



Soil erosion

By soil erosion we refer to the loss of soil from the land. It is a process that is always occurring¹ but it can happen faster if we misuse² the land.

Erosion in all its forms involves the dislodgement of soil particles, their removal and eventual deposition away from the original position. This natural process is fundamental in landscape and soil development. Susceptibility to erosion and the rate at which it occurs depend on land use, geology, geomorphology, climate, soil texture, and the nature and density of vegetation in the area.

The development of intensive agricultural activities worldwide has resulted in the removal of native vegetation. This has inadvertently increased the exposure of soils and their vulnerability to natural erosion processes.

With water erosion, raindrops are the predominant initiating factor. An average-size raindrop (5 mm diameter) falling through still air contacts the soil at around 32 km/hour. Wind gusts³ and larger drops result in higher velocities. Drops behave as little bombs when falling on exposed or bare soil, displacing soil particles and destroying soil structure. Further rainfall causes ponding and the water will then begin to move downhill as run-off, which will eventually erode the soil surface.

Soils generally increase in erodibility as particle size decreases and are particularly susceptible to erosion under heavy summer rainfall, when vegetative cover is low. These erodible fine particles of organic material, silt and clay are the life essence of the soil, containing most of nitrogen, potash and phosphoric acid.

The rate of soil erosion can be increased by:

- removing plant cover by burning pasture or felling⁴ trees;
- bad cultivation practices;
- wind;
- frost;
- rain and water run-off;
- extreme climatic effects.

Erosion can damage roads, bridges and fences. It can cause pollution of waterways and destroy stock when it occurs rapidly.

GLOSSARY

- 1** happening
2 use in the wrong way
3 sudden strong movements of air
4 cutting





ACTIVITIES

1 Decide if the following statements are true or false and correct the false ones.

- 1 Erosion is not responsible for the soil development.
- 2 The development of agriculture has made some soils more susceptible to erosion.
- 3 Rain is one of the main causes of soil erosion.
- 4 Erodibility is higher in winter.
- 5 Soil is in danger today.
- 6 The ecology of the soil aims at a sustainable development of the soil.

T	F
T	F
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2 Answer the following questions.

- 1 What is soil erosion?
- 2 What are the main causes of soil erosion?
- 3 Why is erosion more common today than in the past?
- 4 What are the effects of erosion?

3 Explain in your own words the meaning of the following terms.

- 1 Rate
- 2 Land use
- 3 Growth
- 4 Raindrops
- 5 Dislodgement
- 6 Pasture
- 7 Frost
- 8 Waterways

4 Read the text again and find the English equivalents of the following Italian terms.

- 1 Paesaggio
- 2 Geologia
- 3 Densità
- 4 Gocce di pioggia
- 5 Precipitazioni atmosferiche
- 6 Limo
- 7 Carbonato di potassio
- 8 Pascolo

