COMPLETE ATLAS OF THE WORLD

THE DEFINITIVE VIEW OF THE EARTH

3rd EDITION

DK | Penguin Random House

COMPLETE ATLAS OF THE WORLD

DK | Penguin Random House

COMPLETE ATLAS OF THE WORLD

FOR THE THIRD EDITION

Senior Cartographic Editor Simon Mumford

Cartographers Encompass Graphics Ltd, UK

Producer, Pre-Production Luca Frassinetti **Producer** Vivienne Yong

Jacket Design Development Manager Sophia MTT

Publishing Director Jonathan Metcalf **Associate Publishing Director** Liz Wheeler **Art Director** Karen Self

FOR PREVIOUS EDITIONS

Cartographic Editors
Tony Chambers, John Dear, Ruth Hall, Andrew Johnson, Belinda Kane, Lynn Neal, Ann Stephenson

Cartographers
Paul Eames, Edward Merritt, John Plumer, Rob Stokes, Iorwerth Watkins

Digital Map Suppliers
Advanced Illustration, Congleton, UK • Cosmographics, Watford, UK
Encompass Graphics, Brighton, UK • Lovell Johns Ltd., Long Hanborough, UK
Netmaps, Barcelona, Spain

Digital Terrain Data
Digital terrain data and continental panoramic images created by Planetary Visions Ltd, Farnham, UK

Editor
Robert Dinwiddie

Designers
Nicola Liddiard, Yak El-Droubie

Picture Research
Louise Thomas, Jenny Baskaya

Indexing and Database
T-Kartor, Sweden
Francesca Albini, Eleanor Arkwright, Renata Dyntarova, Edward Heelas, Britta Hansesgaard

Systems Coordinator
Philip Rowles

Flags courtesy of The Flag Institue, Cheshire, UK

First American Edition, 2007

This revised edition 2016

Published in the United States by DK Publishing, 345 Hudson Street, New York, New York 10014

16 17 18 19 20 10 9 8 7 6 5 4 3 2 1
265177–May 2016

Reprinted with revisions 2009, Second edition 2012, Third edition 2016

Published in Great Britain by Dorling Kindersley Limited. A Penguin Random House company.

A catalog record for this book is available from the Library of Congress.

ISBN: 978-1-4654-4401-1

DK books are available at special discounts when purchased in bulk for sales promotions, premiums, fund-raising, or educational use.
For details, contact: DK Publishing Special Markets, 345 Hudson Street, New York, New York 10014 or SpecialSales@dk.com

Printed and bound in Hong Kong.

A WORLD OF IDEAS:
SEE ALL THERE IS TO KNOW
www.dk.com

Introduction

The World at the beginning of the 21st Century would be a place of unimaginable change to our forefathers. Since 1900 the human population has undergone a fourfold growth coupled with an unparalleled development in the technology at our disposal. The last vestiges of the unknown World are gone, and previously hostile realms claimed for habitation. The advent of aviation technology and the growth of mass tourism have allowed people to travel further and more frequently than ever before.

Allied to this, the rapid growth of global communication systems mean that World events have become more accessible than ever before and their knock on effects quickly ripple across the whole planet. News broadcasts bring the far-flung corners of the world into everyone's lives, and with it, a view of the people and places that make up that region. The mysteries of the World that once fueled global exploration and the quest to discover the unknown are behind us; we inhabit a world of mass transportation, a world where even the most extreme regions have been mapped, a world with multi faceted view points on every event, a World of communication overload.

However, does this help us make sense of the World? It is increasingly important for us to have a clear vision of the World in which we live and such a deluge of information can leave us struggling to find some context and meaning. It has never been more important to own an atlas; the *DK Complete Atlas of the World* has been conceived to meet this need. At its core, like all atlases, it seeks to define where places are, to describe their main characteristics, and to locate them in relation to other places. By gathering a spectacular collection of satellite imagery and draping it with carefully selected and up-to-date geographic information, this atlas filters the World's data into clear, meaningful and user-friendly maps.

The World works on different levels and so does the *DK Complete Atlas of the World*. Readers can learn about global issues of many kinds or they can probe in a little further for the continental context. Delving even further they can explore at regional, national or even sub-national level. The very best available satellite data has been used to create topography and bathymetry that reveal the breathtaking texture of landscapes and sea-floors. These bring out the context of the places and features selected to appear on top of them.

This third edition of the *DK Complete Atlas of the World* incorporates hundreds of revisions and updates affecting every map and every page, distilling the burgeoning mass of information available through modern technology into an extraordinarily detailed and reliable view of our World.

Contents

The atlas is organized by continent, moving eastward from the International Date Line. The opening section describes the world's structure, systems and its main features. The Atlas of the World which follows, is a continent-by-continent guide to today's world, starting with a comprehensive insight into the physical, political, and economic structure of each continent, followed by detailed maps of carefully selected geopolitical regions.

ASIA

AUSTRALASIA & OCEANIA

INDEX & GAZETTEER

Key to regional maps

Physical features

elevation

- 6000m / 19,686ft
- 4000m / 13,124ft
- 3000m / 9843ft
- 2000m / 6562ft
- 1000m / 3281ft
- 500m / 1640ft
- 250m / 820ft
- 100m / 328ft
- sea level
- below sea level

- elevation above sea level (mountain height)
- volcano
- pass
- elevation below sea level (depression depth)

- sand desert
- lava flow
- coastline
- reef
- atoll

sea depth

- sea level
- -250m / -820ft
- -2000m / -6562ft
- -4000m / -13,124ft

- seamount / guyot symbol
- undersea spot depth

Drainage features

- main river
- secondary river
- tertiary river
- minor river
- main seasonal river
- secondary seasonal river
- canal
- waterfall
- rapids
- dam
- perennial lake
- seasonal lake
- perennial salt lake
- seasonal salt lake
- reservoir
- salt flat / salt pan
- marsh / salt marsh
- mangrove
- wadi
- spring / well / waterhole / oasis

Ice features

- ice cap / sheet
- ice shelf
- glacier / snowfield
- summer pack ice limit
- winter pack ice limit

Graticule features

- lines of latitude and longitude / Equator
- Tropics / Polar circles
- 45° degrees of longitude / latitude

Communications

- motorway / highway
- motorway / highway (under construction)
- major road
- minor road
- tunnel (road)
- main railroad
- minor railroad
- tunnel (railroad)
- international airport

Borders

- full international border
- undefined international border
- disputed de facto border
- disputed territorial claim border
- indication of country extent (Pacific only)
- indication of dependent territory extent (Pacific only)
- demarcation/ cease fire line
- autonomous / federal region border
- other 1st order internal administrative border
- 2nd order internal administrative border

Miscellaneous features

- ancient wall
- site of interest
- scientific station

Settlements

- built up area

settlement population symbols

- more than 5 million
- 1 million to 5 million
- 500,000 to 1 million
- 100,000 to 500,000
- 50,000 to 100,000
- 10,000 to 50,000
- fewer than 10,000

- country/dependent territory capital city
- autonomous / federal region / other 1st order internal administrative center
- 2nd order internal administrative center

Typographic key

Physical features

landscape features … *Namib Desert*, *Massif Central*, *ANDES*

headland ..... *Nordkapp*

elevation / volcano / pass ..... Mount Meru 4556 m

drainage features .... *Lake Geneva*

rivers / canals / spring / well / waterhole / oasis / waterfall / rapids / dam ..... *Mekong*

ice features ..... *Vatnajökull*

Physical features (continued)

sea features ..... *Golfe de Lion*, *Andaman Sea*, *INDIAN OCEAN*

undersea features … *Barracuda Fracture Zone*

Regions

country ..... ARMENIA

dependent territory with parent state ..... NIUE (to NZ)

autonomous / federal region ..... MINAS GERAIS

other 1st order internal administrative region ..... MINSKAYA VOBLASTS'

2nd order internal administrative region ..... Vaucluse

cultural region ..... New England

Settlements

capital city ..... BEIJING

dependent territory capital city ..... FORT-DE-FRANCE

other settlements … Chicago, Adana, Tizi Ozou, Yonezawa, Farnham

Miscellaneous

sites of interest / miscellaneous ..... Valley of the Kings

Tropics / Polar circles ..... *Antarctic Circle*

The Solar System

The Solar System consists of our local star, the Sun, and numerous objects that orbit the Sun – eight planets, five currently recognized dwarf planets, over 165 moons orbiting these planets and dwarf planets, and countless smaller bodies such as comets and asteroids. Including a vast outer region that is populated only by comets, the Solar System is about 9,300 billion miles (15,000 billion km) across. The much smaller region containing just the Sun and planets is about 7.5 billion miles (12 billion km) across. The Sun, which contributes over 99 percent of the mass of the entire Solar System, creates energy from nuclear reactions deep within its interior, providing the heat and light that make life on Earth possible.

THE MOON'S PHASES

As the Moon orbits Earth, the relative positions of Moon, Sun and Earth continuously change. Thus, the angle at which the Moon's sunlit face is seen by an observer on Earth varies in a cyclical fashion, producing the Moon's phases, as shown at right. Each cycle takes 29.5 days.

1. WAXING CRESCENT
2. FIRST QUARTER

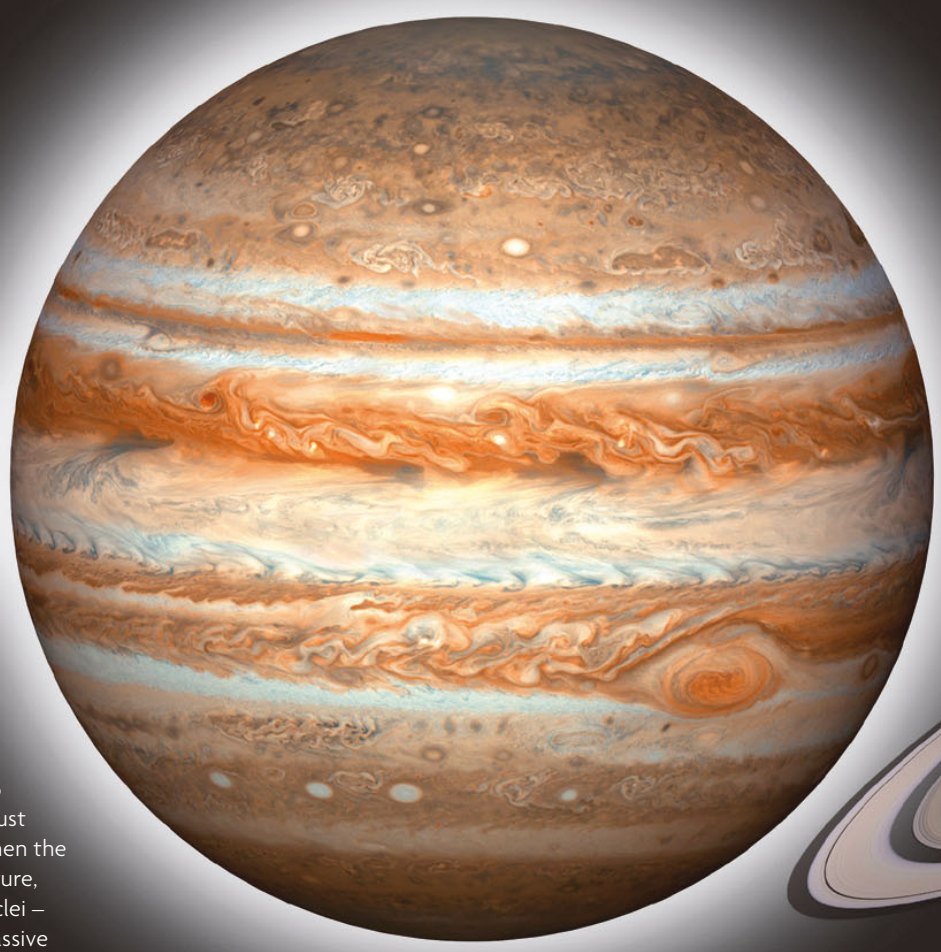
The Earth and Moon's relative sizes are clear in this long-range image from space.

The Moon

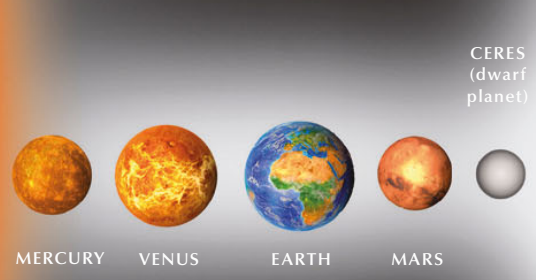
Earth's only satellite, the Moon, is thought to have formed 4.5 billion years ago from a cloud of debris produced when a large asteroid hit the young Earth. The Moon is too small to have retained an atmosphere, and is therefore a lifeless, dusty and dead world. However, although the Moon has only about 1 percent of the mass of the Earth, its gravity exerts an important influence on Earth's oceans, manifest in the ebb and flow of the tides.

What is a Planet?

The International Astronomical Union defines a Solar System planet as a near-spherical object that orbits the Sun (and no other body) and has cleared the neighborhood around its orbit of other bodies. A dwarf planet is a planet that is not big enough to have cleared its orbital neighborhood. Extra-solar planets are objects orbiting stars other than the Sun.



JUPITER



CERES (dwarf planet)

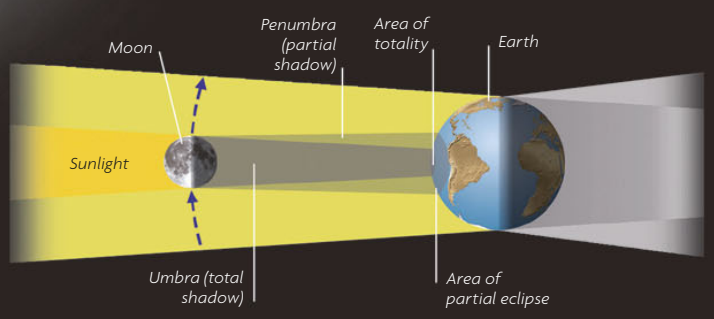
MERCURY VENUS EARTH MARS

The Sun

The Sun is a huge sphere of exceedingly hot plasma (ionized gas), consisting mainly of the elements hydrogen and helium. It formed about 4.6 billion years ago, when a swirling cloud of gas and dust began to contract under the influence of gravity. When the center of this cloud reached a critically high temperature, hydrogen nuclei started combining to form helium nuclei – a process called nuclear fusion – with the release of massive amounts of energy. This process continues to this day.

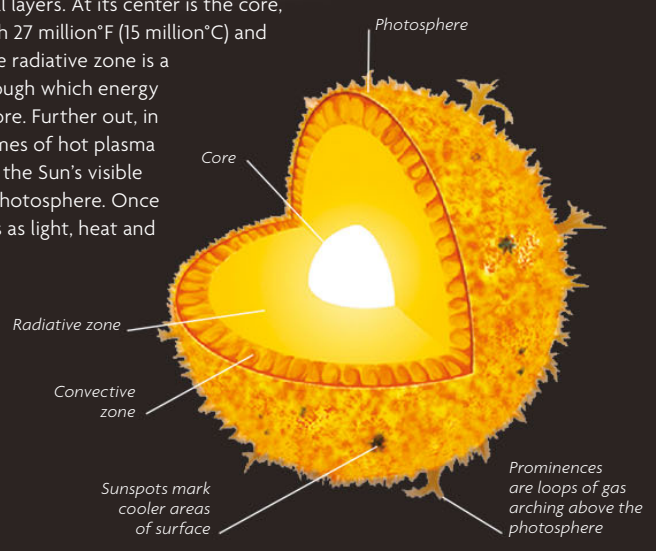
SOLAR ECLIPSE

A solar eclipse occurs when the Moon passes between Earth and the Sun, casting its shadow on Earth's surface. During a total eclipse *(below)*, viewers along a strip of Earth's surface, called the area of totality, see the Sun totally blotted out for a short time, as the umbra (Moon's full shadow) sweeps over them. Outside this area is a larger one, where the Sun appears only partly obscured, as the penumbra (partial shadow) passes over.



INSIDE THE SUN

The Sun has three internal layers. At its center is the core, where temperatures reach 27 million°F (15 million°C) and nuclear fusion occurs. The radiative zone is a slightly cooler region through which energy radiates away from the core. Further out, in the convective zone, plumes of hot plasma carry the energy towards the Sun's visible surface layer, called the photosphere. Once there, the energy escapes as light, heat and other forms of radiation.

