

CHAPTER ONE

Geography: An Exploration of Connections



I. INTRODUCTION

▶ Where is it? Why is it there?

- These familiar questions are central to geography
- Geographers study:
 - ▶ Location
 - ▶ Spatial relationships
 - ▶ Connections between environment and people

Geography is Interdisciplinary

Anton Gosar, a Slovene geographer, shown here in Switzerland, studies the role of tourism in European economies.



John Agnew studies the urbanization and political culture of Italy. Here he examines a newspaper outside a well-known anarchist bookshop in Carrara, Italy.



Carol Harden studies watershed processes in Ecuador. She is interested in how and to what extent human activities and different soil types affect the movement of water and sediment in the Andes.



Mara Goldman is a political ecologist. Her research explores Masai understanding of wildlife ecology and relationships between the Masai, their livestock, and nature.



Robert Kuhlken studies the ecological and cultural contexts of agricultural terraces in Oceania. On Fiji, the tropical tuber taro (shown here) is grown intensively on such terraces.

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A. What Is Geography?

- ▶ Geography: study of our planet's surface and the processes that shape it
 - Links physical sciences with social sciences
- ▶ Geographic questions:
 - How and why did people come to occupy a particular place?
 - How do they assess the physical aspects of that place and then modify them to suit their particular needs?
 - How do people create environmental problems by the way they use a place?
 - How do people interact with other places?

A. What Is Geography?

▶ Physical geography

- Study of physical processes shaping the earth's surface, and how people impact those processes

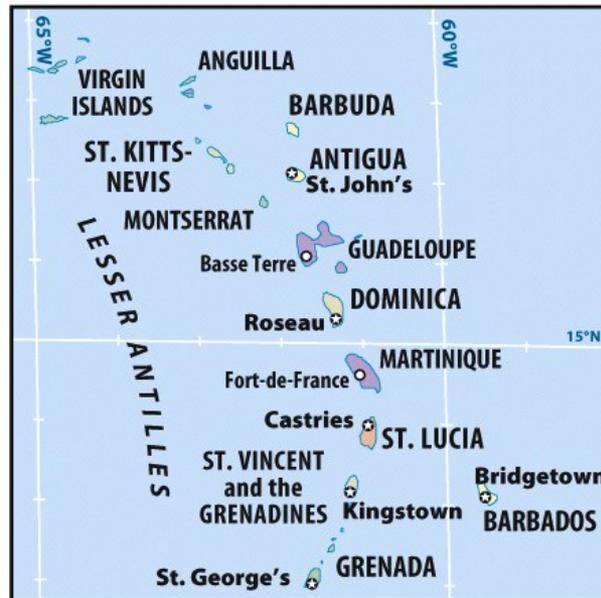
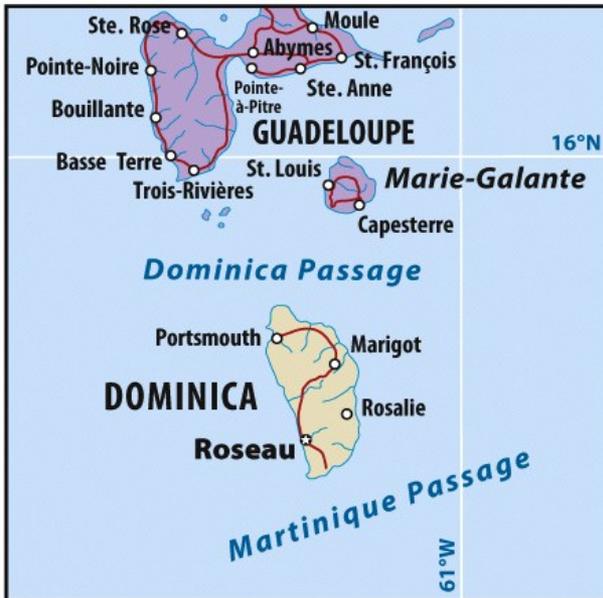
▶ Human geography

- Study of various aspects of human life that create distinctive landscapes and regions

B. Geographers' Visual Tools

- ▶ Cartography: the skill/art of depicting geographic information
 - Scale: Relationship between distance on map and actual distance on earth
 - Title: Subject of map
 - Caption: Features the cartographer wants you to notice
 - Legend: Explanation of symbols and colors

Scale



(a) A map of Guadeloupe and Dominica, in the eastern Caribbean, at a scale of 1:3,000,000. This scale makes it possible to show towns, a few roads, and a few landforms, but not much else.

(b) The same area at a scale of 1:15,000,000. You can see much more of the eastern Caribbean, but the only detail that can be shown is the shape of the islands and the locations of some capital cities.

(c) The map at a scale of 1:45,000,000. It shows most of the Caribbean Sea and its general location between Central and South America, but now the eastern Caribbean islands are too small to identify clearly.

B. Geographers' Visual Tools

- ▶ Grid system: created to describe location
 - Measured in degrees, minutes, seconds
 - Latitude
 - ▶ Also known as parallels
 - ▶ Measure north and south of equator
 - Longitude
 - ▶ Also known as meridians
 - ▶ Measure east and west of Prime Meridian

Latitude and Longitude

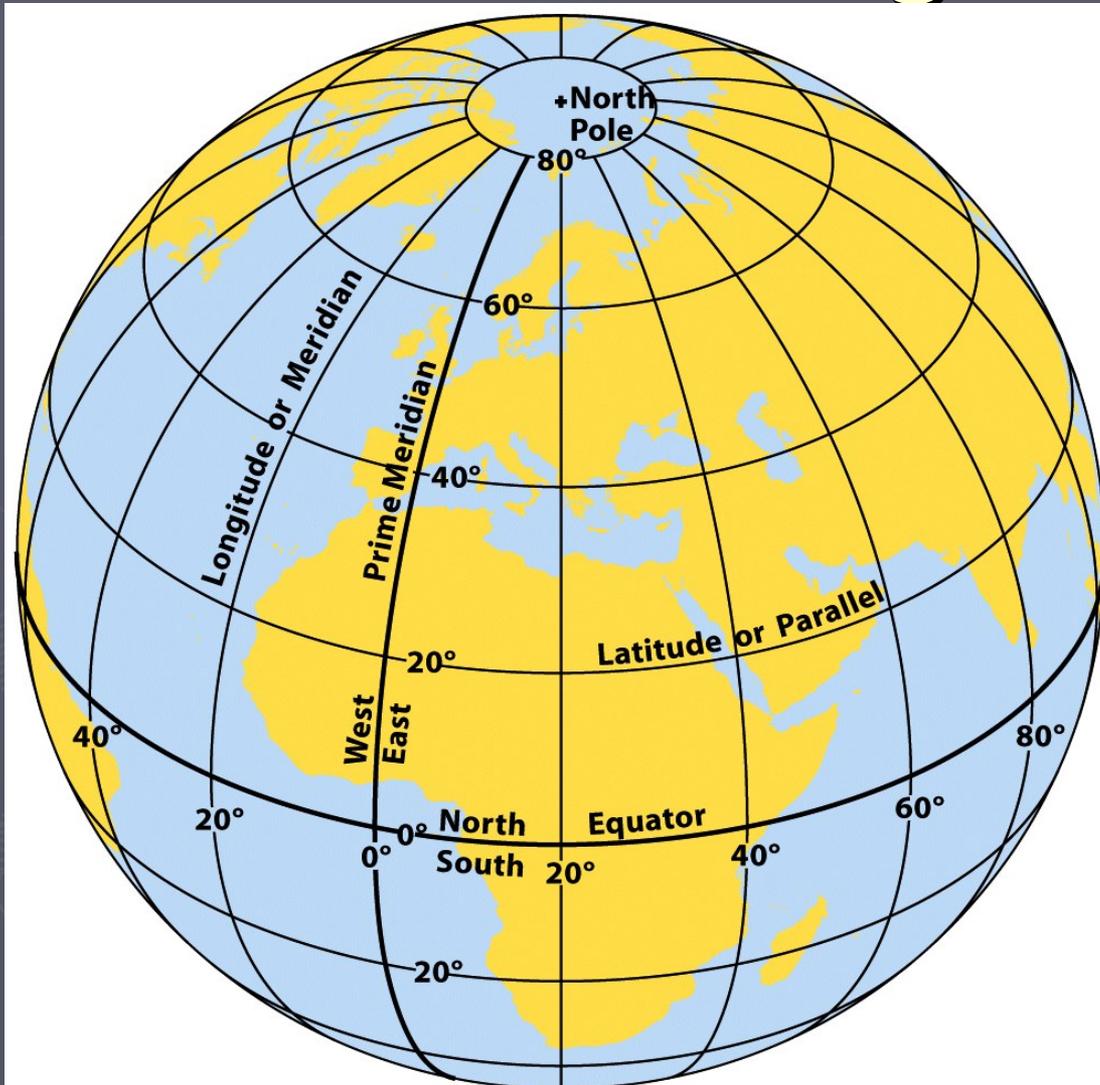


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B. Geographers' Visual Tools

