WHY STUDY GEOGRAPHY?

Learning about the world is exciting. We learn about other places and see what the physical environment is like and the different ways in which people live. It helps us learn about "What is where? Why there? Why care?" (**Figure I.1**).

WHAT IS WHERE?

Everything happens somewhere. Nothing we see, do, or think happens in a vacuum. At the heart of geography is the importance of location—the "where." Geography is about understanding the features of the physical environment, such as lakes, mountains, and vegetation, where those features are, and what is around them.

WHY THERE?

The job of the geographer is to connect the "what" with the "where." The next question to ask is "Why there?" As geographers learn more about the features of the physical environment, they look at how these features were created, the relationships they have to people and places around them, and the patterns they form. This helps geographers make connections that help them to answer the question.

WHY CARE?

Learning about the world is challenging. Sometimes we look at what is happening in other places and feel that we can do nothing to help with the situations there. Taking personal action on issues is a key application of geographic learning. Using geographic skills can help us take complex issues and break them down to a point where we can begin to make personal connections with what is happening. These skills can be applied to situations near and far from home.

Geographers ask how they can make the world a better place to live in. Being an active geographic learner can help you be a better global citizen.

WHAT IS WHERE?

This question asks

- about the features of the physical environment
- about the specific or precise location (for example, GPS coordinates)
- where something is in relation to the places around it

WHY THERE?

This question asks

- how the physical feature was created
- about the connections between people and places around the feature
- about the patterns of the feature
- how people have changed the feature

WHY CARE?

This question asks

- about the importance of the issue
- how to make the world a better place to live
- about the rights and responsibilities of a global citizen

FIGURE I.1 The three critical questions of geography

CASE STUDY

THE KAYAPO OF BRAZIL

The Kayapo people (**Figure I.2**) live in 44 villages on 5 reserves in the tropical rainforest of Brazil. The reserves are located in a protected area of the Amazon River Basin. The Kayapo have indigenous or independent rights over what happens in their territory. They maintain a traditional lifestyle of hunting, fishing, and agriculture. The land has not been changed by large-scale farming, mining, or the expansion of towns and cities.

PROTECTING THEIR LAND

The Kayapo have a history of protecting their land and way of life. In the 1980s, the chiefs asked for the help of conservation groups and celebrities to secure legal recognition of their rights to the land. Demonstrations about protecting the Amazon were filmed and televised around the world. The Kayapo people succeeded at maintaining and protecting their traditional lifestyle and their land.

NEW CHALLENGES

But today, the Kayapo are facing new challenges. Their territory is drained by the Iriri and Xingu rivers, which are smaller rivers that flow into the Amazon River. The Brazilian government plans to build a large dam on the Xingu River. The construction of the Belo Monte Dam will require more than 100 000 workers. More than 20 000 people will be removed from their homes, roads will be built, and water will be diverted in some areas while other areas will be flooded, including in the Kayapo territory. No talks with local Indigenous peoples are planned. The Kayapo chiefs fear that the building of the dam will result in the loss of traditions, cultural values, and land. Environmentalists fear that the flooding of land will create vast amounts of greenhouse gases as well as threaten endangered species.

FIGHTING BACK

The Kayapo are well equipped to fight back. They know how to compete in the world economy, being the first Indigenous people to work with The Body Shop. They are knowledgeable about how to use the legal system. They have been able to get their story out around the world using social media, and they have gathered 600 000 signatures to present to the Brazilian government to stop the dam. However, they have not yet been successful in this campaign, and plans for building the dam continue.

FIGURE I.2 Kayapo men performing a ritual

EXPLORE THE ISSUE

1. **Why do you think the Kayapo have been successful in the past in preventing development in their territory?**
2. **How do you think the lifestyle of the Kayapo might be changed if the dam is built?**

THINKING LIKE A GEOGRAPHER

Studying geography helps you develop ways of thinking about the world. There are four geographic thinking concepts that are unique to geographic learning: interrelationships, spatial significance, geographic perspective, patterns and trends. You can explore the Kayapo case study by examining it through the lens of each thinking concept.

INTERRELATIONSHIPS

When geographers look at the significance of a place, they also look at **interrelationships**. Interrelationships are the connections between parts in one system, or between two systems, such as between the natural environment and human environments.

Geographers examine interrelationships by asking

- What characteristics do the physical and human environments in a specific area have?
- How are these systems connected?
- How do people change the physical environment?
- How do these connections affect the lives of people living in a specific area?

The Kayapo people have focused on maintaining a traditional lifestyle of hunting and fishing. They connect with the land and try not to change it. The chiefs appreciate the importance of land ownership and use twenty-first century technology to try to protect it. However, a planned dam development is threatening their environment and way of life.

