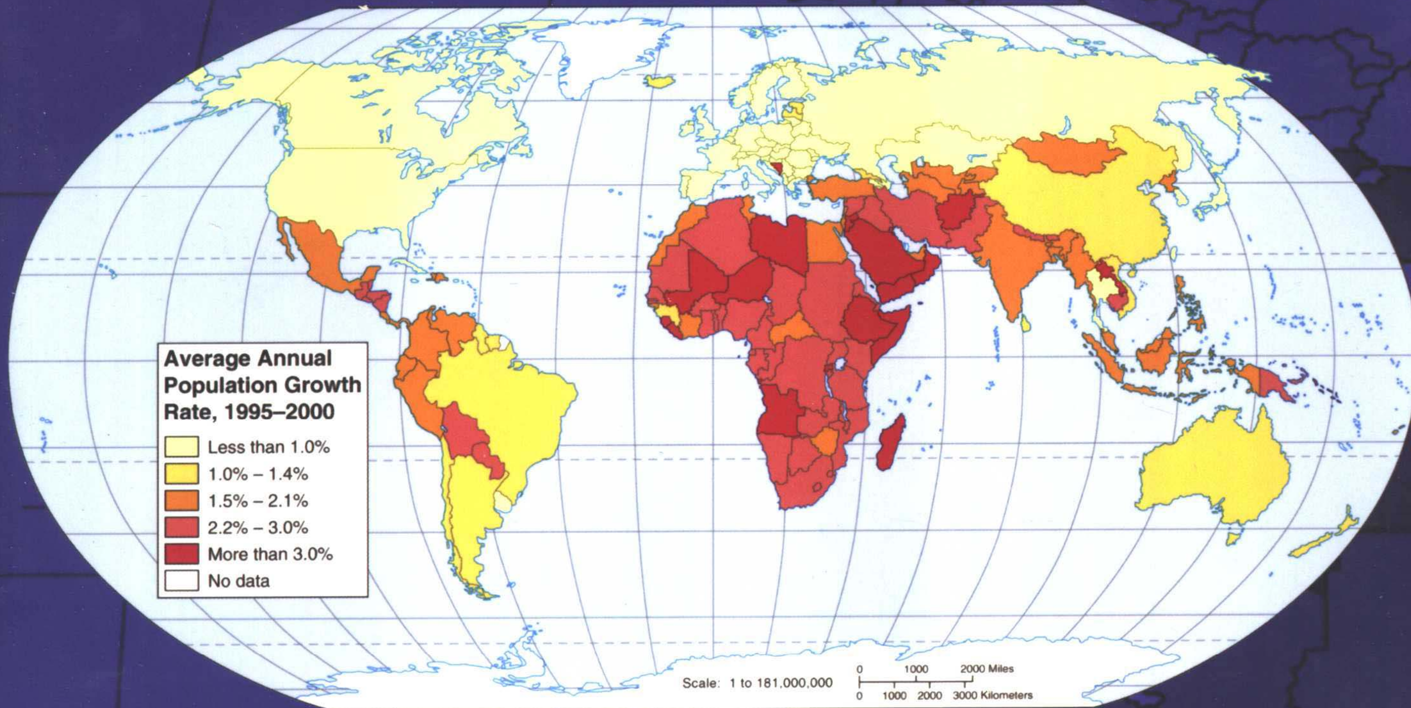
John L. Allen Audrey C. Shalinsky



THE KOTTAK ANTHROPOLOGY ATLAS

McGraw-Hill Higher Education

A Division of The **McGraw-Hill** *Companies*

THE KOTTAK ANTHROPOLOGY ATLAS

Published by McGraw-Hill, a business unit of The McGraw-Hill Companies, Inc., 1221 Avenue of the Americas, New York, NY, 10020.

Some ancillaries, including electronic and printed components, may not be available to customers outside the United States.

This book is printed on acid-free paper

1 2 3 4 5 6 7 8 9 0 DOW/DOW 0 9 8 7 6 5 4 3

ISBN 0-07-283228-2

Publisher: *Phillip A. Butcher*
Sponsoring editor: *Kevin Witt*
Developmental editor: *Pam Gordon*
Marketing manager: *Dan Loch*
Media producer: *Shannon Gattens*
Project manager: *Jean R. Starr*
Production supervisor: *Carol A. Bielski*
Designer: *Cassandra Chu*
Art editor: *Robin Mouat*
Interior design: *Charlie Vitelli*
Typeface: *Optima, ITC-Garamond, and ITC-Garamond Condensed*
Compositor: *McGraw-Hill/Dushkin*
Printer: *R.R. Donnelley/Willard*

Library of Congress Cataloging-in-Publication Data
Allen, John L.

The Kottak anthropology atlas. John L. Allen and Audrey C. Shalinsky.

Guilford, CT: McGraw-Hill/Dushkin, ©2004

56 p.: ill., maps. 21 x 26 cm

I. Anthropology—Atlases. II. Sociology—Atlases. III. Ethnology—Atlases.
I. Shalinsky, Audrey C.
301
0-07-283228-2

Printed in the United States of America
www.mhhe.com

World Countries

The international system includes the political units called "states" or countries as the most important component. The boundaries of countries are the primary source of political division in the world and for most people nationalism is the strongest source of political identity. State boundaries are an important indicator of cultural, linguistic, economic, and other geographic divisions as well, and the states themselves normally serve as the base level for which most global statistics are available. The subfield of geography known as "Political Geography" has as its primary concern the geographic or spatial character of this international system and its components.

Note: All world maps are Robinson projection.


