

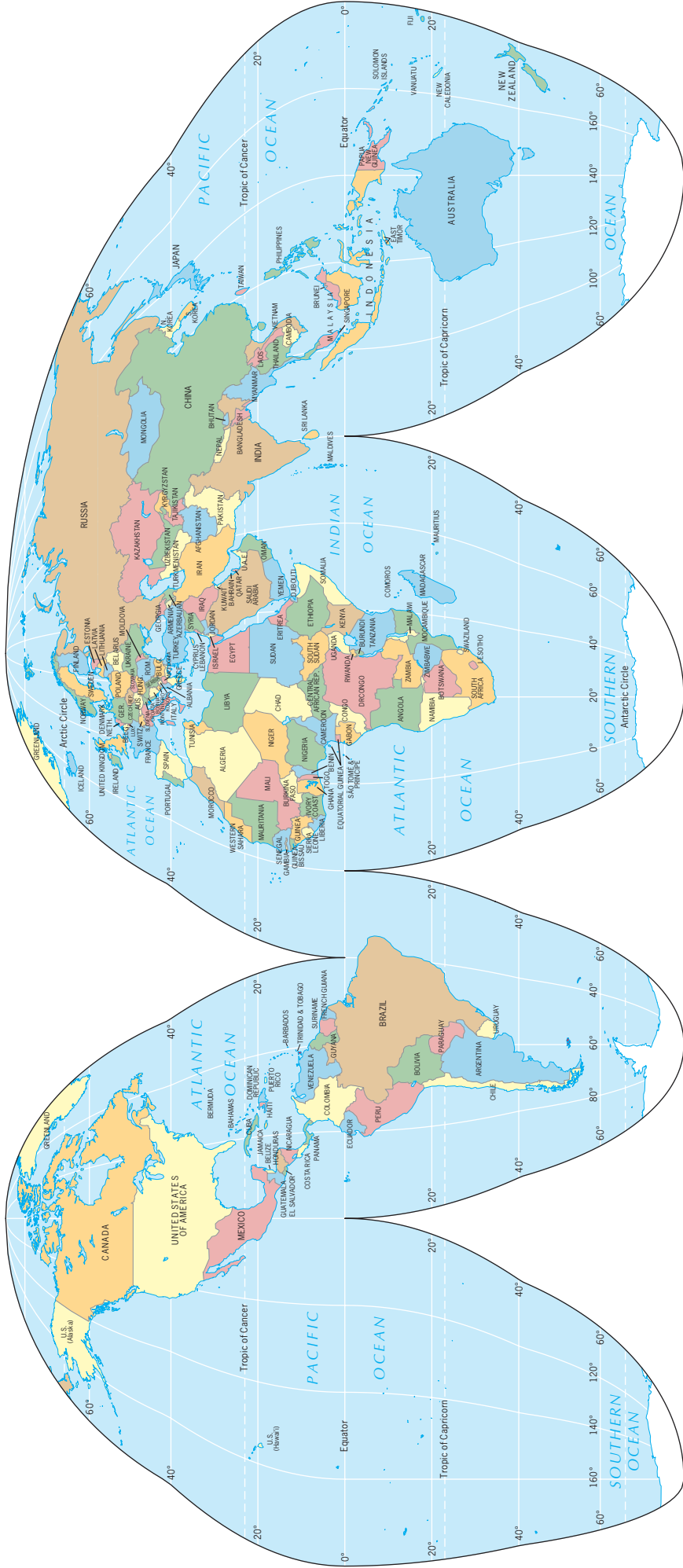
REGIONS

17TH EDITION

Jan Nijman | Peter O. Muller | H. J. de Blij



WILEY



STATES OF THE WORLD, 2017



Geography: Realms, Regions, and Concepts

Seventeenth Edition

About the Cover

On September 18, 2015, this large group of mostly Syrian refugees reached far western Turkey, following a long and arduous journey from their war-torn homeland. Walking along an expressway near the town of Edirne, they approached the border with Greece. If they could get across they would be inside the European Union (EU)—but by this time, their chances were slim. During 2015 alone, there were an estimated two million clandestine border crossings and national authorities, including the Greek government, were increasingly clamping down on illegal entries and hardening their borders. A few months later in the spring of 2016, the EU and Turkey would reach an agreement whereby the latter would no longer allow refugees to cross into neighboring Greece and Bulgaria. It is impossible to know if these particular refugees made it to their preferred destination, remained in Turkey, or were deported to their home countries.

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Geography: Realms, Regions, and Concepts

Seventeenth Edition

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This Seventeenth Edition of Regions is dedicated to the memory of Harm de Blij, our long-time co-author, mentor, and friend. Harm revolutionized Geography textbook writing in the United States, and he was without equal in communicating geographic knowledge and awareness to wider audiences. His legacy will live on in our books.

This is the Seventeenth Edition of a book that, since its first appearance in 1971, has consistently broken new ground in the interpretation and teaching of world regional geography. For more than four decades, *Geography: Realms, Regions, and Concepts* has reported (and sometimes anticipated) trends in the discipline of Geography and developments in the world at large. *REGIONS*, as the book has come to be called, has explained the contemporary world's geographic realms (the largest regional entities on the face of the Earth) and their natural environments and human dimensions. In the process, this book has become an introduction to Geography itself, the discipline that links the study of human societies and natural environments. We look at the ways people have organized their living space, adapted to changing social as well as environmental circumstances, and continue to confront forces largely beyond their control ranging from globalization to climate change.

This book was the first to introduce an approach to Geography that meshes theoretical concepts with regional realities. This approach to the integrated treatment of regions and concepts is a constant throughout all editions, but over the years we have adapted to the changing world around us. The evolving regional content of the chapters, and their organization, reflect the dynamic nature of the world's geography; the changing (and growing number of) concepts mirror the progress of the discipline; and the ongoing introduction of new (digital) features reflects the instructional possibilities of new technologies.

As always, we put a premium on top-quality, original maps to accompany our regional analyses, and we rely, in large part, on our own field observations. Much of our time and research for this book involves field visits and investigations in many of the world's realms. This is expressed most concretely in the numerous field notes and photographs supplied by the authors throughout the book. For the geographer, there is no substitute for *being there*.

Geographic Knowledge, Global Awareness

The book before you is an information highway to geographic knowledge and global awareness. Universities and colleges prepare their students to become critical thinkers, creative problem solvers, and, increasingly, global citizens. If we are now living in a “global village,” then students must get to know the world as they know their own local areas. But while the influence and interests of the United States reach across the globe, it is no secret that geographic illiteracy at home remains widespread. Much of what students encounter in this book is of immediate, practical

value to them—as citizens, as consumers, as travelers, as voters, as job-seekers. North America is a geographic realm marked by ever-intensifying global connections and relationships. Those involvements require countless, often instantaneous decisions, whether they relate to international business, media, affairs of state, disaster relief, and many other spheres. Such decisions must be based on the best possible knowledge of the world beyond our borders. That understanding can be gained by studying the layout of our world, its environments, societies, traditions, resources, policies, development strategies, and other properties—in short, its **regional geography**.

The New Author Team

REGIONS carries the lifelong imprint of Harm J. de Blij, our founding author, mentor, faculty colleague, and cherished friend. Harm's passing in 2014 brought some necessary changes, but this book will always radiate his passionate belief we all share: that geography is fundamental to our understanding of the world and to our efforts to shape and sustain it. Until a few weeks before his death, Harm was heavily involved in discussions about the newly formed author team and about the ongoing digital transformation of this book. And he was highly supportive of the planned changes for this latest edition.

