CLIMATE AND WEATHER

Climate is often stated to be one of Florida's most important resources. Although the state is located at the same latitude as some of the world's major deserts, Florida is one of the wettest states in the country. Its average rainfall per year is 53 inches; only Alabama has this same amount, and both are exceeded only by the 55-inch average of Louisiana. Florida has many unique rainfall characteristics in addition to being one of the wettest states. For example, it is first or tied for first in the nation in the following categories: proportion of summer versus winter rainfall; percentage of the months of June through September in which rainfall exceeds four inches; rainfall in the average wettest month; difference in rainfall between the average wettest and driest months; and maximum expected 30-minute rainfall.

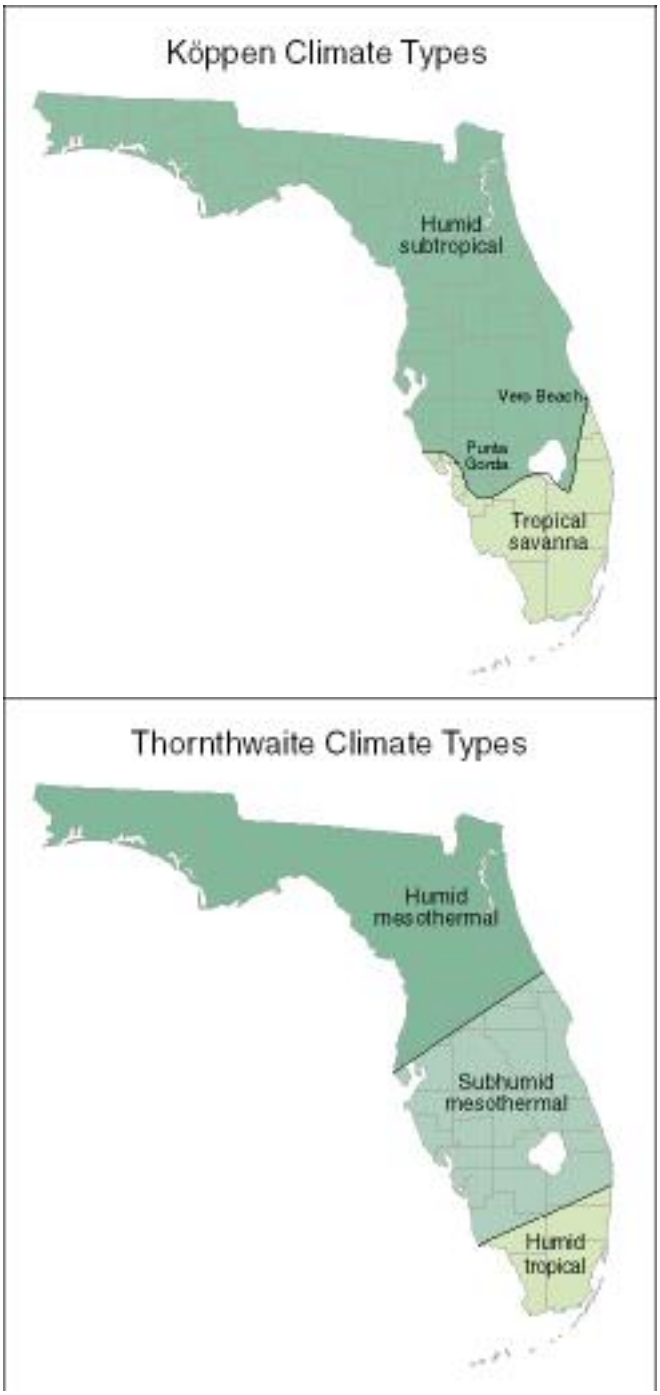
Despite the fact that Florida is a low peninsula with a relatively homogeneous topographic nature, extending over just six and one-half degrees of latitude, it is not uniform in rainfall characteristics, or even in general climate types. The most commonly used climate classification, developed by Wladimir Köppen, divides the state into two major climate types. A tropical savanna, also called a tropical wet-and-dry climate, occurs in the southern portion of the peninsula and the Keys. Here all months average above 64½F and pronounced wet and dry seasons occur. The rainy season, typically June through September, has frequent afternoon thunderstorms and some months exceed 10 inches of rainfall. The dry season, winter, may have very little or no rainfall for weeks, occasionally for months. Extending along the coast from about Ft. Pierce to Miami is a transitional tropical climate, which has a relatively short dry season. The northern three-quarters of the state has a humid subtropical climate; this type covers much of the southeastern portion of the country. This climate is subtropical rather than tropical because some months have an average temperature of less than 64½F. Also, this part of Florida does not experience such a pronounced dry season as the tropical southern section.

