



UNDERSTANDING  
World Regional Geography



Erin H. Fouberg

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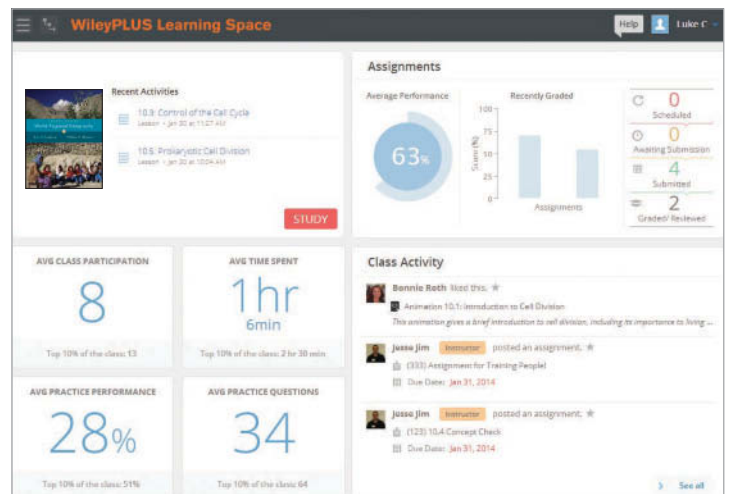


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## UNDERSTANDING WORLD REGIONAL GEOGRAPHY

Five hundred years ago, the greatest library in Europe was at Queens' College in Cambridge and had only 199 books in the entire collection. In 2013, publishers released more than 300,000 new titles or editions of books, and authors self-published more than 390,000 books in the United States alone. Even more remarkably, more than 1.1 million print on-demand or Internet-access only books were published, with marketing done chiefly on the Internet. Five hundred years ago, a scholar could claim to have read every book in Europe's greatest library. Today, no one can claim to have read each of the more than 36 million books in the Library of Congress in the United States. At the turn of the millennium, Librarian of Congress James Billington quipped that we are no longer in the Age of the Renaissance or the Information Age; rather, we currently live in a "Too Much Information Age."<sup>1</sup>

Too much information. Your generation, which cannot remember a time before the Internet and may have never used a card catalog in a library, is adept at quickly finding information. The vast majority of the information you find on the Internet is less than 15 years old. All of this recent information can give society a short-term memory that lacks the depth of geographic context and historical knowledge. Does all of the information with which you are inundated each day seep into your brain and improve your understanding of the world? Not likely.

One goal of this book is to help you sort through the "too much information" and gain understanding by thinking geographically about the world. Many general education curriculums at colleges and universities throughout North America require students to take "globalization" courses or to become better "global citizens." We are biased, as geographers, but we contend that the best possible way to gain a global perspective and to organize the vast amount of information that floods your lives each day is through world regional geography.

*Understanding World Regional Geography* helps students begin to grasp the complexities of our world. If you have ever watched the news or read a newspaper and thought, "I cannot possibly understand what is going on in Syria;" "I cannot understand how China became so economically powerful in the last 30 years;" or "Why are some people and places incredibly poor while others are ridiculously

wealthy?" you know the feeling of thinking the world is simply too complex to understand.

How can *Understanding World Regional Geography* help you on your journey of better understanding our complex world? We designed this book and the corresponding online content to introduce you to the integrative way geographers gather and process information. To do this, we build from the geography education literature, which has established that thinking geographically requires two things: applying geographic concepts to real-life situations and going into the field and seeing the world as geographers.

*Understanding World Regional Geography* introduces you to dozens of geographic concepts that you can integrate and apply to real-world situations. Across 14 chapters we highlight 25 **Threshold Concepts** that will help you learn to think geographically. Once you learn one of these concepts and apply it yourself, you will begin to integrate the concept in your thinking and can draw from it

### Threshold Concepts in Geography

CHAPTER	THRESHOLD CONCEPTS
Introduction to World Regional Geography	Context Region Cultural Landscape Scale
Global Connections	Anthropocene Globalization Networks
Geography of Development	Development Unequal Exchange Mental Map
Subsaharan Africa	Site Situation
Southwest Asia and North Africa	Diffusion Hearth
South Asia	Green Revolution
Southeast Asia	Tourism Authenticity
East Asia	Commodity Chain
Europe	Population Pyramid
North and Central Eurasia	Identity
North America	Migration
Latin America and the Caribbean	Race Gender
Pacific	Time-Space Compression
World Regions and World Cities	World Cities

<sup>1</sup>Achenbach, Joel. "The Too-Much-Information Age: Today's Data Glut Jams Libraries and Lives. But Is Anyone Getting Any Wiser?" *Washington Post*, March 12, 1999, A1.

to learn new material and think geographically. When a Threshold Concept is introduced in depth, an icon appears in the margin and a definition is given at the bottom of the page. At the end of each chapter, the **Creative and Critical Thinking Questions** each integrate Threshold Concepts, which affords you an opportunity to apply Threshold Concepts to your surroundings and case studies from each world region.

WileyPLUS Learning Space includes to a matrix for the 25 Threshold Concepts that links you through to a variety of case studies from *Understanding World Regional Geography* that use each threshold concept.



**MAPS.com**

We established the mapping program in *Understanding World Regional Geography* through partnerships with Esri and Maps.com. Maps.com used ArcGIS to create six thematic maps for print and digital in each chapter of *Understanding World Regional Geography*. Clicking on a webmap in the *Understanding World Regional Geography* online environment opens the map in ArcGIS Online, making the map dynamic and interactive.

Dynamic webmaps give students ownership of their learning. In the ArcGIS Online environment, students can interact with the maps, turning on and off layers, zooming in and out, panning across maps, adding their own layers of data, and using spatial analysis tools in ArcGIS Online to ask and answer questions. An expert in geography education and spatial thinking designed map exercises in each chapter that take students through steps in Bloom's taxonomy, first asking students to look for patterns on a map, then asking students to compare and contrast different data or different areas of the map, and later asking students to infer and predict based on the map.

ArcGIS Online is simple to use while also being robust. Students can work through map questions using really basic commands in ArcGIS Online. Students who grow curious and explore ArcGIS Online or whose professors or discussion leaders create their own assignments using *Understanding World Regional Geography's* dynamic webmaps can ask and answer new questions by adding layers from outside, creating class (virtual) field trips, designing Esri storymaps to track a history, pattern, or phenomenon, and using ArcGIS Online's spatial analysis tools to ask and answer complex questions.

