

[Print this page](#)

WHAT ARE GEOGRAPHIC QUESTIONS?

Geographers study human phenomena such as language, religion, and identity, as well as physical phenomena such as landforms, climate, and environmental change. Geographers also examine the interactions between humans and environment. Human geography is the study of the spatial and material characteristics of the human-made places and people found on Earth's surface; **physical geography** asks similar questions about the natural environment. Human and physical geographers adopt a similar perspective but focus on different phenomena.

Geographer Marvin Mikesell once gave a shorthand definition of geography as the “why of where.” Why and how do things come together in certain places to produce particular outcomes? Why are some things found in certain places but not in others? How do the characteristics of particular places shape what happens? To what extent do things in one place influence those in other places? To these questions, we add “so what?” Why do differences across geographic space matter? What role does a place play in its region and in the world, and what does that mean for people there and elsewhere? Questions such as these are at the core of geographic inquiry—whether human or physical—and they are of critical importance in any effort to make sense of our world.

If geography deals with so many aspects of our world, ranging from people and places to coastlines and climates, what do the various facets of this wide-ranging discipline have in common? The answer lies in a perspective that both human and physical geographers bring to their studies: a **spatial** perspective. Whether they are human geographers or physical geographers, virtually all geographers are interested in the spatial arrangement of places and phenomena, how they are laid out, organized, and arranged on the Earth, and how they appear on the landscape.

Mapping the **spatial distribution** of a phenomenon can be the first step to understanding it. By looking at a map of how something is distributed across space, a geographer can raise questions about how the arrangement came about, what processes create and sustain the particular distributions or **patterns**, and what relationships exist between different places and things.

Maps in the Time of Cholera Pandemics

In **medical geography**, mapping the distribution of a disease is the first step to finding its cause. In 1854, Dr. John Snow, a noted anesthesiologist in London, mapped cases of cholera in London's Soho District.

Cholera is an ancient disease associated with diarrhea and dehydration. It was confined to India until the beginning of the nineteenth century. In 1816 it spread to China, Japan, East Africa, and Mediterranean Europe in the first of several **pandemics**, worldwide outbreaks of the disease. This initial wave abated by 1823, but by then cholera was feared throughout the world, for it had killed people everywhere by the hundreds, even thousands. Death was horribly convulsive and would come in a matter of days, perhaps a week, and no one knew what caused the disease or how to avoid it.

Soon a second cholera pandemic struck. It lasted from 1826 to 1837, when cholera crossed the Atlantic and attacked North America. During the third pandemic, from 1842 to 1862, England was severely hit, and cholera again spread into North America.

When the pandemic that began in 1842 reached England in the 1850s, cholera swept through the Soho District of London. Dr. Snow mapped the Soho District, marking all the area's water pumps—from which people got their water supply for home use—with a P and marking the residence of each person who died from cholera with a dot (Fig. 1.5). Approximately 500 deaths occurred in Soho, and as the map took shape, Snow noticed that an especially large number of those deaths clustered around the water pump on Broad Street. At the doctor's request, city authorities removed the handle from the Broad Street pump, making it impossible to get water from that pump. The result was dramatic: almost immediately the number of reported new cases fell to nearly zero, confirming Snow's theory about the role of water in the spread of cholera.