Jan Nijman and Peter Muller, Harm's long-time coauthors, are the lead authors of this revision. They are joined by contributing authors Ann-Margaret Esnard, Richard Grant, and Michael Shin. Ann-Margaret is a Professor at the Andrew Young School of Policy Studies at Georgia State University. With her international expertise in regional planning (especially international disaster planning and management), she is ideally positioned to contribute a new and important feature entitled *Regional Planning Cases*. Next, Richard Grant is responsible for the revision of the chapter on Sub-Saharan Africa. A Professor of Geography and Regional Studies at the University of Miami, he is one of the discipline's foremost authorities on the geography of contemporary Sub-Saharan Africa. Richard has more than two decades of field research experience in Southern and West Africa and is affiliated with universities in Ghana and South Africa. Michael Shin contributes two of the new text features: *Technology & Geography* and *Map Analysis*. He also provides general expertise and support regarding the use of digital geographic data and cutting-edge methods of interactive learning. Michael is a highly valued teacher of GIS and possesses the rare ability to combine high-level technical skills with in-depth thematic knowledge (in regional political geography). We are delighted to have Ann-Margaret, Richard, and Michael on our author team to enrich the book with their collective expertise and insights.

REGIONS: Print or Digital?

The print version of this book is also available in digital form and we—both authors and publisher—have invested substantially in both formats. We are now well underway in preparing for a future in which users will increasingly opt for the digital version because it facilitates greater interactive learning and incorporates an ever-expanding array of online connections to monitor real-time changes in the world around us. At this time, we want to be sure that you have a choice and that both products, print and digital, are at the leading edge of world regional geography. This revision of the print book has, in fact, benefited notably from our work on the digital version; for instance, the new *Map Analysis* feature in print (elaborated below) is a direct outcome of these efforts. We are convinced that you will be pleased with this new edition, and we also encourage you to explore the digital version to see which option best suits your needs and the needs of your students.

New Features: *Map Analysis*

Our book is well known for the quality and currency of its maps, indispensable tools for understanding and resolving geographic questions. We have now gone a step further and added a new feature in each chapter that actively draws students “inside” the map, challenging them to utilize and develop their analytical skills in map interpretation. These new maps typically present the spatial distribution of one or more variables tied to concepts highlighted in that chapter of the text; the accompanying map caption provides pertinent information and asks one or two open-ended analytical questions, usually related to the mapped spatial patterns and their possible explanations. Since the questions are open-ended and we do not supply any answers, they are well suited for classroom discussion or short writing assignments.

For example, the South Asia chapter discusses the concept of megacities, with a *Map Analysis* focused on comparing the size of the urbanized areas centered by Dhaka, Bangladesh and Los Angeles, California (see Box 8-5). The questions posed to student readers concern their thoughts as to why the areal sizes are so different (L.A. is about 17 times larger than Dhaka), even though their population sizes are roughly equal (ca. 15 million). The answers involve notions of density that are, in turn, related to factors such as mobility, modes of transportation, housing conditions, and income levels.

We know how challenging it can be to engage students with maps in a meaningful way in an introductory course, especially in getting them to *read* maps. We believe the new *Map Analysis* feature offers a helpful mechanism for achieving one of the central learning objectives in any regional geography course.

If you are interested in exploring the digital version of this book, be sure to examine the new *Geographic Information Analysis* modules—the online counterparts to the *Map Analysis* feature in this print book. They are specifically designed to advance geographical knowledge, to increase spatial awareness, and to engage students with interactive, GIS-based spatial analysis. A set of questions—both multiple choice and discussion-oriented—accompanies each of the modules to facilitate student learning, progress, and assessment.

Technology & Geography

Technological advances have always influenced geography, especially when they involve improvements in transportation and communication—from railroads to the telegraph, from air travel to the Internet. This new feature highlights technologies that either have a direct impact on the regions under discussion, or technologies that add significantly to the toolkit of geographers as they investigate these regions. Examples of the first category of technologies include nuclear icebreakers in the Arctic (Chapter 5), driverless cars in North America (Chapter 1), and desalination methods to produce drinking water in the Arabian Peninsula (Chapter 6). Examples of technologies that allow geographers to conduct new kinds of regional analyses include satellite-based remote sensing in the measurement of deforestation in South America (Chapter 3), and *LiDAR* in the mapping of archeological sites in Cambodia (Chapter 10). This is an important new feature because it underscores the dynamic nature of geography in response to technological change. Make no mistake: geography is anything but static. Regions change, and so do the techniques used by geographers at work—especially during today’s transformative digital age.

Regional Planning Case

The third new feature in this Seventeenth Edition is the *Regional Planning Case*. Geography is often defined in terms of the interaction between humans and their environment—where the environment influences social behavior *and* where human activities can reshape that environment. Regional planning, as practiced by sovereign states, subnational governments, and other agencies around the world, represents a fundamental effort to shape or reshape the environment. For that reason, regional planning is an intrinsic part of geography and commonly undertaken by professionals who have had geographic training. With this new feature we pay special attention to regional planning projects in each realm that have major geographic ramifications. A planning case can cover an international region (e.g., the China-Pakistan Economic Corridor), a national region (e.g., Saudi Arabia’s Economic Cities), or a single urban area (e.g., earthquake recovery in Christchurch, New Zealand). In each

instance, we explain the planning goals, the scope and scale of the plan, the challenges and consequences, and likely outcomes. The importance of this new feature lies in the recognition of the practitioner's perspective: as geographers we not only seek to better understand the world around us—we are also engaged in applying our knowledge to actively change it.

A New Organizational Structure

Organizationally, this Seventeenth Edition differs from its predecessor in four ways. First, it is both shorter and more concise. We are keenly aware of the persistent challenge to instructors and students of World Regional Geography trying to cover all of the world's realms in a single course. We have judiciously condensed the text by about 10 percent without compromising the explanation of the most essential regional topics and concepts. Indeed, notwithstanding this reduction in overall length, we have expanded the number of concepts while adding the new features described above.

The second difference involves the reordering of the chapters that follow the Introduction. Previous editions began with Europe, followed by Russia, then turned to the Americas, and so on. Of course, there is no self-evident sequence for the presentation of the world's realms. Users should always feel free to choose their own sequence, and we have maintained the flexibility of the book to fit every possible ordering scheme. Nonetheless, we decided to make a major change and begin the regional chapters in this edition with North America—because that is where most of us are based; because, overall, it presents the most familiar terrain; and because it is from here that we view and develop perspectives on the rest of the world. Starting with North America, then, is not to privilege that realm but rather to acknowledge our own vantage point for this survey of world regions. Following North America (Chapter 1), the succession of chapters is largely based on proximity: the second regional chapter covers Middle America; the third focuses on South America. From there, we move to Europe (Chapter 4); next to Russia/Central Asia (5); and then on to North Africa/Southwest Asia (6), which is followed by Subsaharan Africa (7). The final five chapters—South Asia (8), East Asia (9), Southeast Asia (10), the Austral Realm (11), and the Pacific Realm/Polar Futures (12)—follow the same order used in the Sixteenth Edition. It might therefore be useful to closely examine this new organization for the purposes of course planning.

Third, the world's ongoing geographic transformations have led us to reconsider some critical boundaries that separate certain realms. In this edition, we pay more attention to *transition zones* between realms in general—and we also saw the need to redraw a few boundaries. The chapter on the Russian realm now includes the additional region of Central Asia, which as

Turkestan was previously allocated to the North Africa/Southwest Asia realm. At the same time, we have shifted Afghanistan to the South Asian realm from its previous positioning within the North Africa/Southwest Asia realm. The reasons for these changes are elaborated in the appropriate chapters, but they reflect the changing regional dynamics that operate in various parts of the world. Whereas the world's geography is still anchored to a relatively stable set of realms, at a finer scale—often along the edges of realms—pieces of the regional puzzle are shifting.

