

**Geology Sildes
For Petroluem & Civil Eng.**





Desert and Winds

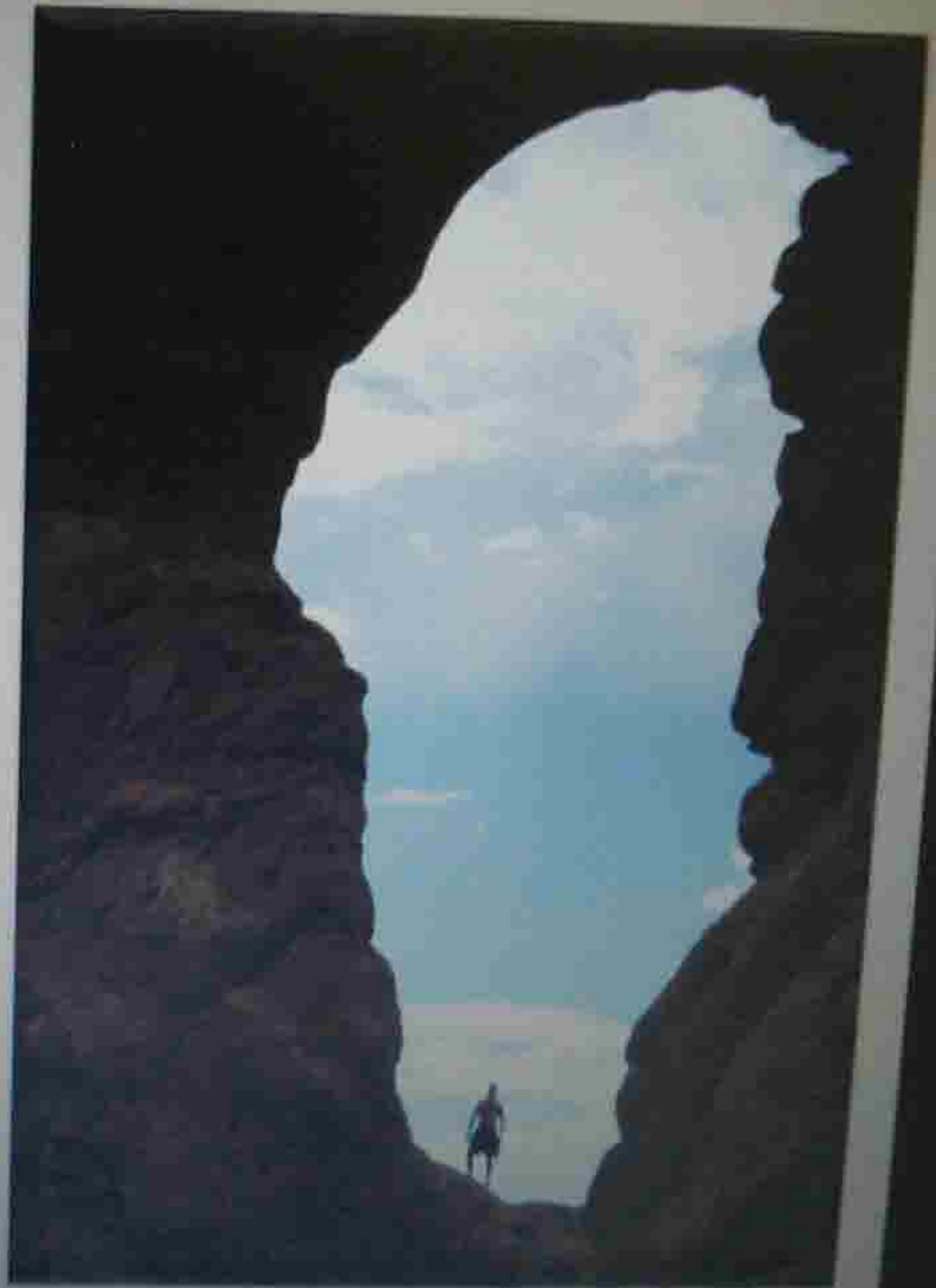
CHAPTER 19

What is Desert?

Desert is arid region, usually partly covered by sand, having scanty vegetation or sometimes almost none, annual rainfall of 25 cm or less, and capable of supporting only limited and specially adapted animal and plant populations.

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Desert Types

Arid: annual rainfall of 25 cm or less; being without moisture, barren, unproductive, extremely dry.

Semiarid (Steppe): annual rainfall of 25 cm to 50 cm; more humid; having scrubby vegetation with short, coarse grass.

