Contemporary Human Geography

FIFTH EDITION | RUBENSTEIN

Countries of the World

ARCTIC OCEAN

Queen Elizabeth Islands

GREENLAND (Den.)

Beaufort Sea

Baffin Island

ALASKA (U.S.)

MACKENZIE MTS.

ROCKY MOUNTAINS

Hudson Bay

CANADA

Canadian Shield

Newfoundland

Bering Sea

Gulf of Alaska

PACIFIC OCEAN

Aleutian Islands

Aleutian Trench

Northeast

CASCADE RANGE

GREAT PLAINS

Great Lakes

ATLANTIC OCEAN

SIERRA NEVADA

Great Basin

GREAT MOUNTAINS

UNITED STATES

APPALACHIAN MTS.

Cape Cod

Cape Hatteras

Hatteras Plain

Midway Islands

Baja California

Mexican Plateau

Gulf of Mexico

See inset below

Mid-Atlantic Ridge

Hawaiian Ridge

SIERRA MADRE

MEXICO

Greater Antilles

Puerto Rico Trench

Hawaii (U.S.)

Middle America Trench

Caribbean Sea

GUYANA

SURINAME

FRENCH GUIANA (Fr.)

Pacific

VENEZUELA

COLOMBIA

Guiana Highlands

Central Pacific Basin

KIRIBATI

Equator

Galápagos Islands

ECUADOR

AMAZON

Cape São Roque

Basin

PERU

BASIN

BRAZIL

POLYNESIA

ANDES

Mato Grosso Plateau

Brazilian Highlands

Pernambuco Plain

SAMOA

BOLIVIA

East Pacific Rise

TONGA

Atacama Desert

PARAGUAY

Gran Chaco

Rio Grande Rise

Peru-Chile Trench

CHILE

Pampas

URUGUAY

ARGENTINA

Argentine Plain

Patagonia

Humboldt Plain

Falkland Islands

Strait of Magellan

Tierra del Fuego

South Georgia

Cape Horn

Weddell Sea

The Caribbean

FLORIDA (U.S.)

Gulf of Mexico

THE BAHAMAS

ATLANTIC OCEAN

0   250   500 Miles

0   250   500 Kilometers

CUBA

Turks & Caicos

Cayman Islands

Anguilla

St. Barthélemy

Virgin Is.

ANTIGUA AND BARBUDA

MEXICO

HAITI

DOMINICAN REPUBLIC

Montserrat

Guadeloupe

BELIZE

JAMAICA

Puerto Rico

St. Martin

DOMINICA

GUATEMALA

ST. KITTS AND NEVIS

Martinique

ST. LUCIA

HONDURAS

ST. VINCENT AND THE GRENADINES

BARBADOS

EL SALVADOR

Caribbean Sea

Netherlands Antilles

GRENADA

NICARAGUA

Aruba

TRINIDAD AND TOBAGO

COSTA RICA

PACIFIC OCEAN

PANAMA

VENEZUELA

GUYANA

COLOMBIA

ARCTIC OCEAN

80°N

Svalbard
North Cape
Lapland
ICELAND
Faroe Is.
See inset below
Scandinavia
Taymyr Peninsula
SIBERIA
Central Siberian Plateau
VERKHOYANSK RANGE
KOLYMA RANGE
RUSSIA
West Siberian Plain
URAL MTS.
Northern European Plain
Caspian Depression
60°N
Kamchatka Peninsula
Sea of Okhotsk
YABLONOVY RANGE
Kuril Is.
Kuril Tr.
Emperor Seamounts
ALPS
Iberian Peninsula
Balkan Peninsula
CAUCASUS MTS.
KAZAKHSTAN
Aral Sea
ALTAY MTS.
MONGOLIA
GOBI (DESERT)
Azores
Canary Is.
MOROCCO
ATLAS MTS.
TUNISIA
UZBEKISTAN
GEORGIA
ARMENIA
AZERBAIJAN
TURKMENISTAN
KYRGYZSTAN
TAJIKISTAN
TIAN SHAN
Taklimakan Desert
CHINA
NORTH KOREA
Sea of Japan (East Sea)
SOUTH KOREA
JAPAN
Northwest Pacific Basin
40°N
Anatolia
TURKEY
SYRIA
LEBANON
ISRAEL
GAZA STRIP
JORDAN
WEST BANK
IRAQ
ELBURZ MTS.
Iranian Plateau
ZAGROS MTS.
IRAN
KUWAIT
BAHRAIN
QATAR
HINDU KUSH
AFGHANISTAN
PAKISTAN
NEPAL
HIMALAYAS
BHUTAN
East China Sea
Ryukyu Trench
TAIWAN
PACIFIC OCEAN
ALGERIA
LIBYA
SAHARA
EGYPT
SAUDI ARABIA
UNITED ARAB EMIRATES
OMAN
Thar Desert
BANGLADESH
INDIA
Deccan Plateau
WESTERN GHATS
EASTERN GHATS
BURMA (MYANMAR)
LAOS
Northern Mariana Is.
Wake Island
20°N
Ahaggar
Tibesti
WESTERN SAHARA
Cape Verde Plain
CABO VERDE
MAURITANIA
MALI
Air
NIGER
CHAD
SUDAN
ERITREA
YEMEN
DJIBOUTI
Arabian Sea
Bay of Bengal
THAILAND
VIETNAM
CAMBODIA
PHILIPPINES
South China Sea
Guam
Mariana Trench
Philippine Trench
FEDERATED STATES OF MICRONESIA
MARSHALL ISLANDS
SENEGAL
THE GAMBIA
GUINEA-BISSAU
GUINEA
SIERRA LEONE
LIBERIA
BURKINA FASO
BENIN
GHANA
NIGERIA
CAMEROON
CENTRAL AFRICAN REP.
SOUTH SUDAN
Ethiopian Highlands
Horn of Africa
ETHIOPIA
SOMALIA
SRI LANKA
MALDIVES
BRUNEI
MALAYSIA
SINGAPORE
PALAU
Central Pacific Basin
NAURU
Equator 0°
KIRIBATI
CÔTE D'IVOIRE
TOGO
SÃO TOMÉ AND PRÍNCIPE
EQUATORIAL GUINEA
GABON
REP. OF THE CONGO
DEM. REP. OF THE CONGO
Congo Basin
UGANDA
RWANDA
BURUNDI
KENYA
TANZANIA
Somali Basin
SEYCHELLES
Great Rift Valley
Mid-Indian Ridge
Ninetyeast Ridge
Mid-Indian Basin
INDONESIA
TIMOR-LESTE
PAPUA NEW GUINEA
Cape York
SOLOMON ISLANDS
TUVALU
Mid-Atlantic Ridge
St. Helena
Katanga Plateau
ANGOLA
ZAMBIA
MALAWI
COMOROS
Mayotte
MOZAMBIQUE
MADAGASCAR
MAURITIUS
Réunion
Cocos (Keeling) Islands
Christmas Island
Great Sandy Desert
Western Plateau
AUSTRALIA
GREAT DIVIDING RANGE
VANUATU
New Hebrides Tr.
New Caledonia
FIJI
20°S
Namib Desert
NAMIBIA
BOTSWANA
Kalahari Desert
ZIMBABWE
SWAZILAND
SOUTH AFRICA
LESOTHO
INDIAN OCEAN
Broken Ridge
Perth Basin
Great Victoria Desert
Simpson Desert
Tasman Sea
Norfolk Island
ATLANTIC OCEAN
Walvis Ridge
Cape Plain
Cape of Good Hope
Agulhas Plateau
Southwest Indian Ridge
South Australian Basin
NEW ZEALAND