NORTH SEA
NORWAY
SWEDEN
BALTIC SEA
ESTONIA
0 100 Miles
0 100 Kilometers
DENMARK
LATVIA
RUSSIA
LITHUANIA
NETHERLANDS
BELARUS
GERMANY
POLAND
BELGIUM
UKRAINE
CZECH REPUBLIC
LUXEMBOURG
SLOVAKIA
FRANCE
LIECHTENSTEIN
MOLDOVA
AUSTRIA
SWITZERLAND
HUNGARY
ROMANIA
SLOVENIA
YUGOSLAVIA (SERBIA-MONTENEGRO)
CROATIA
SAN MARINO
BOSNIA-HERZEGOVINA
BLACK SEA
MONACO
ITALY
BULGARIA
ALBANIA
MACEDONIA
GREECE
TURKEY
MEDITERRANEAN SEA
MALTA
GREENLAND (DENMARK)
ARCTIC OCEAN
Arctic Circle
ICELAND
FINLAND
UNITED KINGDOM
R U S S I A
IRELAND
KAZAKSTAN
MONGOLIA
NORTH PACIFIC OCEAN
ANDORRA
SPAIN
PORTUGAL
UZBEKISTAN
TURKMENISTAN
KYRGYZSTAN
TAJIKISTAN
NORTH KOREA
SOUTH KOREA
C H I N A
JAPAN
TUNISIA
CYPRUS
LEBANON
SYRIA
IRAQ
IRAN
AFGHANISTAN
NEPAL
BHUTAN
MOROCCO
ISRAEL
JORDAN
KUWAIT
QATAR
BAHRAIN
PAKISTAN
ALGERIA
LIBYA
EGYPT
SAUDI ARABIA
UNITED ARAB EMIRATES
OMAN
MYANMAR (BURMA)
Tropic of Cancer
TAIWAN
I N D I A
LAOS
MAURITANIA
MALI
NIGER
CHAD
ERITREA
YEMEN
BANGLADESH
SUDAN
THAILAND
VIETNAM
PHILIPPINES
MARSHALL ISLANDS
CAPE VERDE
NIGERIA
DJIBOUTI
ETHIOPIA
UGANDA
SRI LANKA
CAMBODIA (KAMPUCHEA)
PALAU
SOMALIA
BRUNEI
MICRONESIA
MALAYSIA
CAMEROON
MALDIVES
Equator
KIRIBATI
CENTRAL AFRICAN REPUBLIC
RWANDA
SINGAPORE
NAURU
SÃO TOMÉ AND PRÍNCIPE
DEM. REP. OF THE CONGO
KENYA
I N D O N E S I A
EQUATORIAL GUINEA
BURUNDI
SEYCHELLES
PAPUA NEW GUINEA
SOLOMON ISLANDS
GABON
TANZANIA
MALAWI
TUVALU
CONGO REPUBLIC
COMOROS
INDIAN OCEAN
ANGOLA
MOZAMBIQUE
EAST TIMOR
ZAMBIA
VANUATU
FIJI
MADAGASCAR
MAURITIUS
NAMIBIA
BOTSWANA
Tropic of Capricorn
A U S T R A L I A
ZIMBABWE
SWAZILAND
SOUTH AFRICA
LESOTHO
NEW ZEALAND
MAURITANIA
MALI
SENEGAL
NIGER
GAMBIA
GUINEA-BISSAU
BURKINA FASO
GUINEA
BENIN
SIERRA LEONE
ATLANTIC OCEAN
IVORY COAST
GHANA
NIGERIA
LIBERIA
TOGO
0 150 300 Miles
0 150 300 Kilometers
CASPIAN SEA
RUSSIA
BLACK SEA
GEORGIA
AZERBAIJAN
ARMENIA
TURKEY
AZERBAIJAN
IRAN

About the Authors

John L. Allen is professor and chair of the Department of Geography at the University of Wyoming and emeritus professor of geography at the University of Connecticut, where he taught from 1967 to 2000. He received his bachelor's degree in 1963 and his M.A. in 1964 from the University of Wyoming, and in 1969 his Ph.D. from Clark University. His special areas of interest are perceptions of the environment and the impact of human societies on environmental systems. Dr. Allen is the author and editor of many books and articles as well as several other student atlases, including the best-selling *Student Atlas of World Politics.*

Audrey C. Shalinsky is professor and chair of the Department of Anthropology at the University of Wyoming. She has taught there since 1980. She received her bachelor's degree in 1973 from the University of Chicago and her M.A. and Ph.D. from Harvard University in 1975 and 1979 respectively. A sociocultural anthropologist, Dr. Shalinsky has conducted research in Afghanistan and among Afghan refugees in Pakistan. Her areas of special interest are gender, ethnicity, and the anthropology of religion in the Middle East and South Asia. She has also conducted fieldwork in the United States.

Preface

This atlas is designed to accompany three books by Conrad Phillip Kottak—*Anthropology: The Exploration of Human Diversity* (10th ed.), *Cultural Anthropology* (10th ed.), and *Physical Anthropology and Archaeology*—all published by McGraw-Hill (2004). This atlas allows students to explore the geographic and visual dimensions of anthropology. Since anthropology examines and explains human diversity across space and time, students need help to conceptualize the places and time spans discussed in these textbooks. Where in the world do people live today, and where have they lived at various times in the past?

