

## PLAY IT SAFE!

### Activity Items

The following items are part of this activity and appear at the end of this student version.

- Item 1: How Ready Are We?
- Item 2: Coastal Areas
- Item 3: Coastline Population Trends in the United States: 1960 to 2008

### Student Learning Objectives

- I will be able to describe and analyze the effects of environmental hazards on people.
- I will be able to describe how people change their behaviors in response to environmental hazards.
- I will be able to use census data to explain how prepared U.S. residents are for natural disasters.
- I will be able to create a sample disaster preparedness kit, determining the necessity of items for specific disasters in my community.

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Today, you will be going to different stations set up around the classroom. At each station, you will learn something about natural disasters and emergency preparedness. Your teacher will put you in groups, tell you which station to start at, and let you know when you need to move to the next station. Most of you will not start at Station 1, so you may be completing this activity out of order (and that's OK!).

### Station 1: Are U.S. Residents Ready for an Emergency?

Review **Item 1: How Ready Are We?** This is an infographic that the U.S. Census Bureau created to show how prepared U.S. residents are for natural disasters. The items along the left side are different things you need to be prepared for a natural disaster—like an emergency water supply (the first item). According to the infographic, it is recommended that households have “at least three gallons or 24 bottles of water for each person in the household,” and 54.3 percent of U.S. residents said they have this in their house in case of an emergency.

Discuss the following questions with your group, and then record your answers.

1. Nonperishable emergency food means food that is not fresh, takes a long time to go bad, and does not necessarily need to be cooked, such as canned food. A total of 82 percent of U.S. residents have enough nonperishable food to feed everyone in their house for up to 3 days. What are some other examples of nonperishable food (aside from canned food) that you would recommend having in the house?



## Station 2: How Does a Natural Disaster Impact a Community?

At this station, you will find a large sheet of paper with one side that says “Potential Dangers” and another that says “Ways to Prepare for Disaster.”

With your group, brainstorm potential dangers related to a natural disaster that could happen where you live. (Think about various natural disasters that could occur in your area and the specific problems that could occur as a result.) Write your ideas on the left side of the paper—you can assign one person to be the recorder, or everyone can take turns writing different examples.

Then, on the right side of the paper, write an idea for how you could prepare for each situation.

See this example:

Potential Dangers	Ways to Prepare for Disaster
If you live in Florida, a potential danger is <i>hurricane winds blowing in the windows</i> of buildings.	To potentially lessen a hurricane's damage to buildings, you could <i>board up the windows with wooden panels</i> .

Potential Dangers	Ways to Prepare for Disaster





### Station 4: Which Houses Will Survive?

Some (but not all) of the houses pictured on the following pages were built with natural disasters in mind. Which houses do you believe would survive—or not survive—a natural disaster and why? You can talk about the house itself and the environment surrounding it. Write your answers in the table on Page 10. (The first row—for the first photo—has been completed for you as an example.)

**Photo 1:**



**Photo 2:**



**Photo 3:**



**Photo 4:**



**Photo 5:**



**Photo 6:**



<p><b>Photo #</b></p>	<p><b>Which natural disaster would it survive or not survive?</b>                      (You can write about either surviving or not surviving for any of these houses. You can also write "none," mention just one natural disaster, or mention multiple natural disasters for each.)</p>	<p><b>Why?</b></p>
<p>1</p>	<p>It would likely survive a heavy snowstorm.</p>	<p>The roof allows for snow to fall off and not pile up, which means there is less of a chance that the roof will fall in from the weight of snow.</p>
<p>2</p>		
<p>3</p>		
<p>4</p>		
<p>5</p>		
<p>6</p>		

## Station 5: Create an Emergency Preparedness Kit

At your station, you will find a box and several items. Work with your group to decide which items you want to put in the box to make an emergency preparedness kit for a natural disaster. Think about one specific type of natural disaster that could occur in your area and what you would need if it happened.

All of the items must fit comfortably in your box so that you can close it. That means you will have to make some smart decisions as a team about what is most important to put in your kit because you will likely not be able to include everything.

Once you are done putting together your emergency preparedness kit, complete the following prompts.

1. In the table below, write down the items you included and why you picked them. Be sure to mention somewhere in your table which natural disaster you were preparing for.



