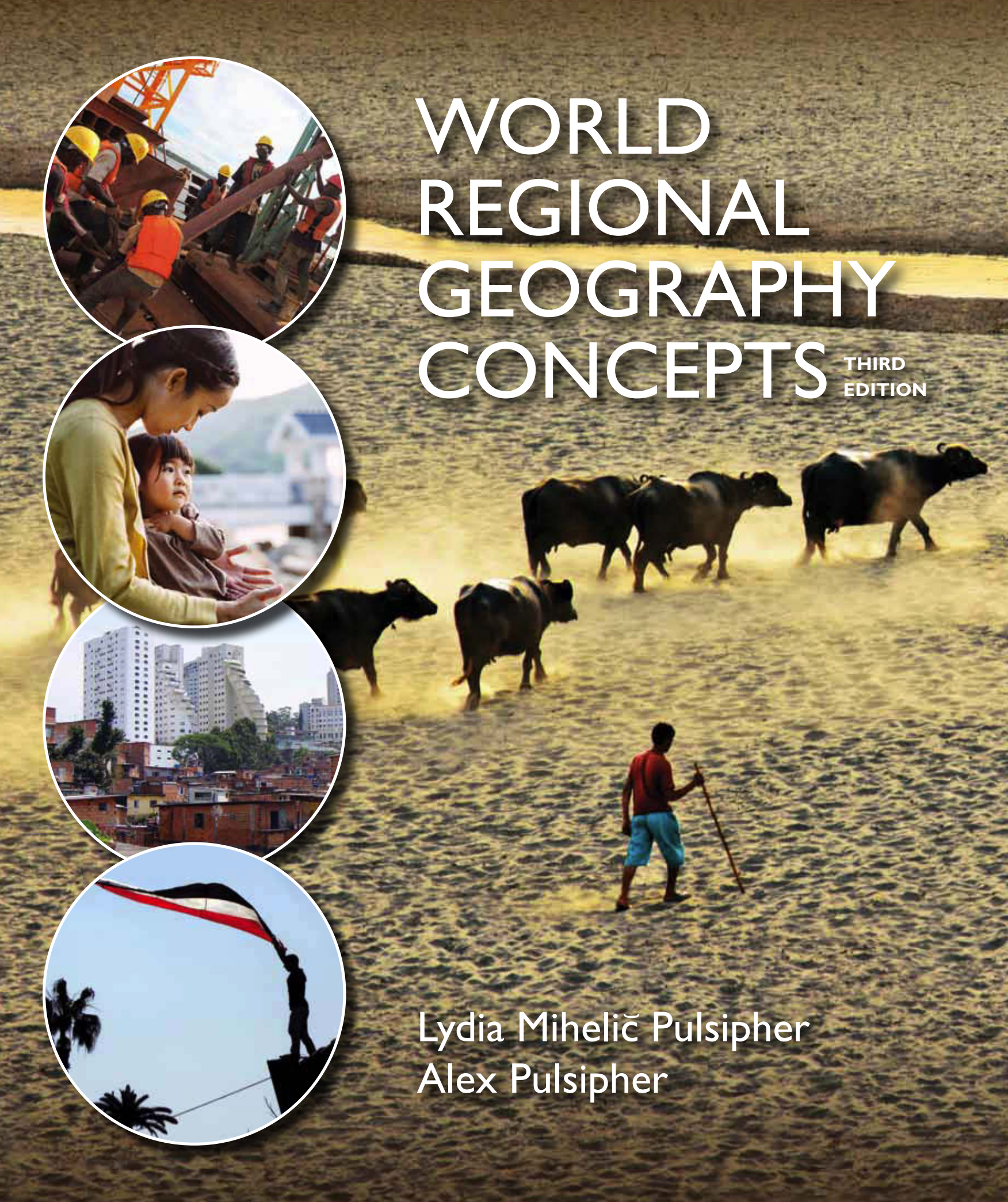

WORLD REGIONAL GEOGRAPHY CONCEPTS

THIRD EDITION

Lydia Mihelič Pulsipher
Alex Pulsipher


ARCTIC OCEAN
Beaufort Sea
Baffin Bay
Greenland Sea
Davis Strait
Labrador Sea
Hudson Bay
Bering Sea
Gulf of Alaska
Prime Meridian
150°W
120°W
90°W
60°W
30°W
0°
60°N
30°N
0°
30°S
60°S
Greenland (DENMARK)
ICELAND
NORWAY
ALASKA (U.S)
CANADA
Churchill
Edmonton
Seattle
Portland
WA
OR
CA
ID
NV
MT
WY
UT
AZ
CO
NM
ND
SD
NE
KS
OK
TX
MN
IA
MO
AR
LA
WI
IL
MS
MI
IN
KY
TN
AL
OH
WV
GA
FL
SC
NC
VA
PA
NY
MD
DE
NJ
CT
RI
MA
VT
NH
ME
Montréal
Ottawa
Toronto
Detroit
Chicago
Boston
New York
Washington, DC
Denver
Dallas
Atlanta
Houston
San Francisco
Los Angeles
Phoenix
UNITED STATES
NORTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
SOUTH ATLANTIC OCEAN
SOUTH PACIFIC OCEAN
HAWAII (U.S)
MEXICO
Guadalajara
Mexico City
Gulf of Mexico
Havana
Miami
BAHAMAS
CUBA
JAMAICA
BELIZE
HONDURAS
GUATEMALA
EL SALVADOR
NICARAGUA
COSTA RICA
PANAMA
Caribbean Sea
Caracas
VENEZUELA
GUYANA
SURINAME
FRENCH GUIANA (Fr.)
Georgetown
Bogotá
COLOMBIA
ECUADOR
Quito
Manaus
Fortaleza
PERU
Lima
BRAZIL
Salvador
BOLIVIA
La Paz
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PARAGUAY
Asunción
Rio de Janeiro
São Paulo
Santiago
CHILE
URUGUAY
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Algiers
Tunis
MOROCCO
ALGERIA
WESTERN SAHARA (Morocco)
MAURITANIA
Nouakchott
MALI
CAPE VERDE
SENEGAL
GAMBIA
GUINEA BISSAU
Bamako
BURKINA FASO
Niamey
GUINEA
SIERRA LEONE
LIBERIA
IVORY COAST
GHANA
BENIN
Lagos
Abidjan
TOGO
EQUATORIAL GUINEA
Gulf of Guinea
SAO TOME & PRINCIPE
HAITI
DOMINICAN REPUBLIC
Puerto Rico (U.S.)
ANTIGUA & BARBUDA
ST. KITTS & NEVIS
DOMINICA
ST. LUCIA
ST. VINCENT & THE GRENADINES
BARBADOS
GRENADA
TRINIDAD AND TOBAGO
VENEZUELA
Land Elevations
meters
feet
4877
3353
2134
914
305
152
0
16,000
11,000
7000
3000
1000
500
0
Ocean Depths
meters
feet
0
300
3500
5000
0
984
11,483
16,404
Scale at Equator
mi 0 500 1000 1500 2000
km 0 500 1000 1500 2000


ARCTIC OCEAN
Barents Sea
Bering Sea
Sea of Okhotsk
Sea of Japan
East China Sea
South China Sea
Philippine Sea
Bay of Bengal
Arabian Sea
Red Sea
Mediterranean Sea
Mozambique Channel
Timor Sea
Coral Sea
Great Australian Bight
Tasman Sea
INDIAN OCEAN
NORTH PACIFIC OCEAN
RUSSIA
KAZAKHSTAN
MONGOLIA
CHINA
JAPAN
N. KOREA
S. KOREA
INDIA
PAKISTAN
AFGHANISTAN
IRAN
IRAQ
SAUDI ARABIA
YEMEN
OMAN
UAE
QATAR
KUWAIT
BAHRAIN
TURKEY
SYRIA
LEBANON
ISRAEL
JORDAN
EGYPT
LIBYA
SUDAN
ERITREA
DJIBOUTI
ETHIOPIA
SOMALIA
KENYA
UGANDA
RWANDA
BURUNDI
TANZANIA
DEM. REP. OF CONGO
CONGO
CENTRAL AFRICAN REPUBLIC
CHAD
CAMEROON
NIGERIA
ANGOLA
ZAMBIA
MALAWI
MOZAMBIQUE
ZIMBABWE
NAMIBIA
BOTSWANA
SOUTH AFRICA
LESOTHO
SWAZILAND
MADAGASCAR
COMOROS
SEYCHELLES
MAURITIUS
MALDIVES
SRI LANKA
BANGLADESH
MYANMAR (BURMA)
THAILAND
LAOS
VIETNAM
CAMBODIA
BRUNEI
MALAYSIA
SINGAPORE
INDONESIA
PHILIPPINES
TIMOR-LESTE
PAPUA NEW GUINEA
AUSTRALIA
NEW ZEALAND
PALAU
FEDERATED STATES OF MICRONESIA
MARSHALL ISLANDS
NAURU
KIRIBATI
SOLOMON ISLANDS
TUVALU
SAMOA
VANUATU
FIJI
TONGA
BHUTAN
NEPAL
TAIWAN
ANTARCTICA
Moscow
St. Petersburg
Helsinki
Minsk
Kiev
Budapest
Istanbul
Ankara
Athens
Rome
Tripoli
Alexandria
Cairo
Tehran
Mashhad
Baghdad
Kabul
Islamabad
Lahore
New Delhi
Karachi
Ahmadabad
Mumbai (Bombay)
Hyderabad
Bangalore
Chennai (Madras)
Kolkata (Calcutta)
Dhaka
Khartoum
N'Djamena
Addis Ababa
Mogadishu
Nairobi
Dar es Salaam
Bangui
Kinshasa
Luanda
Harare
Windhoek
Gaborone
Maputo
Pretoria
Cape Town
Antananarivo
Novosibirsk
Aldan
Ulan Bator
Urumqi
Harbin
Shenyang
Beijing
Tianjin
Tai'an
Qingdao
Xian
Zaozhuang
Chengdu
Wuhan
Chongqing
Shanghai
Ningbo
Seoul
Tokyo
Yokohama
Osaka
Lhasa
Guangzhou (Canton)
Taipei
Hong Kong (Xianggang)
Hanoi
Ho Chi Minh City
Bangkok
Kuala Lumpur
Jakarta
Surabaya
Bandung
Manila
Port Moresby
Darwin
Perth
Canberra
Sydney
Melbourne
Auckland
Wellington
Tashkent
KYRGYZSTAN
TAJIKISTAN
TURKMENISTAN
UZBEKISTAN
AZERBAIJAN
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Algiers
TUNISIA

WORLD REGIONAL GEOGRAPHY CONCEPTS

THIRD EDITION

LYDIA MIHELIČ PULSIPHER
Geography Professor Emeritus,
University of Tennessee

ALEX A. PULSIPHER
Geographer and Independent Scholar

with the assistance of

CONRAD "MAC" GOODWIN
Anthropologist/Archaeologist and
Independent Scholar

W. H. Freeman and Company
A Macmillan Education Company
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To Allan G. Pulsipher, who has been an excellent father and grandfather. And to ideas that are ahead of their time. May we learn to catch up.