As students interact with the maps, they learn how to think geographically by asking geographic questions and using webmaps to find answers. Instead of telling students geography is something you memorize, we show students that geography is something you do.

## UNDERSTANDING WORLD REGIONAL GEOGRAPHY FEATURES:

- **Chapter Opener** Featuring a single photograph and a short vignette, the authors draw students into reading the chapter. The goal of each chapter opener is to get students to think twice about their existing perception of a region.
- **Guest Field Notes:** The authors invited colleagues to discuss their fieldwork-based research. Each guest field note includes a photograph and a vignette describing the fieldwork.
- **Using Geographic Tools** This feature demonstrates, through real-world examples, how geographers use tools, including regions, mental maps, GIS, crowd-sourced maps, statistics, surveys, landscape analysis, and planning, to do geography. Each Using Geographical Tools entry includes a photo or map and two Thinking Geographically questions.
- **Reading the Physical Landscape** Students are walked through the process of examining a physical landscape, identifying physical features, and understanding the processes that created the features in the landscape.
- **Reading the Cultural Landscape** Students are walked through the process of examining a cultural landscape, identifying the visible imprint of humans and cultures on the landscape, and understanding the processes that shaped the landscape.
- **Your Turn: Geography in the Field** Students are given the opportunity to analyze a photograph, make observations, ask questions, and think through answers. Each Your Turn: Geography in the Field feature includes at least two Thinking Geographically questions.

Learning to think geographically requires practice. The Guest Field Notes, Reading the Cultural Landscape, Reading the Physical Landscape, and the Your Turn: Geography in the Field features may inspire you to look at your campus or neighborhood in a new light. Start making observations, asking why something is where, and seeking answers.

A global perspective is not easily achieved. It may take you a lifetime. Our hope is that this class and this book will set you on the path to seeing how you fit into the world, to becoming curious about the varied people and places in our world, and to gaining a deeper understanding of this vast place we call home.

## ACKNOWLEDGMENTS

We began work on *Understanding World Regional Geography* about eight years ago when Erin envisioned designing a book around how students learn. Inspired by the National Research Council's *How Students Learn: History, Mathematics, and Science in the Classroom*, by articles and presentations in geography education emanating from the National Council for Geography Education



and the Association of American Geographers, and by her own research in geography education based on metacognition assignments she has used for approximately 2,000 students in her introductory geography classes over the last 20 years, Erin wrote the outline for the book and the introductory chapter around the best practices she had found to help students understand world regional geography.

At the time, Erin was already working with Ryan Flahive, Wiley Geosciences editor, on *Human Geography: People, Place, and Culture* (with Alexander B. Murphy and H. J. de Blij), and Ryan called Erin and asked that she consider writing a world regional geography book. The project started in earnest in 2006.

Dozens of people at Wiley have played a hand in bringing this book to fruition. Ryan Flahive was a partner in developing *Understanding World Regional Geography* from the beginning. Ryan recognized and helped refine Erin's vision for a book designed around how students learn. He and Erin engaged in countless discussions about the limitations of a PDF-based, traditional e-textbook. Ryan played a central role in developing Wiley's dynamic learning platform, WileyPLUS Learning Space, and we are proud that *Understanding World Regional Geography* is the pioneer first edition book to be designed and published using WileyPLUS Learning Space. Erin met with Jay O'Callaghan at the Association of American Geographers meeting in 2012. Erin and Jay were walking through the convention center and mulling over how to make maps with which students could take ownership of their learning. Erin was lamenting the fact that ArcGIS would be the best possible platform but that it would have too high of a learning curve for an introductory class, when they were drawn into the Esri booth to watch a demonstration of ArcGIS Online. As Erin soon discovered, Esri's ArcGIS Online is perfectly suited for the novice, armchair user with no background in GIS. This generation of college students, the Millennials, can navigate well-designed software intuitively, and ArcGIS Online is a well-designed, dynamic geographic information systems (GIS) environment. Jay gave his support to a revolutionary mapping program designed to fully function in ArcGIS Online, and Ryan and Erin met with Esri in Redlands, California.

David DiBiase, Esri Director of Education, and the education team at Esri, including Charlie Fitzpatrick, Angela Lee, and Joseph Kerski, have given exceptional support to the *Understanding World Regional Geography* mapping program. Sean Breyer, Esri Program Manager for Online Content, and his team searched for hard to find data and vetted layers for the best sources to integrate into our maps. We thank Jack Dangermond, founder and president of Esri, for his continually evolving and progressive vision of maps as spatial thinking, analysis, and decision-making tools and for his unwavering support for our project. David DiBiase served as lead vocal and Ryan Flahive was lead guitar for the mapping program band. Erin periodically beat the drum to keep moving us forward, but it was the trust established

between David and Ryan that allowed Esri, the leading GIS company, and Wiley, the leading geography publishing company, to take a leap of faith and provide the resources and effort necessary to make our robust mapping program. We thank them for creating a partnership that made our groundbreaking mapping program possible. In a conversation in 2014, David quipped, "Maps are not trivial things." Thanks to David's guidance and the support of the education team at Esri, students will recognize how maps can transform their learning of facts into an understanding of connections, patterns, and context, while using the dynamic webmaps and accompanying exercises in WileyPLUS Learning Space.

Wiley has been incredibly supportive of *Understanding World Regional Geography* since its inception. We were assigned several of the best development editors in the business. Mary O'Sullivan, Ellen Ford, and Nancy Perry helped envision the flow of the chapters, adeptly coordinated reviews, thoughtfully guided our progress, and learned to think geographically along the way. Once we moved from development to production, Sandra Dumas and Janet Foxman served as production editors, organizing the manuscript schedule and map and art programs to bring the book together. Jackie Henry stepped in, and we benefited from her organization, support, and ability to juggle. While moving *Understanding World Regional Geography* through production, Jackie also served as production editor for *Human Geography: People, Place, and Culture*. Dennis Free was the final production editor. His pragmatism, communication skills, and organizational abilities brought the book to print, and we are thankful for his work.