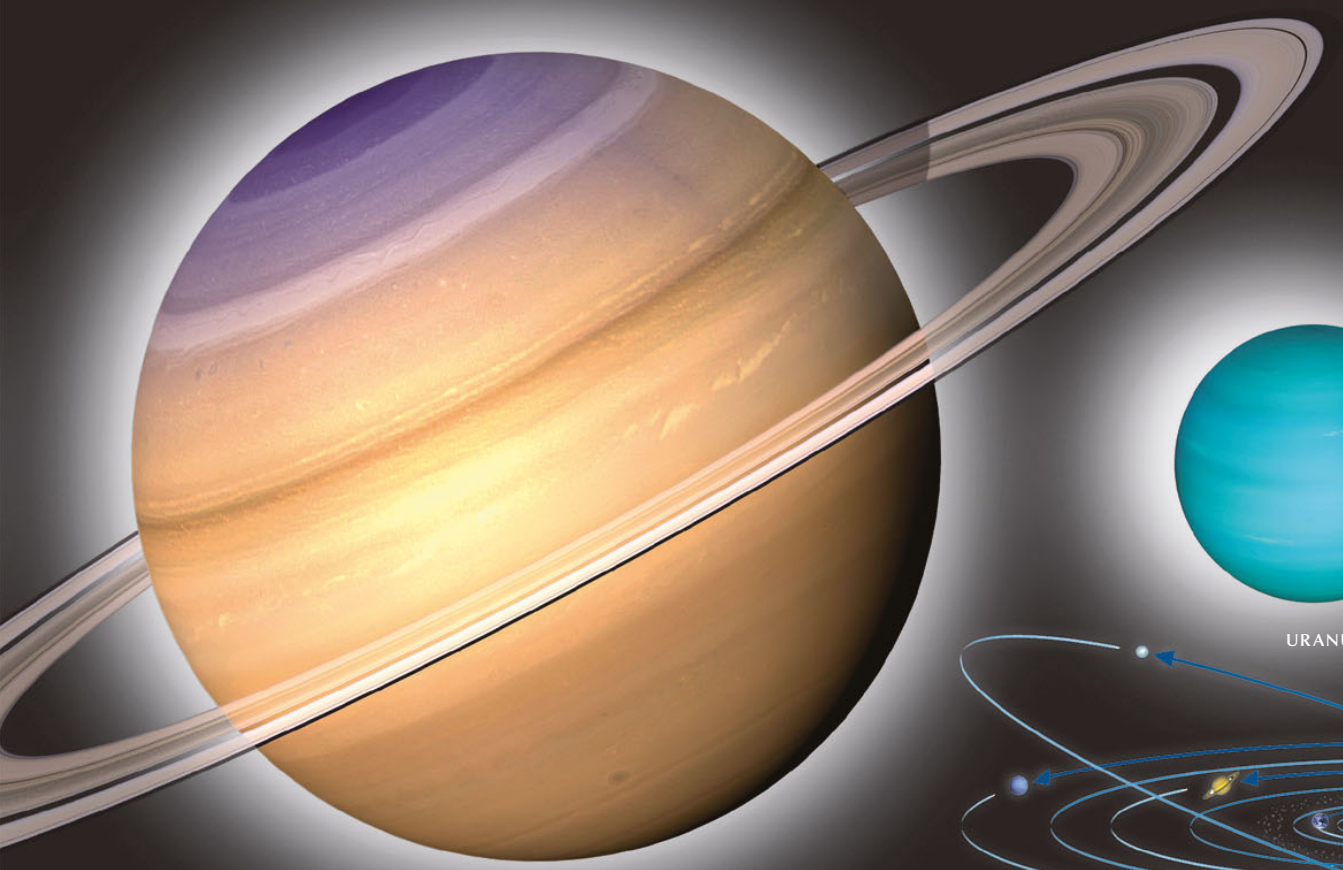


3. WAXING GIBBOUS | 4. FULL MOON | 5. WANING GIBBOUS | 6. LAST QUARTER | 7. WANING CRESCENT | 8. NEW MOON

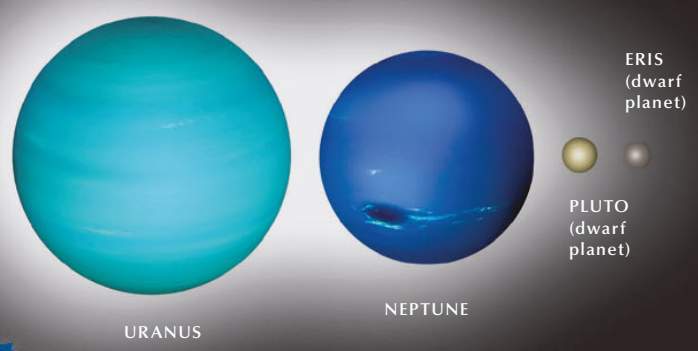
PLANETS									MAIN DWARF PLANETS		
	MERCURY	VENUS	EARTH	MARS	JUPITER	SATURN	URANUS	NEPTUNE	CERES	PLUTO	ERIS
DIAMETER	3029 miles (4875 km)	7521 miles (12,104 km)	7928 miles (12,756 km)	4213 miles (6780 km)	88,846 miles (142,984 km)	74,898 miles (120,536 km)	31,763 miles (51,118 km)	30,775 miles (49,528 km)	590 miles (950 km)	1432 miles (2304 km)	1429-1553 miles (2300-2500 km)
AVERAGE DISTANCE FROM THE SUN	36 mill. miles (57.9 mill. km)	67.2 mill. miles (108.2 mill. km)	93 mill. miles (149.6 mill. km)	141.6 mill. miles (227.9 mill. km)	483.6 mill. miles (778.3 mill. km)	889.8 mill. miles (1431 mill. km)	1788 mill. miles (2877 mill. km)	2795 mill. miles (4498 mill. km)	257 mill. miles (414 mill. km)	3675 mill. miles (5,915 mill. km)	6344 mill. miles (10,210 mill. km)
ROTATION PERIOD	58.6 days	243 days	23.93 hours	24.62 hours	9.93 hours	10.65 hours	17.24 hours	16.11 hours	9.1 hours	6.38 days	not known
ORBITAL PERIOD	88 days	224.7 days	365.26 days	687 days	11.86 years	29.37 years	84.1 years	164.9 years	4.6 years	248.6 years	557 years
SURFACE TEMPERATURE	-292°F to 806°F (-180°C to 430°C)	896°F (480°C)	-94°F to 131°F (-70°C to 55°C)	-184°F to 77 °F (-120°C to 25°C)	-160°F (-110°C)	-220°F (-140°C)	-320°F (-200°C)	-320°F (-200°C)	-161°F (-107°C)	-380°F (-230°C)	-405°F (-243°C)

DWARF PLANETS

In 2006 a new type of dwarf planet was defined in an attempt to classify the numerous smaller bodies within the solar system that behave like planets physically but which are only a fraction of the size of the major planets. Currently, there are five dwarf planets recognized under this system, Ceres, Pluto, Haumea, Makemake, and Eris.



SATURN

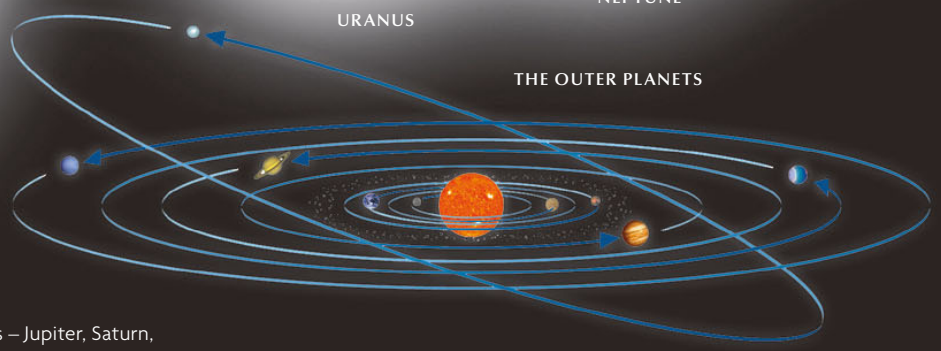


ERIS (dwarf planet)

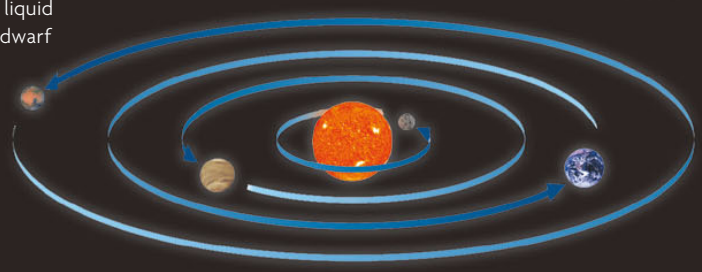
PLUTO (dwarf planet)

URANUS

NEPTUNE



THE OUTER PLANETS



THE INNER PLANETS

Orbits

All the Solar System's planets and dwarf planets orbit the Sun in the same direction and (apart from Pluto) roughly in the same plane. All the orbits have the shapes of ellipses (stretched circles). However in most cases, these ellipses are close to being circular: only Pluto and Eris have very elliptical orbits. Orbital period (the time it takes an object to orbit the Sun) increases with distance from the Sun. The more remote objects not only have further to travel with each orbit, they also move more slowly.

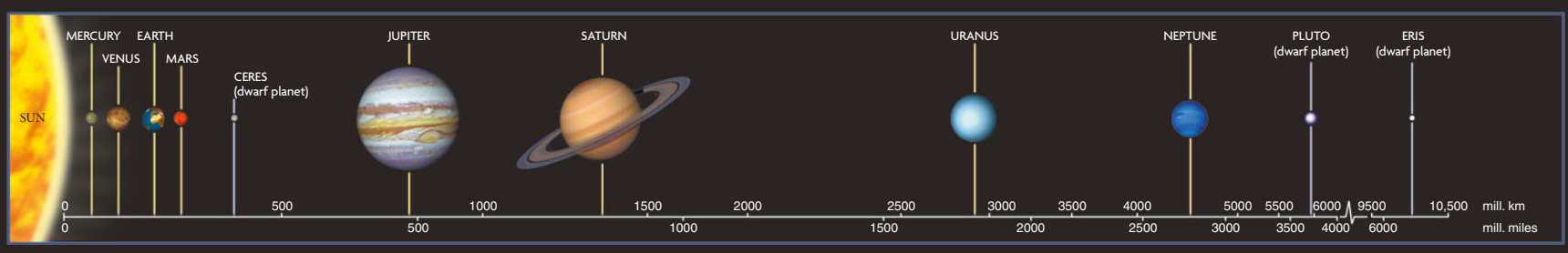
THE OUTER PLANETS

The four gigantic outer planets – Jupiter, Saturn, Uranus and Neptune – consist mainly of gas, liquid and ice. All have rings and many moons. The dwarf planet Pluto is made of rock and ice.

THE INNER PLANETS

The four planets closest to the Sun – Mercury, Venus, Earth and Mars – are composed mainly of rock and metal. They are much smaller than the outer planets, have few or no moons, and no rings.

AVERAGE DISTANCE FROM THE SUN

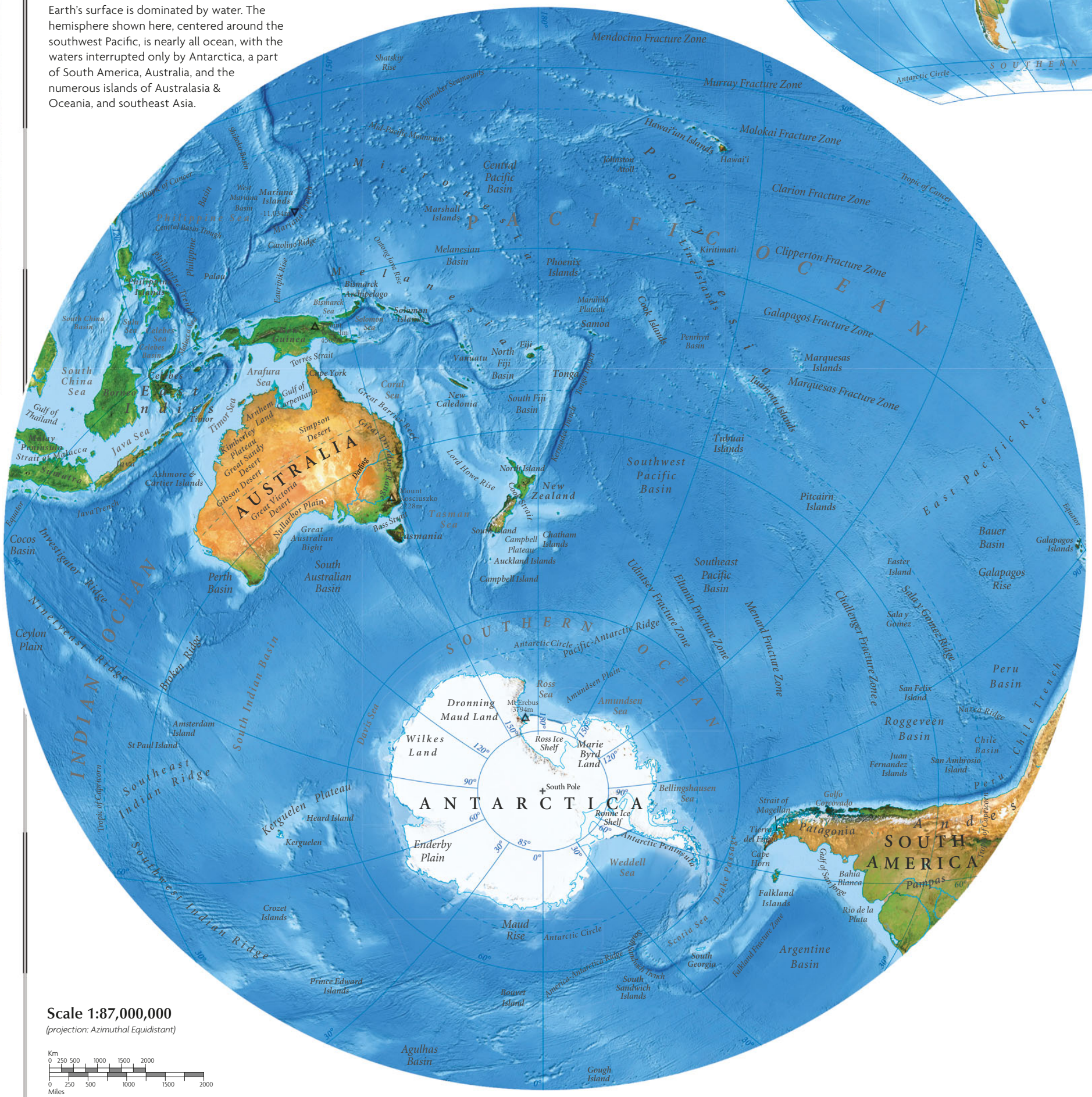


The Physical World

Earth's surface is constantly being transformed. Movements of the rigid tectonic plates that make up this surface are continuously, if slowly, shifting its landmasses around, while the land itself is constantly weathered and eroded by wind, water, and ice. Sometimes change is dramatic, the spectacular results of earthquakes or floods. More often it is a slow process lasting for millions of years. A physical map of the world represents a snapshot of Earth's ever-evolving architecture. The maps below and at right show the planet's whole surface, including variations in ocean depth as well as the mountain-rippled texture of Earth's continents.

THE WORLD'S OCEANS

Earth's surface is dominated by water. The hemisphere shown here, centered around the southwest Pacific, is nearly all ocean, with the waters interrupted only by Antarctica, a part of South America, Australia, and the numerous islands of Australasia & Oceania, and southeast Asia.



THE EARTH

DIAMETER AT EQUATOR: 7,926 miles (12,756 km)	**SURFACE AREA OF LAND COVERED BY ICE:** 6 million sq miles (15.6 million sq km)
DIAMETER FROM POLE TO POLE: 7,900 miles (12,714 km)	**SURFACE AREA COVERED BY MOUNTAINS:** 12 million sq miles (30 million sq km)
EQUATORIAL CIRCUMFERENCE: 24,901 miles (40,075 km)	**SURFACE AREA COVERED BY DESERTS:** 7.5 million sq miles (19 million sq km)
MASS: 5988 million billion tons (tonnes)	**SURFACE AREA COVERED BY FORESTS:** 17 million sq miles (44 million sq km)
VOLUME OF OCEANS: 324 million cu miles (1.36 billion cu km)	**MAXIMUM HEIGHT OF LAND:** 29,029 ft (8,848 m) (Mt. Everest, Himalayas)
SURFACE AREA OF OCEANS, SEAS AND LAKES: 140 million sq miles (361 million sq km)	**MAXIMUM DEPTH OF OCEANS:** 36,201 ft (11,034 m) (Mariana Trench, Pacific Ocean)
SURFACE AREA OF LAND: 57.5 million sq miles (149 million sq km)	

THE WORLD'S LAND

Most of the world's land is concentrated in a hemisphere centered around Europe. This concentration was even greater before tectonic movement opened up the Atlantic, splitting the Americas from Europe and Africa, some 170 million years ago.

Scale 1:87,000,000

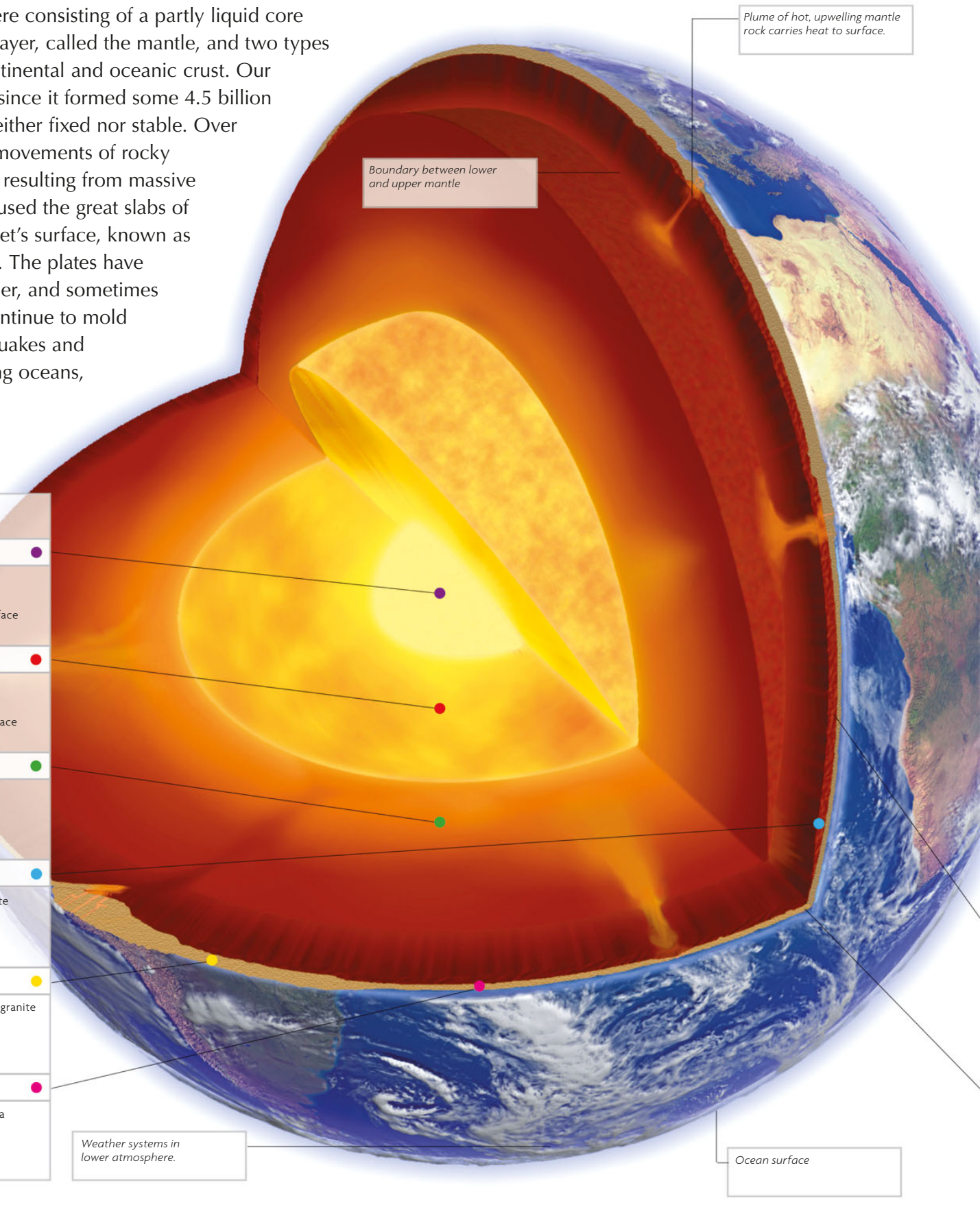
(projection: Azimuthal Equidistant)

Km 0 250 500 1000 1500 2000

Miles 0 250 500 1000 1500 2000

The Structure of the Earth

Earth is an almost perfect sphere consisting of a partly liquid core overlain by a deep, semisolid layer, called the mantle, and two types of surface crust, known as continental and oceanic crust. Our planet has constantly evolved since it formed some 4.5 billion years ago. Its continents are neither fixed nor stable. Over the course of history, gradual movements of rocky material within Earth's mantle, resulting from massive internal flows of heat, have caused the great slabs of material that make up the planet's surface, known as tectonic plates, to shift around. The plates have moved, collided, joined together, and sometimes split apart. These processes continue to mold Earth's surface, causing earthquakes and volcanic eruptions, and creating oceans, mountain ranges, rift valleys, deep ocean trenches, and island chains.