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Lydia Mihelič Pulsipher is a cultural-historical geographer who studies the landscapes of ordinary people through the lenses of archaeology, geography, and ethnography. She has contributed to several geography-related exhibits at the Smithsonian Museum of Natural History in Washington, DC, including "Seeds of Change," which featured the research she and Conrad Goodwin did in the eastern Caribbean. Lydia Pulsipher has ongoing research projects in the eastern Caribbean (historical archaeology) and in central Europe, where she is interested in various aspects of the post-Communist transition. Her graduate students have studied human ecology in the Caribbean and border issues and matters of national identity and exclusion in several central European countries. She has taught cultural, gender, European, North American, and Mesoamerican geography at the University of Tennessee at Knoxville since 1980; through her research, she has given many students their first experience in fieldwork abroad. Previously she taught at Hunter College and Dartmouth College. She received her BA from Macalester College, her MA from Tulane University, and her PhD from Southern Illinois University. For relaxation, she works in her gardens, makes jam, and bakes rhubarb pies.

Alex A. Pulsipher is an independent scholar in Knoxville, Tennessee, who has conducted research on vulnerability to climate change; sustainable communities; and the diffusion of green technologies in the United States. In the early 1990s, while a student at Wesleyan University in Connecticut, Alex spent time in South Asia working for a sustainable development research center. He then completed his BA at Wesleyan, writing his undergraduate thesis on the history of Hindu nationalism. Beginning in 1995, Alex contributed to the research and writing of the first edition of *World Regional Geography* with Lydia Pulsipher. In 1999 and 2000, he traveled to South America, Southeast Asia, and South Asia, where he collected information for the second edition of the text and for the Web site. In 2000 and 2001, he wrote and designed maps for the second edition. He participated in the writing of the fourth edition and in writing, restructuring the content of, and creating photo essays and maps for the fifth and sixth editions. Alex worked extensively on the first, second, and third editions of *World Regional Geography Concepts*, reorganizing content, writing, and researching photos. He has a master's degree in geography from Clark University in Worcester, Massachusetts.

Alex Pulsipher

Conrad McCall "Mac" Goodwin has assisted in the writing of *World Regional Geography* and the *Concepts* version in many ways. Mac, Lydia's husband, is an anthropologist and historical archaeologist with a BA in anthropology from the University of California, Santa Barbara; an MA in historical archaeology from the College of William and Mary; and a PhD in archaeology from Boston University. He specializes in sites created during the European colonial era in North America, the Caribbean, and the Pacific. He has particular expertise in the archaeology of agricultural systems, gardens, domestic landscapes, and urban spaces. In addition to work in archaeology and on the textbook, for the past 10 years he has been conducting research on wines and winemaking in Slovenia, and delivering papers on these topics at professional geography meetings. For relaxation, Mac works in his organic garden, builds stone walls (including a pizza oven), and is a slow-food chef.

BRIEF CONTENTS

CONTENTS


Mathias T. Oppersdorff/Photo Researchers/Getty Images


Elena Ermakova/Flickr/Getty Images


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Botafogo/Flickr/Getty Images


Jung Yeon-Je/AFP/Getty Images

PHOTO ESSAYS

CHAPTER 10
Southeast Asia 404


Paul Kennedy/Lonely Planet Images/Getty Images

PHOTO ESSAYS

CHAPTER 11
Oceania: Australia, New Zealand, and the Pacific 446

PHOTO ESSAYS

PREFACE

In this text, we portray the rich diversity of human life across the world and humanize geographic issues by representing the daily lives of women, men, and children in the various regions of the globe. Our goal is to make global patterns of trade and consumption meaningful for students by showing how these patterns affect environments and people at the local level. This third edition of *World Regional Geography Concepts* strives to reach this goal with improvements to make this text as current, instructive, and visually appealing as possible. At just 481 pages, the text is designed to allow instructors to cover all world regions in a single semester.

NEW TO THE THIRD EDITION

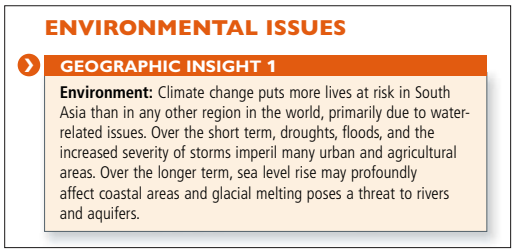
Themes

Teaching world regional geography is never easy. Many instructors have found that focusing their courses on a few key ideas makes their teaching more effective and helps students retain information. With that goal in mind, we have identified five themes that provide a few basic hooks on which students can hang their growing knowledge of the world and each of its regions. These themes are listed here in the order in which they are covered in every chapter:

- **Environment:** How do issues of water scarcity, water pollution, and water management affect people and environments in a particular region? How do food production systems impact environments and societies in a region? What are the indications that climate change is underway? How might global climate change and changes in food production systems affect water resources? How are places, people, and ecosystems in a particular region vulnerable to the shifts that climate change may bring? Which human activities contribute significant amounts of greenhouse gases?
- **Globalization and Development:** How has a particular region been impacted by globalization, historically and currently? How are lives changing as flows of people, ideas, products, and resources become more global? How do shifts in economic, social, and other dimensions of development affect human well-being? What paths have been charted by the so-called developed world, and how are they relevant, or irrelevant, to the rest of the world? What new "homegrown" solutions are emerging from the so-called less developed countries?
- **Power and Politics:** What are the main differences in the ways that power is wielded in societies? Where are authoritarian modes of governance dominant? Where have political freedoms expanded the most? What kind of changes is the expansion of political freedoms bringing to different world regions? How are changes in the geopolitical order affecting current world events?
- **Urbanization:** Which forces are driving urbanization in a particular region? How have cities responded to growth? How are regions affected by the changes that accompany urbanization—for example, the growth of slums and changes in access to jobs, education, and health care?
- **Population and Gender:** What are the major forces driving population growth or decline in a region? How have changes in gender roles influenced population growth or decline? How are changes in life expectancy, family size, and the age of the population influencing population change?

Geographic Insights

For each chapter, the five themes form the basis of five learning objectives that we call **Geographic Insights.** These insights are stated at the beginning of each chapter and discussed at the relevant point in the text. To improve consistency, the Geographic Insights are now completely comparable across chapters. Geographic Insights are reviewed in "Things to Remember" sections found throughout the chapter, as well as in new questions posed in the "Geographic Insights Review and Self-Test" sections at the end of each chapter.



Restructured Chapters

Each chapter has been restructured so that the discussions to which the Geographic Insights refer now occur in the same order in each chapter. We implemented this change to make it easier for teachers and students to navigate the complex topics of world regional geography. The number of themes has also been condensed, from nine in the previous edition to five in this edition. Discussions of climate change, food, and water now come under the heading of "Environmental Issues." Globalization and development are now discussed in one section. The theme of "democratization" has been broadened to include geopolitics and other political issues and is now called "Power and Politics." Some discussions of population issues have been linked with discussions of gender.

On the Bright Side

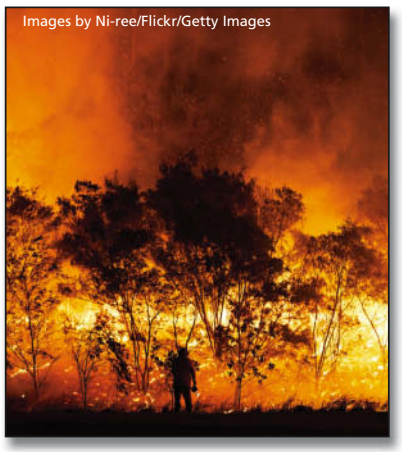
In light of the often overwhelming and at times depressing nature of the information presented in any world regional geography course, each chapter now has a series of new **On the Bright Side** commentaries that explore some of the more hopeful patterns and opportunities emerging within each region.

Local Lives Photo Feature

Three **Local Lives** photo features in each region chapter add further human interest by showing regional customs related to foodways, people and animals, and festivals. Each photo has an extensive caption designed to pique students' curiosity.