Wiley Vice President and Director Petra Recter championed this first edition. Petra recognized potential bandwidth issues and supported us through periods of overload. Wiley Geosciences editor Jess Fiorillo hit the ground running in fall 2014. We appreciate her candor, intelligence, kindness, and optimism. Veronica Armour has a keen sense of curiosity, which helped improve this book. Darnell Sessom's kindness and support are truly appreciated. Julia Nollen adeptly handled the guest field notes and stepped up in the last few weeks to help us reach our goal. Kathryn Hancox was invaluable to Erin as coordinator for permissions, art, and photos. The amount of work that goes into permissions has increased significantly since the beginning of this project, and Kathryn and permissions editor Craig Leonard were thorough. Photo editor Billy Ray was a delight to work with, as he took the time to really think about how a photo needed to be framed to convey a certain geographic concept. He has a great eye for photography and displayed a willingness to dig when we asked him to do so. After working on a book so long, the authors hope that the designer will present the material in an engaging manner. Senior designer Wendy Lai created a layout that engages the reader, and she drew from her impeccable taste and aesthetic to design a beautiful book. Behind the scenes, Geraldine Osnato, Kevin Holm, and Harry Nolan moved

our book forward, and we are so thankful for their work. Suzanne Bochet and Christine Kushner developed a marketing plan that conveyed the message of our goal—to help students *understand* world regional geography. We tell our students that they can only improve their writing by being open to review, and we appreciate Karen Fein took the time to read our every word and give us constructive feedback. Both of us improved our writing thanks to Karen’s guidance. During the production process very little can make an author laugh as the stress level builds, but Betty Pessagno, who served as copyeditor and proofreader, made Erin laugh out loud, alone in her basement at 4 in the morning many times. Erin actually looked forward to getting Betty’s edits because they were always spot on and were often tinged with a sarcasm that made the process so much more enjoyable.

Erin’s dear friend and past president of the National Council for Geography Education, Jan Smith, authored a white paper on best practices for textbook maps that informed our mapping program. Jan and Erin engaged in research in threshold concepts to test the pedagogy of *Understanding World Regional Geography* among faculty, instructors, and students. We thank Jan for stepping up every time she was asked, participating in conference calls and coffee meetings and responding to emails and phone calls.

We are indebted to all our colleagues who served as reviewers or in focus groups. At the very beginning, Jason Dittmer, Cary Komoto, and Eric Fournier gave us valuable feedback that helped establish a sound footing for our writing. Thank you to Alan Arbogast who wrote the drafts of “Reading the Physical Landscape” throughout the 14 chapters. Thank you to every reviewer who took the time to read carefully, critically analyze, and offer suggestions for our chapters:

Iddrisu Adam	<i>University of Wisconsin– Marshfield</i>
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After establishing the Esri–Wiley partnership, we needed to find the best possible cartographers to create our maps. We were aided by two well-respected cartography teams: Maps.com and Mapping Specialists. Bennett Moe at Maps.com worked with Esri and Wiley and other data vendors to create systems that made our maps work in ArcGIS Online and took the lead on creating the dynamic webmaps. Cartographer Martha Bostwick designed the map palette and design specifications based on Wendy Lai’s book design. Martha designed the six print thematic maps and Jesse Wickizer created the dynamic webmaps for each chapter, and we appreciate the thought they put into designing them. Erin has worked with Don Larson at Mapping Specialists since 2004, and we appreciate his ability to convey data and concepts through beautifully designed maps. We trusted Don’s team, including Beth

Robertson, Paula Robbins, Terry Bush, and Glen Pawelski to use their design aesthetic and skills in cartography and GIS to update or create more than 100 maps and figures in this first edition. An additional thank you to PhD student Kim Johnson, who researched the data used in many of the maps and figures in this first edition.

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the family station wagon on long drives around the country. The results of his encouragement to ask questions, make connections, and reason through answers and his tip to read certain geographers whom he considered “mad geniuses” are found throughout this book. Erin’s mother, Joan, knew exactly when to ask about the project and when to step back. Her constant intercession to “Keep the faith” propelled her forward during some dodgy parts of the process. Thank you to Glenna and Rod, who lovingly provided for the “care and keeping of Maggie and Henry” many times over the course of this project. Erin thanks her sisters, Molly and Bridget, and her brothers, Tim and Eddie, for believing in her.

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William G. Moseley  
St. Paul, Minnesota

## ABOUT THE AUTHORS ●



**ERIN H. FOUBERG** is professor of geography and director of the Honors Program at Northern State University where she teaches courses in world regional geography, human geography, physical geography, geographic information systems (GIS), and political geography. She graduated from the Georgetown University School of Foreign Service and then earned her master's and Ph.D. at the University of Nebraska-Lincoln (1997). Her research interests include the political geography of American Indian sovereignty, geography education, and sacred sites. She served as Vice President of Publications and Products for the National Council for Geography Education. She has co-authored four editions of *Human Geography: People, Place, and Culture* (with Alexander B. Murphy and H. J. de Blij, Wiley, 2006, 2009, 2012, 2015). She served as an editor on *The Atlas of the 2012 Elections* (with J. Clark Archer, Robert H. Watrel, Fiona Davidson, Kenneth C. Martis, Richard L. Morrill, Fred M. Shelley, and Gerald R. Webster, Rowan and Littlefield, 2014) and co-edited *The Tribes and the States* (with Brad A. Bays, Rowman and Littlefield, 2002). Dr. Fouberg excels in teaching and advising undergraduate students, earning teaching awards from the University of Nebraska-Lincoln as a graduate student, from the University of Mary Washington in Fredericksburg, Virginia, as an assistant professor, and from Northern State University in Aberdeen, South Dakota, as an associate professor. She is active in her community, serving leadership roles on the soccer board, PTA, and fundraising campaigns for children's charities. Erin lives with her husband and two children in Aberdeen, South Dakota, where she enjoys traveling, reading, golfing, and watching athletic and theater events at Northern State.



**WILLIAM G. MOSELEY** is a professor and chair of geography, and director of African studies, at Macalester College where he teaches courses on human geography, environment, development, and Africa. His research interests include political ecology, tropical agriculture, environment and development policy, and livelihood security. His research and work experiences have led to extended stays in Mali, Zimbabwe, South Africa, Botswana, Malawi, Niger, and Lesotho. He is the author of over 70 peer-reviewed articles and book chapters. His books include: *An Introduction to Human-Environment Geography: Local Dynamics and Global Processes* (with Eric Perramond, Holly Hapke, and Paul Laris) (Wiley-Blackwell, 2013); four editions of *Taking Sides: Clashing Views on African Issues* (McGraw-Hill/Dushkin, 2004, 2006, 2008, 2011); *Hanging by a Thread: Cotton, Globalization and Poverty in Africa* (with Leslie Gray) (Ohio University Press, 2008); *The Introductory Reader in Human Geography: Contemporary Debates and Classic Writings* (with David Lanegran and Kavita Pandit) (Wiley-Blackwell, 2007); and *African Environment and Development: Rhetoric, Programs, Realities* (with B. Ikubolajeh Logan) (Ashgate, 2004). His fieldwork has been funded by the National Science Foundation and the Fulbright-Hays program. He has served as editor of the *African Geographical Review*, as a national councilor to the Association of American Geographers, and as chair of the cultural and political ecology specialty group. In 2011, he won the Educator of the Year award from students at Macalester College, and in 2013 he won the Media award from the Association of American Geographers for his work communicating geography to the general public via essays that have appeared in outlets such as the *New York Times*, *Washington Post*, and *Al Jazeera English*. Bill lives with his wife and two children in Saint Paul, Minnesota, where he enjoys running, cross-country skiing, and camping in his spare time.

