

Presentation Notes

Presentation How Soils are FormedLesson 4.1

Notes from Presentation:

Soil Development

- the following factors contribute to soil formation
 - climate
 - organisms
 - parent material
 - time topography

Climate

- more rain means more plants which can keep soil formations in place
- climate includes several forces that act upon soils, which break down rock into smaller fragments and eventually down into small particles
 - rainfall
 - temperature

Organic Matter

- add nutrients to the soil
- plants
 - decaying roots and leaves
- soil organisms
 - break down organic material

Parent Material

- soil comes from parent material
- soil forms from rock broken down by weathering or chemical processes

Time

- soils develop at varying rates depending upon the climate and other formation factors
- the forces that form a given soil indicate how long it took the soil to be formed

Topography

- what would soil be like on top of a hill compared to the bottom?
- top- larger particles and less organised
- bottom- smaller particles and deep
- water is a major part of soil degradation
- on a steep slope water will gather energy from gravity pulling it down

Soil Development Classifications

- there are four main ways the process of soil formation occurs:
- addition- accumulation or deposition
- reduction- leaching and erosion
- translocation- movement within soil profile
- transformation- soil changes in place by weathering or microorganism conversion

Erosion

- the opposite of soil formation is erosion, which has a detrimental effect on soil
- erosion comes in two forms
 - water
 - wind

Erosion Happens

- in what circumstances is erosion more likely to happen?
 - very rainy climates or windy climates

- Answers
 - steep ground
 - too much irrigation
 - working soil in a rainy season
 - not protecting soil with ground cover
 - allowing wind to blow across worked soil
- What happens when the soil is gone?
 - poor crop production
 - more inputs are required like water and fertilizer to grow crops
 - soil could be unusable in some cases

AFNR Reflection Page

List five key points that are important to remember from this presentation.

1. wind water and time break down soil
2. working soil in rainy season
3. translocation is movement within a soil profile
4. organic matter is decaying roots and leaves
5. smaller particles are at the bottom of the hill

List three ideas or concepts that this new information has in common with previous things learned.

1. erosion happens with steep ground
2. erosion with lots of water
3. vegetation is good at stopping erosion

List questions or ideas that remain unclear about the information presented that should be asked for clarity at the appropriate time.

n/a