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Soil and water Conservation Engineering

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WHAT IS SOIL EROSION??

- Soil erosion is the process of detachment of soil particles or aggregates.
- Transport of the detached soil particles.
- Soil erosion implies that the eroded soil gets deposited in the downstream (sedimentation).

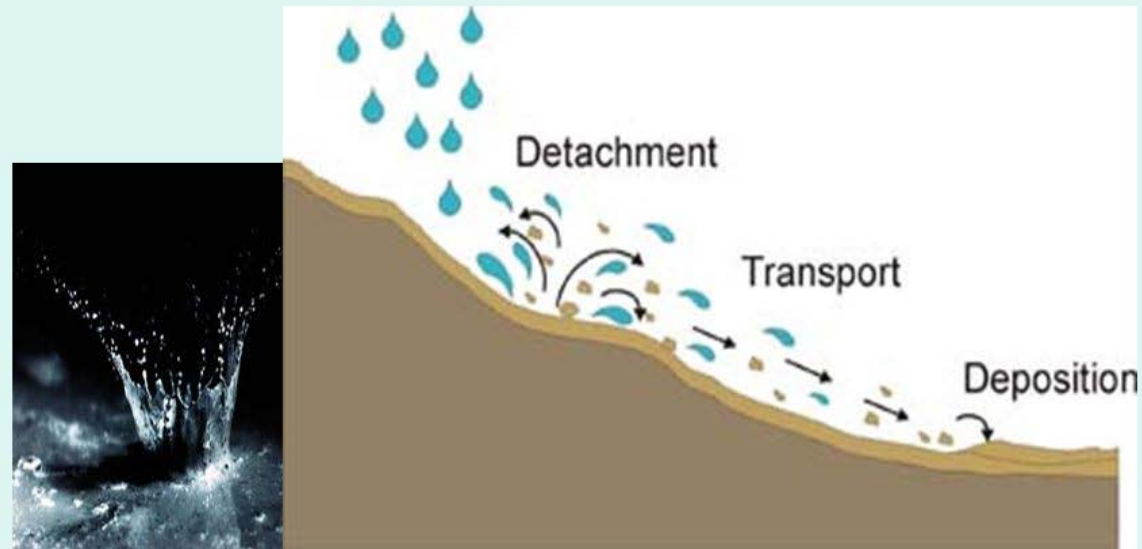


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DIFFERENT PROCESS OF SOIL EROSION

Three step process of soil erosion





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SOIL DETACHMENT

- Removal of soil particle from its original place.
- Impact of rain drops – 1st step in erosion process
- Soil loss due to splash is 50 to 90 times more than wash off losses
- > 100 tonnes of soil/acre is splashed due to heavy rainfall on bare soil
- Maximum amount of material in splash occurs about 2 to 3 minutes after the starting of rainfall.
- Particle size more – more is the soil detachability