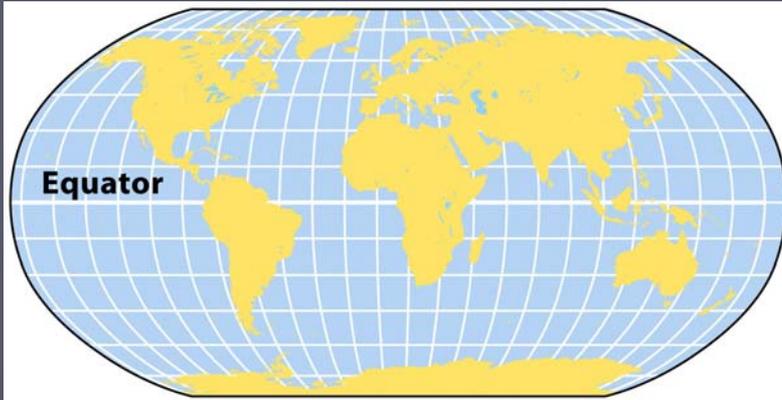
▶ Map Projections

- Render spherical earth on flat surface
- Always distorted

▶ Sample projections

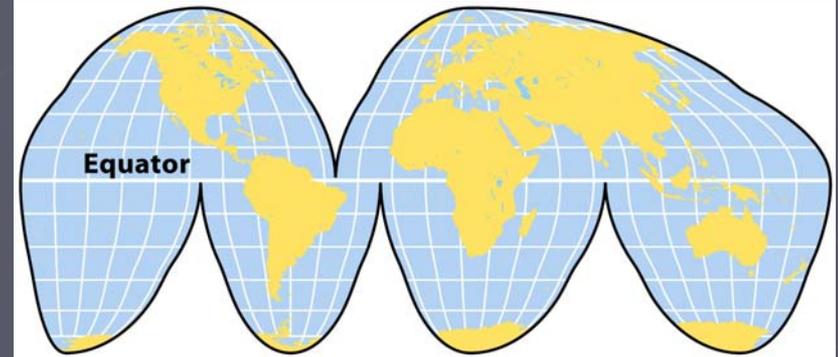
- Mercator
- Goode's interrupted homolosine
- Robinson

Map Projections



Robinson Projection

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Goode's Interrupted Homolosine Projection

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Mercator Projection

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C. The Region as a Concept

▶ Region

- Unit of the earth's surface
- Contains distinct patterns of physical features or human activities

▶ Determining regions is difficult

- Rarely determined systematically
- Important for dividing world into understandable fragments

D. Globalization and Interregional Linkages

- ▶ Distant regions may have interdependent relationships
 - Not previously possible
 - Intensified since beginning of European colonialism
- ▶ Spurred by improved transportation technology and telecommunications
- ▶ Remittances: Wages sent to family back home by immigrant labor

D. Globalization and Interregional Linkages

- ▶ Globalization: Increased flows and linkages between regions
- ▶ Trends:
 - Increased distance between producers and consumers
 - Diffusion of governance
 - Increased migration of populations
 - Increased global competition for investment, jobs

Interregional Linkages

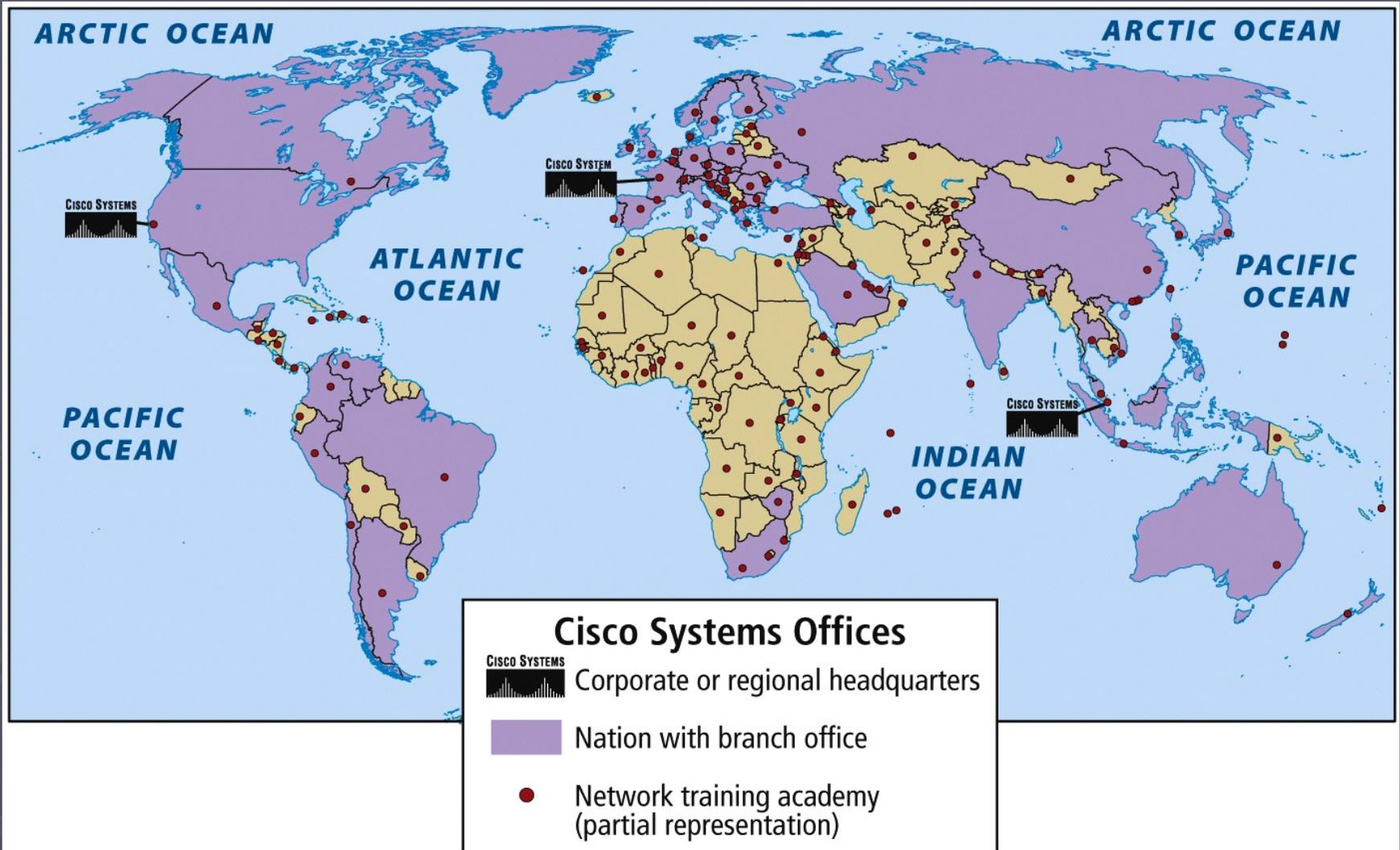


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II. CULTURAL/SOCIAL GEOGRAPHIC ISSUES

- ▶ Culture: Everything we do that is not biological
 - Ideas, materials, and institutions that people have invented and passed on
 - Includes, among others:
 - ▶ Language
 - ▶ Music
 - ▶ Gender roles
 - ▶ Family structure
 - ▶ Technologies

A. Ethnicity and Culture

- ▶ Ethnic groups: share a set of beliefs, a way of life, a technology, and usually a common ancestry and a place
 - Culture group: often used interchangeably
- ▶ Both terms dangerous
 - Can lead to oversimplification and stereotyping

B. Globalization and Culture Change

- ▶ Cultural homogeneity
 - A perceived lack of diversity
 - Seen as resulting from globalization
- ▶ Cultural identity
 - Sense of distinctiveness
 - Revived by ease of telecommunication, transportation
- ▶ Multiculturalism
 - The state of relating to, reflecting, or being adapted to several cultures

C. Cultural Markers

► Values

- Cultures establish, preserve, and pass on a set of values
- Particular behavior may be admired according to one set of values and considered questionable when judged by another set of values

C. Cultural Markers

► Religion and Belief Systems

- Often reflected in the landscape through symbols, settlement patterns, or rivalries

► Language

- Reflects human diffusion and isolation
- A few languages have come to dominate, while others have become extinct
- Dialect: regional variation in grammar, pronunciation, vocabulary
- Lingua Franca: Language of trade

