



WEATHERING & EROSION

Weathering

- The process in which rocks on the surface of a planet are broken down into smaller particles.
- There are 2 types of weathering:



1. Mechanical Weathering

- The process in which rocks are broken apart physically.
- The rocks remain the same, they only change size.



Sugarland Mountain, Great Smoky Mountains National Park, Tennessee May 2002

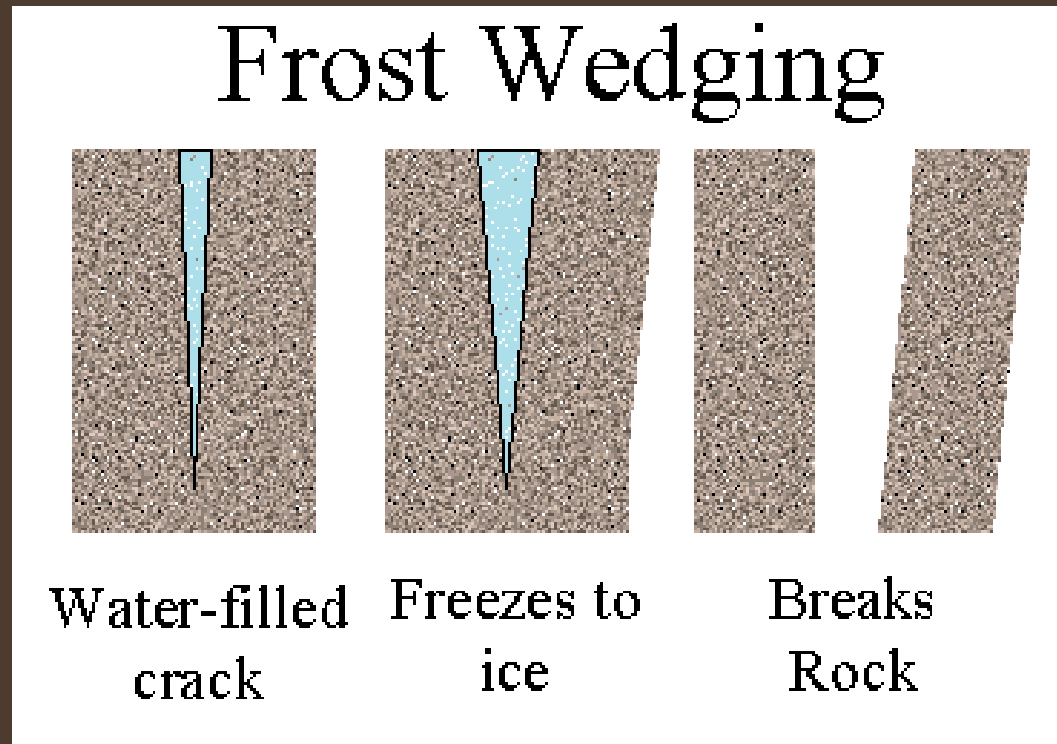
Mechanical Weathering Examples

- ⦿ Rocks falling and hitting other rocks.
- ⦿ Water smashing rocks together.
- ⦿ Roots growing in the cracks of a rock causing it to split.



Another Type of Mechanical Weathering

- Ice Wedging –Ice forms in a crack in a rock night after night causing it to split.



2. Chemical Weathering

- The process of breaking apart material by chemical means.
- The rock is dissolved or eaten away.



Examples of Chemical Weathering

- Acid rain eating away at a rock.
- Rock rust – the iron in a rock reacting to the oxygen in the atmosphere.



Erosion

- The process of moving ground material from one place to another.
- There are 4 main causes of erosion:



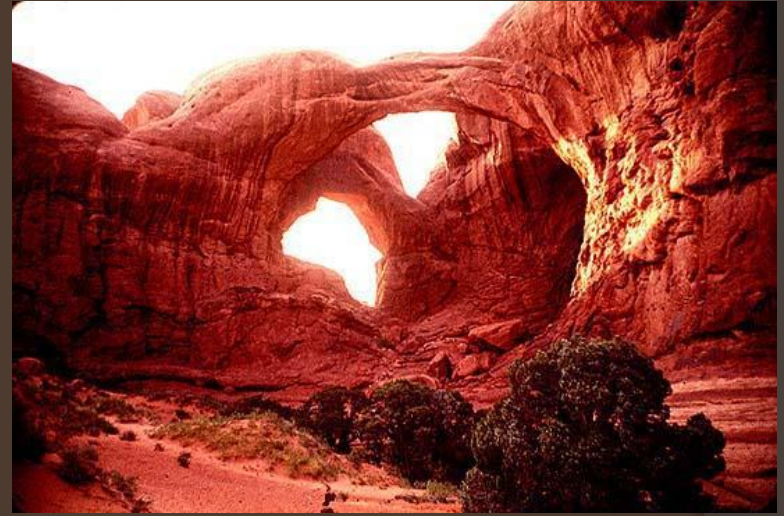
1. Wind

- Wind picks up small particles and moves them to new locations.



Wind Erosion Examples

- Abrasion – Wind picks up small particles and smashes them into other objects.
- Dunes – The placement of small particles against a barrier.



2. Water

- The movement of particles caused by water.



Examples of Water Erosion

- Stream Erosion – Particles carried by a stream that smash into each other.
- Gully Erosion – Water carves a path into the ground.
- Flood Erosion – A thin sheet of water slowly moves surface material.



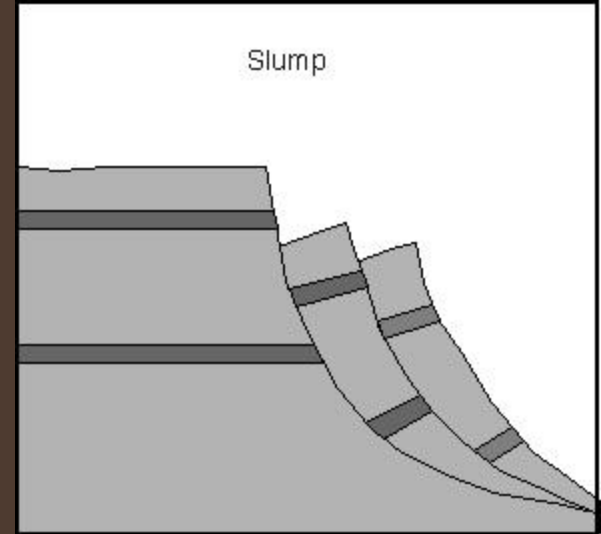
3. Gravity

- Gravity pulls rocks and soil downward.



Examples of Gravity Erosion

- Mudslide
- Rockslide
- Slump – The movement of soil downward in layers.
- Creep – The slow movement of soil downhill.



4. Ice

- The slow movement of glaciers that pick up surface material and move it down hill.



Examples of Ice Erosion

- Plucking – The picking up and moving of large particles by ice.
- U-Shaped valleys – Glaciers carve out rounded U-shaped valleys.



Deposition

- The final placing of material that has been moved by erosional forces.