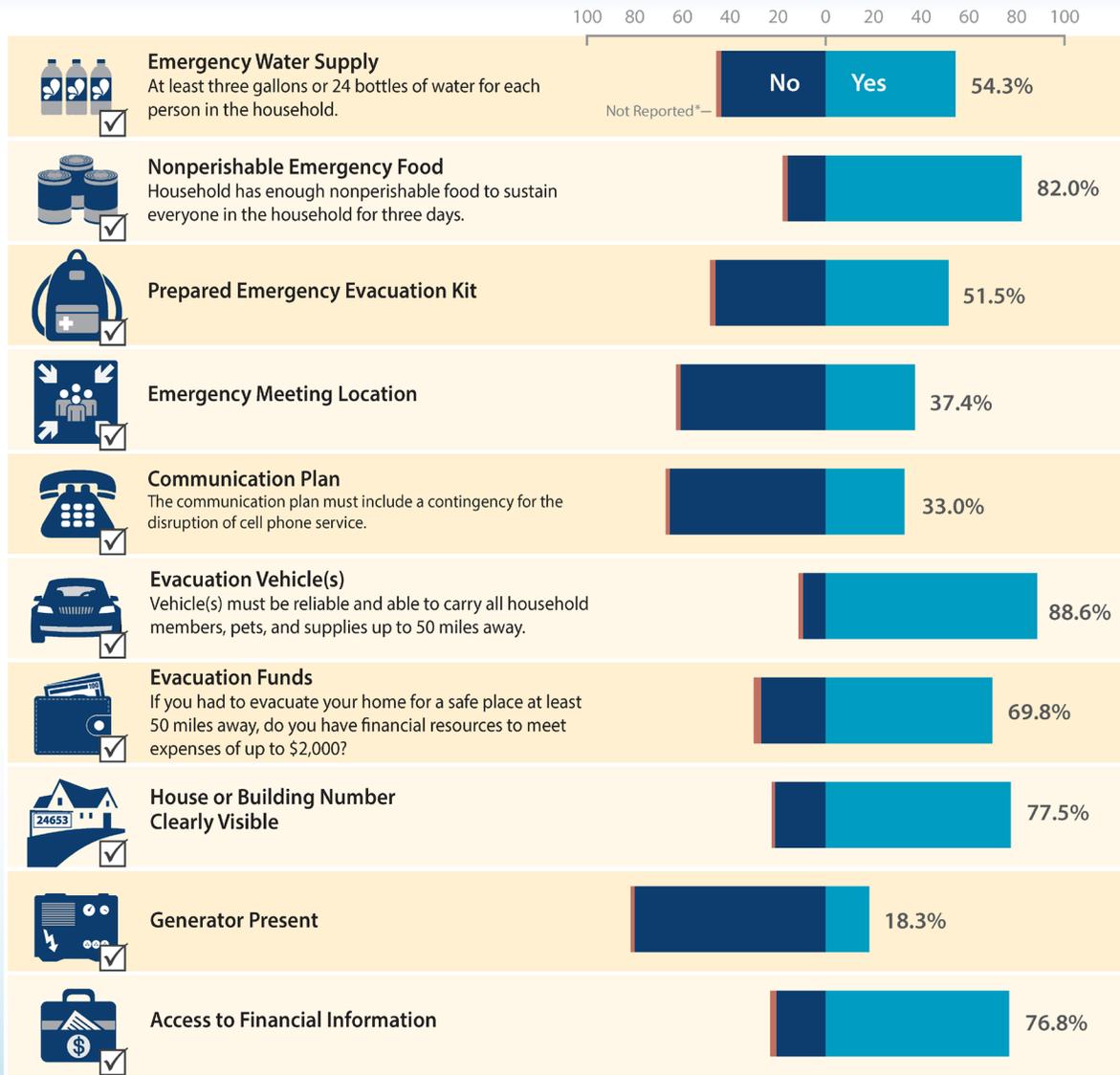


# Item 1: How Ready Are We?

### How Ready Are We?

*Natural Disaster or Emergency Preparedness*

To better understand the needs of first responders and other emergency workers, the 2013 American Housing Survey asks U.S. residents how prepared they are for disasters.



\* Not reported: Households did not provide a response to this question.

Source: U.S. Census Bureau and U.S. Department of Housing and Urban Development, 2013 American Housing Survey.

## Item 2: Coastal Areas

### Coastal Areas



The growth in population of coastal areas illustrates the importance of emergency planning and preparedness for areas that are susceptible to inclement tropical conditions. The U.S. Census Bureau's official [population estimates](#), along with annually updated socioeconomic data from the [American Community Survey](#), provide a detailed look at the nation's growing coastal population. Emergency planners and community leaders can better assess the needs of coastal populations using census data.

This historical report uses a combination of decennial census data and population estimates to examine population trends along the country's saltwater edges — the nation's coastline counties.

