm	2.1 in 5.3cm	0.3 in 0.8cm	Trace Trace	Trace Trace	Trace Trace	1.3 in 3.3cm	7.6 in 19.3cm	17.1 in 43.4cm	103.8 in 262.9cm
<b>Snowiest Ever and Year</b>	90.8 in 231 cm 1949	71.0 in 180 cm 2009	85.3 in 217 cm 1991	41.5 in 105 cm 1999	10.0 in 25 cm 1986	4.0 in 10 cm 1999	Trace Trace 2009*	Trace Trace 1989*	Trace Trace 2008*	17.0 in 43 cm 2004	28.0 in 71 cm 1984	61.5 in 156 cm 2010	189.5 in 481.3cm 2010
<b>Least Snowiest and Year</b>	Trace Trace 2013*	0.9 in 2.3 cm 2014	0.5 in 1.3 cm 1997*	0.0 in 0.0 cm 2008*	0.0 in 0.0 cm 2012*	0.0 in 0.0 cm 2015*	0.0 in 0.0 cm 2015*	0.0 in 0.0 cm 2015*	0.0 in 0.0 cm 2015*	0.0 in 0.0 cm 2014*	0.0 in 0.0 cm 2005*	0.0 in 0.0 cm 1999*	47.3 in 120.1cm 2007

\*Indicates a record was also set in previous years.

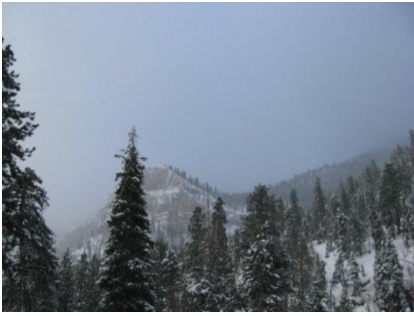
All weather statistics shown above are for Mt. Charleston and were obtained from the official National Weather Service weather station in Kyle Canyon located at 7450 feet. Averages and normals are based on the period from 1981 to 2010 and are provided by NOAA's National Centers for Environmental Information (NCEI).



Always be weather-ready before you venture out! You can get the latest weather for Mt. Charleston at: <http://www.weather.gov/lasvegas/>



# Mountain Meteorology



## Seasons In The Sun

Most people think of southern Nevada weather as being hot and dry, but Mt. Charleston provides a stark contrast. The four seasons are fully felt here with cold and snow, trees that bloom in the spring and shed their leaves in the fall and a summer that features mild to warm days with the occasional thunderstorm.

The high elevation of Mt. Charleston results in the change of the seasons being much more pronounced than in the nearby lower elevations. At up to 9,000 feet higher than the nearby valley floors, temperatures can vary greatly. The mountain's rugged terrain and height also enhances wind. It is not uncommon for gusts over 60 mph to be felt in the strongest cold season storms between October and May.

## Snow

For much of the year, the dominant type of precipitation on Mt. Charleston is snow. The normal seasonal snowfall at the official weather station for Mt. Charleston in Kyle Canyon at 7450 feet is 103.5 inches (262.9 cm). Considerably more snow falls in higher elevations of the mountain. The average winter storm will drop snow levels to between 5,000 and 6,000 feet. On average, the first snow of the season at the official weather station occurs on September 28<sup>th</sup> and the latest occurrence of the season takes place on May 12<sup>th</sup>.

On average, about 4 days a year Mt. Charleston sees 6 inches or more of snow fall at the official weather station. While snow is on the ground at the elevation of the official weather station most of the winter, there are periods where it can be completely gone especially in milder winters. Snow on the summit of Mt. Charleston is usually visible continuously from early November through mid-June before melting away entirely. Trails in higher canyons that are shadowed may see snow on them even in the spring weeks after the last snow has occurred, as many are shaded.



## Feel of Fall

Mt. Charleston is one of the few areas in far southern Nevada where aspen trees grow naturally. These trees typically are found at or above 7,000 feet in elevation and change their leaves, on average, during the last two weeks of September and the first two weeks of October depending on exposure.

## Summer Storms

Roughly 30 percent of the annual precipitation on Mt. Charleston comes from thunderstorms during the warm season. These storms can unleash heavy rain that can trigger flash floods and sometimes even landslides and mudslides. Lightning is also a hazard with these storms. Hikers in exposed areas above the tree line are especially at risk to lightning.

## Weather Timeline

- **1939** Weather station established at the Kyle Canyon Ranger Station.
- **1949** Kyle Canyon weather station relocated in January. The worst winter on record in southern Nevada in terms of the combination of cold and snow occurs; a total of 90.8 inches (230.6 cm) of snow falls in January alone setting an all-time monthly record for any month.
- **1969** Storm in late February unleashes heavy snow, pushing the depth on the ground to at least 168 inches (427 cm). The volume of snow triggers trees and power lines to fall down. An avalanche in Rainbow Canyon destroyed two homes, with a mother and son from one of those homes killed.
- **1980** Permanent weather station established in Kyle Canyon in May.
- **1983** July 1982-June 1983 is the least snowiest season ever with 30.2 (76.7 cm) of snow.
- **1988 Hottest temperature ever** of 98°F(37°C) recorded in July 21<sup>st</sup>.
- **1989 Driest year ever**, 11.87 inches (30.10 cm) of precipitation measured. **Warmest year ever**, average temperature of 49.1°F(9.5°C).
- **1990 Lowest temperature ever** of -18°F(-28°C) registered on December 22<sup>nd</sup>.
- **1995 Coldest year ever**, average temperature of 41.6°F(5.3°C).
- **2004** A total of 7.78 inches of rain falls in a 24 hour period on October, setting an all-time record for Nevada.
- **2005 Wettest year ever**, 41.12 inches (104.4 cm) of precipitation measured. July 2004-June 2005 is also the snowiest season on record with 213.5 inches (542.3 cm) of snow.
- **2010** A series of winter storms just before Christmas drops 44 inches (111.8 cm) of snow in Kyle Canyon and 96 inches (243.8 cm) at the Las Vegas Ski and Snowboard resort with damages totaling an estimated half a million dollars. Power lines and trees were downed and 3 avalanches occurred.
- **2013** Carpenter 1 Fire starts by lightning on July 1<sup>st</sup> and burns nearly 28,000 acres.