National Geographic Picture Atlas of

Our World

NATIONAL GEOGRAPHIC SOCIETY

National Geographic Picture Atlas of

Our World

National Geographic Picture Atlas of

Our World

National Geographic Picture Atlas of

Our World

Published by
The National Geographic Society

Gilbert M. Grosvenor
President and Chairman of the Board

Michela A. English
Senior Vice President

Prepared by
The Book Division

William R. Gray
Vice President and Director

Margery G. Dunn
Charles Kogod
Assistant Directors

Charles O. Hyman
National Geographic Book Service

Staff for this book

Mary B. Dickinson
Editor

Carolinda E. Hill
Jean Kaplan Teichroew
Assistant Editors

Greta Arnold
Linda B. Meyerriecks
Illustrations Editors

David M. Seager
Art Director

Charlotte Golin
Designer

Jennifer Gorham Ackerman
Catherine Herbert Howell
Edward Lanouette
David F. Robinson
Writer-Editors

Joseph Alper
Elisabeth B. Booz
Margo Browning
Carol Dana
Elizabeth L. Newhouse
Catherine O'Neill
Melanie Patt-Corner
Suzanne K. Poole
Margaret Sedeen
John Thompson
Anne E. Withers
Contributing Writers

Ratri Banerjee
Cathryn P. Buchanan
Paulette L. Claus
Marguerite Suarez Dunn
Susan C. Eckert
James B. Enzinna
Joyce B. Marshall
Lise Swinson Sajewski
Penelope A. Timbers
Anne E. Wain
Editorial Researchers

James B. Enzinna
Art Coordinator

Karen Dufort Sligh
Laurie A. Smith
Jean C. Stringer
Illustrations Assistants

Richard S. Wain
Production Project Manager

Andrea Crosman
Emily F. Gwynn
Production

George V. White
Director
John T. Dunn
Associate Director
and R. Gary Colbert
Manufacturing and Quality Management

Karen F. Edwards
Elizabeth G. Jevons
Sandra F. Lotterman
Teresita Cóquia Sison
Marilyn J. Williams
Staff Assistants

George I. Burneston, III
Indexer

Maps by Publications Art
John D. Garst, Jr.
Virginia L. Baza
Peter J. Balch
Timothy E. Burdick
Sven M. Dolling
Gary M. Johnson
Andrew J. Karl
Darrah Long
Isaac Ortiz

Maps for 1993 Edition
Carl Mehler
Map Manager

Megan M. Ullman
Researcher

New and Revised Maps
Mapping Specialists, Limited
Madison, Wisconsin

Kevin P. Allen
Nancy L. Clapsaddle
Neal J. Edwards
Charles W. Gotthardt, Jr.
Daniel J. Ortiz
Juan J. Valdés
Susan Young
Alfred L. Zebarth
Cartographic Division
John F. Shupe
Chief Cartographer

Globe Maps by
Tibor G. Toth

Artwork by
Shusei Nagaoka

Contributions by
Aileen Buckley
Alice J. Dunn
Alexander M. Tait
Jonathan B. Tourtellot

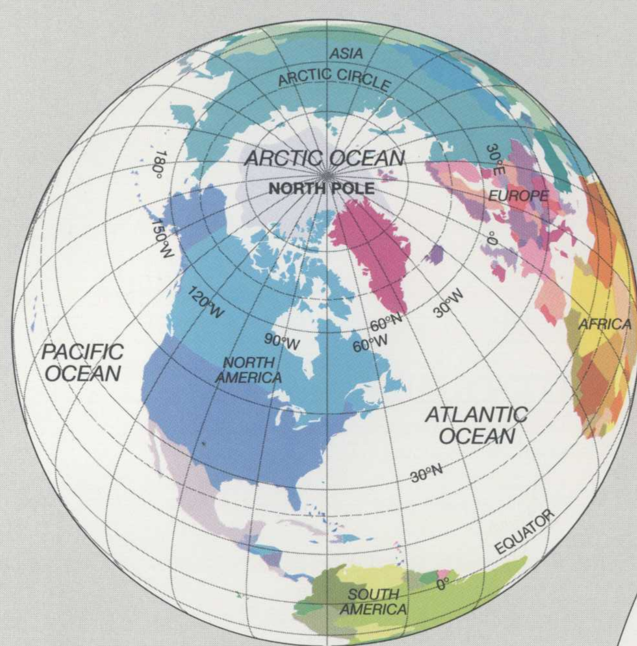
Sue Appleby Purcell
Educational Consultant

John P. Augelli,
The University of Kansas,
Latin America
Stephen S. Birdsall,
The University of North Carolina at Chapel Hill,
North America
Michael E. Bonine,
The University of Arizona,
North Africa and the Middle East
John D. Eyre,
The University of North Carolina at Chapel Hill,
Oceania
Jack D. Ives,
University of California at Davis, *The Poles*
C. Gregory Knight,
Marieta P. Staneva
The Pennsylvania State University,
Sub-Saharan Africa
Thomas R. Leinbach,
University of Kentucky,
Southeast Asia
Clifton W. Pannell,
The University of Georgia,
Far East
Joseph E. Schwartzberg,
University of Minnesota,
Twin Cities, *South Asia*
Roger L. Thiede,
University of Wisconsin at Eau Claire, *Former Soviet Union Republics*
Craig ZumBrunnen,
University of Washington,
Europe
Regional Consultants