Major Religions

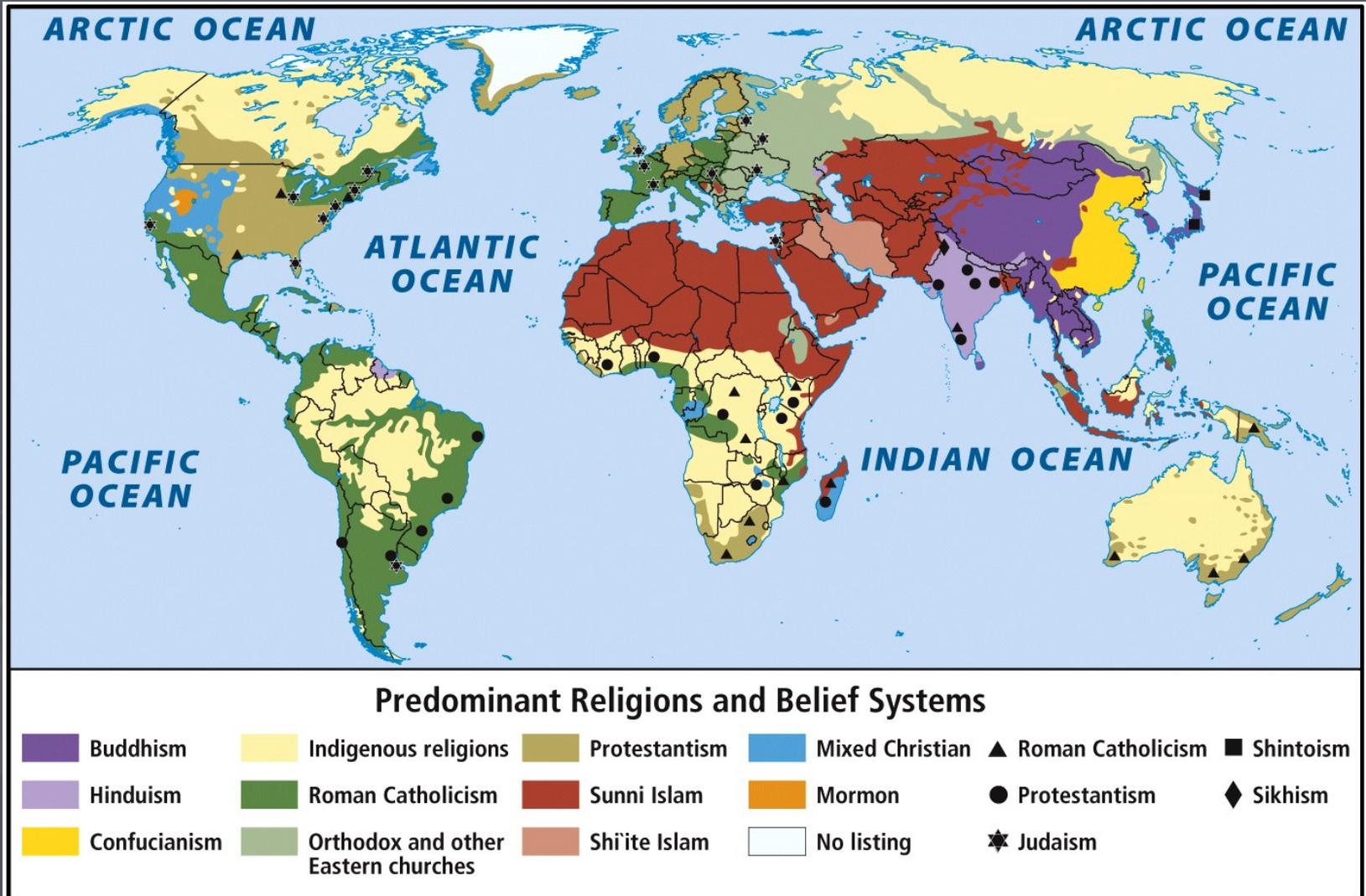


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C. Cultural Markers

▶ Material Culture and Technology

- Material Culture: Tangible items that members of a culture group produce or use
- Technology: integrated system of knowledge, skills, tools, and methods

▶ Example:

- Housing

Material Culture



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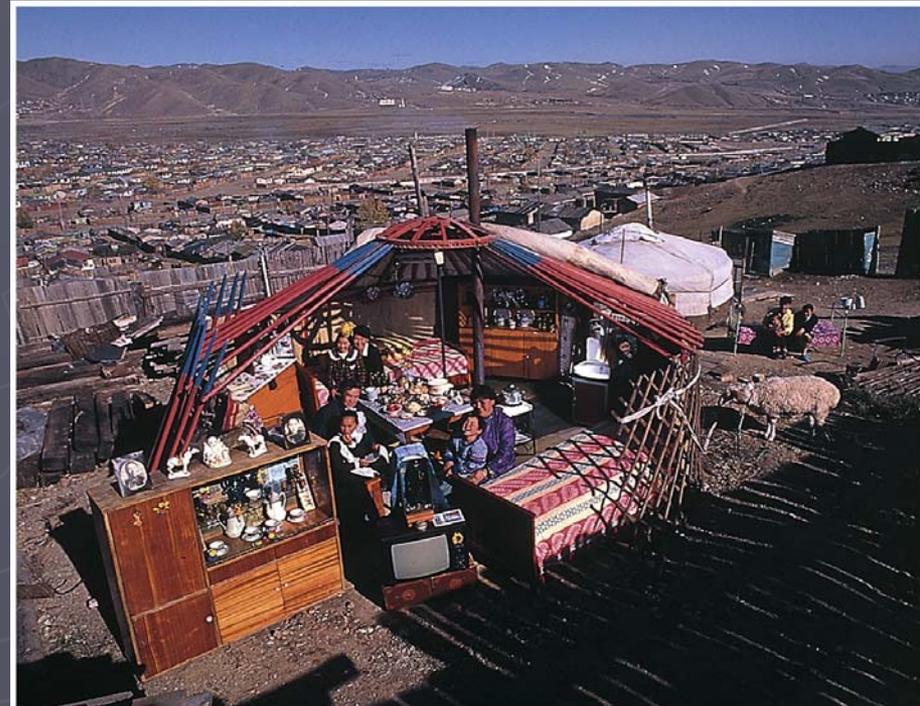


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Peter Menzel/Material World (left). Leong Ka Tai and Peter Menzel/ Material World (right),

D. Gender Issues

- ▶ Activities assigned to men and women differ among cultures and across time
 - However, women often defined as inferior to men, thus less access to wealth and power
- ▶ Gender: Sexual categorization; both biological and cultural
 - Biological: Reproductive roles, physical characteristics
 - Cultural: Meanings of "masculine" and "feminine"

Where are Women More Educated?

TABLE 1.1 Comparisons of male and female income in countries where average education levels are higher for females than for males

Country	Female income (PPP ^a U.S.\$, 2003)	Male income (PPP U.S.\$, 2003)	Female income as percent of male income
Austria	15,878	45,174	35
Barbados	11,976	19,687	61
Canada	23,922	37,572	64
Japan	17,795	38,612	46
Jordan	2,004	6,491	31
Kuwait	8,448	24,204	35
Poland	8,769	14,147	62
Russia	7,302	11,429	62
Saudi Arabia	4,440	20,717	21
Sweden	21,842	31,722	69
United Kingdom	20,790	33,713	62
United States	29,017	46,456	62

^aPPP, purchasing power parity, is the amount that the local currency equivalent of U.S.\$1 will purchase in a given country.

Source: *United Nations Human Development Report 2005* (New York: United Nations Development Programme), Table 25, "Gender-related development index," pp. 299–302, and Table 27, "Gender inequality in education," pp. 307–310.

E. Race

- ▶ Old idea: races were significantly different biologically
- ▶ New idea: very little biological difference between "races"
 - Race is a socially produced category
- ▶ Racism: the negative assessment of people of other racial categories
 - Leads to conflict, oppression

III. PHYSICAL GEOGRAPHY

- ▶ Physical geography
 - Created by long-term geological processes
- ▶ Internal processes
 - Forces that move the earth's crust
- ▶ External processes
 - Related to surface activities, such as erosion

A. Landforms

▶ Plate Tectonics

- Pangaea: all the continents were once joined in a single vast continent (Wegener, 1912)
- Earth's surface: composed of plates, drifting on magma
 - ▶ Volcanoes: one plate slipping under another (subduction)
 - ▶ Earthquakes: caused by plates rubbing against each other

