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# THE WORLD TODAY

**CONCEPTS AND REGIONS IN GEOGRAPHY** 

SEVENTH EDITION

# **WITH**

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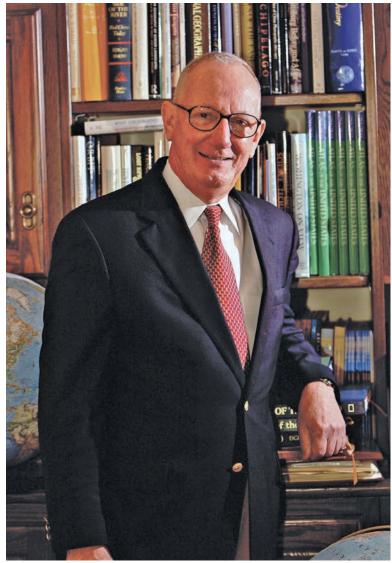
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Estate of H.J. de Blij

Harm de Blij, 1935–2014

This Seventh Edition of The World Today is dedicated to 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.

# **PREFACE**

his is the Seventh Edition of a book that, since its first appearance in 2003, has undergone several significant changes. We first wrote this book because so many of you, teachers and students alike, expressed the need for a text that provided an introduction to concepts and regions in world geography—but that did so in a concise manner and in the context of current world affairs. That is still the thrust of the book today, and this Seventh Edition, we believe, meets that challenge better than ever.

We continue our established approach to the integrated treatment of regions and concepts, but the book contains several innovative features as well as some major revisions in the coverage of selected world geographic realms. Some of the most profound changes in the world during the mid-2010s involve the Russian/ Central Asian, East Asian, and North African/Southwest Asian realms, all with global ramifications. Elsewhere, as always, geographies are being reshaped by geopolitical, environmental, economic, and/or social forces—from the Arctic to Myanmar and from the Panama Canal to Afghanistan.

As always, we rely in large part on our own field observations: much of our time and research for this book involves field visits and research in many of the world's realms. This is expressed, most concretely, in the numerous field notes and photographs supplied by the authors throughout this book. For the geographer, there is just 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," it means that students must get to know the world like they do 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 with steadily 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 continent. 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

The World Today carries the lifelong imprint of Harm de Blij, our founding author, mentor, faculty colleague, and cherished friend. Moreover, this book always will reflect his perspective—even as the world continues to change and the discipline of Geography evolves. The author team is changing as well, and up to a few weeks before his passing Harm de Blij was heavily involved in the discussions and highly supportive of the impending changes in this Seventh Edition. Jan Nijman and Peter Muller, Harm's long-time coauthors, are the main authors of this revision, and Richard Grant and You-tien Hsing, respectively, have contributed the revised chapters on Subsaharan Africa and East Asia. Richard Grant is Professor of Geography and Regional Studies as well as the Director of the Urban Studies Program at the University of Miami. He is one of the world's foremost experts on contemporary Subsaharan Africa and has more than two decades of field research experience in Southern and West Africa. That work continues, and he also has affiliations with universities in Ghana and South Africa. You-tien Hsing is both Professor of Geography and holder of the Pamela P. Fong Family Distinguished Chair in China Studies at the University of California, Berkeley. She not only brings a wealth of knowledge on rapidly transforming East Asia, but is also a leading authority on the emerging geographies of China. And she, too, draws on an enormous range of field experience all across China as well as in many other parts of East Asia.

The author team is also fortunate to have been joined by Michael Shin, who provided indispensable expertise and support on the use of digital geographic data and cutting-edge methods of interactive learning in our discipline. Michael Shin is Associate Professor of Geography at the University of California, Los Angeles, a highly regarded teacher of GIS at that UCLA Department, and possesses the rare ability to combine high-level technical skills with in-depth thematic expertise (in political geography). Michael's contribution is focused in the digital version of this Seventh Edition. We are delighted that Richard, You-tien, and Michael have joined us to enrich the book with their knowledge and insights.

# THE WORLD TODAY: PRINT OR DIGITAL?

The print version of the 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 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, benefitted notably from our work on the digital version—the new *Map Analysis* feature (elaborated below) is a direct outcome of these efforts. We know 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 particular needs and those of your students.

# THE NEW MAP ANALYSIS FEATURE

Our book is well known for the quality and currency of its maps, an indispensable tool in the *understanding* of geographic questions. We have now gone a step further and have added a new feature in each chapter that actively draws students 'into' the map, challenging them to use 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 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 to class discussion or short writing assignments.

For example, the South Asia chapter discusses the concept of megacities, with the *Map Analysis* focused on comparing the shapes of the urbanized areas centered by Dhaka, Bangladesh, and Los Angeles (see Fig. 8-9). The questions posed to student readers concern their thoughts on 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 level.

We know how challenging it can be to engage students with maps in a meaningful way, especially in getting them to read maps. We believe the new Map Analysis feature provides a most useful instrument to help achieve 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 check out the new Geographic Information Analysis modules: these are the online counterparts of the Map Analysis feature in this print book. They are specifically designed to heighten geographical knowledge, to increase spatial awareness, and to engage students with interactive, GIS-based, spatial analyses. A set of questions—both multiple choice and discussion-oriented—accompanies each module to facilitate student learning, progress, and assessment.

# A NEW ORGANIZATIONAL STRUCTURE

Organizationally, this Seventh Edition differs from its predecessor in four distinct ways. First, it is both shorter and more

concise. We are keenly aware of the persistent challenge to instructors and students in World Regional Geography trying to cover all of the world's realms in a single course. We have judiciously condensed the text by more than 10 percent without compromising explanation of the most essential topics and concepts. Moreover, the emphasis in this book, more than ever, is on the world *today*—on illuminating the role of geography in the global affairs of the late 2010s.

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 are always 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 positionality 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, and the third South America; from there we move to Europe (Chapter 4), followed by Russia/ Central Asia (5); then on to North Africa/Southwest Asia (6), that is followed by Subsaharan Africa (7). Chapters 8 through 12—South Asia (8), East Asia (9), Southeast Asia (10), Austral Realm (11), and Pacific Realm/Polar Futures (12)—follow the same sequence used in the Sixth Edition. It might therefore be useful to examine this new organization more closely 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—but 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 are quite clearly related to the changing regional dynamics of the 2010s. Whereas the world's geography is still anchored to a relatively stable set of realms, at a finer scale, often on the edges of realms, pieces of the regional puzzle are shifting.

Finally, the Seventh Edition again consists 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 and making the text more concise (in which separate A and B chapters became unnecessary because we felt

they imposed too rigid a structure). Internally, 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 regions, often breaking them down further into subregions and/or individual countries.

# HIGHLIGHTS OF NEW MATERIAL

Since the Sixth Edition appeared in 2013, the world has undergone some momentous changes, all of which have geographic ramifications. Occasionally, those 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, Russia's revanchist policies in its Near Abroad, China's relentlessly expanding global presence, and the spiraling conflicts in North Africa/Southwest Asia are cogent examples. This Seventh Edition not only contains myriad valuable updates but also, where necessary, provides reappraisals of the fundamental nature of the world's ever-changing geography.

No summary can adequately encapsulate all that this new edition contains in terms of text, field notes, maps, or photos, but here are some chapter-by-chapter highlights:

The chapter-length **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 series of cornerstone world maps. It includes a new section on concepts of sustainable development and inclusive development. The newly featured *Map Analysis* focuses on the critical relationship between economic growth and sustainable development.

**Chapter 1, North America**, has a new section and map on the U.S.-Mexican border that, simultaneously, is a sharp boundary *and* a transition zone. Also look for new text on high-technology clusters and new maps on U.S. agriculture as well as Miami's world-city connections.

**Chapter 2, Middle America**, directs attention to the beginnings of a new era in United States-Cuba relations, the implications of the widened Panama Canal that opens 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.

**Chapter 3, South America,** contains a new section on the slowdown of the commodity boom that affects so much of this realm, and another 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 Analysis* in this chapter compares national incomes to the variation in retail prices of iPhones.

**Chapter 4, Europe,** discusses the increasing pressures on the European Union concerning Greece, even as the EU continued to expand in recent years (Croatia joined as the 28th memberstate in 2013, and Latvia and Lithuania had joined the eurozone by 2015). The Ukrainian crisis receives considerable attention and is the focus of the *Map Analysis* of this chapter. Also look for new material on Islamic jihadist terrorism in France, as well as the staggering human drama of the refugee crisis caused by the tide of undocumented immigration occurring across the central Mediterranean Basin.

Chapter 5, Russia/Central Asia, emphasizes the increasingly revanchist policies of the Putin regime, not only their consequences for the 'Near Abroad' (extending from Ukraine to the Transcaucasian Transition Zone to Central Asia) but also in the context of Russia's rapidly fading democratic prospects. There is a new section (and map) on Russia's power as the major oil and gas supplier of Europe, and a major new section 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.'

Chapter 6, North Africa/Southwest Asia (NASWA), takes a close look at the anticlimactic aftermath of the 'Arab Spring' movement and the dislocation and turmoil it triggered in various regions and countries ranging from Syria to Yemen, from Libya to Somalia. There are several new maps: one details the trans-Mediterranean tidal flow of undocumented immigrants from NASWA to Europe and the refugee crisis it spawned in Southern Europe; another shows the territorial expansion of ISIS (Islamic State) across Syria and Iraq through mid-2015. Note, too, that this chapter now concludes with the regional discussion of the crucial African Transition Zone (previously part of the chapter on Subsaharan Africa).

**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.

**Chapter 8, South Asia,** now includes 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—which in turn, are crucial to relations between Pakistan and India. Also look for added material on Indian Ocean geopolitics, gender relations, population dynamics, and megacities.

**Chapter 9, East Asia,** is enriched throughout by our new collaborating author, You-tien Hsing. There are several new field notes and maps to reflect China's westward march of both economic development and urbanization (also the topic of the Map Analysis in this chapter). Look for an entirely rewritten section on Korea and for an updated discussion of geopolitical controversies in the East China Sea. This edition pays special attention to Tibet, which is undergoing rapid change but where culture has thus far proven resilient (see both the front and back covers).