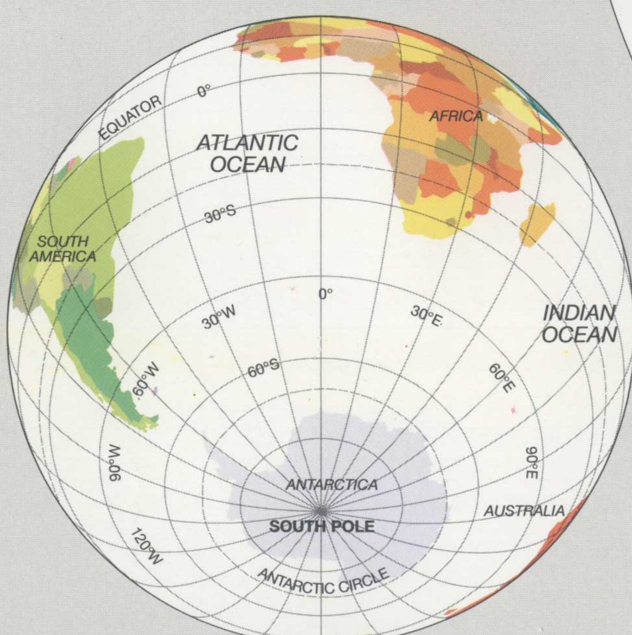
Cover Photography: Michel Tcherevkoff

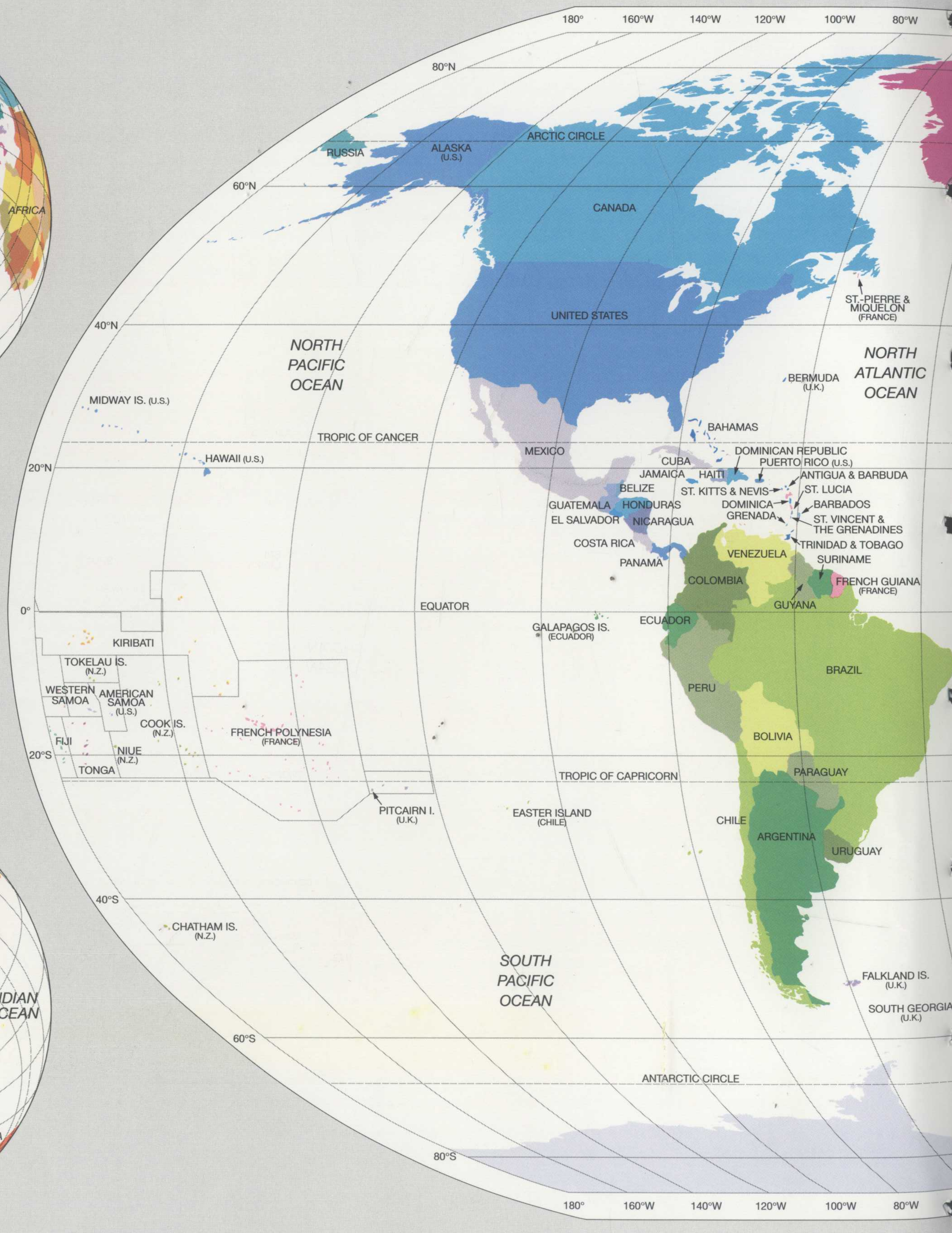
Revised 1993
276 pages, 290 illustrations, 130 maps, 27 paintings.

Contents



World Map. For easy reference, the country colors shown on this Robinson projection world map are used throughout the atlas. The lavender color seen in polar regions on the world map and globes represents ice. On Antarctica, it covers a continental landmass. In the Arctic, it is the frozen surface of an ocean.






ARCTIC OCEAN
GREENLAND (KALAALLIT NUNAAT) (DENMARK)
SVALBARD (NORWAY)
JAN MAYEN (NORWAY)
ICELAND
FAROE IS. (DENMARK)
NORWAY
SWEDEN
FINLAND
ESTONIA
LATVIA
LITHUANIA
BELARUS
DENMARK
UNITED KINGDOM
IRELAND
GERMANY
POLAND
BELGIUM
UKRAINE
FRANCE
AUSTRIA
HUNGARY
MOLDOVA
ROMANIA
BULGARIA
MONACO
ITALY
SAN MARINO
VATICAN CITY
ANDORRA
PORTUGAL
SPAIN
GREECE
AZORES IS. (PORTUGAL)
GIBRALTAR (U.K.)
MALTA
MADEIRA IS. (PORTUGAL)
MOROCCO
TUNISIA
CANARY IS. (SPAIN)
ALGERIA
LIBYA
EGYPT
WESTERN SAHARA (MOROCCO)
MAURITANIA
MALI
NIGER
CHAD
SUDAN
CAPE VERDE
SENEGAL
GAMBIA
GUINEA-BISSAU
GUINEA
BURKINA FASO
BENIN
NIGERIA
SIERRA LEONE
LIBERIA
COTE D'IVOIRE
GHANA
TOGO
CAMEROON
CENTRAL AFRICAN REPUBLIC
EQUATORIAL GUINEA
SAO TOME & PRINCIPE
GABON
CONGO
ZAIRE
RWANDA
BURUNDI
UGANDA
KENYA
TANZANIA
ERITREA
ETHIOPIA
DJIBOUTI
SOMALIA
YEMEN
CABINDA (ANGOLA)
ASCENSION I. (U.K.)
ANGOLA
ZAMBIA
MALAWI
MOZAMBIQUE
ZIMBABWE
NAMIBIA
BOTSWANA
WALVIS BAY (SOUTH AFRICA)
SWAZILAND
LESOTHO
SOUTH AFRICA
ST. HELENA (U.K.)
SOUTH ATLANTIC OCEAN
TRISTAN DA CUNHA GROUP (U.K.)
SEYCHELLES
COMOROS
MAYOTTE (FRANCE)
MADAGASCAR
MAURITIUS
REUNION (FRANCE)
RUSSIA
ARCTIC CIRCLE
KAZAKHSTAN
MONGOLIA
GEORGIA
ARMENIA
AZERBAIJAN
TURKEY
CYPRUS
SYRIA
LEBANON
ISRAEL
JORDAN
IRAQ
IRAN
KUWAIT
BAHRAIN
QATAR
UNITED ARAB EMIRATES
SAUDI ARABIA
OMAN
UZBEKISTAN
TURKMENISTAN
KYRGYZSTAN
TAJIKISTAN
AFGHANISTAN
PAKISTAN
NEPAL
BHUTAN
BANGLADESH
INDIA
SRI LANKA
MALDIVES
CHINA
NORTH KOREA
SOUTH KOREA
JAPAN
HONG KONG (U.K.)
MACAU (PORT.)
TAIWAN
MYANMAR (BURMA)
LAOS
THAILAND
VIETNAM
CAMBODIA
PHILIPPINES
BRUNEI
MALAYSIA
SINGAPORE
INDONESIA
PAPUA NEW GUINEA
CHRISTMAS I. (AUSTRALIA)
COCOS IS. (AUSTRALIA)
INDIAN OCEAN
EQUATOR
TROPIC OF CANCER
TROPIC OF CAPRICORN
NORTH PACIFIC OCEAN
NORTHERN MARIANA ISLANDS (U.S.)
WAKE I. (U.S.)
GUAM (U.S.)
MARSHALL ISLANDS
PALAU (U.S.)
FEDERATED STATES OF MICRONESIA
NAURU
KIRIBATI
SOLOMON ISLANDS
TUVALU
CORAL SEA ISLANDS (AUSTRALIA)
VANUATU
FIJI
NEW CALEDONIA (FRANCE)
AUSTRALIA
NORFOLK I. (AUSTRALIA)
NEW ZEALAND
PRINCE EDWARD IS. (SOUTH AFRICA)
CROZET IS. (FRANCE)
KERGUELEN IS. (FRANCE)
MCDONALD IS. (AUSTRALIA)
HEARD I. (AUSTRALIA)
BOUVET I. (NORWAY)
SOUTH SANDWICH ISLANDS (U.K.)
ANTARCTIC CIRCLE
ANTARCTICA
40°W
20°W
0°
20°E
40°E
60°E
80°E
100°E
120°E
140°E
160°E
180°
80°N
60°N
40°N
20°N
0°
20°S
40°S
60°S
80°S
ROBINSON PROJECTION
SCALE 1:94,913,000
1 CENTIMETER = 949 KILOMETERS OR 1 INCH = 1498 MILES
KILOMETERS
0 100 200 300 400 500 600
80°N AND 80°S
60°N AND 60°S
40°N AND 40°S
20°N AND 20°S
STATUTE MILES
0 100 200 300 400 500 600
METRIC CONVERSIONS
1 centimeter = 0.393701 inch
1 meter = 3.280840 feet
1 kilometer = 0.621371 miles
1 NETHERLANDS
2 LUXEMBOURG
3 CZECH REPUBLIC
4 SLOVAKIA
5 SWITZERLAND
6 LIECHTENSTEIN
7 SLOVENIA
8 CROATIA
9 BOSNIA AND HERZEGOVINA
10 YUGOSLAVIA
11 MACEDONIA
12 ALBANIA

