Austin Climate Summary

Austin is located in central Texas at the junction of the Colorado River and the Balcones escarpment, separating the Texas Hill Country from the prairies to the east. Elevations within the city limits vary from 400 feet in the east/southeast to just above 1000 feet above sea level on the northwest side as you begin to enter into the Hill Country. Given these large changes in elevation, weather conditions at any one time can sometimes differ between various sectors of the city and metro area.

Austin belongs to the Humid Subtropical Climate under the Koppen Climate Classification. This climate is characterized by long, hot summers and short, mild winters, with warm spring and fall transitional periods. Austin averages around 35.5 inches of rainfall per year, with May, October, and June being the wettest months of the year, in that order.

Austin has two automated surface observation system (ASOS) sites. The official climate site for the city of Austin is currently located at Camp Mabry near MoPac and W 35th Street, just 3.4 miles northwest of the State Capitol in downtown Austin. The period of record for this site goes back to September 1891 for precipitation data and January 1897 for temperature data. The other ASOS site is located at Austin Bergstrom International Airport. The period of record at Bergstrom goes back to October 1942. This site is located in a low lying area in the drainage basin of the Onion Creek. Because of this, the overnight low temperature in the wintertime under clear skies can sometimes be 10 degrees colder at Austin Bergstrom compared to Austin Camp Mabry. The distance between the ASOS sites is only 10.7 miles.

Winter in Austin is typically characterized by relatively mild temperatures and a general lack of precipitation. During winter, the area is alternately influenced by a continental air mass regime, with winds from the north and west and drier air, and by a modified maritime air mass regime, with south and southeast winds and moist air from the Gulf of Mexico. Mild weather prevails during most of the winter. January is the coldest month of the year, with normal highs in the low 60s and normal lows in the low 40s. Sub-freezing temperatures occur on average about 12 days per year at Camp Mabry but 33 days at Bergstrom. Very strong arctic fronts will occasionally usher in frigid conditions to central Texas. The coldest low in recorded history was -2 on January 31, 1949. Significant wintry precipitation, in the form of freezing rain, sleet, or snow, impacts the Austin area on average about once every two years (significant meaning enough to cause large impacts to travel, etc.). The largest snowstorm on record occurred on November 22-23, 1937, in which 11 inches of snow was recorded. The most recent snowstorm occurred on February 14-15, 2021, in which 6.4 inches of snow fell at both Austin Bergstrom International Airport and Austin Mabry. Normal winter (DJF) precipitation is 7.25 inches, which comprises about 20% of the yearly precipitation. It is not particularly uncommon for there to be very warm days in winter in Austin. The hottest winter day on record was February 21, 1996, in which Austin reached 99 degrees. Late winter is also typically the peak of fire weather season across the area. Very dry air and gusty northerly winds that filter into the region behind passing cold fronts, as well as the generally dry conditions, create favorable conditions for wildfires.

Summers in Austin are long and hot. Normal highs reach 90 degrees by May 26th and remain above 90 until September 23rd . Temperatures reach their peak in the first half of August, with normal highs in the upper 90s and lows in the mid-70s. The hottest temperature on record is 112 degrees, which was reached on September 5th, 2000 and again on August 28th, 2011. Normal summer overnight lows range from the low to mid 70s. Southeast winds transporting moisture from the Gulf of Mexico can increase

humidity values, taking heat indices up above 110 degrees on occasion. The hottest summer and second hottest year on record occurred in 2011, in which there were 90 days with temperatures reaching or exceeding 100 degrees. June is now the third wettest month of the year, with an average of 3.68 inches of rain. July and August tend to be relatively dry. Normal summer (JJA) precipitation is 8.38 inches, comprising about 23% of the yearly precipitation.

Precipitation is relatively evenly distributed throughout the year with heaviest amounts occurring in May, October, and June, in that order. Precipitation in the spring and summer usually results from thunderstorms. Thunderstorms in Austin can be very efficient rainmakers, with large amounts of rain falling within short periods of time. Rainfall amounts have exceeded 5 inches in several hours. The record for two-day rainfall occurred on September 9-10, 1921, in which 19.03" of rain fell. Austin is located in a region known as Flash Flood Alley, and has a history of devastating flash floods. Rainfall in the late summer and fall is typically controlled largely by any land-falling tropical weather systems. Average yearly rainfall is 36.25 inches. Extremes vary from 11.42 inches in 1954 to 65.31 inches in 1919.

Prevailing winds are typically southerly; however, in winter, northerly winds are about as frequent as those from the south, depending on the frequency of passing cold fronts through the region.

Average sunshine varies from about 50 percent in the winter to near 75 percent in the summer. Low stratus clouds frequently develop at night and in the early morning hours during all seasons with south and southeast winds, as Gulf moisture is lifted from the coastal plains to the higher terrain over the Balcones Escarpment. On some days, these clouds do not dissipate, persisting all day. In the winter, these stratus clouds may be accompanied by fog and drizzle, as south and southeast winds brings Gulf moisture over the top of a shallow layer of cold air at the surface.

Looking at the 120+ year period of record, the average occurrence of the first freeze is November 29th and the average occurrence of the last freeze is February 25th. Over just the 30 years from 1991-2020, the average first freeze is on December 1st and the average last freeze is much earlier, on February 15th. The earliest first freeze on record was October 26, 1924 and the latest last freeze was on April 9, 1914.

The average occurrence of the first 100 degree day is July 9th and the average occurrence of the last 100 degree day is August 21st, although over the last 30 years this average is August 30th. The earliest 100 degree day on record was May 4, 1984 and the latest 100 degree day on record was on October 2, 1938.

The severe weather season in Austin occurs primarily March through May. The majority of severe weather comes in the form of large hail and strong winds. Tornadoes are not particularly common, but do occur on occasion. The vast majority of these tornadoes are relatively weak, ranging from EF0 to EF-1 on the Enhanced Fujita Scale. However, incidentally the last F/EF-5 tornado to occur in the state of Texas occurred in Jarrell, TX, just north of Austin in Williamson County, on May 27, 1997.

Tropical storms impact Austin on rare occasion. The primary threat to the Austin region from tropical storms is heavy rain causing flooding. The most recent tropical storm to impact Austin was Hurricane/Tropical Storm Harvey in late August 2017. Austin Camp Mabry received 7.94 inches of rain from Harvey while Austin Bergstrom received 10.07 inches of rain.

The hottest year on record in Austin occurred in 2017, with an average temperature of 72.1 degrees.
The coldest year on record in Austin occurred in 1899, with an average temperature of 65.8 degrees.