Another climate classification, called the Thornthwaite system, is used frequently by water resource scientists and divides Florida into three types, rather than two. This system includes an indicator of precipitation effectiveness, which considers evapotranspiration as well as rainfall, and it is this indicator (not the humidity of the air) that determines the boundary between humid and subhumid climate types. As can be seen in the figure, the humid tropical class of the Thornthwaite system corresponds approximately with the tropical savanna of the Köppen system.

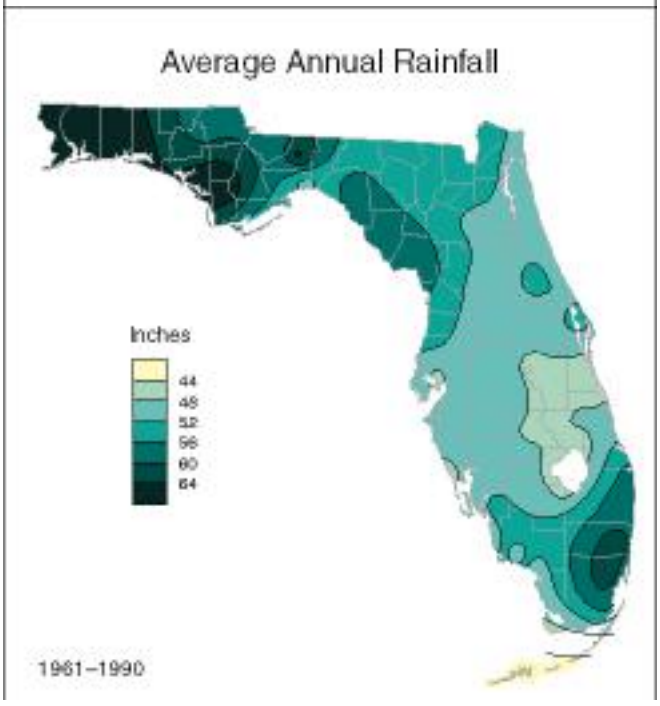
A third way of denoting regional climate distinctions is the climatological division scheme. Each division is, as nearly as possible, a region of relatively uniform climate within a state. The divisions, of which there are 344 in the conterminous states, are primarily modifications of the old U.S. Department of Agriculture crop reporting districts. Florida has seven climatological divisions, the names of which relate to their geographical location in the state. This approach yields boundaries that are very different from the Köppen and Thornthwaite classifications.

Although some rainfall data are reported on a climatological division basis, such as certain drought indices, nearly all data are for individual stations. Values for 95 stations in Florida are used to describe the climate of the state, emphasizing rainfall characteristics. To facilitate comparison of general climatic maps, international agreement has led to the use of what is called a climatic normal, which is an average of a climatic element, such as rainfall, over a 30-year period, ending with a decade. The averages are computed from the data for the preceding three decades. For some aspects, such as extremes and long-term trends, it is preferable to use all

data available for the entire period of collection for each station. Most stations in Florida have nearly complete records since 1948.




Climatological Divisions
Northwest
North
North Central
South Central
Everglades and SW Coast
Lower East Coast
Keys


Average Annual Rainfall
Inches
44
48
52
56
60
64
1961–1990

Study Questions

1. States that border on the Gulf Coast from Louisiana to Florida receive some of the highest amounts of annual rainfall in the United States. Can you think of another area in the conterminous United States that is known for its high amounts of annual rainfall?
2. What is the criteria used by the Koppen Climate Type model?
3. What is the criteria used by the Thornthwaite Climate Control model?
4. Look at the map of "Average Annual Rainfall." Which of the models is most like the annual rainfall map? Explain your answer.