Between 1960 and 2008, the population in coastline counties along the Gulf of Mexico soared by 150 percent, more than double the rate of increase of the nation's population as a whole. This area is now home to nearly 14 million residents.

Eighty-seven million people, or 29 percent of the U.S. population, live in coastline counties, including more than 41 million in Atlantic and 32 million in Pacific counties. In 1960, only 47 million lived in coastline counties, an increase of 40 million.

### Additional Information on Coastal Areas

Coastline counties along the Atlantic and Gulf of Mexico coasts as well as the Hawaiian Islands account for nearly two-thirds of the nation's coastline population and are home to four of the nation's 10 most populous counties. These counties are also vulnerable to one of nature's biggest threats: hurricanes.

### What is a coastal county?

As defined by the US Census Bureau: a coastal county has to be adjacent to water classified as either coastal water or territorial sea. There are 254 coastline counties, stretching across parts of 23 states and covering 561,435 square miles. Coastline counties are located in three coastline regions: the Atlantic (129 counties), Gulf of Mexico (56 counties), and Pacific (69 counties).

### Population Growth in Coast Counties

The coastal population grew by 40 million people between 1960 and 2008, an 84.3% increase.

Year	Coastal Population
1960	47.4 million
1970	56.7 million
1980	63.6 million
1990	73.0 million
2000	82.1 million
2008	87.4 million

## Item 2: Coastal Areas (Continued)

### Percentage Increases in Coast and Non-coastal Population by Time Period

Time Period	Coastal	Non-coastal
1960 to 1970	19.5	11.1
1970 to 1980	12.1	11.2
1980 to 1990	14.9	7.8
1990 to 2000	12.4	13.5
2000 to 2008	6.5	8.7

The overall population increased between 1960 and 2008 was 84.3% for coastal areas and 64.3% for non-coastal areas.

### Demographic Components of Population Change: 2000 to 2008

The 5.3 million coastal population increase was due entirely to natural increase (births minus deaths) and international migration.

International migration	+3.9 million
Domestic migration	-3.5 million
Natural increase	+4.5 million

### Housing Units in Coastal

The number of housing units along the coastline increased in recent decades, from 16.1 million in 1960 to 36.3 million in 2008. During this period, the Atlantic coastline region gained the largest number of housing units (8.8 million), followed by the Pacific (6.8 million) and the Gulf of Mexico (4.5 million).

Between 1960 and 2008, the percentage increase in housing units along the coastline (126 percent) was greater than that of the United States (121 percent) or for non-coastline counties (120 percent). Among the coastline regions, the total percentage increases in the Gulf of Mexico (246 percent) and the Pacific (130 percent) far outpaced the gains for the Atlantic region (98 percent).

Source: U.S. Census Bureau, Decennial Census of Population and Housing: 1960 to 2000; Population Estimates Program: 2008.

### Coastline Counties Most Frequently Hit by Hurricanes: 1960 to 2008

Rank	County	State	Numbers of Hurricanes	Percent Change 1960 to 2008	Percent Change 2000 to 2008
1	Monroe County	FL	15	50.8	-9.2
2	Lafourche Parish	LA	14	67.2	2.9
2	Carteret County	NC	14	104.3	6.4
4	Dare County	NC	13	465.9	12.1
4	Hyde County	NC	13	-10.1	-11.1
6	Jefferson Parish	LA	12	108.9	-4.2
6	Palm Beach County	FL	12	454.7	11.9
8	Miami-Dade County	FL	11	156.5	6.4
8	St. Bernard Parish	LA	11	17.2	-43.9
8	Cameron Parish	LA	11	4.8	-27.6
8	Terrebonne Parish	LA	11	78.7	3.9

The 10 most intense hurricanes since 1960 affected nearly 51 million people living in coastline counties. If those same 10 hurricanes had struck in 2008, the coastline population affected would have been closer to 70 million. Coastline counties affected by Hurricane Katrina (2005) had an overall decrease in population (nearly 2 percent loss). The populations in coastline counties affected by Hurricane Andrew (1992) had grown by more than 20 percent.