# DEDICATION



*For*  
*Robert John Fouberg*  
*my husband and best friend*  
*and*  
*James F. Moseley*  
*my little brother and inspiration*



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# INTRODUCTION TO WORLD REGIONAL GEOGRAPHY

This may be your first college-level geography class, but your mind is not a blank slate. You come into this class with a set of perceptions about peoples, places, cultures, and regions. Your understanding of the world comes from your experiences, as well as from news stories, magazines, movies, novels, and books. Images you have seen in your life—an Afghani girl with piercing green eyes or a Maasi woman with a beaded collar on her neck—help create a structure in your brain, and this structure helps you make sense of the world.

These structures in our brains are like scaffolding. Educators across disciplines call these scaffolds schemata. Pieces of information create the base, then we build upon it with other perceptions and ideas we gain, and finally, we have schemata through which we build ideas and attach any new information we learn about places and peoples. If we read a novel set in southern Africa and the characters, stories, and descriptions contrast with our schemata of Africa, we may choose to restructure our conceptualization of Africa, reject the image of Africa presented in the novel, or pick and choose what fits and what does not fit in our perception.

The goal of *Understanding World Regional Geography* is to help you build your knowledge and appreciation of the world. As global citizens, each of us has opportunities every day to be aware of our schema, question it, wonder about it, challenge it, and ultimately, revise it so that we may have a deeper understanding of the world we call home.



Steve McCurry/Magnum Photos, Inc.

**Nasir Bagh, Pakistan.** Photographed in 1984, in the midst of the Soviet Union's occupation of Afghanistan, Sharbat Gula came to symbolize the pain of a refugee's life and the resilience of the Afghan people. Americans were drawn to Sharbat Gula's piercing green eyes on the cover of *National Geographic* magazine. Gula is a member of the Pashtun ethnic group in Afghanistan, and her parents died in the war with the Soviet Union. As a young child, she and her siblings and grandmother fled to the Nasir Bagh refugee camp across the border in Pakistan, where she lived until after she married as a teenager. The photograph of Gula is considered one of the most famous photographs in the United States. Something about her eyes spoke to Americans. Perhaps we imagined the life of the young woman in a refugee camp and thought of girls in America who were the same age. Perhaps we could not look away from those eyes, and we realized the war happening so far away was impacting people who seemed real in her face. Perhaps her eyes were engaging enough that we wanted to learn more about the war in Afghanistan. Or perhaps the glimmer of hope behind the strain in her bright eyes made us hopeful for an end to conflict in the region. Regardless of how we interpreted Gula's eyes, we paused and considered where Afghanistan and the war fit in our schemata of the world.

### What Is Geography?

- Studying Geography
- What Does It Mean to Think Geographically?

### What Are Regions, and Why Do Geographers Use Regions?

- Regions
- Institutionalizing Regions
- Scale
- Why Do Geographers Use Regions?

### What Regions Are Used in *Understanding World Regional Geography*?

- Formal Regions
- Functional Regions
- Perceptual Regions
- Regions in *Understanding World Regional Geography*
- Regional Manifestations of Global Processes
- World Regions

### What Tools Do Geographers Use to Study World Regional Geography?

- Fieldwork
- Cartography
- GIS and Remote Sensing
- Landscapes



### THRESHOLD CONCEPTS in this Chapter

Context  
Scale  
Region  
Cultural Landscape

## WHAT IS GEOGRAPHY?

LO

### LEARNING OBJECTIVES

1. Describe what geography is.
2. Explain the differences between physical geography and human geography.
3. Understand what it means to think geographically.

Geographers are interested in studying the world, specifically, the multitude of peoples and the places they create. Most people new to the field of geography imagine that geographers study maps in order to memorize places, and read statistics in order to gather facts about people and places, such as chief exports, capitals, and major languages. However, geographers do not study peoples and places

simply to gather sets of data. Geographers study peoples and places in order to *understand* how people create places, how cultures are reflected in places, how people and environment interact, and how people's perceptions of places and of others influence the ways they interact.

### STUDYING GEOGRAPHY

**Geography** is the study of people, place, environment, and space. **People** incorporate the 7 billion people on Earth. Geographers study the ways people identify themselves and define others, the cultural practices and norms they follow, and the actions they take whether on a mundane day or in the context of a major event or crisis. **Place** is the uniqueness of a location, and to understand place, geographers think about how places are shaped by people and their interaction with environment. A place has a character, a visual aesthetic that typically reflects the people, their cultural values, and their reciprocal interaction with the physical environment (Figure 1.1).

## Reading the CULTURAL Landscape

### Ifugao Province, Philippines: Rice Terraces

These rice fields in the Philippines look nothing like the vast, flat corn fields of Iowa and Illinois. How do people farm in a hilly or mountainous environment? Approximately 2,000 years ago, Ifugao people on the island of Luzon in the present-day Philippines carved terraces into the hillside to shape flat lands they could farm. Since then, farmers have used the terraces to cultivate rice. The terraces are irrigated

by rainfall at higher elevations that is then pooled and released over time down the steps of the landscape. The engineering feat of rice terraces and the balance between nature and society exemplified by this form of agriculture were reasons the United Nations recognized the Ifugao rice terraces as a World Heritage Site in 1995.



© Skip Nally/Corbis.

**FIGURE 1.1 Banaue, Philippines.** These rice terraces have been farmed for 2,000 years.



**Environment** is the physical context of Earth, but environment is not a static stage on which people act. Environment incorporates Earth processes, such as erosion caused by rivers, and the human impact on environment. **Space** is an abstract, boundless set of connections and construction of relations where processes occur. Geographers think about what and who creates space—the structures of everyday society, the economic, political, and social constraints in which people operate.