This atlas, which offers important reference maps to help students, is shrink-wrapped with every copy of each Kottak text. The new "Interpret the World" feature, found in every chapter of all three texts, ties the text to material in the atlas. As they "interpret the world," moving from the text to the atlas, students can see, for example, how the size and shape of the human body vary with mean annual temperature, or how the geographic distribution of human skin color is related to ultraviolet radiation from the sun, or where chiefdoms and states were located in A.D. 1500. Besides the "Interpret the World" feature, new end-of-chapter atlas questions also allow students to draw information from maps, and in some cases, compare different maps to see how information in various chapters is related (for example, the relationship between types of economy [Map 16] and types of political systems [Map 17]).

Introduction: How to Read Maps

An atlas is a book containing maps that are models of the real world. The term *model* means a representation of reality that is generalized, usually considerably smaller than the original, and that emphasizes certain features, depending on the purpose of the model. A model of a car does not contain all of the parts of the original, but it may contain enough parts to be recognizable as a car and may be used to study principles of automotive design or maintenance. A car model designed for racing, on the other hand, may contain fewer parts but would have the mobility of a real automobile. Car models come in a wide variety of types and contain almost anything relative to automobiles that doesn't require the presence of a full-size car. Since anthropologists deal with the real world and its people, virtually all of the printed or published studies in the discipline require models. Unlike a mechanic in an automotive shop, anthropologists can't roll study subjects and their natural settings into the shop to take them apart, study them, and put them back together. They must use models to generalize subjects, and one way to do that is to use maps. Some maps are designed to show specific physical geographic phenomena, such as the topography of the world's surface. Others are intended to portray the distribution of human characteristics across the earth's surface–such as the relative rates of population growth for the world's countries or the distribution of religions. Still other maps may be used to show the relationship between the natural environment and human characteristics–for example, a map of the relationship between human height and weight and the geographic distribution of temperature. Each of these types of maps is found in this atlas. Learning to read and interpret them requires that you understand the following things about maps: (1) that they are made using *projections*; (2) that the maps' level of mathematical proportion, *scale*, affects what you see; and (3) that *generalization* techniques, such as symbols and simplifications, are used where it would be impossible to draw a small version of the real-world feature the map portrays.

MAP PROJECTIONS

Perhaps the most basic problem in *cartography*, or the art and science of mapmaking, is that

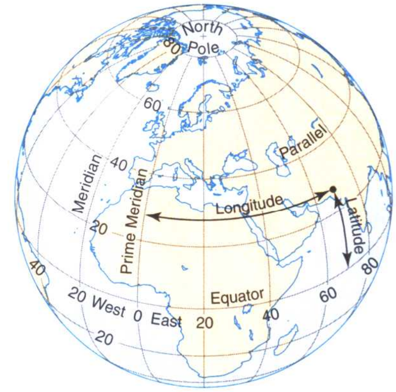


Figure 1 The Coordinate System

the subjects of maps–the earth's surface–is what is called by mathematicians "a non-developable surface." Since the world is an approximate sphere (it's actually slightly flattened at the poles and bulges slightly at the equator), it is impossible to flatten out the world or any part of its curved surface without producing some kind of distortion. This "approximate sphere" is represented by a geographic grid, or coordinate system, of latitude lines or *parallels*, that run east and west and measure the north and south distance on the globe and longitude lines, or *meridians*, that run north and south and measure the east and west distance (Figure 1). All the longitude lines are half circles of equal length and converge at the poles. All latitude lines are complete circles that parallel one another and are spaced equidistant on the meridians. The circumference of these circles lessens as you move from the equator. In the real world, all these latitude and longitude grid lines intersect at right angles. The problem for cartographers is to convert this spherical or curved grid into a flat plane. The solution to this problem is the *map projection*–a geometric or mathematical conversion process that translates the sphere to a flat surface. It is important to remember that all projections distort the geographic grid and continental outlines in characteristic ways. The only representation of the world that does not distort either shape or area is a globe. So you can see why we must use projections. Can you imagine carrying an atlas made up entirely of globes back and forth across campus?

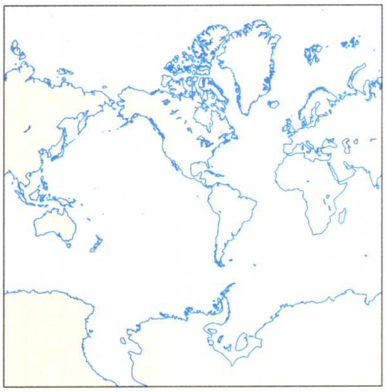


Figure 2 The Mercator Projection

It is also important to remember that different projections have been designed for different purposes. The map in Figure 2 is a Mercator projection, named after the famous Dutch cartographer Gerhardus Mercator, who designed the projection in 1567 as a navigation aid. Mercator's projection is unique because all straight lines on the map are lines of constant compass direction in the real world. To lay out a course across the ocean, a navigator could simply draw a straight line between a European port city and one in North America and then keep his ship on course by sailing along the line of constant compass direction. Unfortunately, Mercator's projection, still useful for navigational purposes four and a half centuries after its invention, has been used inappropriately to illustrate things it was never intended to illustrate. The Mercator projection has a tidy rectangular grid that fits the way Europeans and Americans tend to think about space or area. But as the map in Figure 2 shows, it is distorted. It inaccurately shows regions in the higher latitudes (closer to the poles) as larger and mid-latitude and lower-latitude regions as smaller. The projection has often been used incorrectly to show, for example, the countries of the world. So Greenland appears to be larger on the map than South America, when it is actually less than one-seventh the size! This has left generations of school children confused about the real sizes of the countries and many other areal discrepancies.

