

Glossary

abrasion the wearing away of rock by other pieces of rock material

abstraction removal of water for human use

acidification the changing chemistry of the oceans

active volcano a volcano that is likely to erupt at any time

air mass a continental-scale body of air with uniform temperature and moisture characteristics

anti-natalist policies policies designed to encourage women to have fewer children

arch where a cave has cut through to create an opening through a headland

asthenosphere a zone of the upper mantle that lies beneath the lithosphere and consists of several hundred kilometres of deformable rock

attrition the reduction in size of material used in erosion

backwash the water that runs off the beach after a wave breaks

bankfull where the river is almost at the point of flooding

bar a depositional feature that grows across a bay from one side to the other

biodiversity the number of species in a given ecosystem

biofuel a fuel that is sourced from the natural world, usually plants

biome a large ecosystem

biosphere that part of the planetary system that is composed of living organisms

birth rate the number of children born per 1000 of the population in a year

bleaching the process by which small temperature rises in ocean water causes coral to whiten and eventually die

bluff the edge of a floodplain

Boserup's theory the view that population growth stimulates economic progress and is therefore a good thing

bottom-up development usually locally based and small-scale projects that are controlled by local communities

brownfield sites sites that have previously been developed and have to be cleared before redevelopment can take place

bycatch fish which are caught but thrown back into the sea, dead, because they are not the fish intended to be caught

call centres an example of outsourcing where companies employ people to answer questions about servicing and advice about their products

capital money invested into a business or to build infrastructure, such as the money needed to build a new factory

carbon cycle the movement of carbon atoms between atmosphere, biosphere, lithosphere and hydrosphere

carbon dioxide (CO₂) an important greenhouse gas created by both natural processes and man-made means

carbon store where carbon is held before entering the cycle

cash crop a crop which is sold by a developing world farmer, not eaten, such as coffee or cocoa; cash crops are often exported to developed countries

cave a cavity in a cliff or rock face

Central Business District (CBD) the commercial centre of a town or city, where most shops and offices are located

- channel characteristics** the width, depth, gradient, sediment load and velocity of a river
- channel shape** the width and depth of a river channel
- chemical weathering** the breakdown of rock in situ by chemical means
- Clark–Fisher model** a model showing changes in employment as societies develop
- climate** average weather conditions over a longer period of time
- climate change** significant shifts in temperature and rainfall over a longer period of time, often measured in decades
- coastal retreat** where a coastline is eroded and so the sea advances
- commercial** selling produce to make a profit, such as crops that have been grown or fish that have been caught
- commuting** travel to work, leaving and returning home each day
- concordant** used to describe a coast where the geology is such that the rock types run parallel to the coast
- condensation** when water vapour (gas) turns into liquid water droplets. This is the process which forms clouds
- conservation** maintaining the health of biomes and ecosystems by preserving them in their natural state
- conservation farming** farming that attempts to protect the environment
- conservative margin** a plate boundary where plates move past one another without subduction occurring
- constructive margin** a plate boundary where new oceanic material is being created
- constructive wave** a wave that pushes material up a beach or shoreline from offshore
- consumption** using resources to sustain a lifestyle, including water, energy and food
- conurbation** a large urban area, formed when a city expands and merges with surrounding towns
- continental crust** the lighter and generally thicker crustal material dominated by granitic rocks
- convection currents** rising plumes of material in the mantle that drive movements in the crust above
- coral reefs** coral reefs are communities of small living animals found in marine waters that contain few nutrients
- core** the innermost part of the Earth, made up of iron and nickel
- corrosion** chemical action that dissolves some rocks
- counter-urbanisation** the movement of people away from cities into surrounding rural areas
- crust** the solid surface layer of the planet, divided into continental and oceanic crust
- cumec** the way of measuring discharge – an abbreviated form of cubic metres per second
- death rate** (also known as mortality rate) the number of people who die per 1000 of the population in a year
- deforestation** the removal of forests
- de-industrialisation** the loss of jobs in manufacturing industries
- demography** the study of population
- desertification** changes to an ecosystem that makes it less fertile
- destructive margin** a plate boundary where crust is subducted and destroyed
- destructive wave** a wave that removes material from a beach or shoreline
- developed country** a country that has a relatively high average income and has passed through several stages of development

developing country a country that has a relatively low average income and is in the early stages of development

development gap the difference between the wealth of the poorest and richest people at a global scale

development strategies any scheme designed to improve income and/or quality of life for people who have a low level of development

diffraction the bending of a wave front as it approaches shallow water

discharge the amount of water in a river, measured as width x depth x velocity

discordant used to describe a coast where the geology is such that the rock types run at right-angles to the coast

diversification changing the business of a farm from relying on crops or animals to making some money from tourism, retail or leisure activities

dormant volcano volcano that has not erupted in historic time

dormitory settlements where people live in one settlement but commute to work in another settlement e.g. a city nearby

ecological footprints (eco-footprints) the amount of land required to support a particular lifestyle

ecosystem a group of interdependent plants and animals found in a specific location

economic development the growth of an economy as measured by an increase in the total value of goods and services produced per person

economic diversification developing new economic sectors to replace declining traditional industries and jobs.