Geography incorporates two major fields of study: **physical geography** and **human geography**. Physical geographers take a geographic approach (analyzing people, place, and space) to the study of Earth, environment, and human–environment interactions. Physical geographers study weather (meteorology), climate (climatology), natural hazards, landforms (geomorphology), human–environment interactions, and more. A physical geographer approaches an issue such as flooding in Pakistan differently from other physical scientists (Figure 1.2), because a physical geographer is concerned with why something is happening precisely where it is happening, why it matters to that place and the people, and how what is happening in this one place is connected to other peoples, places, and space.



Khalid Tanveer/AP Photo.

**FIGURE 1.2 Multan, Pakistan.** The Indus River is the lifeblood of Pakistan, providing fresh water to over 100 million people. In August 2010, the Indus experienced massive flooding, caused by incredibly heavy rains from the summer monsoon. Monsoon rains are intensifying as the temperatures of the Indian Ocean have warmed with recent global climate change. Approximately 20 million people were displaced by the flooding in Pakistan.

Human geographers takes a geographic approach (analyzing people, place, and space) to the study of peoples, cultures, and their shaping of place and environment. Human geographers study economics, politics, culture, health and medicine, history, and more. A human geographer approaches an issue such as guest workers migrating from Indonesia to Saudi Arabia (Figure 1.3) differently from other social scientists because a human geographer is concerned with where something is happening, why it is happening there, and why it matters (to the place migrants came from, the migrants themselves, and the place where the migrants went to).

Human geographer Rachel Silvey interviewed Indonesian women who worked as domestic help in Saudi Arabia and found that, although reports of cases of abuse of Indonesian women in Saudi Arabia were high enough for non-government organizations to ask the Indonesian government to stop women from becoming guest workers, thousands of women were still willing to migrate. The women believed earning **remittances**, money earned through work in Saudi Arabia that they could send home to Indonesia, was worth the risk of abuse. They also believed working in Saudi Arabia gave them opportunity to make the pilgrimage to Mecca (located in Saudi Arabia), which is expected of all Muslims if they can afford to go.

Geographers also study the reciprocal relationship between physical and human, in a field of study called **human–environment** relations. Catastrophes, such as the 2010 flooding in Pakistan, can have global environmental causes with very real local impacts on people. Drawing from the Indus River to irrigate lands makes



REUTERS/Newscom.

**FIGURE 1.3 Tangerang, Indonesia.** The largest Muslim country in the world, based on total followers of Islam, is Indonesia, with over 200 million Muslims. The government of Saudi Arabia claims approximately 100,000 Indonesians work in Saudi Arabia. Other sources estimate that more than 500,000 Indonesians work in Saudi Arabia as guest workers, invited by the government to work temporarily, mainly as domestic help. The women in this photograph are filing papers to leave Indonesia and become guest workers in Saudi Arabia.

agriculture possible in swaths of the otherwise semiarid to arid Pakistan. The Indus River also provides fresh water to over 100 million people. Beginning in the Himalayas, water in the Indus River comes from the melting snow and glaciers and from the annual summer monsoon. Monsoon rains bring more than 80 percent of precipitation that falls in the lower Indus River valley in just three months each summer: July, August, and September.

In August 2010, extremely heavy rains flooded the Indus River. Monsoon rains are intensifying as Indian Ocean temperatures rise with global climate change. Warmer air holds more moisture, bringing more rainfall during the summer, or wet monsoon season, throughout South Asia. The United Nations (2010) estimated 15 to 20 million people were affected by the Pakistan flooding, “more than the entire populations hit by the Indian Ocean tsunami (2004), the Kashmir earthquake (2005), Cyclone Nargis (2008), and the Haiti earthquake (2010) combined.” While a relatively small number of people died in the Pakistan floods (1,700 people compared with over 250,000 deaths in the Indian Ocean tsunami), the Pakistan floods caused billions of dollars of damage to agricultural fields, infrastructure, buildings, and livestock.

In addition to heavier rainfall, caused in part by a warming Indian Ocean, human changes to environment in Pakistan intensified the flooding in 2010. Pakistanis have deforested much of northern Pakistan, where the heaviest rains fell, leaving little vegetation to absorb the rain and allowing much more runoff of rainfall into the Indus River. In southern Pakistan, people had drained wetlands along the Indus in order to farm and build settlements. The number of people displaced by the flood was higher than it would have been if the flood had occurred ten years earlier because more people live along the river now than in years past.

What humans do affects environment, and environmental change affects what humans do. In the case of Pakistan, human action helped warm the Indian Ocean and altered the summer monsoon, leading to heavier rainfall. The heavy rainfall led to floods, and the damage of those floods was intensified because of human changes to the landscape, in this case deforesting and draining wetlands. In response, people in Pakistan are now working to rebuild their economy, establish a stable food supply and access to clean water, and find a way to survive floods of this magnitude in the future.

### WHAT DOES IT MEAN TO THINK GEOGRAPHICALLY?

Thinking geographically means considering and understanding the context of what is going on in the world. Historians focus on the historical context and geographers focus on the spatial context. Geographers use geographic concepts to find connections and make distinctions among different people and places. A geographic concept is a way of thinking about or understanding something that has a geography, a location, a spatial difference, or a place distinction.

### Threshold Concepts

*Understanding World Regional Geography* emphasizes 25 **threshold concepts** as key to thinking geographically. Meyer and Land (2006) established that once a student understands threshold concepts in geography, it opens the door to thinking and learning like a geographer. We wrote and designed the book to highlight 25 threshold concepts and show how to apply them to specific examples. Our discipline has far more than 25 geographic concepts, but we chose these 25 as the pivotal concepts for thinking geographically in a world regional geography course. Each chapter highlights one or more threshold concepts and uses case studies to demonstrate the threshold concepts.

The creative and critical thinking questions at the end of each chapter challenge you to apply threshold concepts across regions. The concept checks within each chapter test whether you have learned the material and can apply threshold concepts and other geographic concepts. The online component also has graded questions regarding specific threshold concepts and case studies to help you practice employing them. In this chapter, we will discuss threshold concepts of context, scale, region, and cultural landscape.

### CONTEXT

Reading statistics such as 4 out of 5 children with HIV/AIDS live in Sub-Saharan Africa may lead us to believe the disease is really an issue for Africa and less so for the rest of the world. However, HIV/AIDS diffuses in each region of the world in varying ways, and, only by understanding each **context** can we grasp the impact of the disease and design programs to help combat its spread. To geographers, the world is not a stage on which people act and diseases spread. Rather, in each of the world’s regions, people’s experiences, shared histories, cultural values and norms, and interactions with each other and places, as well as human–environment interactions, create and define a regional context in which a disease diffuses.