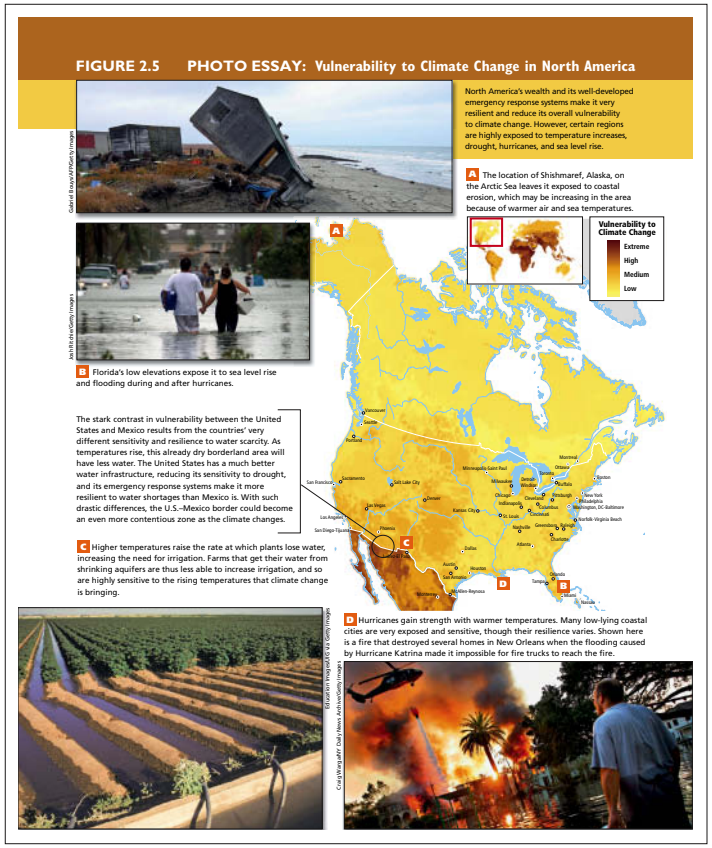
New Photos

Every photo has been updated for currency in this edition. An ongoing aim of this text has been to awaken students to the circumstances of people around the world, and photos are a powerful way to accomplish this objective. This edition continues our tradition of promoting careful attention to photos by including in Chapter 1 a short lesson on photo interpretation. Students are encouraged to use these skills as they look at every photo in the text, and instructors are encouraged to use the photos as lecture themes and to help generate analytical class discussions.



Each photo was chosen to complement a concept or situation described in the text. All photos are numbered and referenced in the text, making it easier for students to integrate the text with the visuals as they read. Moreover, the photos—like all of the book's graphics, including the maps—have been given significant space and prominence in the page layout. The result is a visually engaging, dynamic, instructive, and up-to-date text.

At the beginning of each regional chapter, a series of photos surrounding the regional map introduces the reader to landscapes within the region. Subsequent figures that are **Photo Essays** illustrate particular themes. For example, each region has a photo essay about urbanization, including a map of national urbanization rates and large cities as well as photos that illustrate various aspects of urban life in the region.



To help instructors make use of all these new photo features in their teaching, the many photo essays and photo figures are accompanied by **Thinking Geographically** questions. The questions are found at the end of each chapter, and the answers can be found on this book's Web site, where they form the basis of computer-graded exercises that can be assigned and automatically graded and entered into the instructor's electronic gradebook.

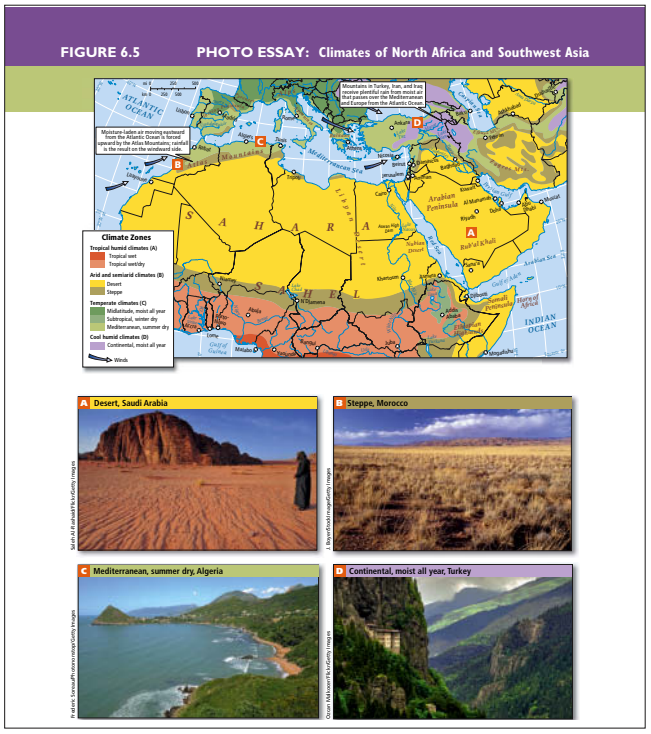
Up-to-Date Content

Because the world is constantly changing, it is essential that a world regional geography text be as current as possible. Some major content areas of the book that have been updated include:

- Climate change and its environmental, political, and economic implications

- The global economic recession that began in 2008 and its effect on migrants, labor outsourcing, and job security in importing and exporting countries
- The role of terrorism in the realignment of power globally and locally
- The growing disparity in wealth in North America
- Domestic and global implications of the U.S. political, economic, and military stances
- Conflict over oil pollution in the Amazon
- Immigration and the ways it is changing countries economically and culturally
- Changing gender roles, particularly in developing countries
- Recent economic crises in the European Union and the consequences for the original EU members, new and potential member states, and the global community
- Growing tensions between Russia, its neighbors, the European Union, and the United States
- Political revolutions and conflict (the Arab Spring) in North Africa and Southwest Asia (often referred to as the Middle East)
- The new influence of Arabic media outlets, such as Al Jazeera
- Maps reflecting the new country of South Sudan (some data remain based on Sudan as a whole because South Sudan has not yet begun reporting statistics)
- Growing tensions over water in South Asia
- Disputes in East Asia over the Senkaku Islands
- Civil unrest in Thailand
- The consequences of global climate change on Pacific Island nations

Consistent Base Maps



This edition focuses on improving further what has often been cited as a principal strength of this text: high-quality, relevant, and consistent maps. To help students make conceptual connections and to compare regions, every chapter contains the following:

- Regional map with landscape photos at the beginning of each chapter
- Political map
- Climate map with photos of different climate zones
- Map of the human impacts on the biosphere, with photo essay
- Map of the region's vulnerability to climate change, with photo essay
- Map of regional trends in power and politics, with photo essay
- Urbanization map, with photo essay
- Map of population density

Videos

More than 400 videos clips (an average of about 35 per chapter) are available with the third edition. Most videos are 2 to 6 minutes long and cover key issues discussed in the text. They can help instructors gain further expertise or can be used to generate class discussion. Each video is keyed to the text with an icon at the point in the discussion where it is most relevant. These videos, along with a related multiple-choice quiz, can be accessed at Geography LaunchPad (for more details, please see below). Questions can be automatically graded and entered into an electronic gradebook.

Visual Histories

These visual timelines for each region use images to illustrate key points in the region's history.

Things to Remember

At the close of every main section, a few concise statements review the important points in the section. The statements emphasize some key themes while encouraging students to think through the ways in which the material illustrates these points. They also review the Geographic Insights that begin each chapter.

Geographic Insights Review and Self-Test

At the end of each chapter, a series of questions, many tied to the chapter's Geographic Insights, encourage students to more broadly analyze the chapter content. These questions could be used for assignments, group projects, or class discussion.

Marginal Glossary of Key Terms

Terms important to the chapter content are boldfaced on first usage and defined on the page on which they first appear. Each term is listed at the end of the chapter, along with the number of the page where the term is defined. The key terms are also listed alphabetically and defined in the glossary at the end of the book.

THE ENDURING VISION: GLOBAL AND LOCAL PERSPECTIVES

The Global View

In addition to the new features and enhancements to the text, we retain the hallmark features that have made the first two editions of this text successful for instructors and students. For the third edition, we continue to emphasize global trends and the connections between regions that are changing lives throughout the world. The following linkages are explored in every chapter, as appropriate:

- The **multifaceted economic linkages** among world regions. These include (1) the effects of colonialism; (2) trade; (3) the role in the world economy of transnational corporations such as Walmart, Norilsk Nickel, Nike, and Apple; (4) the influence of regional trade organizations such as ASEAN and NAFTA; and (5) the changing roles of the World Bank and the International Monetary Fund as the negative consequences of structural adjustment programs become better understood. These issues are explored primarily in the Globalization and Development section of each chapter.
- **Migration.** Migrants are changing economic and social relationships in virtually every part of the globe. The societies they leave are changed radically by the migrants' absence, just as the host societies are altered by their presence. The text explores the local and global effects of foreign workers in places such as Japan, Europe, Africa, the Americas, and Southwest Asia, as well as the increasing number of refugees resulting from conflicts around the world. Also discussed are long-standing migrant groups, including the Overseas Chinese and the Indian diasporas. These topics are explored primarily in Population and Gender as well as the Sociocultural Issues sections of each chapter.
- **Gender issues** are covered in every chapter with the aim of addressing more completely the lives of ordinary people. Gender is intimately connected to other patterns, including internal and global migration, and these connections and other region-wide gender patterns are illustrated in a variety of maps and photos and in vignettes that illustrate gender roles as played out in the lives of individuals. The lives of children, especially with regard to their roles in families, are also covered, often in concert with the treatment of gender issues. These issues are explored primarily in Population and Gender as well as the Sociocultural Issues sections of each chapter.