0   1,000   2,000 Miles
0   1,000   2,000 Kilometers

Weddell Plain

ANTARCTICA

Europe inset

20°W   10°W   0°

NORWAY
FINLAND
SWEDEN
ESTONIA
LATVIA
LITHUANIA
RUSSIA
Baltic Sea
North Sea
UNITED KINGDOM
IRELAND
DENMARK
RUSSIA
BELARUS
NETHERLANDS
Channel Islands
BELGIUM
GERMANY
POLAND
UKRAINE
LUXEMBOURG
CZECHIA
SLOVAKIA
MOLDOVA
FRANCE
LIECHTENSTEIN
SWITZERLAND
AUSTRIA
HUNGARY
ROMANIA
GEORGIA
SLOVENIA
MONACO
SAN MARINO
CROATIA
BOSNIA AND HERZEGOVINA
SERBIA
Black Sea
ANDORRA
PORTUGAL
SPAIN
Corsica
ITALY
MONTENEGRO
BULGARIA
KOSOVO
MACEDONIA
TURKEY
Balearic Is.
Sardinia
VATICAN CITY
ALBANIA
GREECE
ATLANTIC OCEAN
MOROCCO
ALGERIA
TUNISIA
MALTA
Sicily
Mediterranean Sea
Crete
CYPRUS
LEBANON
SYRIA

0   250   500 Miles
0   250   500 Kilometers

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Contemporary Human Geography

Fifth Edition

James M. Rubenstein

MIAMI UNIVERSITY, OXFORD, OHIO

Pearson

Front Cover: A grandmother and grandson share a digital tablet. They live in one of the most remote places on Earth, the Spiti Mountains of northern India. The isolated location has helped them to preserve a unique identity, including a distinctive language, religion, and clothing. At the same time, they are aware of what's happening around the world, thanks to their tablet. *Contemporary Human Geography* explores the patterns of globalization and local cultural diversity.
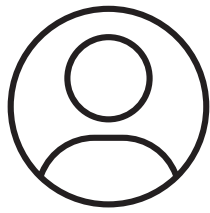
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We embrace the many dimensions of diversity, including but not limited to race, ethnicity, gender, sex, sexual orientation, socioeconomic status, ability, age, and religious or political beliefs.

Education is a powerful force for equity and change in our world. It has the potential to deliver opportunities that improve lives and enable economic mobility. As we work with authors to create content for every product and service, we acknowledge our responsibility to demonstrate inclusivity and incorporate diverse scholarship so that everyone can achieve their potential through learning. As the world's leading learning company, we have a duty to help drive change and live up to our purpose to help more people create a better life for themselves and to create a better world.

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- Everyone has an equitable and lifelong opportunity to succeed through learning.
- Our educational content accurately reflects the histories and lived experiences of the learners we serve.

- Our educational products and services are inclusive and represent the rich diversity of learners.
- Our educational content prompts deeper discussions with students and motivates them to expand their own learning (and worldview).

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https://www.pearson.com/us/accessibility.html

Contact Us

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Pearson

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Preface

Welcome to a new kind of geography textbook! We live in a visual age, and geography is a highly visual discipline, so Pearson—the world's leading publisher of geography textbooks—invites you to study human geography as a visual subject. This book has been designed from the beginning to be equally readable in both print and digital formats.

The fifth edition of *Contemporary Human Geography* builds on the strengths of the first four editions while responding to user feedback to make important changes and improvements and incorporating innovative features, current data, and new information.

The main purpose of this book is to introduce you to the study of geography as a social science by emphasizing the relevance of geographic concepts to human problems. It is intended for use in college-level introductory human or cultural geography courses. The book is written for students who have not previously taken a college-level geography course.

What Makes This Book Contemporary?

Titling this book "contemporary" is a bold claim. All credible geography books—including this one—include up-to-date statistics, recent world events, and current geographic concepts. This book claims to be more contemporary—not merely up-to-date—for three reasons.