Mapping Our World

More than two decades ago, on my first field assignment for the National Geographic Society, I explored the pastoral, lake-studded highlands of Slovenia while gathering material for a book on the Alps. Slovenia then was a small, quiet republic in a much larger federation, Yugoslavia. The Slovenes—warm, open, industrious—were strongly involved with their nation. But it was clear that they considered themselves to be Slovenes first and Yugoslavs second.

When political change began sweeping the world in the early months of this decade, the Slovenes were one of the first peoples to desire, to fight for, and to gain their independence. Their new country of Slovenia, with its historical ties to Western Europe renewed and strengthened, is struggling forward with pride and dignity, despite severe economic challenges and civil strife in neighboring parts of the former Yugoslavia.

This is but one example, though, of the unprecedented cascade of changes that in recent years have transformed not only the map of the world but also the very course of history. To understand a rapidly changing world and to put into context the manifold and complex character of those changes, we all need to know and understand more about our global neighbors—and thus about ourselves.

In 1990, when the Society published the previous edition of the *Picture Atlas of Our World,* the Berlin Wall had just been breached. That event came to symbolize change and actually seemed to stimulate it. In just three years, the world has turned dramatically: Two Germanies have become one; Yugoslavia has broken up into five countries; the Soviet Union has fragmented into fifteen countries; Czechoslovakia has divided into two countries; and, in mid-1993, Eritrea proclaimed its independence from Ethiopia.

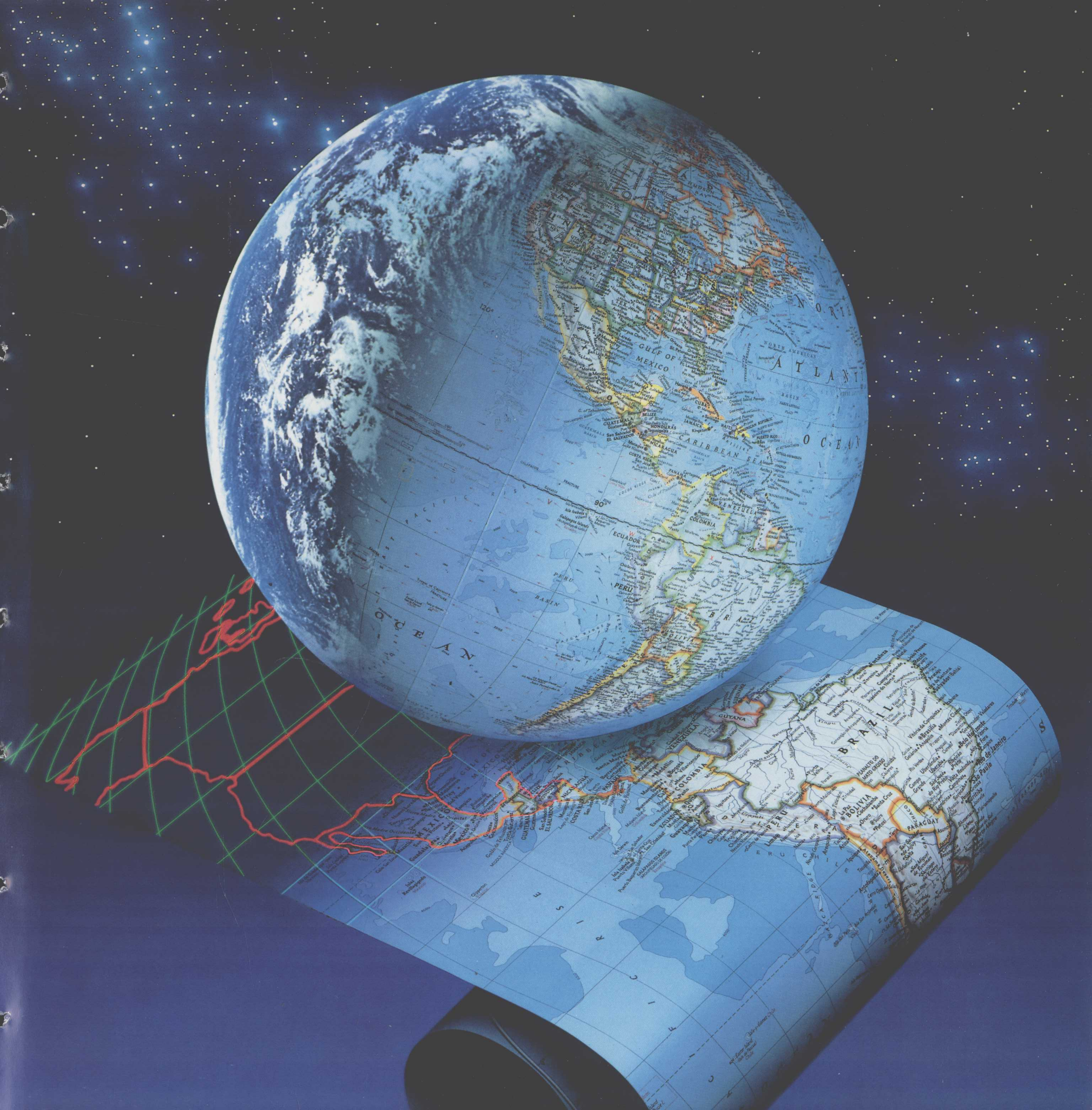
Because of these changes and the international attention focused on them, we have come to perceive the Slovenes and the Slovaks, the Tajiks and the Turkmens differently—as individual peoples with rich cultures and traditions and not simply as parts of larger, monolithic states. Likewise, we have come to see long-familiar nationalities with different eyes than in the past: the Russians . . . the Germans . . . the Poles . . . and many more.

