UNIT ONE: THINKING GEOGRAPHICALLY

GEOGRAPHY AND MAPS

You are who you are because of *where* you are—and human geography explains the *why* behind the *where*. It is a science that analyzes **spatial patterns and relationships**, both historical and modern. Geography's most important tool in showcasing these patterns is a **map**. **Cartography** is the science of mapmaking, and the two main types of maps are reference and thematic. **Reference maps** show the location of human and physical objects, while **thematic maps** show the spatial arrangement of features or data. Examples of spatial patterns shown on maps include **absolute** and **relative location** and **distance**, **direction, elevation, dispersal,** and **clustering.** These patterns can be portrayed on various maps such as **physical, political, choropleth, symbol, dot, topographic,** and **isoline.**

Each map is unique in the information it shows, and no map is perfect. Because a map is a 2-D representation of a spherical object, all map projections distort some spatial property. The four types of **map distortion** are **Shape, Area, Distance,** and **Direction** (SADD). To balance map distortion, many different **map projections** have been created over time. Some of the most used map projections are the **Mercator, Robinson,** and **Winkel Tripel.**

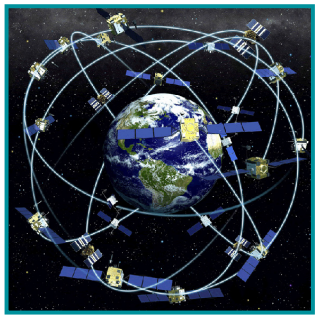
To think geographically is to consider how human activities are connected to social, political, economic, environmental, and demographic characteristics. Geographers employ a spatial perspective to explain the patterns and relationships created by human activities.

THINKING GEOGRAPHICALLY

Human geography examines all the social science disciplines. At the heart of its study is a foundation of all the social studies—population and migration, culture, politics, economic development, and urban and rural land uses.

GEOSPATIAL DATA AND TECHNOLOGIES

Geospatial data is information pertaining to a location of Earth. This data can be gathered, displayed, and used in several different ways. All data exists as one of two types—quantitative and qualitative. **Quantitative data** is represented by numbers, whereas qualitative is not. Examples of quantitative data are income, census information, and birthrates. Examples of **qualitative data** include interviews, travel narratives, and visual observations. **Geospatial technologies** used to acquire data include **GPS (global position system), GIS (geographic information system), remote sensing,** and **online mapping**. These technologies require modern technology, such as satellites, computer software, and aircraft.



Geospatial data is used for personal, business, and governmental purposes. Personal use could be as simple as using a GPS receiver on a cell phone for directions, whereas businesses and governments many use data to make important decisions, such as the optimal location for a new restaurant, school, or professional sports stadium. Geospatial data can be analyzed to reveal patterns about the spatial arrangement of phenomena. Geographic concepts used to illustrate these patterns include distance decay, distribution, and networks.

HUMANS AND THE ENVIRONMENT

The environment has played a crucial role in the development of human societies. The study of human culture and its relationship to the environment is **cultural ecology**. The two theories of cultural ecology are **environmental determinism** and **possibilism**. Environmental determinism is the belief that human behavior is caused by the environment, whereas possibilism is the belief that the environment may limit or influence human behavior, not cause it. As humans continue to modify, adapt, and depend on the environment, issues over sustainability, natural resource use, and land use emerge.

SENSE OF PLACE AND REGIONALIZATION

Each location on Earth has human and physical characteristics that make up its **place**. These characteristics can arouse a multitude of emotions—such as loyalty, pride, and shame, among others—all of which, create a **sense of place**. Often, **toponyms**, or names given to a location, can reflect important people or physical features. A location absent of any strong emotional ties experiences **placelessness**.

Regions are defined based on one or more unifying characteristics, spatial patterns, or human activity. There are three main types of regions—**formal, functional,** and **perceptual/vernacular**. A **formal region** is characterized by one or more common features, like the Gulf Coast, which shares a similar climate. **Functional regions** are organized around a central point, like the broadcast area of a news or radio station. **Perceptual/vernacular regions** are based on how humans perceive it to exist, like the South—not everyone regards "the South" as the same geographic area—it can differ based on human perception. The boundaries of regions are constantly changing, overlapping, and are often disputed.

FROM LOCAL TO GLOBAL

From buying clothes at a mall to purchasing an international plane ticket from your phone, human activities are intertwined with geography. Modern communication and technology have accelerated the rate at which humans are connected—a process known as **globalization**. As people **migrate** and **transnational corporations** diffuse ideas and products, people are becoming more and more connected. Aided by technological advancements, humans can now travel larger distances over shorter time periods, a concept known as **time-space compression**.

But not all human activities are global in nature—some are more connected to smaller areas. There are **four scales of analysis** in geography—**global, regional, national,** and **local**. Geospatial data at these four scales can show variations in data interpretation. **Local** refers to immediate surroundings, such as neighborhood, city, county, and state. **National** refers to a country. **Regional** refers to a collection of other units, such as a collection of U.S. states—like the Midwest and Pacific Northwest—or a collection of countries—like Latin America and the Middle East. **Global** refers to the context of most or all of Earth.

NOTES