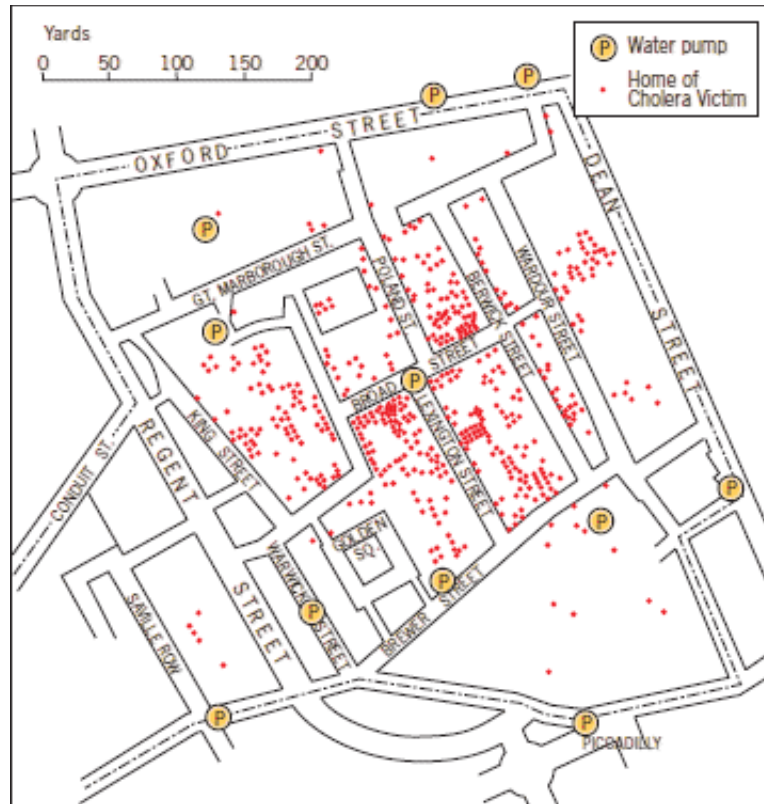


Figure 1.5 Cases of Cholera in the Soho District of London, England, 1854.

*Adapted with permission from: L. D. Stamp, *The Geography of Life and Death*, Cornell University Press, 1964.*

Dr. Snow and his colleagues advised people to boil their water, but it would be a long time before his advice reached all those who might be affected, and in any case many people simply did not have the ability to boil water or to wash hands with soap.

Cholera has not been defeated completely, however, and in some ways the risks have been rising in recent years rather than falling (Fig. 1.6). People contract cholera by eating food or water contaminated with cholera bacteria. Cholera bacteria diffuse to broader areas because once one person has cholera it can be spread through his or her feces. In an impoverished area with no sanitary sewer system, the person's feces can easily contaminate the water supply. Even in places with sanitary sewer systems, cholera contamination occurs when rivers, which are typically the water supply, flood the sanitary sewer system.



Figure 1.6 Cholera in Haiti, 2010.

Artibonite and Centre departments have been hard hit by the cholera outbreak in Haiti, in part because the Artibonite River is contaminated by cholera bacteria and in part because of the large number of Haitians displaced from Port-au-Prince who have fled to camps in Artibonite and Centre. *Data from: Centers for Disease Control, 2011.*

http://www.bt.cdc.gov/situationawareness/haiticholera/map_1.asp

We expect to find cholera in places that lack sanitary sewer systems and in places that are flood prone. In many of the teeming shantytowns of the growing cities of the developing world, and in some of the refugee camps of Africa and Asia, cholera remains a threat. Until the 1990s, major outbreaks remained few and limited. After remaining cholera-free for a half century, Europe had its first reappearance of cholera in Naples in 1972. In 2006, a cholera outbreak in Angola, in southern Africa, spread quickly throughout the country. When heavy rains came to West Africa in 2010, an outbreak of cholera killed 1500 people in Nigeria alone.

A cholera outbreak in the slums of Lima, Peru, in January 1991 became a fast-spreading **epidemic** (regional outbreak of a disease) that touched every country in the Americas, infected more than 1 million people, and killed over 10,000 in the region. The outbreak in Peru began when the ocean waters warmed off the coast of Peru. Cholera bacteria live on plankton in the ocean, and the warming of the ocean allowed the plankton and cholera to multiply. Fish ate the plankton, and people ate raw fish, thus bringing cholera to Peru.

In the slums of Peru, the disease diffused quickly. The slums are densely populated and lack a sanitary sewer system large enough to handle the waste of the population. An estimated 14 million Peruvians were infected with cholera, 350,000 were hospitalized, and 3500 Peruvians died during the outbreak in the 1990s. Peruvians who accessed health care received clean water, salts, and antibiotics, which combat the disease.