Finally, the Seventeenth Edition restores the use of single chapters for each world geographic realm. Thus we have moved away from subdividing realms into A and B chapters, a result of our streamlining the text. Internally, however, each regional chapter preserves our practice of focusing first on large-scale, realmwide geographies, and then turning to the more detailed coverage of each realm's constituent regions, often breaking them down further as needed into subregions and/or individual countries.

Highlights of Newly Added Content

Since the Sixteenth Edition of this book appeared in 2014, the world has undergone some momentous changes, all of which have important geographic dimensions. Some of the most profound changes of the mid-2010s involve the European, Russian, East Asian, and North African/Southwest Asian realms. Elsewhere, too, geographies are being reshaped by geopolitical, environmental, economic, and/or social forces—from the Arctic Basin to Myanmar and from the Panama Canal to the South China Sea.

Occasionally, changes are so rapid and transformative that they force us to rethink the fundamentals of particular realms, regions, and countries—or even of the global system that binds them together. In the mid-2010s, cogent examples include the massive refugee drama that engulfed Europe (see cover photo and caption); Russia's revanchist policies in its Near Abroad (especially in Ukraine); China's relentlessly expanding global presence; and, of course, the deepening conflicts in North Africa/Southwest Asia (e.g., Syria). This Seventeenth Edition not only contains myriad updates but also, where necessary, provides reappraisals of the fundamental nature of the world's ever-changing geography.

No summary can adequately encapsulate everything this new edition contains, but here are chapter-by-chapter highlights of the new content:

The **Introduction**, as usual, provides the foundation and sets the stage for the regional chapters, discussing a broad range of basic geographic concepts along with a set of cornerstone world maps. It includes a new section on the concepts of sustainable development and inclusive development, and an expanded section on global refugee and migration flows. The

newly featured *Map Analyses* focus on the critical relationship between economic growth and sustainable development, and on the global geography of capital punishment. The new *Technology & Geography* feature explains the mapping of carbon dioxide in the Earth's atmosphere.

Chapter 1, North America, has a new section and map on the U.S.-Mexican border that simultaneously functions as a sharp boundary and a transition zone. Also look for new text on high-technology clusters and a new map on U.S. agriculture. The *Regional Planning Case* deals with the upgrading of the Port of Savannah in anticipation of larger ("neo-Panamax") ships coming through the enlarged Panama Canal, and the *Technology & Geography* feature discusses the future of driverless cars. Look for *Map Analyses* on urban inequality and presidential elections.

Chapter 2, Middle America, notes the beginning of a new era in United States-Cuba relations, the implications of the enlarged Panama Canal that opened in 2016, and the apparent diversification—from exclusively Mexico to incorporating the Caribbean—of U.S.-bound routes for smuggled cocaine and other illicit drugs from South America. The *Map Analyses* concentrate on the geography of drug-related homicides in Mexico and on the role of connectivity in the economic development of the Central America. The planning of a new interocean canal across Nicaragua that began in 2016, underwritten by China, represents one of the biggest and most expensive planning projects the world has ever seen—if indeed it can be built.

Chapter 3, South America, contains a new section on the waning of the commodity boom that affects so much of this realm, and a section on Colombia's recovery from years of civil strife and economic near-paralysis (including the remarkable revival of the city of Medellín). The *Map Analyses* in this chapter treat the geographies of inequality and the geography of wine. Look for a new map of the intensifying economic development of the Amazon Basin.

Chapter 4, Europe, discusses the human drama of the refugee crisis and the enormous challenges it poses for Europe, the EU, and individual European countries. Look for several new maps on refugee flows and asylum-seekers across the realm, and for a new section on Brexit, the rather unexpected outcome of a 2016 referendum in the United Kingdom to leave the EU. The Ukrainian crisis, too, receives considerable attention and is the focus of one of the *Map Analyses* in this chapter. Also look for new material on Islamic jihadist terrorism in Belgium and France. The *Technology & Geography* feature explains the basics of GIS, and the *Regional Planning Case* explores Amsterdam's new subway, in a city that lies below sea level.

Chapter 5, Russia/Central Asia, emphasizes the increasingly revanchist policies of the Putin regime toward the "Near Abroad" (extending from Ukraine to the Transcaucasian Transition Zone to Central Asia). There is a new section and map on Russia's power as a leading oil and gas supplier of Europe, and a major new section has been added on Central Asia—where Russia and China compete for influence, and the Chinese are busily planning their "New Silk Road" connection to Europe

through Russia's "backyard." Kazakhstan's new (and affluent) capital of Astana is showcased in the *Regional Planning Case*, and the *Map Analyses* highlight Russia's population decline as well as the intricate political geographies of Transcaucasia.

Chapter 6, North Africa/Southwest Asia (NASWA), takes a close look at the anticlimactic aftermath of the 2011 "Arab Spring" movement and the dislocation and turmoil it triggered in various regions and countries from Syria to Somalia, from Libya to Yemen. There are several new maps: one details the surging trans-Mediterranean flow of undocumented immigrants from NASWA to Europe and the refugee crisis it spawned in Southern Europe; another shows the territorial conflicts involving ISIS (Islamic State) across Syria and Iraq through mid-2016. Note, too, that this chapter now ends with the regional discussion of the crucial African Transition Zone (previously part of the chapter on Subsaharan Africa). One of the *Map Analyses* focuses on the relationship between economic prosperity and democracy.

Chapter 7, Subsaharan Africa, bears the imprint of our new contributing author, Africa specialist Richard Grant. It contains several new field notes, and documents the Ebola crisis of 2014-2015. The *Map Analysis* feature in this chapter addresses the challenges of communication and infrastructure in this enormous postcolonial realm. There are new maps on patterns of economic growth and the spatial distribution of Chinese investments across the realm, both linked to an analysis of the heavy reliance on raw materials. Also look for new sections on "mobile money" in Subsaharan Africa and plans to create an ultramodern urban hub (Eko-Atlantic City) amidst the chaotic sprawl on the outskirts of Lagos, Nigeria.

Chapter 8, South Asia, now incorporates Afghanistan as a transition zone on the realm's western flank. That new section includes a map of the reconfigured West region of South Asia, highlighting the critical connections between Afghanistan and Pakistan—that, in turn, are crucial to relations between Pakistan and India. The *Technology & Geography* feature explores the use of U.S. military drones in far-off conflict zones. Another new section discusses extreme weather events in India and Bangladesh in the context of ongoing global climate change. In the *Regional Planning Case*, see the new map showing the China-Pakistan Economic Corridor. One of the *Map Analyses* explains changing patterns in the gender imbalance across India. Also look for new material on Indian Ocean geopolitics, population dynamics, and megacities.

Chapter 9, East Asia, introduces many new field notes and maps to reflect China's westward march of both economic development and urbanization (also the focus of one of the *Map Analyses* in this chapter). Look for a new section on China's massive water diversion project to help quench the thirst of the urban north, and for an updated discussion of geopolitical controversies in the East China Sea. See the new maps that compare China's rapid expansion of its high-speed rail (HSR) system with the almost nonexistent development of HSR in the United States. The second *Map Analysis* in this chapter spotlights the lack of economic development in North Korea.

Chapter 10, Southeast Asia, contains new sections and maps on the Mekong River Basin and the astonishing proliferation of dams along the main stream and its tributaries; on the

regional impacts of Myanmar's liberalization (vis-à-vis India, Thailand, and China); on the geopolitical confrontation over Chinese maritime territorial claims in the South China Sea; on China's singular dominance in this realm's international trade; and on the intensifying persecution of Myanmar's Muslim minority—the Rohingyas—thousands of whom have fled the country in a desperate search for safer havens in Muslim Malaysia and Indonesia. The *Regional Planning Case* focuses on the development of the new port city of Dawei on the Indian Ocean that could have a major impact on Myanmar's position in Southeast Asia.