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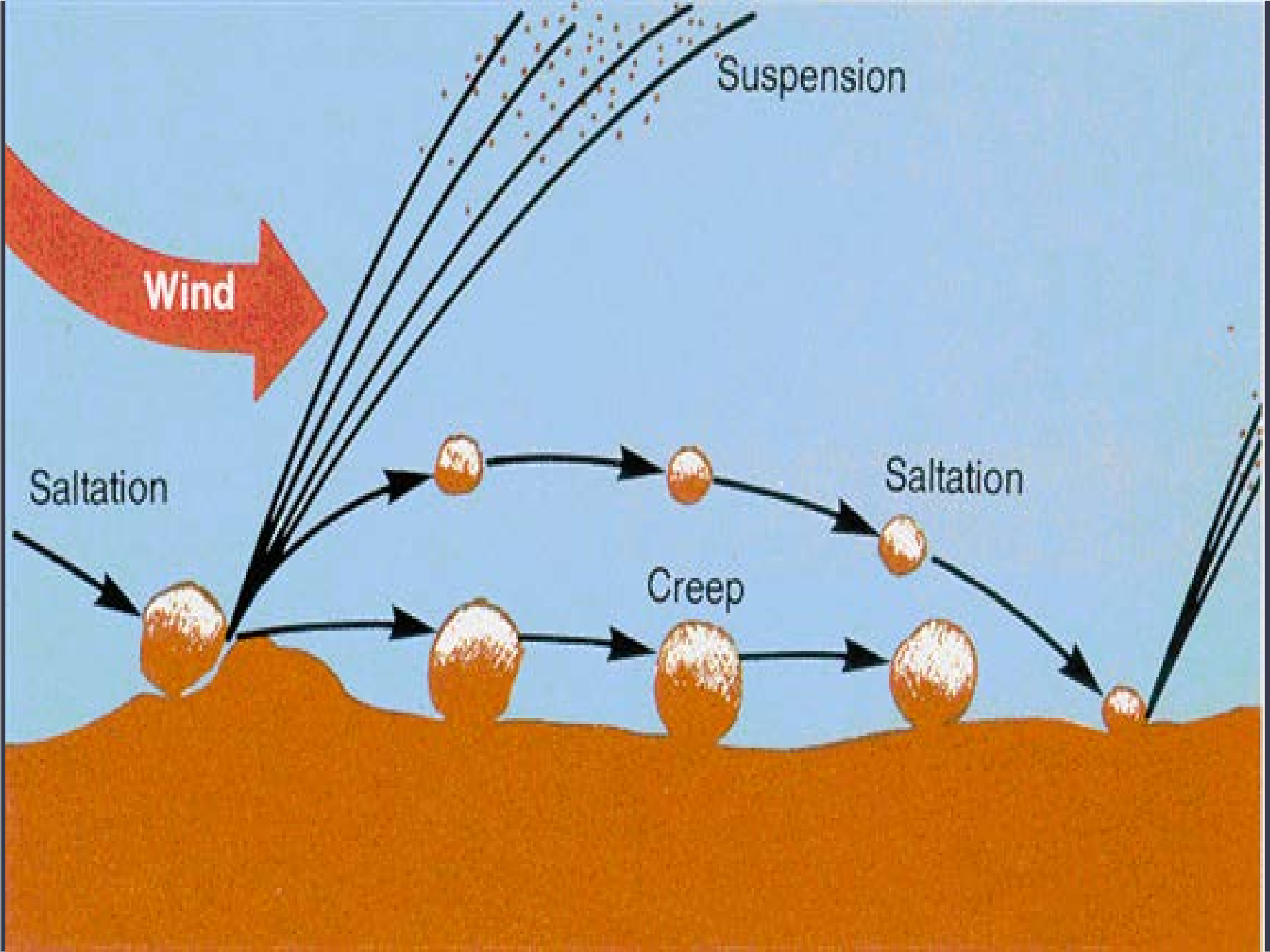
SOIL TRANSPORTATION

The process of soil transportation is accomplished under following forms

1. Saltation
2. Suspension
3. Surface creep

Soil characteristics

Particle size less – more soil transportability
(clay)



Suspension

Wind

Saltation

Saltation

Creep



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- **Suspension:** Particles remain in suspension in flowing water for a considerable time with no contact with stream bed.
- **Saltation :** Particles skip or bounce along the stream bed **Height of bounce \propto (particle density/fluid density)**. Saltation is of lesser importance.
- **Surface creep:** Movement of particles in almost continuous contact with stream bed by rolling and dragging action of water along the bed. Contributes 10 – 50% of total sediments.



