

The Climate of Asheville, North Carolina¹

The city of Asheville is located on both banks of the French Broad River, near the center of the French Broad Basin. Two miles upstream from the principal section of Asheville, the Swannanoa River joins the French Broad River from the east. The entire valley is known as the Asheville Plateau, having an average elevation near 2,200 feet above sea level, and is flanked by mountain ridges to the east and west, whose peaks range from 2,000 to 4,400 feet above the valley floor. At the Carolina-Tennessee border, about 25 miles north-northwest of Asheville, a relatively high ridge of mountains blocks the northern end of the valley. Thirty miles south, the Blue Ridge Mountains form an escarpment, having a general elevation of about 2,700 feet above sea level. The tallest peaks near Asheville are Mt. Mitchell, (which is also the highest peak in the eastern states, 6,684 feet above sea level, 20 miles northeast of the city) and Big Pisgah Mountain (5,721 feet above sea level, 16 miles to the southwest).

Asheville has a temperate, but invigorating climate. Considerable variation in temperature often occurs from day-to-day in summer, as well as during the other seasons. The growing season in this area is of sufficient length for commercial crops, the average length of the frost-free period being about 195 days. The average last occurrence in spring of a temperature 32°F or lower is mid-April, and the average first occurrence in fall of 32°F or lower is late October.

The orientation of the French Broad Valley appears to have a pronounced influence on the wind direction. Prevailing winds are from the northwest during all months of the year. Also, the shielding effect of the nearby mountain barriers apparently has a direct bearing on the annual amount of precipitation received in this vicinity. In an area northwest of Asheville, the average annual precipitation is the lowest in North Carolina. Precipitation increases sharply in all other directions, especially the south and southwest.

Destructive events caused directly by meteorological conditions are infrequent. The most frequent, occurring at approximately 12-year intervals, are floods on the French Broad River. These floods are usually associated with heavy rains caused by storms moving out of the Gulf of Mexico. Snowstorms which have seriously disrupted normal life are infrequent. Hailstorms that cause property damage are extremely rare.

¹: Extracted from 2016 Local Climatological Data: Annual Summaries with Comparative Data for Asheville published by NOAA/NESDIS National Centers for Environmental Information (NCEI).

Wind Chill Factor (Equivalent Temperature) Table

Wind speed (mph)	Observed Air Temperature (°F)						
	-20	-10	0	10	20	30	40
0	-20	-10	0	10	20	30	40
10	-41	-28	-16	-4	9	21	34
20	-48	-35	-22	-9	4	17	30
30	-53	-39	-26	-12	1	15	28
40	-57	-43	-29	-15	-1	13	27

Heat Index (Apparent Temperature) Table

Relative humidity (%)	Observed Air Temperature (°F)				
	75	80	85	90	95
60	76	82	90	100	114
70	77	85	93	106	124
80	78	86	97	113	136
90	79	88	102	122	
100	80	91	108		