The early 1990s have produced so many news headlines about international events that we would be lost without a knowledge of geography. Timely maps of the Middle East in 1991 helped Americans follow the Iraqi invasion of Kuwait that escalated into the Gulf War. When Mount Pinatubo erupted with cataclysmic force that same year in the Philippines, satellite images provided maps of the atmosphere that helped us understand the possible effect on global weather patterns. And the map of Africa has become familiar to most of us, as we witnessed the repeal of the *apartheid* policy in South Africa, the UN-sponsored effort to stabilize Somalia and relieve starvation there, and the bitter civil wars in several other African countries.

I hope that this atlas—fully updated with new cartography, new photography, and current information—will contribute to a better understanding of the intricate fabric of life in all corners of the globe. I also hope that it will help put into perspective the changes that have overtaken us in recent years. In striving to meet the National Geographic Society's educational mission, the staff of this book has worked long and diligently to gather and present accurate information about the world, parts of which are still remote or in turmoil.

In the *Picture Atlas of Our World,* we encounter a world that has irrevocably changed. Tiny Slovenia, long dominated by the Carolingian, Holy Roman, and Austro-Hungarian Empires and more recently a component of Yugoslavia, now stands truly independent—for the first time in more than 1,400 years. The crescendo of change seems to have slackened; now the Slovenes and the citizens of the other new nations in Europe, Asia, and Africa strive to adapt to today's global environment—while the rest of the world learns to understand and respect the unique heritage of each new country.

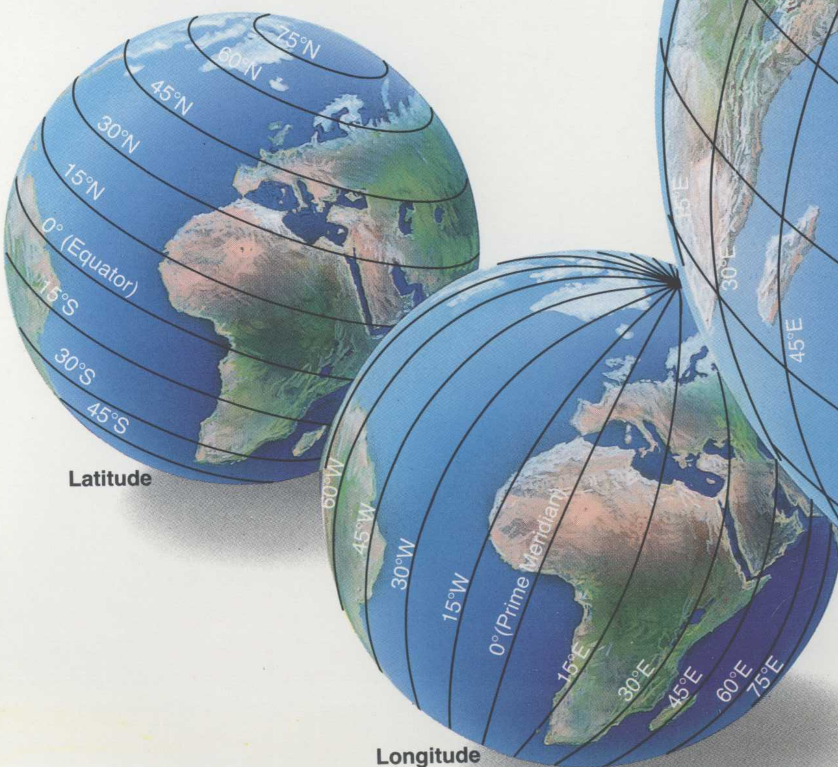
William R. Gray
Vice President and
Director, The Book Division