We live in a visual age. This book was written in the reverse order of traditional textbooks. For most books, the text is written first and the graphic material is added later. Instead of beginning with an author's complete manuscript, this book starts with a sketch of a visual concept for each one-page spread and two-page module. What would be the most important geographic idea presented on each spread, and what would be the most effective visual way to portray that idea? The maps, graphs, and photos are placed on the page first, and then the text is written around the graphics. The production of this book does not have a traditional manuscript; from the outset, the text is written to complement the graphics.

We live in a sound bite age. This book replaces the narrative style of traditional books. Each one-page spread and each two-page module of this book are self-contained. Material on a main concept is contained within a page. This places more of a premium on clear concise outlining as an important pedagogical feature.

The captions under maps, graphs, and photos typically repeat material already presented in the text. Not so with this book—the graphic material stands on its own.

We live in an electronic age. This book has been designed to be equally usable—and attractive—in both print and digital formats. Most books are still composed in pages designed for print—as in the past—and converted to digital format after publishing of the print version. As a result, the conversion to digital format is frequently awkward. For example, maps and photos are often placed in the print version in positions that don't work well in digital format.

Contemporary Chapter Organization

This book has a clear, easy-to use organization and outline. Each chapter is organized into between 9 and 13 modules composed of two one-page sections that follow a consistent pattern:

Opening section. Each chapter opens with an outline of the four Key Issues that will be addressed in the chapter as well as a brief description of the material contained in each Key Issue. A Word Cloud introduces key words and phrases that appear in the chapter. A Locations map highlights some of the places that are illustrated in the chapter.

Key Issues. Each chapter is organized around four Key Issues that outline the main topics to be addressed. The four Key Issues are presented as questions to be addressed in that section of the chapter.

Self-contained modules. Each two-page module is titled and numbered to enhance the clarity of the outline. Each individual section is also titled and numbered.

Learning Objectives. Each two-page module begins with a Learning Objective that frames the main concept of that module.

Self-contained sections. Each page or section within the two-page module is also self-contained, with its own title and number. As a result, maps and photos appear next to where they are discussed in the text. No more going through a chapter to find a figure that is referenced on one page but actually appears on another page. This approach is especially critical for reading the eText on a tablet, computer, or smart phone.

Review, Analyze, & Apply. The final two-page module of each chapter (four pages for Chapter 1) reviews the main points of the chapter, organized around the four Key Issues. The end-of-chapter material

also includes Key Terms as well as other features, including Thinking Geographically, Geospatial Analysis, and Explore activities.

Contemporary Content

This book discusses the following main topics:

What basic concepts do geographers use? Geographers employ several concepts to describe the distribution of people and activities across Earth, to explain reasons underlying the observed distribution, and to understand the significance of the arrangements. Chapter 1—This Is Geography—provides an introduction to ways that geographers think about the world.

Geographers have insights into the major issues of our time. COVID-19 is used to illustrate geography's five most basic concepts, five different ways to make maps, and features of distribution. Issues of cultural diversity and inequality include an introduction to Black Lives Matter (discussed in more detail in Chapter 7) as well as gender and LGBTQ distribution. Geographic perspectives on climate change are also introduced.

Where are people located in the world? Why do some places on Earth contain large numbers of people or attract newcomers whereas other places are sparsely inhabited? Chapters 2 and 3 examine the distribution and growth of the world's population as well as the movement of people from one place to another.

Since the last edition of the book, natural increase rates and birth rates have declined and death rates have increased, partly in response to COVID-19. Meanwhile, China has abandoned its long-standing one-child policy.

Migration has been an important issue for Americans. This edition expands its discussion of unauthorized immigrants and the spatial variations along the U.S. Mexico border. Coverage has been doubled from the previous edition concerning the main reasons that people migrate—environmental, economic, and political.

How are different cultural groups distributed? Geographers look for similarities and differences in the cultural features at different places, the reasons for their distribution, and the importance of these differences for world peace. Chapters 4 through 8 analyze the distribution of different cultural traits and beliefs and the political challenges that result from those spatial patterns. Important cultural traits discussed in Chapter 4 include food, clothing, shelter, and leisure activities. Chapters 5 through 7 examine three main elements of cultural identity: language, religion, and ethnicity. Chapter 8 looks at political problems that arise from cultural diversity.

The title of Chapter 4 has changed from Folk & Popular Culture to Culture & Social Media, a reflection of the growing importance of social media in understanding the geography of cultural patterns and preferences. A larger share of the chapter is devoted to distinctive spatial patterns of social media, including social media platforms, Internet freedom, cyberattacks, cyber espionage, and fake news. A spread has been added concerning the geography of travel.

Classification of the world's principal religions has been reorganized in accordance with recognized authorities on the geography of religions. The three universalizing religions with the largest number of adherents continue to be Christianity, Islam, and Buddhism. However, the ethnic religions with the largest number of adherents in addition to Hinduism are now considered by authorities to be Chinese Folk and Ethno-religions. Other religions are classified by number of adherents, with the most numerous in addition to Sikhism and Judaism now considered to be New Religions and Spiritism.

The title of Chapter 7 has been changed from Ethnicities to Ethnicity & Race to reflect the increasing importance of the term "race" in cultural geography. A key example of the increasing importance of race is the use of the term "Black" in most places instead of "African American." A new spread on Black Lives Matter examines the diffusion and patterns of racism on the landscape.

The content of Chapter 8 has been moved among the four key issues. The first key issue now includes internal structure of states (unitary and federal) and international cooperation such as the EU. The second key issue now explains the evolution of states from ancient times, through the development of nation-states, to recent creation of states especially in Eastern Europe. The third key issue focuses on the morphology of states, including boundaries and shapes. Coverage is expanded of gerrymandering of U.S. political boundaries, with specific examples of the two types of gerrymandering. The fourth key issue focuses on threats to states, including a new discussion of states with nuclear weapons.