Chapter 10, Southeast Asia, contains newly-added sections and maps on the Mekong River Basin and the astonishing proliferation of dams along the trunk stream and its tributaries; on the regional impacts of Myanmar's liberalization (vis-à-vis India, Thailand, and China); on the coming geopolitical confrontation over Chinese 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 desperate search of safer havens in Malaysia and elsewhere in the realm.

Chapter 11, The Austral Realm, includes an expanded section on Australia's environmental challenges, especially concerning climate change and growing water shortages. Look for a new map that shows changes in precipitation and the distribution of desalination plants along parts 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 polar ice cap and its consequences for competing territorial claims in the Arctic. The Map Analysis centers on rival claims by Russia and Denmark, and on the implications of the shrinking Arctic ice cap for the navigational potential of both the Northeast and Northwest Passages.

# **ANCILLARIES**

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

Test Bank—Prepared by Dennis Geffert, of Cuyahoga Community College Western. Includes over 1200 multiple-choice, true/false, and fill-in-the-blank short-answer questions.

**PowerPoint Lecture Slides**—Prepared by Rhonda Reagan of Blinn College. 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

**Clicker Questions**—A bank of questions is available for instructors who are using personal-response-system technology in their courses.

Instructor's Media Guide—Includes information about the 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.

To see a complete listing of these ancillaries, or to gain access to them upon adoption and purchase, please visit: http:// www.wiley.com/college/sc/nijman.

# **ACKNOWLEDGMENTS**

Over the 45 years since publication of the First Edition of Geography: Realms, Regions, and Concepts (and joined over the past dozen years by the appearance of this book), 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 unremitting stream of correspondence and other feedback it generates. Geographers, economists, political scientists, education specialists, and others have written us, often with fascinating enclosures. We make it a point to respond personally to every such letter, and our editors have communicated with many of our correspondents as well. Moreover, we have considered every suggestion made, and several 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 Seventh 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; and a Glossary of Terms at the end of the book.

# **FACULTY FEEDBACK**

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Finally, we express our deep gratitude to our families for this latest round of seeing us through the demanding schedule of creating this Seventh Edition of *The World Today*. And we wish to acknowledge the inspiration we received from Bonnie de Blij in the difficult months following Harm's passing in 2014. We want her to know that Harm's legacy will live on in this book and those to follow.

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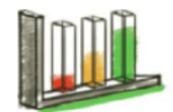
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- Remember what you have learned because you have made deeper connections to the content

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To gain access to Appendix B, please visit: http://www.wiley.com/college/sc/nijman.

# THE WORLD TODAY

**CONCEPTS AND REGIONS IN GEOGRAPHY** 

SEVENTH EDITION



Nature and culture, entwined in geography. The Tuscany region in the north-western 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.

# IN THIS CHAPTER

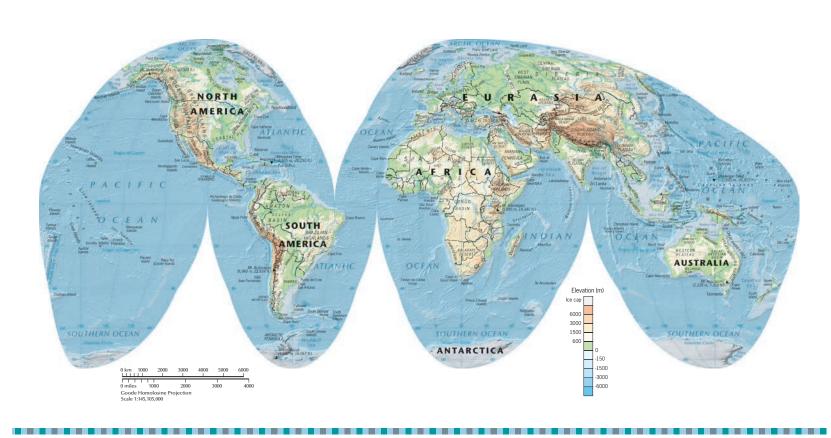
- The power of maps
- The spatial order of the world
  - Dangerous places
  - · Persistent cultural diversity
- Geopolitics and the specter of terrorism
- The challenge of sustainable development
  - Widening global inequalities

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# INTRODUCTION WORLD REGIONAL GEOGRAPHY:

A GLOBAL PERSPECTIVE



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FIGURE G-1

hat 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 progresses, geography is becoming 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, both for the United States and the rest of the world because such geographic fogginess 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 onboard 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 allow 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

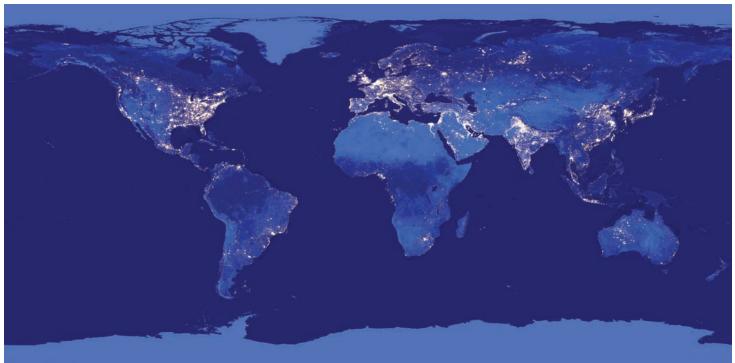
will have to tear it up and try to stretch it in places to get the job done. Take a look at Figure G-1 and note how the Atlantic Ocean and other segments of the planetary surface are interrupted. You can produce a map like this in many different ways, but you will always end up distorting things. When 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 lifeforms. Geography is about the explanation of space on the Earth's surface. More specifically, geographers are concerned with the organization of *terrestrial space*.



NASA Earh Observatory / NOAA NGDC

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?

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, and 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 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.

# **Scale and Scope**

One 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)?

<sup>\*</sup>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**

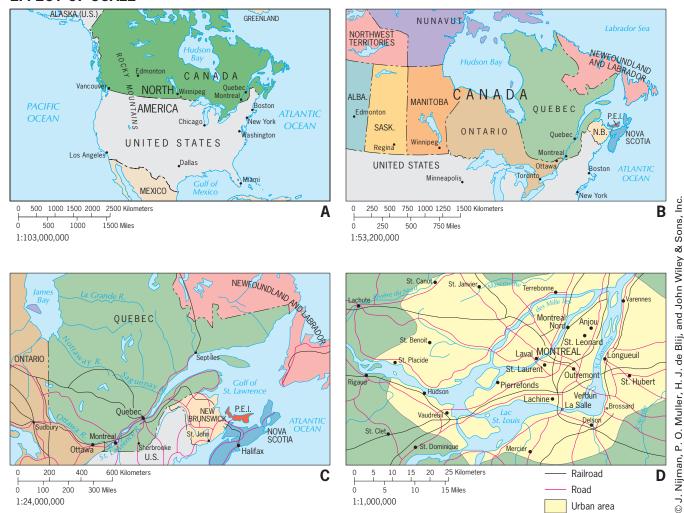


FIGURE G-2

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.

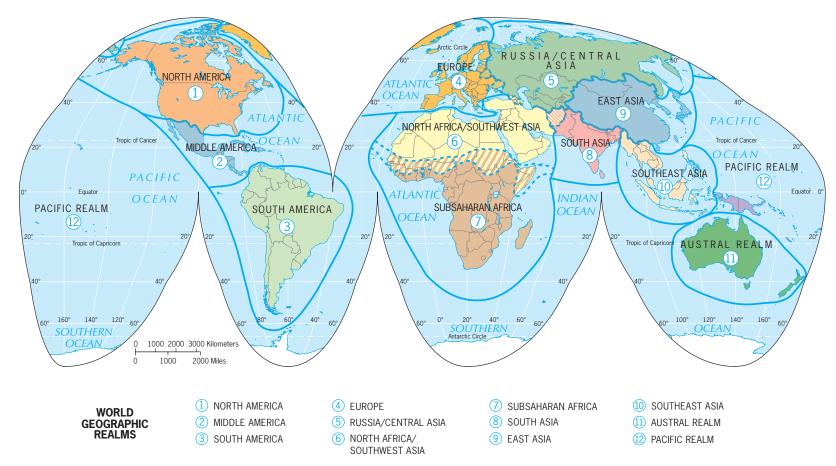
# WORLD GEOGRAPHIC REALMS

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. 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 depends on a combination of factors. Our world offers a highly complex and variable environment of large and small continents,



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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 example, 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 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 Subsaharan 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. 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 Subsaharan 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.

# **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 one 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, Subsaharan 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.

# REGIONS WITHIN REALMS

The compartmentalization of the world into geographic realms establishes a broad global framework, but for our purposes a more refined level of spatial classification is needed. This brings us to an important organizing concept in geography: the region 6. To establish regions within geographic realms, we need more specific criteria.

Let us use the North American realm to demonstrate the regional idea. When we refer to a part of the United States or Canada (e.g., the South, the Midwest, or the Prairie Provinces), we employ a regional concept—not scientifically but as part of everyday communication. We reveal our perception of local or distant space as well as our mental image of the region we are describing.

But what exactly is, for example, the Midwest? How would you draw this region on the North American map? Regions seem easy to imagine and describe, but they can be difficult to outline with precision on a map. You might suggest that, broadly, the Midwest lies between the Ohio River and the Rocky Mountains. Or you might use the borders of States: certain States are part of this region, others are not. Alternatively, you could use agriculture as the principal criterion: the Midwest is where corn and/or soybeans occupy a certain percentage of the farmland. Each method results in a different delimitation; a Midwest based on physical boundaries is different from States from a Midwest based on State borders or farm production. Therein lies an important principle: regions are devices that allow us to make spatial generalizations, and they are based on criteria to help us construct them. If you were studying the geography of presidential-election politics, then a Midwest region defined by State boundaries would make sense. If you were studying agricultural distributions, you would need a different definition.

