



Florida's Population Center Migrates through History

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Throughout history Florida's population has continuously repositioned itself. At the time of the first census in 1830, Florida had only 34,730 people, concentrated primarily in the Panhandle region. By 2000, the population had grown to 15,982,824 people, and by 2005, the population estimate was 17,918,227, concentrated in the central and southern peninsula. This study will track the movement of the geographic center of Florida's population from 1830 to 2005. This movement will be illustrated by calculating and mapping the centroid of Florida's total population. Centroids of the Hispanic and 65-years-old-and-over populations will also be presented.

History of Florida's Population Growth

In 1830, Leon County with 6,494 people was Florida's most populous county. In 2005, there are 188 Florida cities more populous than the Leon County of 1830. Now there are 47 Florida counties each with more population than the entire state had in 1830, with Miami-Dade County alone having nearly 70 times the 1830 state population. Even now, Miami-Dade County has a larger population than lived in the state as late as 1940. Today in Florida there are more than 500 people for every person living here in 1830 and almost 10 people in Florida for every person in the state as late as 1940.

County boundaries changed significantly between most censuses prior to 1930. Originally, Alachua County stretched kite-like from Georgia to Charlotte Harbor. The 16 counties that existed in Florida in 1830 were gradually modified into today's 67 counties. Names changed. Mosquito County became the more appealing Orange County; Dade County, the state's most populous county today, became Miami-Dade County. In 1860 Miami-Dade County had all of 83 people, making it the least-populated county in the state. By 1890, Miami-Dade County had increased to 861 people but was still the least-populated county. However, 50 years later it became the most populous county in the state with a 1940 Census count of 267,739 people.

In the first half of the nineteenth century Florida, demographically speaking, was the Panhandle (defined here as Jefferson County and all counties to its west). The Panhandle had 70 percent of the state's population in 1830, but this proportion has declined over time to 7.5 percent in 2005.

Mirroring the Panhandle's decline in the proportion of Florida's population has been the increase in both south Florida's population and its percentage of the state population. In 1830, less than 2 percent of

the state's population (about 500 people) lived south of Lake Okeechobee. Today the area is home to nearly 6.5 million people or 35.8 percent of the state's population.

Methodology

Population data from 1830 to 2000 came from the decennial censuses conducted by the U.S. Census Bureau. The longitude and latitude for the geographic center of each of Florida's current 67 counties came from the U.S. Census Bureau. Prior to 1930 the county boundaries changed as the number of counties increased from 16 in 1830 to the current 67 established prior to 1930. Because of this change, the geographic center was estimated from historical maps. The population center, therefore, is only a rough approximation for the years 1830 to 1920. The 2005 county population estimates were made by the Bureau of Economic and Business Research at the University of Florida. The large seasonal population in Florida is excluded from this study. All census counts and population estimates are for only the permanent residents.

The centroid calculation is straightforward. First, the population in each county is divided by the total state population to determine the county's percentage of the state population. Next, this percentage is multiplied by the degrees longitude of the county's center. This is repeated for each county and the results are summed. The total identifies the degrees longitude of the centroid. Finally, the entire process is repeated using degrees latitude. This process is repeated for each population sub-group that is analyzed.

The geographical units used for this analysis are counties. Large county areas introduce some imprecision due to the assumption that the population is equally

distributed around the center point of each county. While this condition is approximated in some counties, in others it is clearly not the case. For example, the population of Miami-Dade County is concentrated in the northeast. The most common skewing of county population is a shift toward coastal locations. However, this is moderated by the offsetting effect of the dual coasts, the Gulf and the Atlantic.

The Census Bureau calculates national and state centroids using smaller geographic areas than the county used in this analysis. They also adjust for the shape of the earth by factoring in the decreasing distance between lines of longitude from the equator to the poles. Though this approach produces a more precise centroid, at the state level, the difference between the two methods is insignificant for the purpose of this study.