In January 2010, an earthquake that registered 7.0 on the Richter scale hit Haiti, near the capital of Port au Prince. Months later a cholera outbreak started in the Artibonite region of Haiti (Fig. 1.6). Health officials are not certain whether the outbreak began in the multiple refugee camps or elsewhere. The disease diffused quickly through the refugee camps and by October 2010 reached the capital city of Port au Prince. Scientists worry that the cholera outbreak in Haiti will be long lasting because the bacteria have contaminated the Artibonite River, the water supply for a large region. Although purifying water through boiling and thoroughly washing hands prevent the spread of cholera, water contaminated with cholera and a lack of access to soap abound in many neighborhoods of world cities. A vaccine exists, but its effectiveness is limited, and it is costly. Dr. Snow achieved a victory through the application of geographical reasoning, but the war against cholera is not yet won.

The fruits of geographical inquiry were life-saving in Snow's case, and the example illustrates the general advantage that

comes from looking at the geographic context of events and circumstances. Geographers want to understand how and why places are similar or different, why people do different things in different places, and how the relationship between people and the physical world varies across space.

The Spatial Perspective

Geography, and being geographically literate, involves much more than memorizing places on a map. Place locations are to geography what dates are to history. History is not merely about memorizing dates. To understand history is to appreciate how events, circumstances, and ideas came together at particular times to produce certain outcomes. Knowledge of how events have developed over time is thought to be critical to understanding who we are and where we are going.

Understanding change over time is critically important, and understanding change across space is equally as important. The great German philosopher Immanuel Kant argued that we need disciplines focused not only on particular phenomena (such as economics and sociology), but also on the perspectives of time (history) and space (geography). The disciplines of history and geography have intellectual cores defined by these perspectives rather than by subject matter.

Human geographers employ a **spatial perspective** as they study a multitude of phenomena ranging from political elections and urban shantytowns to gay neighborhoods and folk music. To bring together the many subfields of human geography and to explain to nongeographers what geographers do, four major geographical organizations in the United States formed the Geography Educational National Implementation Project in the 1980s. The National Geographic Society published their findings in 1986, introducing the **five themes** of geography. The five themes are derived from geography's spatial concerns.

The Five Themes

The first theme, **location**, highlights how the geographical position of people and things on Earth's surface affects what happens and why. A concern with location underlies almost all geographical work, for location helps to establish the context within which events and processes are situated.

Some geographers develop elaborate (often quantitative) models describing the locational properties of particular phenomena—even predicting where things are likely to occur. Such undertakings have fostered an interest in **location theory**, an element of contemporary human geography that seeks answers to a wide range of questions—some of them theoretical, others highly practical: Why are villages, towns, and cities spaced the way they are? A geographer versed in location theory might assess where a SuperTarget should be built (downtown or in a suburb), given the characteristics of existing neighborhoods and new developments, the median income of people, the locations of other shopping areas, and the existing and future road system. Similarly, a geographer could determine the best location for a wildlife refuge, given existing wildlife habitats and migration patterns, human settlement patterns, and road networks.