# **Criteria for Regions**

Given these different dimensions of the same region, we can identify properties that all regions have in common:

- Area To begin with, all regions have area. This observation would seem obvious, but there is more to this idea than meets the eye. Regions may be intellectual constructs, but they are not abstractions: they exist in the real world, and they occupy space on the Earth's surface.
- Boundaries It follows that regions have boundaries. Occasionally, nature itself draws sharp dividing lines, for instance, along the crest of a mountain range or along a coast. More often, regional boundaries are not self-evident, and we must

- determine them using criteria that we establish for that purpose. For example, to define a cultural region, we may decide that only areas where more than 50 percent of the population belong to a particular religion or speak a certain language qualify to be part of that region.
- **Location** All regions also possess *location*. Often the name of a region contains a locational clue, as in Amazon Basin or Indochina (a region of Southeast Asia lying between India and China). Geographers refer to the absolute location 7 of a place or region by providing the latitudinal and longitudinal extent of the region with respect to the Earth's grid coordinates. A more useful measure is a region's relative location 8, that is, its location with reference to other regions. Again, the names of certain regions reveal aspects of their relative locations, as in Mainland Southeast Asia and Equatorial Africa.
- Homogeneity Many regions are marked by a certain homogeneity or sameness. Homogeneity may lie in a region's cultural properties, its physical characteristics, or both. Siberia, a vast region of northeastern Russia, is marked by a sparse human population that resides in widely scattered, small settlements of similar form, frigid climates, extensive areas of permafrost (permanently frozen subsoil), and cold-adapted vegetation. This dominant uniformity makes it one of Russia's natural and cultural regions, extending from the Ural Mountains in the west to the Pacific Ocean in the east. When regions display a measurable and often visible internal homogeneity, they are called formal regions 9. But not all formal regions are visibly uniform. For instance, a region may be delimited by the area in which, say, 90 percent or more of the people speak a particular language. This cannot be seen in the landscape, but the region is a reality, and we can use that criterion to draw its boundaries accurately. It, too, is a formal region.
- Regions as Systems Other regions are marked not by their internal sameness but by their functional integration—that is, by the way they work. These regions are defined as spatial systems 10 and are formed by the areal extent of the activities that define them. Take the case of a large city with its surrounding zone of suburbs, urban-fringe countryside, satellite towns, and farms. The city supplies goods and services to this encircling zone, and it buys farm products and other commodities from it. The city is the heart, the core of this region, and we call the surrounding zone of interaction the city's hinterland 11. But the city's influence wanes along the outer periphery of that hinterland, and there lies the boundary of the functional region of which the city is the focus. A functional region 12, therefore, is usually forged by a structured, urban-centered system of interaction. It has a core and a periphery.

# Interconnections

Even if we can easily demarcate a particular region and even if its boundaries are sharp, that does not mean it is isolated from other parts of the realm or even the world. All human-geographic regions are more or less interconnected, being linked to other regions. As we shall see, globalization is forging ongoing integration and connections among regions around the world. Trade, migration, education, television, computer linkages, and other interactions sometimes blur regional identities. Interestingly, globalization tends to have a seemingly paradoxical effect: in some ways, regions and places become more alike, more homogeneous (think of certain consumption patterns), but in other respects the contrasts can become stronger (for example, a reassertion of ethnic or religious identities).

# THE PHYSICAL SETTING

# **Natural Landscapes**

The landmasses of Planet Earth present a jumble of natural landscapes 13 ranging from rugged mountain chains to smooth coastal plains (Fig. G-1). Certain continents are readily linked with a dominant physical feature—for instance, North America and its Rocky Mountains, South America with its Andes and Amazon Basin, Europe with its Alps, Asia with its Himalaya Mountains and massive river basins, and Africa with its Sahara and Rift Valley complex. Physical features have long influenced human activity and movement. Mountain ranges form barriers to movement but have also channeled the spread of agricultural and technological innovations around them. Large deserts similarly form barriers as do rivers, although rivers also facilitate accessibility and connectivity between people. River basins in Asia still contain several of the planet's largest population concentrations: the advantages of fertile soils and ample water supplies that first enabled clustered human settlement now sustain hundreds of millions in crowded South and East Asia.

As we study each of the world's geographic realms, we will find that physical landscapes continue to play significant roles in this modern world. That is one reason why the study of world regional geography is so important: it puts the human map in environmental as well as regional perspective.

# **Geology and Natural Hazards**

Our planet may be 4.5 billion years old, but it is far from placid. As you read this chapter, Earth tremors are shaking the still-thin crust on which we live, volcanoes are erupting, storms are raging. Even the continents themselves are moving measurably, pulling apart in some areas, colliding in others. Hundreds of thousands of human lives are lost to natural calamities of this sort in almost every decade.

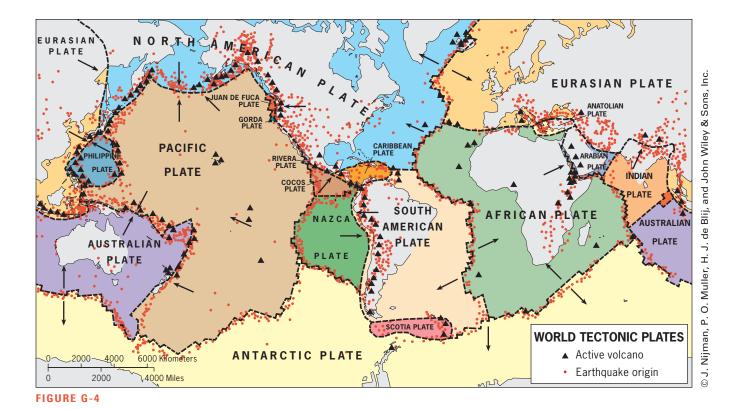
More than a century ago, the German geographer Alfred Wegener used spatial analysis to explain something that is obvious even from a small-scale map like Figure G-1: the apparent jigsaw-like fit of the landmasses, especially across the South Atlantic Ocean. His theory of **continental drift** 14 held that the landmasses on the map were actually pieces of a supercontinent, Pangaea, that existed hundreds of millions of years ago. Today we know that the continents are "rafts" of relatively light rock that rest on slabs of heavier rock known as tectonic plates 15 whose movement is propelled by giant circulation cells in the red-hot magma below (when this molten magma reaches the surface through volcanic vents, it is called lava).



# FROM THE FIELD NOTES...



"On the descent into Tibet's Lhasa Gongga Airport, I have a great view of the Yarlung Zangbo Valley, its braided stream channels gently flowing toward the distant east. The Yarlung Zangbo is the highest major river on Earth, running from the Tibetan Plateau into northeastern India where it joins the mighty Brahmaputra River that continues on to Bangladesh where it empties into the Indian Ocean. It was mid-October and the water levels were low. The landing strip of the airport can be seen in the center-right of the photo, on the south bank. The airport is guite far from Lhasa, the Tibetan capital, located about 62 kilometers (40 mi) to its southwest. Despite major road and tunnel construction, it is still more than an hour's drive. The airport had to be built away from the city and in this widest part of the valley because it allows the easiest landings and takeoffs in this especially rugged terrain. It lies at 3700 meters above sea level (12,100 ft), one of the highest airports in the world."



When moving tectonic plates collide, earthquakes and volcanic eruptions result, and the physical landscape is thrown into spectacular relief. Figure G-4 shows the outlines of the tectonic plates and the coincidence of earthquakes and volcanic eruptions. The Earth's largest ocean is almost completely encircled by active volcanoes and earthquake epicenters. Appropriately, this geologic frame is known as the Pacific Ring of Fire 16. In comparison, Russia, Europe, Africa, and Australia are relatively safe; in other realms, the risks are far greater in one sector than in others (western as opposed to eastern North and South America, for instance). As we shall discover, for certain parts of the world the activity mapped in Figure G-4 presents a clear and present danger. Some of the world's largest cities, such as Tokyo and Mexico City, lie in zones that are highly vulnerable to sudden disaster—as indeed occurred with Japan's huge 2011 earthquake and tsunamis not very far north of Tokyo.

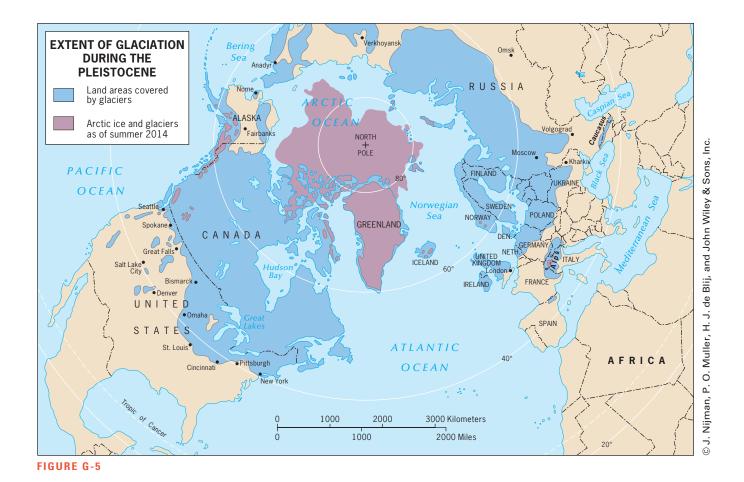
# **Climate**

The prevailing **climate** 17 constitutes a key factor in the geography of realms and regions (in fact, some regions are essentially defined by climate). But climates change: those dominating in certain regions today may not have prevailed there several thousand years ago. Thus any map of climate, including the maps in this chapter, is but a still-picture of our constantly changing world.

Climatic conditions have swung back and forth for as long as the Earth has had an atmosphere. Imagine this: just 18,000 years ago, great ice sheets had spread all the way south to the Ohio River Valley, covering most of the Midwest; this was the peak of a glaciation that had lasted about 100,000 years (Fig. G-5). The Antarctic Icesheet was bigger than ever, and even in the tropics, great mountain glaciers pushed down valleys and onto plateaus. But then the **Holocene** 18 warming began, about 10,000 years ago, the continental and mountain glaciers receded, and ecological zones that had been squeezed between the advancing ice sheets spread north and south. In Europe, particularly, living space expanded and human numbers grew.