Tectonic Plate Theory

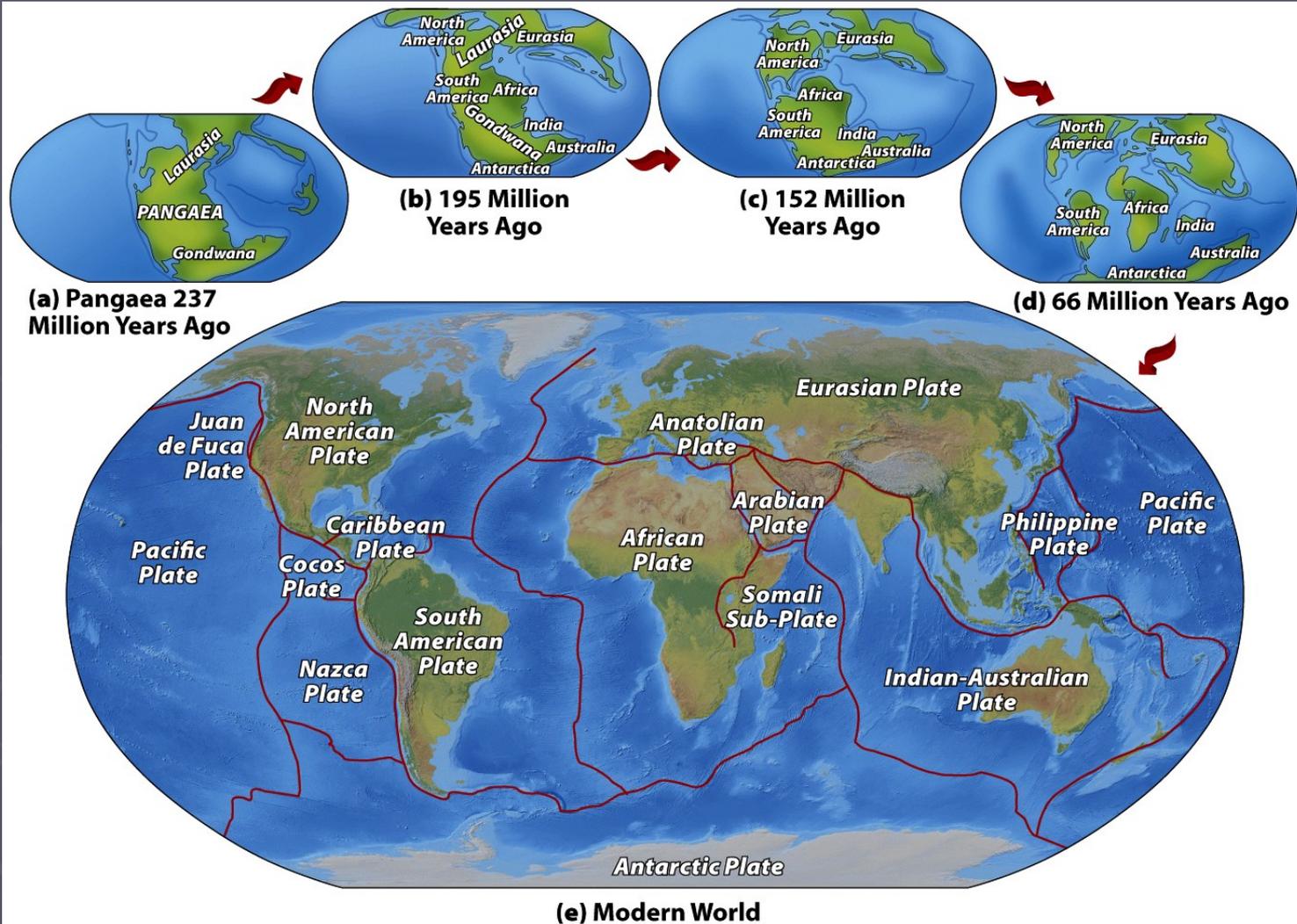


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A. Landforms

► Landscape Processes

- Weathering: decomposition of rocks resulting from wind, rain, etc.
- Erosion: Wind and water move rock particles
- Deposition: Rock particles left behind after flooding, storms, etc.
- Floodplain: Area filled in by deposition
- Delta: Site where floodplains meet seas

A. Landforms

▶ Human impact

- Agriculture and forestry: expose earth's surface to weathering and erosion, expanding floodplains and deltas
- Urbanization: decreases ground absorption, leads to flooding

▶ Degree of impact linked to level of technology

B. Climate

- ▶ Climate: long-term balance of temperature and precipitation (changes slowly)
- ▶ Weather: short-term expression of climate (changes often)

B. Climate

- ▶ Temperature and Air Pressure
 - Warm temperatures linked to low air pressures
 - Cool temperatures linked to high air pressures
- ▶ Land heats up and cools off faster than the sea
- ▶ Wind: created by wind going from places with high pressure to places with low pressure

B. Climate

▶ Precipitation

- Warm air holds more moisture than cool air
- Monsoons: seasonal movement of tropical, moisture-laden air over non-tropical land
- Orographic effect: moist air blown over coastal mountain ranges
 - ▶ When moist air is pushed up to a higher altitude, lower temperature forms clouds and precipitation
 - ▶ Rain shadow: desert found on other side of mountain range

