▶ CASE STUDY

TRUE MAPS, FALSE IMPRESSIONS

GOAL

To interpret and critically evaluate maps, to understand how **scale** influences data representation on maps, and to recognize three types of map scale: representative fraction, verbal, and graphic. You will also learn how to represent data with different types of **thematic maps**—the **dot map**, the **isoline map**, the **choropleth map**, and the **proportional symbol map**—and see that your choice of map type profoundly influences the resulting spatial pattern.

LEARNING OUTCOMES

After completing the chapter, you will be able to:

- Convert map scale to real-world distances.
- Recognize choropleth, proportional symbol, isoline, and dot maps.
- Recognize that changing the scale and type of a map changes its message.
- Understand the difference between changing scale and changing level of aggregation.
- Use GIS to change the class limits on a choropleth map.
- Describe the geographic distribution of African-Americans in the United States.

SPECIAL MATERIALS NEEDED

- Calculator
- Computer with high-speed Internet access and a recent release of a Web browser. If using the Student Companion Site with the printed book, click on *Tech Support* for system requirements and technical support. (If using the e-book in WileyPlus, click on *Help* for details about the system requirements.)

BACKGROUND

Africans were first brought to what is now the United States between 1619 and 1808 as slaves to work on tobacco, rice, sugar, and cotton plantations, mostly in the South. Although the practice of bringing slaves into the country was made illegal in 1808, some smuggling of slaves continued further into the nineteenth century. Importation was replaced by programs of slave breeding and trade within the South. Although most slaves were concentrated in the South, a small number of slaves escaped to the North and other parts of the country, where they were represented across many walks of life. A free black man living in Baltimore was commissioned by Thomas Jefferson to survey the District of Columbia. Black cowboys, based in Texas, were well known on cattle drives throughout the West.

Many people are surprised to learn that African-Americans represented a sizable share of the U.S. population during the seventeenth and eighteenth centuries. At the time of the first census in 1790, one of every five residents of the new country was African-American. Concentrations were highest in southern states: 54 percent of South Carolina's population was African-American, 40 percent of Virginia's, 37 percent of Georgia's, 34 percent of North Carolina's, and 33 percent of Maryland's.

After emancipation in 1863, most African-Americans remained in the South, working as sharecroppers or tenants on white-owned cotton farms, barely getting by. Although the reasons to leave the South were compelling, including crushing poverty, antiblack terrorism, and a lack of civil rights, few actually left the region. Many black farmers were illiterate and therefore unaware of economic opportunities in other parts of the country. White landowners, desperate to preserve their favored way of life sustained by cheap black labor, promulgated an economic system that put sharecroppers in a position of permanent indebtedness, making departure illegal. In the late nineteenth century, Northern labor unions lobbied against the importation of African-Americans from the South, fearing it would depress their wages. They preferred European immigrants to meet the demand for new industrial workers in America's burgeoning manufacturing sector.

All of that changed after the end of World War I, beginning one of the most dramatic migration streams in U.S. history. At the turn of the twentieth century, 90 percent of the nation's African-American population lived in the South, mostly in the rural South. By 1970, barely 50 percent lived in the South (Figure 1.7), millions having sought a better life in northern cities. Reasons for leaving were many and complicated. The supply of cheap immigrant labor was cut off by World War I, and recruiters went south, bringing literally trainloads of African-American workers to the steel mills, automobile factories, and meatpacking plants of Pittsburgh, Detroit, Chicago, and other northern cities (Figure 1.8). Once these connections had been established, thousands of migrants followed and established themselves in predominantly black neighborhoods such as Harlem in northern Manhattan (Figure 1.9) and the South Side of Chicago. The Great Depression of the 1930s and the mechanization of cotton harvesting after 1945 further spurred the African-American exodus from the South. The mechanical cotton picker rendered sharecroppers obsolete by drastically reducing the need for their labor. Early models of the cotton picker reduced the costs of picking cotton from $40 to $5 per bale. Each machine did the work of 50 pickers. As the mainstay for southern African-American employment evaporated, many left the rural South in search of northern jobs. A second wave of black migration headed to California from 1940 to 1970, lured by both industrial and agricultural jobs.

The story does not end here, for migration flows between the South and North were reversed after 1970. Fewer African-Americans left the South, and many more moved from the North to the South. Race riots and deteriorating economic conditions in northern cities served as push factors, and the favorable economic opportunities and improved social conditions of the "New South" attracted migrants from the North. Whereas the earlier migration streams connected the *rural* South to the *urban* North, today's streams primarily link the *urban* North

▶ *CASE STUDY (continued)*

Figure 1.7 Farmer and son in Daphne, Alabama.

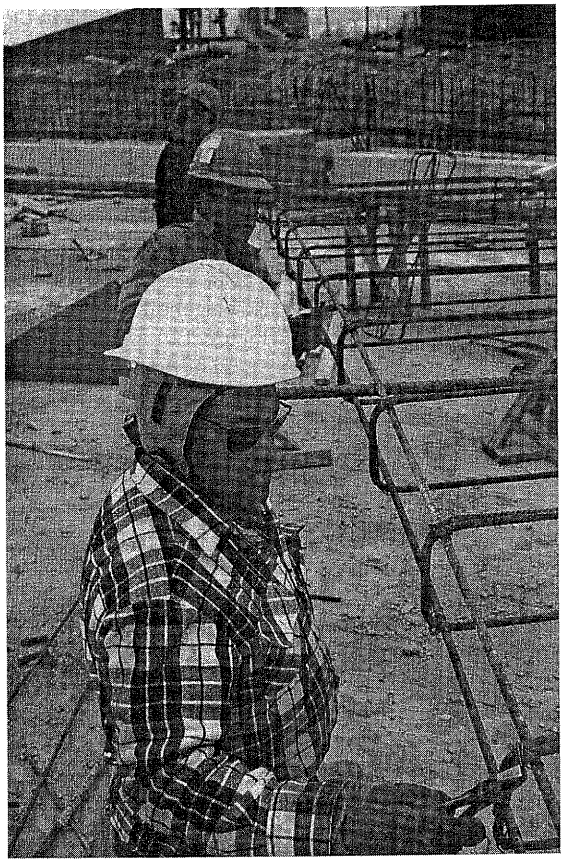

Figure 1.8 Many of today's African-Americans, such as this construction worker at Newark Airport, continue to work in blue-collar industries.