Chapter 11, Austral Realm, includes an expanded section on Australia's environmental challenges, especially with regard to climate change and growing water shortages. Look for a new map that shows changes in precipitation and the distribution of desalination plants along segments of the country's coastline. The *Map Analysis* in this chapter addresses the geography of Australia's Aboriginal population.

Chapter 12, The Pacific Realm and Polar Futures, in addition to new field notes and photos, contains an updated section on the accelerated melting of the Arctic ice cap and its consequences for competing territorial claims in the Arctic Basin. The *Map Analysis* centers on rival claims by Russia and Denmark, and on the implications of the shrinking ice cap for the navigational potential of both the Northeast and Northwest Passages. Also see new boxes on the Tsunami Warning System of the Pacific Ocean (with accompanying map) and adaptation to rising sea level in low-island Kiribati.

Ancillaries

A broad spectrum of print and electronic ancillaries are available to support instructors:

Test Bank—Prepared by Travis Bradshaw of Liberty University. Includes over 1200 multiple-choice, true/false, and fill-in-the-blank short-answer questions.

PowerPoint Lecture Slides—Prepared by Michele Barnaby of Pittsburg State University. These slides highlight key chapter topics to help reinforce students' grasp of essential concepts.

PowerPoint Slides with Text Images—Images, maps, and figures from the text are available in PowerPoint format. Instructors may use these images to customize their presentations and to provide additional visual support for quizzes and exams.

Clicker Questions—Prepared by Tama Nunnelley of the University of North Alabama. A bank of questions is available for instructors who utilize personal-response-system technology in their courses.

Instructor's Media Guide—Includes information about the various media resources (videos, animations, interactive maps) available for use with this text and offers tips and suggestions on how to use these resources in your course, in conjunction with WileyPLUS Learning Space and Orion.

Acknowledgments

Over the 46 years since the publication of the First Edition of *Geography: Realms, Regions, and Concepts*, we have been fortunate to receive advice and assistance from literally thousands of people. One of the rewards associated with the publication of a book of this kind is the steady stream of correspondence and other feedback it generates. Geographers, economists, political scientists, education specialists, and others have written us, often with fascinating enclosures. We still make it a point to respond personally to every such email, and our editors have communicated with many of our correspondents as well. Moreover, we have considered every suggestion made, and many who wrote or transmitted their reactions through other channels will see their recommendations in print in this edition.

Student Response

A major part of the correspondence we receive comes from student readers. We would like to take this opportunity to extend our deep appreciation to the several million students around the world who have studied from our books. In particular, we thank the students from more than 150 different colleges across the United States who took the time to send us their opinions. Students told us they found the maps and graphics

attractive and functional. We have not only enhanced the map program with exhaustive updating but have added a number of new maps to this Seventeenth Edition as well as making significant changes in many others. Generally, students have told us that they found the pedagogical devices quite useful. We have kept the study aids the students cited as effective: a boxed list of each chapter's key concepts, ideas, and terms (numbered for quick reference in the text itself); a box that summarizes each realm's major geographic qualities; a chapter-end box of thought questions entitled Points to Ponder; and an extensive and still-expanding Glossary.

Faculty Feedback

In developing the Seventeenth Edition, we are indebted to the following people, including several faculty colleagues, for advising us on numerous matters:

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In addition, many colleagues and other scholars from around the world assisted us with earlier editions, and their contributions continue to grace the pages of this book. Among them are:

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JAN NIJMAN
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September 6, 2016

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Map of States of the World

Inside Front Cover

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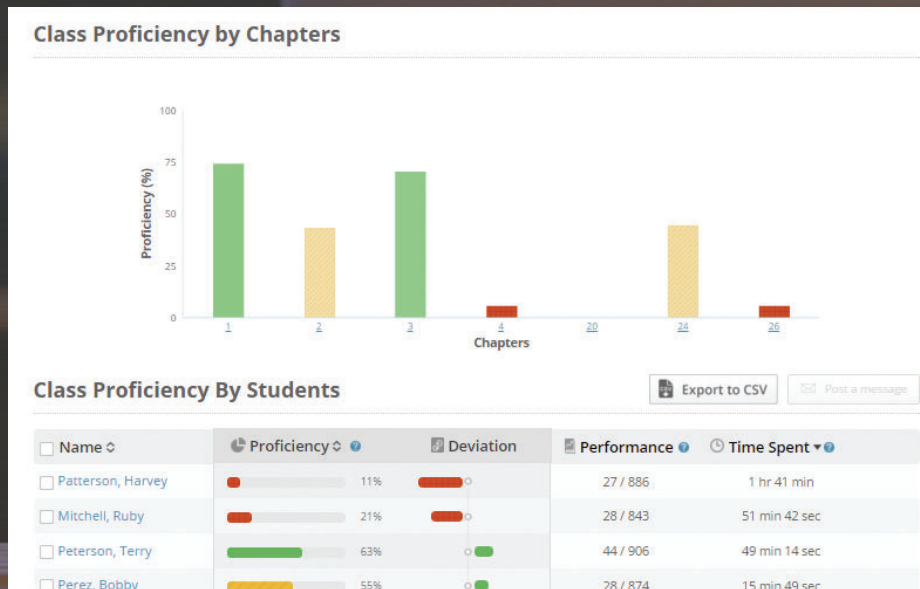


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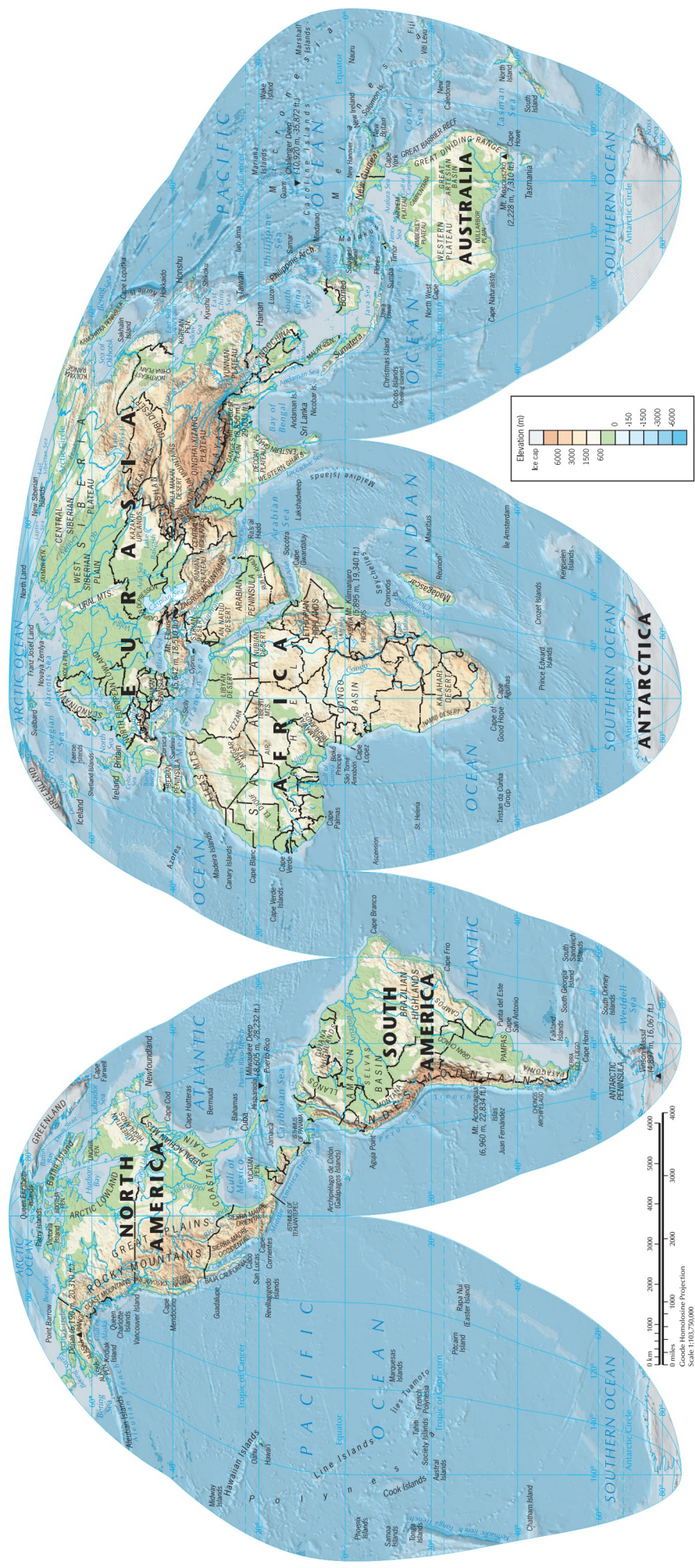