To make a map that shows regions more accurately in relation to their actual area on the earth's surface, projection techniques other than those used by Mercator need to be used. Unfortunately, many of these projections distort the shapes of countries so badly that the maps end up being funny looking. An example of this kind of map is the recently-developed Peters projection shown in Figure 3. The

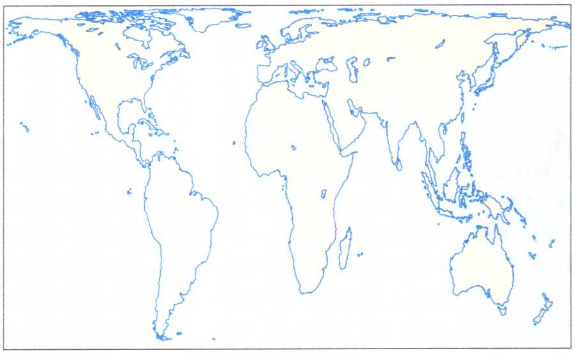


Figure 3 The Peters Projection

areas on this map are proportionately correct, but the shapes of the continents are distorted.

Often the solution to the problem of true shape versus true area is resolved by using a compromise projection that shows neither shape nor area in true proportion but gives such a close approximation of each that the world "looks right" and, in fact, the visual impression is much closer to reality. These maps, such as the Robinson projection shown in Figure 4, are often the choice for atlases like this one. But even this projection can present views of the world that may be biased or culturally inappropriate. The Robinson projection in Figure 4 is centered on the Greenwich Prime Meridian, which is the longitude line that runs through the observatory in Greenwich, England. This works nicely for a map intended to show the continental areas of the world. But suppose the primary purpose of the map was to show the Pacific Ocean basin. The map in Figure 4 shows the Pacific is split into eastern and western portions. What would the map look like if the projection were centered in the middle of the Pacific Ocean instead? For an answer, see the map in Figure 5. See how changing the central point of the projections changes your view of the world? The conventional mapping system for global maps is to use the Greenwich Prime Meridian as

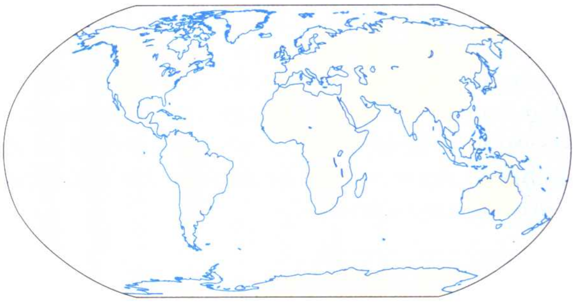


Figure 4 The Robinson Projection

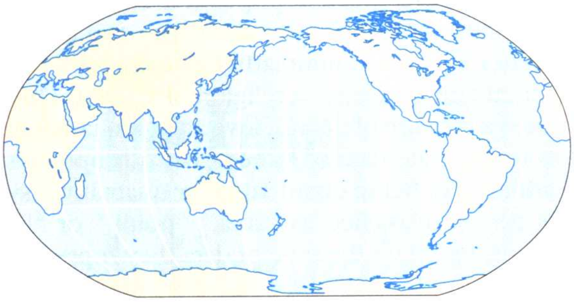


Figure 5 The Robinson Projection centered on 180 degrees

Figure 6 Small-Scale Map of the United States

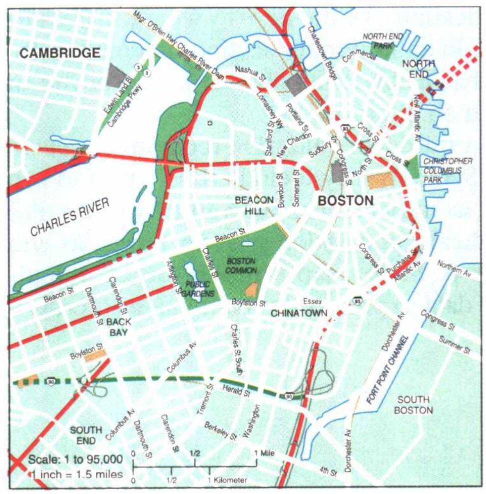


Figure 7 Large-Scale Map of Boston, MA

the center of the map. This allows all continents to be shown without the splitting that would occur if, for example, the central meridian of the map ran through the center of North America. Where a map's central meridian occurs is often a matter of cultural perspective and historical convention. Since so many of our world maps were first drawn in Europe, it was natural that those maps were "Eurocentric." Chinese maps tended to be drawn with China in the center for the same reasons. Most people tend to see their own regions as the most important and, therefore, "central" to maps.

MAP SCALE AND GENERALIZATION

Learning about different projections and how they can distort our worldview is not the only task that students who are interested in understanding how to use an atlas face. They also must understand something about the factor of scale. Since maps are models of the real world, it follows that they are not the same size as the real world or any portion of it. Every map, then, is subject to generalization, which is another way of saying that maps are drawn to certain scales. The only map that would not generalize or simplify would be a map at a scale of 1:1. The term *scale* refers to the mathematical quality of proportional representation, and is expressed as a ratio between an area of the real world or the distance between places on the real world and the same area or distance on the map. You can see why a map at a scale of 1:1 wouldn't be very handy to use since it would be as large as the world itself! The most important thing to keep in mind about scale, and the reason why knowing the map scale is important to reading a map correctly, is the relationship between proportional representation and generalization. A map that fills a page but shows the whole country is much more highly generalized, or *simpler*, than a map that fills a page but shows a single city. On a map of the United States (Figure 6), a city appears as a dot. On a city map (Figure 7), streets and other features may be clearly seen. When a cartographer simplifies map data, information that is not important for the purposes of the map is just left off. It is important for you to understand that this process of generalization is a subjective one. Depending on the purpose of the map, cartographers will emphasize or deemphasize different features. Often these decisions are made on the basis of cultural or other biases that lend a degree of subjectivity to the map.