Precipitation

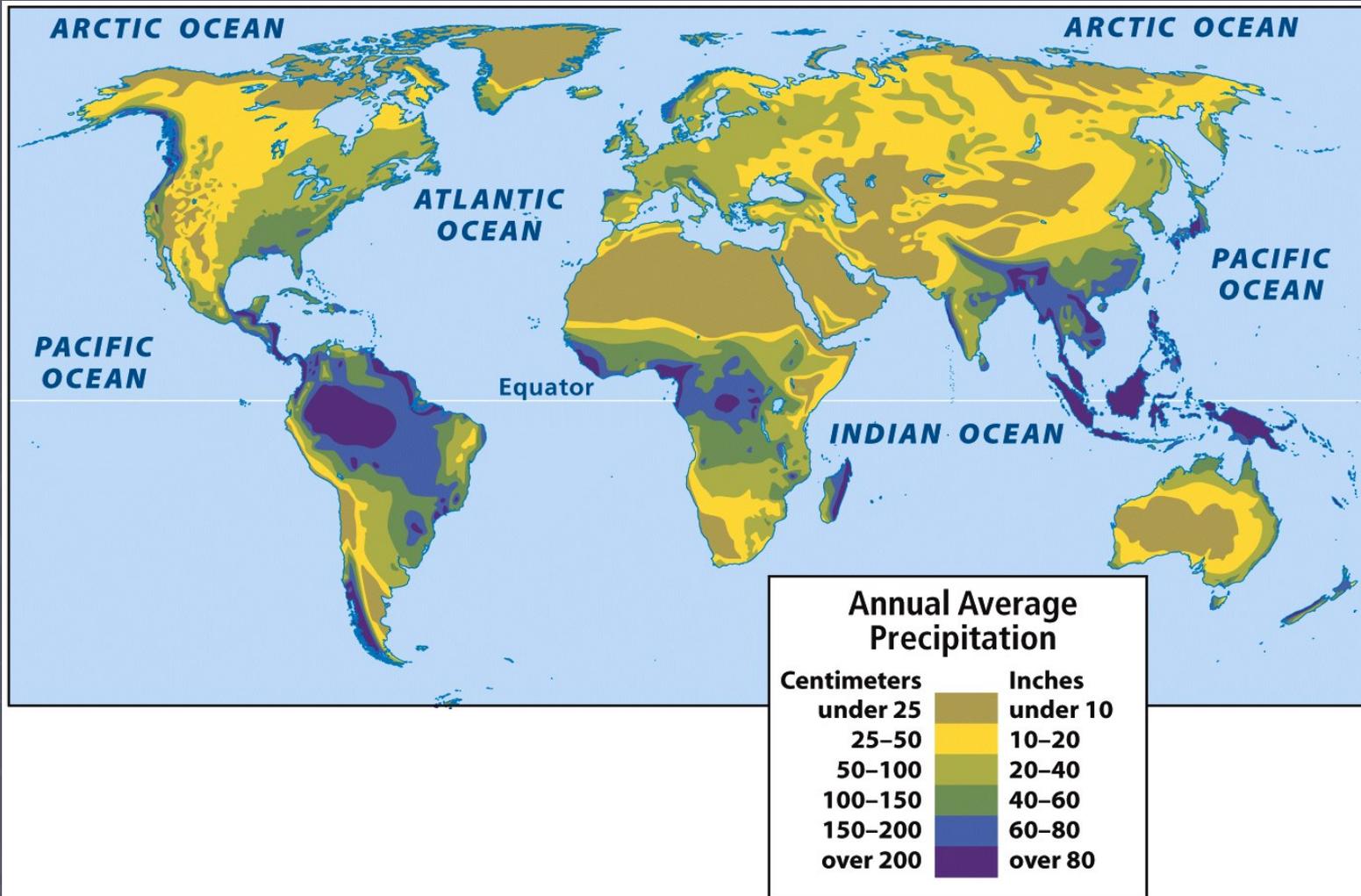


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Precipitation

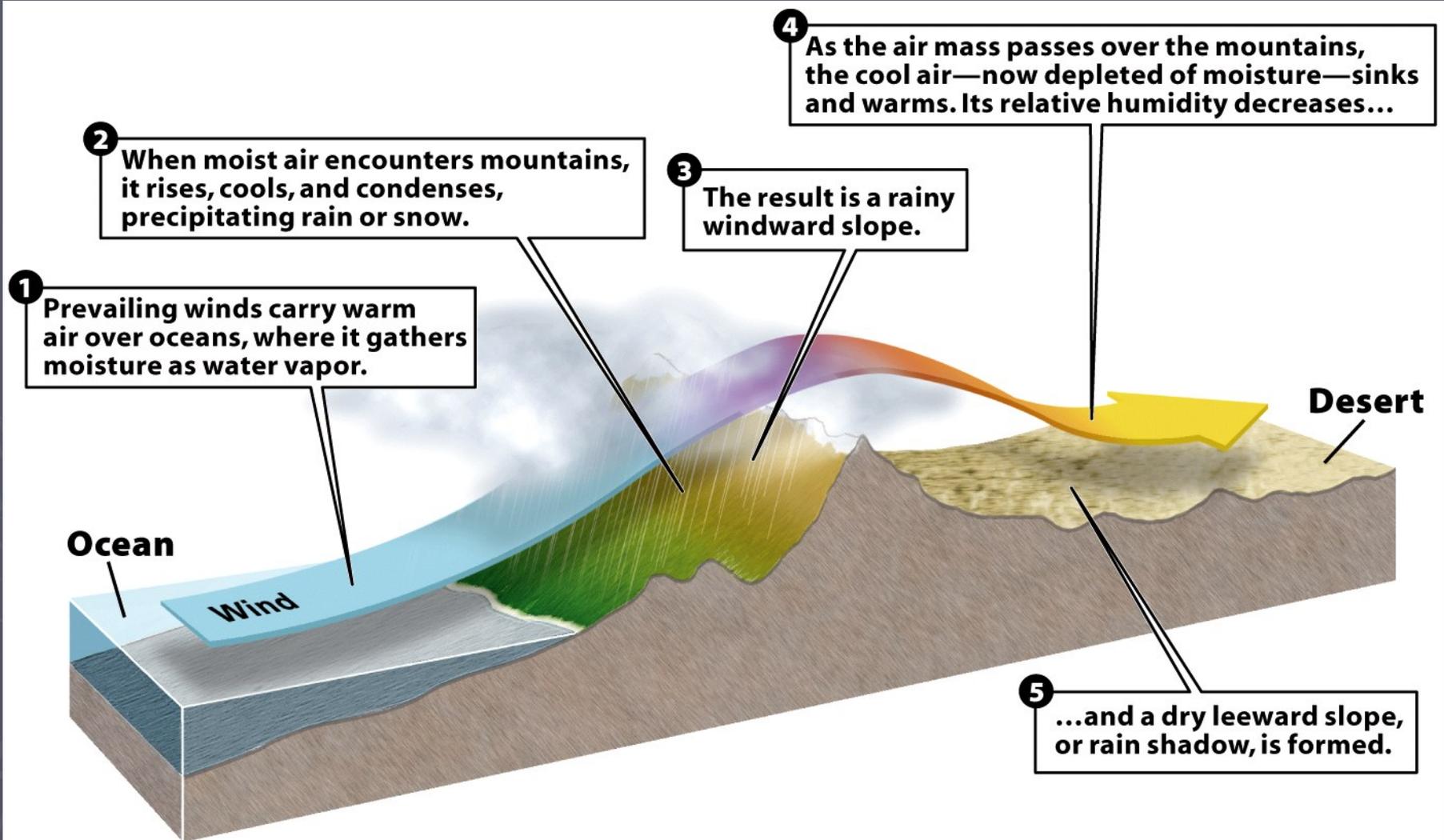


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B. Climate

▶ Frontal precipitation

- Rain/snow caused by interaction of large air masses of different temperatures

▶ Climate Regions

- Climate regions are classified according to temperature and precipitation
- Köppen system is used in this textbook

Climate Regions

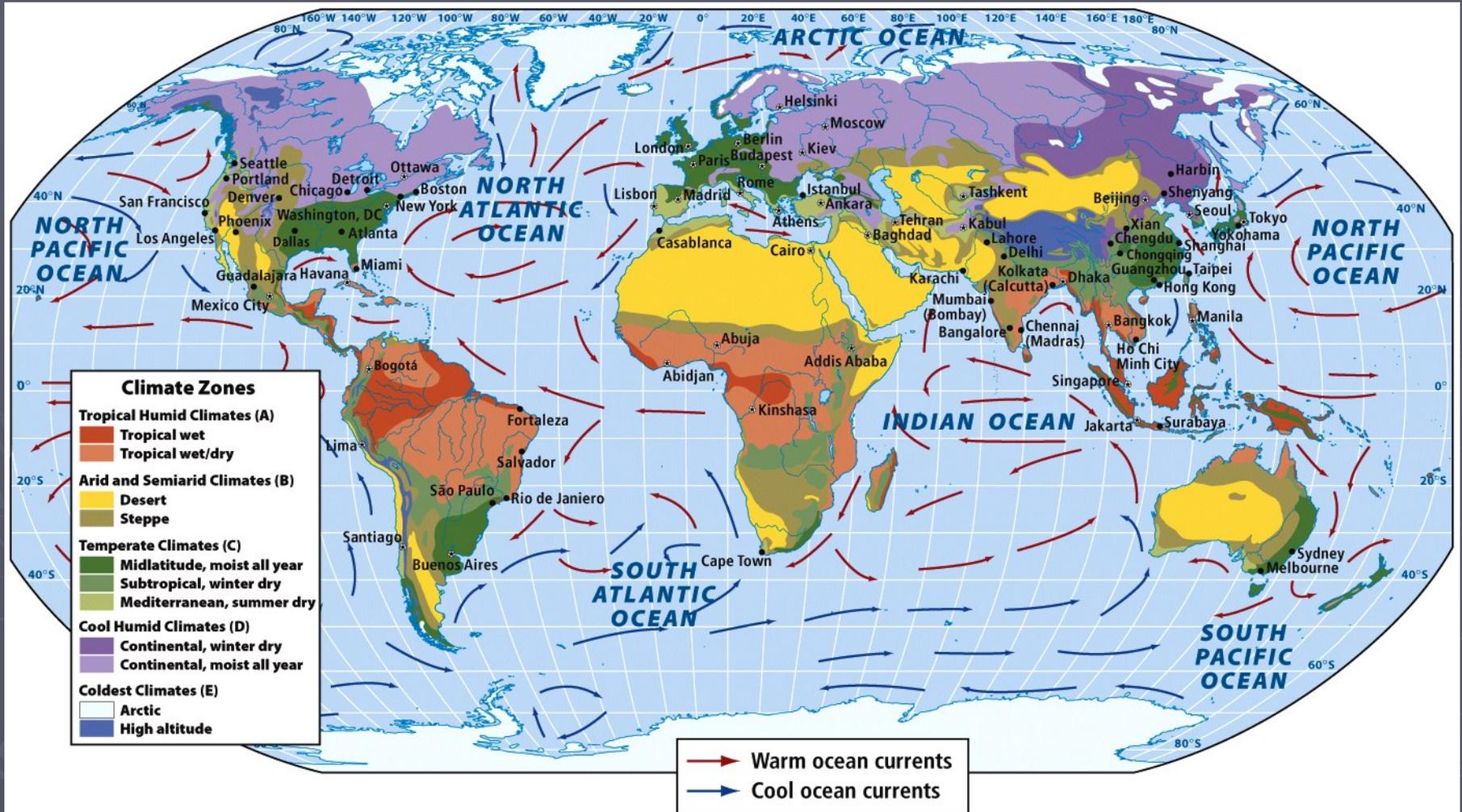


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C. The Origins of Agriculture

- ▶ Agriculture: Includes animal husbandry and plant cultivation
 - First domesticated plants and animals: between 8000 - 20,000 years ago
 - Impacts:
 - ▶ Created surplus for trade, emergencies
 - ▶ Allowed for specialization
 - ▶ Environmental degradation
 - ▶ Rampant population growth

C. The Origins of Agriculture

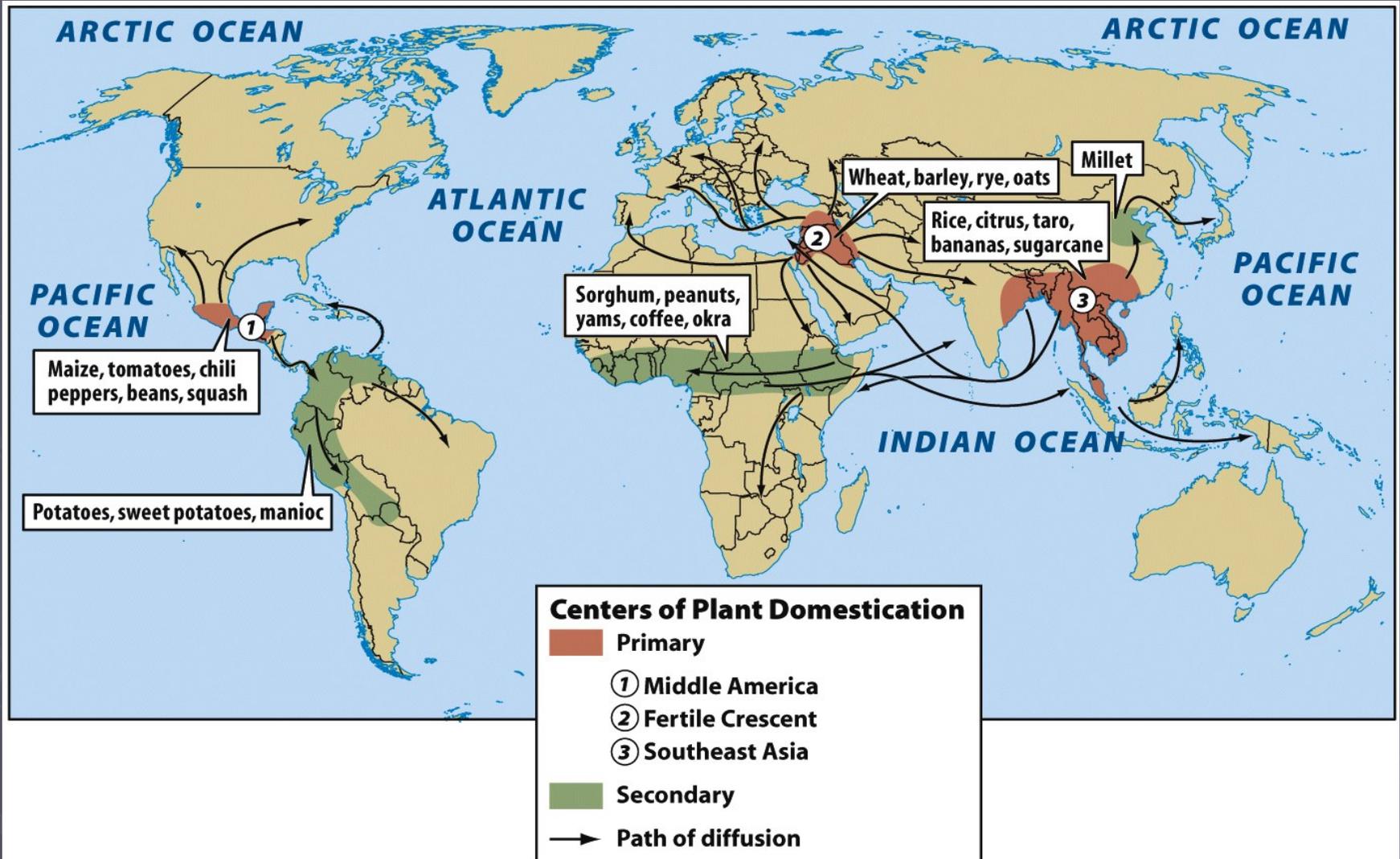


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IV. ECONOMIC ISSUES IN GEOGRAPHY