How do people earn a living in different parts of the world? Human survival depends on acquiring an adequate food supply. One of the most significant distinctions among people globally is whether they produce their food directly from the land or buy it with money earned by performing other types of work. Chapters 9 through 12 look at the three main ways of earning a living: agriculture, manufacturing, and services. Chapter 13 discusses cities, where the world's economic and cultural activities are increasingly centered.

Chapter 9 (Food & Agriculture) has been reorganized to provide an increased emphasis on food. The chapter begins with the geography of food, including spatial patterns of what people eat and how much they eat. The remainder of the chapter is organized around the spatial patterns of where food comes from, especially as it relates to differences in climate.

The United Nations has created two new indexes of development that are now included in Chapter 10 (Development). They are Multidimensional Poverty Index (MPI) and Gender Social Norms Index (GSNI). The various indexes of development are presented to emphasize spatial differences in gender and economic inequalities. Immanuel Wallerstein's world-systems theory of core and periphery is now included as its own spread.

Material in Chapter 11 (Industry) is reorganized to place changes in site and situation factors alongside the rest of those subjects' material. The chapter concludes with a spread on changes in China's situation and site factors.

The title of Chapter 12 has been changed from Services to Services & Settlements. A discussion of current geographic patterns of settlements is now placed at the beginning of the chapter. The chapter contains a new spread on e-commerce, like Amazon, and a new spread on sharing services, like Airbnb and Uber.

Chapter 13 (Urban Patterns) includes a new case study of the geographic patterns within London.

What issues result from using Earth's resources? Geographers recognize that cultural problems result from the depletion, destruction, and inefficient use of the world's natural resources. Chapter 14 (Resource Issues) is devoted to a study of issues related to the use of Earth's natural resources.

The chapter includes expanded coverage of solar power and of the challenge of disposing of plastic waste. The chapter and the book conclude with a new spread that reviews geography's five key concepts by comparing Luxembourg and Timor-Leste—two small and little-known but very different countries.

Contemporary Relevance

Many speculated that geography would be irrelevant in the twenty-first century. Geography's future was thought to be grim because the diffusion of electronic communications and social media would make it easier for human activities to be conducted remotely. If any piece of information could be accessed from any place in the world (at least where electronic devices work), why live, shop, work, or establish a business in a crowded city or a harsh climate?

In reality, geography has become more, not less, important in people's lives and the conduct of business.

Here are several ways that location matters more now than in the past, because of—not despite—the diffusion of electronic devices:

Geographical smart phone apps. Smart phones and other electronic devices match specific demand to supply in a particular locality. For example: Restaurant apps match hungry people to empty seats in a locality's restaurants. Real estate apps help people find housing for sale or for rent in a locality. Social apps let people know where their friends in a particular locality are hanging out that night. Transportation apps match vehicles with available seats to people trying to get to specific locations. These sorts of apps generate data on people's preferences in space, which in turn help even more location-based businesses get started and grow. Through an app, we can find a restaurant, get detailed directions to it via voice navigation, or order online for takeout delivery to our doorstep. Geographic apps, such as maps, navigation aids, travel, and transportation, rank among the most frequently used services on smart phones.

Navigation. Electronic devices are essential to the smooth movement of people and goods. For example: Turn-by-turn information can prevent you from getting lost or steer you back if you do get lost. Traffic jams on overcrowded roads can be avoided or minimized. Delivery services can find where to deliver packages. Drivers of car-sharing services can figure out how to get you to your destination. Instead of turning on a radio to hear traffic information, we look at the red and green traffic flow patterns on an electronic map. Vehicles in the future will be driverless, so you can spend driving time working, learning, or social networking.

Ideas. The people who make all of these new location-based apps are themselves highly clustered in a handful of places in the world, such as the San Francisco Bay area. Ideas—both brilliant and farfetched—are still easier to communicate face-to-face than across long distances. Living and working in places like Silicon Valley, despite high expenses and choking traffic jams, put people next to other like-minded innovators in the electronic-based geography of the twenty-first century.

Cultural diversity. Electronic devices also impact the changing geography of cultural diversity. What if you searched for an available restaurant table in a foreign language? Would you find the same places that you would if you searched in your native language? What if you conducted an internet search in a foreign country? Would you find the same information as in an internet search done at home?

Contemporary Tensions Between Globalization and Local Diversity

A central theme in this book is a tension between two important realities of the twenty-first-century world—

globalization and cultural diversity. In many respects we are living in a more unified world economically, culturally, and environmentally. The actions of a particular corporation or country affect people around the world. In the third decade of the twenty-first century, we continue to face wars in unfamiliar places and experience economic struggles unprecedented in the lifetimes of students or teachers. Geography's spatial perspectives help to relate economic change to the distributions of cultural features such as languages and religions, demographic patterns such as population growth and migration, and natural resources such as energy, water quality, and food supply.

This book argues that, after a period when globalization of the economy and culture has been a paramount concern in geographic analysis, local diversity now demands equal time. People are taking deliberate steps to retain distinctive cultural identities. They are preserving little-used languages, fighting fiercely to protect their religions, and questioning free trade agreements. Local diversity even extends to addressing issues, such as climate change, that at first glance are considered global. For example, the "greenest" cars for motorists to drive in Ohio are different than the "greenest" cars for Indiana.

Since 2013, I have written a weekly column for my local newspaper on behalf of my local cooperatively owned grocery store. The column has come to extol the virtues of local here in Midwestern USA: the local food, the local farmers, the local seasons, and the locally owned co-op grocery. I admire the farmers and the agriculture from far away, but our local food is more nutritious, consumes less energy, and tastes better. In a world where we feel anger and helplessness at the plight of people in other places, it is at the local scale that we all can make a difference.

A Contemporary Publishing Team

The steps involved in creating most traditional textbooks haven't changed much. The book passes from one to another like a baton in a relay race. The author writes a manuscript, which then passes in turn through development, editing, and production specialists on the way to the printing press. The preface typically includes a perfunctory litany of acknowledgments for the many fine people who contribute to the development, editing, and production of the book.