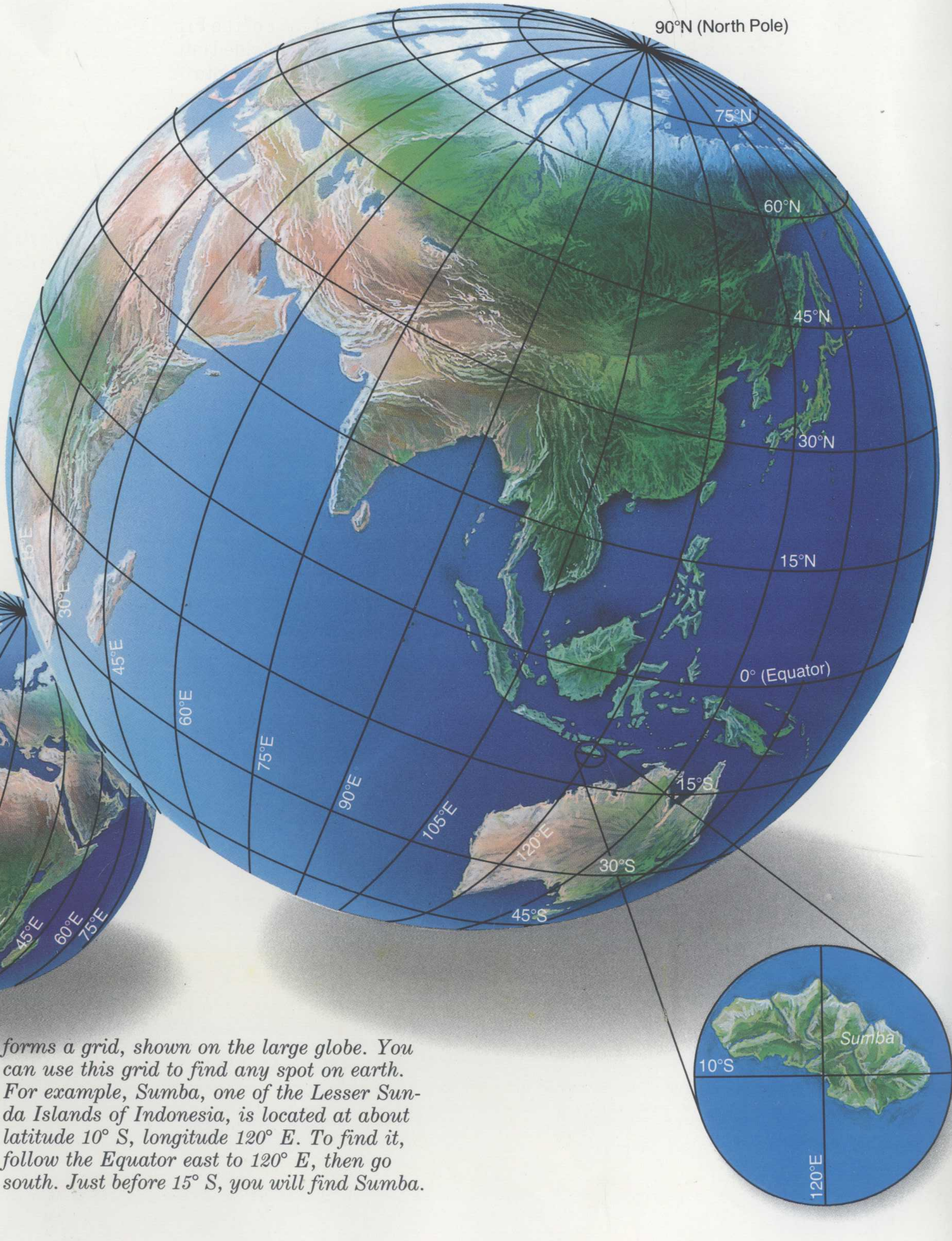

NORTH ATLANTIC OCEAN
GULF OF MEXICO
CARIBBEAN SEA
COLOMBIA
ECUADOR
PERU
OCEAN
BRAZIL
GUYANA
BOLIVIA
PARAGUAY

Where in the World?

A world globe helps us to find our way around the earth. Using a globe is like using a street map. Suppose you want to meet a friend on the corner of Third Avenue and Main Street. To find the intersection on a map, you might follow Third Avenue until it meets Main Street. On a globe, there are no streets or avenues. Instead, you can use the grid formed by lines of latitude and longitude. If you have the latitude and longitude coordinates, you can find any place on earth.

Lines of latitude run east and west around the globe and are evenly spaced from the Equator to the North and South Poles. They are also called parallels, because they are parallel to each other. Parallels become shorter toward the Poles.



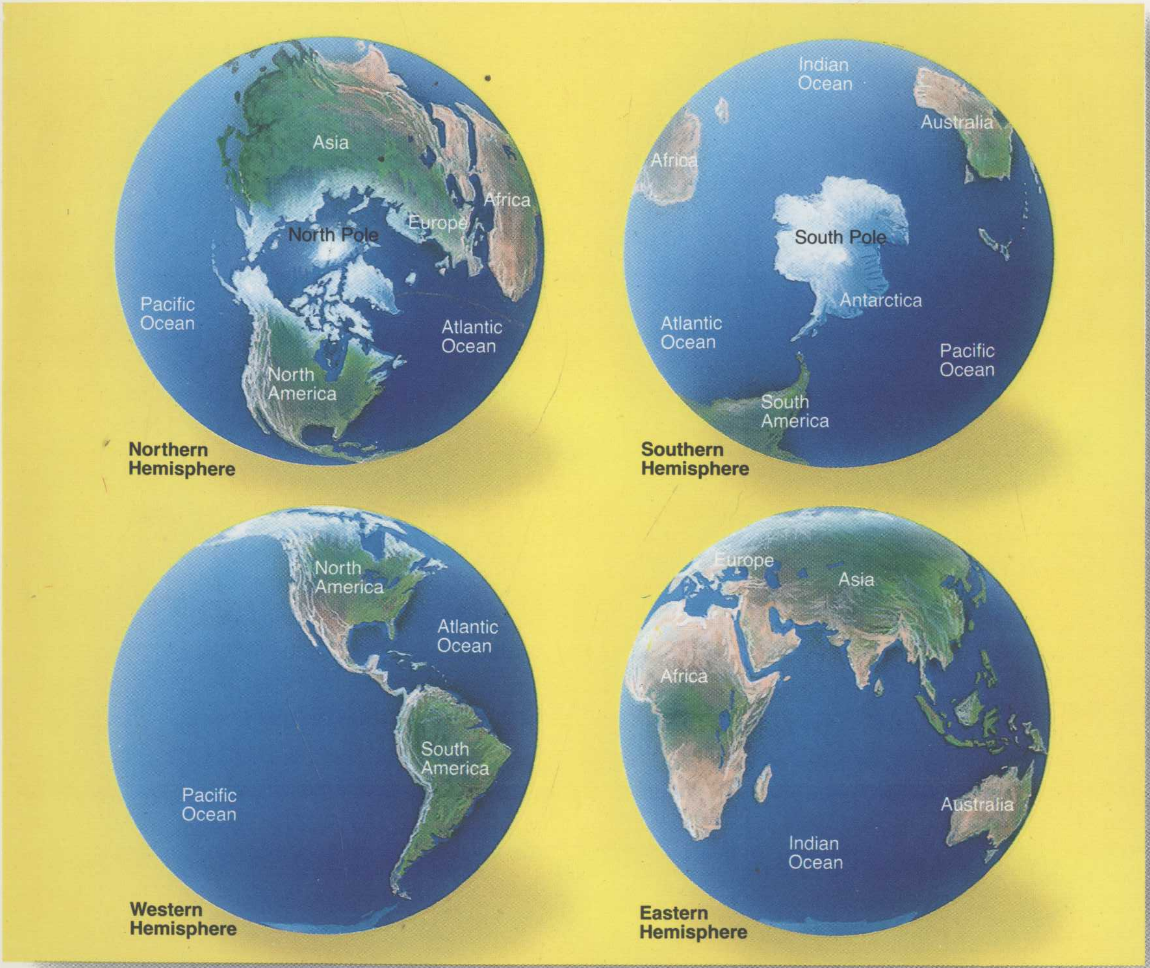


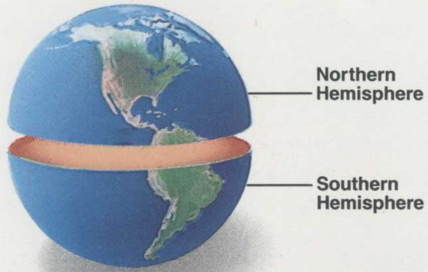
Finding Sumba. *Globes do not show every line of latitude or longitude, but just a few at regular intervals. The two small globes above show lines of* latitude *(left) and* longitude *(right) spaced 15 degrees apart. The Equator is at 0° latitude, and the Prime Meridian is at 0° longitude. Combining the two sets of lines forms a grid, shown on the large globe. You can use this grid to find any spot on earth. For example, Sumba, one of the Lesser Sunda Islands of Indonesia, is located at about latitude 10° S, longitude 120° E. To find it, follow the Equator east to 120° E, then go south. Just before 15° S, you will find Sumba.*

Lines of longitude run north and south. They are also called meridians. All meridians are the same length, and they come together at the North and South Poles. By international agreement, the meridian that runs through Greenwich, England, is called the Prime Meridian.

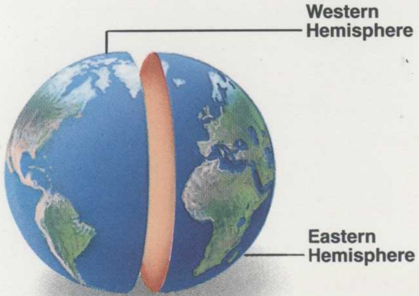
Together, meridians and parallels form an imaginary grid that defines positions on earth in terms of their distance from the Equator and Prime Meridian. Latitude measures distance north or south of the Equator, and longitude is the distance east or west of the Prime Meridian. Both latitude and longitude are measured in degrees (°). Latitude goes from 0° to 90° north and south of the Equator, and longitude from 0° to 180° east and west of the Prime Meridian. Each degree is further divided into 60 minutes (′), and each minute is divided into 60 seconds (″). Geographers use all these measurements to pinpoint the locations of places in the world.