FIGURE G-1

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INTRODUCTION

Nature and culture, entwined in geography. The Tuscany region in the northwestern corner of peninsular Italy contains some of the most elegant cultural landscapes in the world with its rolling hills, contoured grain fields, olive groves, and vineyards.



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World Regional Geography: A Global Perspective

IN THIS CHAPTER

- The power of maps
- The spatial order of the world
 - Persistent cultural diversity
- Geopolitics and the specter of terrorism
 - Technology and geography
- The challenge of sustainable development
 - Widening global inequalities

CONCEPTS, IDEAS, AND TERMS

Mental maps [1]	Continental drift [14]	European state model [27]
Spatial perspective [2]	Tectonic plate [15]	Geopolitics [28]
Scale [3]	Pacific Ring of Fire [16]	Development [29]
Geographic realm [4]	Climate [17]	Sustainable development [30]
Transition zone [5]	Holocene [18]	Inclusive development [31]
Region [6]	Global climate change [19]	Global core [32]
Absolute location [7]	Geospatial data [20]	Global periphery [33]
Relative location [8]	Population distribution [21]	Core-periphery relationship [34]
Formal region [9]	Urbanization [22]	Core area [35]
Spatial system [10]	Megacity [23]	Globalization [36]
Hinterland [11]	Cultural landscape [24]	Migration [37]
Functional region [12]	State [25]	
Natural landscape [13]	Sovereignty [26]	

What are your expectations as you open this book? You have signed up for a course that will take you around the world to try to understand how it functions today. You will discover how interesting and challenging the discipline of geography is. We hope that this course, and this book, will open new vistas, bring new perspectives, raise your awareness of place, and help you navigate our increasingly complex and often daunting world.

You could not have chosen a better time to study geography. The world is changing on many fronts and is doing so ever faster in response to the rapid advancement of communication technologies. The world truly is “shrinking,” and the likelihood has never been greater that your professional career will be taking you to places far from home. As globalization steadily advances, geography becomes ever more important. Moreover,

the United States has the world’s most globalized economy, with political influence to match. Intentionally or not, the United States is affecting nations and peoples, lives and livelihoods, from pole to pole. That power confers on Americans a responsibility to learn as much as they can about those places, nations, and livelihoods, so that the decisions of their government representatives are well informed. But in this respect, the United States is no superpower. Geographic literacy is a measure of international comprehension and awareness, and Americans’ geographic literacy ranks low. That is a liability, for both the United States and the rest of the world, because such geographic foggy afflicts not only voters but also the representatives they elect, from local school boards to the U.S. Congress.

A World on Maps

Just a casual glance at the pages that follow reveals a difference between this and other textbooks: there are almost as many maps as there are pages. Geography is more closely identified with maps than any other discipline, and we urge you to give as much (or more!) attention to the maps in this book as you do to the text. It is often said that a picture is worth a thousand words, and the same applies to maps. When we write “see Figure XX,” we really mean it . . . and we hope that you will get into the habit. We humans are territorial creatures, and the boundaries that fence off our 200 or so countries reflect our divisive ways. Other, less visible borders—between religions, languages, wealth, and poverty—partition our planet as well. When political and cultural boundaries are at odds, there is nothing like a map to summarize the circumstances. Just look, for example, at the map of the African Transition Zone in Chapter 6: this corridor’s turbulence and challenges are steeped in geography.

Maps in Our Minds

All of us carry in our minds maps of what psychologists call our *activity space*: the apartment building or house we live in, the streets nearby, the way to school or workplace, the general layout of our hometown or city. You will know what lane to use when you turn into a shopping mall, or where to park at the movie theater. You can probably draw from memory a pretty good map of your hometown.

These **mental maps [1]** allow you to navigate your activity space with efficiency, predictability, and safety. When you arrived as a first-year student on a college or university campus, a new mental map would have started forming. At first you needed a GPS, online, or hard-copy map to find your way around, but soon you dispensed with that because your mental map became sufficient. And it will continue to improve as your activity space expands.

If a well-formed mental map is useful for decisions in daily life, then an adequate mental map is surely indispensable

when it comes to decision making in the wider world. You can give yourself an interesting test. Choose some part of the world beyond North America in which you have an interest or about which you have a strong opinion—for example, Israel, Iran, Russia, North Korea, or China. On a blank piece of paper, draw a map that reflects your impression of the regional layout there: the country, its neighbors, its internal divisions, major cities, water bodies, and so forth. That is your mental map of the place. Put it away for future reference, and try it again at the end of this course. You will have proof of your improved mental-map inventory.

Mapping Revolutions

The maps in this book show larger and smaller parts of the world in various contexts. Some depict political configurations; others display ethnic, cultural, economic, or environmental features. **Cartography** (the making of maps) has undergone a dramatic and continuing technological revolution. Earth-orbiting satellites equipped with remote-sensing technology (special on-board sensors and imaging instruments) transmit remotely sensed information to computers on the surface, recording the expansion of deserts, the shrinking of glaciers, the depletion of forests, the growth of cities, and myriad other geographic phenomena. Earthbound computers possess ever-expanding capabilities not only to organize this information but also to display it graphically. This allows geographers to develop a **geographic information system (GIS)**, bringing geospatial data to a monitor’s screen that would have taken months to assemble just three decades ago.

A parallel map revolution is embodied in the astounding proliferation of navigation systems in cars and on mobile phones. Smartphones enable the use of maps on the go, and many of us, in the developed world at least, have already become dependent on them to traverse cities, find a store or restaurant, even to move around shopping malls. Whereas the personalized maps on our smartphones allow us to navigate more efficiently, the maps in this book are aimed at better understanding the world and its constituent parts.

Satellites—even spy satellites—cannot record everything that occurs on the Earth's surface. Sometimes the borders between ethnic groups or cultural sectors can be discerned by satellites—for example, in changing house types or religious shrines—but this kind of information tends to require on-the-ground verification through field research and reporting. No satellite view of Iraq could show you the distribution of Sunni and Shi'ite Muslim adherents. Many of the boundaries you see on the maps in this book cannot be observed from space because long stretches are not even marked on the ground. So the maps you will be “reading” here have their continued uses: they summarize complex situations and allow us to begin forming durable mental maps of the areas they represent.

There is one other point we should make that is especially important when it comes to world maps: never forget that the world is a sphere, and to project it onto a two-dimensional flat surface must necessarily entail some very significant distortions. Try peeling an orange and flattening the entire peel on a surface—you will have to tear it up and try to stretch it in places to get the job done. Take a look at [Figure G-1](#) and note how the Atlantic Ocean and other segments of the planetary surface are interrupted. You can produce a map like this in many different ways, but you will always end up distorting things. When studying world maps, there is nothing like having a globe at hand to remind you of our three-dimensional reality.