In regional contexts, we can better understand why diseases spread in the patterns they do. The diffusion of HIV/AIDS is a global phenomenon, interacting with many governments that work to create programs to slow the transmission of the disease in their countries. Regionally, HIV/AIDS is most widespread in Sub-Saharan Africa, with 31 million of the 38 million worldwide cases. New research gives two major reasons for its high concentration in Africa: high rates of malaria and lack of male circumcision.

Studies report that people infected with malaria who also have HIV/AIDS can become “supercontagious,” thus increasing transmission rates of HIV/AIDS among people in the region. Scientists have also confirmed that uncircumcised men are more likely to contract HIV/AIDS than circumcised men (Figure 1.4).



**context** The physical and human geographies that give meaning to the place, environment, and space in which events occur and people act.

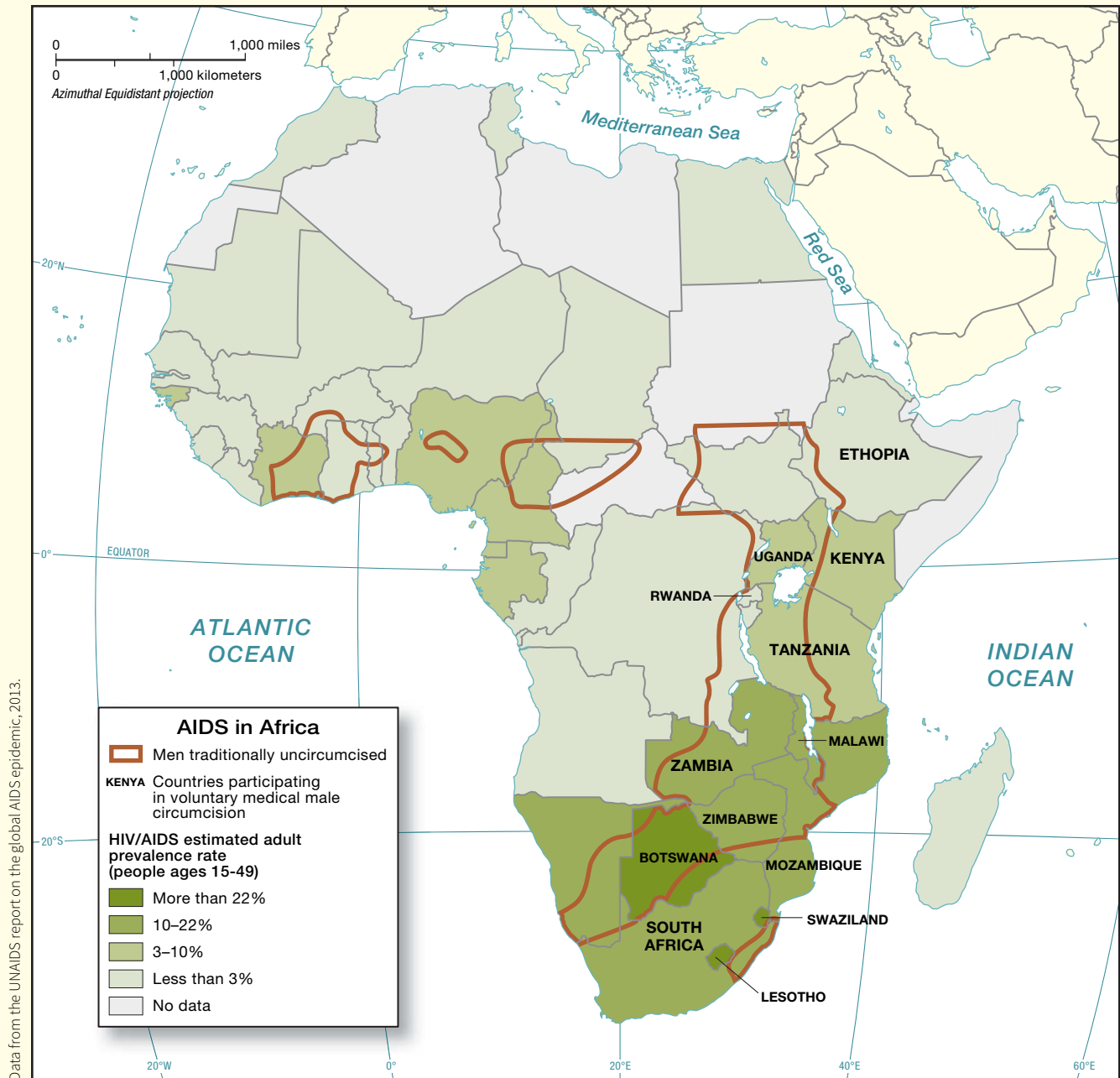


## USING GEOGRAPHIC TOOLS

### Using Regions to Analyze Differences: The Diffusion of HIV/AIDS by Region

The first cases of HIV/AIDS in the world were found in Central Africa, and the first major diffusion of HIV/AIDS occurred in eastern Africa along a well-traveled highway from Kenya to Uganda. This area of Africa became known as the first HIV/AIDS belt. A number of factors led to the

first HIV/AIDS belt developing in Africa. A person who has contracted HIV does not know until they test positive or start showing symptoms, so they can spread the disease unknowingly. Before HIV/AIDS education was widespread, the disease spread relatively quickly in Sub-Saharan Africa.



**FIGURE 1.4 HIV/AIDS in Africa.** Researchers mapped adult prevalence rates and areas where males are traditionally uncircumcised to see if the two were related.

(Continued)

In 1996, researchers mapped areas where males are not commonly circumcised and overlaid the map with the first HIV/AIDS belt to demonstrate a spatial correlation (Figure 1.4). Knowing this helped scientists make connections between disease transmission and male circumcision and led to further research.

Examining the differences in methods of transmission of HIV/AIDS in other world regions can help geographers gain a sense of how social, economic, cultural, gendered, and sexual norms vary by world region. For example, in Sub-Saharan Africa, HIV/AIDS is largely disseminated through heterosexual (male–female) sex. The diffusion of HIV/AIDS in eastern Europe is caused largely by intravenous drug use and then is secondarily diffused by male–female sex. In western Europe, the diffusion of HIV/AIDS reflects the same pattern found in North America, with male–male sex being the leading transmission method, followed by intravenous drug use. In East Asia, Southeast Asia, and South Asia, the sex industry generates the highest transmission rates. Designing

programs to effectively combat the spread of HIV/AIDS depends on a regional understanding of how the disease most commonly diffuses.

