

# *Alabama's Climate*

THE COCORAHS 'STATE CLIMATES' SERIES

## **The Climate of Alabama: - It's the Humidity!**

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The relatively confined waters of the Gulf of Mexico allow this body of water to reach very warm temperatures, especially in late summer. As a state which touches the Gulf, Alabama's climate is in large part driven by the moisture that evaporates from these waters, providing humid air which bathes the state for much of the year. With abundant moisture available, Alabama's average annual precipitation totals about 54 inches. Rain is most plentiful in winter through early summer with a relatively dry period August to October when on average "only" 11 inches falls in these three months. Snow falls in most years in the northern half of the state, where annual averages run about 1 to 4 inches, though over 20 inches fell in one storm in 1963 and nearly 20 inches in the "Storm of the Century" in March 1993.

The heaviest rain events in Alabama result from tropical storms and hurricanes. One such memorable storm was Hurricane Danny in 1997, which stalled over Mobile Bay and dumped 32.52 inches in 24 hours on the Dauphin Island Sea Lab situated on a barrier island. A careful examination of the data suggests that high winds across the rain gauge created a serious underestimate of the total, by as much as 50%! Even at 32.52 inches, this is the greatest 24-hour total recorded at an officially established weather station in the coterminous U.S., though a few other events of greater magnitude have been recorded.

Though not often, Arctic air does push southward to the state on occasion. Below-zero temperatures occur every few years with the coldest being -27F at New Market in 1966. Being a state entirely south of the 35th parallel, one would think Alabama's summer temperatures would be near the highest in the country. However, Alabama's record high temperatures are lower than two-thirds of the other states due to the always-present moisture in the thick, natural forest vegetation. As such, the sun's energy used to increase the temperature is constrained from doing so because it also evaporates moisture. The hottest day was 112F in 1925.

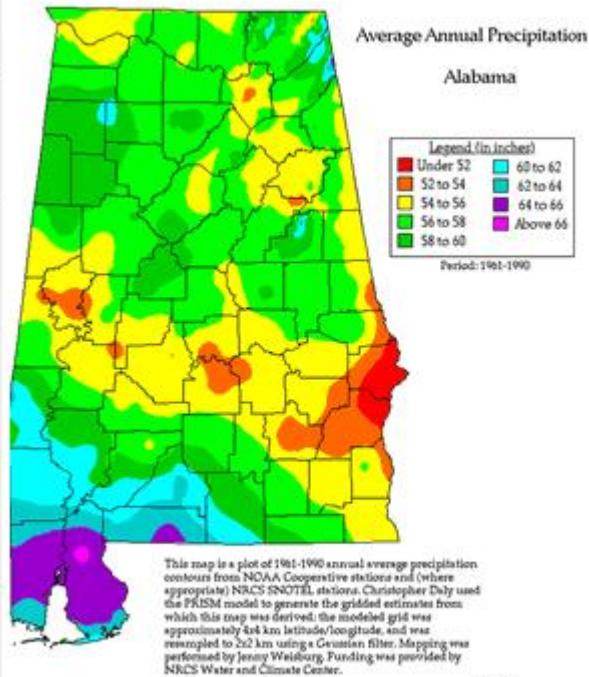
With exposure to cold air masses from the north and the humid southerly breezes from the warm Gulf, Alabama sees its share of both tornadoes and hurricanes. Though most tornadoes are small, on average 22 touch down in the state each year. Alabama feels the effects of many land-falling Gulf hurricanes somewhere in the state since most storms that make land-fall at or to the west of Alabama's coast tend to curve north, then northeast, and travel across the state. Of course the destructive impacts of these are much reduced when far from the coast.

Alabama's humid-subtropical climate with access to continental polar outbreaks makes for some exciting weather events across the state.

For more information on Alabama's Climate, visit the Alabama Office of State Climatology at: <http://nsstc.uah.edu/aosc/>.

To learn more about the "Climates of our Fifty States" and view past state climate messages, visit our [50 States Climate Page](#).

Join us on Saturday, as we look at the next state in our series: Florida



This map is a plot of 1961-1990 annual average precipitation contours from NOAA Cooperative stations and (where appropriate) NRCS SNOTEL stations. Christopher Daly used the PRISM model to generate the gridded estimates from which this map was derived; the modeled grid was approximately 4-km latitude/longitude, and was resampled to 2-km using a Gaussian filter. Mapping was performed by Jenny Weinberg. Funding was provided by NRCS Water and Climate Center.

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Precipitation Map Generated by PRISM