EARTH FACTS & FIGURES

INNER CORE

COMPOSITION: Solid iron, with some nickel
DENSITY: 7.0 oz/in³ (12 g/cm³)
DEPTH: 3200-3963 miles (5150-6378 km) below surface
TEMPERATURE: 7200–8500°F (4000–4700°C)

OUTER CORE

COMPOSITION: Liquid iron and nickel
DENSITY: 5.7 oz/in³ (10 g/cm³)
DEPTH: 1907-3200 miles (2990-5150 km) below surface
TEMPERATURE: 6300–7200°F (3500–4000°C)

LOWER MANTLE

COMPOSITION: Semisolid high-density silicates
DENSITY: 3.2 oz/in³ (5.5 g/cm³)
DEPTH: 48-1907 miles (75-2990 km) below surface
TEMPERATURE: 1800–6300°F (1000–3500°C)

UPPER MANTLE

COMPOSITION: Semisolid rock, primarily peridotite
DENSITY: 2.0 oz/in³ (3.5 g/cm³)
DEPTH: 3–48 miles (5–75 km) below surface
TEMPERATURE: 1800°F (Less than 1000°C)

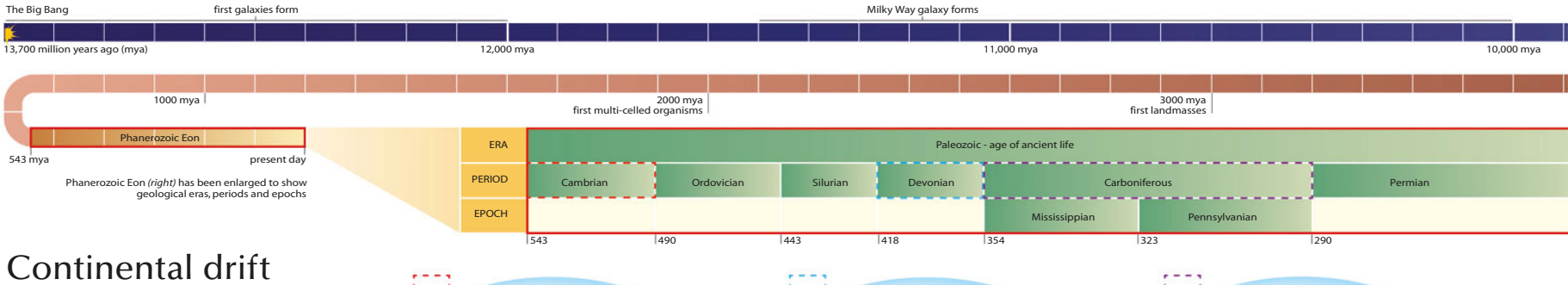
CONTINENTAL CRUST

COMPOSITION: Solid, relatively light rock such as granite
DENSITY: 1.6 oz/in³ (2.7 g/cm³)
DEPTH: 0–48 miles (0–75 km) below surface
TEMPERATURE: 1800°F (Less than 1000°C)

OCEANIC CRUST

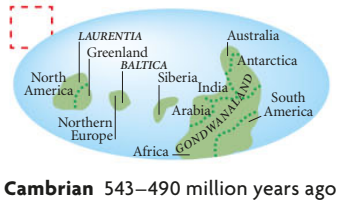
COMPOSITION: Solid, relatively dense basaltic lava
DENSITY: 1.7 oz/in³ (3 g/cm³)
DEPTH: 2–7 miles (3–11 km) below surface
TEMPERATURE: 1800°F (Less than 1000°C)

FROM THE BIG BANG TO THE PRESENT DAY



Continental drift

Although Earth's tectonic plates move only a few inches (centimeters) each year, over hundreds of millions of years, its landmasses have moved many thousands of miles (kilometers), to create new continents, oceans, and mountain chains.



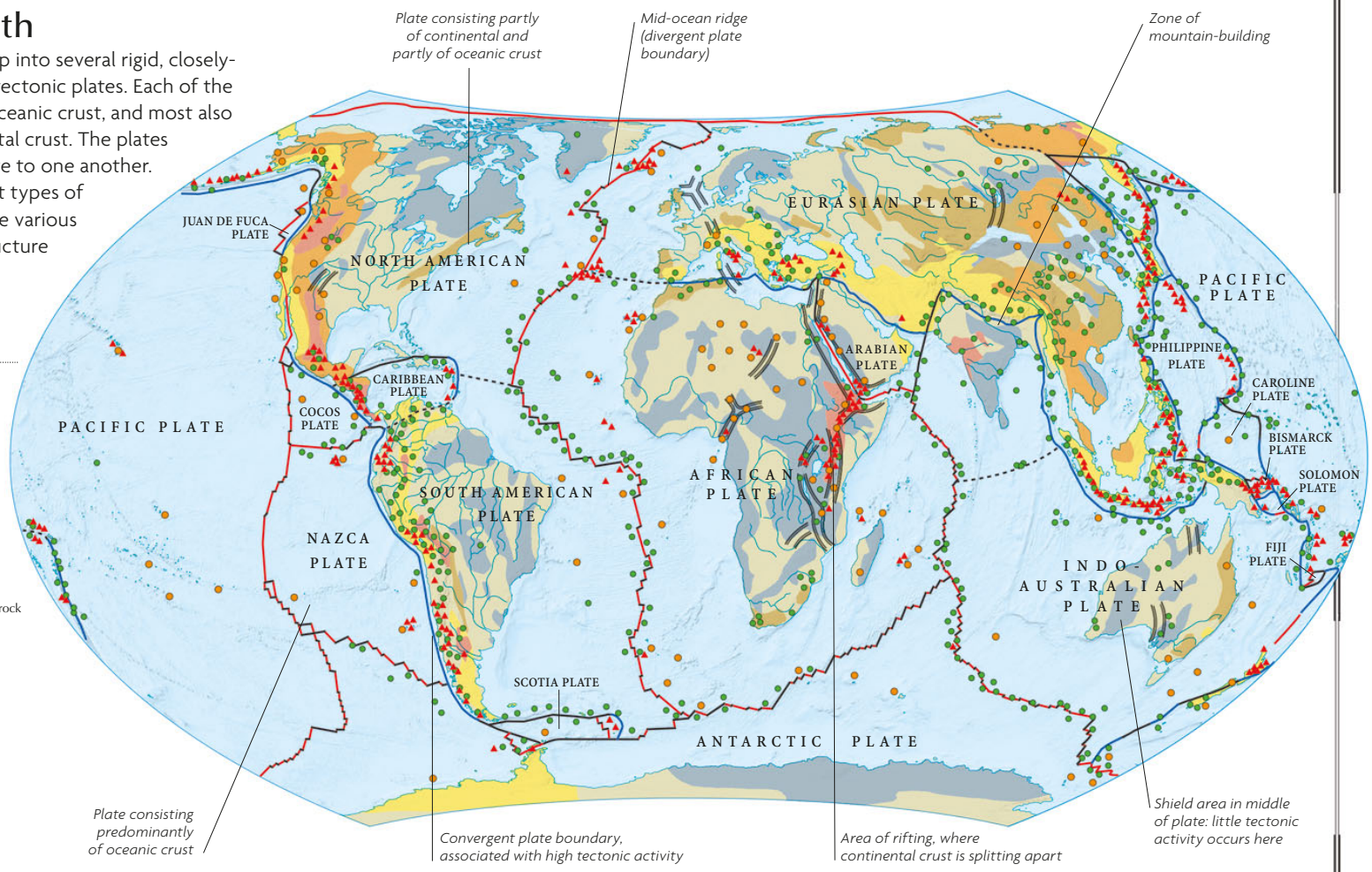
Cambrian 543–490 million years ago

Devonian 418–354 million years ago

Carboniferous 354–290 million years ago

Dynamic Earth

Earth's surface is split up into several rigid, closely-fitting sections, called tectonic plates. Each of the plates contains some oceanic crust, and most also contain some continental crust. The plates constantly move relative to one another. Movements at different types of plate boundary produce various types of geological structure and activity.



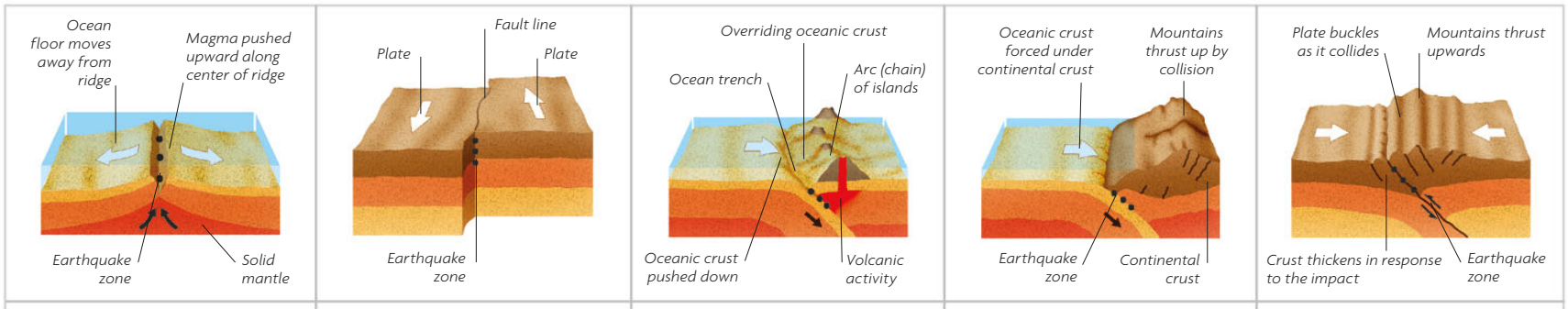
Tectonic activity and geological regions

Plate boundaries
- Convergent
- Divergent
- Transform
- Uncertain

Tectonic activity
- volcanic zone
- earthquake zone
- hot spot
- rift valley

- Sedimentary cover
- Mesozoic & Cenozoic volcanic rock
- Cenozoic (65 mya – present)
- Mesozoic (252 mya – 65 mya)
- Paleozoic (543 mya – 252 mya)
- pre-Cambrian Shields

EFFECTS AT PLATE BOUNDARIES



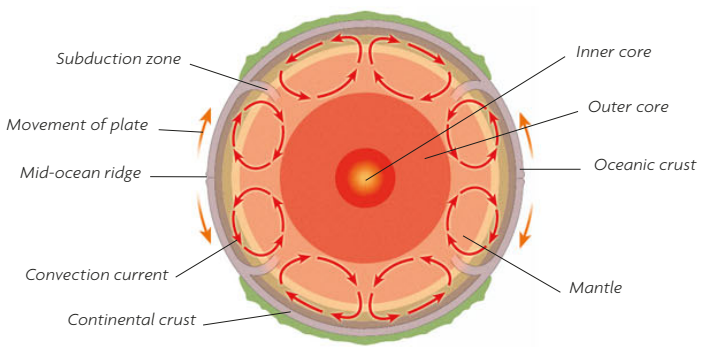
FORMATION OF A MID-OCEAN RIDGE	SLIDING PLATES (TRANSFORM BOUNDARY)	FORMATION OF ISLAND ARC AND OCEAN TRENCH	SUBDUCTION OF OCEANIC CRUST UNDER CONTINENTAL CRUST	BLOCKS OF CONTINENTAL CRUST COLLIDE TO FORM MOUNTAINS

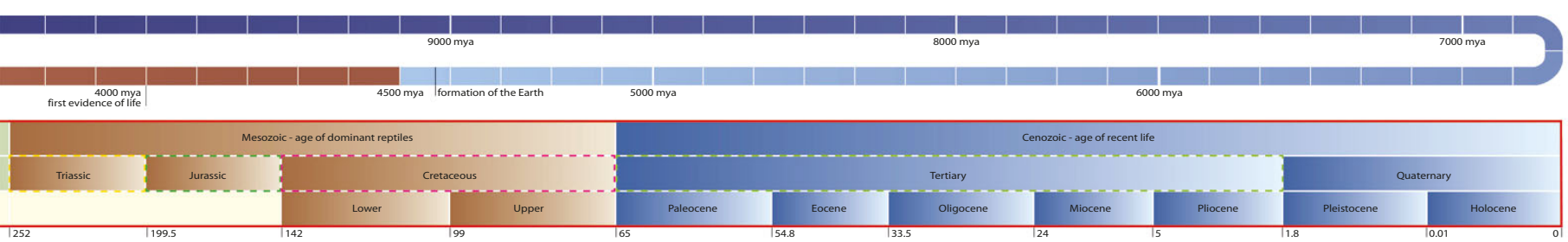
Boundary between upper mantle and crust

Sea floor made of oceanic crust

CONVECTION CURRENTS

Deep within Earth's core, temperatures may exceed 8100°F (4500°C). The heat from the core warms rocks in the mantle, which become semimolten and rise upwards, displacing cooler rock below the solid oceanic and continental crust. This rock sinks and is warmed again by heat given off from the core. The process continues in a cyclical fashion, producing convection currents below the crust. These currents lead, in turn, to gradual movements of the tectonic plates over the planet's surface.

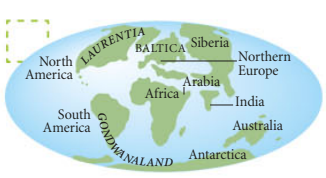




Triassic 252–199.5 million years ago

Jurassic 199.5–142 million years ago

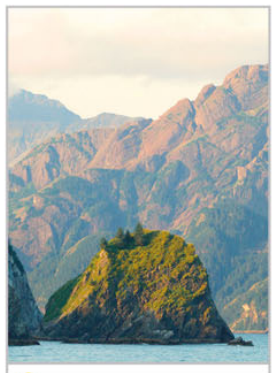
Cretaceous 142–65 million years ago



Tertiary 65–2 million years ago

Shaping the Landscape

The basic material of Earth's surface is solid rock: valleys, deserts, soil, and sand are all evidence of the powerful agents of weathering, erosion and deposition that constantly transform Earth's landscapes. Water, whether flowing in rivers or grinding the ground in the form of glaciers, has the most clearly visible impact on Earth's surface. Also, wind can transport fragments of rock over huge distances and strip away protective layers of vegetation, exposing rock surfaces to the impact of extreme heat and cold. Many of the land-shaping effects of ice and water can be seen in northern regions such as Alaska *(below)*, while the effects of heat and wind are clearly visible in the Sahara *(far right)*.



FJORD
A valley carved by an ancient glacier and later flooded by the sea is called a fiord.