### Thinking Geographically

1. Knowing that the primary transmission methods of HIV/AIDS varies by world region, how could you design a program to combat the diffusion of HIV/AIDS that takes into account the primary transmission methods in each world region?
2. What is unique about HIV/AIDS relative to other diseases that would explain why many analysts claim that the economic impact of HIV/AIDS on a country is more severe than most diseases?

*Sources:* United Nations Programme on HIV/AIDS (UNAIDS). 2013. “Global Report: UNAIDS Report on the Global AIDS Epidemic 2013.” BBC. 2005. “HIV Impact: Region-by-Region.” BBC News. November 30.

The World Health Organization reports that 85 percent of all malaria cases worldwide are in Africa, and the Centers for Disease Control reports circumcised men have a 42 percent lower chance of HIV infection than uncircumcised men. An analysis of HIV/AIDS and male circumcision rates by country and region found that males in Sub-Saharan Africa, where the dominant religions are traditionalist and Christianity, have relatively low rates of male circumcision and high rates of HIV/AIDS.

In 2007, the World Health Organization reported that medical male circumcision “reduces the risk of female-to-male sexual transmission of HIV-AIDS by approximately 60 percent.” Governments and non-governmental organizations have established programs and clinics to circumcise adult males in Sub-Saharan Africa. The World Health Organization is approving new medical devices to aid in adult male circumcision and seeking more qualified, surgically trained practitioners to deliver services.

### SCALE



Geographers use **scale** in two ways: first, to explain the relationship between the distance on a map and distance on Earth (one inch on the map equals one mile on Earth, for example), and second, to describe the extent of a study


(countries of the world versus counties in a country). In this book, we use the second approach to scale. The scale of analysis is the extent of a study, the scope of Earth (local, national, or global) we are considering when looking at circumstances, patterns, and relationships.

Understanding an issue as complex as the diffusion of HIV/AIDS depends on grasping the context of the disease and also on integrating our knowledge of circumstances at multiple scales: individual, family, local, national, regional, and global.

At the same time that HIV/AIDS diffuses globally, regional and local processes (the diffusion of malaria, the preparedness of a health care clinic, the access to anti-retroviral medicine) are interacting with global processes (sometimes creating global processes of their own). All of these processes, occurring across all of these scales, affect one another and create a context for understanding what is happening in a given place at a given time and why.

### CONCEPT CHECK

1. **Why** does place matter in the study of geography?
2. **How** do human geographers and physical geographers study Earth differently?
3. **How** does understanding the context and scale of the diffusion of HIV/AIDS help you better understand the global AIDS crisis?

 **scale** The geographical scope (local, national, or global) in which we analyze and understand a phenomenon.

## WHAT ARE REGIONS?

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### LEARNING OBJECTIVES

1. **Identify** what a world region is.
2. **Explain** the role humans play in creating regions.
3. **Understand** why scale matters when defining boundaries.

Are **regions** natural, built into Earth, or are regions created by humans? Historically, geographers believed regions were real or natural—that you were born into a region as you were born into a family. Geographers used regions as the basic units for studying the world. Studying world regional geography became a way of sorting the world into similar groupings whereby each region had its own distinct character or set of characteristics. People who thought of world regions as natural entities saw them as relatively static spaces, each standing alone, created through the collection of smaller cohesive spatial units.

Researchers in the field of new regional geography have come to see regions as things humans construct to categorize people and places into conveniently sized pieces of the world. New regional geographies question who draws the world's regions, how regions are drawn, what they represent, and how they are used. A new regional geographer would see a region like “the Middle East” in its historical context as something Europeans created and defined during the Middle Ages in order to separate themselves (Europeans) from the “other” people in the Orient, or what journalists now call the Middle East.

### REGIONS

In *Understanding World Regional Geography*, we take from both the old and new regional geographies, defining regions as a balance of real and constructed. Regions exhibit actual differences in languages, religions, climates, and vegetation. Regions also have perceived differences because humans decide what is important in classifying them.

If we think of regions only as real and built into Earth, we miss how the movement of people and ideas has changed the world and how people in power can decide what is important and construct a place or region as they choose. If we think of regions only as constructed, we miss how much local circumstances and important places, including cultural hearths (regions of origin of cultural traits) and sacred sites, directly influence peoples and regions.

For example, envision the parts of North and South America where Spanish is the predominant language. The Spanish-speaking region has a real, similar cultural trait within it, but people perceived that the linguistic similarity

was an important enough difference to make it the defining criterion for the region.

The regions used in world regional geography books are constructs of the authors who determine the regions based on a combination of physical or cultural traits. We can consider physical geography separately from human geography in constructing world regions (Figure 1.5); however, if we do, we overlook the countless ways humans have changed earth over time.

To understand that regions are dynamic and not static, think about regions at a different scale. In a world regional geography class, all of Europe is treated as one region. But in a class on the geography of Europe, the professor will define distinct regions within Europe, such as Scandinavia or the Mediterranean. If you shifted scales to the Mediterranean region of Europe, you would see distinct regions within that space, for example, the coastal tourist region, the coastal nontourist region, and the interior. Shifting scales again to a single city in the Mediterranean such as Nice, France, you will find further distinct regions: the gambling region, the research and development park, the tourist hotels, and the locals' neighborhoods (Gade 1982).

In building your schematic understanding of world regional geography this semester, you will improve your understanding of the physical and human world and also determine how you construct world regions in your own mind.

To define world regions using physical geographic traits, a geographer might start with this satellite image of earth (Figure 1.5a). Patterns of climate, vegetation, and soil are reflected in this image, where green represents vegetation and tan indicates areas that are sparsely vegetated. Physical geographers can use the concept of **relative humidity**, the ratio of water vapor in a parcel of air compared to the total amount of water vapor air at that temperature can hold, to understand why some areas of Earth receive more precipitation than others.

How much water vapor air can hold (its capacity) depends on the air temperature, as warmer air can hold more water vapor than cold air. Condensation occurs when air cools, the capacity decreases, and air reaches 100 percent relative humidity. Once water vapor is condensing into liquid water, precipitation can follow. On the satellite image of Earth, the equatorial regions are bright green, dense with plant life because this part of the world receives the most direct sunlight over the course of the year. The warm air along the equator consistently rises, cools, decreases its capacity, reaches 100 percent relative humidity, and precipitation follows, creating rain forests (Figure 1.5b). Soils in this part of the world are typically old and deeply weathered because the abundant rainfall leaches nutrients over time but leaves the iron (Figure 1.5c).

