



Physical Geography

Weathering & Mass Movement

- Base-Level
- Weathering
 - Physical
 - Weathering
- Mass Movement
 - Causes & Classes
- Assign CH11&12



Physical Geography

Base-Level of Landforms

- It is assumed that there is a point at which a landform can no longer be eroded, weathered, or moved--*a base level*
- A variety of processes constantly wear away the landscape--this is referred to as **denudation**
- This process can be observed on any slope
 - gravity
 - friction
 - Inevitably, exogenic & endogenic factors result in potential energy becomes kinetic energy

Created by JDG 2000



Physical Geography

Weathering

- **Physical (or Mechanical) Weather** is a broken or disintegrated without any chemical agent
 - *Crystallization*: Arid Climates, Water Drawn to Surface, Separates Minerals
 - *Hydration*: Water absorbs, rock expands, forcing grains apart
 - *Freeze/Thaw*: Expand & Contract--Frost Wedging
 - Physical Contact with another object
 - *Biological*: Something Growing Into or Pushing a Rock



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Weathering

- **Chemical Weathering** is the decomposition of a material due to chemical alteration always associated with water
 - *Hydrolysis*: Absorbed water reacts with minerals
 - *Oxidation*. “Rusting” --Oxygen reacts with a mineral
 - *Carbonation*. Carbon dioxide is dissolved by water creating carbonic acid. The acid reacts with the mineral and the result is a carbonate. Limestone=calcium carbonate
 - *Solution*: Water--the universal solvent--simply takes the mineral into ‘solution’



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Mass Wasting

- The downward movement of materials propelled and controlled by gravity down a slope
- Classes
 - *Falls & Avalanches* (Rockfall/talus cone; Debris Avalanche)
 - *Slide* (Translational/Planar & Rotational/Concave)
 - *Flow* (Saturation)
 - *Creep* (Top Soil/Moisture)
 - *Human Induced* (Exposed & Over-Steeped)

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