Ice and water

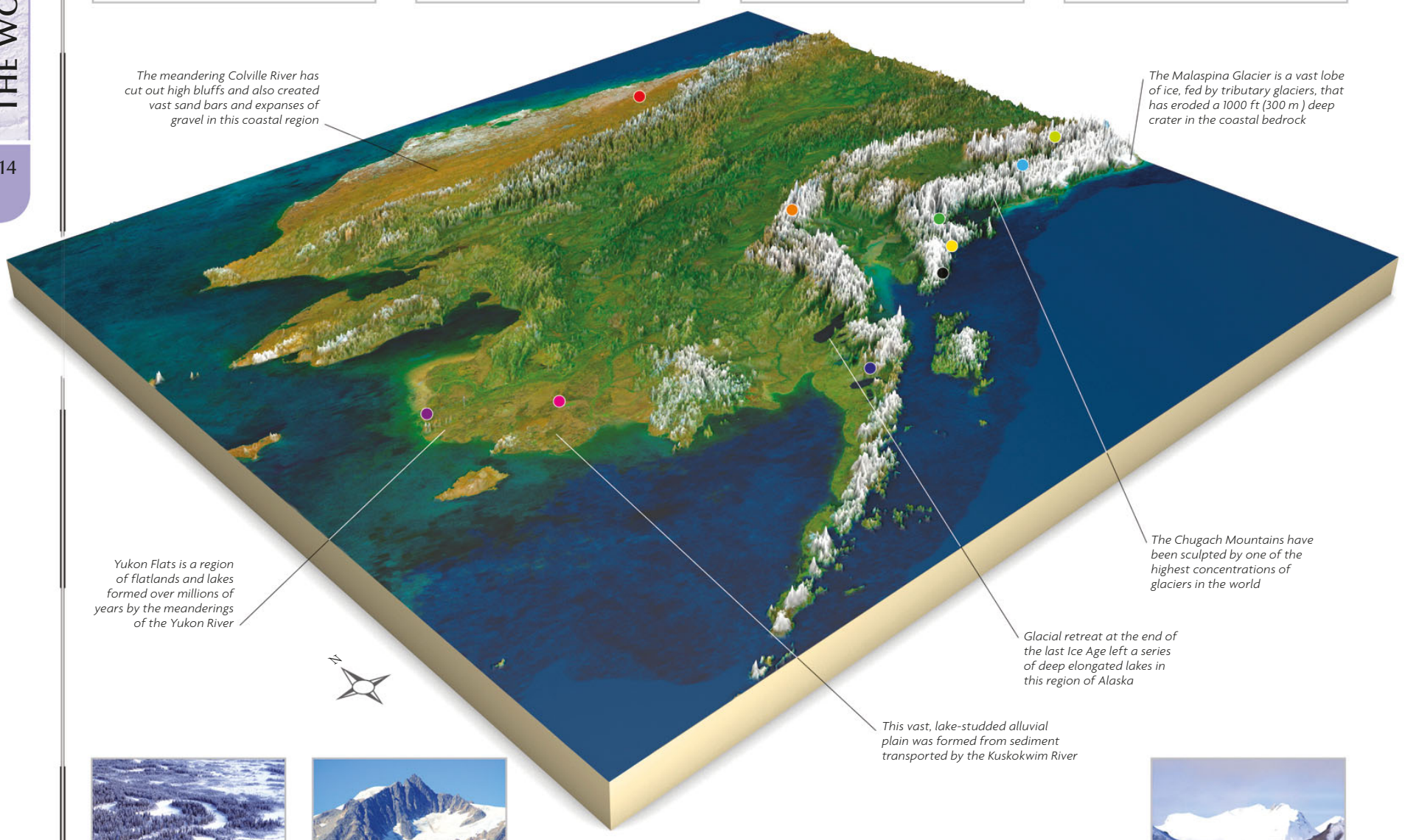
Some of the most obvious and striking features of Earth's surface are large flows and bodies of liquid water, such as rivers, lakes, and seas. In addition to these are landforms caused by the erosional or depositional power of flowing water, which include gullies, river valleys, and coastal features such as headlands and deltas. Ice also has had a major impact on Earth's appearance. Glaciers—rivers of ice formed by the compaction of snow—pick up and carry huge amounts of rocks and boulders as they pass over the landscape, eroding it as they do so. Glacially-sculpted landforms range from mountain *cirques* and U-shaped valleys to fiords and glacial lakes.

DELTA
A delta, such as that of the Yukon River (above), *is a roughly triangular or fan-shaped area of sediment deposited by a river at its mouth.*

PINGO
These blister-like mounds, seen in regions of Arctic tundra, are formed by the upward expansion of water as it freezes in the soil.

TIDEWATER GLACIER
Glaciers of this type flow to the sea, where they calve (disgorge) icebergs. Like all glaciers, they erode huge amounts of rock from the landscape.

LANDSLIDE
The freezing and later thawing of water, which occurs in a continuous cycle, can shatter and crumble rocks, eventually causing landslides.



MEANDERING RIVER
In their lower courses, some rivers carve out a series of looping bends called meanders.

CIRQUE
A cirque *is a hollow formed high on a mountain by glacial action. It may be ice-filled.*

POSTGLACIAL FEATURES
Glacially-polished cliffs like these are a tell-tale sign of ancient glacial action. Other signs include various forms of sculpted ridge and hummock.

RIVER VALLEY
Over thousands of years, rivers erode uplands to form characteristic V-shaped valleys, with flat narrow floors and steeply-rising sides.

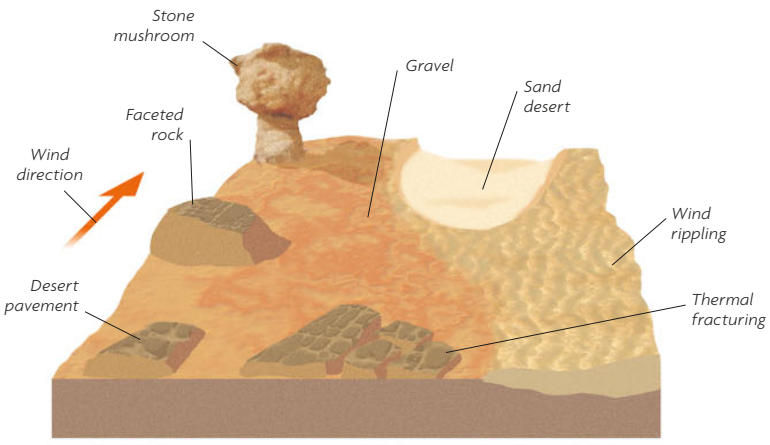
GULLIES
Gullies are deep channels cut by rapidly flowing water, as here below Alaska's Mount Denali.

Heat and wind

Marked changes in temperature—rapid heating caused by fierce solar radiation during the day, followed by a sharp drop in temperature at night—cause rocks at the surface of hot deserts to continually expand and contract. This can eventually result in cracking and fissuring of the rocks, creating thermally-fractured desert landscapes. The world's deserts are also swept and scoured by strong winds. The finer particles of sand are shaped into surface ripples, dunes, or sand mountains, which can rise to a height of 650 ft (200 m). In other areas, the winds sweep away all the sand, leaving flat, gravelly areas called desert pavements.

DESERT LANDSCAPES

In desert areas, wind picks up loose sand and blasts it at the surface, creating a range of sculpted landforms from faceted rocks to large-scale features such as *yardangs*. Individually sculpted-rocks are called ventifacts. Where the sand abrasion is concentrated near the ground, it can turn these rocks into eccentrically-shaped "stone mushrooms." Other desert features are produced by thermal cracking and by winds continually redistributing the vast sand deposits.



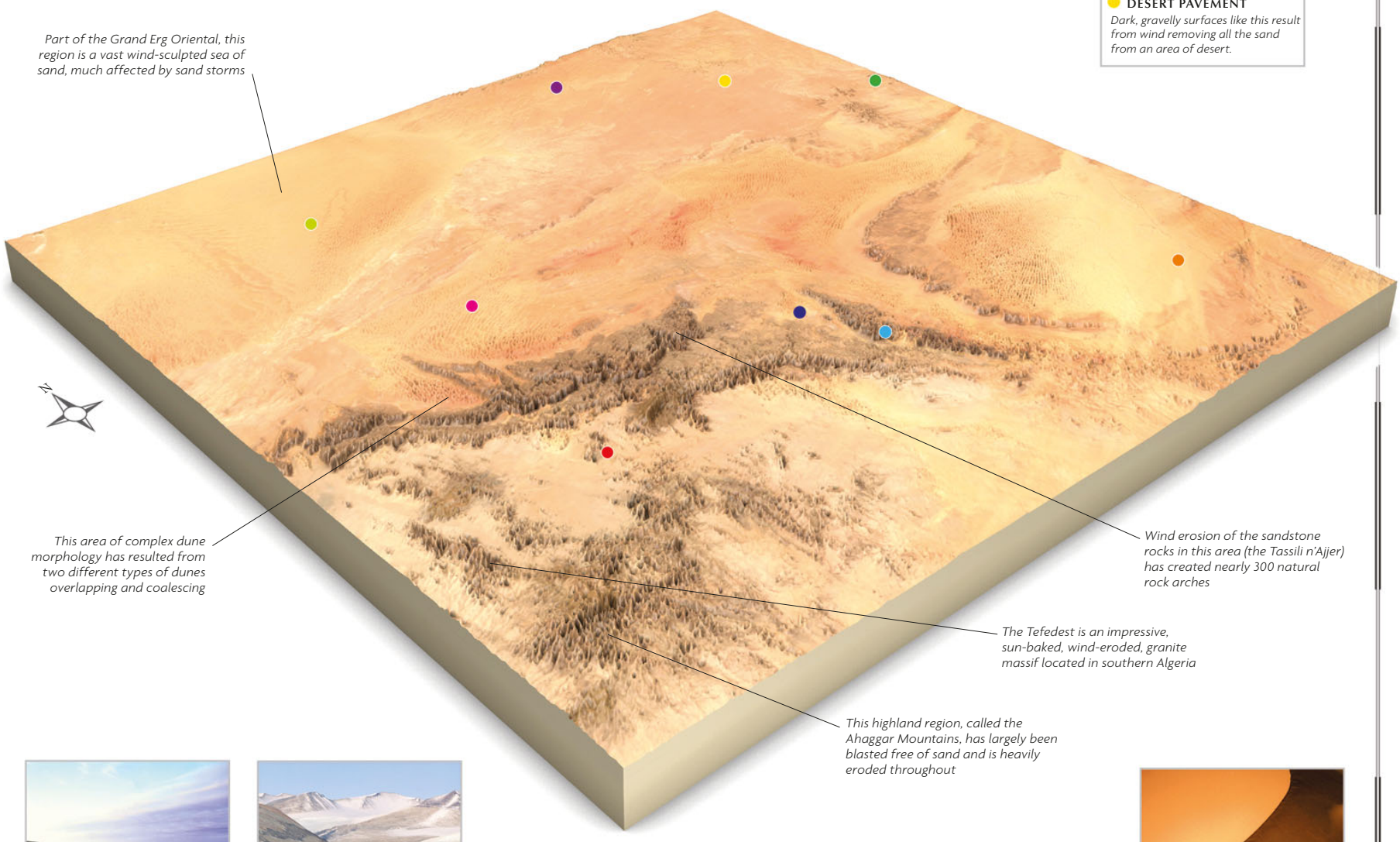
FEATURES OF A DESERT SURFACE

DUST STORM
A common phenomenon in some deserts, dust storms result from intense heating of the ground creating strong convection currents.

LOESS DEPOSIT
A deposit of silt that has been transported over long distances by wind, then compacted. Loess *is found in a few marginal areas of the Sahara.*

YARDANG
A yardang *is a ridge of rock produced by wind erosion, usually in a desert. Large* yardangs *can be many miles long.*

DESERT PAVEMENT
Dark, gravelly surfaces like this result from wind removing all the sand from an area of desert.



TRANSVERSE DUNES
This series of parallel sand ridges lies at right angles to the prevailing wind direction.

VENTIFACT
A ventifact is a rock that has been heavily sculpted and abraded by wind-driven sand.

CRACKED DESERT
Intensely heated and dried-out desert areas often developed geometrically-patterned surface cracking.

WADI
Wadis are dried out stream beds, found in some desert regions, that carry water only during occasional periods of heavy rain.

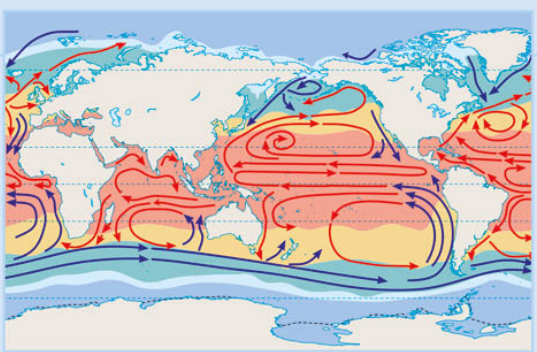
BARCHAN DUNE
This arc-shaped type of dune migrates across the desert surface, blown by the wind.

The World's Oceans

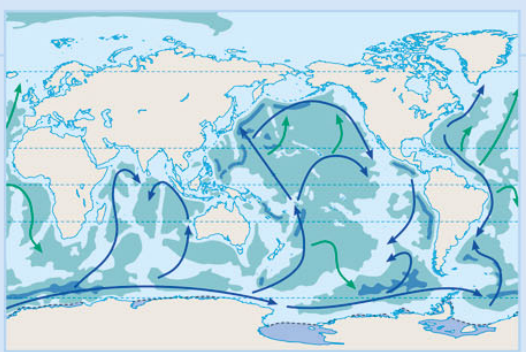
Two-thirds of Earth's surface is covered by the five oceans: the Pacific, Atlantic, Indian, Southern (or Antarctic), and Arctic. The basins that form these oceans, and the ocean floor landscape, have formed over the past 200 million years through volcanic activity and gradual movements of the Earth's crust. Surrounding the continents are shallow flat regions called continental shelves. These shelves extend to the continental slope, which drops steeply to the ocean floor. There, vast submarine plateaus, known as abyssal plains, are interrupted by massive ridges, chains of seamounts, and deep ocean trenches.

Ocean currents

Surface currents are driven by winds and by the Earth's rotation. Together these cause large circular flows of water over the surface of the oceans, called gyres. Deep sea currents are driven by changes in the salinity or temperature of surface water. These changes cause the water to become denser and sink, forcing horizontal movements of deeper water.



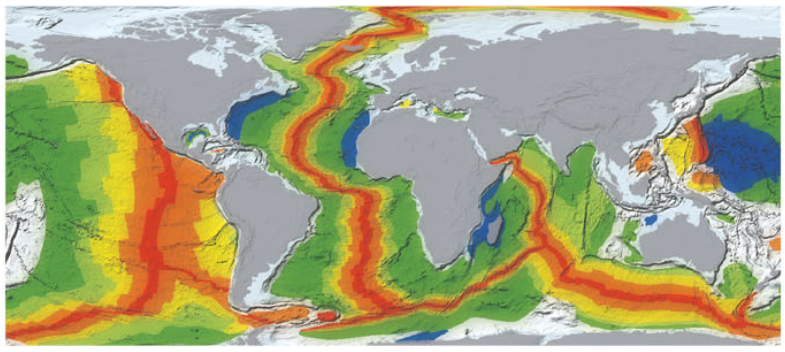
SURFACE TEMPERATURES AND CURRENTS



DEEP SEA TEMPERATURES AND CURRENTS

The ocean floor

The ages of seafloor rocks increase in parallel bands outward from central ocean ridges. At these ridges, new oceanic crust is continuously created from lava that erupts from below the seafloor and then cools to form solid rock. As this new crust forms, it gradually pushes older crust away from the ridge.

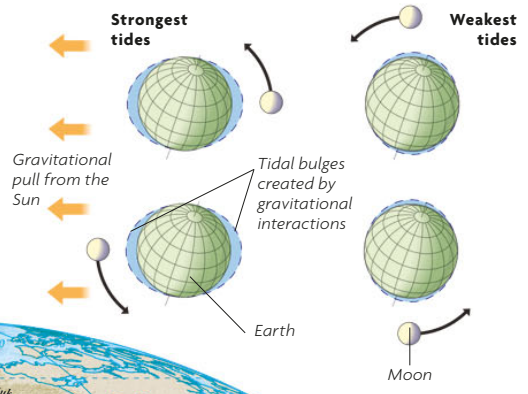


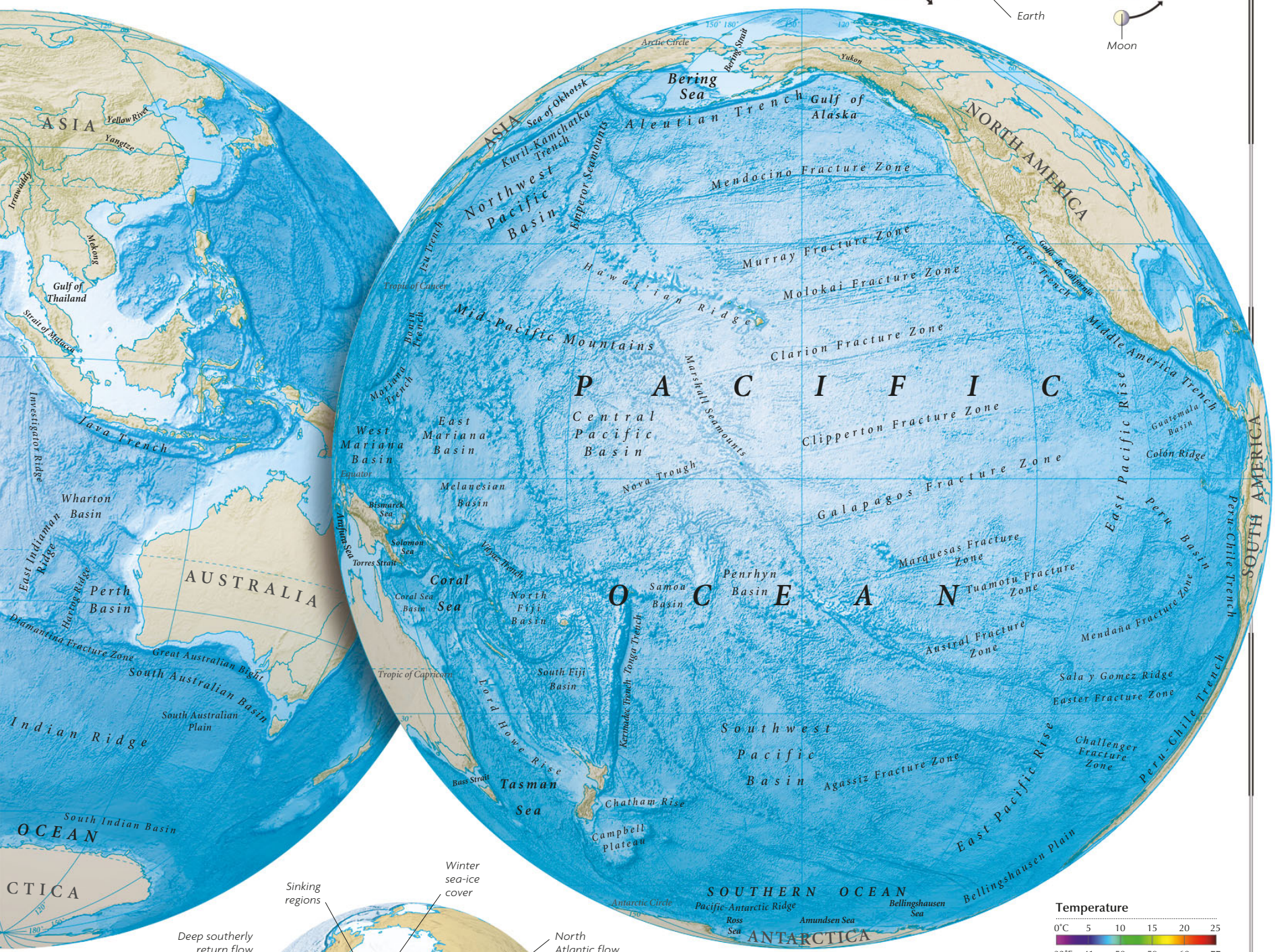
Ages of the ocean crust

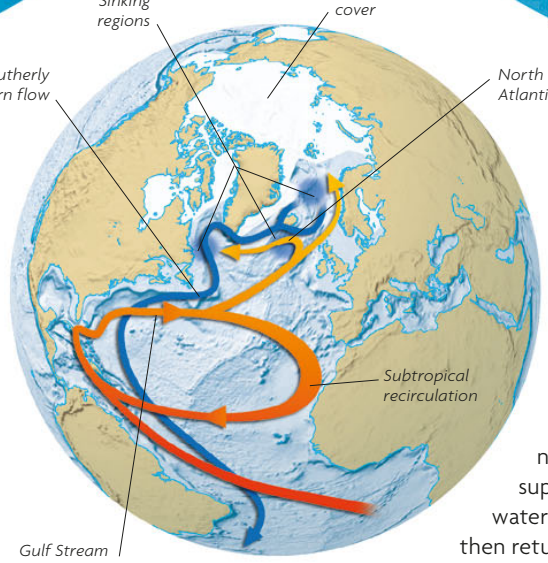
- 0–5 million years
- 5–21 million years
- 21–38 million years
- 38–65 million years
- 65–140 million years
- 140–190 million years
- continental shelf
- no data

