

# Land & Water

## Conserving Natural Resources in Illinois

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### Raindrops and Bombs

#### The Erosion Process

##### Useful Trouble

Whenever the role of rain in the erosion process is being described, one can probably count on raindrops being compared to bombs.

A raindrop and a bomb may strike some as an exaggerated comparison. After all, from our perspective, a typical rainfall seems innocent enough. However, from the perspective of a soil particle, there isn't a better analogy than a bomb.

During a rainfall, millions of drops fall at velocities reaching 30 feet per second. They explode against the ground, splashing soil as high as 3 feet in the air and as far as 5 feet from where they hit.

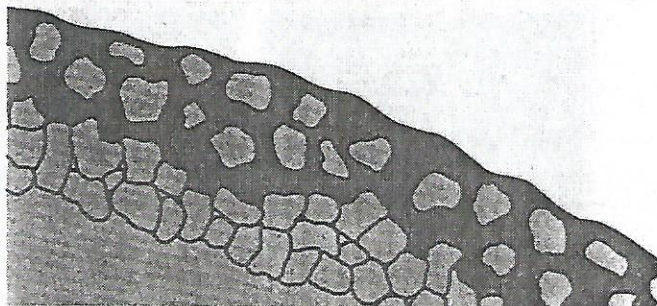
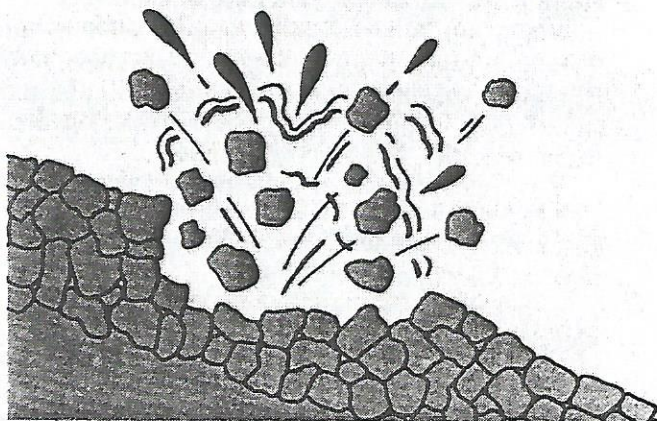
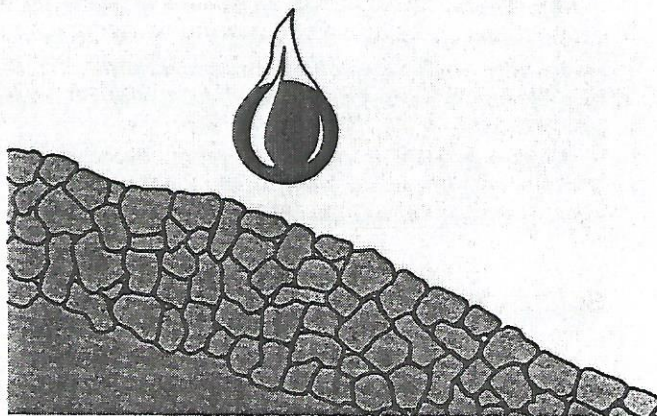
Without raindrops, there would be little soil erosion caused by water. But, of course, without raindrops there also would be no crops. As one person put it, rain is "useful trouble."

##### Geologic Violence

To understand how soil loss can be controlled, the first step is to understand how erosion occurs and what role raindrops play in the process.

Soil erosion has always taken place and it always will. It is a natural process. The surface of the earth is continually undergoing what might be called a "face lift in slow motion." Slowly, the coastline is receding, the hills and mountain tops are being carried down to the valleys, and the river deltas are being enlarged.

The form of erosion that occurs naturally, without man's influence, is called *geologic* erosion. Some of the best examples of geologic erosion are the Grand



Soil particles and aggregates are detached by raindrops and transported downslope with runoff water.