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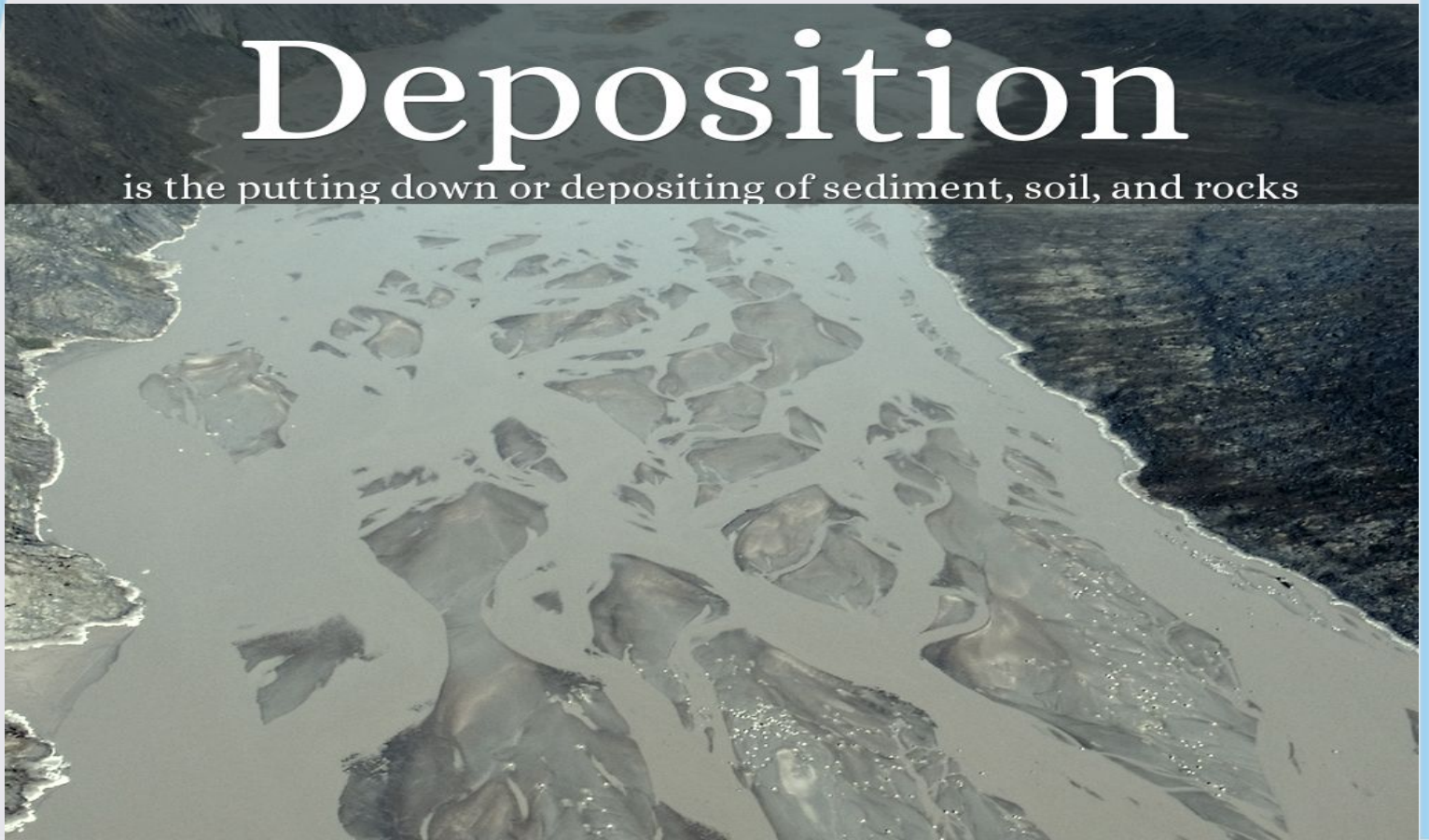
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SOIL DEPOSITION

It is the process of settlement of soil on the soil surface and is the final step of soil erosion.