The Local Level

We pay special attention in this book to the local scale—a town, a village, a household, an individual. Our hope is, first, that stories of individual people and families will make geography interesting and real to students; and second, that seeing the effects of abstract processes and trends on ordinary lives will dramatize the effects of these developments for students. Reviewers have mentioned that students particularly appreciate the personal vignettes, which are often stories of real people (with names disguised). For each region, we examine the following local responses:

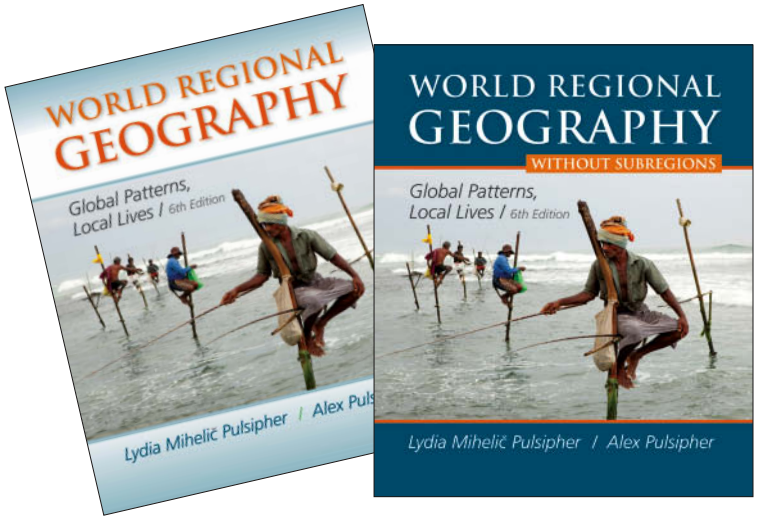
- **Local lives:** We use photo essays to focus on particular regional customs and traditions as they relate to foodways, festivals, and the relationship of animals to the people of a region.
- **Cultural change:** We look closely at changes in the family, gender roles, and social organization in response to urbanization, modernization, and the global economy.
- **Impacts on well-being:** Ideas of what constitutes "well-being" differ from culture to culture, yet broadly speaking, people everywhere try to provide a healthful life for themselves in a community of their choosing. Their success in doing so is affected by local conditions, global forces, and their own ingenuity.
- **Issues of identity:** Paradoxically, as the world becomes more tightly knit through global communications and media, ethnic and regional identities often become stronger. The text examines how modern developments such as the Internet and related technologies are used to reinforce particular cultural identities, often bringing educated emigrants back to help with reforms or to facilitate rapid responses in crises.
- **Local attitudes toward globalization:** People often have ambivalent reactions to global forces: they are repelled by the seeming power of these forces, fearing effects on their own lives and livelihoods and on local traditional cultural values, but they are also attracted by the economic opportunities that may emerge from greater global integration. The text looks at how the people of a region react to cultural and economic globalization.

ALSO AVAILABLE

To better serve the different needs of diverse faculty and curricula, two other versions of this textbook are available.

***World Regional Geography* (with Subregions), Sixth Edition** (1-4641-1070-0)
The sixth edition continues to employ a consistent structure for each chapter. Each chapter beyond the first is divided into three parts: **The Geographic Setting, Current Geographic Issues,** and **Subregions.**

The subregion coverage provides a descriptive characterization of particular countries and places within the region that expands on coverage in the main part of the chapter. For example, the sub-Saharan Africa chapter considers the West, Central, East, and Southern Africa subregions, providing additional insights into differences in well-being and into social and economic issues across the African continent.



***World Regional Geography Without Subregions*, Sixth Edition** (1-4641-1069-7)
The briefer version provides essentially the same main text coverage as the version described above, omitting only the subregional sections. This version contains all the pedagogy found in the main version.

FOR THE INSTRUCTOR: A WEALTH OF RESOURCES ONLINE AT GEOGRAPHY LAUNCHPAD

Macmillan Education LaunchPad

www.macmillanhighered.com/launchpad/pulsipherconcepts3e

The authors have taught world regional geography many times and understand the need for quick, accessible aids to instruction. Many of the new features were designed to streamline the job of organizing the content of each class session, with the goal of increasing student involvement through interactive discussions. Ease of instruction and active student involvement were the principal motivations behind the book's key features—the themes and geographic insights, the photo essays, the content maps that facilitate region-to-region comparisons, the photo features on local lives and regional customs, the "On the Bright Side" commentaries that highlight exciting and emerging reasons for optimism, and the wide selection of videos.

All of the following are available on Geography LaunchPad, a complete course management system that features full gradebook and reporting capacities. For a demo of Geography LaunchPad, please contact your W. H. Freeman/Macmillan Education sales consultant.

- **All text images** in PowerPoint and JPEG formats with enlarged labels for better projection quality.
- **PowerPoint lecture outlines** by Nicole C. James. The main themes of each chapter are outlined and enhanced with images from the book, providing a pedagogically sound foundation on which to build personalized lecture presentations.
- **Instructor's Resource Manual** by Jennifer Rogalsky, State University of New York, Geneseo, and Helen Ruth Aspaas, Virginia Commonwealth University, contains suggested lecture outlines, points to ponder for class discussion, and ideas for exercises and class projects. It is offered as chapter-by-chapter Word files to facilitate editing and printing.
- **Test Bank** by Rebecca Johns, University of South Florida, expanded from the original test bank created by Jason Dittmer, University College London, and Andy Walter, West Georgia University. The Test Bank is designed to match the pedagogical intent of the text and offers more than 2500 test questions (multiple choice, short answer, matching, true/false, and essay) in a Word format that makes it easy to edit, add, and resequence questions. A **computerized test bank** (powered by Diploma) with the same content is also available.
- **Clicker questions** by Rebecca Johns, University of South Florida. Prepared in Word, clicker questions allow instructors to jump-start discussions, illuminate important points, and promote better conceptual understanding during lectures.
- An integrated **gradebook** that records students' performance on online and video quizzes.

Course Management

All instructor and student resources are also available via **BlackBoard, Canvas, Angel, Moodle, Sakai,** and **Desire2Learn.** W. H. Freeman offers a course cartridge that populates your site with content tied directly to the book. For access to a specific course cartridge, please contact your W. H. Freeman/Macmillan Education sales consultant.

W. H. Freeman *World Regional Geography* DVD

This DVD, available free to adopters of the third edition, gives students and instructors access to the fascinating personal stories of people from all over the world, building on the book's purpose of putting a face on geography. The DVD contains 35 projection-quality video clips from 3 to 7 minutes in length. An **instructor's video manual** is also included on the DVD.

FOR THE STUDENT: *WORLD REGIONAL GEOGRAPHY* ONLINE WITH GEOGRAPHY LAUNCHPAD

Macmillan Education LaunchPad

www.macmillanhighered.com/launchpad/pulsipherconcepts3e

A wealth of resources to support the textbook are available online on Geography LaunchPad:

- **Chapter quizzes:** These multiple-choice quizzes help students assess their mastery of each chapter.
- **Thinking Geographically questions:** These questions relate to select photos found throughout the book. The question sets form the basis of computer-graded exercises that can be assigned and automatically graded and entered into the instructor's online gradebook.
- **Thinking Critically About Geography:** These activities allow students to explore a set of current issues, such as deforestation, human rights, or free trade, and see how geography helps clarify our understanding of them. Linked Web sites are matched with a series of questions or with brief activities that help students think about the ways in which they themselves are connected to the places and people they read about in the text.
- **Blank outline maps:** Printable maps of the world and of each region are available for note taking, exam review, or both, as well as for preparing assigned exercises.
- **Flashcards:** Matching exercises teach vocabulary and definitions.
- **Audio pronunciation guide:** This spoken guide helps students learn to pronounce place names, regional terms, and names of historical figures.
- **World recipes and cuisines:** From *International Home Cooking*, the United Nations International School cookbook, these recipes provide students with the opportunity to explore foods from around the world.

Geography LaunchPad also offers users a set of unique resources not available anywhere else:

- **Map Builder software and Map Builder exercises:** The Map Builder program allows students to create layered thematic maps on their own, while Map Builder exercises offer a specific activity for each chapter in the third edition.
- **Map learning exercises:** Students can use these interactive activities to identify and locate countries, cities, and the major geographic features of each region. Instructors can assign these map exercises as homework or as quizzes; student results report directly to the instructor's online gradebook.
- An **e-Book** of *World Regional Geography Concepts*, complete and customizable. Students can quickly search the text and personalize it just as they would the printed version—complete with highlighting, bookmarking, and note-taking features.
- **A Guide to Using Google Earth** for the novice, plus step-by-step **Google Earth** exercises for each chapter.
- Selected articles from ***Focus on Geography*** magazine (one for each chapter in the textbook) and accompanying quizzes for each article.
- **Physical geography videos** for instructors who want to cover physical geography topics in more detail.
- Online **news feeds** for highly respected magazines such as the *Economist*.
- An **online atlas** prepared specifically for *World Regional Geography Concepts*.

Macmillan Education LearningCurve

Learning Curve is an integral part of Geography LaunchPad. It is an intuitive, fun, and highly effective formative assessment tool that is based on extensive educational research. Students can use Learning Curve to test their knowledge in a low-stakes environment that helps them improve their mastery of key concepts and prepare for lectures and exams. This adaptive quizzing engine moves students from basic knowledge through critical thinking and synthesis skills as they master content at each level. For a demo, visit **www.learningcurveworks.com**.

Also Available: Rand McNally's *Atlas of World Geography*, 176 pages

This atlas, available at a greatly reduced price when bundled with the textbook, contains:

- Fifty-two physical, political, and thematic maps of the world and continents; 49 regional, physical, political, and thematic maps; and dozens of metro-area inset maps
- Geographic facts and comparisons, covering topics such as population, climate, and weather
- A section on common geographic questions, a glossary of terms, and a comprehensive 25-page index

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These world regional geography textbooks have been a family project many years in the making. Lydia Pulsipher came to the discipline of geography at the age of 5, when her immigrant father, Joe Mihelič, hung a world map over the breakfast table in their home in Coal City, Illinois, where he was pastor of the New Hope Presbyterian Church, and quizzed her on the location of such places as Istanbul. They soon moved to the Mississippi Valley of eastern Iowa, where Joe, then a professor at the Presbyterian theological seminary in Dubuque, continued his geography lessons on the passing landscapes whenever Lydia accompanied him on Sunday trips to small country churches. Lydia's sons, Anthony and Alex, got their first doses of geography in the bedtime stories she told them. For plots and settings, she drew on the Caribbean colonial documents she had been reading for her dissertation. They first traveled abroad and learned about the hard labor of field geography when, at age 12 and 8, they were expected to help with the archaeological and ethnographic research conducted by Lydia and her colleagues on the eastern Caribbean island of Montserrat. It was Lydia's brother John Mihelič who first suggested that Lydia, Alex, and Mac write a book like this one, after he too came to appreciate geography. John has been a loyal cheerleader during the process, as

have family and friends in Knoxville, Montserrat, California, Slovenia, and beyond.