Figure 1.9 African-American culture, featuring jazz and blues music, flourished in their neighborhoods in northern cities. Olympic great Jesse Owens and his wife danced at the opening of the Cotton Club in Harlem, September 25, 1936.

▶ CASE STUDY (continued)

with the *urban* South. California, after several decades as a magnet for black migrants, lost more than it gained in the late 1990s. Many blacks returned to the South, and others "spilled over" into nearby Arizona, Nevada, and Washington. College-educated African-Americans are migrating to the South at higher rates than are those with a high-school education or less (Figure 1.10).

In 2008, perhaps the ultimate race barrier was broken when Barack Obama was elected president of the United States (Fig. 1.11). Although of mixed race (his mother was white), he self-identifies as African-American, and his wife, Michelle, is descended from slaves in South Carolina. Obama's election was an emotional milestone for the many people who fought for equality during the long civil rights struggles, and also sent a powerful message to the entire world that past injustices are at last being resolved and that the United States truly is a land of opportunity. Young people of the post–Civil Rights era were some of Obama's most enthusiastic supporters, indicating that racial divisiveness is less prevalent in new generations than in past ones. Racism has not disappeared, but the election of an African-American president provides great hope that hatred and discrimination based purely on skin color might finally be eliminated.

This exercise, involving mapping the distribution of African-Americans, relies heavily on information about race from the U.S. Census. Census race data are used to enforce antidiscrimination laws on voting rights, equal job and housing opportunity, and access to credit, as well as in studies of migration, residential segregation, health, education, and poverty. Until recently, the U.S. Census Bureau had established five racial categories—American Indian or Alaskan Native, Asian or Pacific Islander, Black, White, and "Some Other Race"—and asked respondents to self-identify as one of the five groups. In 2000, for the first time, the census allowed Americans to select more than one racial category, reflecting the growing rates of racial intermarriage and the increasing racial and ethnic diversity of the nation's population. In addition, the number of racial categories was increased to six, renamed as "American Indian

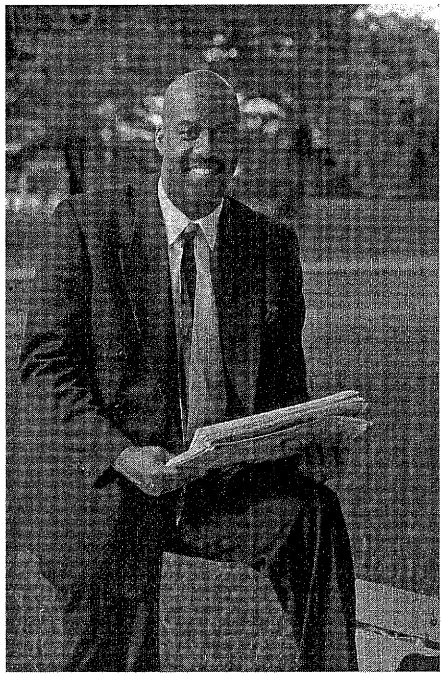

Figure 1.10 Recent data show a black "brain drain" from New York, Pennsylvania, and Ohio and a "brain gain" in Georgia, Maryland, Texas, and North Carolina, where the existence of a large black middle class in cities like Atlanta and Dallas exerts a strong attraction.

Figure 1.11 Barack Obama, with wife Michelle at his side, was sworn in as 44th President of the United States on January 20, 2009.

▶ CASE STUDY (continued)

or Alaskan Native," "Asian," "Black or African-American," "Native Hawaiian or Other Pacific Islander," "White," and "Some Other Race." Also, the census category "Hispanic or Latino" is independent of these racial categories; Hispanics can be of any race.

The United States is about to pass through a new demographic change that some refer to as the post-racial age—groups currently categorized as racial minorities will account for the majority of the population by 2042 (and by as soon as 2023 for Americans under the age of 18). The white population will be the minority when compared to all others. But more important is the increasing complexity of racial categorizations and identities. "Race" is in fact a social construct; there are no biological determinants that define one race as clearly distinguishable from another. Definitions have changed throughout history, so that at one time the Irish were not considered "white," and neither were Italians, Lebanese, or Jews. Because more and more Americans are of mixed race or self-identify with one racial category with increasingly fuzzy barriers, race as a classification scheme may outlive its usefulness. Some claim that the very categories themselves serve a political purpose: to privilege the dominant white class above those of color. Racial politics continue to be an important part of the country, but whiteness is no longer a precondition for entry into the highest levels of public office or private-sector leadership. Racial strife and misunderstandings will certainly continue, but the demographic shifts that we are seeing will likely reduce the power of racial hierarchies in society so that all U.S. citizens are treated as individuals rather than members of a caste or identity group. While the 2000 census recognized greater racial diversity and intermixing, with 63 possible racial combinations, questions of what race means in our society and why we continue to collect data by race remain important social and political issues.