# **Global Climate Change**

Today we are living in an era of **global climate change** 19, particularly natural global warming that has been accelerated by anthropogenic (human-source) causes. Since the Industrial Revolution, we have been emitting gases that have enhanced nature's **greenhouse effect** whereby the sun's radiation becomes trapped in the Earth's atmosphere. This is leading to a series of atmospheric changes, especially the overall warming of the planet. One important international organization of experts, the Intergovernmental Panel on Climate Change (IPCC), predicts an increase of about 2°C (3.6°F) in the course of the twenty-first century for the world at large, but with significant regional variability (e.g., more at higher latitudes, less at lower latitudes). Precipitation patterns are predicted to become more variable, particularly in regions where they are already seasonal.



This change in temperature may seem small but is expected to have significant impacts on global climate patterns, agricultural zones, and the quality of human lives. The full ramifications are not known, but scenarios are being modeled so that societies can confront the changes that are coming. Leaders of some countries are more skeptical than others, and some have already made greater adjustments than others. One of the most significant consequences of global climate change is that the icecap atop the Arctic Ocean is melting faster than even recent models predicted, with environmental and geopolitical implications. We pick up

# **Climate Regions**

this issue in Chapters 5 and 12.

We have just learned how variable climate can be, but in a human lifetime most of us see relatively little evidence of this variability although this may change as a result of global warming. We talk about the weather (the immediate state of the atmosphere) in a certain place at a given time, but as a technical term *climate* defines the aggregate, total record of weather conditions at a place, or in a region, over the entire period during which records have been kept. Figure G-6 may appear rather complicated, but even a glance at this map shows its utility. Devised long ago by Wladimir Köppen and later modified by Rudolf Geiger, it represents climatic regions through a combination of colors and letter symbols. In the legend, note that the A climates (rose, gold, and peach) are equatorial and tropical; the **B** climates (tan, yellow) are dry; the **C** climates (shades of green) are temperate, that is, moderate and neither hot nor cold; the **D** climates (shades of purple) are cold; the **E** climates (blue) are frigid; and the H climates (gray) prevail in highlands like the Himalayas/Tibetan Plateau and the Andes.

A good way to get a sense of how this map works is to start with a climate with which you are familiar. If you live in the southeastern United States (the large green C area extending from near the Great Lakes to Florida), you would feel at home—climatically—in the green area in southeastern South America, in southeastern Australia, and in southeastern China. If you live in the B zones of the U.S. Southwest, either in the tan (Texas) or the yellow (Arizona) area, conditions in much of Australia, southwestern Africa, or the Middle East would be familiar to you. This can even be taken to the city scale. If you enjoy the climate of San Francisco, you will rediscover it in Santiago (Chile), Cape Town (South Africa), Athens (Greece), and Perth (Australia). Details will differ, of course—higher wind incidence or maybe lower overall humidity—but in general, the similarities will be greater than such differences. And if you live in Canada, you would be prepared for much of Russia and northeastern China.

Even at this relatively small geographic scale, Figure G-6 can tell us a great deal about entire climate regions. For instance,



# FROM THE FIELD NOTES...



"What a sight! Mount Kilimanjaro in northern Tanzania, just south of the equator (see Fig. G-1), is the highest peak on the African continent and the highest freestanding mountain on Earth; at 5895 meters (19,340 ft), it actually consists of three closely-grouped volcanoes. To get a sense of the scale of this photo, the rim of the outer crater is about one kilometer (0.6 mi) wide. In the local language of the Maasai people, Kilimanjaro means "source of water," attributable to the streams fed by rain and snow at higher elevations—and, importantly, the glaciers that have existed here for tens of thousands of years. Nonetheless, on this 23rd day of November 2014, it is frightening to observe how little of these glaciers remain. Scientists estimate that this shrunken glacial surface is now down to only about two square kilometers (0.8 sq mi). Global warming affects places and people all over the world, and Tanzania's Maasai are not exempt."

among the equatorial/tropical (Af) climates, the areas with the darkest (rose) shade get the most rain and it falls year-round, so that this is where tropical rainforests still stand. But in the peach-colored (Aw) areas, the rainfall regime is subject to dry seasons, and the vegetation reflects this by its very name: savanna. Much more open space and more widely scattered stands of trees prevail in these tropical grasslands. And a third kind of regime is signified by the m after the A: for monsoon, the annual copious rainy season on which the lives of hundreds of millions of people still depend.

Here is an important qualification to keep in mind when studying Figure G-6: this map is also a still-picture of a changing scene, a single frame from an unspooling film. Global climate never stops changing, and less than a century from now those changes may compel revisions to this map. If current predictions about rising sea levels turn out to be accurate, we may even have to start redrawing some familiar coastlines.

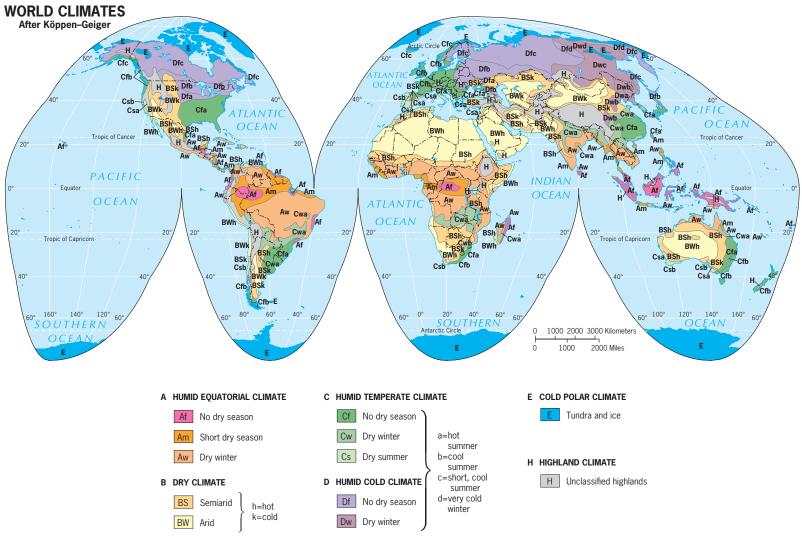
You will find larger-scale maps of climate in several of the regional chapters that follow, but it is always useful to refer back to this Köppen-Geiger map whenever the historical or economic geography of a region or country is under discussion. This world climatic map reflects agricultural opportunities and limitations as well as climatic regimes, and as such helps explain some enduring patterns of human distribution on our planet. We turn next to this crucial topic.

# REALMS OF POPULATION

Earlier we noted that population numbers by themselves do not define geographic realms or regions. Population distributions, and the functioning society that gives them common ground, are more significant criteria. That is why we can identify one geographic realm (the Austral) with less than 30 million people and another (South Asia) with more than 1.7 billion inhabitants. Neither population numbers nor territorial size alone can delimit a geographic realm. Nevertheless, the map of global population distribution shows some major clusters that are part of certain realms (Fig. G-7).

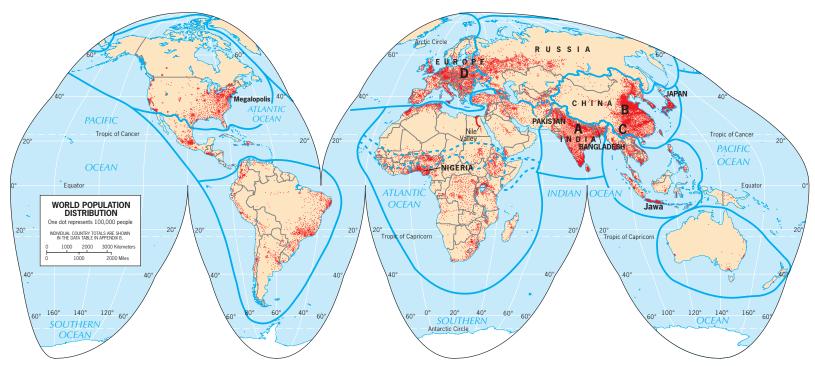
Before we examine these clusters in some detail, remember that the world's human population now rounds off at 7.1 billion (see Appendix B, available online, for a detailed breakdown) confined to the landmasses that constitute less than 30 percent of our planet's surface, much of which is arid desert, inhospitable mountain terrain, or frigid tundra. (And keep in mind that Fig. G-7 is yet another still-picture of a continually changing scene as the rapid growth of humankind continues.) After thousands of years of slow growth, world population during the nineteenth and twentieth centuries grew at an increasing rate. That rate has recently been slowing down, even imploding in some parts of the world. But consider this: it took about 17 centuries following the birth of Christ for the world to add 250 million people to its numbers; now we are adding 250 million about every three years. While the rate of population growth has declined in some parts of the world, in absolute terms the global population continues to grow apace and is expected to reach around 9.5 billion by 2050.

This raises the important question as to whether there are limits to the Earth's carrying capacity—will there be enough food to go around? That question has become more and more pressing over the past decade due to rapidly rising food prices resulting from increased demand in China and India, a general dietary shift from grains to meat and vegetables, and the use of agricultural resources for the production of biofuels. The actual increase of



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FIGURE G-6



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#### FIGURE G-7

population is only part of the problem; our growing appetite for certain products is another. And we are not just talking about food—think drinking water, fossil fuels, and minerals as well. Thus, it seems inconceivable that almost 10 billion people by mid-century could be consuming the way we do today in the developed world.

# **Major Population Clusters**

One way to present an overview of the location of people on the planet is to create a map of population distribution 20 (Fig. G-7). As you can see in the map's legend, each dot represents 100,000 people, and the clustering of large numbers of them in certain areas as well as the near-emptiness of others is readily evident. By the way, there is a technical difference between population distribution and population density, which is another way of showing where people live. Density maps reveal the number of persons per unit area.