In contrast, this book starts as a genuine partnership among several development, editorial, and production specialists. The traditional separation of development, editorial, and production has been deliberately blurred.

Preparing this book demanded a contemporary approach to collaboration because it was created during the worst of the COVID-19 pandemic in the United States. The team, which is scattered around the country from New Hampshire to Oregon, met biweekly through Zoom. Key contributors include folks employed by Pearson and folks from elsewhere. The most important contributors from outside Pearson include the following:

Susan Teahan, Development Editor. A typical development editor provides useful information to the author early in the writing process and then fades from the scene. Not so with Susan. Susan's role actually expanded during the process of creating this book. We collaborated closely on tailoring the content to fit each and every page of the book. Increase or decrease the size of the artwork? Add or delete text? We were there together.

Erika Nelson, Research Assistant, has an MA in Geography from Miami University and currently teaches anthropology and geography courses at Miami. I have known Erika for many years as a student and friend and as a colleague on two books. Erika brings fresh perspectives to the book, such as her background living in Africa and her teaching online.

Kevin Lear, Senior Project Manager at International Mapping, and his team produced the outstanding maps for this book. Back in the 1980s, Kevin was the first cartographer to figure out how to produce computer-generated full-color maps that are more accurate and more attractive than hand-drawn ones. He has continued to stay well ahead of the pack in the quality of the maps. And Kevin has taken on additional tasks of creating all of the artwork in the book, not only the maps.

Katie Ostler and Sharon Cahill, Straive Project Managers. In a global economy, essential tasks in publishing a book are inevitably outsourced to specialists. In this case, the task of publishing the text and artwork into printed and digitized pages was in the hands of Straive, which is known as a leader in e-learning. When outsourcing, it is essential to be able to communicate with a single responsible leader. In this case, that person was first Katie and then Sharon.

Key contributors within Pearson include the following:

Heidi Allgair, Pearson Content Producer for Science. The smooth flow of pages, maps, photos, and so

on requires someone who is able to stay on top of a complex project. Heidi perfectly performed this critical role of managing what each team member was doing at any given time.

Kassi Foley, Pearson Senior Learning Tools Strategist. Previous editions of the book have included several interactive features. We have shifted our priority to creating a handful of Geographic Interactive projects to help students understand some of the most challenging topics in the course, such as world agricultural regions and the diversity of languages. Kassi has played the key role at Pearson in creating the Geographic Interactive projects, in association with Social Explorer.

Ziki Dekel, Media Producer. In view of the fact that most students now read the book on an electronic device, the role of media producer has become more important. Most books are created in print version with little regard for their conversion to digital format. Thanks to folks at Pearson like Ziki, this book is hopefully more legible in digital version than most other textbooks.

Aileen Pogran, Pearson Product Manager Life Sciences, and Terry Haugen, Pearson Content Strategy Manager for Geosciences, Environmental Sciences, & Non-majors Biology. I've saved the most important team members for last. Aileen and Terry are the two editors for this project. When Pearson undertook a major reorganization of responsibilities a few years ago, Aileen and Terry both became my editors. In principle, Aileen has been responsible for ensuring that this book has had the support of Pearson's top management, and Terry has been responsible for ensuring that the content of this book meets Pearson's highest standards. A close relationship between author and editor in this case, editors is the heart of a successful book. I've been very fortunate that in my three decades of association with Pearson, I've had three outstanding editors: Paul Corey, Dan Kaveney, and Christian Botting. This first project with Aileen and Terry has continued my good fortune of outstanding editors. What a delight to work with them for the first time. I think this is the beginning of a beautiful friendship.

Digital & Print Resources

FOR TEACHERS:

This edition provides a complete human geography program for teachers.

Mastering Geography with Pearson eText for *Contemporary Human Geography*

The Mastering platform is the most widely used and effective online homework, tutorial, and assessment system for the sciences. It delivers self-paced coaching activities that provide individualized coaching, focus on course objectives, and are responsive to each student's progress. The Mastering system helps teachers maximize class time with customizable, easy-to-assign, and automatically graded assessments that motivate students to learn outside of class and arrive prepared for lecture. Mastering Geography offers:

- Assignable activities that include GIS-inspired MapMaster 2.0™ interactive maps, *Encounter Human Geography* Google Earth™ Explorations, GeoVideos, GeoTutors, Thinking Spatially & Data Analysis activities, end-of-chapter questions, reading quizzes, Test Bank questions, map labeling activities, and more.

- Student study area with GIS-inspired MapMaster 2.0 interactive maps, Geoscience Animations, web links, geography videos, glossary flash cards, "In the News" current articles, reference maps, an optional Pearson eText and more.
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About the Author

Dr. James M. Rubenstein received his B.A. from the University of Chicago in 1970, M.Sc. from the London School of Economics and Political Science in 1971, and Ph.D. from Johns Hopkins University in 1975. He was a Professor of Geography at Miami University for thirty-seven years, where he taught urban and human geography. Dr. Rubenstein is now a full-time writer. In addition to this book, Dr. Rubenstein is the author of *The Cultural Landscape* (13th edition) as well as co-author of *Introduction to Contemporary Geography,* both published by Pearson Education.

Dr. Rubenstein also conducts research in the automotive industry and has published four books on the subject *The Changing U.S. Auto Industry: A Geographical Analysis* (Routledge); *Making and Selling Cars: Innovation and Change in the U.S. Auto Industry* (The Johns Hopkins University Press); *A Profile of the Automobile and Motor Vehicle Industry: Innovation, Transformation, Globalization* (Business Expert Press); and *Who Really Made Your Car? Restructuring and Geographic Change in the Auto Industry* (W.E. Upjohn Institute, with Thomas Klier). He also writes a weekly column about local food for The Oxford Press. Winston, a lab-husky mix with one brown eye and one blue eye, takes Dr. Rubenstein for long walks in the woods most days, when he is up to it.