Geography's Perspective

Geography is sometimes described as the most interdisciplinary of disciplines. That is a testimonial to geography's historic linkages to many other fields, ranging from geology to economics and from sociology to environmental science. And, as has been the case so often in the past, geography is in the lead because interdisciplinary studies and research are now more prevalent than ever.

A Spatial Viewpoint

Most disciplines focus on one key theme: economics is about money; political science is about power; psychology is about the mind; biology is about life forms. Geography is about the explanation of space on the Earth's surface. More specifically, geographers are concerned with the organization of **terrestrial space**. Social space (cities, buildings, political boundaries, etc.) as well as natural space (climates, terrain, vegetation, etc.) are not randomly configured. Instead, there generally prevails a particular order, regularity, even predictability about the ways in which space is organized. Sometimes it is the deliberate work of human beings, and sometimes it is the work of nature, but both produce specific patterns. Geographers consider these spatial patterns and processes as not only interesting but also crucial to how we live and how we organize our societies.

The [spatial perspective \[2\]](#) has defined geography from its beginning.

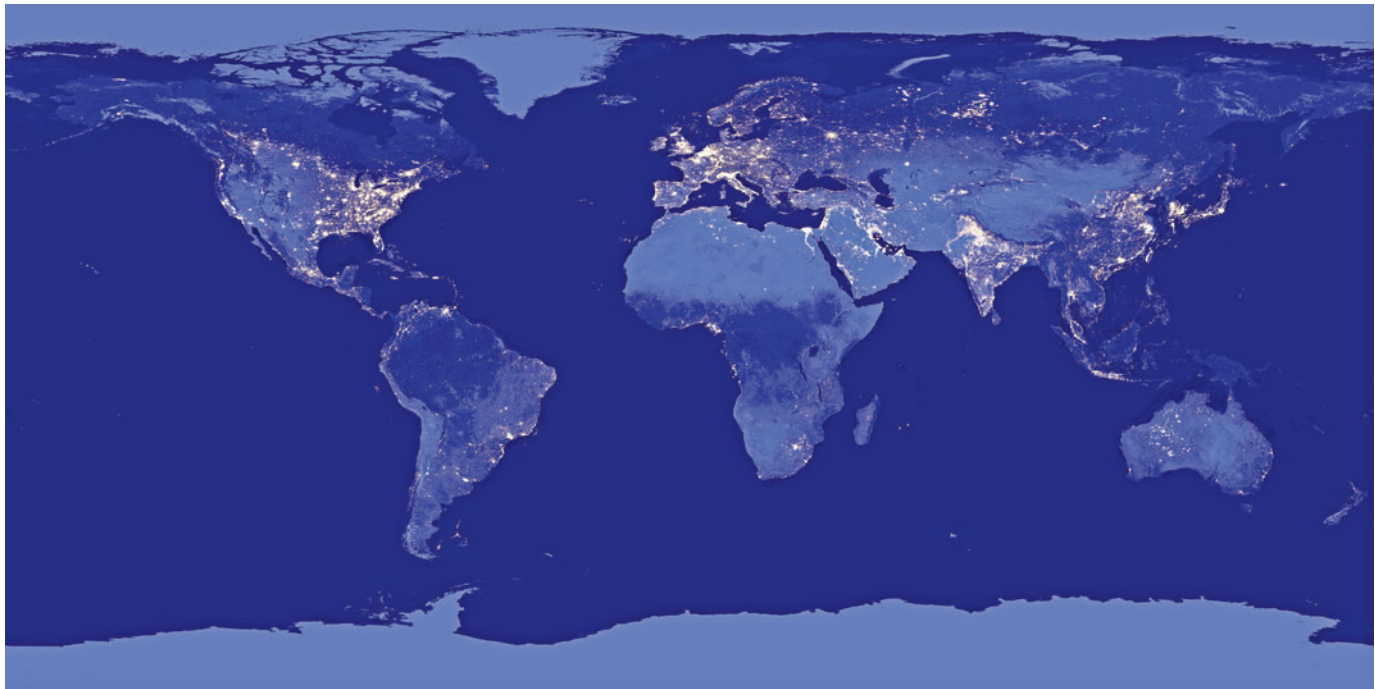
Environment and Society

There is another connection that binds geography and has done so for centuries: an interest in the relationships between human societies and the natural environment. Geography lies at the intersection of the social and natural sciences and integrates perspectives from both, being the only discipline to do so explicitly. This perspective comes into play frequently: environmental modification is in the news on a daily basis in the form of worldwide climate change, but this current surge of global warming is only the latest phase of endless atmospheric and ecological fluctuation. Geographers are involved in understanding current environmental issues not only by considering climate change in the context of the past, but also by looking carefully at the implications of global warming for human societies. Geographers are acutely aware that human beings will always be part of nature, no matter how far technology advances.

More generally, think of this relationship between humans and their environment as a two-way street. On one hand, human beings have always had a transformative effect on their natural surroundings, from the burning of forests to the creation of settlements. On the other hand, humans have always been heavily dependent on the natural environment, their individual and collective behaviors very much a product of it. There are so many examples that it is hard to know where to begin or when to end: we eat what nature provides, and traditional diets vary regionally; rivers allow us to navigate and connect with other peoples—or they serve as natural boundaries like the Rio Grande; wars are fought over access to water or seaports; landlocked countries seem to have different cultures from those of islands; and so on.

Spatial Patterns

Geographers, therefore, need to be conversant with the location and distribution of salient features on the Earth's surface. This includes the natural (physical) world, simplified in [Figure G-1](#), as well as the human world; our inquiry will view these in temporal (historical) as well as spatial perspective. The spatial structure of cities, the layout of farms and fields, the networks of transportation, the configurations of rivers, the patterns of climate—all these form part of our investigation. As you will find, geography employs a comprehensive spatial vocabulary with meaningful terms such as area, distance, direction, clustering, proximity, accessibility, and many others that we will encounter in the pages ahead. For geographers, some of these terms have more specific definitions than is generally assumed. There is a difference, for example, between *area* (surface) and *region*, between *boundary* and *frontier*, and between *place* and *location*. Sometimes, what at first may seem to be simple ideas turn out to be rather complex concepts.



This map is an assemblage of nighttime satellite images that show the dominance of electric lighting in certain parts of the world and darkness in others. What does this spatial distribution suggest about the geography of development?

Scale and Scope

One very prominent term in the geographic vocabulary is **scale** [3]. Whenever a map is created, it represents all or part of the Earth's surface at a certain level of detail. Obviously, Figure G-1 displays a very low level of detail; it is little more than a general impression of the distribution of land and water as well as lower and higher elevations on our planet's surface. A limited number of prominent features such as the Himalayas and the Sahara are named, but not the Pyrenees Mountains or the Nile Delta. At the bottom of the map you can see that one inch at this scale must represent about 1650 miles of the real world, leaving the cartographer little scope to insert information.

A map such as Figure G-1 is called a *small-scale* map because the ratio between map distance and real-world distance, expressed as a fraction, is very small at 1:103,750,000. Increase that fraction (i.e., zoom in), and you can represent less territory—but also enhance the amount of detail the map can exhibit. In Figure G-2, note how the fraction increases from the smallest (1:103,000,000) to the largest (1:1,000,000). Montreal, Canada, is just a dot on Map A but an urban area on Map D. Does this mean that world maps like Figure G-1 are less useful than larger-scale maps? It all depends on the purpose of the map. In this chapter, we often use world maps to show global distributions as we set the stage for the more detailed discussions to follow. In later chapters, the scale tends to become larger as we focus on smaller areas, even on individual countries and cities. But whenever you read a map, be aware of the scale because it is a guide to its utility.