economics the study of how countries develop through increasing the wealth of people and businesses

El Niño an abnormal warming of surface waters in the eastern tropical Pacific

embankment a built-up area of river bank

enhanced greenhouse effect when the natural greenhouse effect works more powerfully, because of human pollution (greenhouse gases) in the atmosphere

epicentre the place where earthquake forces are generated

erosion the wearing away of the land

eutrophication a process in which water receives excess nutrients that stimulate excessive plant growth, the decay of which removes oxygen and threatens biodiversity

evaporation water changing from a liquid to a gas and moving from the ground surface into the atmosphere

evapotranspiration water vapour released into the atmosphere by plants through evaporation from leaves and transpiration from cells

evolve to change over time in response to a changing environment

extinct volcano a volcano that cannot erupt again

fair trade trade which guarantees developing world farmers a fair price for their cash crops; it is higher than the normal price and the extra money improves incomes

fault a tear in the Earth's surface caused by plate movement

fauna animals

fertility rate the number of children that a woman has in her lifetime. If women have two children or more they 'replace' the parents. Anything less than two means that the population will eventually fall

flood defence a management system that attempts to prevent or reduce the risk of flooding

floodplain the flat area of a river valley over which a river has meandered and spread deposits

- flood retention basin** an area set aside to store flood water, usually as a temporary lake
- flora** plants
- fold mountains** the buckled leading edge of a continental plate as it collides with another plate
- food web** a network of feeding relationships between plants and animals
- foreign direct investment (FDI)** when TNCs from one country invest capital in another country, e.g. a UK company building a factory in China
- free-trade zones (FTZs)** also known as special economic zones (SEZs). Special industrial parks for foreign TNCs; they have low tax rates, weak environmental regulations and trades unions are banned
- Gross Domestic Product (GDP)** the total value of goods and services produced in any one year
- GDP per capita** this is the GDP divided by the population to give a per person figure more or less equivalent to average income
- glacier** a moving 'stream' of ice
- global economy** the greater connectivity of national economies leading to an exchange of goods, money and services across national boundaries
- globalisation** a set of processes that have led to a more interdependent and integrated world economy
- global shift** the changes that have taken place in the location of industry in the past 50 years or so
- global warming** rising average temperatures either through natural or human (anthropogenic) causes
- goods** products from the biosphere
- gorge** a steep-sided valley created by rapid vertical erosion
- greenbelt** a zone of protected land that cannot be built on, which surrounds a city. It is often farmland
- green economy** development that in some way will assist the environment by reducing human impact
- greenfield site** a site that has not been built on before
- greenhouse gas** a gas that absorbs outgoing radiation, thus leading to higher temperatures in the atmosphere
- greenwashing** giving the impression of being motivated by environmental issues, while in reality being motivated by profit
- groundwater** flow movement of water below the ground surface in a downslope direction
- groynes** a structure built to maintain beach material and protect it from longshore drift
- hard rock** rock that is highly resistant to physical weathering and erosion
- hazard** something that poses a threat to people
- high order services** services such as supermarkets, department stores and hospitals that need a large population to be viable
- honeypot sites** rural locations that attract very large numbers of tourists, and often have problems such as congestion and litter
- hot arid region** region with extremely hot average temperatures all year round and very low levels of precipitation
- hotspot** an area where plumes of magma rise to the surface although not close to a plate boundary
- human development** development in a country or region that focuses on improving people's quality of life, such as through education, housing and health as much as wealth

Human Development Index (HDI) a method of measuring development in which GDP per capita, life expectancy and adult literacy are combined to give an overview

human resources the skills and potential of the population

hydraulic action the action of water and air leading to the fracturing of rock

hydroelectric power (HEP) power created by the movement of water driving turbines

hydrological cycle the movement of water between hydrosphere, biosphere, atmosphere and lithosphere

hydrosphere that part of the planetary system that is composed of water

hypoxic being deprived of oxygen

Ice Age a popular name for a colder period, most commonly associated with the Quaternary

ice cap a large, thick sheet of ice, for example those covering Antarctica and Greenland