This book is dedicated to my wife Bernadette Unger, the love of my life, and my companion through life.

About our Sustainability Initiatives

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This is Geography

Contemporary geography is the scientific study of where people and activities are found across Earth's surface and the reasons why they are found there. Geography is distinctive because it encompasses both social science and natural science. This book focuses on geography as a social science (human geography).

KEY ISSUES

1 Why Is Geography a Science?

Geography's most distinctive tool is the map. Prehistoric humans were the first people to make maps. Contemporary tools enable cartographers—and anyone else who has access to electronic devices—to make precise maps and to interpret their meaning.

2 Why Is Every Place Unique?

Geographers understand that each location on Earth is in some ways unique. Each specific place or larger region on Earth possesses a unique combination of features.

Mediterranean Sea
Suez Canal
ASIA
Cairo•
AFRICA
EGYPT
Nile River
Red Sea

3 Why Are Different Places Similar?

Many geographical features are organized in a regular manner across space. Some regularities are global in scale, whereas others have distinctive local character.

4 Why Are Places Connected?

Distinctive to geography is the importance given to connections between human activities and the physical environment. Some human activities are sustainable, but others are not.

LOCATIONS IN THIS CHAPTER
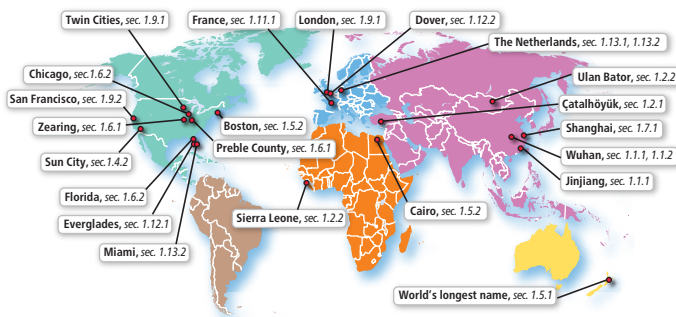
spatial interaction
place pattern GPS
sustainability science
latitude & longitude
diffusion
geographic grid
density region connection cartography
projection gender & ethnicity unequal access
globalization space scale where & why
concentration site & situation maps
ecosystem

Welcome to Geography

● **Summarize geography's five most basic concepts.**

The word *geography*, invented by the ancient Greek scholar Eratosthenes (ca. 276–ca. 194 B.C.E.), is based on two Greek words: *geo* means "Earth," and *graphy* means "to write." Geography is the study of where things are found on Earth's surface and the reasons for their locations. Human geographers ask two questions: Where are people and activities found on Earth? Why are they there?

1.1.1 Comparing Geography & History

Human geography and history both rely on the collection of evidence about human activity. In his framework of all scientific knowledge, the German philosopher Immanuel Kant (1724–1804) compared geography and history:

Geographers . . .	Historians . . .
identify the location of important places (Figure 1.1.1).	identify the dates of important events.
explain why one human activity is found near another.	explain why one human activity follows another chronologically.
ask where and why.	ask when and why.
organize material spatially.	organize material chronologically.
recognize that an action at one location on Earth can be a reaction to actions taken at another point on Earth, which can, in turn, affect conditions elsewhere.	recognize that an action at one point in time can be in reaction to actions taken in the past and can, in turn, affect future actions.

Contrasting Geography & History

The capabilities of historians and geographers differ in one especially important aspect: A geographer can take a plane or car to another place on Earth (Figure 1.1.2), but a historian cannot travel back to another time in the past. The ability to reach other places lends excitement to the discipline of geography.

To introduce human geography, we concentrate on two main features of society: culture and economy. The first half of the book explains why the most important cultural features, such as languages, religions, and ethnicities, are arranged as they are across Earth. The second half of the book looks at the distribution of the most important economic activities, including agriculture, manufacturing, and services.

▼ **1.1.2** WUHAN, 2018
Before the start of the COVID-19 pandemic.

1.1.2 Geographers Explain *Where & Why*

This chapter introduces basic concepts in geography and explains how geographers use a question approach—"where" and "why"—in their study. To explain where things are, one of geography's most important tools is a map. Geographers employ several basic concepts to explain why every place on Earth is in some ways unique and in some ways related to other locations. Two basic concepts relate to unique location:

- A **place** is a specific point on Earth distinguished by a particular characteristic. Every place occupies a unique location, or position, on Earth's surface.
- A **region** is an area of Earth defined by one or more distinctive characteristics.

Three basic concepts help to explain the interrelatedness of locations:

- **Scale** is the relationship between the portion of Earth being studied and Earth as a whole. Geographers are increasingly concerned with the global scale.
- **Space** refers to the physical gap, or interval, between two objects. Geographers observe that many objects are distributed across space in a regular manner and for discernible reasons.
- **Connection** refers to relationships among people and objects across the barrier of space. Geographers are concerned with the various means by which connections occur and are especially interested in connections between human activities and the physical environment.

Geography's Basic Concepts & COVID-19

Geography's basic concepts can help with our understanding of where and why the COVID-19 disease spread or was contained: place (Figure 1.1.3), region (Figure 1.1.4), scale (Figure 1.1.5), space (Figure 1.1.6), and connection (Figure 1.1.7).
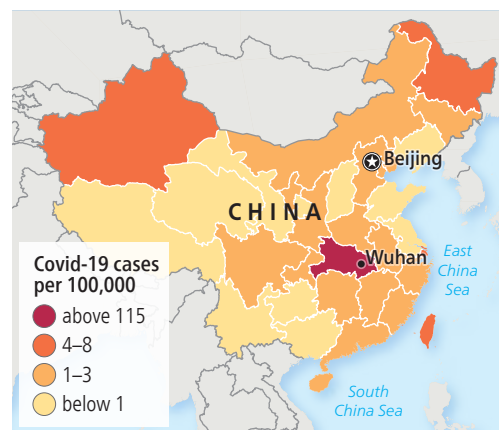
◀ **1.1.3 PLACE**
Wuhan, China, was the place where COVID-19 was first identified, in December 2019, according to the U.S. Centers for Disease Control and Prevention. During 2020, customers shopped in Wuhan's street market while wearing masks.