The importance of the scale concept is not confined to maps. Scale plays a fundamental role in geographic research and in the ways we think about geographic problems—scale in terms

of *level of analysis*. This is sometimes referred to as *operational scale*, the scale at which social or natural processes operate or play out. For instance, if you want to investigate the geographic concentration of wealth in the United States, you can do so at a range of scales: within a neighborhood, a city, a county, a State,* or at the national level. You choose the scale that is the most appropriate for your purpose, but it is not always that straightforward. Suppose you had to study patterns of ethnic segregation: what do you think would be the most relevant scale(s)?

In this book, our main purpose is to understand the geography of the world at large and how it works, and so, inevitably, we must deal with broad spatial entities. Our focus is on the world's realms and on the main regions within those realms, and in most cases we will have to forego analyses at a finer scale. For our purposes, it is the big picture that matters most.

World Geographic Realms

Ours is a globalized, interconnected world, a world of international trade and travel, migration and movement, tourism and television, financial flows and Internet traffic. It is a world that, in some contexts, has taken on the properties of a “global village”—but that village still has its neighborhoods. Their names are Europe, South America, Southeast Asia, and others familiar to us all.

* Throughout this book we will capitalize State when this term refers to an administrative division of a country: for example, the U.S. State of Ohio or the Australian State of New South Wales. Since this term is also synonymous with country (e.g., the state of Brazil), we use the lower case when referring to such a national state.

EFFECT OF SCALE

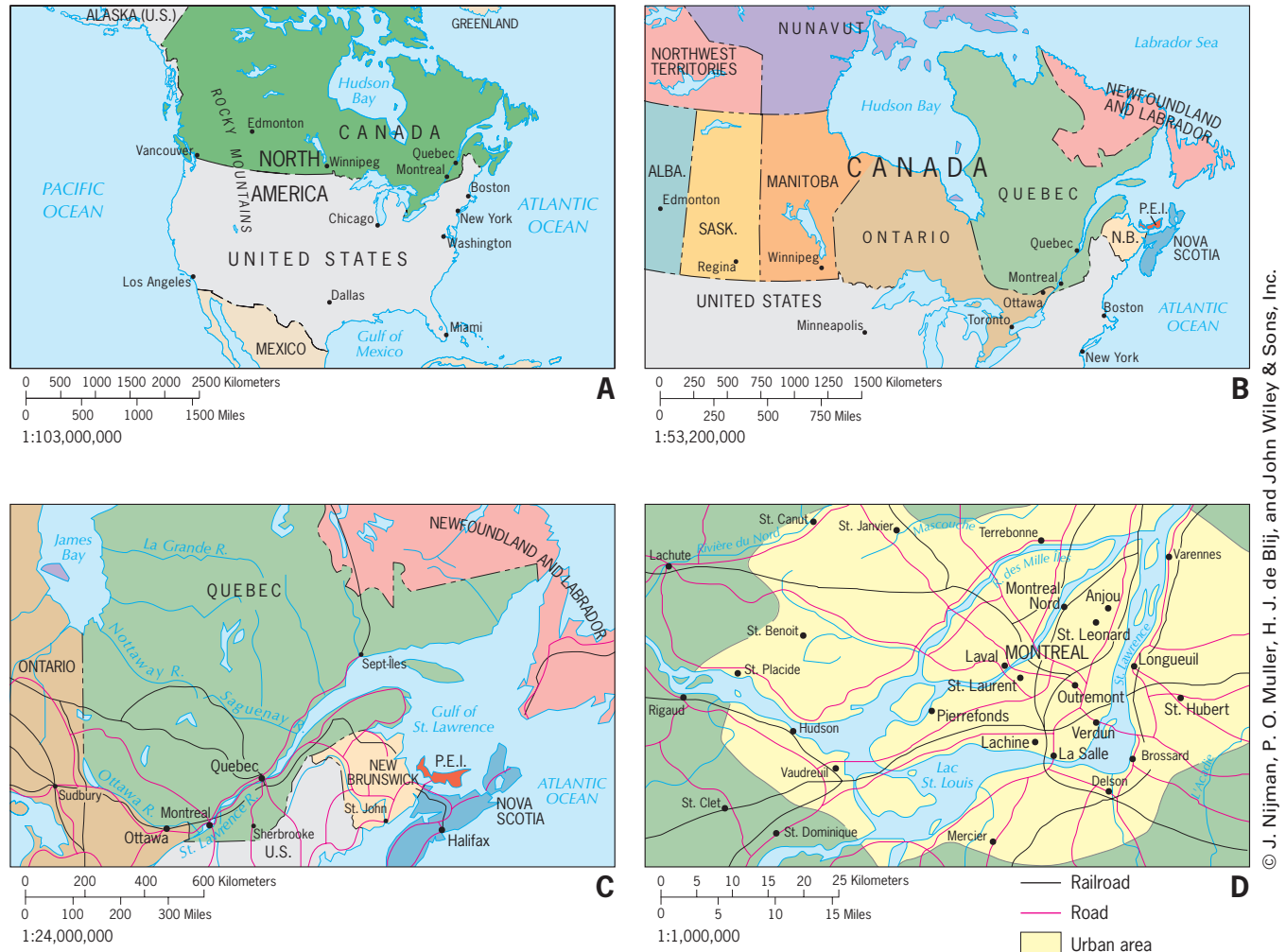


FIGURE G-2

Like the neighborhoods of a city or town, these global neighborhoods may not have sharply defined borders, but their persistence, after tens of thousands of years of human dispersal, is beyond doubt. We call such global neighborhoods **geographic realms** [4]. Each of the realms possesses a particular combination of environmental, cultural, and organizational properties.

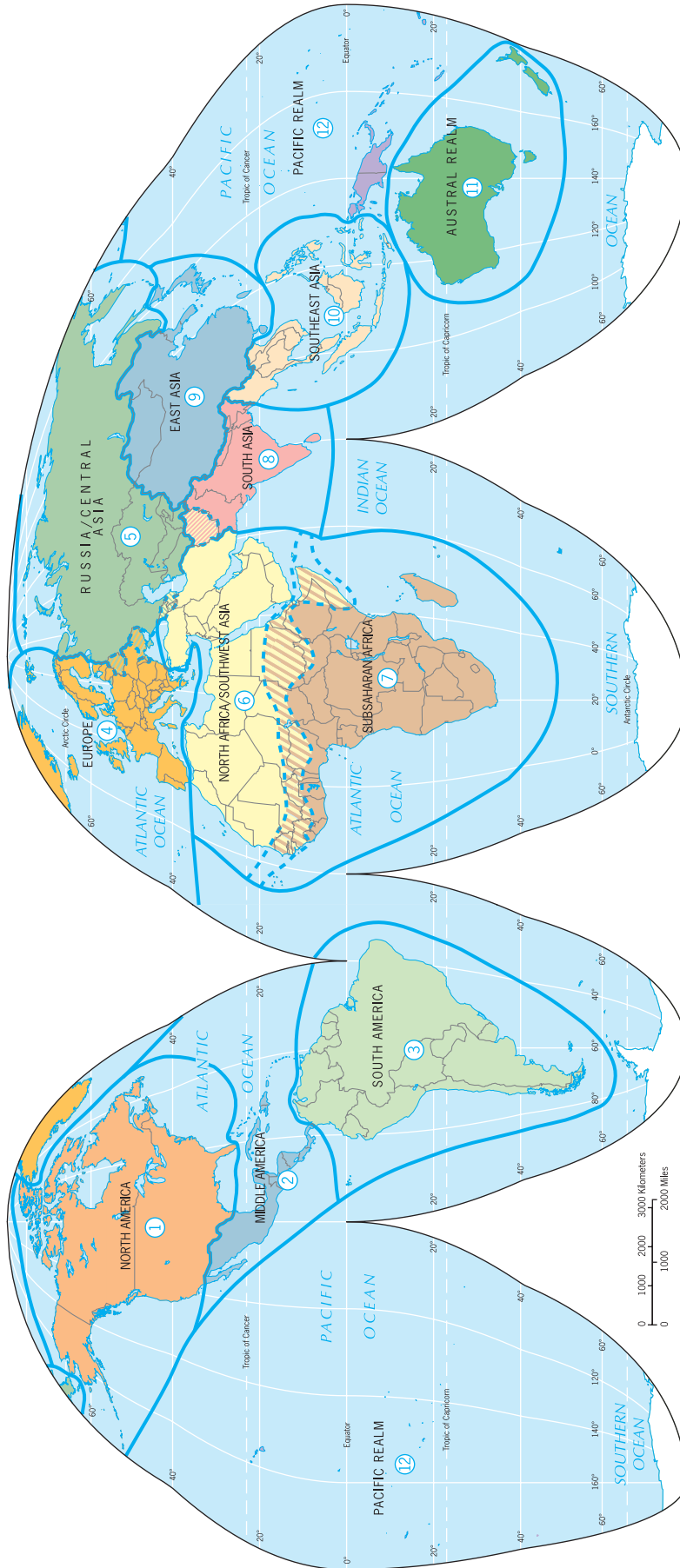
These blended, characteristic qualities are imprinted on the landscape, giving each realm its own traditional attributes and social settings. As we come to understand the human and environmental makeup of these geographic realms, we learn not only where they are located but also why they are located where they are (a central question in geography), how they are constituted, and what their future is likely to be in our fast-changing world. **Figure G-3**, therefore, forms the overall framework for our investigation in this book.