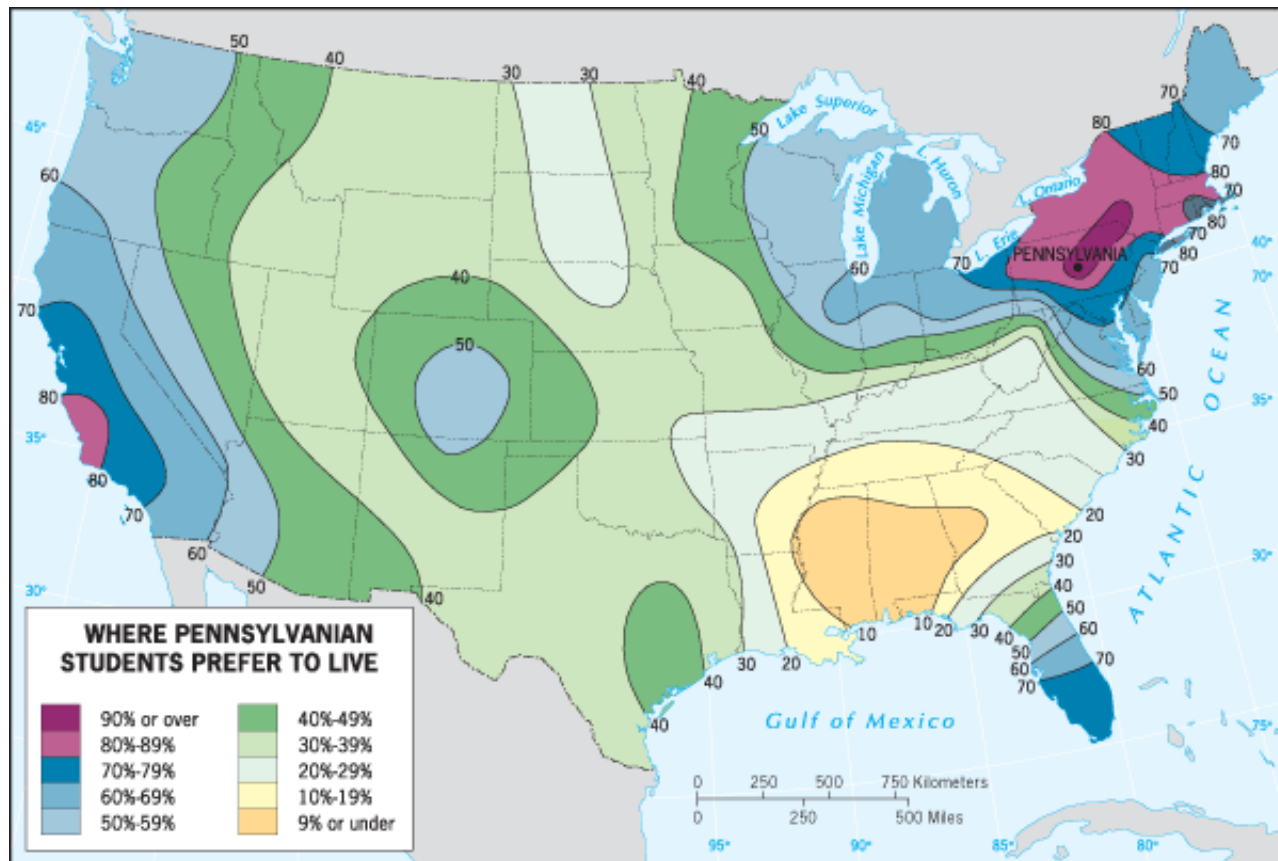
A spatial perspective invites consideration of the relationship among phenomena in individual places—including the relationship between humans and the physical world. Thus, the second of the five themes concerns **human-environment** interactions. Why did the Army Corps of Engineers alter Florida's physical environment so drastically when it drained part of the Everglades? Have the changes in Florida's environment created an easier path of destruction for hurricanes? Why is the Army Corps of Engineers again changing the course of the Kissimmee River, and what does that mean for farmers around the river and residential developments in the south of Florida? Asking locational questions often means looking at the reciprocal relationship between humans and environments.

The third theme of geography is the **region**. Phenomena are not evenly distributed on Earth's surface. Instead, features tend to be concentrated in particular areas, which we call regions. Geographers use fieldwork and both quantitative and qualitative methods to develop insightful descriptions of different regions of the world. Novelist James Michener once wrote that whenever he started writing a new book, he first prepared himself by turning to books written by regional geographers about the area where the action was to occur. Understanding the regional geography of a place allows us to make sense of much of the information we have about places and digest new place-based information as well.

The fourth theme is represented by the seemingly simple word **place**. All places on the surface of Earth have unique human and physical characteristics, and one of the purposes of geography is to study the special character and meaning of places. People develop a **sense of place** by infusing a place with meaning and emotion, by remembering important events that

occurred in a place, or by labeling a place with a certain character. Because we experience and give meaning to places, we can have a feeling of “home” when we are in a certain place.

We also develop **perceptions of places** where we have never been through books, movies, stories, and pictures. Geographers Peter Gould and Rodney White asked college students in California and Pennsylvania: “If you could move to any place of your choice, without any of the usual financial and other obstacles, where would you like to live?” Their responses showed a strong bias for their home region and revealed that students from both regions had negative perceptions of the South, Appalachia, the Great Plains, and Utah (Fig. 1.7). What we know shapes our perceptions of places.