Parallels never meet, so the distance between two lines of latitude does not change. One degree of latitude is about 69 miles (111 km), one minute of latitude is about 1.15 miles (1.85 km), and one second of latitude is approximately 101 feet (31 m). Because meridians do meet, one degree of longitude is shorter at the Poles than at the Equator. However, no matter where, 15 degrees of longitude equals the amount of the earth that passes the sun in one hour.





North and south. *The Equator divides the globe into two halves (above) called hemispheres (half-spheres). The top two maps (left) show the Northern Hemisphere and the Southern Hemisphere. Most of the earth's landmass is in the Northern Hemisphere.*



East and west. *Geographers commonly divide the earth into the Western Hemisphere (far left) and Eastern Hemisphere at the meridians of 20° W and 160° E. This keeps all of Africa in the Eastern Hemisphere. Asia and Antarctica reach into both hemispheres.*

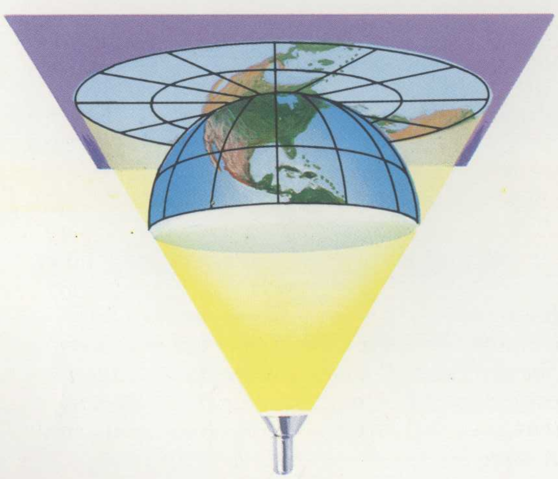
The Round Earth on Flat Paper

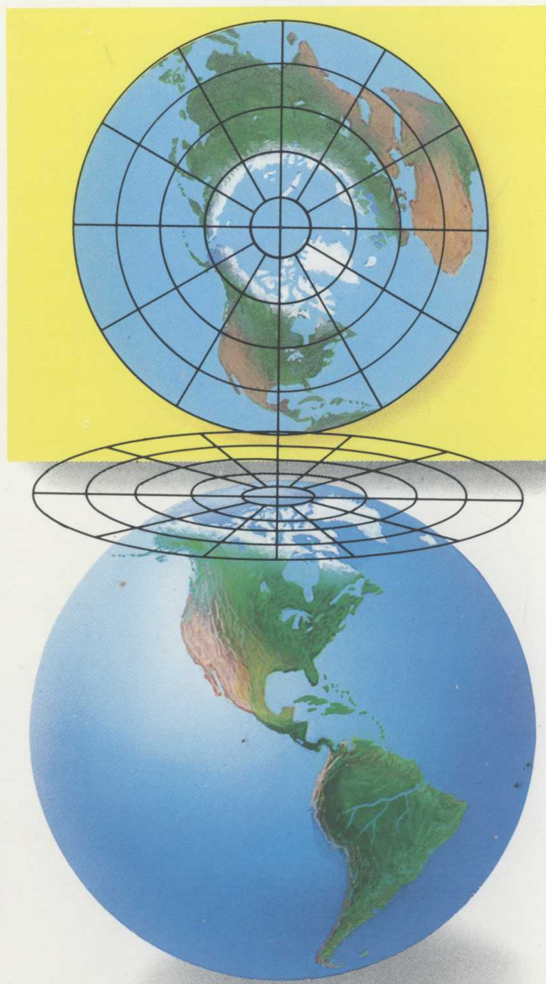
Maps teach us about the world by showing the sizes and shapes of countries, displaying earth's mountains, rivers, lakes, and other features, and showing the distance between places. Maps can also show us the worldwide distribution of such things as deserts, cities, people, or resources like oil fields. Maps, though, are not the best way to show the round earth. A globe is.

A globe is a scale model of the earth showing its shape, lands, distances, and directions in their true proportions. But a globe is too bulky and awkward to carry around, and pictures of a globe do not make good maps in an atlas. For one thing, they show only half of the world at a time. So mapmakers make flat maps instead.

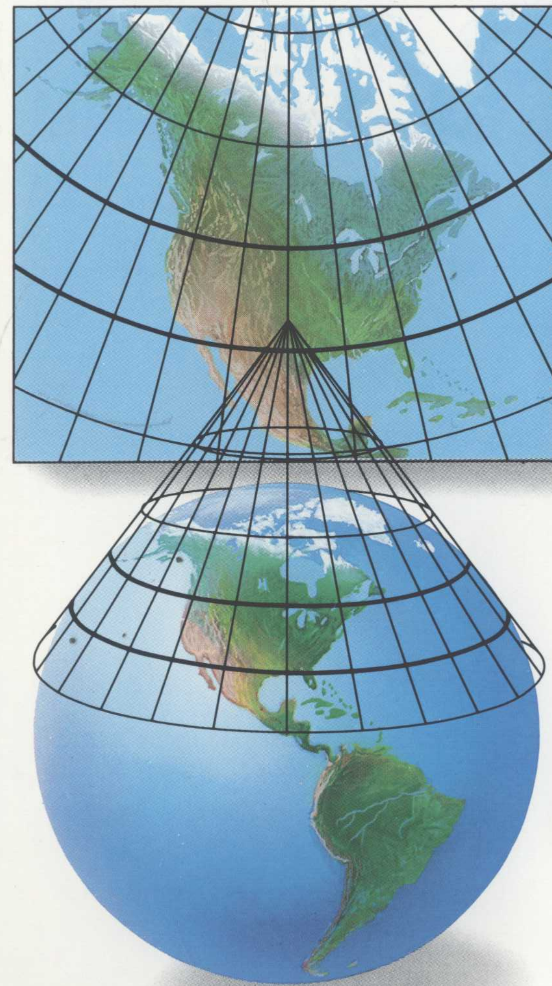
Changing the globe into a map is not simple, however. Imagine cutting a globe in half and trying to flatten the two hemispheres. They would wrinkle, and their shapes would distort. In fact, every map has some distortion. A map can show either the correct *size* of countries or the correct *shapes* of small areas, but not both.

There are many ways to project a round globe onto flat paper. Each produces a certain type of map. Imagine a glass globe with lines etched on it. Lines running parallel to the Equator are called parallels of latitude; those connecting the Poles are called meridians of longitude. Shining a light through the globe onto paper projects shadows of the lines and landmasses onto the paper (see below). These can be copied on paper to make a map, but the method is limited. Computers are needed to make most map projections.