Another type of generalization is *classification*. To convey an overall picture of related information, cartographers often group data together in categories. For example, a thematic map showing population growth rates (Figure 8) will use different colors to show groups of growth rates in different classifica-

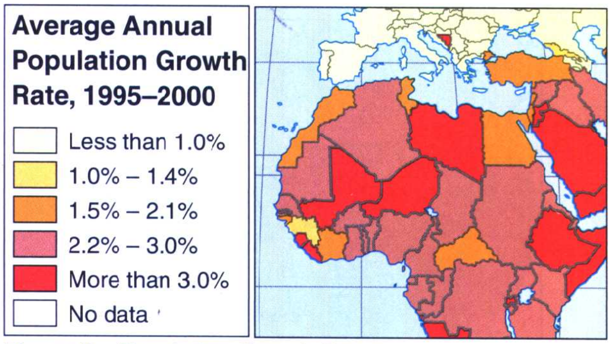


Figure 8 Population Growth Rates

tions. Cartographers could never show every single growth rate of every population on one map. Classification is necessary because it is impossible to find enough symbols or colors to represent precise values. Instead, ranges of related information are grouped together. Cartographers show the values of classifications, or the keys to what the classifications mean, in an important section of a map called a legend that make it possible to interpret the patterns shown on the map.

A third generalization technique is *symbolization*. Symbols may include those used to represent cities, as shown in Figures 6 and 7, or the colors used to indicate population growth levels, as shown in Figure 8. Some map symbols are quantitative and show data expressed in mathematical terms such as the rate or percentage of population growth. Other map symbols are qualitative and show data that may be better expressed nonmathematically such as the predominant language or religion of an area. This atlas uses a mixture of quantitative and qualitative symbols to illustrate data of interest to anthropologists. In addition to being quantitative or qualitative, symbols can be classified as "area," "point," or "line" symbols, based on the type of data they represent, a color pattern that shows the rate of population growth for a country is a good example of an area symbol since it covers a certain portion of the earth's surface. Point symbols, such as those used to show the locations of important archaeological sites, show specific locations rather than broad areas, and line symbols showing, for example, the migration of people, plants, and animals, are used to illustrate movement or flow between different points or areas. However they are defined, all symbols are intended to do the same thing: generalize a wide range of very complex data into a form that is readable on a map.

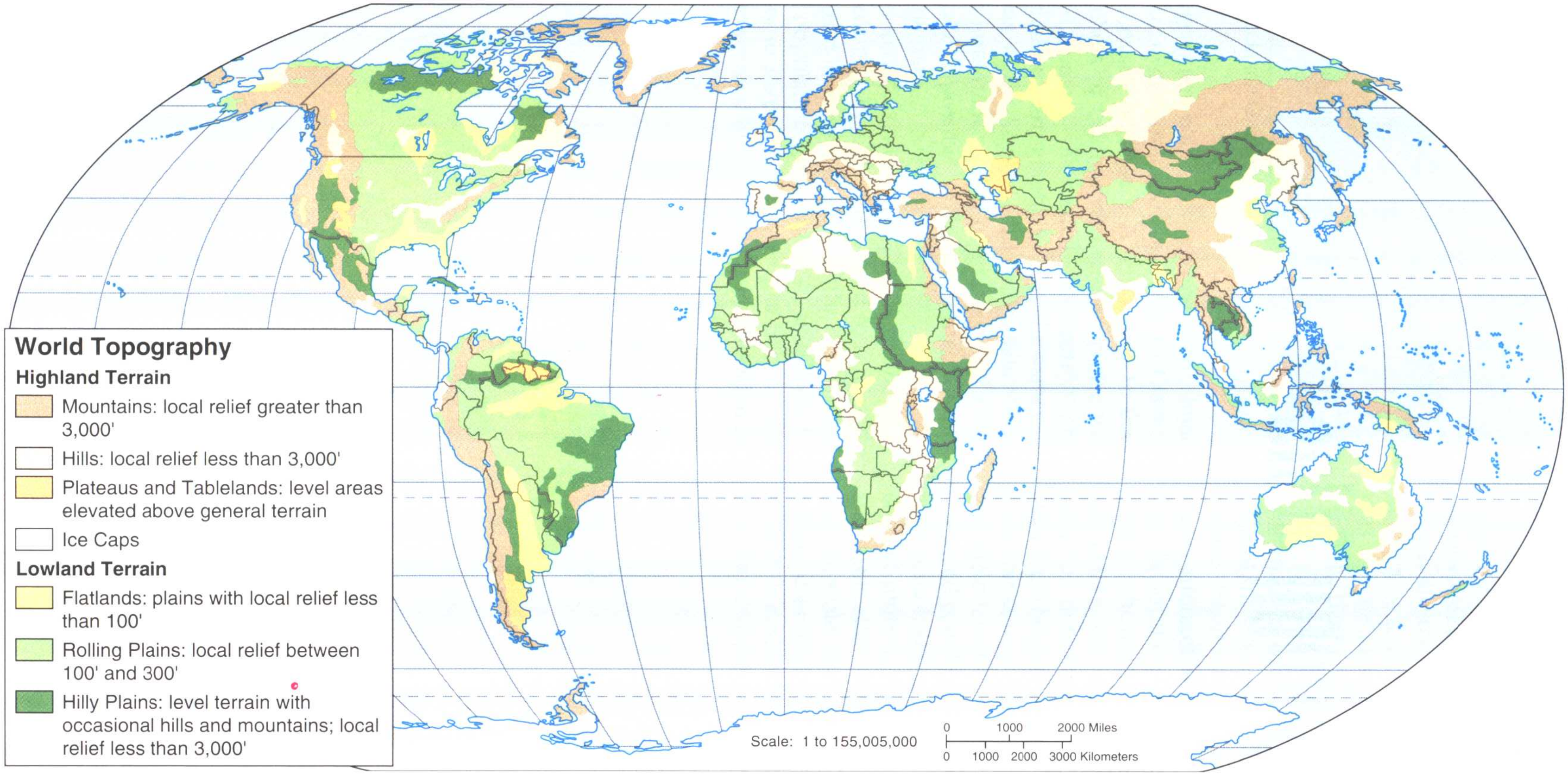
And you thought all you had to do to read an atlas was look at the maps! Now you've learned that it is a bit more involved than that. As you read and study this atlas, keep in mind the principles of projection, scale, and generalization (including simplification, classification, and symbolization) and you'll do just fine. Good luck and enjoy your study of the world of maps as well as maps of the world!