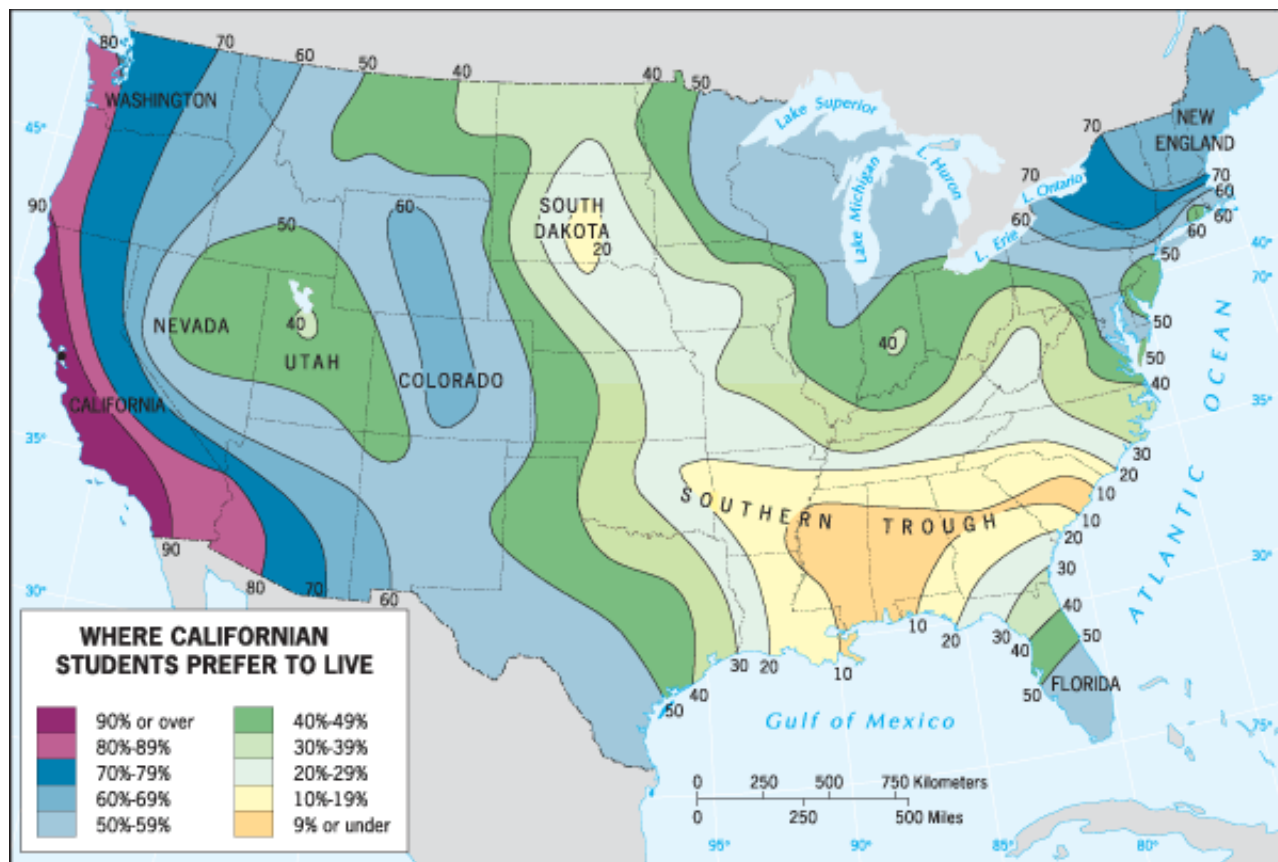


Figure 1.7 Desirable Places to Live.

Where Pennsylvanian and Californian college students would, prefer to live, based on questionnaires completed by college students. *Reprinted by permission of: P. R. Gould and R. White, Mental Maps. Harmondsworth: Penguin Books, 1986, pp. 55 and 58.*

The fifth theme, **movement**, refers to the mobility of people, goods, and ideas across the surface of the planet. Movement is an expression of the interconnectedness of places. **Spatial interaction** between places depends on the **distances** (the measured physical space between two places) among places, the **accessibility** (the ease of reaching one location from another) of places, and the transportation and communication **connectivity** (the degree of linkage between locations in a network) among places. Interactions of many kinds shape Earth's human geography, and understanding these interactions is an important aspect of the global spatial order.