- ▶ Major focus of economic geographers recently: Globalization
 - Emergence of Global Economy
 - Ways in which goods, capital, labor, and resources are exchanged among distant and very different places

A. What Is the Economy?

- ▶ Economy: forum in which people make a living
 - Formal economy: activities that take place in official channels
 - Informal economy: activities that are illegal, or off-the-books
- ▶ Gross Domestic Product: sum of all formal activities for a country in a year

A. What Is the Economy?

- ▶ Extractive resources: tangible items taken from the earth's surface
 - ▶ Non-material resources: Skills, brainpower
-

- ▶ Extraction: mining and agriculture
- ▶ Industry: converting extractive resources into more valuable goods
- ▶ Services: Bartering and trading of goods and skills

B. What Is the Global Economy?

- ▶ Colonization: European trade expanded to include the Americas, Asia, and Africa (about 1500)
- ▶ Extraction located in colonies, industry in Europe
- ▶ Industrial Revolution: Mechanization and specialization replacing artisans
 - Increased demand for resources

Colonial Resource Extraction



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B. What Is the Global Economy?

- ▶ World War II saw the end of old colonial system
- ▶ Replaced by multinational corporations
 - Control vast amounts of capital
 - Operate across conventional borders, maximizing profit by operating globally
 - Utilize disparities in labor costs and standard of wealth across frontiers

C. The Debate Over Free Trade and Globalization

- ▶ Free trade: unrestricted exchange of goods, services and capital
 - Tariff: tax on imported goods
 - Import quota: limit on number of a good that can be imported
 - Regional trade bloc: countries that agree on free (or freer) trade together
 - World Trade Organization: global organization advocating for free trade

C. The Debate Over Free Trade and Globalization

- ▶ World Bank and International Monetary Fund (IMF)
 - Make loans to countries for development projects
- ▶ Structural Adjustment Policies (SAPs)
 - Caps on government spending and limits on trade protectionism required for World Bank or IMF loans
- ▶ Fair trade: a system of trade based on equity for all

Anti-WTO Demonstration



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V. MEASURES OF DEVELOPMENT

- ▶ Development: increases in economic activity and standards of living
 - Measured in average national productivity
 - Assumes equal distribution
- ▶ Human well-being: a healthy and socially rewarding standard of living
 - Not necessarily monetary
 - Increases in national productivity separate from increases in human well-being

A. GDP Per Capita and PPP

- ▶ Gross domestic product (GDP) per capita: total value of goods and services produced in a country divided by the number of people in the country
 - Hides inequality
 - Ignores purchasing power
 - Counts only formal economy
- ▶ PPP: GDP adjusted for cost of living

B. Measuring Human Well-being

- ▶ Human Development Index: income, purchasing power, health care, and education
 - Cannot score the equality of GDP/PPP per capita
- ▶ Gender Development Index: equal access to literacy, health care, and income for women
 - Does not measure social acceptance
- ▶ Gender Empowerment Measure: participation by women in political and economic life
 - Women not necessarily doing *well*, just better than other countries

Human Well-being

TABLE 1.2 Sample human well-being table^a

Selected countries (I)	GDP per capita, adjusted for PPP^b ranking among 177 countries), 2005 (II)	Human Development Index (HDI) ranking among 177 countries,^c 2005 (III)	Gender Development Index (GDI) ranking among 140 countries, 2005 (IV)	Gender Empowerment Measure (GEM) ranking among 80 countries, 2005 (V)
Barbados	15,720 (36)	30 (high)	29	25
Japan	27,967 (13)	11 (high)	14	43
Kenya	1,037 (155)	154 (low)	117	ND
Kuwait	18,047 (30)	44 (high)	39	ND
Malaysia	9,512 (54)	61 (medium)	61	51
United States	37,562 (4)	10 (high)	8	12

^a Rankings are in descending order; i.e., low numbers indicate high rank.

^b PPP = purchasing power parity, figured in 2003 U.S. dollars.

^c The high, medium, and low designations indicate where the country ranks among the 177 countries classified into three categories by the United Nations.

ND = No data available.

Sources: *United Nations Human Development Report 2005* (New York: United Nations Development Programme), Table 1, "Human development index," Table 25, "Gender-related development index," and Table 26, "Gender empowerment measure," at http://hdr.undp.org/reports/global/2005/pdf/HDR05_complete.pdf.

VI. POPULATION PATTERNS

- ▶ Demography: study of population patterns and changes
- ▶ Population growth linked to questions of human well-being just described
 - Until 1500, human population checked by disease, famine, etc.

A. Global Patterns of Population Growth

- ▶ Population growing in most parts of the world
 - Demographic momentum: world population will continue to grow
 - Some anomalies: Central Europe, Southern Africa
 - Declining global growth; future leveling off?

Population Growth

Exponential Population Growth: The J Curve

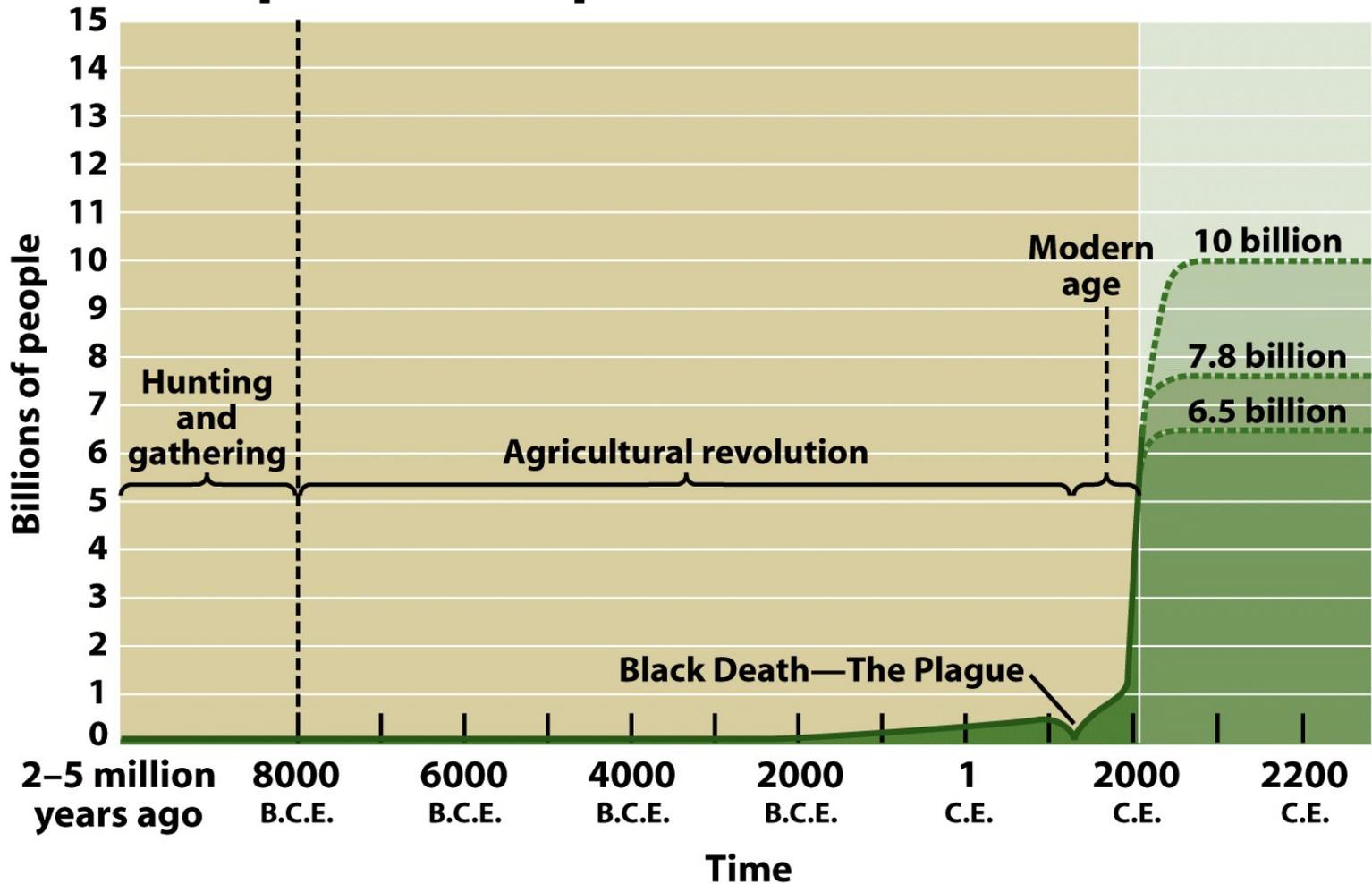


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B. Local Variations in Density and Growth