Tides

Tides are caused by gravitational interactions between the Earth, Moon, and Sun. The strongest tides occur when the three bodies are aligned and the weakest when the Sun and Moon align at right angles







Deep sea temperature and currents

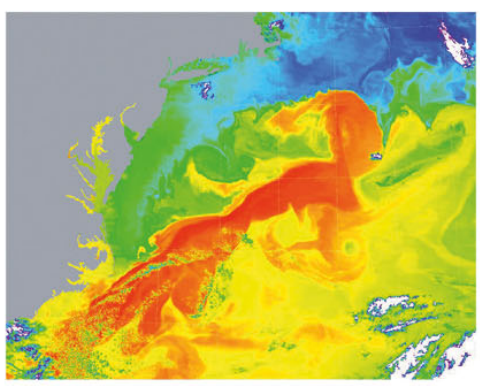
- ice-shelf (below 32°F / 0°C)
- sea-water 28–32°F / -2 to 0°C (below 16,400 ft / 5000 m)
- sea-water 32–41°F / 0–5°C (below 13,120 ft / 4000 m)
- primary currents
- secondary currents

North Atlantic Heat Conveyor

The North Atlantic Heat Conveyor is a system of heat flows in the Atlantic that keeps western Europe relatively warm. Surface currents, notably the Gulf Stream and its extension, the North Atlantic Drift, carry warm water from the tropical Atlantic into the northeastern Atlantic. There, the heat they supply is released, warming Europe, while the water itself cools and sinks. This cold water then returns at depth towards the equator.

Temperature

0°C	5	10	15	20	25
32°F	41	50	59	68	77



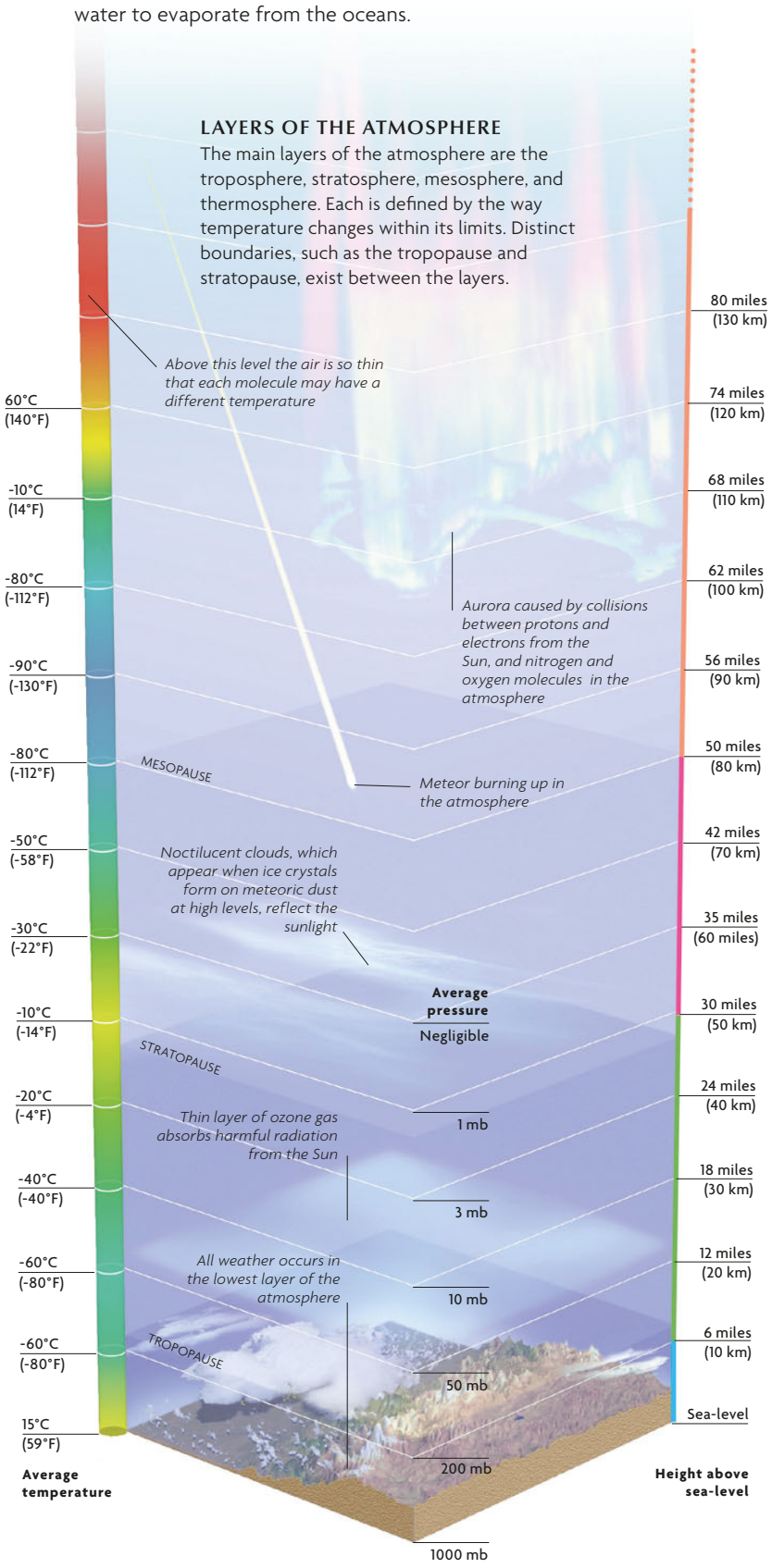
A key part of the North Atlantic Heat Conveyor is the warm Gulf Stream, visible as the dark red ribbon in this Atlantic sea-surface temperature map.

Global Climate

The climates of different regions on Earth are the typical long-term patterns of temperature and humidity in those regions. By contrast, weather consists of short-term variations in factors such as wind, rainfall, and sunshine. Climates are determined primarily by the Sun's variable heating of different parts of Earth's atmosphere and oceans, and by Earth's rotation. These factors drive the ocean currents and prevailing winds, which in turn redistribute heat energy and moisture between the equator and poles, and between sea and land. Most scientists think that major changes are currently occurring in global climate due to the effects of rising carbon dioxide levels in the atmosphere.

The atmosphere

Earth's atmosphere is a giant ocean of air that surrounds the planet. It extends to a height of about 625 miles (1000 km) but has no distinct upper boundary. The Sun's rays pass through the atmosphere and warm Earth's surface, causing the air to move and water to evaporate from the oceans.



THERMOSPHERE

This layer extends from a height of 50 miles (80 km) upward. Its temperature increases rapidly above a height of 60 miles (90 km), due to absorption of highly energetic solar radiation.

MESOSPHERE

The temperature of the lower part of this layer stays constant with height; but above 35 miles (55 km), it drops, reaching -112°F (80°C) at the mesopause.

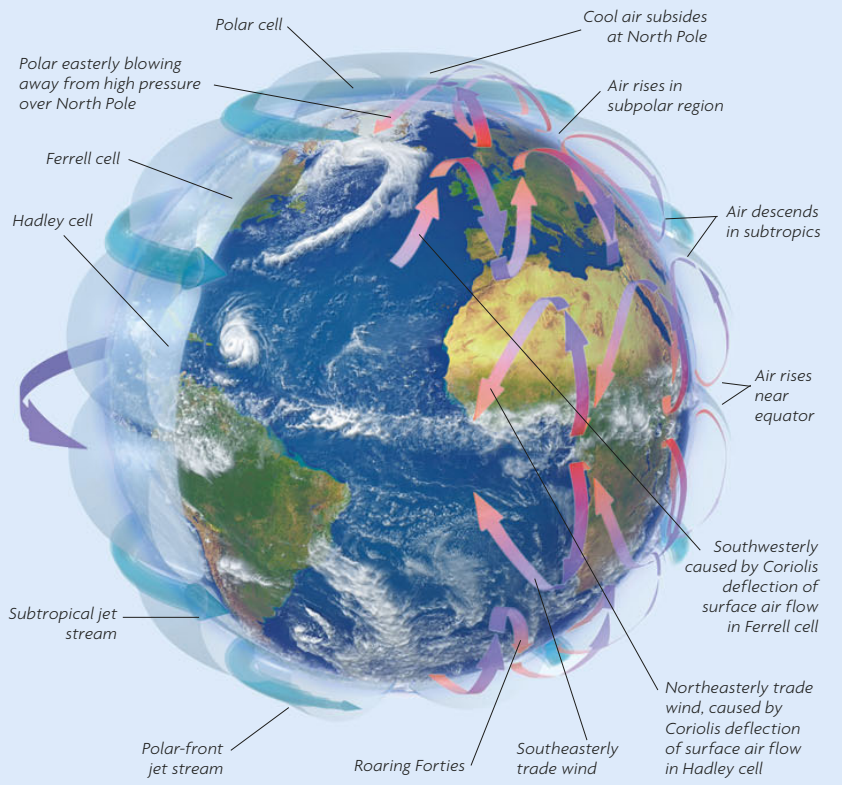
STRATOSPHERE

The temperature of the stratosphere is a fairly constant -76° F (-60°C) up to an altitude of about 12 miles (20 km), then increases, due to absorption of ultraviolet radiation.

TROPOSPHERE

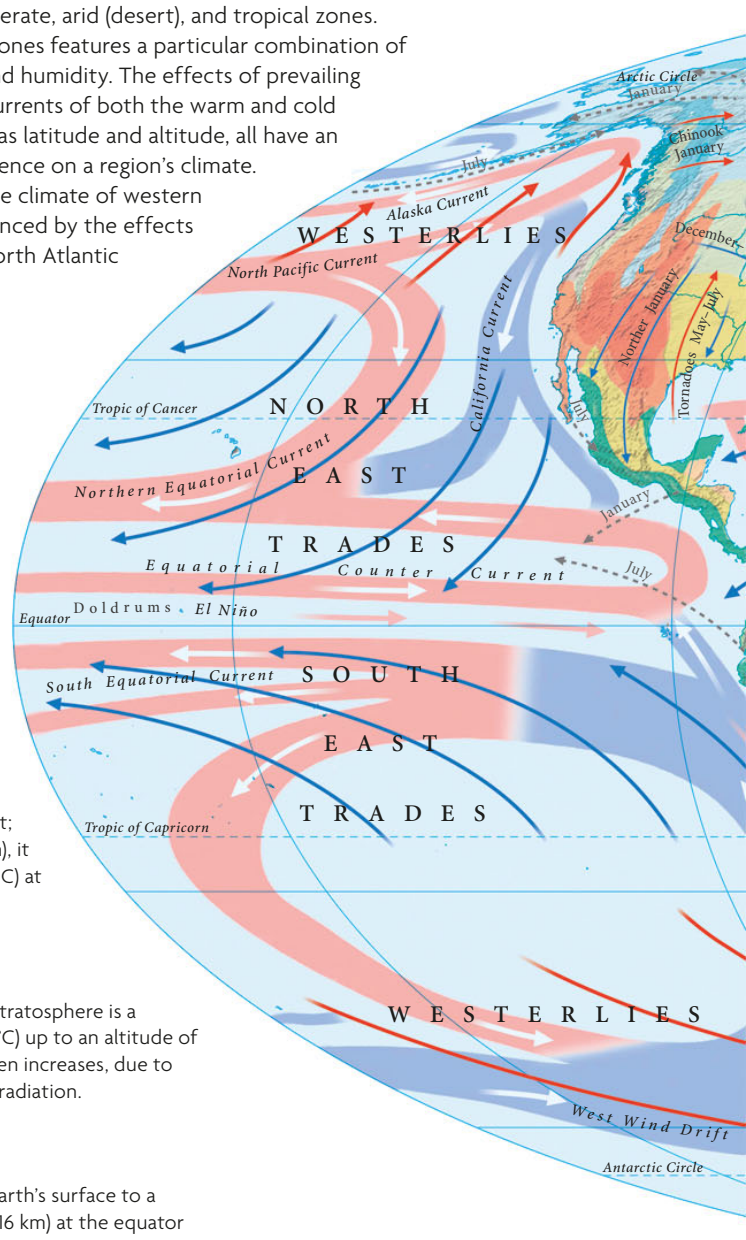
This layer extends from Earth's surface to a height of about 10 miles (16 km) at the equator and 5 miles (8 km) at the poles. Air temperature in this layer decreases with height.

Global air circulation



Winds, currents, and climate

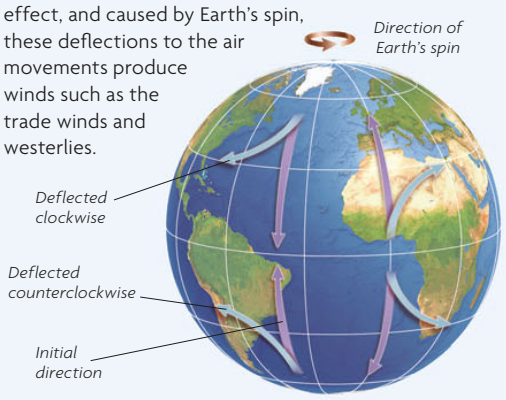
Earth has 12 climatic zones, ranging from ice-cap and tundra to temperate, arid (desert), and tropical zones. Each of these zones features a particular combination of temperature and humidity. The effects of prevailing winds, ocean currents of both the warm and cold variety, as well as latitude and altitude, all have an important influence on a region's climate. For example, the climate of western Europe is influenced by the effects of the warm North Atlantic Drift current.



Air moves within giant atmospheric cells called Hadley, Ferrell, and polar cells. These cells are caused by air being warmed and rising in some latitudes, such as near the equator, and sinking in other latitudes. This north-south circulation combined with the Coriolis effect *(below)* produces the prevailing surface winds.

THE CORIOLIS EFFECT

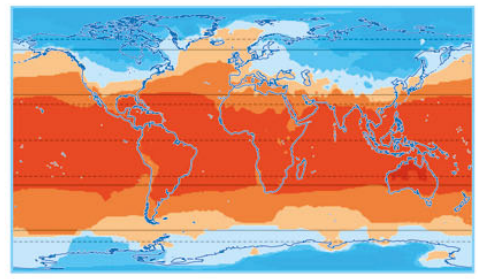
Air moving over Earth's surface is deflected in a clockwise direction in the northern hemisphere and counterclockwise in the south. Known as the Coriolis effect, and caused by Earth's spin, these deflections to the air movements produce winds such as the trade winds and westerlies.



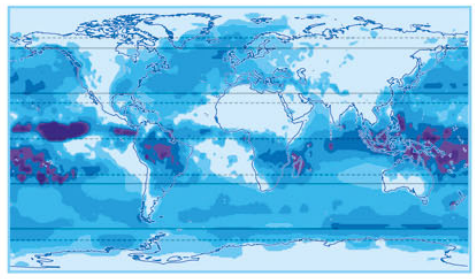
Temperature and precipitation

The world divides by latitude into three major temperature zones: the warm tropics, the cold polar regions; and an intermediate temperate zone. In addition, temperature is strongly influenced by height above sea level. Precipitation patterns are related to factors such as solar heating, atmospheric pressure, winds, and topography. Most equatorial areas have high rainfall, caused by moist air being warmed and rising, then cooling to form rain clouds. In areas of the subtropics and near the poles, sinking air causes high pressure and low precipitation. In temperate regions rainfall is quite variable.

