
Glossary

This glossary aims to provide simple explanations of some of the geological terms used in this publication. The explanations are not intended to be comprehensive definitions, but concentrate instead on the way in which the terms are used in this book.

A

Algae Large group of simple photosynthetic plants with unicellular organs of reproduction

Alluvial Pertaining to the action of rivers and floods

Ammonoids A subclass of molluscs, typically characterised by a coiled, chambered shell, with distinctive lines (sutures) between the chamber walls and the outer walls of the shell

Amygdale A gas bubble cavity in an igneous rock that has been infilled later with minerals

Andesite A fine-grained igneous rock of intermediate composition, typically containing phenocrysts of feldspar and pyroxene

Anticline A convex upwards fold with the oldest rocks in the centre

Armour-stone Large stone block used in coastal defence and other engineering works

Aureole Zone surrounding an igneous intrusion in which the rocks have been affected by heat from the intrusion, typically metamorphosing the rock to hornfels

B

Basalt A fine-grained, dark igneous rock composed of calcic plagioclase and pyroxene, may also contain olivine

Bedding Layering in sedimentary rocks parallel to the original surface of deposition (true bedding) or inclined to it (false, current or cross bedding)

Bivalve A class of molluscs with paired shell valves (eg mussels)

Brachiopods Solitary marine shelled invertebrates, the shell is made of two unequal valves

Breccia A rock composed of angular fragments greater than 2 mm in diameter

Bryozoans Small aquatic colonial animals

C

Calcareous Containing calcium carbonate

Cementstone A name used to describe a limestone, usually containing clays, that is, or was, used to make cement

Chronostratigraphy The standard hierarchical definition of geological time units

Clast A fragment in a pyroclastic or sedimentary rock

Cleavage Splitting, or the tendency to split, along parallel closely positioned planes in a rock

Conodonts An extinct group of marine animals whose most commonly preserved parts are microscopic elements, made of mainly calcium phosphate, some of which superficially resemble small fish teeth and worm jaws

Crinoids Marine animals (sea lillies) composed of calcareous plates

Cross-bedding Layers in a sedimentary rock inclined to bedding and related to the original direction of current flow

D

Drumlin A low, rounded hill of glacial till, which was moulded into a streamlined shape by glacier ice passing over it

Dyke A sheet of igneous rock emplaced along a steep, generally vertical fracture, normally discordant to the structure of host rocks

E

Era The largest division of geological time, divided into Periods

Extrusive Describes igneous rocks that have been extruded onto the Earth's surface, rather than being intruded beneath the surface (intrusive)

F

Fault A fracture in rocks along which some displacement has taken place

Feldspar A group of rock-forming minerals consisting of silicates of aluminium, sodium, potassium and calcium

Freestone Any fine-grained sandstone or limestone that can be sawn easily

G

Gastropods Molluscs belonging to the class Gastropoda, usually with coiled shells (eg snails)

Geomorphology The study of landforms and the processes that form them

Goniatites An extinct group of ammonoids useful in determining time zones within sequences of rocks

Graptolite A group of extinct colonial marine organisms. They consist of one or more branches or stipes in which individuals in the colony occur in rows

Greywacke A sandstone containing a high proportion of silt, clay and rock fragments in addition to quartz grains

H

Hornfels A hard fine-grained metamorphic rock adjacent to an igneous intrusion, that has been partly or completely recrystallised by the heat from the intrusion

Hydrothermal Processes involving the reaction of hot groundwaters with pre-existing rocks, resulting in changes in the mineralogy and chemistry of the rocks, the formation of mineral veins and replacement 'flat' deposits

I

Igneous rock A rock that has formed from the cooling of magma (molten rock)

Inlier An outcrop of older rock surrounded by rocks of younger age

J

Joint A fracture, or potential fracture, in a rock along which there has been no displacement

L

Lapilli-tuff A pyroclastic rock in which 25-75% of the clasts are between 2 mm and 64 mm in diameter

Limestone Sedimentary rock composed mostly of calcium carbonate

Lithology The character of a rock expressed in terms of its mineral composition, structure, grain size and arrangement of its constituents

Lithostratigraphical The determination of the stratigraphical relationship of rocks based on their lithology

M

Magnetic anomaly The value of the local magnetic field remaining after the subtraction of the dipole portion of the Earth's field

Metamorphism The process of change in the mineralogy and structure of a rock as a result of the effects of heat and/or pressure

Monocline A steep flexure of rocks on either side of which the strata are horizontal or dip at only low angles

Monograptid A graptolite with a single stipe

O

Orogeny An episode in Earth history that produced crustal thickening following the collision of tectonic plates and resulting from magmatism, folding thrusting and accretion, leading to regional uplift and mountain building

Ostracod A group small arthropods with a twin shell

Outlier A remnant of a younger rock surrounded by older strata

P

Palaeomagnetic Describing the remnant magnetic characteristics frozen in a rock during its formation and reflecting the direction of the Earth's magnetic field at that time

Pegmatitic Textural description of an area within an igneous rock that is notably more coarsely crystalline than the surrounding rock

Periglacial A zone or environment peripheral to glaciers, so that it is very cold but not covered by ice-sheets

Phenocryst A crystal in an igneous rock, usually of near perfect shape, that is larger than that in the groundmass

Plagioclase A very common group of rock-forming feldspar minerals

Porphyritic Describing igneous rocks in which larger crystals (phenocrysts), are set in a finer grained or glassy groundmass

Pseudomorph A mineral or aggregate of minerals that have replaced a pre-existing mineral, and having retained the original mineral's shape

Pyroclastic Describes rocks that form directly by explosive ejection from a volcano

Pyroxene A group of magnesium, iron and calcium silicate minerals

R

Ripple marks Small scale ridges and troughs formed by the flow of water or wind over unconsolidated sandy or silty sediment. The fossilised equivalent of ripples found today on beaches and river sands

S

Saprolite A soft, decomposed rock, formed in place by chemical weathering. It is characterised by its retention of some of the structures that were present in the rock from which it was derived

Seatearth The fossil soil underlying a coal seam

Sedimentary Describes rocks formed by the accumulation of fragments from the wasting of previous rocks or organic materials, deposited as layers of sediment

Siliceous Rich in silica (SiO_2)

Stratigraphy The definition and description of the stratified rocks of the Earth's crust

Syncline A concave-upwards fold with the youngest rocks in the centre

T

Throw The amount of vertical movement on a fault

Tor A mass of rock rising above the surrounding landscape with free faces on all sides; originally used in south-west England for distinctive residual masses of rock, mostly granitic, capping hills

Trachyte A fine-grained igneous rock of intermediate composition, typically containing phenocrysts of feldspar and mica

Tufa A porous or cellular deposit of calcium carbonate deposited from lime-rich springs

Tuff A pyroclastic rock composed of clasts with an average grain size less than 2 mm

Turbidity current A dense, turbulent sub-marine flow of mixed water and sediment, capable of very rapid movement

U

Unconformity A substantial break in the succession of rocks following a period of erosion or non deposition

V

Volcaniclastic Describes a rock containing clasts derived from volcanic activity