[www.census.gov/topics/preparedness/about/coastal-areas.html](http://www.census.gov/topics/preparedness/about/coastal-areas.html)

# Item 3: Coastline Population Trends in the United States: 1960 to 2008

## Coastline Population Trends in the United States: 1960 to 2008

May 2010

Report Number: P25-1139

Steven G. Wilson and Thomas R. Fischetti



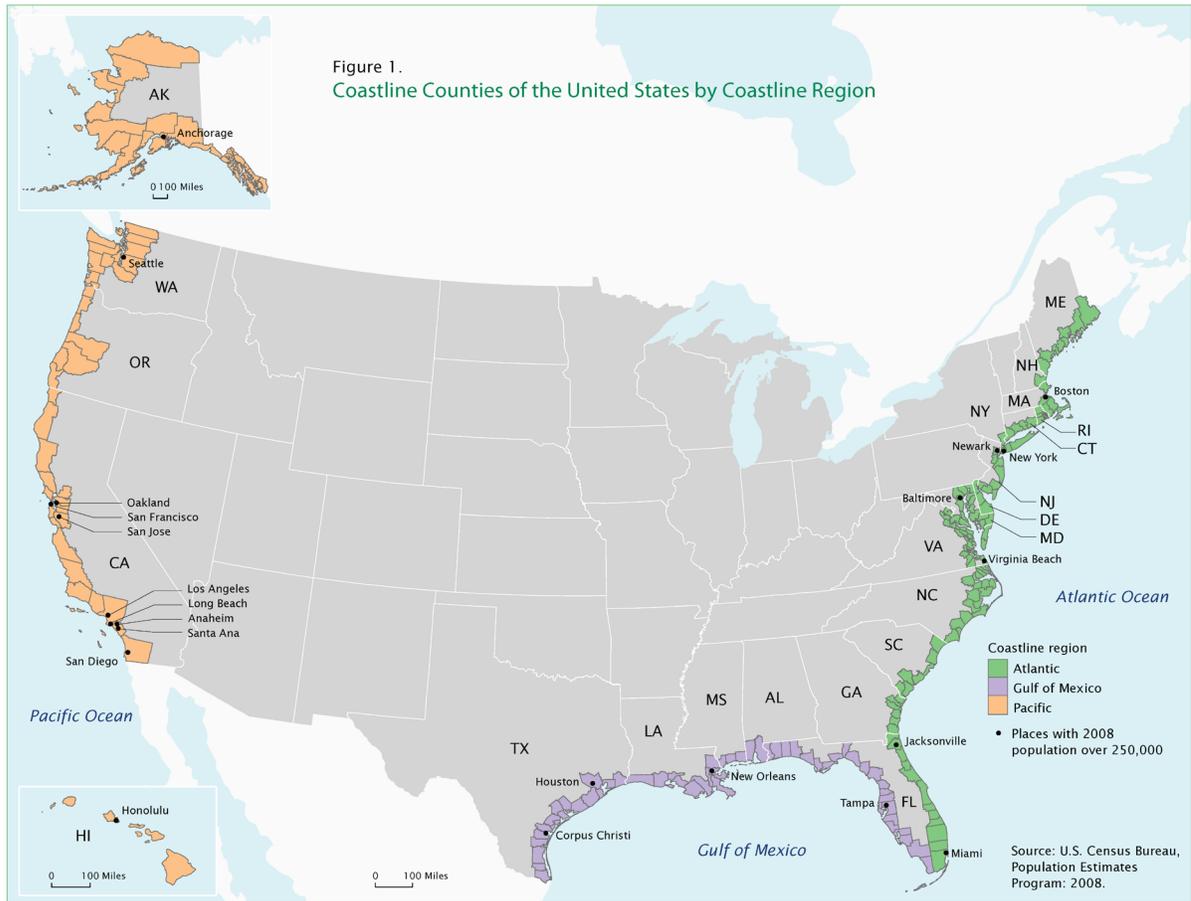
Coastline counties of the United States, located along the country's saltwater edges, account for just 254 of the nation's 3,142 counties yet contain 29 percent of its population, 5 of its 10 most populous cities, and 7 of its 10 most populous counties. Bordering the Atlantic and Pacific Oceans and the Gulf of Mexico, these bands of counties provide the setting for an intense concentration of economic and social activity. Shaped by migration, trade, and environmental factors, population trends in coastline counties are distinct from those for the nation as a whole or its noncoastline counties.

- P25-1139 - Supplementary Table 1 - Population, Housing Units, and Land Area for Counties: 1960 to 2008 [CSV file] [File layout]
- P25-1139 - Supplementary Table 2 - Estimated Demographic Components of Change for Counties: April 1, 2000 to July 1, 2008 [CSV file] [File layout]



Download Coastline Population Trends in the United States: 1960 to 2008 [PDF - 14.6 MB]

### Item 3: Coastline Population Trends in the United States: 1960 to 2008 (Continued)



U.S. Census Bureau

[www.census.gov/library/publications/2010/demo/p25-1139.html](http://www.census.gov/library/publications/2010/demo/p25-1139.html)