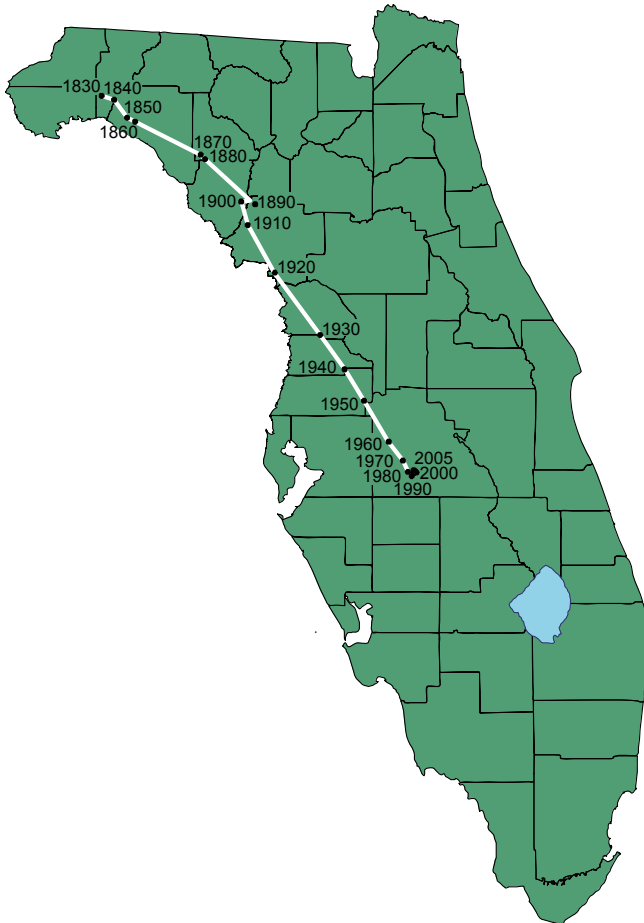
Florida's Population Centroid

The changing pattern of Florida's population can be visualized with population tables, graphs, or maps. An alternative representation of the geographic change of Florida's population is a map that tracks the movement of the center point of the population through time. This is called the *centroid*.

The population center, or centroid, is the point where the state would balance if each resident had an equal weight. For example, if a map of Florida was drawn on a piece of cardboard and identical weights were placed at the location where each person lives, the population centroid would be the point at which this weighted map would balance perfectly on the tip of a pencil.

This study tracks the movement of Florida's population center, or centroid. The total population center movement from 1830

to 2005 is displayed on [Map 1](#). In addition, [Map 2](#) shows the movement of the Hispanic population center from 1970 to 2000. On [Map 3](#), the centroid for the age 65-years-old-and-over population is mapped from 1940 to 2000.



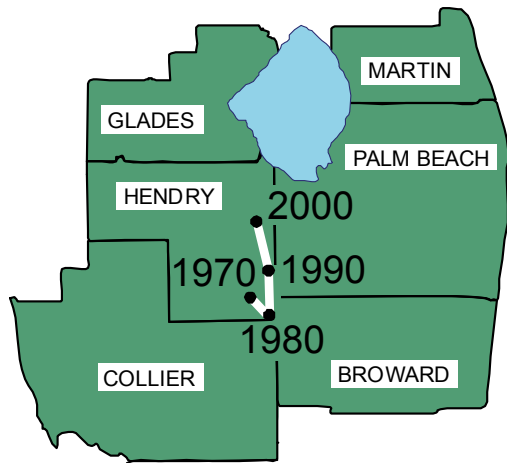
Map 1

The centroid for the total population of Florida ([Map 1](#)) moved to the southeast between 1830 and 2005, from Jefferson County to southwestern Polk County. From 1830 to 1900 the centroid moved southeasterly from Jefferson County to Dixie County as Florida's population increased from 34,730 to 528,540. As the state's population grew to 6,789,443 in 1970, the centroid continued its southeasterly trend but the movement to the south was more pronounced than the easterly component. In 1960, the centroid first moved into Polk County from

southeastern Pasco County where it was located in 1950. The movement began to slow after 1960 and by 1980 stalled. From 1980 to 2005, the centroid moved less than five miles to the east and approximately one mile to the north.

The movement of the centroid prior to 1900 reflects the gradual increase in settlement of areas of eastern and southern Florida that previously were sparsely settled. The only decade where the centroid moved to the west was between 1890 and 1900. This westward shift may be due in part to soldiers stationed at western Florida ports returning to live in familiar western areas of the state after the Spanish American War. The increased movement to the south after 1900 most likely reflects the growth of the railroads, highways and later to modern conveniences (air-conditioning) that allowed for the settlement of sub-tropical Florida. By the second half of the twentieth century, the central regions of the state started to experience higher growth rates, reflecting the growth in the tourist and service industries along with available space for development. As a result of this recent population growth in central Florida, the centroid stalled and even moved slightly to the north.