- South Asia The South Asia population cluster lies centered on India and includes its populous neighbors, Pakistan and Bangladesh. This huge agglomeration of humanity focuses on the wide plain of the Ganges River (A in Fig. G-7). South Asia recently became the world's largest population cluster, overtaking East Asia in 2010.
- East Asia The East Asia population cluster is centered on China and includes the Pacific-facing Asian coastal zone from the Korean Peninsula to Vietnam. Not long ago, we would have reported this as a dominantly rural, farming population, but rapid economic growth and burgeoning urbanization have altered the picture. In China's interior river basins of the Huang (Yellow) and Chang/Yangzi (B and C on the map), and in the Sichuan Basin between these two letters, most of the people remain farmers. But the booming cities of coastal, and increasingly interior, China are attracting millions of new inhabitants, and in 2011 the Chinese urban population surpassed the 50 percent milestone.
- *Europe* The third-ranking population cluster, *Europe*, also lies on the Eurasian landmass but at the opposite end from China. The European cluster, including western Russia, counts more than 700 million inhabitants, which puts it in a class with the two larger Eurasian concentrations—but there the similarity ends. In Europe, the key to the linear, east-west orientation of the axis of population (**D** in Fig. G-7) is not a fertile river basin but a zone of raw materials for industry. Europe is among the world's most highly urbanized and industrialized realms, its human agglomeration sustained by factories and offices rather than paddies and pastures.

The three world population concentrations just discussed (South Asia, East Asia, and Europe) account for about 4 billion of the world's 7.1 billion people. No other cluster comes close to these numbers. The next-ranking cluster, eastern North America, is only about one-quarter the size of the smallest Eurasian concentrations.

As in Europe, the population in this zone is concentrated in major metropolitan complexes; the rural areas are now relatively sparsely settled.

#### **Toward an Urban World**

Geographic realms and regions display varying levels of urbanization 21, the proportion of the total population residing in cities and towns (which globally stands at 55 percent today). Some regions are urbanizing far more rapidly than others, a phenomenon we will investigate as we examine each realm. For now, it is important to be aware of the distinction between urbanization level and urban growth rates. The urbanization level refers to the proportion of a country's or region's total population living in cities (however defined by national governments). The urban growth rate, on the other hand, concerns the growth of the urban population over time, usually on an annual basis. So, for example, the U.S. urbanization level is 81 percent. whereas its yearly urban growth rate is around 0.2 percent; for Tanzania, the urbanization level is far less, about 31 percent, but the urban growth rate is a much higher 2.3 percent. It makes sense that urbanization levels and growth rates are often inversely related: once the percentage of the population already living in cities reaches a certain level, urban growth rates will subside, as has been the case for the United States. Alternatively, when urbanization levels are low, there are ample opportunities for rapid urban growth.

Thus the fastest urban growth rates tend to occur in realms and regions in which a large proportion of the population resides in rural areas, as in Subsaharan Africa as well as South and East Asia. It is also worth noting—in these realms where urbanization levels remain low and urban growth rates are high—that a large number of megacities 22 have emerged over the past three decades. These huge urban agglomerations are defined as containing populations of greater than 10 million, and in 2014 28 of them could be found on the world map. Among the latter, only two are in North America (New York and Los Angeles), whereas 5 are located in South Asia and no less than 6 in China alone.

# REALMS OF CULTURE

Imagine yourself aboard a riverboat on Africa's White Nile, heading upstream (south) from Khartoum, Sudan. The desert sky is blue, the heat is searing. You pass by villages that look much the same: low, square, or rectangular dwellings, some recently whitewashed, others gray, with flat roofs, wooden doors, and small windows. The minaret of a modest mosque may rise above the houses, and there may be a small central square. There is very little vegetation; here and there a hardy palm tree stands in a courtyard. People on the paths wear long white or colored robes and headgear. A few goats lie in the shade, and children are playing on the dusty ground.

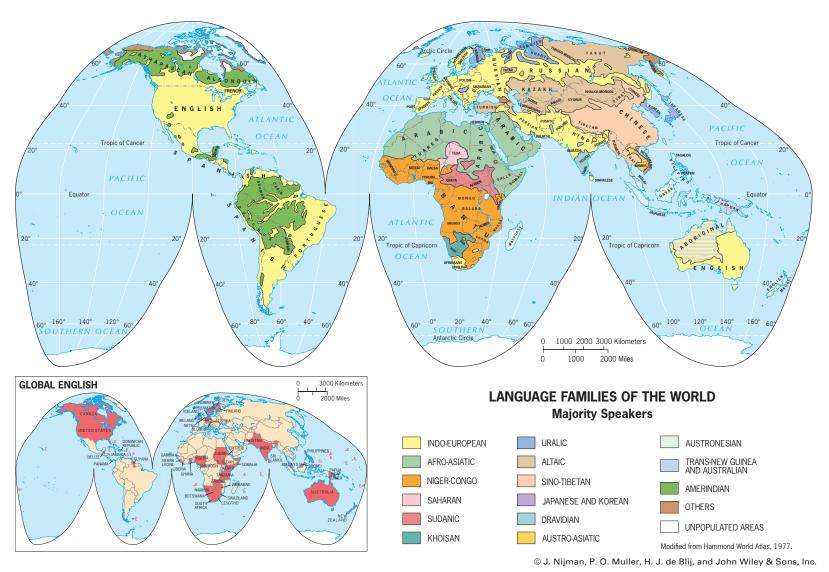


FIGURE G-8



# FROM THE FIELD NOTES...



"After a chat with the manager of a high-rise hotel in Mumbai (formerly Bombay), Zach Woodward and I are allowed access to the roof in early evening to take shots of the city's mushrooming skyline. Zach is an undergraduate photography major who accompanied me on this field research trip and he has a sharp eye for both depth and scenic drama. In the foreground, waterfront-lining Marine Drive, also known as "The Queen's Necklace," faces the Arabian Sea as the setting sun shines faintly on some of the low-rise Art Deco apartment blocks that date back to the 1930s. We are at the southern tip of the Mumbai Peninsula, from where the British ruled their South Asian empire during colonial times. Today, the urban region has expanded far beyond this slender peninsula onto the surrounding mainland, and the metropolitan-area population exceeds 21 million. Looking northward, Mumbai's unrelenting densification presents itself as the proverbial concrete jungle."

All of this is part of Sudan's rural cultural landscape 23, the distinctive attributes of a society imprinted on its portion of the world's physical stage. The cultural landscape concept was initially articulated in the 1920s by a University of California geographer named Carl Sauer, who stated that "a cultural landscape is fashioned from a natural landscape by a culture group" and that "culture is the agent; the natural environment the medium." What this means is that people, starting with their physical environment and using their culture as their agency, construct a landscape layered with forms such as buildings, gardens, and roads, and is also distinguished by modes of dress, aromas of food, and sounds of music.

Continue your journey southward on the Nile, and you will soon witness a remarkable transition. Quite suddenly, the square, solid-walled, flat-roofed houses of Sudan give way to the round, wattle-and-thatch, conical-roofed dwellings of South Sudan. You may note that clouds have appeared in the sky: it rains more here, and flat roofs will not do. The desert has yielded to green. Vegetation, natural as well as planted, grows between houses, flanking even the narrow paths. The villages seem less orderly, more varied. You'll see women, often in colorful dresses, carrying water in jars on their heads from a nearby well or the river to their huts. You have traveled from one cultural landscape into another, from





Cultura Travel/Philip Lee Harvey / Getty Images, Inc

Settlement landscapes in Sudan (left, the town of Umm Dawban just north of the capital, Khartoum) sharply contrast with those in South Sudan (right, the village of Nyaro just south of the Sudan-South Sudan border).

Arabized, Islamic Africa to animist/Christian Africa. More broadly, you have crossed the boundary between two geographic realms (see the accompanying photo pair).

Although no geographic realm, not even the Austral Realm, is marked by only a single cultural landscape, these landscapes can help define both realms and regions. The cultural landscape of the high-rise North American city with its far-reaching suburbs differs from that of Europe; the organized terraced paddies of Southeast Asia are unlike anything to be found in the rural cultural landscape of neighboring Australia. Important variations of cultural landscapes also occur within geographic realms, such as between highly urbanized and dominantly rural (and more traditional) areas, and they can be quite useful in the process of delineating several of the world's regions as well.

# The Geography of Language

Language is the essence of culture. People tend to feel passionately about their mother tongue, especially when they believe it is threatened in some way. In the United States today, the English Only movement reflects many people's fears that the primacy of English as the national language is under threat as a result of immigration. As we will see in later chapters, some governments try to suppress the languages (and thereby the cultures) of minorities in mistaken attempts to enforce national unity, provoking violent reactions.

In fact, many languages emerge, thrive, and die out over time, and linguists estimate that the number of lost languages is in the tens of thousands—a process that continues. One year from the day you read this, about 25 more languages will have become extinct, leaving no trace. Just in North America, more than 100 native languages have been lost over the past half-century. Some major languages of the past, such as Sumerian and Etruscan, have left fragments in later languages. Others, like Sanskrit and Latin, live on in their modern successors. At present, about 6900 languages remain, half of them classified by linguists as endangered ("hot spots" include the Amazon Basin, the Andes to its west, Siberia, and northern Australia). By the end of this century, the bulk of the world's population will be speaking just a few hundred languages, which means that many millions will no longer be able to speak their ancestral mother tongues.