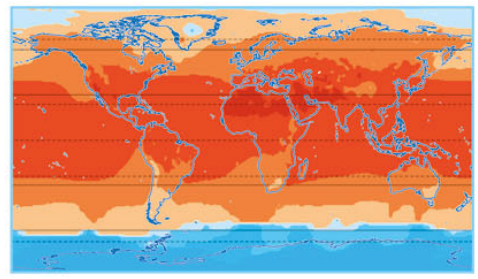
AVERAGE JANUARY TEMPERATURE



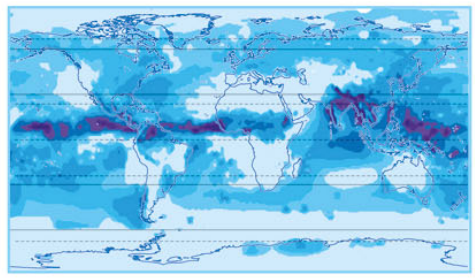
AVERAGE JANUARY RAINFALL



AVERAGE JULY TEMPERATURE

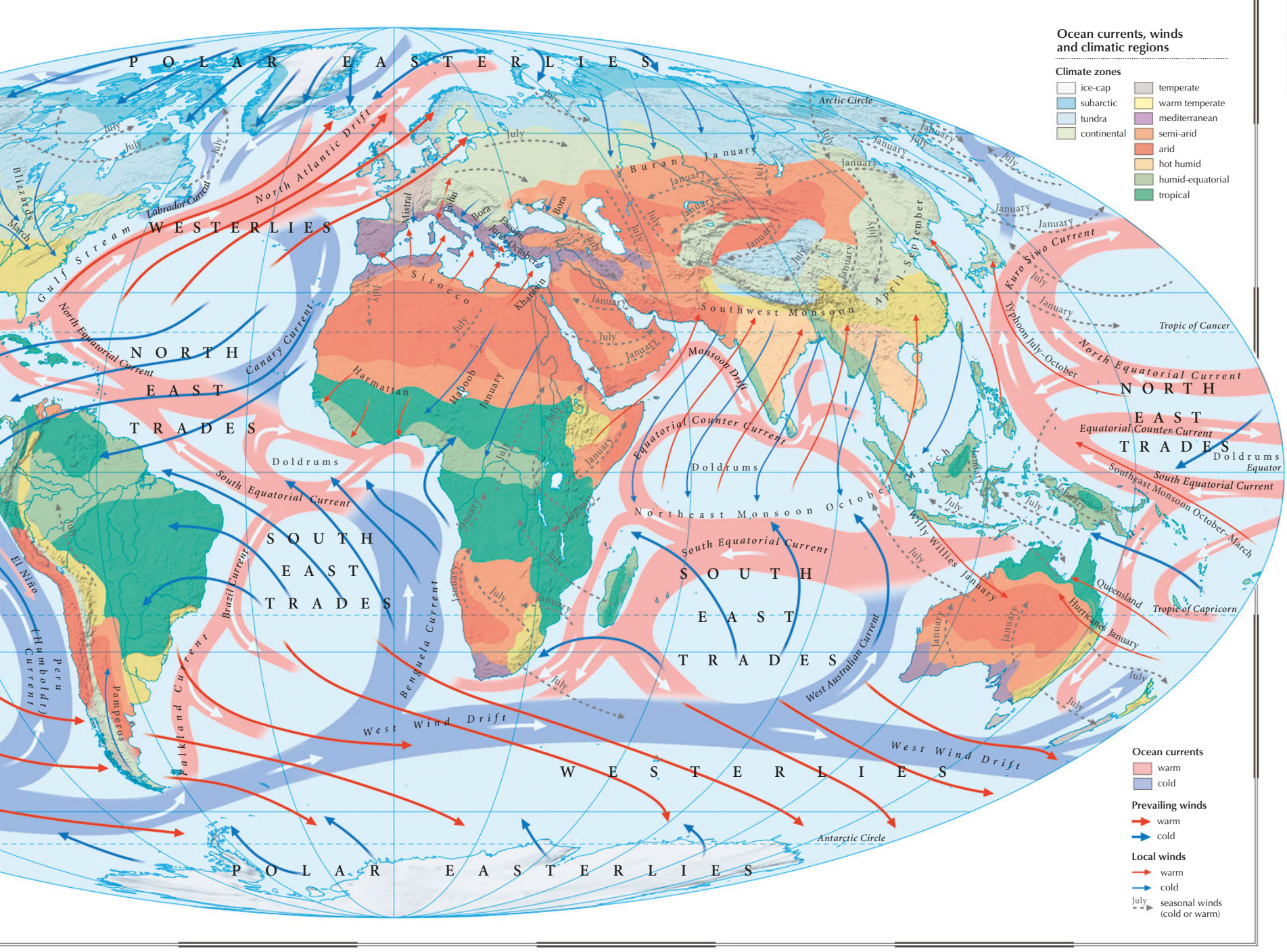


AVERAGE JULY RAINFALL



below -22°F (-30°C)
-22 to -4°F (-30 to - 20°C)
-4 to 14°F (-20 to - 10°C)
14 to 32°F (-10 to 0°C)
32 to 50°F (0 to 10°C)
50 to 68°F (10 to 20°C)
68 to 86°F (20 to 30°C)
above 86°F (30°C)

0–1 in (0–25 mm)
1–2 in (25–50 mm)
2–4 in (50–100 mm)
4–8 in (100–200 mm)
8–12 in (200–300 mm)
12–16 in (300–400 mm)
16–20 in (400–500 mm)
above 20 in (500 mm)



Life on Earth

A unique combination of an oxygen-rich atmosphere and plentiful surface water is the key to life on Earth, where few areas have not been colonized by animals, plants, or smaller life-forms. An important determinant of the quantity of life in a region is its level of primary production—the amount of energy-rich substances made by organisms living there, mainly through the process of photosynthesis. On land, plants are the main organisms responsible for primary production; in water, algae fulfil this role. These primary producers supply food for animals. Primary production is affected by climatic, seasonal, and other local factors. On land, cold and aridity restrict the quantity of life in a region, whereas warmth and regular rainfall allow a greater diversity of species. In the oceans, production is mainly affected by sunlight levels, which reduce rapidly with depth, and by nutrient availability.

POLAR REGIONS
Ice restricts life in these regions to just a few species, such as polar bears in the Arctic.

Biogeographical regions

Earth's biogeographical regions, or biomes, are communities where certain species of plants and animals coexist within the constraints of particular climatic conditions. They range from tundra to various types of grassland, forest, desert, and marine biomes such as coral reefs. Factors like soil richness, altitude, and human activities such as deforestation can affect the local distribution of living species in each biome.

TEMPERATE GRASSLAND
Also known as steppe or prairie, grassland of this type occurs mainly in the northern hemisphere and in South America (the Pampas).

NEEDLELEAF FOREST
These vast forests of coniferous trees cover huge areas of Canada, Siberia, and Scandinavia.

TROPICAL GRASSLAND
This type of grassland is widespread in Africa and South America, supporting large numbers of grazing animals and their predators.

World biomes

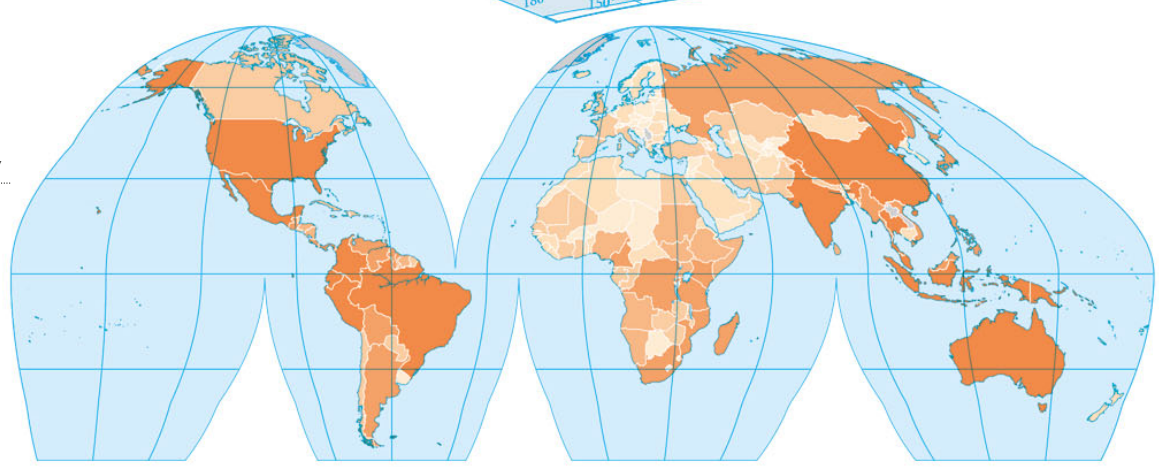
- ice
- tundra
- temperate coniferous forest
- temperate broadleaf mixed forest
- temperate grassland
- mediterranean
- desert and shrubland
- boreal forest/taiga

Animal diversity

The number of animal species, and the range of genetic diversity within the populations of those species, determines the level of animal diversity within each country or other region of the world. The animals that are endemic to a region—that is, those found nowhere else on the planet—are also important in determining its level of animal diversity.

Number of animal species per country

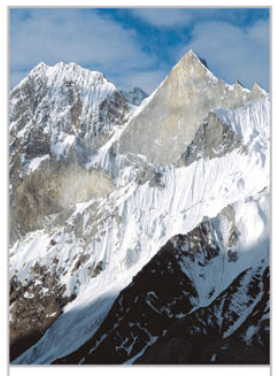
- more than 2,000
- 1000–1999
- 700–999
- 400–699
- 200–399
- 100–199
- 0–99
- data not available



TUNDRA
With little soil and large areas of frozen ground, the tundra is largely treeless, though briefly clothed by small flowering plants in summer.

TEMPERATE RAIN FOREST
Occurring in mid-latitudes in areas of high rainfall, these forests may be predominantly coniferous or mixed with deciduous species.

CORAL REEFS
Occurring in clear tropical waters, coral reefs support an extraordinary diversity of species, especially fish and many types of invertebrate.



MOUNTAINS
In high mountain areas only a few hardy species of plant will grow above the tree-line.

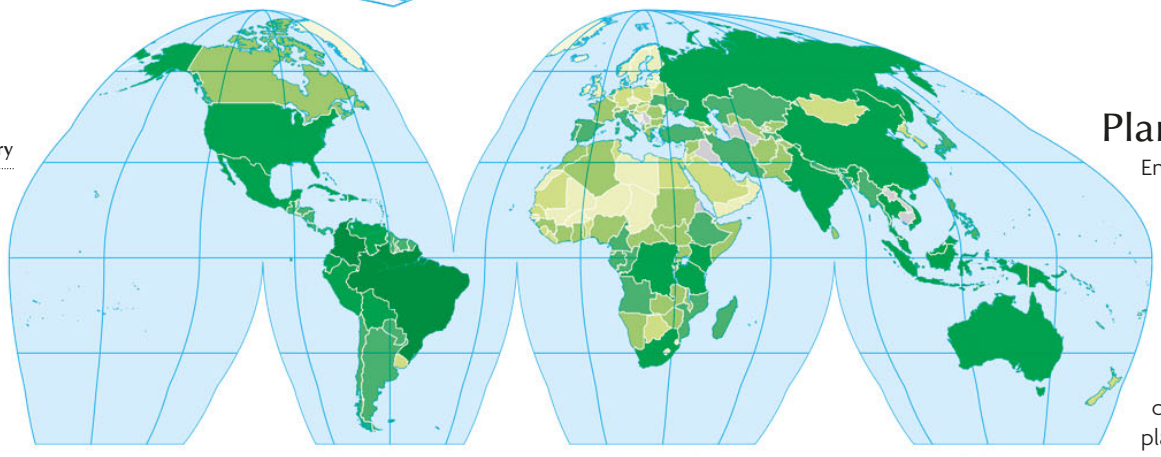
TROPICAL RAINFOREST
Characterized by year-round warmth and high rainfall, tropical rainforests contain the highest diversity of plant and animal species on Earth.

HOT DESERT
Only a few highly adapted species can survive in hot deserts, which occur mainly in the tropics.

OPEN OCEAN
Earth's largest biome, the oceans are home to a vast diversity of fish, mammals, invertebrates, and algae.

World biomes
(continued)

- tropical and subtropical coniferous
- tropical and subtropical dry broadleaf
- tropical and subtropical wet broadleaf
- tropical and subtropical grassland/savanah
- montane grassland
- mangrove
- wetland



Plant diversity

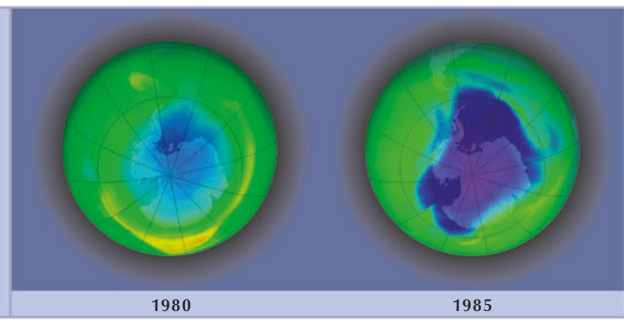
Environmental conditions, particularly climate, soil type, and the extent of competition with other living organisms, influence the development of plants into distinctive forms and thus also the extent of plant diversity. Human settlement and intervention has considerably reduced the diversity of plant species in many areas.

Man and the Environment

The impact of human activity on the environment has widened from being a matter of local concern (typically over the build-up of urban waste, industrial pollution, and smog) to affect whole ecosystems and, in recent decades, the global climate. Problems crossing national boundaries first became a major issue over acid rain, toxic waste dumping at sea, and chemical spillages polluting major rivers. Current concerns center on loss of biodiversity and vital habitat including wetlands and coral reefs, the felling and clearance of great tropical and temperate forests, overexploitation of scarce resources, the uncontrolled growth of cities and, above all, climate change.

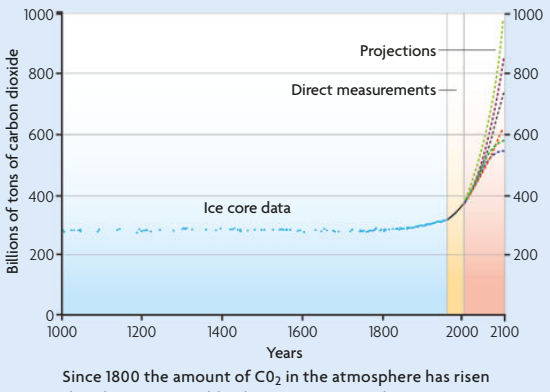
OZONE HOLE

Man-made chlorofluorocarbons (CFCs), used in refrigeration and aerosols, damaged the ozone layer in the stratosphere which helps filter out the sun's harmful ultraviolet rays. When a seasonal ozone hole first appeared in 1985 over Antarctica, a shocked world agreed to phase out CFC use.



Climate change

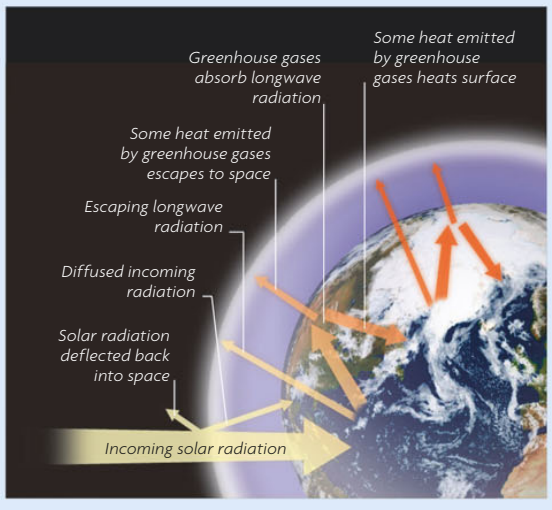
Global warming is happening much faster than Earth's normal long-term cycles of climate change. The consequences include unpredictable extreme weather and potential disruption of ocean currents. Melting ice-caps and glaciers, and warmer oceans, will raise average sea levels and threaten coastlines and cities. Food crops like wheat are highly vulnerable to changes in temperature and rainfall. Such changes can also have a dramatic affect on wildlife habitats.



Since 1800 the amount of $C0_2$ in the atmosphere has risen sharply. Urgent worldwide action to control emissions is vital to stabilize the level by the mid 21st century.

THE GREENHOUSE EFFECT

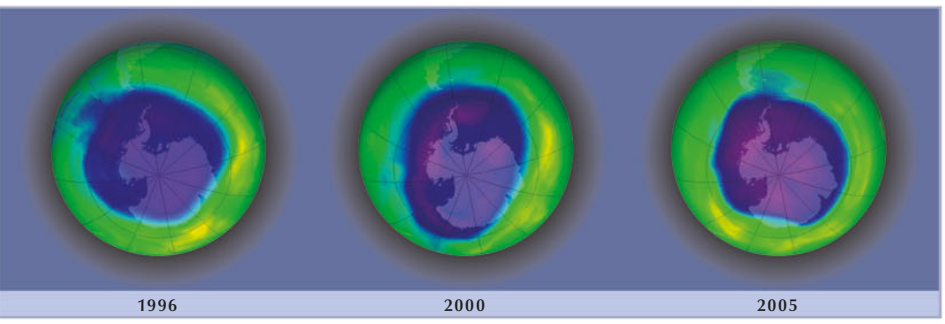
Some solar energy, reflected from the Earth's surface as infra red radiation, is reflected back as heat by "greenhouse gases" (mainly carbon dioxide and methane) in the atmosphere. Nearly all scientists now agree that an upsurge in emissions caused by humans burning fossil fuel has contributed to making the resultant warming effect a major problem.



FOOD AND LAND USE

The world has about five billion hectares of agriculturally useful land, well under one hectare per person. The majority of this is pasture for grazing. Crops are grown on about 30 percent (and nearly a fifth of cropland is artificially irrigated). Mechanized farming encouraged vast single crop "monocultures," dependent on fertilizers and pesticides. North America's endless prairies of wheat and corn, huge soybean plantations, and southern cotton fields are mirrored in Ukraine (wheat), Brazil and Argentina (soya) and Uzbekistan (cotton). Elsewhere, scarce farmland can be squeezed by the housing needs of growing urban populations. Current interest in crop-derived "biofuels" means further pressure to grow food more productively on less land.

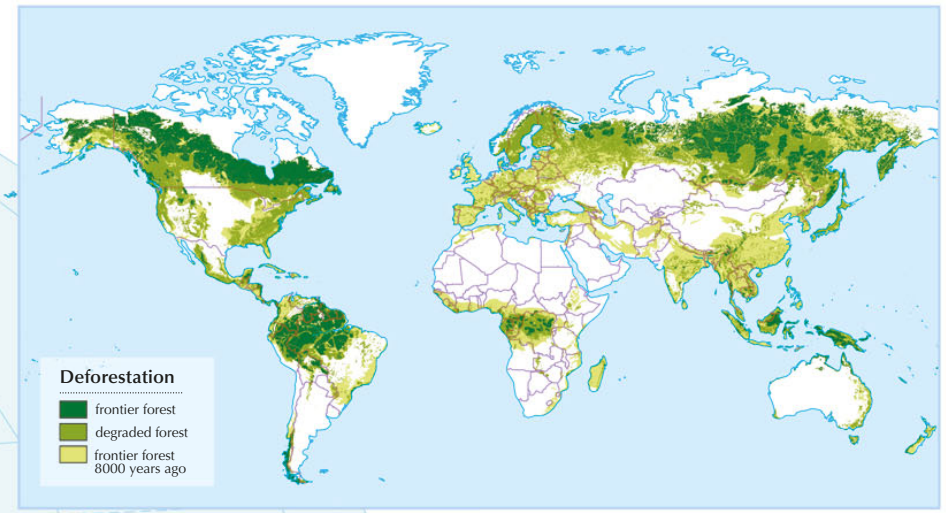
Intensive farming. Satellite photography picks up the greenhouses that now cover almost all the land in this Spanish coastal area southwest of Almeria.