- ▶ Population not distributed equally
 - Most people live north of the equator
 - In most places people tend to live close to water or in lowlands
- ▶ Physical environment no longer determines density
 - Resources increasingly can be acquired from far away
- ▶ Economic, cultural, and social factors must also be examined to explain density

Population Distribution



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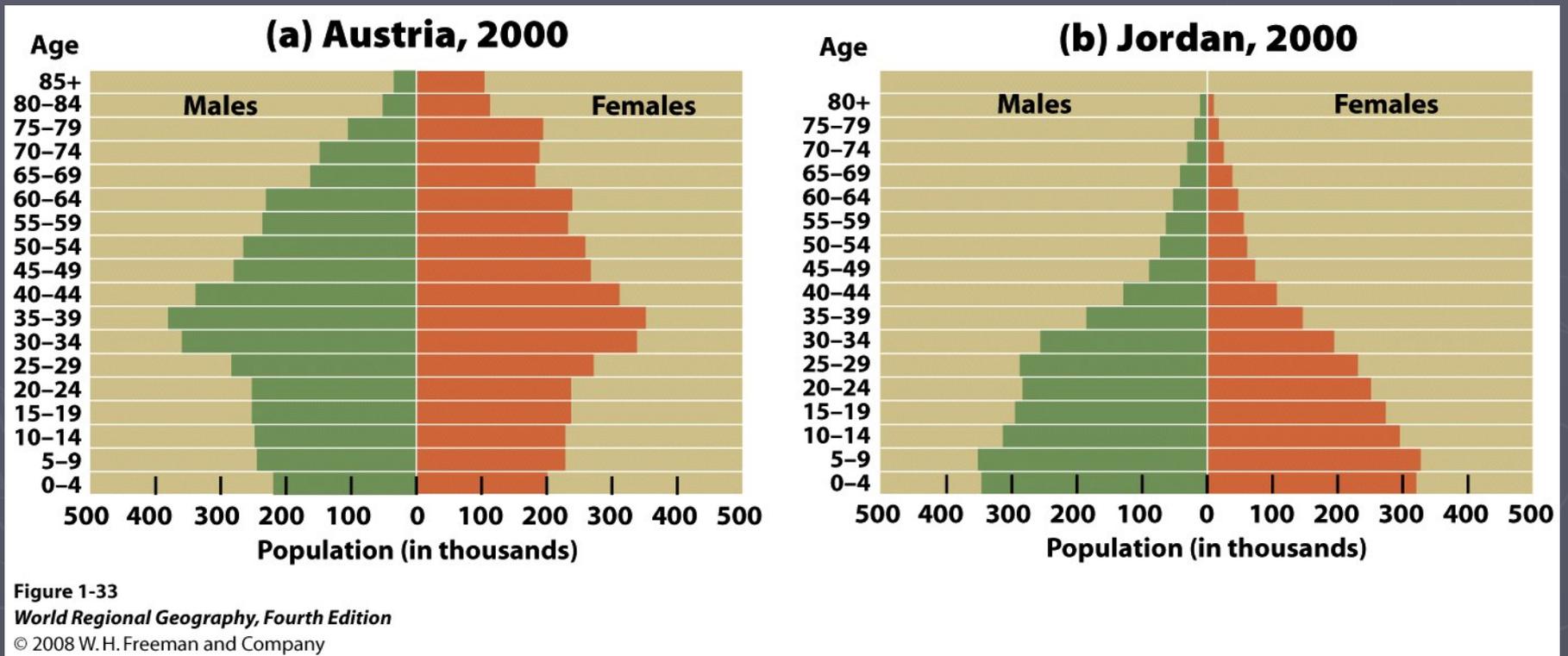
B. Local Variations in Density and Growth

- ▶ Natural Increase = Birth rate minus death rate (as a percentage)
- ▶ Total Fertility Rate = average number of children per women
 - Replacement TFR for advanced economy = about 2.1

C. Age and Gender Structures

- ▶ Population pyramids: depict and compare the structures of age and gender
- ▶ Ratio of females to males started to decline around 1900
 - Due to a strong preference for males in many cultures
 - Abortion of female fetuses, female infanticide, and poor health care and nutrition for females

Population Pyramids



D. Population Growth Rates and Wealth

- ▶ Slow population growth rates associated with affluence more than poverty
 - Subsistence economies: children are cheap labor
 - Cash economies: children are an economic liability until they reach adulthood (education)
- ▶ Demographic transition: slowing of population growth associated with shifting economies

Demographic Transition

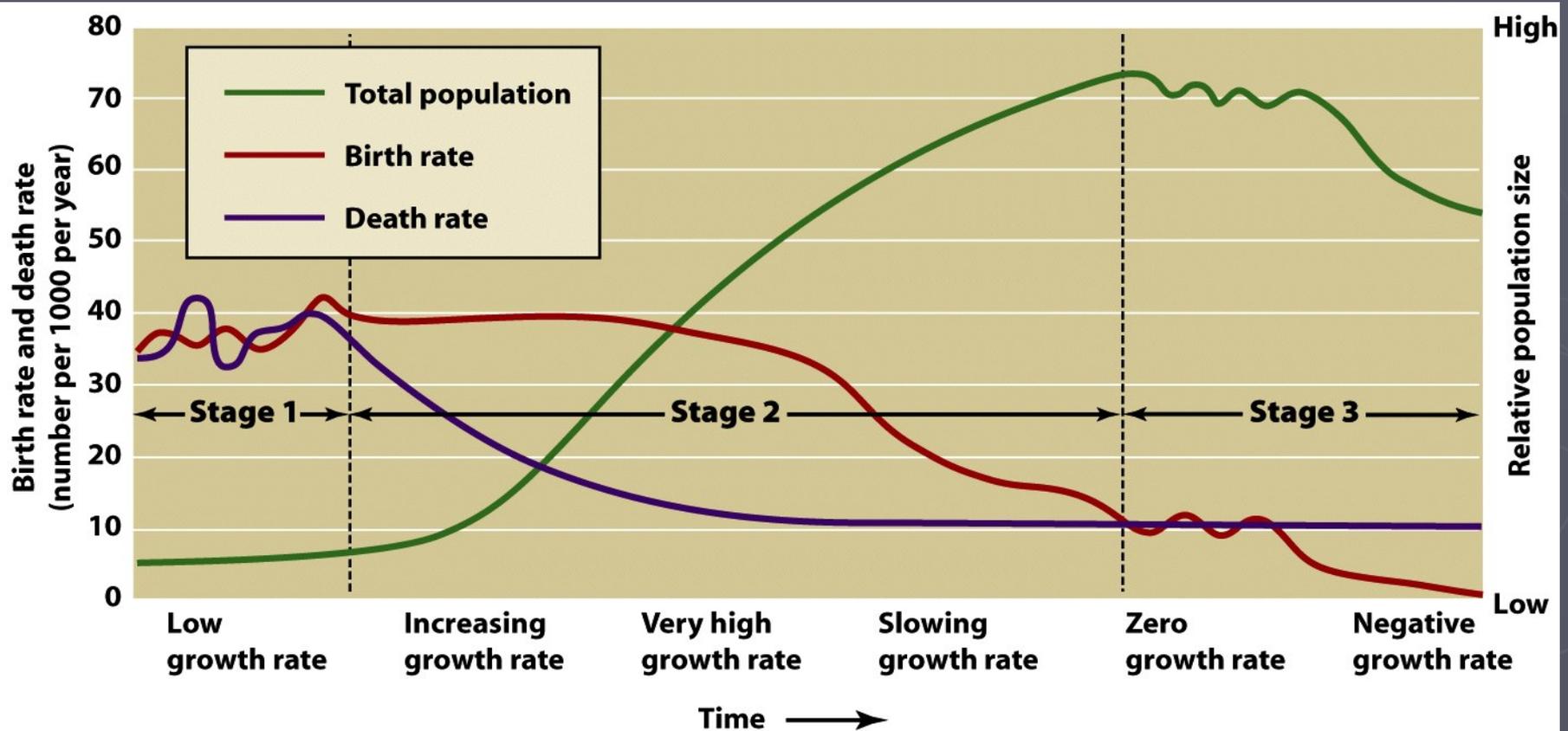


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VII. HUMANS AND THE ENVIRONMENT

- ▶ Humanity's interaction with the environment has resulted in improvements in the circumstances of human life
- ▶ Humans have had an enormous impact on the physical environment
 - All human ways of life have some environmental effects

Human Impact



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A. Sustainable Development

- ▶ Sustainable development: effort to improve living standards without jeopardizing future generations
- ▶ Political ecologists study:
 - How power relationships in a society affect how development proceeds
 - Whose needs it addresses
 - Patterns of resource use
 - How success is measured

A. Sustainable Development

▶ Sustainable Agriculture

- Seeks to meet food demands without degrading the environment or natural resources

▶ Carrying capacity

- Overuse of agricultural resources leads to unsustainable population growth
- Soil degradation jeopardizes livelihoods of a billion people

