

Climate Synopsis For Mississippi

In its broader aspects the climate of Mississippi is determined by the huge landmass to the north, its subtropical latitude, and the Gulf of Mexico to the south, but modifications are introduced by the varied topography. In the warm season (May through September), prevailing southerly winds pumped in by the Bermuda High provide a moist, semitropical climate, with conditions often favorable for afternoon thunderstorms, sometimes accompanied by violent winds. The high humidity and hot days and nights (particularly in the interior) produce discomfort at times, with thunderstorms being the principal relief from the heat. These conditions are occasionally interrupted by northerly or westerly winds which tend to bring hotter, drier conditions.

In the cold season the state is alternately subjected to warm tropical air and cold continental air, in periods of varying length. However, cold spells seldom last more than 3 or 4 days. Although slowly warmed by its southward journey, the cold air occasionally brings large and sudden drops in temperature. Sometimes in winter the Bermuda High is located far enough west to provide a barrier to this air, bringing subtropical influences to the southern counties and occasionally to the entire state.

Average annual temperatures range from 62F in the north to 68F along the coast. Winter temperatures range approximately from 40F in the north-central areas to around 50F at the coast. In summer, temperatures across the state average in the low 80s. There is a strong moderating effect of the Gulf of Mexico: the number of days above 90F is approximately 55 per year on the immediate coast and rises to over 100 per year just one county inland. Freezing temperatures occur approximately 10 times per year on the gulf coast, increasing to around 60 per year in the north.

Mean annual precipitation ranges from about 50 inches in the northwest to 65 inches in the southeast. During the winter, the precipitation maximum is centered over the northern and western counties, arising from frontal activity associated with mid-latitude cyclones and the cold continental air. In summer, the precipitation maximum shifts to the coastal counties and is associated with thunderstorms and the onshore flow of moist tropical air. The period of greatest rainfall is November through June, and the fall months tend to be the driest.

Thunderstorms occur on an average of 50 to 60 days per year in the northern districts and 70 to 80 days per year near the coast. July has the highest frequency of thunderstorms, with the least number reported in December. In late fall, winter, and early spring, thunderstorms are generally associated with passing weather systems. These storms can occur at any time of day and are more apt than summer storms to produce high winds. Warm season thunderstorms are generally caused by surface heating of the moist, unstable, subtropical air mass, and are most likely to occur in the daytime, especially in the afternoon. Tornadoes can also pose a danger, with an average of 23 occurring in the state annually, mainly in the spring.

Tropical storms can have significant impacts on the state during the warm season, particularly near the coast. Cyclones weaken as they move inland, so wind damage is usually confined to the coastal regions, while damage inland comes from heavy rain and flooding. In extreme cases, tropical storms can deliver 20 inches or more of rainfall over just a few days, as well as associated storm surge and erosion (along the coast), tornadoes, and high winds.

Adapted from: Climatology of the United States, No. 60, *National Climatic Center*