

Definition: **erosion** from *Environmental History and Global Change: A Dictionary of Environmental History*

The removal of part of the land surface by agents such as wind, water, gravity or ice.



Image from: [The powerful action of the waves produces... in Philip's Encyclopedia](#)

Summary Article: **erosion**
From *The Columbia Encyclopedia*

(ĭrō'zhəŋ), general term for the processes by which the surface of the earth is constantly being worn away. The principal agents are gravity, running water, near-shore waves, ice (mostly glaciers), and wind. All running water gathers and transports particles of soil or fragments of rock (formed by weathering), and every stream carries, in suspension or rolling along its bottom, material received from its tributaries or detached from its own banks. These transported particles strike against the bedrock of the stream channel, literally grinding it away and eventually settle out along the channel or find their way to the sea. The Mississippi River is being reduced by erosion at the rate of 1 ft (30 cm) in about 9,000 years. Seacoasts are eroded by ocean waves, which detach loose or nonresistant material. Waves wear the rock by both the force of their own impact and the abrasive action of the detritus they carry. Global warming, by increasing sea levels, accelerates coastal erosion and also inundates coasts; in the Arctic, ice, a major component of the coasts, also is melted by global warming, compounding the effects of coastal erosion. Ice can erode rocks by a freezing-thawing cycle; and ice in the form of glaciers erodes by plucking off loose rocks, by its abrasive action on the surface over which it passes, and by glacial meltwater rivers and streams. In deserts and along beaches, wind transports sand, eroding one area and depositing in another. The wind can also drive sand and other particles against rocks, abrading them. Before human modification, landmasses were probably eroding at rates close to 1 inch (2 to 3 centimeters) per 1,000 years; now rates have doubled. In the United States 30% is natural erosion, while 70% is because of human intervention. Suspended sediment from erosion is one of the world's greatest pollutants. Sediment can fill reservoirs and navigable waterways, impair wildlife habitats, increase flooding and water treatment costs, and deplete valuable topsoil. It can also concentrate harmful chemicals and bacteria. The continuous washing away of the fine rich topsoil of farmland due to poor agricultural practices is a problem in many parts of the world. Accelerated erosion from removal of acres of trees and vegetation, which diminishes the natural erosion protection, is becoming increasingly common in populated areas. Strip mining also removes vegetation and can be a localized cause of erosion. Among the methods of preventing soil erosion are reforestation, maintenance of fallow strips, terracing, underdraining, ditching, deep plowing, and plowing across slopes rather than up and down. See conservation of natural resources.

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