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Maps for this edition were conceived by Mac Goodwin and Alex Pulsipher and produced by Will Fontanez and the University of Tennessee cartography shop staff and by Maps.com under the direction of Mike Powers. Alex Pulsipher created and produced the photo essays and chose all the photos used in the book.

Liz Widdicombe and Sara Tenney at W. H. Freeman were the first to facilitate the idea that together we could develop a new direction for *World Regional Geography*, one that included the latest thinking in geography written in an accessible style and well illustrated with attractive, relevant maps and photos. In accomplishing this goal, we are especially indebted to our first developmental editor, Susan Moran, and to the W. H. Freeman staff for all they have done in the first years and since to ensure that this book is beautifully designed and well presented to the public.

We would also like to gratefully acknowledge the efforts of the following people at W. H. Freeman: Steven Rigolosi, publisher for this third edition, who has been extraordinarily supportive and resourceful; Debra Ginsberg, developmental editor, who has remained calm and congenial under great pressure; Vivien Weiss, senior project editor; Tom Digiano, marketing manager; Anna Paganelli, copyeditor; Blake Logan, design manager; Matt McAdams, art manager; Susan Wein, production manager; and Stephanie Ellis, assistant editor.

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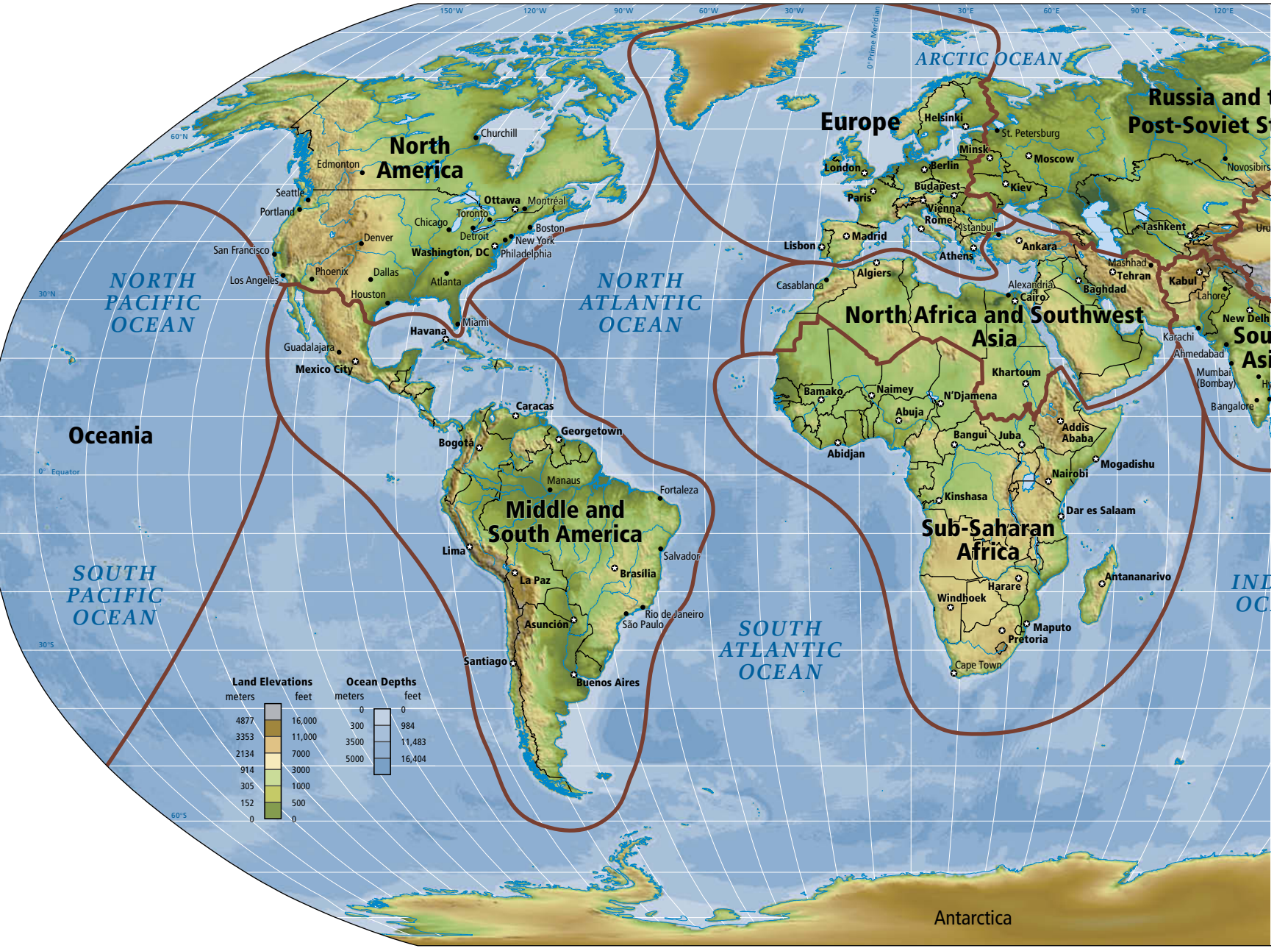
WORLD REGIONAL GEOGRAPHY CONCEPTS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New Delh
Khartoum
Bamako
Naimey
N'Djamena
Abuja
Bangui
Juba
Addis Ababa
Abidjan
Mogadishu
Nairobi
Kinshasa
Dar es Salaam
Antananarivo
Harare
Windhoek
Maputo
Pretoria
Cape Town
Land Elevations
meters
feet
4877
16,000
3353
11,000
2134
7000
914
3000
305
1000
152
500
0
0
Ocean Depths
meters
feet
0
0
300
984
3500
11,483
5000
16,404

chapter 1

GEOGRAPHY: AN EXPLORATION OF CONNECTIONS

FIGURE 1.1 Regions of the world.

GEOGRAPHIC INSIGHTS

After you read this chapter, you will be able to discuss the following geographic insights as they relate to the five thematic concepts:

1. Environment: Humans are altering the planet at an unprecedented rate, causing sometimes drastic effects on ecosystems and climate. Multiple environmental factors often interact to influence the vulnerability of a location to the impacts of climate change. These vulnerabilities have a spatial pattern.

2. Globalization and Development: Global flows of information, goods, and people are transforming patterns of economic development. Local self-sufficiency is giving way to global interdependence as people and places are increasingly becoming connected, sometimes across vast distances.

3. Power and Politics: There are major differences across the world in the ways that power is wielded in societies. Modes of governing that are more authoritarian are based on the power of the state or community leaders. Modes that are based on notions of political freedom and democracy give the general public greater power over themselves and more of a role in deciding how policies are developed and governments are run. There are also many other ways of managing political power.

4. Urbanization: The development of urban manufacturing and service economies has pulled people into cities. Meanwhile, the mechanization of food production has drastically reduced the need for agricultural labor, thus pushing people out of rural areas.

5. Population and Gender: Population growth is slowing for a number of reasons, among them the increasing numbers of women who are delaying childbearing as they pursue educational and work opportunities outside the home.

WHERE IS IT? WHY IS IT THERE? WHY DOES IT MATTER?

Where are you? You may be in a house or a library or sitting under a tree on a fine fall afternoon. You are probably in a community (perhaps a college or university), and you are in a country (perhaps the United States) and a region of the world (perhaps North America, Southeast Asia, or the Pacific). Why are you where you are? Some answers are immediate, such as "I have an assignment to read." Other explanations are more complex, such as your belief in the value of an education, your career plans, and your or someone's willingness to sacrifice to pay your tuition. Even past social movements that opened up higher education to more than a fortunate few may help explain why you are where you are.

The questions *where* and *why* are central to geography. Think about a time when you had to find the site of a party on a Saturday night, the location of the best grocery store, or the fastest and safest route home. You were interested in location, spatial relationships, and connections between the environment and people. Those are among the interests of geographers.

Geographers seek to understand why different places have different sights, sounds, smells, and arrangements of features. They study what has contributed to the look and feel of a place, to the standard of living and customs of the people, and to the way people in one place relate to people in other places. Furthermore, geographers often think on several scales, from the local to the global. For example, when choosing the best location for a new grocery store, a geographer might consider the physical characteristics of potential sites, the socioeconomic circumstances of the neighborhood, and traffic patterns locally and in the city at large, as well as the store's location relative to the main population concentrations for the whole city. She would probably also consider national or even international transportation routes, possibly to determine cost-efficient connections to suppliers.

To make it easier to understand a geographer's many interests, try this exercise. Draw a map of your most familiar childhood landscape. Relax, and recall the objects and experiences that were most important to you there. If the place was your neighborhood, you might start by drawing and labeling your home. Then fill in other places you encountered regularly, such as your backyard, your best friend's home, or your school. Figure 1.2 shows the childhood landscape remembered by Julia Stump in Franklin, Tennessee.