In contrast, the northern parts of Africa, Central Asia, central Australia, and the southwestern United States are deserts (Figure 1.5d). The winds in these areas are high-pressure cells. Because air flows from high pressure to low pressure,



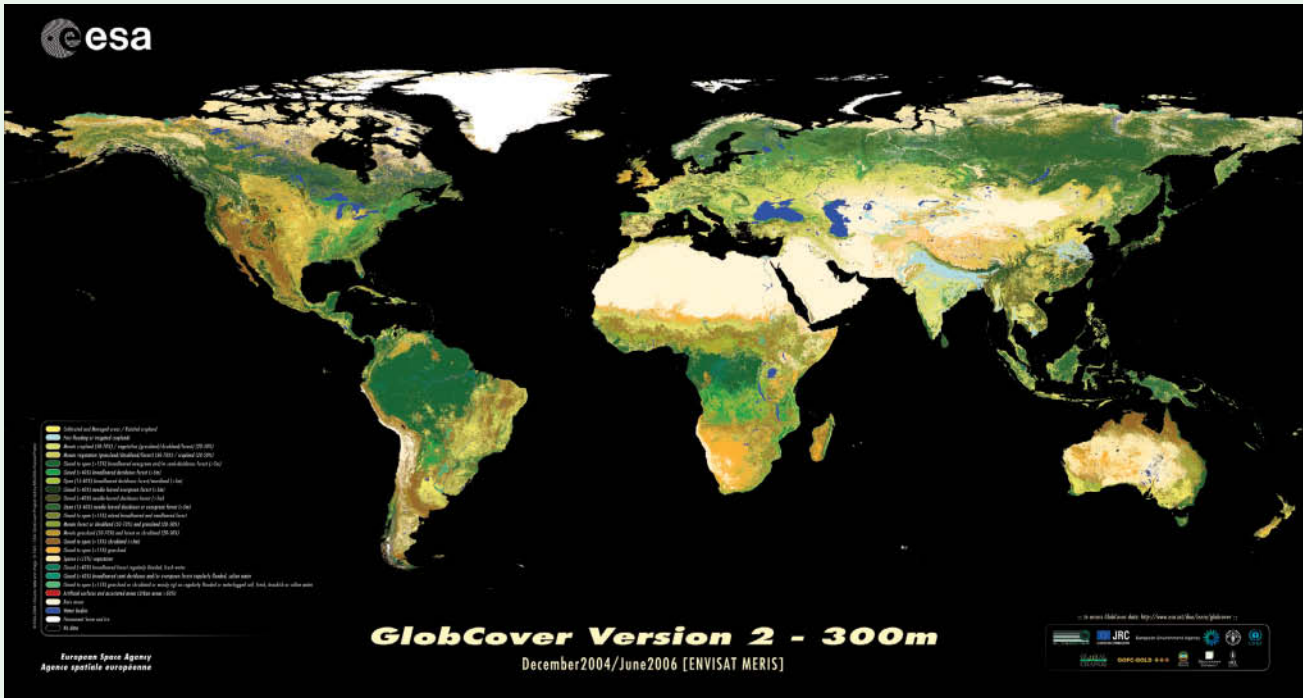
**region** an area of Earth with a degree of similarity that differentiates it from surrounding areas.

# Reading the **PHYSICAL** Landscape

## Defining World Regions Using Physical Geographic Traits

The satellite image of Earth is colored according to vegetative regions, with green representing lush vegetation and tan representing sparse vegetation (Figure 1.5a).

The green region of the map marks rainforest around the equator. The area around the equator receives more direct sunlight over the course of the year than other



MEDIAS France/Postel/ESA GlobCover Project, led by MEDIAS France/Postel.

**FIGURE 1.5a** This satellite image shows areas of dense vegetation in green and sparsely vegetated areas in tan.



Michael Boymy/LOOK/Getty Images.

**FIGURE 1.5b Costa Rica.** Monteverde Cloud Forest Reserve demonstrates the layers of vegetation found in a rainforest climate.



© Boaz Rottem/Alamy.

**FIGURE 1.5c Western Africa.** The red soil of this dirt road is typically found in tropical regions.

latitudes. Earth absorbs incoming solar radiation, then releases it as warm air, and when that warm air rises, it cools, condenses, and then precipitation can follow. Consistent precipitation creates rainforests (Figure 1.5b). The soils in the equatorial or tropical region are deeply weathered by abundant rainfall. The weathered, iron-rich oxisols of the tropics are orange or reddish in color (Figure 1.5c). The tan region of the map marks the desert and semiarid regions (Figure 1.5d). The poorly developed soils are light brown in color and have limited weathering because of limited rainfall. Only the narrow, top band of soil is dark with organic, weathered material in the semi-arid and arid regions (Figure 1.5e).



**FIGURE 1.5d** Libya, Africa. Date palm trees dot the true desert Mandara Lakes region of the Sahara Desert.



**FIGURE 1.5e** Eastern Colorado. The soil profile of a semiarid climate region shows a narrow band of dark soil on the top supporting vegetation.

air descends from the upper atmosphere into the high pressure cell and then air flows out away from these areas. Air warms as it descends from the upper atmosphere to the surface, increasing the air's capacity and decreasing its relative humidity. Precipitation is unlikely (the relative humidity of the air is decreasing instead of increasing), resulting in sparse vegetation and poorly developed soils that are lighter in color than their tropical counterparts (Figure 1.5e).

Using the example of precipitation, we can divide the world into two basic physical geography regions: areas that receive a lot of precipitation and areas that receive very little precipitation. These two regions, wet and dry, describe precipitation patterns, but they do not account for a multitude of other physical geographic traits (landforms, hazards, temperatures) nor do they explain human

geography, how people in different places interact with and make sense of the world's physical diversity.

### INSTITUTIONALIZING REGIONS

Regions created in people's minds gain permanence as governments and organizations build institutions to support them (Paasi 2002). For example, the United Nations (UN) divides the world into regions (and subregions) to gather data, report statistics and also for operating purposes (Figure 1.6). The United Nations reports data by region and by country.

In the day-to-day activities of UN organizations, workers use regions. For instance, the UN World Food Program divides the world into five regions: Asia, Oceania, Africa, the Americas, and Europe. The most important decisions and policies in