Contents

The Kottak

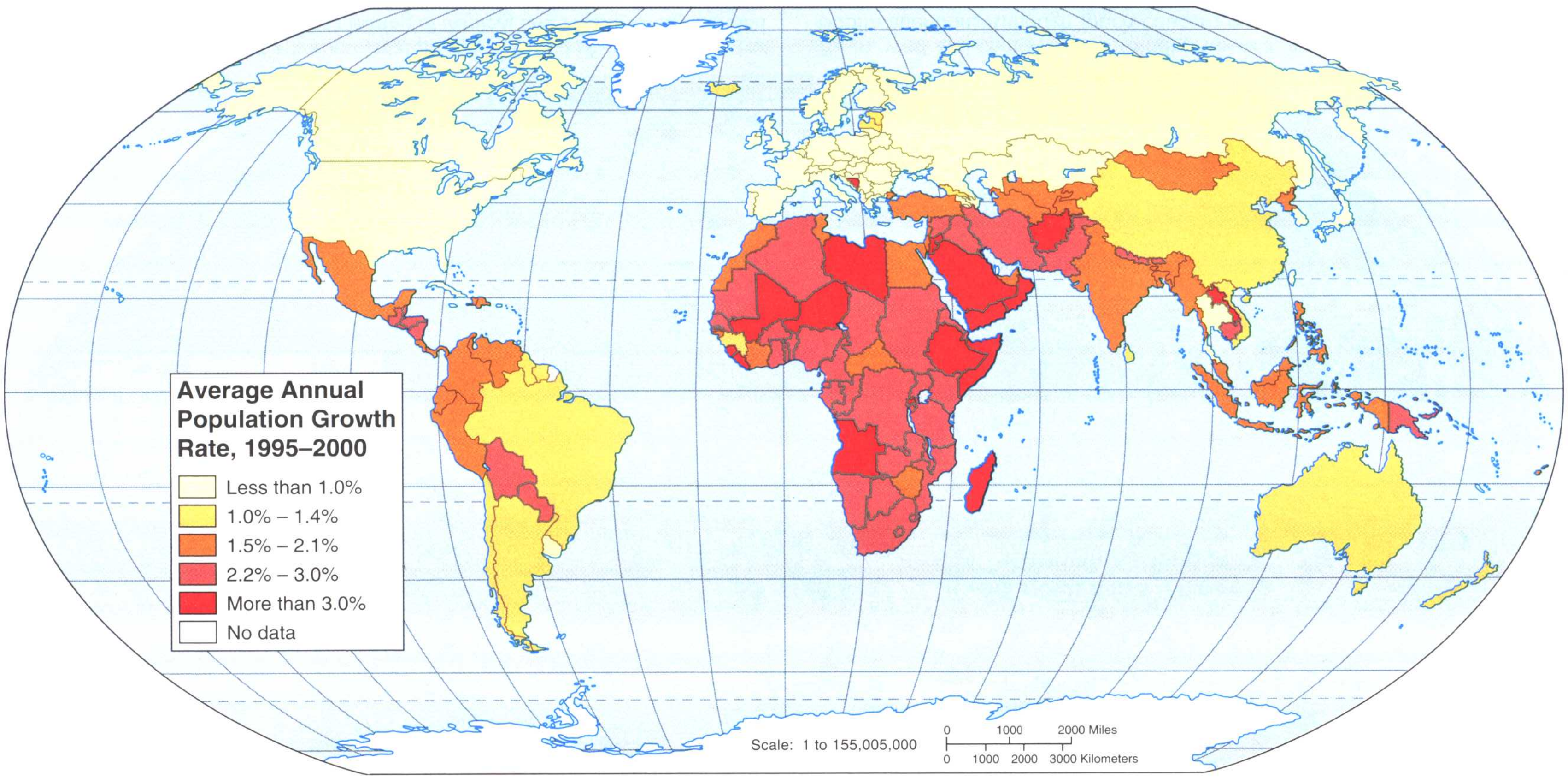
Anthropology Atlas

Map 1 World Topograghy



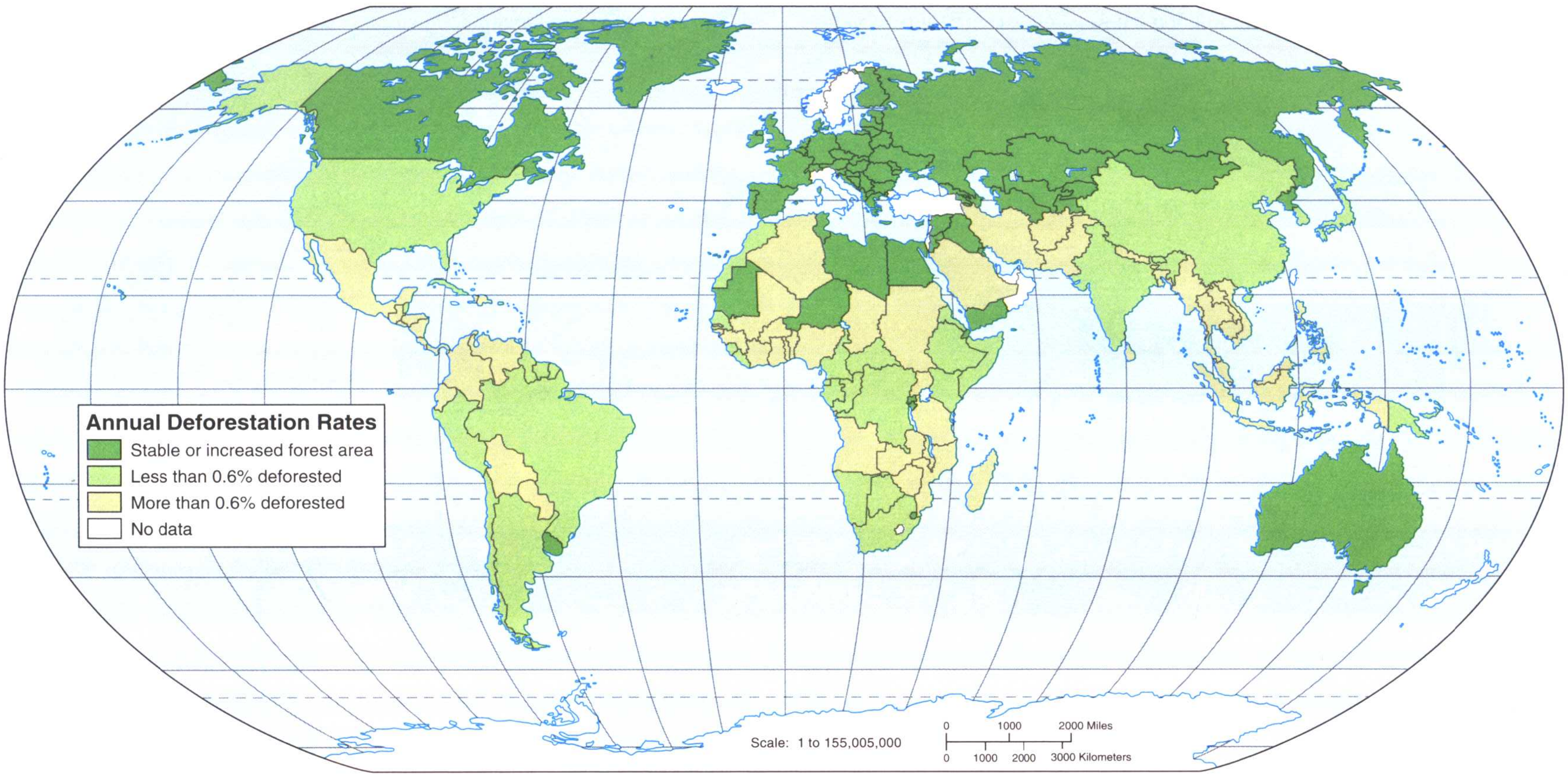
Topography or terrain, also called "landforms," is second only to climate as a conditioner of human activity, particularly agriculture but also the location of cities and industry. A comparison of this map of mountains, valleys, plains, plateaus, and other features of the earth's surface with a map of land use shows that most of the world's productive agricultural zones are located in lowland and relatively level regions. Where large regions of agricultural productivity are found, we also tend to find urban concentrations and, with cities, we find industry. There is also a good spatial correlation between the map of topography and a map showing the distribution and density of the human population. Normally the world's major landforms are the result of extremely gradual primary geologic activity such as the long-term movement of crustal plates. This activity occurs over hundreds of millions of years. Also important is the more rapid (but still slow by human standards) geomorphological or erosional activity of water, wind, glacial ice, and waves, tides, and currents. Some landforms may be produced by abrupt or "cataclysmic" events such as a major volcanic eruption or a meteor strike, but such events are relatively rare and their effects are usually too minor to show up on a map of this scale. The study of the processes that shape topography is known as "geomorphology" and is an important branch of physical geography.