DEFORESTATION

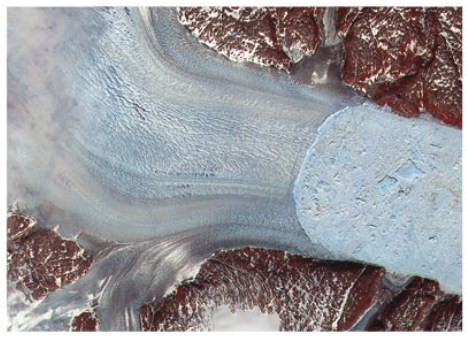
At current rates of destruction, all tropical forests, and most old-growth temperate forest, will be gone by 2090. The Amazon rain forest is a valuable genetic resource, containing innumerable unique plants and animals, as well as acting as a crucial natural "sink" for absorbing climate-damaging carbon dioxide. Stemming the loss of these precious assets to logging and farming is one of the major environmental challenges of modern times.

Over 25,000 sq miles (60,000 sq km) of virgin rain forest are cleared annually by logging and agricultural activities, destroying an irreplaceable natural resource.



GLACIATION

The world's glaciers and ice sheets have been in retreat for decades, forming less new ice at high altitudes than they lose by melting lower down. The loss of ice from Greenland doubled between 1996 and 2005, with alarming implications for rising sea levels. Other dramatic evidence of global warming includes the rapid thinning of ice in the Himalayas, and the highly symbolic loss of the snowcap on Africa's Mount Kilimanjaro.



Helheim Glacier 2001
The Helheim glacier *(above)* almost completely fills this image, with the leading edge visible on the righthand side, and was in a relatively stable condition.

Helheim Glacier 2005
By 2005 *(right)* it had retreated by 2.5 miles (4 km).

Delhi 1971
In 1971 Delhi *(above)* occupied an area of about 190 sq miles (500 sq km).

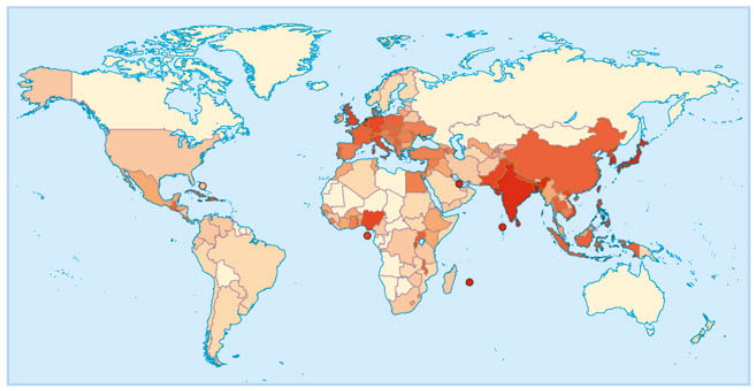
Delhi 1999
By 1999 *(right)* it had sprawled to cover 500 sq miles (1300 sq km). It vies with Mumbai in the southwest to be the sub-continent's most populous city, fast approaching 20 million people.

CITY GROWTH

The world in 2015 had 15 cities with populations over 20 million. The number of cities with populations between 10 and 20 million has surpassed 20 and continues to rise. The search for work, and the hope of escape from rural poverty, drives migration from rural to urban areas across the developing world. Urban dwellers now amount to more than half the world's population, and consume more resources than their rural counterparts.

Population and Settlement

Earth's human population is projected to rise from its current level of 7.3 billion to between 8.1 and 11 billion by the year 2050. The distribution of this population is very uneven and is dictated by climate, terrain, and by natural and economic resources. Most people live in coastal zones and along the valleys of great rivers such as the Ganges, Indus, Nile, and Yangtze. Deserts cover over 20 percent of Earth's surface but support less than 5 percent of its human population. Over half the world's population live in cities—most of them in Asia, Europe, and North America—as a result of mass migrations that have occurred from rural areas as people search for jobs. Many of these people live in so-called "megacities"—sprawling urban areas that have populations higher than 10 million.

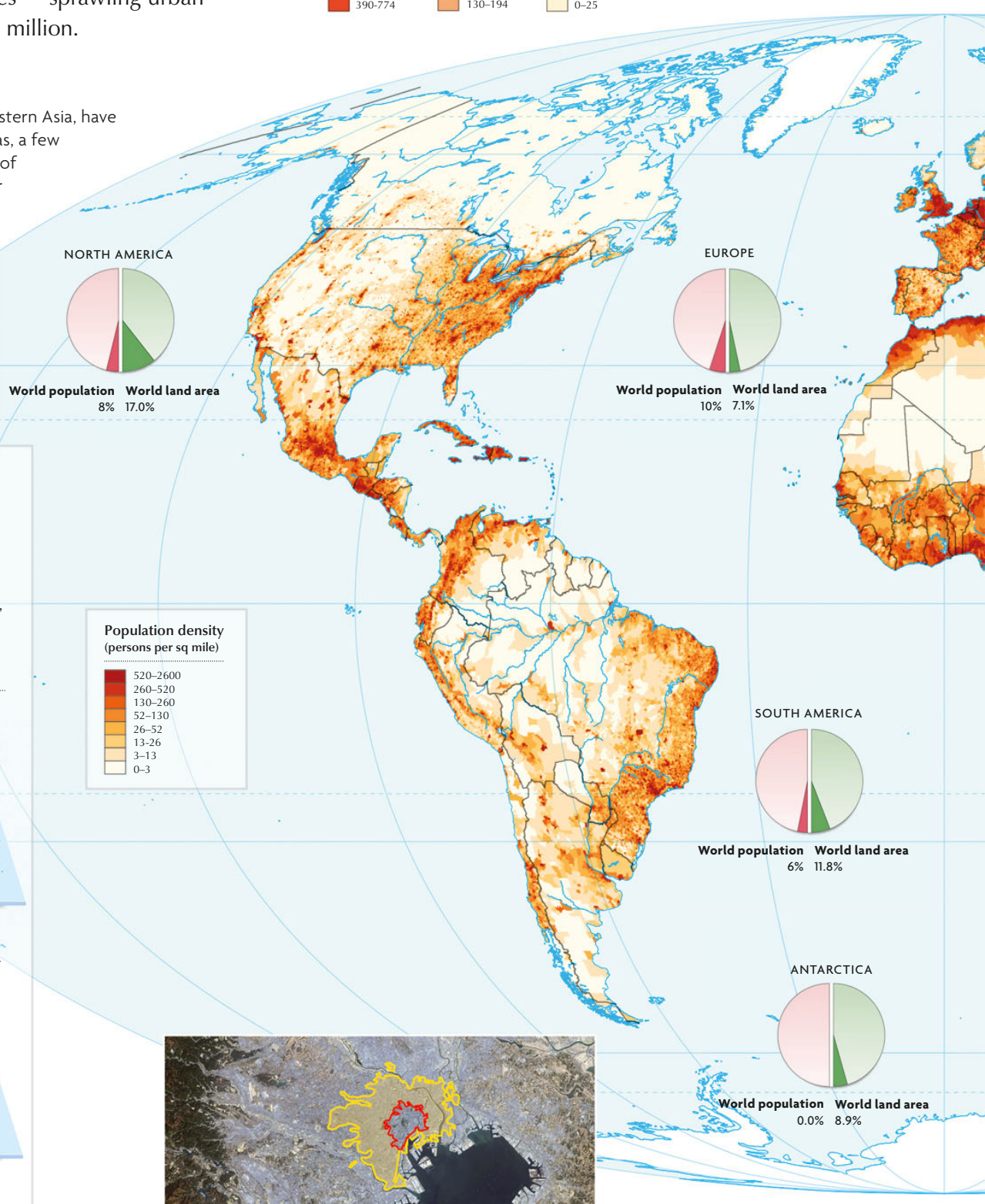


Population density by country (population per sq mile)

over 2600
775-2599
390-774
260-389
195–259
130–194
65–129
26–64
0–25

Population density

A few regions, including Europe, India, and much of eastern Asia, have extremely high population densities. Within these areas, a few spots, such as Monaco and Hong Kong, have densities of over 12,900 per sq mile (5000 people per sq km). Other regions (mostly desert, mountain, ice cap, tundra, or thickly forested areas) have densities close to zero –examples include large areas of Australia, western China, Siberia, North Africa, Canada, Greenland, and much of the Amazon rain forest region.



Million-person cities

In the year 1900 there were fewer than 20 cities in the world with a population that exceeded one million. By 1950 there were 83 such cities, and by the year 2015 there were more than 500 such cities, 100 of them in China alone, with another 54 in India, 20 in Brazil, and 14 in Japan.

Million-cities in 1900

Cities over 1 million in population

Million-cities in 1950

Million-cities in 2006

Tokyo urban sprawl

City boundary, 1860
City boundary, 1964

GREATER TOKYO

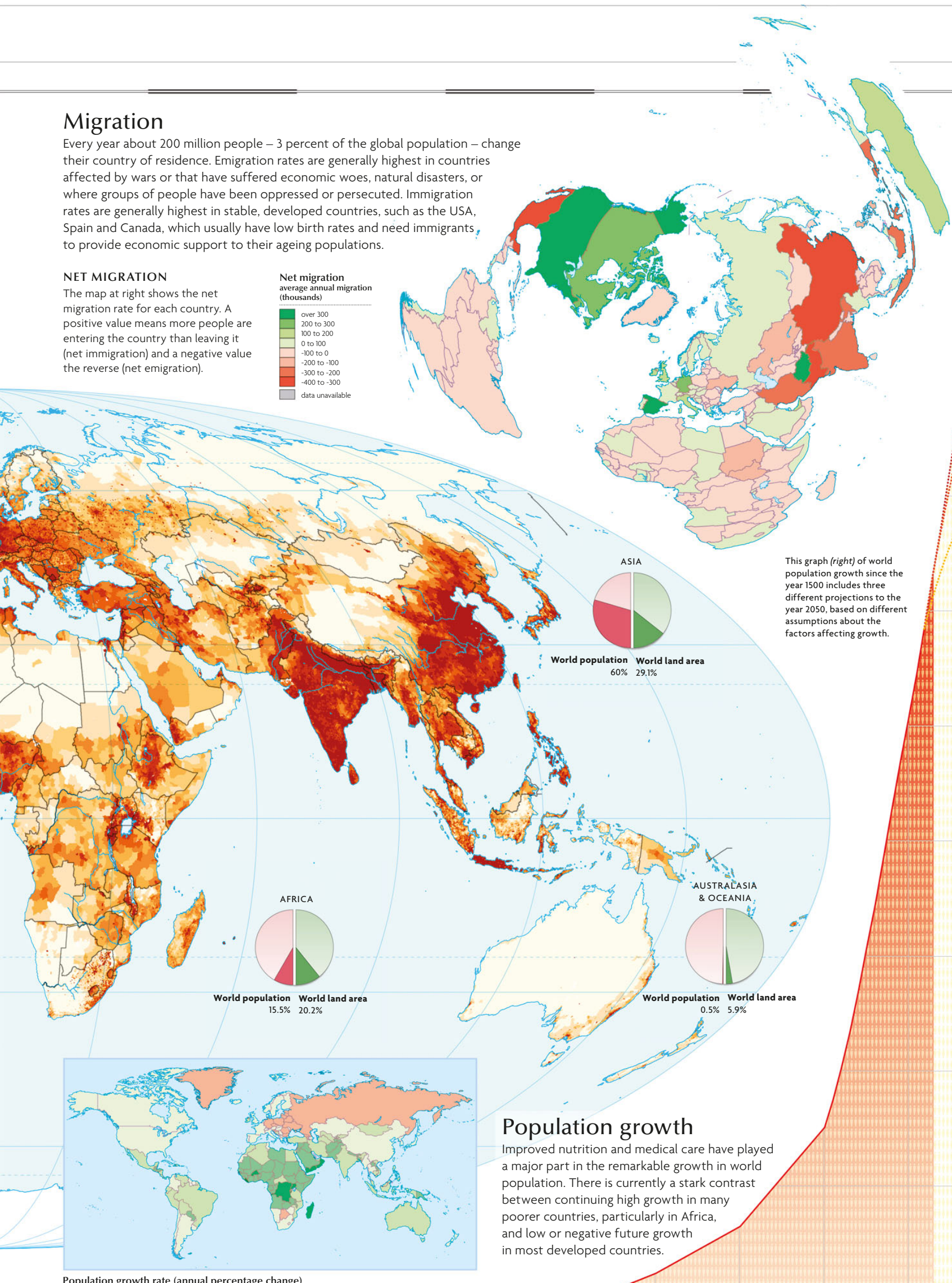
The Greater Tokyo Area is the most populous urban area in the world, with an estimated head count in 2015 of 37.8 million. It includes Tokyo City, which has a population of about 12 million, and adjoining cities such as Yokohama. This satellite photograph shows the Greater Tokyo Area today, and also the boundaries of Tokyo City in 1860 (red) and 1964 (yellow).

Migration

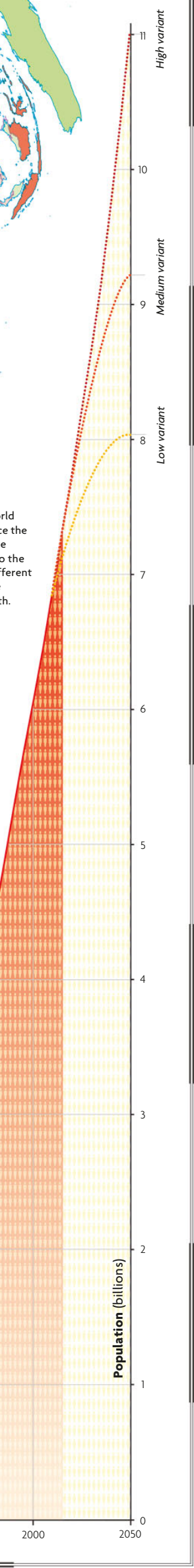
Every year about 200 million people – 3 percent of the global population – change their country of residence. Emigration rates are generally highest in countries affected by wars or that have suffered economic woes, natural disasters, or where groups of people have been oppressed or persecuted. Immigration rates are generally highest in stable, developed countries, such as the USA, Spain and Canada, which usually have low birth rates and need immigrants to provide economic support to their ageing populations.

NET MIGRATION

The map at right shows the net migration rate for each country. A positive value means more people are entering the country than leaving it (net immigration) and a negative value the reverse (net emigration).



This graph *(right)* of world population growth since the year 1500 includes three different projections to the year 2050, based on different assumptions about the factors affecting growth.



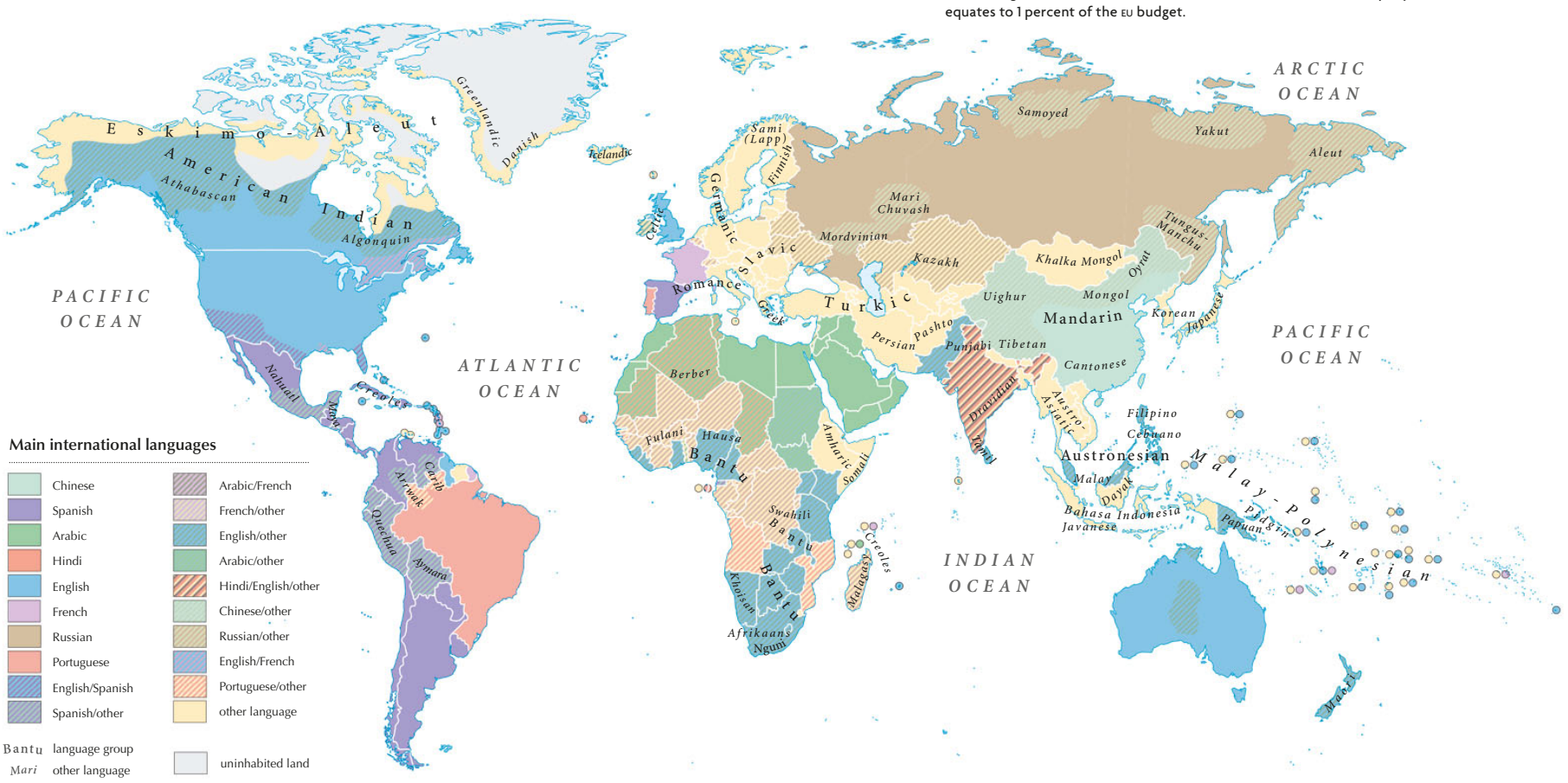
Population growth

Improved nutrition and medical care have played a major part in the remarkable growth in world population. There is currently a stark contrast between continuing high growth in many poorer countries, particularly in Africa, and low or negative future growth in most developed countries.