Consider how your map reveals the ways in which your life was structured by space. What is the scale of your map? That is, how much space did you decide to illustrate on the map? The amount of space your map covers may represent the degree of freedom you had as a child, or how aware you were of the world around you. Were there places you were not supposed to go? Does your map reveal, perhaps subtly, such emotions as fear, pleasure, or longing? Does it indicate your sex, your ethnicity, or the makeup of your family? Did you use symbols to show certain features? In making your map and analyzing it, you have engaged in several aspects of geography:

- Landscape observation
- Descriptions of the Earth's surface and consideration of the natural environment

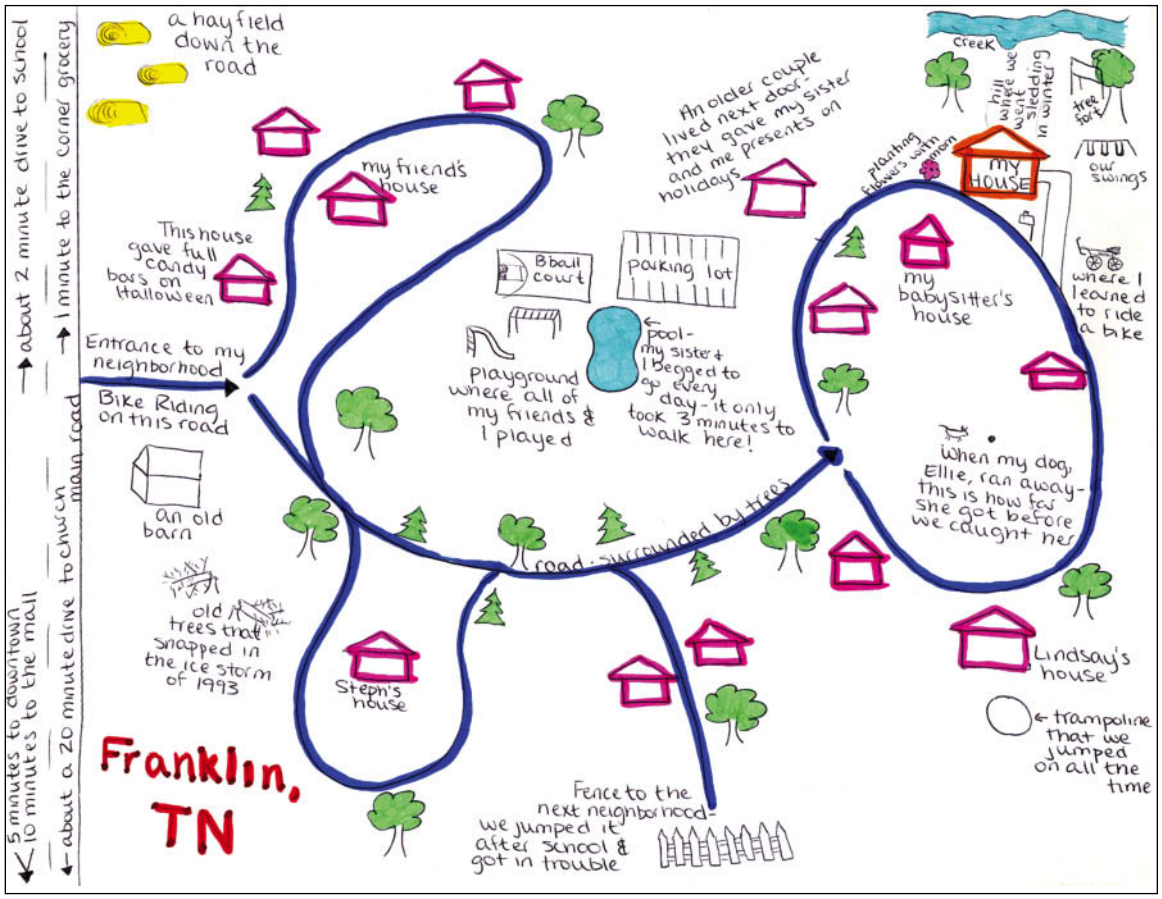


FIGURE 1.2 A childhood landscape map. Julia Stump drew this map of her childhood landscape in Franklin, Tennessee, as an exercise in Dr. Pulsipher's world geography class.

- Spatial analysis (the study of how people, objects, or ideas are related to one another across space)
- The use of different scales of analysis (your map probably shows the spatial features of your childhood at a detailed *local scale*)
- Cartography (the making of maps)

As you progress through this book and this course, you will acquire geographic information and skills that will help you achieve your goals, whatever they are. If you want to travel or work outside your hometown or simply understand local events within the context of world events, knowing how to practice geography will make your task easier and more engaging.

physical geography the study of the Earth's physical processes: how they work and interact, how they affect humans, and how they are affected by humans

human geography the study of patterns and processes that have shaped human understanding, use, and alteration of the Earth's surface

WHAT IS GEOGRAPHY?

Physical and Human Geography

The primary concern of both physical and human geography is the study of the Earth's surface and the interactive physical and human processes that shape the surface.

Geography is the study of our planet's surface and the processes that shape it. Yet this definition does not begin to convey the fascinating interactions of human and environmental forces that have given the Earth its diverse landscapes and ways of life.

Geography as an academic discipline is unique in that it links the physical sciences—such as geology, physics, chemistry, biology, and botany—with the social sciences—such as anthropology, sociology, history, economics, and political science. **Physical geography** generally focuses on how the Earth's physical processes work independently of humans, but physical geographers have become increasingly interested in how physical processes may affect humans and how humans affect these processes in return. **Human geography** is the study of the various aspects of human life that create the distinctive landscapes and regions of the world. Physical and human geography are often tightly linked. For example, geographers might try to understand:

- How and why people came to occupy a particular place
- How people use the physical aspects of that place (climate, landforms, and resources) and then modify them to suit their particular needs
- How people may create environmental problems
- How people interact with other places, far and near

Geographers usually specialize in one or more fields of study, or subdisciplines. Some of these particular types of geography are mentioned over the course of the book. Despite their individual specialties, geographers often cooperate in studying **spatial interactions** between people and places and the **spatial distribution** of relevant phenomena. For example, in the face of increasing global warming, climatologists, cultural geographers, and economic geographers work together to understand the spatial distribution of carbon dioxide emissions, as well as the cultural and economic practices that might be changed to limit such emissions. This could take the form of redesigning urban areas so that people can live closer to where they work or encouraging food production in locations closer to where the food will be consumed.

Many geographers specialize in a particular region of the world, or even in one small part of a region. Regional geography is the analysis of the geographic characteristics of a particular place, the size and scale of which can vary radically. The study of a region can reveal connections among physical features and ways of life, as well as connections to other places. These links are key to understanding the present and the past, and are essential in planning for the future. This book follows a *world regional* approach, focusing on general knowledge about specific regions of the world. We will see just what geographers mean by *region* a little later in this chapter.

spatial interaction the flow of goods, people, services, or information across space and among places

spatial distribution the arrangement of a phenomenon across the Earth's surface

cartographers geographers who specialize in depicting geographic information on maps

legend a small box somewhere on a map that provides basic information about how to read the map, such as the meaning of the symbols and colors used

scale (of a map) the proportion that relates the dimensions of the map to the dimensions of the area it represents; also, variable-sized units of geographical analysis from the local scale to the regional scale to the global scale

longitude the distance in degrees east and west of Greenwich, England; lines of longitude, also called meridians, run from pole to pole (the line of longitude at Greenwich is 0° and is known as the prime meridian)

latitude the distance in degrees north or south of the equator; lines of latitude run parallel to the equator, and are also called parallels

GEOGRAPHERS' VISUAL TOOLS

Among geographers' most important tools are maps, which they use to record, analyze, and explain spatial relationships, as you did on your childhood landscape map. Geographers who specialize in depicting geographic information on maps are called **cartographers**.

Understanding Maps

A map is a visual representation of space used to record, display, analyze, and explain spatial relationships. Figure 1.3 explains the various features of maps.

Legend and Scale The first thing to check on a map is the **legend**, which is usually a small box somewhere on the map that provides basic information about how to read the map, such as the meaning of the symbols and colors used (see parts A–C and the Legend box in Figure 1.3). Sometimes the scale of the map is also given in the legend.

In cartography, *scale* has a slightly different meaning than it does in general geographic analysis. **Scale** on a map refers to the relationship between the size of things on the map and the actual size they have on the surface of the Earth. It is usually represented by a scale bar (see Figure 1.3D–G) but is also sometimes represented by a ratio (for example 1:8000) or a fraction (1/8000), which indicates what one unit of measure on the map equals in the same units on the ground. For example, 1:8000 in. means that 1 inch on the map represents 8000 inches (about an eighth of a mile) on the surface of the Earth.

A scale of 1/800 is considered larger than a scale of 1/8000 because the features on a 1/800 scale map are larger and can be shown in greater detail. The larger the scale of the map, the smaller the area it covers. A larger-scale map shows things larger; a smaller-scale map shows more things—with each thing smaller, less visible. You can remember this with the following statement: "Things look larger on a larger-scale map."

In Figure 1.3, different *scales of imagery* are demonstrated using maps, photographs, and satellite images. Read the captions carefully to understand the scale being depicted in each image. Throughout this book, you will encounter different kinds of maps at different scales. Some will show physical features, such as landforms or climate patterns at the regional or global scale. Others will show aspects of human activities at these same regional or global scales—for example, the routes taken by drug traders. Yet other maps will show patterns of settlement or cultural features at the scale of countries or regions, or cities or even local neighborhoods (see Figure 1.3D–G).

It is important to keep the two types of scales used in geography—*map scale* and *scale of analysis*—distinct, because they have opposite meanings! In spatial analysis of a region such as Southwest Asia, scale refers to the spatial extent of the area that is being discussed. Thus a large-scale analysis means a large area is being explored. But in cartography, a large-scale map is one that shows a given area blown up so that fine detail is visible, while a small-scale map shows a larger area in much less detail. In this book, when we talk about scale we are referring to its meaning in spatial analysis (larger scale = larger area), unless we specifically indicate that we are talking about scale as used in cartography (larger scale = smaller area). In the Scale box in Figure 1.3, the largest-scale map is that on the left (D); the smallest is on the right (G).