Map 2 Population Growth Rates



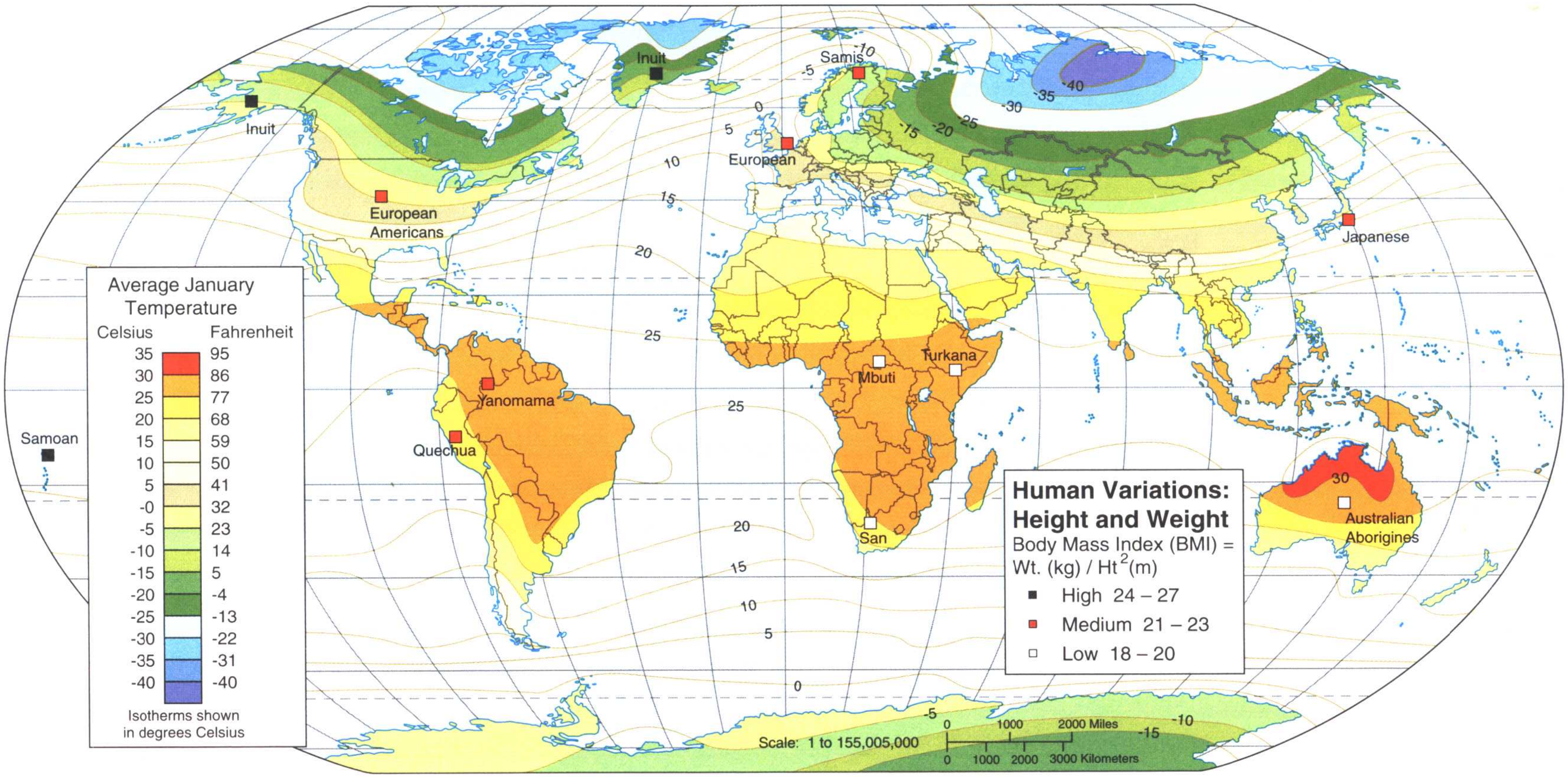
Of all the statistical measurements of human population, that of the rate of population growth is the most important. The growth rate of a population is a combination of natural change (births and deaths), in-migration, and out-migration; it is obtained by adding the number of births to the number of immigrants during a year and subtracting from that total the sum of deaths and emigrants for the same year. For a specific country, this figure will determine many things about the country's future ability to feed, house, educate, and provide medical services to its citizens. Some of the countries with the largest populations (such as India) also have high growth rates. Since these countries tend to be in developing regions, the combination of high population and high growth rates poses special problems for continuing economic development and carries heightened risks of environmental degradation. Many people believe that the rapidly expanding world population is a potential crisis that may cause environmental and human disaster by the middle of the twenty-first century.

Map 3 Annual Changes in Forest Cover, 1990–1995



One of the most discussed environmental problems is that of deforestation. For most people, deforestation means clearing of tropical rain forests for agricultural purposes. Yet nearly as much forest land per year—much of it in North America, Europe, and Russia—is impacted by commercial lumbering as is cleared by tropical farmers and ranchers. Even in the tropics, much of the forest clearance is undertaken by large corporations producing high-value tropical hardwoods for the global market in furniture, ornaments, and other fine wood products. Still, it is the agriculturally driven clearing of the great rain forests of the Amazon Basin, west and central Africa, Middle America, and Southeast Asia that draws public attention. Although much concern over forest clearance focuses on the relationship between forest clearance and the reduction in the capacity of the world's vegetation system to absorb carbon dioxide (and thus delay global warming), of just as great concern are issues having to do with the loss of biodiversity (large numbers of plants and animals), the near-total destruction of soil systems, and disruptions in water supply that accompany clearing.

Map 4 Human Variations: Height and Weight



Body Mass Index (BMI), a ratio of height to weight, is determined by a mathematical formula. Most humans have a BMI between 18 and 30. Human groups adapt to their environments biologically and culturally, but biological adaptation is a much slower process. When human groups have been in the same environment for thousands of years, their bodies have adapted biologically to conserve heat or promote cooling.

Map 5 Major Primate Groups

Primates are a zoological order ranging from lemurs to monkeys to apes to humans. With the exception of humans, today primates are found mostly in tropical areas. They used to have a wider distribution, as indicated by places where fossils of ancestral forms have been found.