Cultural Landscape

In addition to the five themes, location, human-environment, region, place, and movement, **landscape** is a core element of geography. Geographers use the term *landscape* to refer to the material character of a place, the complex of natural features, human structures, and other tangible objects that give a place a particular form. Human geographers are particularly concerned with the **cultural landscape**, the visible imprint of human activity on the landscape. The geographer whose name is most closely identified with this concept is former University of California at Berkeley professor Carl Sauer. In Sauer's words, cultural landscapes are comprised of the "forms superimposed on the physical landscape" by human activity.

No place on Earth is in a "pristine" condition; humans have made an imprint on every place on the planet (Fig. 1.8). The cultural landscape is the visible imprint of human activity and culture on the landscape. We can see the cultural landscape in the layers of buildings, roads, memorials, churches, fields, and homes that human activities over time have stamped on the landscape.

Field Note

“Hiking to the famed Grinnell Glacier in Glacier National Park brings one close to nature, but even in this remote part of the United States the work of humans is inscribed in the landscape. The parking lot at the start of the six-mile trail, the trail itself, and the small signs en route are only part of the human story. When I hiked around the turn in this valley and arrived at the foot of the glacier, I found myself looking at a sheet of ice and snow that was less than a third the size of what it had been in 1850. The likely reason for the shrinkage is human-induced climate change. If the melt continues at present rates, scientists predict that the glacier will be gone by 2030.”



Figure 1.8 Glacier National Park, United States.

© Alexander B. Murphy.

Any cultural landscape has layers of impressions from years of human activity. As each group of people arrives and occupies a place, they bring their own technological and cultural traditions and transform the landscape accordingly. Each new group of residents can also be influenced by what they find when they arrive and leave some of it in place. In 1929, Derwent Whittlesey proposed the term **sequent occupance** to refer to these sequential imprints of occupants, whose impacts are layered one on top of the other, each layer having some impacts on the next

The Tanzanian city of Dar es Salaam provides an interesting urban example of sequent occupance. Arabs from Zanzibar first chose the African site in 1866 as a summer retreat. Next, German colonizers imprinted a new layout and architectural style (wood-beamed Teutonic) when they chose the city as the center of their East African colonies in 1891. After World War I, when the Germans were ousted, a British administration took over the city and began yet another period of transformation. The British encouraged immigration from their colony in India to Tanzania. The new migrant Asian population created a zone of three- and four-story apartment houses, which look as if they were transplanted from Bombay, India (Fig. 1.9 left and right). Then, in the early 1960s, Dar es Salaam became the capital of newly independent Tanzania. Thus, the city experienced four stages of cultural dominance in less than one century, and each stage of the sequence remains imprinted in

the cultural landscape.



Figure 1.9 Mumbai, India (top) and Dar-es-Salaam, Tanzania (bottom).

Apartment buildings throughout Mumbai (formerly Bombay), India, are typically four stories with balconies. In Dar-es-Salaam, Tanzania, this four-story walkup with balconies (bottom) stands where single-family African dwellings once stood, reflecting the sequential occupation of the city. © Alexander B. Murphy.

The cultural landscape can be seen as a kind of book offering clues into each chapter of the cultural practices, values, and priorities of its various occupiers. As geographer Peirce Lewis explained in *Axioms for Reading the Landscape* (1979), “Our human landscape is our unwitting autobiography, reflecting our tastes, our values, our aspirations, and even our fears, in tangible, visible form.” Like Whittlesey, Lewis recommended looking for layers of history and cultural practice in cultural landscapes, adding that most major changes in the cultural landscape occur after a major event, such as war, an invention, or an economic depression.



Geographers who practice fieldwork keep their eyes open to the world around them and through practice become adept at reading cultural landscapes. Take a walk around your campus or town and try reading the cultural landscape. Choose one thing in the landscape and ask yourself, “What is that and why is it there?” How might the existence of that thing influence the future development of the neighborhood? Take the time to find out the answers!

Map Projections

Copyright © 2012 John Wiley & Sons, Inc. All rights reserved.