Scholars have tried for many years to unravel the historic roots and branches of the global "language tree," and their debates continue. Geographers trying to map the outcome of this research keep having to modify the pattern, so you should take Figure G-8 as a work in progress, not the final product. At minimum, there are some 15 so-called *language families*, groups of languages with a shared but usually distant origin. The most widely distributed language family, the Indo-European (shown in yellow on the map), includes English, French, Spanish, Russian, Persian, and Hindi. This encompasses the languages of European colonizers that were carried and implanted worldwide, English most of all. Figure G-9 shows that there are still thousands of languages spoken, but by

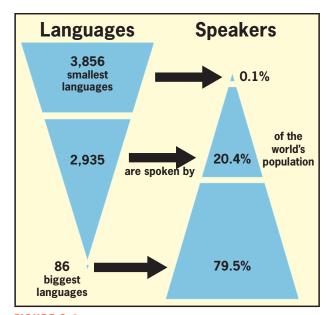


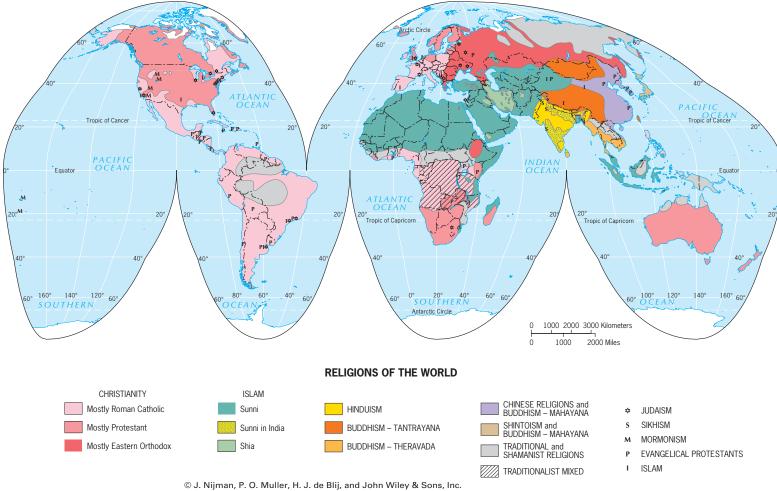
FIGURE G-9 After Why Languages Die by Harrison (2008), Fig. 1.5, p. 14. By permission of Oxford University Press, USA.

very small numbers of people; their continued existence is therefore under threat.

Today, English serves as the national or official language of many countries and outposts, and remains the *lingua franca* (common second language) of government, commerce, and higher education in many multicultural societies (see Fig. G-8 inset map). In the postcolonial era, English became the chief medium of still another wave of ascendancy now in progress: globalization. But even English may eventually go the way of Latin, morphing into versions you already can hear as you travel to different parts of the world. For example, in Hong Kong, Chinese and English are producing a local "Chinglish" you may hear in the first taxi you enter. In Lagos, Nigeria, where most of the people are culturally and ethnically Yoruba, a language called "Yorlish" is emerging. It is hard to keep up with the constant evolution of language.

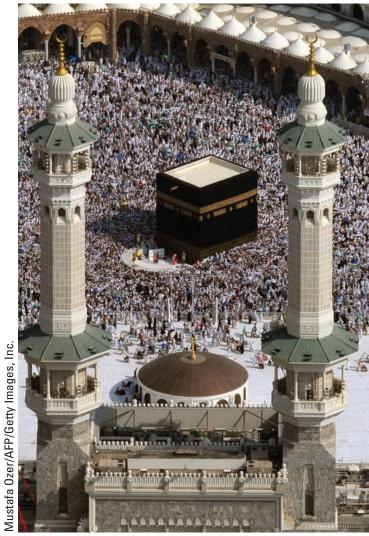
# **Landscapes of Religion**

Religion played a crucial role in the emergence of ancient civilizations and has shaped the course of world history. Hinduism, for instance, was one of the earliest religions that helped shape an entire realm (South Asia). Later, Buddhism, Christianity, and Islam emerged as major belief systems, often splitting up into various branches stretching across realms and regions. Figure G-10 shows the current distribution of world religions. Our world has become more complicated in recent times, and its patterns of religion are increasingly diffuse and dynamic. But today, still, we find that geographic realms are often dominated by a single religion or family of religions: Christianity in Europe and the Americas;



Adapted from E. H. Foubeg et al., *Human Geography*, 9e, based on several data sources.

FIGURE G-10



The hajj is the yearly pilgrimage of Muslims to the holy city of Mecca in Saudi Arabia. The pilgrimage is referred to as the fifth "pillar" of Islam, the obligation of every able-bodied Muslim to worship Allah in this holiest of sites at least once in their lifetime. This is the Grand Mosque of Mecca on November 17, 2010, as more than two million Muslim pilgrims launched into the final rituals of this largest religious pilgrimage in the world.

Islam in North Africa/Southwest Asia; Hinduism in South Asia; and Buddhism in mainland Southeast Asia. But the boundaries are usually fuzzy and frequently take the form of transition zones (e.g., between North and Middle America or between North and Subsaharan Africa).

# A WORLD OF STATES

Ours is a world of about 200 countries or states 24. As Figures G-7 and G-11 suggest, geographic realms and regions are mostly assemblages of states, and the borders between them frequently

coincide with the boundaries between countries—for example, between North America and Middle America along the U.S.-Mexico border. It is also possible for a realm boundary to cut across a state (Indonesia is one), so that state and realm boundaries do not always concur (see the African Transition Zone in Fig. G-3).

The political territorial organization of the world within a system of states is based on the notion of sovereignty 25. It is a concept from international law, which means that the government of a state reigns supreme within its borders. Normally, states recognize each other's sovereignty, but this becomes a matter of contention in times of conflict and war. Think, for example, of the ongoing conflict in which Russia is challenging Ukraine's sovereignty in that country's eastern provinces next to the Russian border. Or think of China's refusal to even consider the possible sovereignty of Taiwan.

# The European Origins of the Modern State

In the long course of human history, the modern state is a relatively recent invention, and so is the international system of which it forms the cornerstone. The modern state emerged from other varieties of politico-territorial organization that date back to the earliest complex civilizations. In the study of ancient history, scholars sometimes use the term polity or proto-state to indicate the difference. Ever since farm surpluses enabled the growth of large and prosperous towns, this was accompanied by the more sophisticated and centralized exercise of power and political organization. From these origins, the earliest states took shape.

It was not until the seventeenth century that European rulers and governments began to negotiate treaties that defined the state in international law. That is why the modern state is quite often described as based on the European state model 26, with definitions of nationality and sovereignty. Often, the model assumed that state and nation were ideally conterminous, so that a nationstate would enclose an ethnically and culturally homogeneous people within a national boundary. That was never truly the case (even France, the "model of models," had its minorities), and today the ideal state is defined as a clearly and legally defined territory inhabited by a citizenry governed from a capital city by a representative government. As we shall discover in Chapter 4, not even in Europe itself are all governments truly representative. Nonetheless, the European state model has, for better or worse, been adopted throughout the world.

Although the modern state is a longstanding phenomenon, many states experience external and internal pressures and challenges. For instance, European states are challenged "from above" by the European Union as member-states transfer some of their power to "Brussels" (EU's headquarters city), mainly because they believe it will be to their economic advantage. States can also be challenged "from below" by ethnic minorities, such as the Kurds in southeastern Turkey or by regional secessionist movements such as the Catalonians in northeastern Spain.

# **Power and Geopolitics**

As the term **geopolitics** 27 implies, geography plays a major role in the politics of the state, in the international relations among states within realms and regions, and even in warfare and terrorism. Geography does not, of course, explain everything, but it is certainly an essential dimension in the understanding of world politics. A state's power and influence are related to its size, access to natural resources, location vis-à-vis other states, trading routes, access to waterways, and the like. More than ever today, news reports about conflicts in any part of the world—whether on television, the website and hardcopy pages of leading newspapers, or in newsmagazines—are accompanied by maps crucial to the explanation of these clashes.

Even though the role of geography in political affairs can be regarded as fundamental, it certainly does not remain static. Relative geopolitical location itself is subject to change, especially in response to new technologies. For example, states and regions once deemed impregnable because they could not easily be reached by enemies (such as the United States prior to the age of aviation), can swiftly see their invulnerability disappear. It is not hard to imagine how the arrival of long-range missiles, state-of-the-art spy-satellite technology, advances in geospatial and mapping systems, and other high-tech military innovations such as drones can hugely impact a country's strategic planning and positioning.

The territorial functioning and integrity of many states in this new century has also been challenged by the emergence, proliferation, and growing sophistication of terrorist groups. Today's most heavily contested zones of conflict are found in the North Africa/ Southwest Asian realm (e.g., Syria, Iraq, Libya) where longstanding sectarian disputes have been complicated by the rise of violent, radical organizations such as Al Qaeda and ISIS. Increasingly, these threats are also being felt far beyond that realm, in places such as western Europe, Russia, and West Africa. You will learn about the geographic dimensions of these and other key conflicts in the chapters ahead. For now, it is important to realize that the world map of states is far from stable in certain realms and regions, and that states are not the only major geopolitical actors on the global scene.

#### GEOGRAPHIES OF DEVELOPMENT

Finally, as we prepare for our study of world regional geography, it is all too clear that realms, regions, and states do not enjoy the same level of prosperity. The field of economic geography focuses on spatial aspects of the ways people make their living, and deals with patterns of production, distribution, and consumption of goods and services. As with all else in this world, these patterns reveal significant variation. Individual states report the nature and value of their imports and exports, farm and factory output, and many other economic data to the United Nations and other international agencies. From such information, economic geographers can measure the comparative well-being of the world's countries. The concept of development 28 is used to gauge a population's economic, social, and institutional growth and overall well-being.