Criteria for Geographic Realms

The existence and identification of world geographic realms depend on a combination of factors. Our world consists of a highly complex and variable environment of large and small

continents, enormous oceans and countless waterways, innumerable islands, diverse habitats and cultures, and intricate political geographies. What constitutes a realm depends on the circumstances, but we can still identify three main sets of criteria that apply to all realms:

- **Physical and Human** Geographic realms are based on sets of spatial criteria. They are the largest units into which the inhabited world can be divided. The criteria on which such a broad regionalization is based include both physical (that is, natural) and human (or social) yardsticks. For instance, South America is a geographic realm because physically it is a continent and culturally it comprises comparable societies. The realm called South Asia, on the other hand, lies on a Eurasian landmass shared by several other geographic realms; high mountains, wide deserts, and dense forests combine with a distinctive social fabric to create this well-defined realm centered on India.
- **Functional** Geographic realms are the result of the interaction of human societies and natural environments, a *functional* interaction revealed by farms, mines, fishing ports, transport routes, dams, bridges, villages, and countless other



- WORLD GEOGRAPHIC REALMS**
- ① NORTH AMERICA
 - ④ EUROPE
 - ⑦ SUBSAHARAN AFRICA
 - ⑩ SOUTHEAST ASIA
 - ② MIDDLE AMERICA
 - ⑤ RUSSIA/CENTRAL ASIA
 - ⑧ SOUTH ASIA
 - ⑪ AUSTRAL REALM
 - ③ SOUTH AMERICA
 - ⑥ NORTH AFRICA/SOUTHWEST ASIA
 - ⑨ EAST ASIA
 - ⑫ PACIFIC REALM

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FIGURE G-3

features that mark the landscape. According to this criterion, Antarctica is a continent but not a geographic realm.

- **Historical** Geographic realms represent the most comprehensive and encompassing definition of the great clusters of humankind in the world today. China lies at the heart of such a cluster, as does India. Most of Africa constitutes a geographic realm from the southern margin of the Sahara (an Arabic word for desert) to the Cape of Good Hope and from its Atlantic to its Indian Ocean shores. Geographic realms are generally defined on the basis of physical features, but they are also the product of historical evolution.

Figure G-3 displays the 12 world geographic realms based on these criteria. As we will show in greater detail later, waters, deserts, and mountains as well as cultural and political shifts mark the borders of these realms. We shall discuss the positioning of these boundaries as we examine each realm.

Delineating Realms: Boundaries and Transition Zones

Oceans and seas are the most common natural boundaries of the world's realms, such as the South Atlantic to Sub-Saharan Africa's west or the North Atlantic to North America's east. But where two geographic realms meet, **transition zones** [5], not sharp boundaries, often mark their contacts.

We need only remind ourselves of the border zone between the geographic realm in which most of us live, North America, and the adjacent realm of Middle America. The line in Figure G-3 coincides with the boundary between Mexico and the United States, crosses the Gulf of Mexico, and then separates Florida from Cuba and the Bahamas. But Hispanic influences are strong in North America north of this boundary, and the U.S. economic influence is strong south of it. The line, therefore, represents an ever-changing zone of regional interaction. Again, there are many ties between South Florida and the Bahamas, but the Bahamas resemble a Caribbean more than a North American society. On the other hand, metropolitan Miami has so many ethnic Cuban residents that it is sometimes referred to as the second-largest Cuban city after Havana.

In Africa, the transition zone from Sub-Saharan to North Africa is so wide and well defined that we have put it on the world map; elsewhere, transition zones tend to be narrower and less easily represented. In the second decade of this century, such countries as Belarus (between Europe and Russia/Central Asia) and Afghanistan (between Southwest Asia and South Asia) lie in inter-realm transition zones. Remember, over much (though not all) of their length, borders between realms are zones of regional change.

Transition zones are fascinating spaces: it is almost as if they rebel against a clear ordering of the world's geography. They remind us that the world is a restless and contested place with shifting boundaries and changing geographic fortunes. They challenge the geographer and, above all, they underscore just how complex the study of geography is.

Geographic Realms: Dynamic Entities

Had we drawn Figure G-3 before Columbus made his voyages beginning in 1492 (and assuming we had the relevant geographical knowledge), the map would have looked different: indigenous states and peoples would have determined the boundaries in the Americas; Australia and New Guinea would have constituted a single realm, and New Zealand would have been part of the Pacific Realm. The colonization, Europeanization, and Westernization of the world changed that map dramatically. Since World War II, the world map has been redrawn as a result of decolonization and the rise and then demise of the Cold War. That Cold War division between western and eastern Europe has now given way to far-reaching European integration across that geographic realm. Realms and regions are dynamic entities, and their geographies are always subject to change.

Two Types of Realms

The world's geographic realms can be divided into two categories. The first are *monocentric* realms that are dominated by a single major political entity, in terms of territory and/or population. North America (United States), Middle America (Mexico), East Asia (China), South Asia (India), Russia/Central Asia, and the Austral Realm (Australia) are all monocentric realms. They are, in their entirety, heavily influenced by the presence of that single country. It is as if the realm is organized around them.

The second type of realm is *polycentric* in nature. In these, the appearance, functioning, and organization of the realm are dispersed among a number of more or less equally influential regions or countries. Europe, North Africa/Southwest Asia, Sub-Saharan Africa, and the Pacific Realm all fall into this category. Polycentric realms can be more volatile in some ways, their development determined by the sum of many different parts.

Two of the world's realms are a bit more difficult to categorize. Southeast Asia is a dynamic realm that contains almost a dozen countries, some of them regarded as emerging economies. Arguably, Indonesia is becoming the most influential power, but it would be premature to label this a monocentric realm. The other realm that seems to fall in between is South America. Here it is Brazil that has the biggest population and increasingly the largest and most influential economy. South America, more emphatically than Southeast Asia, may be moving toward a monocentric spatial organization.

Of course, some of the dominant powers in the monocentric realms influence events beyond their realm and demonstrate a truly global reach. The United States has dominated world events (though not unchallenged) since World War II, but in recent decades it has had to make way for newly emergent powers such as Japan and Germany. Nowadays, China exercises a major influence not just across East and Southeast Asia but around the globe. Our discussion of the various realms will give due consideration to the influence of global trends and outside powers.