SPATIAL SIGNIFICANCE

Spatial refers to something that exists or occurs in a space. Spatial significance relates specifically to where places are located on the planet. To indicate where a place is, geographers talk about its

- **absolute location:** the precise position of a place; for example, the Kayapo territories are at latitude 7.98°S, longitude 53.03°W
- **relative location:** where a location is compared to other places around it; for example, the Kayapo territories are south of the Amazon River Basin

Significance means importance. So **spatial significance** can be defined as the importance of a place and those things that are around it.

In the Kayapo case study, we can use maps to locate where the Kayapo people live. Latitude and longitude can give us the precise location of the Kayapo territories. But, this place is also important to others because it will help them meet their energy needs. People value or see the significance differently.

The case study tells us some precise details about the physical characteristics of the area, such as its location in the Amazon River Basin.

GEOGRAPHIC PERSPECTIVE

Geographers study a wide range of issues facing people and the planet today. Every issue has supporters and opponents that reflect environmental, political, economic, and social values. It is important to know and examine all **perspectives**, or points of view, in order to determine a plan of action to resolve the issue. This way, we understand how our plan will affect others.

These various perspectives are based on the beliefs and value systems of the people and groups involved. Geographers need to listen to what people say about a specific problem and consider the following values:

- **environmental:** related to the use of the natural world
- **political:** related to decisions made by a governing body
- **economic:** related to opportunities to make money in order to meet needs and address wants
- **cultural/social:** related to protection of a society

In the Kayapo case study, the government of Brazil believes that the dam is essential to develop industries. That is an economic perspective. It may also be a political perspective as the government's supporters want the development. However, for the Kayapo, their way of life is being threatened. They also agree with the environmentalists who say that building dams will have a severe impact on the environment. Understanding different perspectives can give geographers insight into how to develop alternative solutions.

PATTERNS AND TRENDS

Once we know about a specific place, we want to compare its characteristics with characteristics of other places. That helps us to determine similarities and differences—that is, whether there are any patterns. **Patterns** are arrangements or similarities in characteristics. **Trends** are patterns in how something is changing or developing. As you learn about the characteristics of the natural environment, think about the patterns that exist and ask questions about them, such as the following:

- What characteristics are similar or repeat in different places?
- What causes these patterns?
- Do all places have similar patterns?
- What has happened over time in particular places?
- What might happen in the future?
- How do these patterns affect the lives of people living there?

This will help you expand your understanding of the world around you.

If we look at a map of the Kayapo territory, such as the one on page 10, we might see a pattern of forests and deforestation. The case study tells us that the Kayapo have maintained a traditional lifestyle and have protected their land from development. It also tells us that the chiefs are concerned about development that is going on around them. We could find out how development has affected similar communities around the world. Then we could try to draw some conclusions about what might happen to the Kayapo in the future.

WHAT IS GEOGRAPHIC INQUIRY?

In any geography course, you will be asked to find out about topics that connect to physical geography, natural resources, and related issues. Doing research can seem like a very complicated process, but by breaking it down into smaller pieces, you can make it more manageable. Once you have a topic or issue that you want to learn more about, you can gather, organize, and analyze information in various stages. How can you use the inquiry process to examine the Kayapo case study?

FORMULATE QUESTIONS

Good inquiry questions

- are important and meaningful to us
- are open-ended; they do not have just one final and complete answer
- can be answered by gathering evidence
- need support; to explain and prove your answers, you need to provide evidence and facts

It can be challenging to come up with a good inquiry question, but it is worth spending the time to formulate one.

How are the Kayapo people using twenty-first century technology to protect a traditional lifestyle?

GATHER AND ORGANIZE

Collect your data, keeping your inquiry question in mind. Your data will come from field studies, primary sources, and secondary sources. Primary sources are maps, photographs, satellite images, letters, journals, and other types of documents. Secondary sources are often based on analysis of primary data, such as documentaries, news articles, reference books, or websites. Organize your evidence so that you are using sources connected to your inquiry question.

What geographic clues are found in the Kayapo case study that give you an idea of the characteristics of where the Kayapo live? Where do you think the author might have found this information?

COMMUNICATE

You can communicate your findings in many different ways, including spatial journals, blog posts, slide shows, and presentations. When you communicate, make sure your inquiry question, evidence, and conclusions are clear and engaging to your intended audience. When geographers communicate their findings, people learn about the world around them.

If you were presenting the Kayapo case study, what format would you use?

INTERPRET AND ANALYZE

Think about the evidence you collect in different ways. In geographic research, it is crucial to present a variety of perspectives. Try to uncover new details or perspectives. Look for ways that different pieces might fit together. Try to find patterns. When you interpret and analyze, you make inferences or best guesses based on the evidence.

Is there evidence that a variety of points of view are included in the Kayapo case study?