Index of Multiple Deprivation (IMD) A way of measuring how deprived an area is by combining seven different indicators of deprivation

indigenous those species that are original members of that ecosystem or biome

industrialisation the process in which manufacturing industries develop in a country or region

industrial revolution a period when human beings began to exploit mineral resources in significant quantities to create new materials and consumer goods

infant mortality the number of children under the age of one who die per 1000 in a year

infiltration water movement from the surface to underground stores

informal economy jobs that are not officially registered or recorded

interception when falling precipitation is caught by vegetation, slowing its journey to the ground

isolation distance or remoteness from the core urban areas in a country or region

Integrated Coastal Zone Management (ICZM) the management of coastal areas by using a mixture of policies to treat the area holistically

interlocking spurs the higher ground of valley sides that tend to jut out into the river valley, resulting in a staggered formation, somewhat like the teeth of a zip

intermediate technology technology that is small-scale and manageable locally

irrigate to water using river water or groundwater

key workers public sector workers such as in the police, NHS or schools who provide essential services to the rest of the population

krill the common name given to the order Euphausiacea of small, shrimp-like marine crustaceans

lag time the time gap between the peak of a rainfall event and the river reaching its peak discharge

lagoon an area of calm water protected by a reef

landfill the dominant way of disposing of waste by putting into the ground

land-use zoning a planning system whereby land with a high flood risk is not developed for housing or commercial usage

levée a raised ridge of material, natural or man-made, along a river bank

life expectancy the average age at which people die in a population

lime a chemical derived from limestone, chalk or coral

lithosphere that part of the planetary system that is composed of rocks and minerals

Little Ice Age a period of cooler temperatures in the middle ages

load material carried by a river

- longshore drift** the movement of material along the coast by wave action
- magnetic field** the field of electric charge generated by the Earth
- Malthus' basic theory** the view that population growth will eventually lead to catastrophe
- mantle** the solid and partially molten layer of the Earth dominated by ultrabasic minerals
- marine ecosystem** a community of plants and animals living in a sea or ocean
- mass extinction** a large-scale reduction in the number of global species
- mass movement** movement of material by gravity
- meander** a river bend
- mechanical weathering** the breakdown of rock in situ by physical means
- mechanised** the increased use of machinery on farms, replacing human labour
- megacity** a city with a population of 10 million or more
- megafauna** large animals that became extinct during and after the Quaternary
- merger** when two companies agree to join together to form a larger company, often to compete with other large companies
- micro-finance** very small loans which are given to people in the developing world to help them start a small business
- migration** the movement of people involving a change of permanent home
- Milankovitch mechanism** a theory on the effects of the changing orbital 'geometry' of the Earth as it moves around the sun
- national park** an area that is protected from some forms of development because it is regarded as being of outstanding environmental value
- natural increase** the difference between birth and death rates. So if birth rate is 40 per 1000 and death rate is 20 per thousand, the population is increasing at 20 per 1000 or two per cent every year
- natural resources** resources taken from the environment including water, minerals and fossil fuels as well as plant and animal resources
- NGO** non-governmental organisation
- NIC** newly-industrialising country
- nomadic** relating to people and animals that have no fixed residence
- non-renewable resources** resources that cannot be remade – once used they have run out forever
- oceanic crust** the denser and generally thinner crustal material dominated by basaltic rocks
- orbital eccentricity** changes in the earth's orbit and rotation
- outsourcing** the process whereby jobs are carried out in countries where wage rates are often lower
- overpopulation** the idea that the country or region has too many people for the resources available
- oxbow lake** an old meander bend now cut off and abandoned
- peak flow** the point at which the river reaches its highest discharge
- permafrost** ground that is frozen throughout the year, i.e. permanently frozen
- pH** the relative acidity of a substance as determined by the number of hydrogen ions
- phytoplankton** microscopic plants that live in the ocean
- plunging wave** steep waves, with high crests, that break with a lot of force and have a strong backwash
- PM10** tiny pollution particles in the air, which are a serious health hazard in some cities
- polar region** region with extremely cold winters, short cool summers and low levels of

precipitation

political freedom when people have a right to vote, are allowed freedom of speech and freedom to protest so they can influence decisions and choose their leaders

pollution toxic materials and contaminating chemicals entering the air/water supply

population structure how the population can be broken down into categories by age, gender and employment

positive feedback when an initial action creates further changes that accelerate or magnify the initial action

precession changes in the rotational axis of the Earth

precipitation any water falling to earth from the atmosphere, including rain, snow, hail and fog

primary employment/sector jobs that are related to the extraction and use of raw materials from the natural environment such as farming, forestry and fishing

primary impact an initial impact of a hazard on people and property

pro-natalist policies policies designed to encourage women to have more children

pull factors reasons to go to a new place; usually positive things about a place migrants are moving to

push factors reasons to leave a place; usually negative things about a place which 'push' people away