As the definition above indicates, the meaning of development is not confined to economics but can be expressed, for example, in access to schools or medical care, democratic institutions, environmental stewardship, social inclusiveness, political freedom, and the quality of governance. Development is, therefore, a broad theme that not only attracts attention from economic geographers but also from geographers that take a more comprehensive approach. In recent years, the dual notions of sustainable development 29 and inclusive development 30 have emerged as particularly important themes. The first focuses on the long-term viability of economic patterns in relation to the physical environment and natural



# FROM THE FIELD NOTES...



"As I sit enjoying breathtaking views of the spectacular Andean highlands of southern Peru, a farmer slowly comes up the side of the hill with her donkeys. She tells me that her name is Carmen and that the donkeys are carrying hay grass to market in the nearby town of Chinchero. The hay will feed guinea pigs that many rural and small-town Peruvian families keep in their home . . . to eat. Guinea pigs are said to be quite tasty, and they are much cheaper than beef as well as a good source of protein. Carmen's family owns a small plot of land on one of these hillsides and the donkeys are her main means of transportation. Although incomes for small farmers here are low and life is simple, she exudes an air of confidence and pride; she is at home here, and I am on her turf. I'm now thinking about trying guinea pig before I depart . . . "

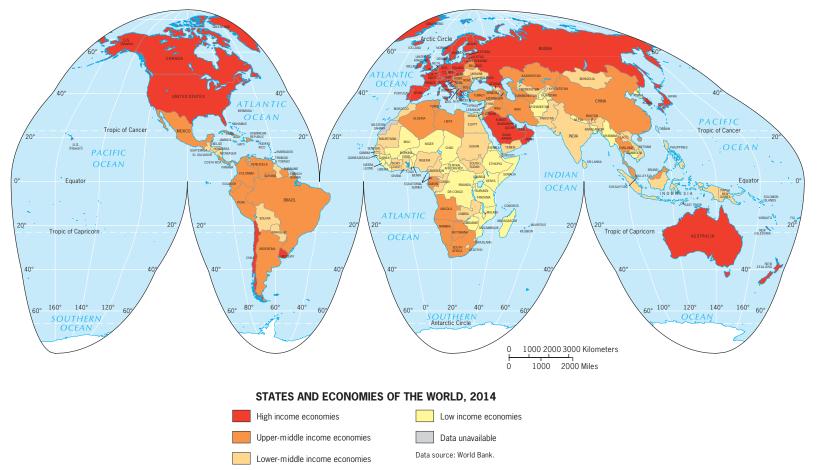
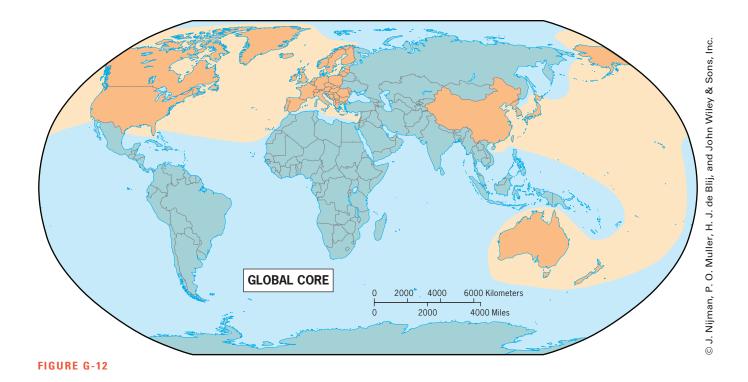


FIGURE G-11

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resources (think of pollution; think of finite resources like fossil fuels). The second emphasizes the extent of equal economic (and social) opportunities for different population groups, especially minorities and the poor.

# **Development in Spatial Perspective**

Various schemes to group the world's states into economicgeographic categories have come and gone, and others will probably arise in the future. For our purposes, the classification scheme used by the World Bank (one of the agencies that monitor economic conditions across the globe) is the most effective. It sorts countries into four categories based on the success of their economies: (1) high-income, (2) upper-middle income, (3) lower-middle income, and (4) low-income. These categories, when mapped, display important regional patterns (see Fig. G-11). Compare this map to our global framework (Fig. G-3), and you can see the role of economic geography in the layout of the world's geographic realms. Also evident are regional contrasts within realms—for instance, between Brazil and its western neighbors, between South Africa and most of the rest of Subsaharan Africa, and between west and east in Europe. Thus the geographic scale at which we consider development is of critical importance.

#### A Complex, Core-Periphery World

The economic success of human societies on the Earth's surface tends to be concentrated in certain areas while bypassing others. This was true in ancient and more recent historical times, and it is true today. The contemporary world economy—an integrated, international spatial system—is structured within the framework of a dominant global core 31 and a subservient global periphery 32. During the nineteenth century, this core more or less coincided with western Europe, controlling as it did vast areas of the world through its empires. In the twentieth century, the core expanded first to North America and then grew to include Japan, Australia, and New Zealand. By the 1980s, Hong Kong, Singapore, Taiwan, and South Korea had become part of the core as well. And as the twenty-first century opened, the newest entrant stepped forward: Pacific-fronting China. Today's map of this still evolving global core is mapped in tan in Figure G-12.

It is also important to realize that core-periphery relationships 33 are not limited to the global scale. Countries themselves can and do exhibit such patterns as well. China again is a case in point: its coastal provinces form the core, while the interior and westernmost reaches of the country are part of China's periphery. Except for a few special cases, all countries contain core areas 34. These national cores are most often anchored by the country's capital and/or largest city: Paris (France), Tokyo (Japan), Buenos Aires (Argentina), and Bangkok (Thailand) are just a few notable examples. Larger countries may have more than one core area, such as Australia with its eastern and western coastal cores and intervening periphery. And uneven development also exists at the local scale, especially in the complex socioeconomic landscapes of urban areas.

The world continues to exhibit major differences in productivity and well-being. One of the most intriguing economic-spatial outcomes of globalization is that a growing number of countries have accelerated their development—but this growth is often confined to specific city-regions, whereas the rest of the country remains quite poor. Figure G-12, therefore, is provisional: it

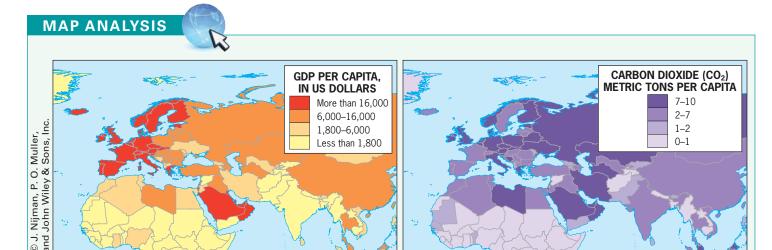


FIGURE G-13

Maps can reveal patterns that are sometimes difficult to discern just on the basis of statistics, tables, or graphs. Further, making comparisons between maps also permits us to identify and understand the relationships and interconnections of our world. The maps above allow us to compare golbal patterns of economic development, measured as per capita GDP (left), with patterns of per capita carbon dixide (CO<sub>2</sub>) emissions (right). CO, emissions are linked to the greenhouse effect and

global climate change. Reading the maps above, how would you describe the general relationship between GDP per capita and CO<sub>2</sub> emissions per capita? What is the relevance to notions of sustainable development? Access your WileyPLUS Learning Space course to interact with a dynamic version of this map and to engage with online map exercises and questions.

conveys a broad impression of the global core, but we realize that it is not really a contiguous geographic space (and neither is the global periphery). The core-periphery concept is most useful in thinking about the organization of space as well as the geographies of power and dependence. But it is difficult to map precisely, not least because it operates simultaneously at multiple scales. For instance, the United States constitutes part of the global core; its northeastern seaboard anchors part of the national core area; and New York's Midtown and Lower Manhattan form the core of its largest city.

We also need to add a cautionary note about spatially aggregated statistics. The concept of development, as measured by data that reflect totals and averages for entire national populations, entails certain pitfalls that we should be aware of. When a state's economy is growing as a whole, and even when it is "booming" relative to other states, this does not automatically mean that every citizen is better off and the income of every worker is rising. Averages have a way of concealing regional variability and local stagnation. In very large states such as India and China, it is useful to assess regional, provincial, and even local economic data to discover to what extent the whole country is sharing in "development." In the case of India, we should know that the State of Maharashtra (containing the megacity of Mumbai) is far ahead of most others States when it comes to sharing in the national economy. In China, the coastal provinces of the Pacific Rim still outstrip those of the west. Thus national-level statistics can conceal as much as they reveal, and this is why inclusive development is becoming a leading policy goal around the world.

# **GLOBALIZATION**

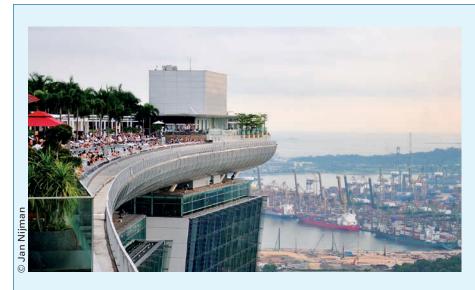
Globalization 35 is essentially a geographical process in which spatial relations—economic, cultural, political—shift to the macroscale. What this means is that what happens in one place has repercussions in places ever more distant—thereby integrating the entire world into a "global village," linked ever more tightly by recent advances in communications and transport technologies. Globalization now comes into our homes via television, computers, and smartphones; news today has never traveled faster, and sometimes even government leaders turn to the Internet on their personal electronic devices to get the latest reports on international events.

Globalization, however, is not all that new. The second half of the nineteenth century, for instance, also witnessed major advances in the intensification of global interdependence. It was particularly affected by such new technologies as the steamship, the railway, and the telegraph, which subsequently were followed by first-generation motor vehicles and airplanes. But with today's newest technologies, the global village is achieving an unprecedented level of longdistance interconnectivity. Thus geography and our knowledge of the world's realms and regions have become more important than ever for understanding and navigating this transforming macrospatial reality.

# Globalization and Environmental Challenges

Globalization plays out in various spheres, from the environmental to the cultural to the economic. One of today's most pressing

# FROM THE FIELD NOTES...



"Would you like to float in an 'infinity pool' atop a 57-story skyscraper that provides amazing views? You can in Singapore. During a 2012 visit, I had spotted this futuristic-looking tower across the water from downtown and thought it would be worth a visit. It turned out to be the massive Marina Bay Sands Hotel (developed by the Sands Corporation of Las Vegas) that opened for business in 2010. Singapore is one of the best examples of a city propelled into prominence by the forces of globalization. Located strategically on one of the world's busiest shipping lanes (the Strait of Malacca) and possessing a fine harbor, this minuscule city-state was bound to benefit from expanding world trade. It now boasts the busiest transshipment port in the world, and the city has also become a shopping magnet for elites all across the Southeast Asian realm. Like most 'world-cities,' Singapore is a hub of both production and consumption."

environmental issues is global warming, which threatens every corner of our planet. It is clear that the problem must be addressed internationally, yet it is far from easy to agree on strategies. Some countries are bigger polluters than others, some have more resources than others, and some are more developed than others. How to divide the burdens? Countries from around the world have been meeting for many years now at the United Nations Climate Change Conference, the most recent one in Paris in late 2015. The main purpose is to reach agreement on collective reductions in the emission of greenhouse gases so as to limit global warming—but progress has been slow. Figure G-13 provides some insight into the relationship between economic growth and environmental impact. Often, national economic growth comes at a price, but in the end all of us pay.

