New Jersey's Climate

THE COCORAHS 'STATE CLIMATES' SERIES

A Jersey Sampler

By Dave Robinson, NJ State Climatologist

New Jersey's middle latitude and East Coast location results in four relatively well defined seasons, each with an interesting array of weather and climate events. Fortunately, the adjacent Atlantic most often assists in keeping the worst extremes in check, be it a thunderstorm, hurricane, blizzard, drought, heat wave, or cold spell. The northwestern corner of the state is coldest, snowiest, and wettest. The central and northeastern areas are warmer and less snowy and wet than to the northwest. The southwest is warmest, due to its low elevation, lower latitude and distance from the ocean. Precipitation and snow are lower than in central and north New Jersey. Thanks in part to the sandy soil, the interior south Jersey Pine Barrens experience some of the largest day-to-night temperature fluctuations. Precipitation and snow is close to that of the southwest region. The coastal zone is strongly influenced by the Atlantic, resulting in a moderation of high temperatures in summer and low temperatures in winter. Precipitation and snow are lower than elsewhere in the state.

Regional differences result in annual precipitation at Cooperative observing stations, ranging from approximately 38" to 53", snowfall from 12" to 60", average July maximum temperatures from 79F to 88F, and January minimums from 12F to 29F. Over the past century, temperature extremes have ranged from -34F to 110F, and as much as 22.40" of rain has fallen in 24 hours and 34" of snow has fallen in a single event.

Statewide annual precipitation averages 47.20” (1971-2000) and since 1895 has ranged from 29.36” in 1965 to 59.98” in 1996. The wettest 12 consecutive months of precipitation occurred between April 2009 and March 2010, totaling 66.35”. The average annual mean temperature is 52.7F and has ranged between 48.7F in 1904 and 55.6F in 1998. New Jersey has gotten warmer in recent decades, with 8 of the warmest 11 years occurring since 1990. So too, has the Garden State gotten wetter, with average precipitation since 1970, some 3.73” (8.5%) greater than over the previous 75 years. 8 of the wettest 11 years have occurred during the more recent period.

Winter brings frequent low-pressure systems close to the state, including a fair share of strong nor’easters that can bring multiple feet of snow and coastal flooding. At times, extremely cold arctic air may invade the region. Spring and fall may bring winter- type weather along with periods of summer heat and severe thunderstorms. A New Jersey summer without several weeks of heat and humidity is rare. Day-long storms are unusual; however, conditions frequently are ripe for thunderstorms, which may bring flooding rains, strong winds, dangerous lightning, and hail. While land-falling tropical systems are rare, New Jersey is no stranger to tidal and river flooding and strong winds associated with these storms as they pass close by.

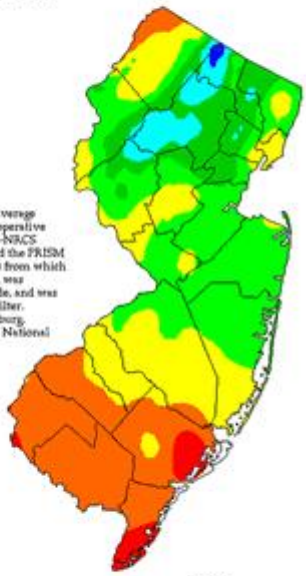
More information about NJ climate can be found at the Office of the New Jersey State Climatologist (http://climate.rutgers.edu/stateclim).

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

Average Annual Precipitation

New Jersey

This map is a plot of 1961-1990 annual average precipitation contours from NOAA Cooperative stations and (where appropriate) USDA-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 4x4 km latitude/longitude, and was resampled to 2x2 km using a Gaussian filter. Mapping was performed by Jenny Weisburg. Funding was provided by USDA-NRCS National Water and Climate Center.



Legend (in inches)

Under 42	48 to 50
42 to 44	50 to 52
44 to 46	52 to 54
46 to 48	Above 54

Period: 1961-1990

12/8/97

Precipitation Map Generated by PRISM