Language

Over 6800 different languages exist throughout the world, each one with its own unique evolutionary history and cultural connotations. Most of these languages are spoken only by small groups of people in remote regions. Sadly these minority tongues are dying out—it is estimated that about a third will have disappeared by the year 2100. The relatively small number of widely-spoken languages have gained their current predominance and pattern of distribution through a variety of historical factors. Among these have been the economic, military, or technological success of certain peoples and cultures, differing population growth rates, and the effects of migrations and colonization.

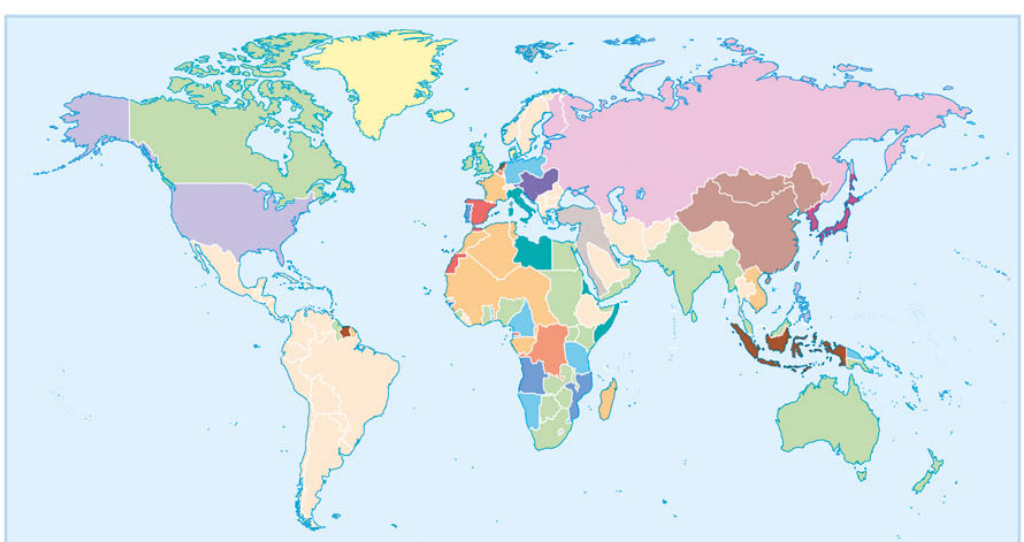
The European Union (EU) embraces the diversity of its 28 countries and 24 official languages by providing a translation and interpretation service for the majority of its meetings and documentation. This costs around US$ 650 million per year, which equates to 1 percent of the EU budget.



The colonial powers

Colonialism between the 15th and 20th centuries had a major influence in establishing the world prevalence of various, mainly European, languages. Britain, for example, was the colonial power in Canada, the USA (until 1776), the Indian subcontinent, Australia, and parts of Africa and the Caribbean. Hence, English is still the main (or a major) language in these areas. The same applies to France and the French language in parts of Africa and southeast Asia, and to Spain and the Spanish language in much of Latin America. For similar reasons, Portuguese is the main language in Brazil and parts of Africa, and there are many Dutch speakers in Indonesia.

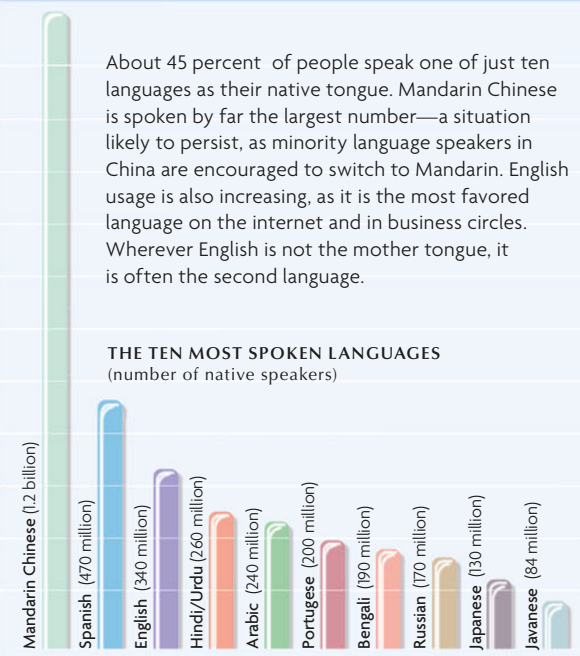
This dual language sign, written in both in Hindi and English, stands outside Shimla railway station in northern India. The sign reflects India's past—the British used Shimla as their summer capital during the colonial period.



TOP TEN LANGUAGES

About 45 percent of people speak one of just ten languages as their native tongue. Mandarin Chinese is spoken by far the largest number—a situation likely to persist, as minority language speakers in China are encouraged to switch to Mandarin. English usage is also increasing, as it is the most favored language on the internet and in business circles. Wherever English is not the mother tongue, it is often the second language.

THE TEN MOST SPOKEN LANGUAGES
(number of native speakers)



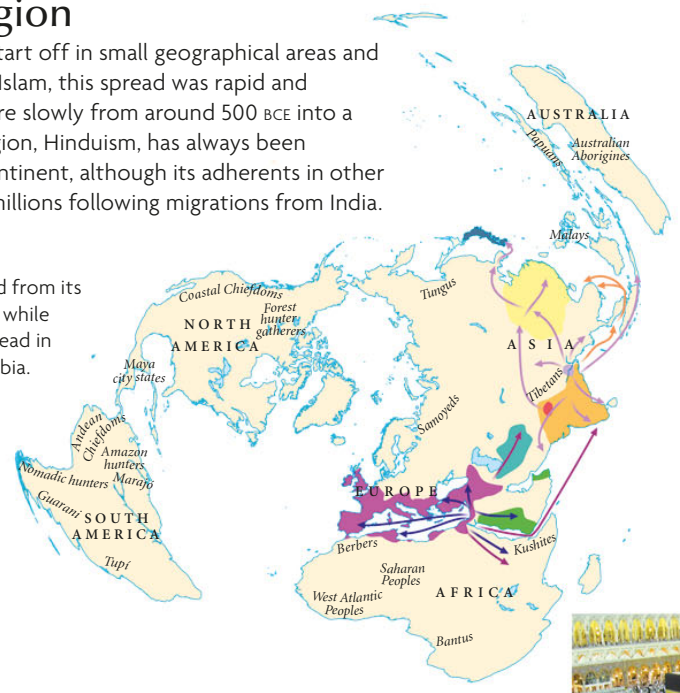
Religion

The spread of religion

By their nature, religions usually start off in small geographical areas and then spread. For Christianity and Islam, this spread was rapid and extensive. Buddhism diffused more slowly from around 500 BCE into a large part of Asia. The oldest religion, Hinduism, has always been concentrated in the Indian subcontinent, although its adherents in other parts of the world now number millions following migrations from India.

1ST– 7TH CENTURY

During this period, Christianity spread from its origins in the eastern Mediterranean, while Hinduism and forms of Buddhism spread in Asia. Islam became established in Arabia.

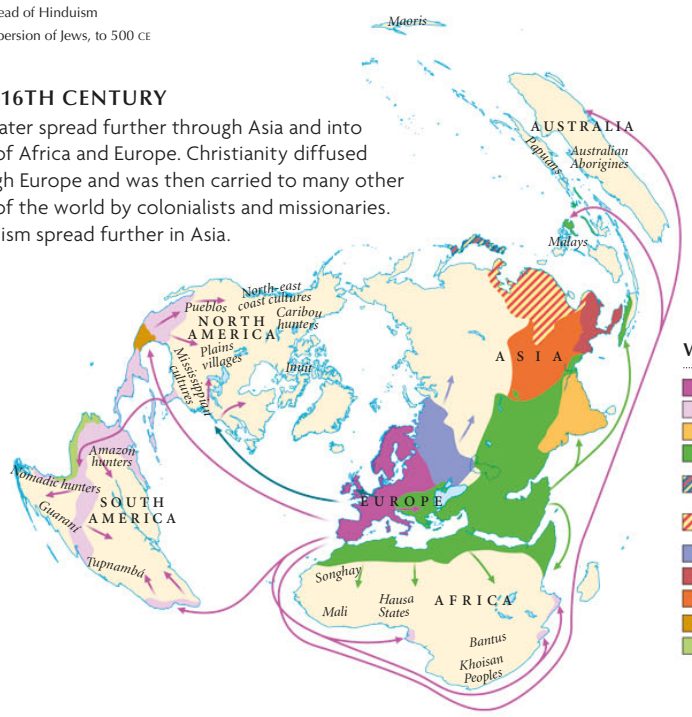


Rise and spread of the classical religions to 650 CE

- Buddhist heartland
- Chinese Confucianism/ Daoism and indigenous primal traditions
- Converted to Christianity by 600 CE
- Hinduism
- Islam under Muhammad
- Mahayana Buddhism
- Shintoism
- Zoroastrianism
- spread of Buddhism
- spread of Christianity
- spread of Hinduism
- dispersion of Jews, to 500 CE

7TH–16TH CENTURY

Islam later spread further through Asia and into parts of Africa and Europe. Christianity diffused through Europe and was then carried to many other parts of the world by colonialists and missionaries. Buddhism spread further in Asia.



World religions c.1500 CE

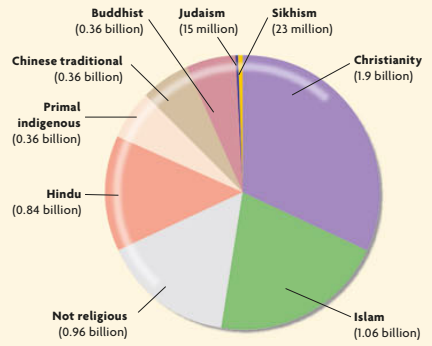
- Catholic Christianity
- area converted to Catholic Christianity
- Hinduism
- Islam
- Mahayana Buddhism and Confucianism, Daoism and Shinto
- Mahayana Buddhism and Confucianism, Daoism
- Russian Orthodoxy
- Theravada Buddhism
- Tibetan Buddhism
- Aztec Empire
- Inca Empire
- spread of Catholicism
- spread of Islam
- spread of Protestantism
- spread of Russian Orthodoxy

About 83 percent of the world's population adheres to a religion. The remainder adopt irreligious stances such as atheism. In terms of broad similarities of belief, there are about 20 different religions in the world with more than 1 million adherents. However, the larger of these are split into several denominations, which differ in their exact beliefs and practices. Christianity, for example, includes three major groupings that have historically been in conflict—Roman Catholicism, Protestantism, and Orthodox Christianity—as well as hundreds of separate smaller groups. Many of the world's other main religious, such as Islam and Buddhism, are also subdivided.

Each year millions of Muslims visit Mecca during the the Islamic pilgrimage known as the *Hajj*

RELIGION AROUND THE WORLD

About 72 percent of humanity adheres to one of five religions: Christianity, Islam, Hinduism, Buddhism, and Chinese traditional religion (which includes Daoism and Confucianism). Of the remainder, many are adherents of primal indigenous religions (a wide range of tribal or folk religions such as shamanism).



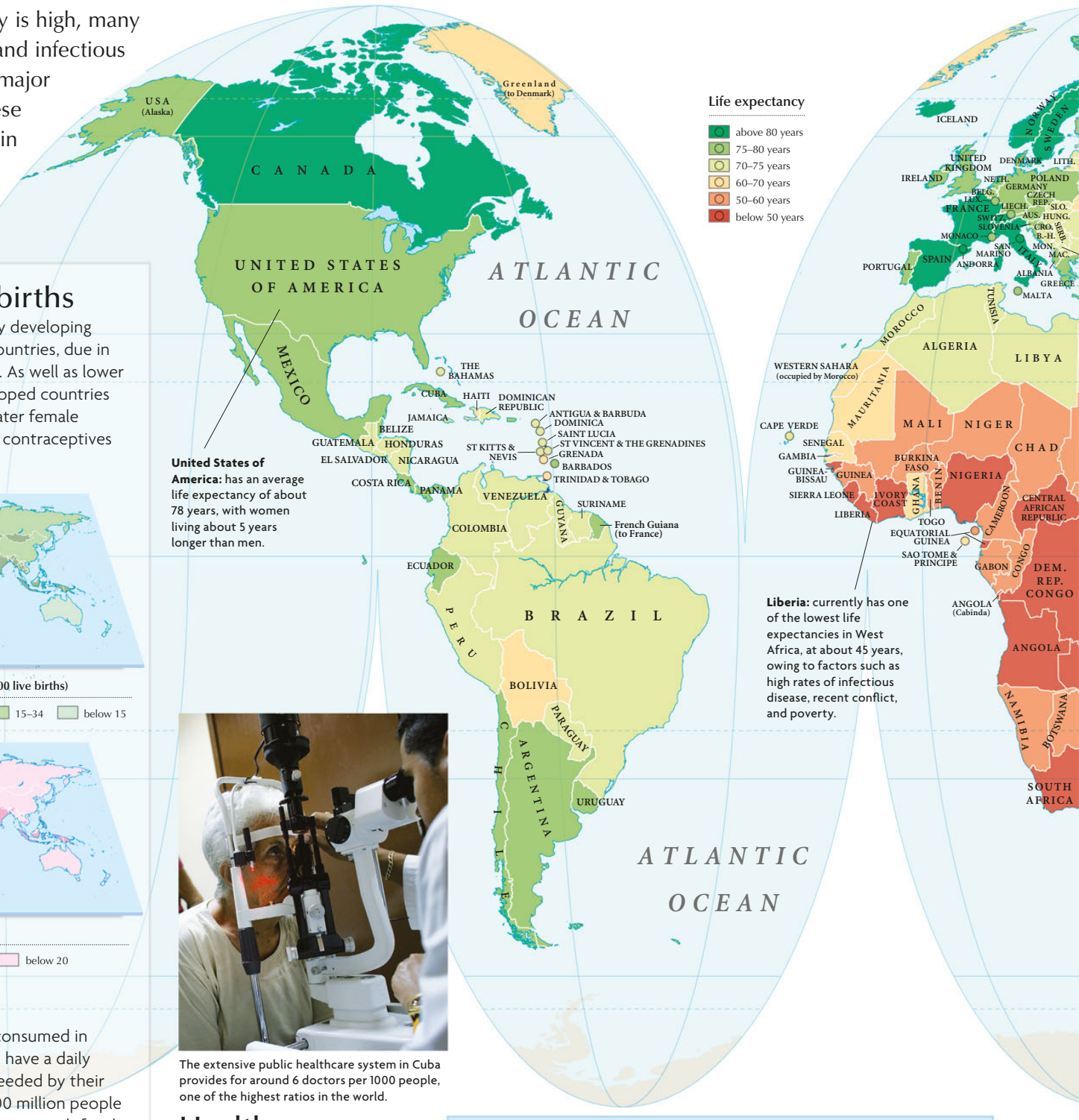
Health

On most health parameters, the countries of the world split into two distinct groups. The first of these encompass the richer, developed, countries, where medical care is good to excellent, infant mortality and the incidence of deadly infectious diseases is low, and life expectancy is high and rising. Some of the biggest health problems in these countries arise from overeating, while the two main causes of death are heart disease and cancer. The second region consists of the poorer developing countries, where medical care is much less adequate, infant mortality is high, many people are undernourished, and infectious diseases such as malaria are major killers. Life expectancy in these countries is much lower and in some cases is falling.

Life expectancy

Life expectancy has risen remarkably in developed countries over the past 50 years and has now topped 80 years in many of them. In contrast, life expectancy in many of the countries of sub-Saharan Africa has fallen well below 50, in large part due to the high prevalence of HIV/AIDS.

Many people in developed countries are now living for 15–20 years after retirement, putting greater pressure on welfare and health services.



United States of America: has an average life expectancy of about 78 years, with women living about 5 years longer than men.

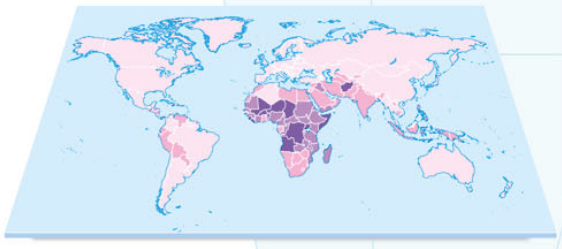
Liberia: currently has one of the lowest life expectancies in West Africa, at about 45 years, owing to factors such as high rates of infectious disease, recent conflict, and poverty.

Infant deaths and births

Infant mortality is still high in many developing nations, especially some African countries, due in part to stretched medical services. As well as lower infant mortality, the world's developed countries have much lower birth rates—greater female emancipation and easier access to contraceptives are two causative factors.

World infant mortality rates (deaths per 1000 live births)

above 125 | 75–124 | 35–74 | 15–34 | below 15



Number of births (per 1000 people)

above 40 | 30–39 | 20–29 | below 20

Nutrition

Two-thirds of the world's food is consumed in developed nations, many of which have a daily calorific intake far higher than is needed by their populations. By contrast, about 800 million people in the developing world do not have enough food to meet basic nutritional needs.

Daily calorie intake per capita

above 3000 | 2500–2999 | 2000–2499 | below 2000

The extensive public healthcare system in Cuba provides for around 6 doctors per 1000 people, one of the highest ratios in the world.

Healthcare

An indicator of the strength of healthcare provision in a country is the number of doctors per 1000 population. Some communist and former communist countries such as Cuba and Russia score well in this regard. In general, healthcare provision is good or adequate in most of the world's richer countries but scanty throughout much of Africa and in parts of Asia and Latin America.

Medical doctors (per 1000 people)

above 5 | 4–5 | 3–4 | 1–3 | 0.5–1 | below 0.5 | no data