EVALUATE AND DRAW CONCLUSIONS

Evaluate your evidence by thinking about how it supports or doesn't support your inquiry question. Use your new understanding and what you already know to draw conclusions about your inquiry question. Your conclusions might be quite different from the answers you thought you would find. They might even spark a new inquiry question! Or you may not reach a conclusion because you need different sources of evidence. Then you may have to go through the inquiry process again. Remember that it's possible to draw many different conclusions from the same evidence, and there is no one "right" answer.

In the Kayapo case study, what evidence could help you to draw a logical conclusion?

READING MAPS

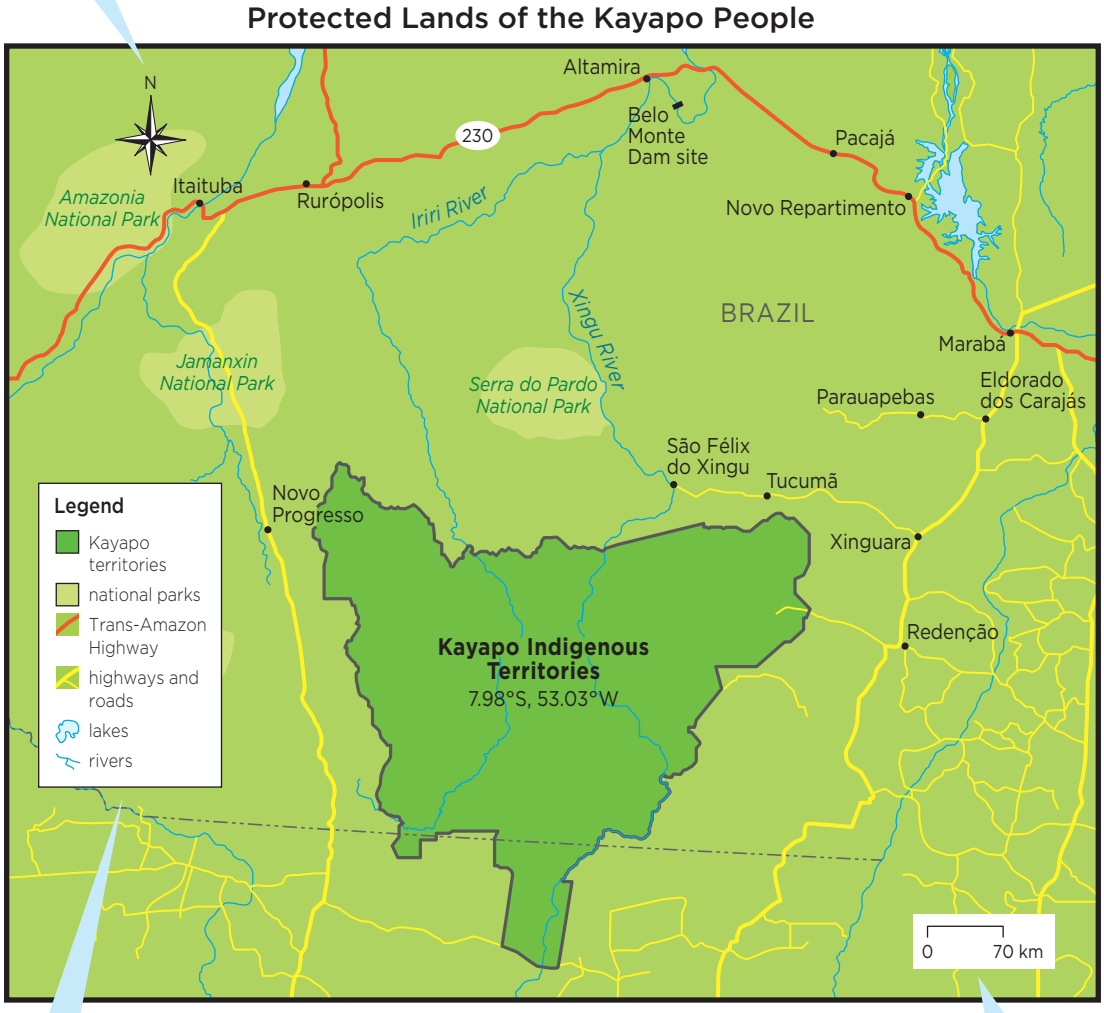
Maps are graphic or visual representations of what is happening on Earth. They can be used to show where countries or cities are located, to illustrate physical features such as water bodies or landforms, to show the spread of disease, or to illustrate how climate change will affect different parts of the world. Maps use colour, symbols, and labels to tell their story.

When reading a map, it is helpful to first look at several key pieces of information: the title, legend, scale, and north arrow. **Figure I.3** shows where the Kayapo territory is located in Brazil. By looking at the map you can begin to make connections to where the Kayapo people live and their relationship to the places around them.