◀ **1.1.5 SCALE**
These health-care workers in Wuhan were among the first in the world to receive COVID-19 vaccinations. China's vaccination cards look different than those issued in the United States by the Centers for Disease Control and Prevention.

◀ **1.1.6 SPACE**
During COVID-19, a distance of 2 meters (6 feet) became the norm for safe social distance, as these workers eating lunch at a Honda factory in Wuhan demonstrate.

▼ **1.1.4 REGION**
The Harbei region, which includes Wuhan, had more cases of COVID-19 per population than China's other regions during 2020.

Covid-19 cases per 100,000
- above 115
- 4–8
- 1–3
- below 1

▼ **1.1.7 CONNECTION**
(a) Australia quarantined people traveling to the country from Wuhan for 2 weeks in Christmas Island. (b) These Australian citizens returning from Wuhan arrive at Canberra Airport in Australia after their release from quarantine.

(a)   (b)

Contemporary Geographic Tools

● **Explain geography's contemporary analytic mapping tools.**

Maps are not just paper references anymore. They have become an essential tool for online location-finding applications through smart phones, tablets, and computers.

1.2.1 What Is a Map?

Geography's most important tool for thinking spatially about the distribution of features across Earth is a map. A **map** is a two-dimensional or flat-scale model of Earth's surface or a portion of it. Geography is immediately distinguished from other disciplines by its reliance on maps to display and analyze information.

A map can serve as a reference tool, helping us find the shortest route between two places and avoid getting lost along the way. We consult maps to learn where in the world something is found, especially in relationship to a place we know, such as a town, body of water, or highway. The maps in an atlas or a road map are especially useful for this purpose.

A map can also be a communications tool. It is often the best means for depicting the distribution of human activities or physical features as well as for thinking about reasons underlying such distribution.
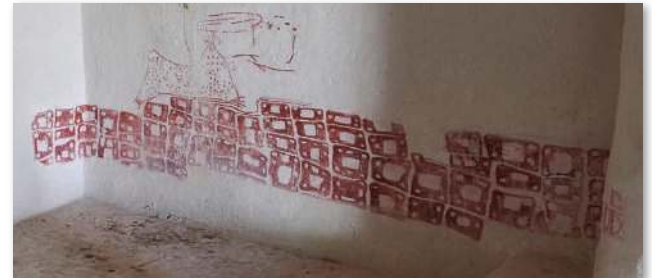
A map is a scale model of the real world, made small enough to work with on a desk or computer. It can be an elaborate work of art, a precise computer-generated product, or a hasty sketch (Figure 1.2.1). For centuries, geographers have worked to perfect the science of mapmaking, called **cartography**. Contemporary cartographers are assisted by computers and satellite imagery.

(a)

(b)

▲ **1.2.1 AN EARLY MAP**
(a) This map, dating from 6200 B.C.E., depicts the town of Çatalhöyük, in present-day Turkey, and the eruption of the Hasan Dağı (Mount Hasan) twin-peaks volcano, which is actually located around 140 kilometers (87 miles) northeast of the town. Archaeological evidence indicates that the volcano did erupt around the time that the map was made. The map is now in the Konya Archaeology Museum. (b) Artist's impression of Çatalhöyük,created from details on the map.

GIScience: Analyzing Data

Geographic information science (GIScience) is analysis of data about Earth acquired through satellite and other electronic information technologies. A **geographic information system (GIS)** captures, stores, queries, and displays the geographic data. GIS produces maps (including those in this book) that are more accurate and attractive than those drawn by hand. Each type of information is stored in a layer. For example, separate layers could be created for boundaries of countries, bodies of water, roads, and names of places.

The science of taking measurements of Earth's surface from photographs is called **photogrammetry**. The acquisition of data about Earth's surface from a satellite orbiting Earth or from other long-distance methods is **remote sensing**. At any moment, an aerial sensor attached to a satellite, airplane, or drone may be recording the image of a tiny area on Earth's surface (Figure 1.2.2).

Corporations and government agencies use photogrammetry and remote sensing to create high-quality 3D virtual representations of portions of Earth. These maps can depict the distribution of a wide variety of urban and rural features.

GIScience helps geographers create more accurate and complex maps and measure changes over time in the characteristics of places. Layers of information acquired through remote sensing and produced through GIS can be described and analyzed. GIScience enables geographers to calculate whether relationships between objects on a map are significant or merely coincidental.

▼ **1.2.2 PHOTOGRAMMETRY**
A drone flies a test course in Nevada to determine the precision of its mapping capabilities.

1.2.2 GPS: Pinpointing Locations

Our smart phones, tablets, and computers are equipped with **Global Positioning System (GPS)**, which is a system that determines the precise position of something on Earth. The GPS in use in the United States includes two dozen satellites placed in predetermined orbits; a series of tracking stations to monitor and control the satellites; and receivers that compute position, velocity, and time from the satellite signals.

GPS is most commonly used for navigation. Pilots of aircraft and ships stay on course with GPS. On land, GPS detects a vehicle's current position, the motorist programs the desired destination into a GPS device, and the device provides instructions on how to reach the destination.

Thanks to GPS, our electronic devices provide us with a wealth of information about the specific place on Earth we currently occupy. The locations to which we venture using mapping applications, as well as the photos we take with our electronic devices, are recorded through **geotagging**, which is identification and storage of a piece of information by its precise latitude and longitude coordinates (Figure 1.2.3).

