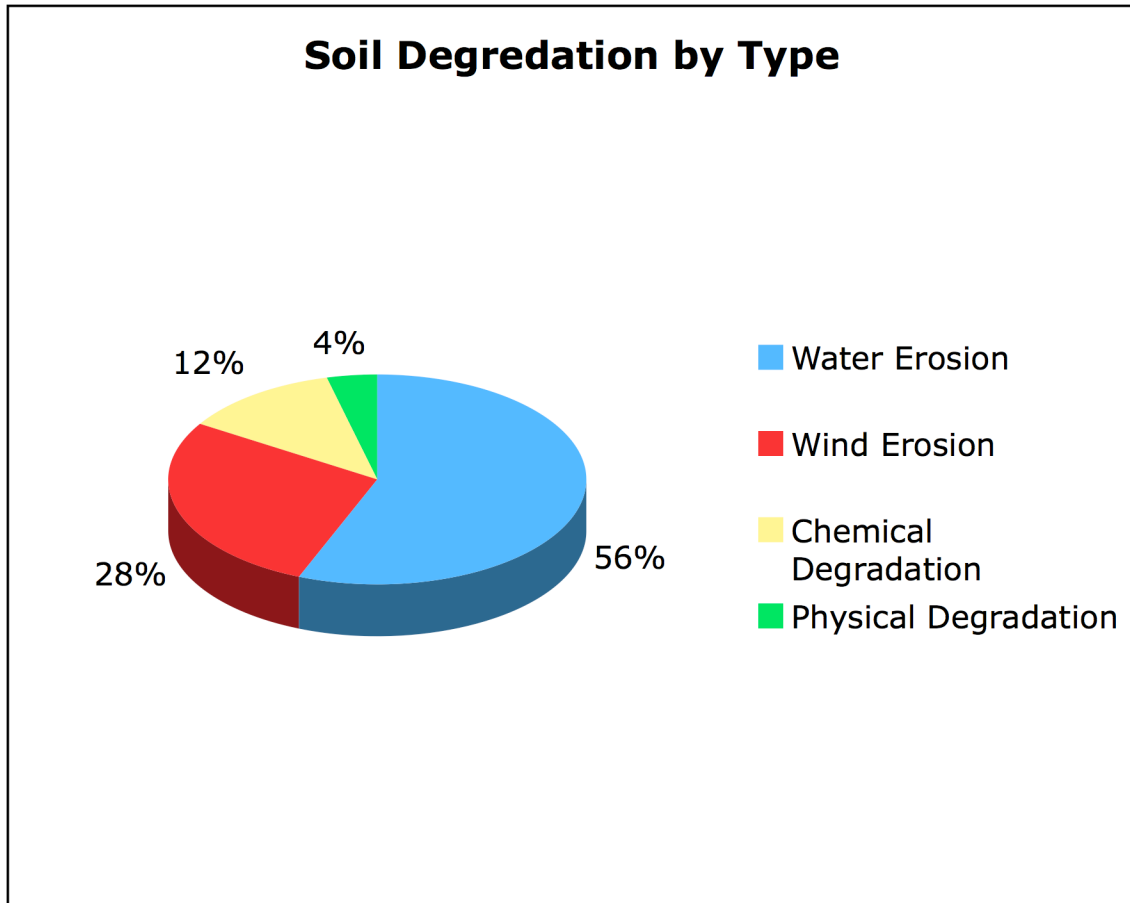


**Soil Erosion and Deposition**



[Soil](#) is the top most layer of the Earth. It holds the nutrients and water in order to properly support life like plants and animals. Soil is composed of four basic things: 45% minerals 25% air, 25% water, and 5% organic matter.

[Soil Erosion](#) is the movement of soil, rocks or pebbles from one place to another. The flowing of water, wind, and human activity causes erosion to happen. Here is a break down with figures from Barons page 18.



Cause:

Gravity acting upon an element such as water typically causes soil erosion. It is a natural process that is healthy for the environment when not excessive. It is often worsened by human development and deforestation because natural water distribution is disrupted. Also the forest and grass fields act as an anchor for the soil and when removed the land below is eroded. This is typical in the Midwest area of the USA where farmland has caused the deforestation of much land. For example, the rainwater washes the top soil from the Midwest plains and it is deposited down south by the [Mississippi](#).

Effects:

The effects of soil erosion is that good and needed top soil of one area is moved from where it is needed to where it is not. In fact, every year in the USA more soil is lost to erosion than was during the 1930's dust bowl. The [Badlands](#) in South Dakota are an

amazing example of soil erosion. Also each year the [Yellow River](#) erodes away 1.6 billion tons of sediment and deposits them in the ocean. The Mississippi River deposits the silt from its travels in the Gulf of Mexico at its delta.

-What does this mean for humans?

Erosion causes the loss of land. When we lose land into the ocean we lose land that we can plant and grow food on or live on. The human population is constantly growing and therefore there is a growing need for food. In some places in the world, it is expected that in the future the land we be so badly eroded that the population will not be able to be fed. In Africa, if current trends of soil degradation continue, the continent might be able to feed just 25% of its population by 2025, according to UNU's Ghana-based Institute for Natural Resources in Africa.

### Types of Erosion and Processes:

#### -Water Erosion

1. Sheet Erosion- soil moves off as a horizontal layer
2. Rill Erosion- Fast flowing water cuts small channels in the soil
3. Gully Erosion- extreme case of rill erosion, where over time, channels increase in size and depth.

#### -Shoreline Erosion

-Shoreline is eroded through tides, currents and the ever-pounding waves

#### -Ice Erosion

-The erosion of land through movement of ice, such as glaciers moving along ground like in Northern North America. Typically breaks down bedrock into sand as it recedes. Or due to expansion of water when frozen, small cracks are expanded and the land is eroded away when ice melts and water flows away.

#### -Wind Erosion

-The wind blows and picks up smaller lighter particles and moves them. It leaves the heavier and denser materials. Wind erosion spreads sand dunes and sand like in the Sahara Desert.

### Questions

1. What type of soil degradation accounts for the greatest percentage of all soil erosion?
2. What is the most common natural force acting on an element that causes erosion?
3. What commonly enhances the effect of soil erosion?
4. What are some side effects of soil erosion?