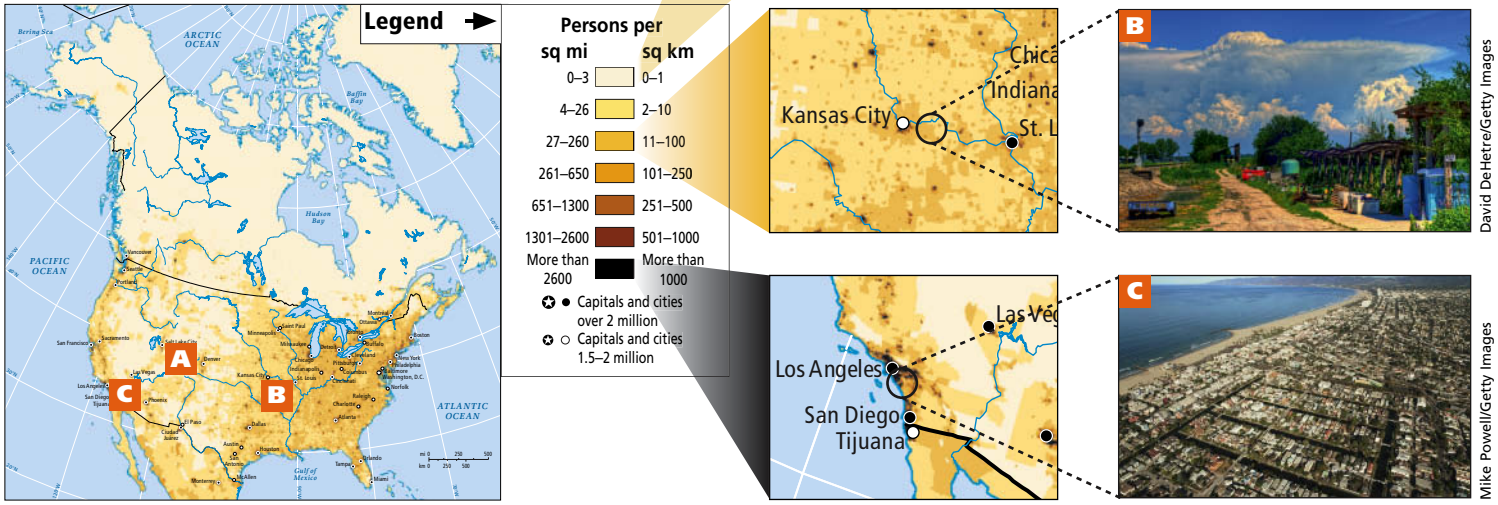
Longitude and Latitude Most maps contain lines of latitude and longitude, which enable a person to establish a position on the map relative to other points on the globe. Lines of **longitude** (also called *meridians*) run from pole to pole; lines of **latitude** (also called *parallels*) run around the Earth parallel to the equator (see Figure 1.3H).

Both latitude and longitude lines describe circles, so there are 360° (the symbol ° refers to degrees) in each circle of latitude and 180° in each pole-to-pole semicircle of longitude. Each degree spans 60 minutes (minutes are designated with the symbol ′), and each minute has 60 seconds (which are designated with the symbol ″). Keep in mind that these are measures of relative linear space on a circle, not measures of time. They do not even represent real distance because the circles of latitude get successively smaller to the north and south of the equator until they become virtual dots at the poles.

FIGURE 1.3 Understanding Maps

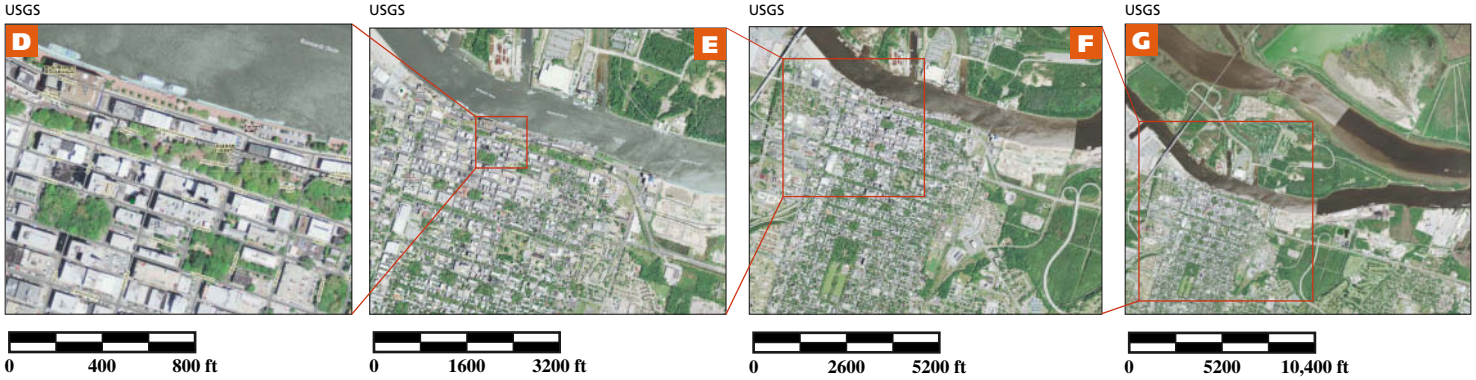
The Legend

Being able to read a map legend is crucial to understanding the maps in this book. The colors in the legend convey information about different areas on the map. In the population density map below, the lowest density (0–3 persons per square mile), is colored light tan. A part of North America with this density is shown in the map inset to the right of the legend. On the far right is a picture of this area. Two other densities (27–260 and more than 2600 people per square mile) are also shown in this manner.



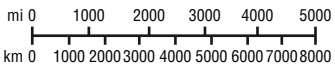
Scale

Maps often display information at different spatial scales, which means that lengths, areas, distances, and sizes can appear dramatically different on otherwise similar maps. This book often combines maps at several different scales with photographs taken by people at Earth's surface and photographs taken by satellites or astronauts in space. All of these visual tools convey information at a spatial scale. Here are some of the map scales you might encounter in this book and elsewhere. The scale is visible below each image.



Representations of Scale

This scale bar means that the length of the entire box represents 8000 feet on the ground.



This scale bar works like the one on the left, but shows lengths both in miles and kilometers.

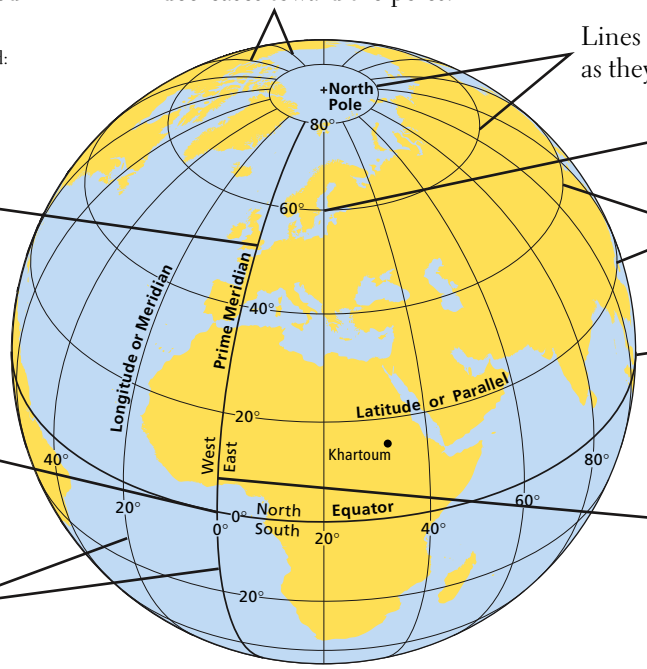
1:8000
This means that 1 unit of measure (e.g., an inch or a fingerwidth) equals 8000 similar units of measure on the ground.

(continued on next page)

FIGURE 1.3 Understanding Maps *(continued)*

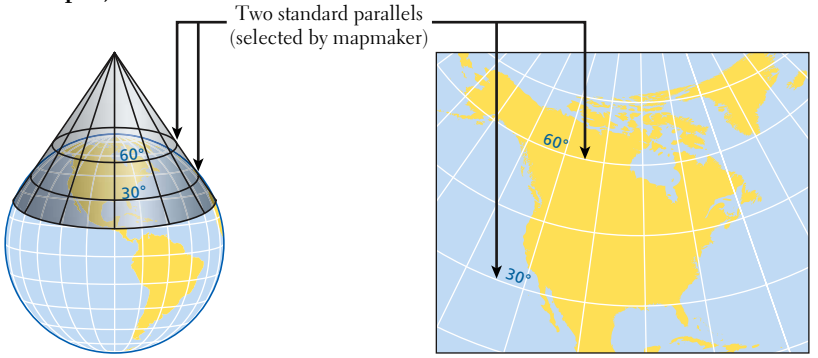
Latitude and Longitude

H Lines of longitude and latitude form a global scale grid that can be used to designate the location of any place on the planet. [Source consulted: *The New Comparative World Atlas* (Maplewood, NJ: Hammond, 1997), p. 6]



Projections

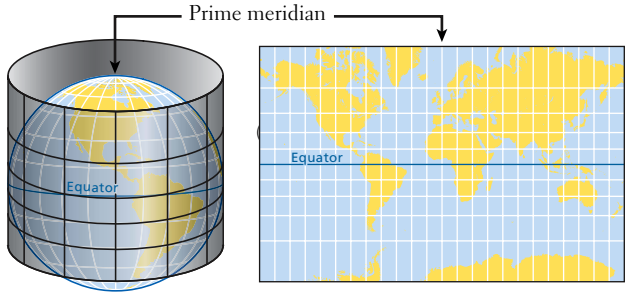
I Albers projection



Pros: Minimal distortion near two parallels (lines of latitude).

Cons: Areas farther away from these lines have distortion.

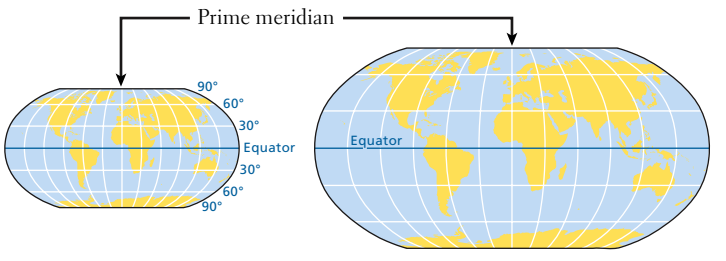
J Mercator projection



Pros: A straight line between two points on this map gives an accurate compass direction between them. Minimal distortion within 15° of the equator.

Cons: Extreme distortion near the poles, especially above 60° latitude.