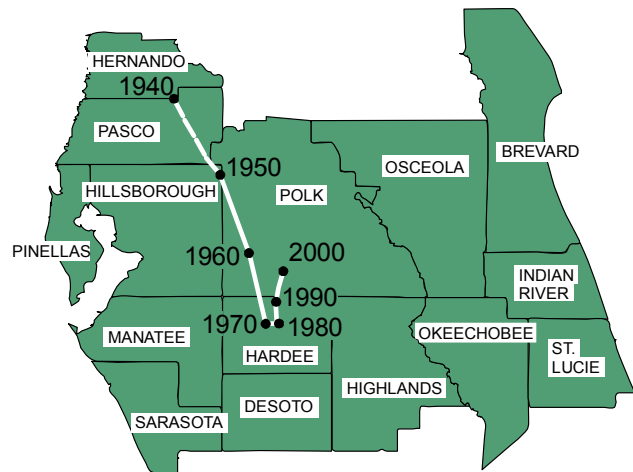
Two populations that are associated with Florida are the Hispanic and the 65-years-old-and-over populations. Florida's proximity to Cuba and Latin America has drawn large numbers of Hispanic migrants to the state in the last 50 years. Retirees have been coming to Florida for over a century. Consequently, the centroids of these two populations are mapped and discussed for more recent census years.



Map 2

The centroid of the Hispanic population is tracked from 1970 to 2000. Prior to 1970 ethnicity was not identified in the census. In 1970, the Hispanic centroid was located in southeastern Hendry County, approximately 100 miles to the southeast of the centroid for the total population. This reflected the high concentration of the Hispanic population in Miami-Dade County (68% of the state's total Hispanic population). The centroid remained in Hendry County through 2000 while the Hispanic population increased approximately six-fold from 434,019 in 1970 to 2,682,715 in 2000. Though the total Florida population more than doubled (135%) during the same time period, its growth was significantly less rapid than the growth of the Hispanic population. From 1970 to 1980, the Hispanic centroid moved a couple of miles to the south and then moved approximately five miles to the north by 1990. By 2000, it had moved about ten miles to the north into northeastern Hendry County. This move to the north corresponds to a decrease in the proportion of the total Hispanic population living in Miami-Dade County. While the 2000 Hispanic population was well over one million (1,291,727) in Miami-Dade, the percentage of the total state Hispanic population in Miami-Dade fell to below 50% as Hispanics moved to

Broward, Palm Beach and many of the counties to the north in central Florida.



Map 3

The older population centroid (65 years and older) is located in southern Polk County, slightly farther to the south from that of the total population, but much farther to the north than the Hispanic center. In 1950, the population center for the 65-years-old-and-over population was only slightly farther south and east than the total center. With cheap land, highway system improvements, and popularization of air-conditioning, the southeastern and southwestern coastal counties became attractive to retirees. In response, the centroid moved rapidly to the south from the northern Hillsborough/Polk County line in 1950 into central Hardee County by 1970. From 1970 to 1980, the southward movement stopped but the eastward movement continued in Hardee County. Then by 1990, the 65-years-old-and-over centroid had moved to the north. Continuing that northerly direction, it was eventually located back in south-central Polk County, again very close to the total population centroid. This northward movement probably measures the shift of retirees away from the southeastern counties. As those counties' populations become larger, more crowded, and less ideal for retirement, the older

populations are settling farther to the north in central and even northern Florida.

Conclusion

The centroid is a single visual measure whose movement over time helps to capture general population settlement patterns. One can quickly look at the movement of the centroid and sense the flow of population growth. Florida's population growth spreading from the panhandle to the southern peninsula can be seen in the sweeping southeasterly movement of Florida's population centroid on the map of the centroid from 1830 to 2005.

Since the first Florida census in 1830, the state has seen mostly continuous and

rapid growth. New residents originally arrived in the north and gradually settled the lower peninsula. As this settlement process proceeded, the center of population shifted southward. Now that the state contains nearly 18 million people, and new residents are arriving in large numbers to most areas of the state, the population center likely will remain in the general central Florida peninsula area.

Since the Hispanic population historically tended to settle in south Florida and move out from there, the northerly movement of the Hispanic centroid may continue mirroring the southward movement of the total population decades earlier.