FIGURE I.3 The Kayapo lands cover 10.5 million hectares (twice the size of Nova Scotia) of protected land in the southern part of the state of Pará, Brazil.

North arrow: Points in the direction of north on the map.

Title: Identifies the theme and geographic area. This map tells us about the current Kayapo territory in Brazil.



Legend: Lists how different types of information are shown on the map, using colours and/or symbols. This map shows six different types of information. For example, the Kayapo territories are shown in dark green.

Scale: Shows how distance on the map relates to the actual distance on the ground. This scale shows that 1 cm on the map is 70 km on the ground.

READING IMAGES

Images, such as photographs and satellite images, can help tell the story of a place. Satellite images are pictures taken by satellites above Earth. Because these images are taken from space, they can show large areas. Geographers have many uses for satellite images. They can use them to observe patterns of weather or natural hazards such as earthquakes. They can use them to see how we use natural resources such as trees or to show sources of pollution.

Being able to extract and analyze information in satellite images involves looking at elements of **tone**, **shape**, **size, pattern**, **texture**, **shadow**, and **association.** We use these tools every day when looking at photographs, TV shows, or movies.

Tone: How bright is an object?

Shape: What is the general form of an object?

Size: How big or small is an object compared to other objects in the image?

Pattern: How are the objects organized? Are they orderly or confusing to look at?

Texture: Do the objects look smooth or bumpy?

Shadow: Are the objects dark or light in colour? Do some objects look taller than others?

Association: What is the context of the objects in the picture?

Figure I.4 is a satellite image taken over eastern Brazil. The dark green shows the pristine forest within the Kayapo territories. The lighter green and brown surrounding areas show areas of deforestation. You can see active fires burning in the areas covered by white smoke.

Compare **Figure I.4** to the map in **Figure I.3**. What physical features shown on the map can you identify in the satellite image? What additional information does the satellite image provide that the map does not? Try to draw some conclusions about what you see.

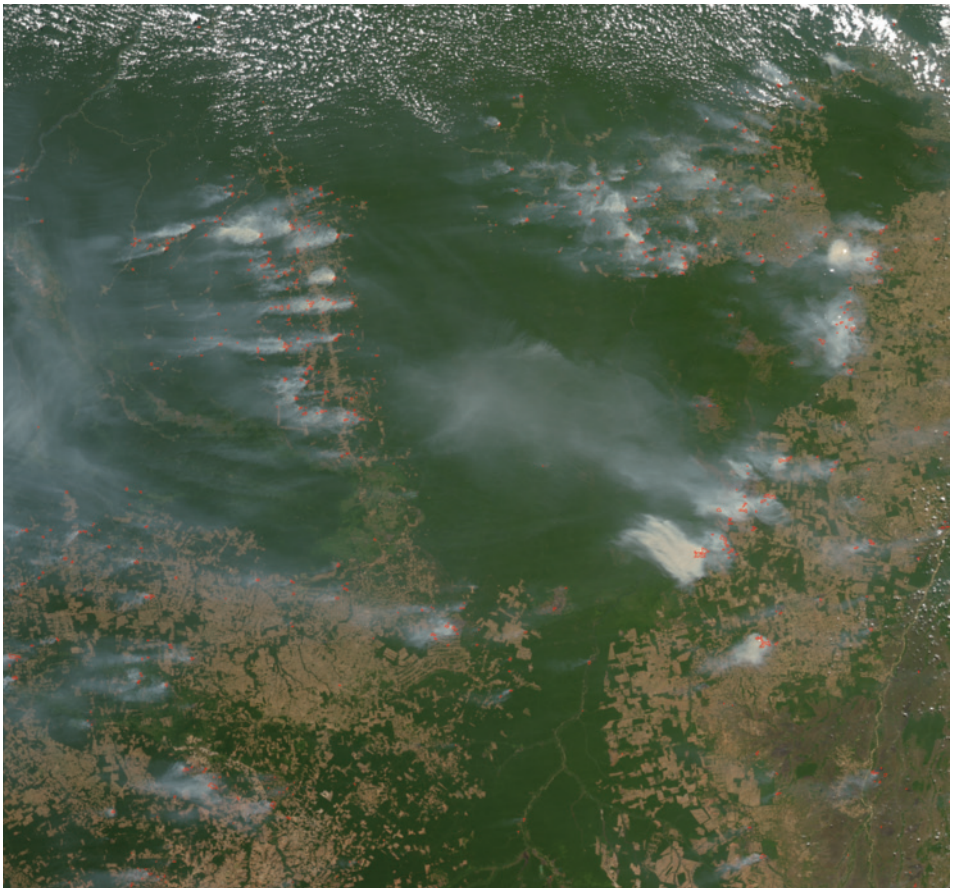


FIGURE I.4 This satellite image was taken on August 12, 2007 and shows deforestation and fires surrounding the Kayapo lands.