K Robinson projection



Pros: Uninterrupted view of land and ocean. Less distortion in high latitudes than in the Mercator projection.

Cons: The shapes of landmasses are slightly distorted due to the curvature of the longitude lines.

The globe is also divided into hemispheres. The Northern and Southern hemispheres are on either side of the equator. The Western and Eastern hemispheres are defined as follows. The prime meridian, 0° longitude, runs from the North Pole through Greenwich, England, to the South Pole. The half of the globe's surface west of the prime meridian is called the Western Hemisphere; the half to the east is called the Eastern Hemisphere. The longitude lines both east and west of the prime meridian are labeled from 1° to 180° by their direction and distance in degrees from the prime meridian. For example, 20 degrees east longitude would be written as 20° E. The longitude line at 180° runs through the Pacific Ocean and is used roughly as the international date line; the calendar day officially begins when midnight falls at this line.

The equator divides the globe into the Northern and Southern hemispheres. Latitude is measured from 0° at the equator to 90° at the North or South Poles.

Lines of longitude and latitude form a grid that can be used to designate the location of a place. In Figure 1.3H, notice the dot that marks the location of Khartoum below the 20th parallel in eastern Africa. The position of Khartoum is 15° 35′ 17″ N latitude by 32° 32′ 3″ E longitude.

Map Projections Printed maps must solve the problem of showing the spherical Earth on a flat piece of paper. Imagine drawing a map of the Earth on an orange, peeling the orange, and then trying to flatten out the orange-peel map and transfer it exactly to a flat piece of paper. The various ways of showing the spherical surface of the Earth on flat paper are called **map projections**. All projections create some distortion. For maps of small parts of the Earth's surface, the distortion is minimal. Developing a projection for the whole surface of the Earth that minimizes distortion is much more challenging.

map projections the various ways of showing the spherical Earth on a flat surface

Geographic Information Science (GISc) the body of science that supports multiple spatial analysis technologies and keeps them at the cutting edge

For large midlatitude regions of the Earth that are mainly east/west in extent (North America, Europe, China, Russia), an *Albers projection* is often used. As you can see in Figure 1.3I, this is a conic, or cone-shaped, projection. The cartographer chooses two standard parallels (lines of latitude) on which to orient the map, and these parallels have no distortion. Areas along and between these parallels display minimal distortion. Areas farther to the north or south of the chosen parallels have more distortion. Although all areas on the map are proportional to areas on the ground, distortion of actual shape is inherent in the projection because, as previously discussed, parts of the globe are being projected onto flat paper.

The *Mercator projection* (see Figure 1.3J) has long been used by the general public, but geographers rarely use this projection because of its gross distortion near the poles. To make his flat map, the Flemish cartographer Gerhardus Mercator (1512–1594) stretched out the poles, depicting them as lines equal in length to the equator! As a result, for example, Greenland appears about as large as Africa, even though it is only about one-fourteenth Africa's size. Nevertheless, the Mercator projection is still useful for navigation because it portrays the shapes of landmasses more or less accurately, and because a straight line between two points on this map gives the compass direction between them. However, actual distance measurements are distorted.

The *Robinson projection* (see Figure 1.3K) shows the longitude lines bending toward the poles to give an impression of the Earth's curvature, and it has the advantage of showing an uninterrupted view of land and ocean; however, as a result, the shapes of landmasses are slightly distorted. In this book we often use the Robinson projection for world maps.

Maps are not unbiased. Most currently popular world map projections reflect the European origins of modern cartography. For example, Europe or North America is often placed near the center of the map, where distortion is minimal; other population centers, such as East Asia, are placed at the highly distorted periphery. For a less-biased study of the modern world, we need world maps that center on different parts of the globe. Another source of bias in maps is the convention that north is always at the top of the map. Some cartographers think that this can lead to a subconscious assumption that the Northern Hemisphere is somehow superior to the Southern Hemisphere.

Geographic Information Science (GISc)

The acronym **GISc** is now widespread and usually refers to **Geographic Information Science**, the body of science that supports spatial analysis technologies. GISc is multidisciplinary, using techniques from cartography (mapmaking), geodesy (measuring the Earth's surface), and photogrammetry (the science of making reliable measurements, especially by using aerial photography). Other sciences, such as cognitive psychology and spatial statistics (geomatics or geoinformatics), are increasingly being used to give greater depth and breadth to three-dimensional spatial analysis. GISc, then, can be used in medicine to analyze the human body, in engineering to analyze mechanical devices, in architecture to analyze buildings, in archaeology to analyze sites above and below ground, and in geography to analyze the Earth's surface and the space above and below the Earth's surface.

GISc is a burgeoning field in geography, with wide practical applications in government and business and in efforts to assess and improve human and environmental conditions. GIS (without the *c*) is an older term that refers to geographic information *systems* and is applied to the computerized analytical systems that are the tools of this newest of spatial sciences.

The now widespread use of GISc, particularly by governments and corporations, has dramatically increased the amount of information that is collected and stored, and changed the way it is analyzed and distributed. These changes create many new opportunities for solving problems, for example, by increasing the ability of local governments to plan future urban growth. However, these technologies also raise serious ethical questions. What rights do people have over the storage, analysis, and distribution of information about their location and movements, which can now be gathered from their cell phones? Should this information reside in the public domain? Should individuals have the right to have their location-based information suppressed from public view? Should a government or corporation have the right to sell information to anyone, without special permission, about where people spend their time and how frequently they go to particular places? Progress on these societal questions has not kept pace with the technological advances in GISc.

THE DETECTIVE WORK OF PHOTO INTERPRETATION

Most geographers use photographs to help them understand or explain a geographic issue or depict the character of a place. Interpreting a photo to extract its geographical information can sometimes be like detective work. Below are some points to keep in mind as you look at the pictures throughout this book. Try them out first with the photo in Figure 1.4.

(A) Landforms: Notice the lay of the land and the landform features. Is there any indication of how the landforms and humans have influenced each other? Is environmental stress visible?

(B) Vegetation: Notice whether the vegetation indicates a wet or dry, or warm or cold environment. Can you recognize specific species? Does the vegetation appear to be natural or influenced by human use?

(C) Material culture: Are there buildings, tools, clothing, foods, plantings, or vehicles that give clues about the cultural background, wealth, values, or aesthetics of the people who live where the picture was taken?

(D) What do the people in the photo suggest about the situation pictured?

(E) Can you see evidence of the global economy, such as goods that probably were not produced locally?

(F) Location: From your observations, can you tell where the picture was taken or narrow down the possible locations?

You can use this system to analyze any of the photos in this book and anywhere else. Practice by analyzing the photos in this book before you read their captions. Here is an example of how you could do this with Figure 1.4:

(A) Landforms:

1. The flat horizon suggests a plain or a river delta.
   Environmental stress is visible in several places.
2. This oily liquid doesn't look natural. Could it be crude oil?
   What would have caused the landscape transformation? Maybe an oil spill?

(B) Vegetation:

3. This looks like fairly rich vegetation. These could be palm trees or other types of plant life found in tropical climates.
   Must be fairly wet and warm, possibly tropical.

(C) Material culture:

There is not much that is obviously material culture here, just a single person. The whole area might be abandoned.

(D) People:

4. The clothing on this person doesn't look like he made it. It looks mass produced.
   This suggests that he has access to goods produced some distance away, maybe in a nearby city. Or he could buy things in a market where imported goods are sold.

(E) Global economy: **See (D).**

(F) Location: This could be somewhere tropical where there could have been an oil spill. Hint: Use this book! Look at Figure 6.19 on page 253 to see the member countries of OPEC (the Organization of the Petroleum Exporting Countries). The combination of the possible oil spill and the vegetation suggests that the photo could be of Venezuela, Ecuador, Nigeria, Angola, or Indonesia. Suggestion: Read chapters 3, 7, and 10!

Pius Utomi Ekpei/AFP/Getty Images

FIGURE 1.4 Oil development and the environment. A man walks through swampy land in 2010. An international development company began extracting products from this area 50 years ago. A recent UN report stated that the area now needs a massive cleanup, which could take up to 30 years and cost more than a billion dollars, making it one of the biggest such efforts in the world. The area has had approximately 300 incidences of oil-related pollution each year since the 1970s, causing an unknown number of deaths.

THE REGION AS A CONCEPT

Regions

The concept of *region* is useful to geographers because it allows them to break up the world into manageable units in order to analyze and compare spatial relationships. Nonetheless, regions do not have rigid definitions and their boundaries are fluid.

A **region** is a unit of the Earth's surface that contains distinct patterns of physical features and/or distinct patterns of human development. It could be a desert region, a region that produces rice, or a region experiencing ethnic violence. Geographers rarely use the same set of attributes to describe any two regions. For example, the region of the southern United States might be defined by its distinctive vegetation, architecture, music, foods, and historical experience. Meanwhile Siberia, in eastern Russia, could be defined primarily by its climate, vegetation, remoteness, and sparse settlement.

region a unit of the Earth's surface that contains distinct patterns of physical features and/or distinct patterns of human development

Another issue in defining regions is that they may shift over time. The people and the land they occupy may change so drastically in character that they can no longer be thought of as belonging to a certain region, and become more closely aligned with another, perhaps adjacent, region. Examples of this are countries in Central Europe, such as Poland and Hungary, which, for more than 40 years, were closely aligned with Russia and the Soviet Union, a vast region that stretched across northern Eurasia to the Pacific (Figure 1.5A). Poland and Hungary's borders with western Europe were highly militarized and shut to travelers. In 2004, following the demise of the Soviet Union in the early 1990s and the drastic political and economic changes that then came about, Poland and Hungary became members of the European Union (EU; see Figure 1.5B). Their western borders are now open, while their eastern borders are now more heavily guarded in order to keep unwelcome immigrants and other influences out of the European Union. But through all this

FIGURE 1.5 Changing country alliances and relationships in Europe before 1989 and in 2013.
(A) Pre-1989 alignment of countries in Europe and the Soviet Union.