Quaternary a recent geological period in which climate change was frequent and considerable – sometimes known as the Ice Age

quaternary sector hi-tech industry such as biotechnology or computer and software research. It employs scientists and engineers

quota a limit to the numbers of migrants allowed into a country. This often varies from country to country

rainwater harvesting gathering water using intermediate technology to provide local solutions for water shortages

renewable resources resources that sustain themselves without human intervention and, as such, are just about limitless

reservoir a store of water either natural or man-made

resource exploitation the use of natural materials

rip-rap the use of large boulders to protect a coast from erosion by absorbing wave energy

river valley a linear depression cut by the erosion of a river and process of mass movement

rural idyll the perception that rural areas offer a near-perfect life

rural periphery an area of low population density, distant from towns and cities, which is isolated and poorly connected

rural-urban migration movement of people from countryside to towns and cities

salt marsh an area of slack water inland from a spit or bar, where a distinctive ecosystem develops

sea-level rise the impact of melting ice caps and the expansion of seawater as it warms on the volume of seawater and hence its level

sea wall a structure built to absorb and reflect wave energy

secondary employment/sector jobs that are in manufacturing, making items either for other industries such as steel or for consumers such as cars

secondary impact an impact of a hazard on people and property that is a consequence of the damage to infrastructure

sediment load the material transported by a river in solution, suspension and along the bed (bedload)

services the systems by which the biosphere acts as a life support for the planet

siltation deposition of fine material

sliding mass movement where large slabs of material move downslope by gravity

slumping where a section of cliff slides downslope and rotates

Shoreline Management Plan (SMP) a plan which manages long stretches of coastline taking into account the needs of different people and places

soft engineering management of natural processes that uses strategies involving little or no physically intrusive techniques

soft rock rock that is only weakly resistant to physical weathering and erosion

solar activity the output of the sun treated as a 'constant' but subject to small variations over time

solar power power generated by sunlight

solution dissolved material in water; often invisible

spilling wave shallow waves with low crests that break gently and run up the beach with a strong swash

spit a depositional feature that is caused by longshore drift extending out to sea where a shoreline changes direction

spring tides the highest and most dangerous tides, which can contribute to coastal flooding

stack a detached piece of headland formed when an arch has collapsed

stakeholder someone who has an interest in a particular scheme, project or policy

state-led investment when governments, rather than business and TNCs, invest capital in industry and infrastructure

storm hydrograph a record of a river's discharge over time following a rainfall event

streamflow water flowing in a river channel

stump the remains of a collapsed stack

subduction the process whereby plate material is forced to sink and thus melts

subsistence farming farming with the main aim of producing food to feed your family, and selling any surplus that is produced

sunspot a dark area on the Sun's surface with slightly cooler temperatures

surface runoff water that moves downslope over the surface of the ground

suspension solid material held in the water while the water is moving

sustainable development development that meets the needs of present generations without compromising the needs of future generations

swash the water that runs up the beach when a wave breaks

teleworking working from home using communications technology such as email, telephones and video conferencing to keep in touch with a main office

tertiary employment/sector employment that provides services, such as education, retail, legal and health services

thermal expansion the impact of rising temperature on sea water by which it increases in volume

throughflow water that moves downslope but just below ground level; usually through the soil

tokenism making small changes to appear more environmentally friendly

top-down development usually large-scale development projects that are organised by central government

tourism temporary visitors, sometimes international, who travel for leisure and business purposes

traction the dragging of material along a river bed by the sheer force of moving water

traditional (hard) engineering physically intrusive ways of controlling natural processes

transnational corporations (TNCs) companies that operate in more than one country and are owned by shareholders and managed by people who are obliged to make as much money as they can for the owners

transpiration water vapour entering the atmosphere from plants

tributary a feeder river into the main river channel

tsunami a wave created by an earthquake below an ocean or sea

underpopulation the idea that the country or region has too few people to fully exploit the resources

urban sprawl the uncontrolled physical expansion of the built-up area of a city into the surrounding rural area

upper, middle and lower course a way to categorise river channels in which the river characteristics change downstream in distinctive ways

urban core towns and cities which have the most jobs, businesses and transport connections to other places

urbanisation the increasing number of houses, other buildings and infrastructure in an area

volcanic eruptions emissions of dust and gases that block out incoming solar radiation

water stress a shortage of water and its consequences

wave-cut platform a rocky shelf created as cliffs retreat

weather day-to-day changes in meteorological conditions

weathering the breakdown of rock in situ

yield the amount of crops harvested per unit area