A. Sustainable Development

- ▶ Sustainability and Urbanization
 - Megacities lead to water contamination and disease
- ▶ Changing Patterns of Resource Consumption
 - Development leads to increased consumption
 - Rich global minority (20%)...
 - ▶ Produce 90% of hazardous waste
 - ▶ Consume 50% of fossil fuels, metal, paper

Global Undernourishment

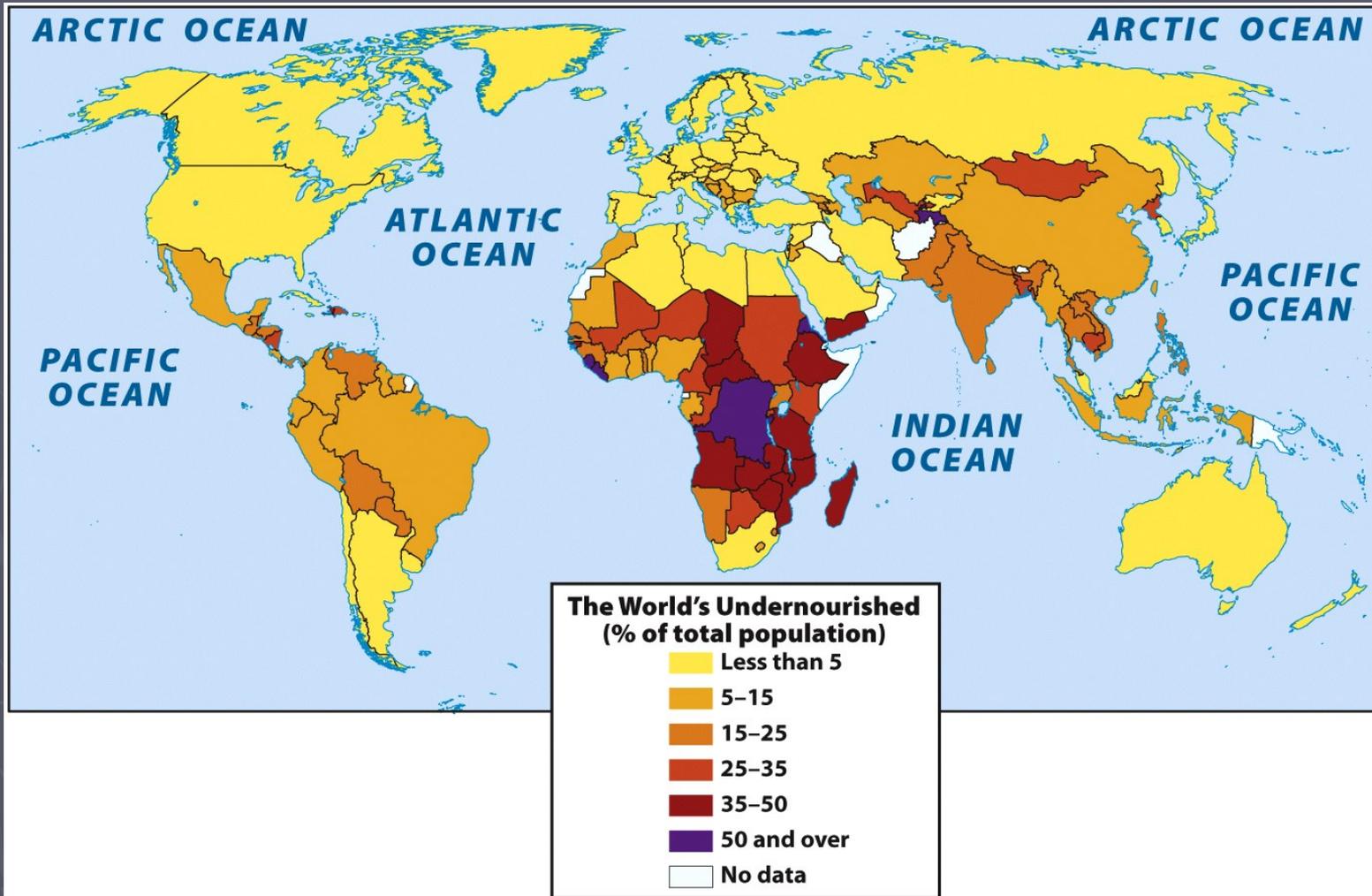


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B. Global Warming

- ▶ Global warming: observed warming of the earth's surface and climate
- ▶ Greenhouse gases: produced through industry and other processes
 - Trap heat within
 - Deforestation results in increasing levels of greenhouse gases
- ▶ Alternative fuels and resource policies on the table as global consensus grows

Global Warming



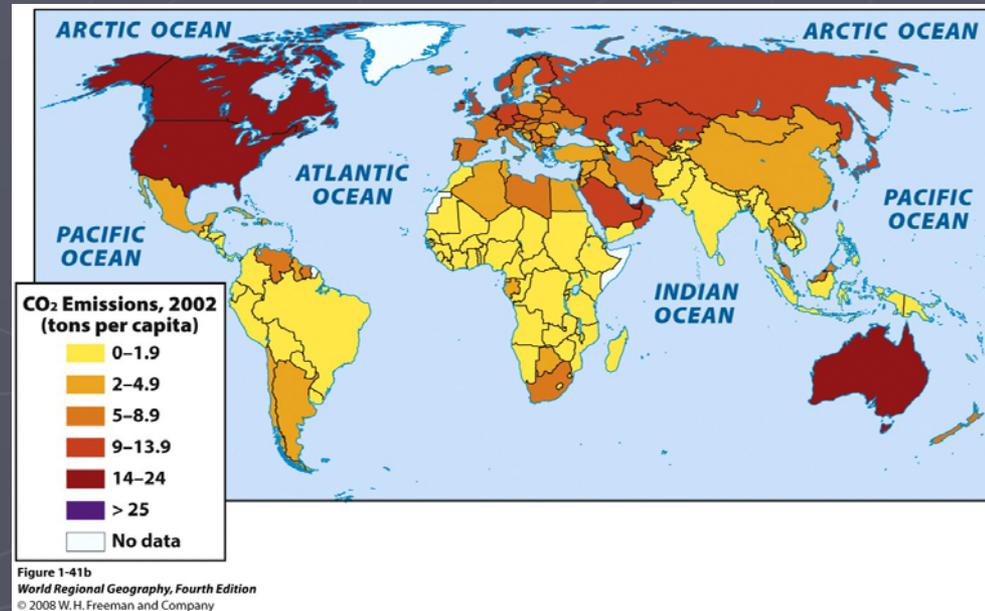
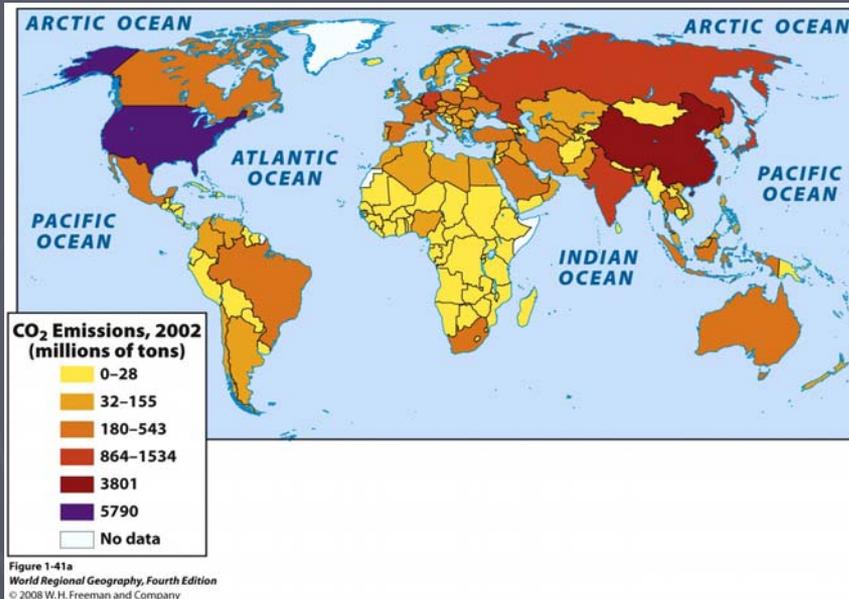
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National Snow and Ice Data Center/ (left)
W.O. Field; (right) B.F. Molnia.

Global Warming



VIII. POLITICAL ISSUES IN GEOGRAPHY

- ▶ Political geographers: study the exercise, allocation, and spatial distribution of power
 - At smaller scales: activists, local and state governments
 - At medium scales: nation-states
 - At larger scales: international organizations (like the United Nations) and social movements (like environmental organizations)

A. Geopolitics

- ▶ Geopolitics: strategies used by countries to gain territory, resources, or influence
 - Increasing role played by multinational corporations, international organizations
- ▶ Genocide: systematic attempt to kill all members of an ethnic or religious group

B. Nations and Borders

- ▶ State: base unit of international geography, also known as a country
- ▶ Nation: group of people sharing common language, culture, and political philosophy
- ▶ Nation-states: states formed by people from a single nation
 - In pluralistic states, power is shared among several groups.
- ▶ Sovereignty: legal status that indicates a country is self-governing

C. International Cooperation

- ▶ United Nations: governmental international organization
 - Relatively weak, members not willing to give up sovereignty
 - WTO, IMF, World Bank other examples of cooperation
- ▶ Non-governmental Organization (NGO): associations of individuals dedicated to global issues