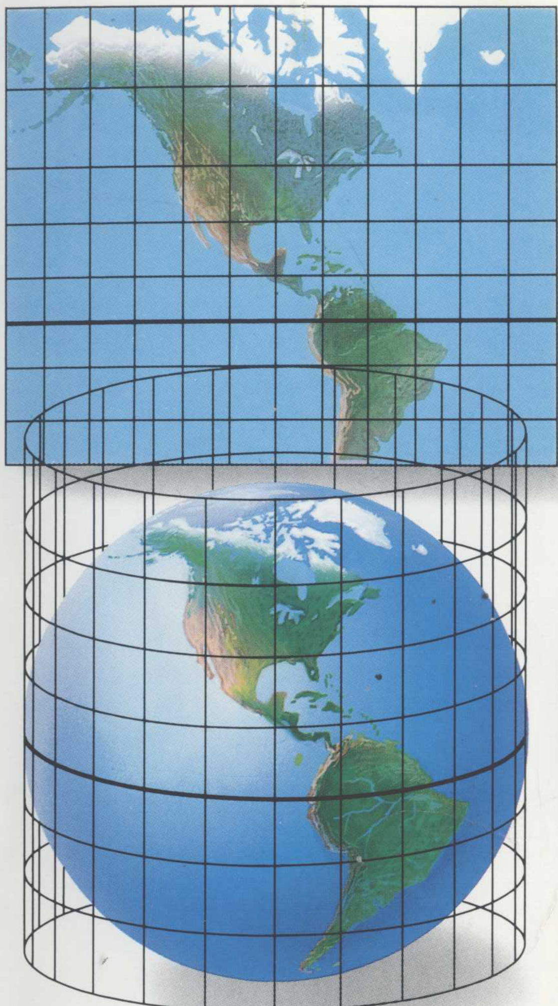




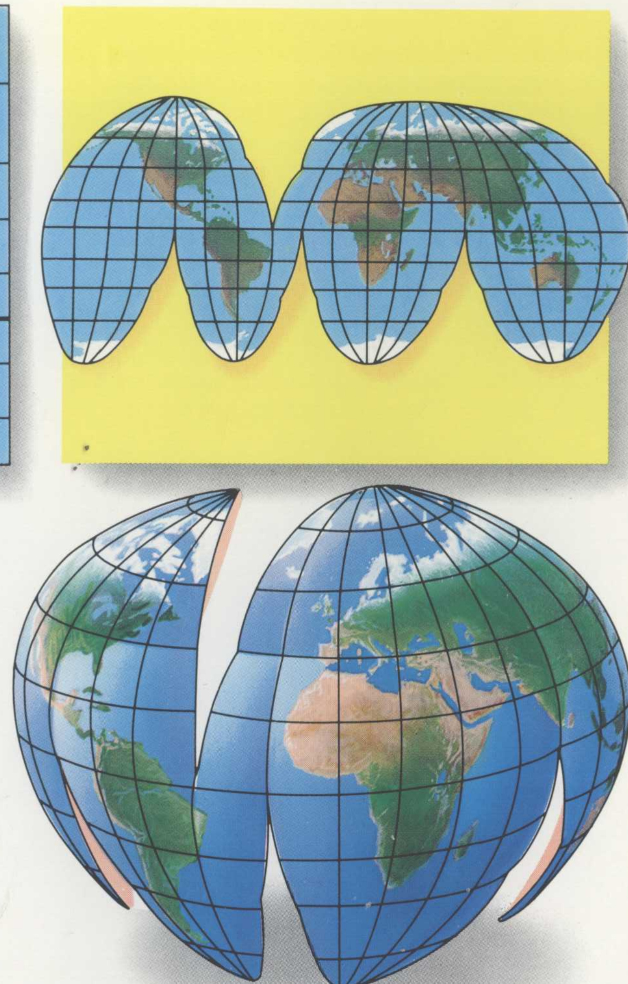
Plane projection. *Each type of map is suited for displaying a particular view of the world. The map above is useful for displaying an entire hemisphere. It also represents areas in their proper proportions: If you put a dime over two different places on the map, the areas represented under each coin will be the same size. This map is called a Lambert Azimuthal Equal-Area map, and it is made by projecting half of the earth onto a plane that touches the globe at one point. That point becomes the central projection point of the map. Directions from the map's center to another point on the map are correct, but all other directions are distorted. This projection also distorts the shapes of countries.*



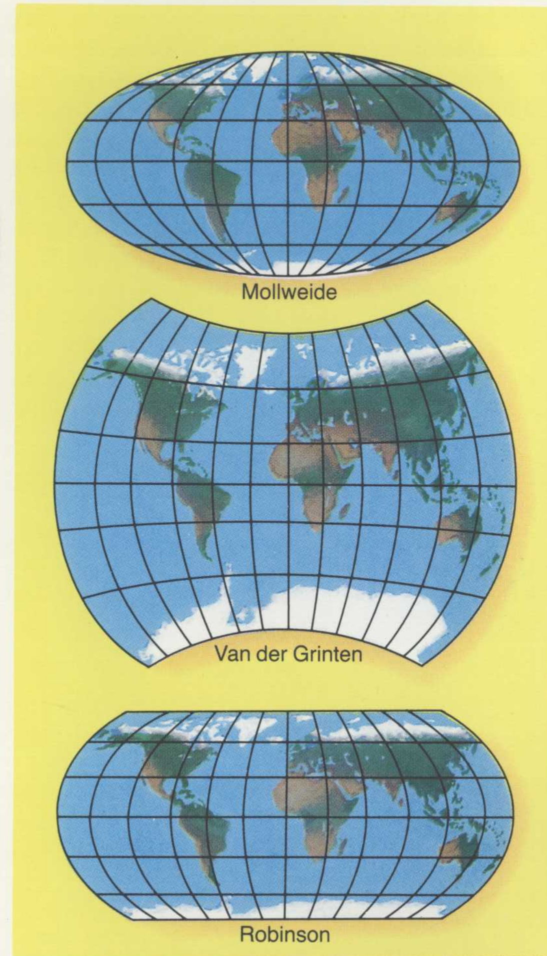
Conic projection. *A Lambert Conformal Conic map is made by projecting the globe onto a cone. The latitude lines where the cone and globe touch, shown darker than the others, are called the standard parallels. The word "conformal" means that this map represents the shape of limited areas accurately. Conic maps are used to show parts of the globe that run primarily east and west in the middle latitudes. The United States would be one example. Unlike the map at left, this one distorts size from one area to another.*



Cylindrical projection. *The Mercator projection map is very commonly used. It is suitable for navigating at sea because a line connecting any two points gives the best compass direction between them. For areas close to the Equator, this type of map accurately represents the* shape, *but it badly distorts the relative* sizes *of landmasses the nearer they are to the North and South Poles. Alaska, for example, looks about half the size of South America on such a map, when South America is, in fact, more than 11 times bigger.*



Interrupted projection. *If you peeled an orange and flattened it out, you might have something that looked like Goode's Interrupted Homolosine map. Such a map shows the continents or oceans with very little distortion in* shape *or* size. *To achieve this, each continent or ocean is centered on its own central meridian. Interrupted projections can be made to feature ocean areas by cutting apart the continents instead.*