▲ **1.2.3 GEOTAGGING: GOOGLE STREET MAPPING**
Ulan Bator, Mongolia.

VGI: Collecting & Sharing Data

Smart phones, tablets, and computers enable individuals to make maps and share them with others. **Volunteered geographic information (VGI)** is the creation and dissemination of geographic data contributed voluntarily and for free by individuals. VGI is part of the broader trend of **citizen science**, which is scientific research by amateur scientists, and **participatory GIS (PGIS)**, which is community-based mapping. Citizen science and PGIS collect and disseminate local knowledge and information through electronic devices.

OpenStreetMap is a collaborative project to create a free editable map of the world. The geodata underlying the map is considered the primary output of the project. Humanitarian OpenStreetMap Team (HOT) is a global community of volunteers, community leaders, and professionals who work together to create open map data to support sustainable development, such as where to build new housing for the least impact on the environment, and disaster response, such as where to send emergency medical teams during a disease outbreak (Figure 1.2.4).

A **mashup** is a map that overlays data from one source on top of a map provided by a mapping service, such as Google Maps or Google Earth. The term *mashup* comes from the musical practice of mixing two or more songs.

Individuals can create mashups on their personal devices because mapping services provide access to the application programming interface (API), which is the computerized language that links a database such as an address list on your phone with software such as Google Maps.

▲ **1.2.4 HUMANITARIAN OPENSTREET MAPPING**
Assisting responders helping to reach Ebola victims in a rural area of Sierra Leone.

Geocode System: What3words

What3words is a geocode system that has divided the entire world into 57 trillion squares of 3 meters (10 feet) per side. Each 9 square meter (100 square foot) square is identified by three English words. For example, the front door of the White House is identified by ///curve.empty.buzz. This app allows for finding the precise location of many places in the world that do not have traditional street addresses (Figure 1.2.5).

▶ **1.2.5 WHAT3WORDS**
Location of the Leaning Tower of Pisa, Italy.
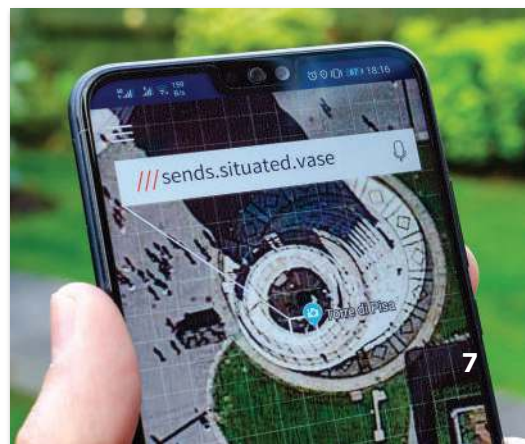
Making Maps

● **Summarize the development of the science of geography.**

The science of geography developed in the ancient world, especially in the Eastern Mediterranean (mainly Greece and the Roman Empire), as well as in China. Little progress was made in development of geography until the first century C.E.

1.3.1 Geography in the Ancient World

Major contributors to geographic thought in the ancient Eastern Mediterranean included:

- Thales of Miletus (ca. 624–ca. 545 B.C.E.), who applied principles of geometry to measuring land area.
- Anaximander (610–ca. 546 B.C.E.), who made a world map shaped like a cylinder based on information from sailors.
- Pythagoras (ca. 570–ca. 495 B.C.E.), who may have been the first to propose a spherical world.
- Hecateus (ca. 550–ca. 476 B.C.E.), who may have produced the first geography book, called *Periodos Ges* (*Journey Around the Earth*).
- Aristotle (384–322 B.C.E.), who was the first to demonstrate the Earth was spherical.
- Eratosthenes (ca. 276–ca. 194 B.C.E.), the inventor of the word *geography*, who accepted that the Earth was round and calculated its circumference within 0.5 percent accuracy.
- Strabo (ca. 64 B.C.E.–ca. 24 C.E.), who described the known world in a 17-volume work titled *Geography*.
- Ptolemy (ca. 100–ca. 170 C.E.), who wrote the eight-volume *Guide to Geography* (Figure 1.3.1).

▲ **1.3.1** WORLD MAP BY PTOLEMY CA. 150 C.E.
The map shows the known world at the height of the Roman Empire, surrounding the Mediterranean Sea and Indian Ocean.

Ancient Chinese geographic contributions included:

- "Yu Gong" ("Tribute of Yu"), by an unknown author, describing the economic resources of the country's different provinces.
- Pei Xiu (224–271 C.E.), the "father of Chinese cartography," who produced an elaborate map of the country.

Geography's Revival

After Ptolemy, little progress in mapmaking or geographic thought was made in Europe for several hundred years. Maps became less mathematical and more fanciful, showing Earth as a flat disk surrounded by fierce animals and monsters.

▲ **1.3.2** WORLD MAP BY WALDSEEMÜLLER, 1508
The name *America* appears in very small print on the map.

Geographic inquiry continued, though, outside Europe. Contributors outside Europe included Muhammad al-Idrisi (1100–1165), a Muslim geographer who prepared a world map and geography text in 1154, and Ibn Battuta (1304-ca. 1368), a Moroccan scholar who wrote Rihla ("Travels") based on journeys through Africa, Asia, and Europe.

In Europe, making maps as reference tools revived during the Age of Exploration and Discovery. Columbus, Magellan, and other explorers who sailed across the oceans in search of trade routes and resources in the fifteenth and sixteenth centuries required accurate maps to reach desired destinations without wrecking their ships. Cartographers used information collected by the explorers to create more exact maps.

Influential European cartographers included Martin Waldseemüller (ca. 1470–1520, Figure 1.3.2), Abraham Ortelius (1527–1598), and Bernhardus Varenius (1622–1650).