#### **Globalization and Population Movements**

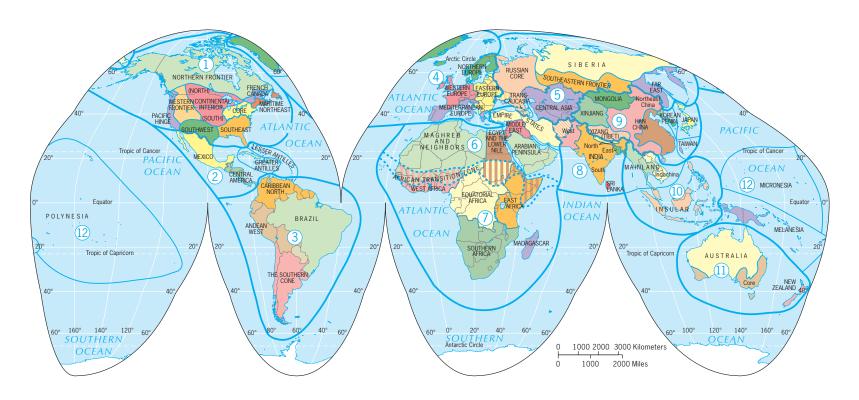
Culturally, too, the world is coming closer together. This is apparent in the global spreading of new fashions, music, foods, and other innovations. In a more problematic way, it is also expressed in global migration flows. In past times, migration 36 was relatively uncommon because most people were rooted in their home environment, where they lived out their entire lives. When residential relocation did occur, it used to be one-way, with people migrating from one place to another and then staying put. But over the past quarter-century, migration flows have intensified, in part because people increasingly possess better knowledge about opportunities elsewhere. Moreover, it is now much easier to travel back and forth, which allows migrants to maintain close ties with their countries of origin. Not surprisingly, as the number of highly mobile transnational migrants has risen, these transients have become major players in the spreading of cultures around the world. Examples include Algerians in Paris, Haitians in Montreal, Cubans in Miami, Mexicans in Los Angeles, Indians in Singapore, and Indonesians in Sydney.

Yet it is also important to keep in mind that people's mobility is often constrained because certain parts of this highly uneven world are so much better off than others. High-income countries exert the strongest pull on migrants—but all too often they cannot gain access. Millions of workers aspire to leave the poverty of the global periphery and seek a better life somewhere in the core. Trying to get there, every year many of them perish in the waters of the Mediterranean, the Caribbean, and the Atlantic. Others risk



Refugees on a boat on the Mediterranean Sea between North Africa and Sicily who are being rescued by the Italian navy on June 29, 2014. By the end of that year alone, Italy's navy and coast guard had rescued more than 130,000 desperate immigrants.

TALIAN NAVY/DPA/Corbis Images



# WORLD GEOGRAPHIC REALMS AND THEIR CONSTITUENT REGIONS

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

 $\hbox{@}$  J. Nijman, P. O. Muller, H. J. de Blij, and John Wiley & Sons, Inc.

their lives at the barriers that encircle the global core as if it were a gated community—from the "security fence" between Mexico and the United States to the walls that guard Israel's safety to the razor wire that encircles Spain's outposts on North Africa's shore.

# **Economic Globalization, Growth, and Inequality**

Most economists, politicians, and businesspeople have a favorable view of economic globalization because it facilitates the expansion of international capitalism, open markets, and free trade. In theory, such globalization stimulates commerce, breaks down barriers to foreign trade, brings jobs to remote places, and promotes social, cultural, and political exchanges. High-technology workers in India are employed by computer firms based in California. Japanese cars are assembled in Thailand. American footwear is made in China. Fast-food restaurant chains spread standards of service and hygiene as well as familiar (and standardized) menus from Tokyo to Tel Aviv to Tijuana. If wages and standards of employment are lower in peripheral countries than in the global core, production will shift there and the development gap will shrink. Everybody wins. In general, the gross national income (GNI)† of countries that increase their foreign trade (and thereby become more "globalized") rises, whereas the GNI of those with diminished trading activity actually declines.

But there is another, more complicated issue: the liberalization and opening up of national economies to global markets is often accompanied by widening inequalities. In other words, uneven development within countries becomes more pronounced. As noted earlier, this imbalance is obvious in a country like China, the world's fastest-growing economy over the past two decades; much of this growth occurred in its Pacific coastal zone, not in the interior of the country, and income differentials became ever wider. The same is true in India and most other *emerging markets*. Moreover, this phenomenon is not confined to developing economies. In his widely read 2013 book entitled Capital in the Twenty-First Century—now translated into more than 30 languages worldwide (globalization!)—the French economist Thomas Piketty shows that inequality is growing in the United States and Europe as well. Inequality in the United States is discussed in Chapter 1; that discussion underscores why a regional approach is vital to interpreting this process at both national and global scales.

# REGIONAL AND SYSTEMATIC GEOGRAPHIES

At the beginning of this chapter, we introduced a map of the great geographic realms of the world (Fig. G-3). We then addressed the

task of dividing these realms into regions, and we used criteria ranging from physical geography to economic geography. The result is Figure G-14. On this map, note that we display not only the world geographic realms but also the regions into which they subdivide. The numbers in the legend reveal the order in which the realms and regions are discussed, starting with North America (1) and ending with the Pacific Realm (12).

As this introductory chapter demonstrates, this book does not merely offer a series of descriptions of places and areas. We combine the study of realms and regions with a look at geography's ideas and concepts—the notions, generalizations, and basic theories that make the discipline what it is. We continue this approach in the chapters ahead so that we will become better acquainted with the world and with geography as a science. By now you are aware that geography is a wide-ranging, multifaceted discipline. It is often described as a social science, but that is only half the story: geography, in fact, straddles the divide between the social and the physical sciences. Many of the ideas and concepts you will encounter involve the multiple interactions between human societies and natural environments.

**Regional geography** allows us to view the world in an allencompassing way. As we have seen, regional geography integrates information from many sources to create an overall image of our divided world. Those sources are not random. They represent topical or **systematic geography**. Research in the systematic fields of geography makes our world-scale generalizations possible. As Figure G-15 shows, these systematic fields connect closely to those of other disciplines. Cultural geography, for example, is allied with anthropology; it is the spatial perspective that distinguishes

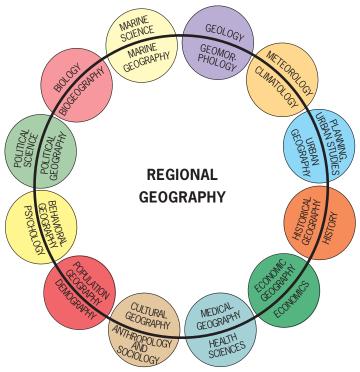


FIGURE G-15

<sup>&</sup>lt;sup>†</sup>Gross national income (GNI) is the total income earned from all goods and services produced by the citizens of a country, within or outside of its borders, during a calendar year. *Per capita GNI* is a widely used indicator of the variation of spendable income around the globe, and is most useful for comparies countries to one another.

cultural geography. Economic geography focuses on the spatial dimensions of economic activity; political geography concentrates on the spatial imprints of political behavior. Other systematic fields include historical, medical, behavioral, environmental, and urban geography. We will also draw on information from biogeography, marine geography, population geography, geomorphology, and climatology (as we did earlier in this chapter).

These systematic fields of geography are so named because their approach is thematic, not regional. Take the geographic study of cities, urban geography. Urbanization is a worldwide process, and urban geographers can identify certain human activities that all cities in the world exhibit in one form or another. But cities also display regional properties. The typical American city is quite distinct from, say, the European or the Chinese city. Regional geography, therefore, borrows from the systematic field of urban geography, but it injects this regional perspective. In the following chapters we call upon these systematic fields to provide you with a better understanding of the world's realms and regions. As a result, you will gain insights into the discipline of geography as well as the regions we investigate.

We will begin our investigation of the world's realms and regions in North America. This is, after all, where most of you were born and raised—and it is from this geographic realm that your expanding worldview has evolved.

# POINTS TO PONDER



- According to some measures, China in 2015 surpassed the United States and became the world's biggest national economy.
- The global human population in 2016 is 7.1 billion and is predicted to reach 9.5 billion by 2050. Will there be enough food and water to sustain everyone?
- Global warming is expected to cause a global rise in sea level of least 10 centimeters (4 inches) by the end of the century. Which cities are most vulnerable?
- Fast-forwarding globalization: the number of smartphones in the world surpassed the 2 billion mark in 2016; most of these devices have map navigation capabilities.



Austin, Texas—highly regarded for its burgeoning technology-led economy—is one of the fastest growing American cities in the 2010s. As this photo of the 2014 Austin City Limits Music Festival shows, the Lone Star State's capital also occupies a prominent position on the U.S. popular culture scene. Austin is a product of the postindustrial Sunbelt boom of the past half-century, an anchor of the new high-tech industrial corridor that stretches from the Dallas-Fort Worth Metroplex in the north to Greater San Antonio in South Texas. In addition to its function as a far-reaching employment magnet for young people, Austin is considered to be one of the most 'livable' cities in the nation.

# IN THIS CHAPTER

- North America's high-tech regions
- Changing geographies of inequality
  - Bilingualism in Canada
    - Detroit's bankruptcy
- U.S.-Mexico borderland dynamics
- China's impact on the realm's Pacific coast

# **CONCEPTS, IDEAS, AND TERMS**

	Physiographic region	1	Gentrification	11
h	Continentality	2	Sunbelt	12
]	Rain shadow effect	3	Migration	13
	Federation	4	Melting pot	14
	Fossil fuel	5	First Nations	15
	Urban system	6	World-City	16
	American Manufacturing Belt	7	Technopole	17
	Outer city	8	Pacific Rim	18
	Deindustrialization	9	Tar sands	19
(	Central business district (CBD)	10	Boreal forest	20

# THE NORTH AMERICAN

**REALM** 



FIGURE 1-1