Deposition

is the putting down or depositing of sediment, soil, and rocks

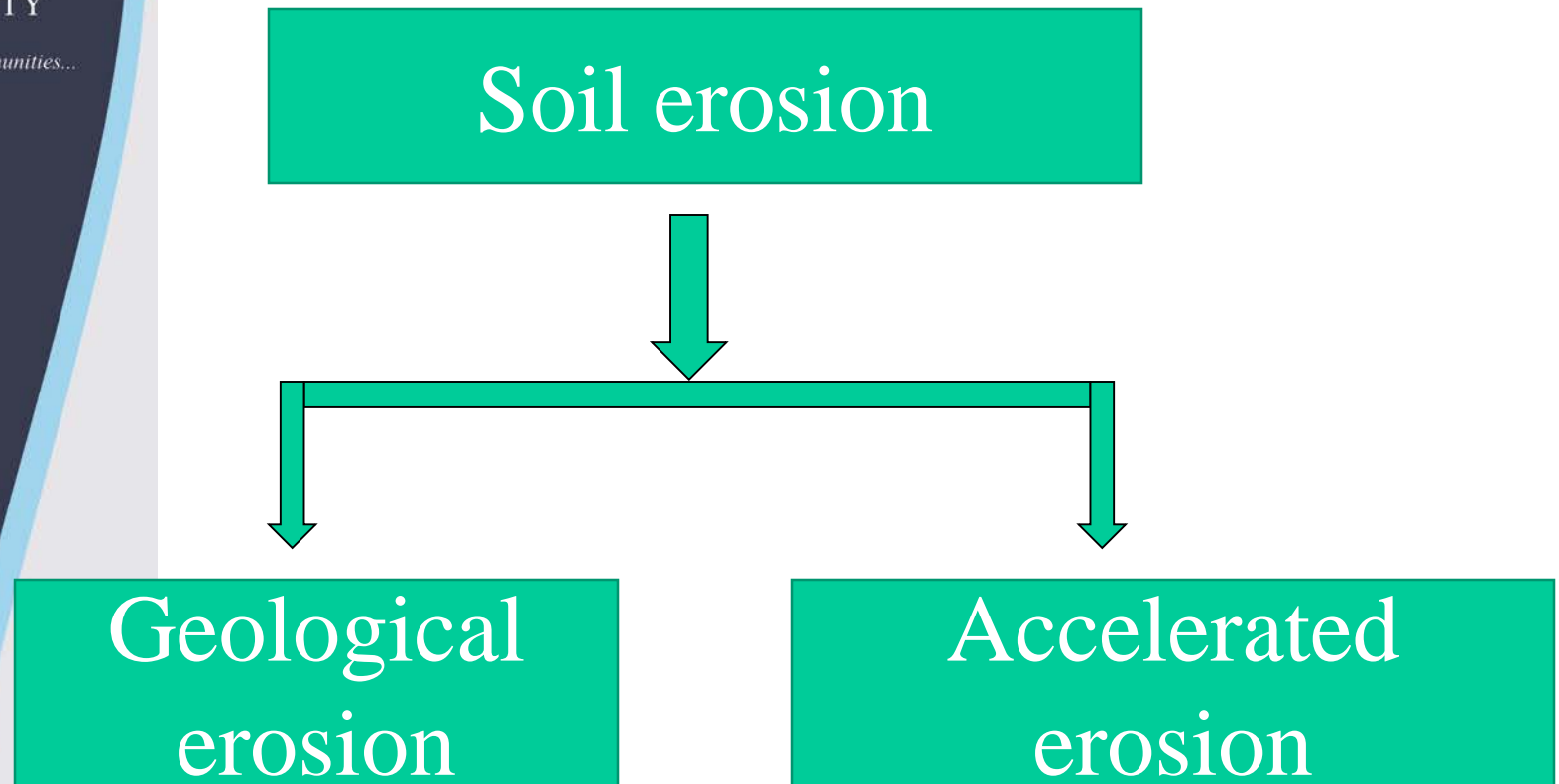




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TYPES OF EROSION



**THANK
YOU**