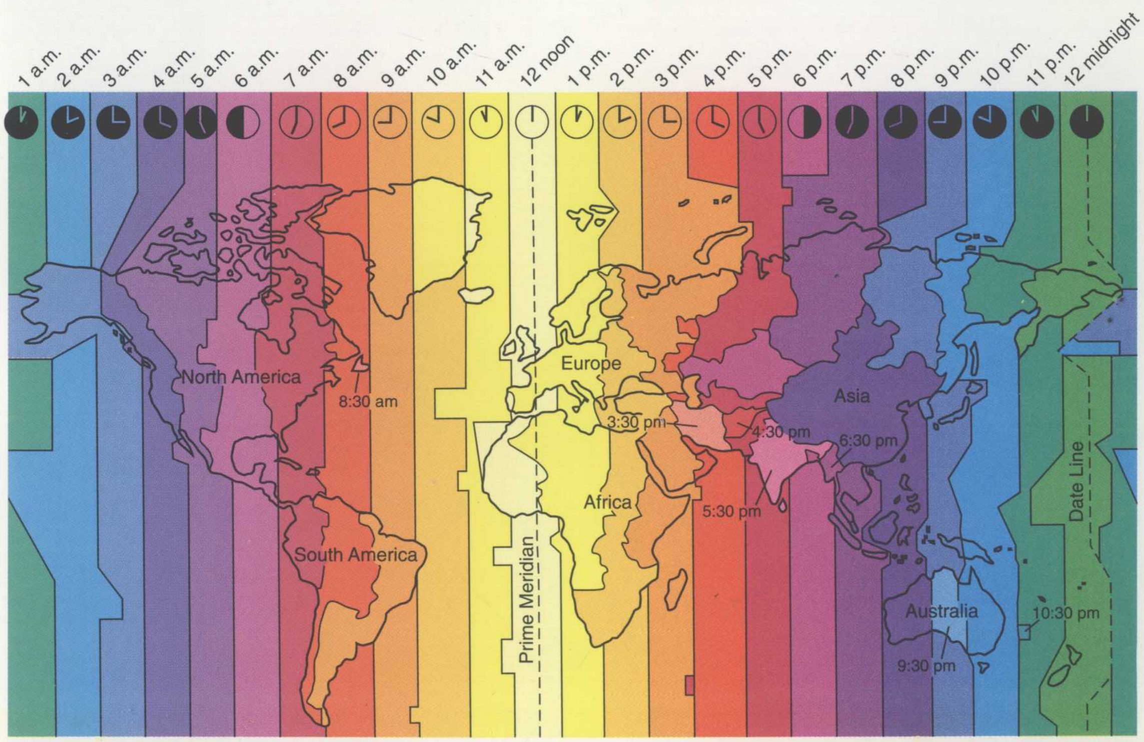
Map evolution. *Cartographers are always looking for a more accurate way to project the round earth onto flat paper. The Mollweide projection (top), developed in 1805, is good for accurately representing the relative* size *of the world's landmasses, but it distorts their* shapes. *The Van der Grinten projection (middle) became the National Geographic Society's standard map in 1922. It does a better job of representing* shapes, *but it distorts the relative* sizes *of many countries, particularly Canada, Greenland, and Russia. In 1988 the Society adopted a map based on the Robinson projection as its official standard, believing that it provides the best compromise in representing both* shape *and* size.

Spinning Through Day and Night

While people on North America's Pacific coast stir in early morning slumber at 4 a.m., those on the east coast are eating breakfast, and the residents of central Africa have finished their midday meal. Because it is 8 to 10 p.m. in Australia, people there are probably thinking about bed. The reason for these time differences is that the earth rotates from west to east, spinning through 15 degrees of longitude every hour.

In the days when communication among different areas was slow, each town set its clocks by observing the sun's position—it was noon local time when the sun was directly overhead. Thus in the United States, at noon in Washington, D. C., it was 12:12 p.m. farther east in New York City. But as transportation and communication technology advanced, it became important to have a standard system of time.

In 1883, U. S. railroad officials created four time zones, each 15 degrees wide, to span the country. These zones were centered on the meridians at 75°, 90°, 105°, and 120° west of the Prime Meridian running through Greenwich, England. Soon other countries began adopting this system, creating a series of standard time zones centered on meridians spaced 15 degrees apart. Today, all but a few countries set their local time according to these time zones. As a result, we can determine accurately what time it is anywhere in the world.



Variations in color indicate irregular time zones.

World time zones. *The map above shows the 24 standard time zones. The colors correspond to the meridians on which they are centered, which encircle the globe at right. Notice that the borders of each time zone are not straight lines. That is so that entire countries or neighboring communities can have the same time zone. For example, the date line, at 180° longitude, zigs and zags to avoid splitting up island groups in the Pacific Ocean. China, by decree of its government, has only one time zone even though it spans some 60 degrees of longitude. It shows up as a single zone under the Asia label.*

Earth's rotation. *A day—approximately the time it takes the earth to complete one rotation on its axis—is made up of 24 hours. Because the planet is divided into 360 degrees, it travels 15 degrees each hour. The globe below shows the meridians, spaced at intervals of 15 degrees longitude. Each hour a different meridian is opposite the sun. The white line is the Prime Meridian at 0° longitude, and the time zone centered on it is called Universal Time (UT), formerly Greenwich Mean Time (GMT). The zigzagging green line on the opposite side of the earth is the date line, the boundary where each calendar day begins.*

Revolving with the Seasons

Every 365¼ days, the earth completes its orbit of the sun. During that trip, the weather over much of the world changes in a regular pattern known as seasons. Year after year, spring, summer, fall, and winter follow one another. Spring always begins around March 21 in the Northern Hemisphere, while fall starts on that same date in the Southern Hemisphere.

The earth has seasons because its axis is tilted. You can see by looking at a mounted globe that the North and South Poles are tipped at an angle of about 23½ degrees. The earth always leans in the same direction as it revolves around the sun, so the amount of sunlight hitting the Northern and Southern Hemispheres changes seasonally as the planet pursues its orbit.

On about June 22, when the Northern Hemisphere is tilted toward the sun, countries such as the United States enjoy the first day of summer. This is the longest day of the year, and the sun's rays are never more direct. Meanwhile, it is the shortest day in the Southern Hemisphere, as the South Pole points away from the sun.

Six months later, the Southern Hemisphere leans toward the sun. Winter grips northern latitudes, while Australia heads into summer. Between the extremes of summer and winter come spring and fall. During these seasons, earth's axis is perpendicular to the sun's rays, and neither hemisphere has much sunlight advantage.

In the Northern Hemisphere. *As the earth orbits the sun, most areas pass through four seasonal phases (below). On about June 22, the Tropic of Cancer receives the sun's most direct rays. In the Northern Hemisphere, this is the summer solstice, when summer begins. As the earth moves on around the sun, the rays strike the globe most directly farther south, crossing the Equator about September 23, the fall equinox. By about December 22, the winter solstice, the Tropic of Capricorn is exposed to the sun's most direct rays. They move north across the Equator again on the spring equinox, about March 21. On the two equinoxes, most places on earth have nearly equal hours of daylight and dark.*