Arid

- 1. Unaltered rock and mineral fragments = mechanical weathering.**
- 2. Moisture is lacking, organic acids from decaying plants is scarce.**

**1. Rock edges rounded =
influence of chemical
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**2. Clays and thin soils
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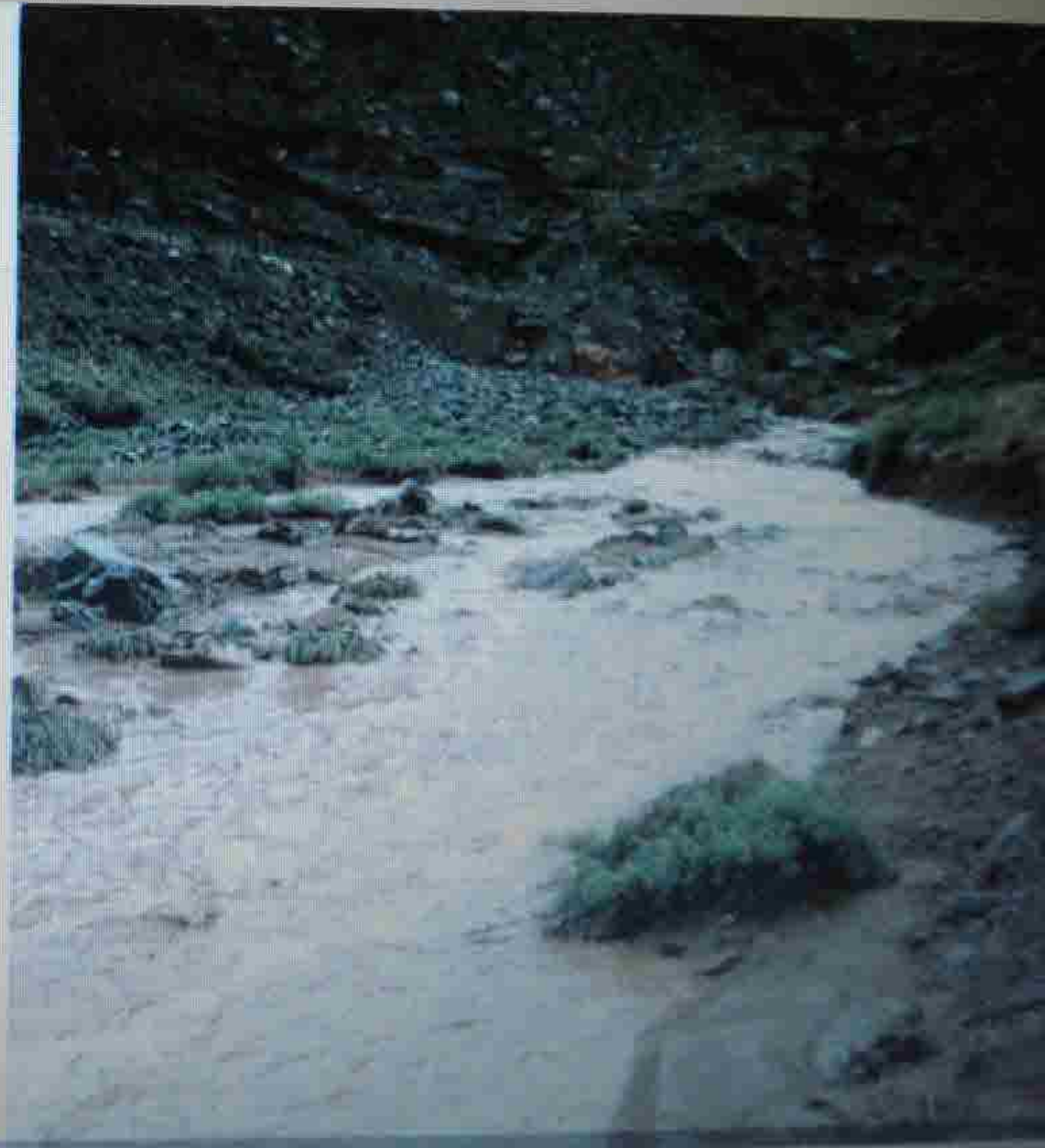
Arid

1. Ephemeral stream = specific episode of rainfall (few days/hours).
2. Sparse vegetation cover.
3. Flash floods; quick, sudden, subside quickly, impressive erosion.
4. Small streams; die out before reaching sea.

Semiarid

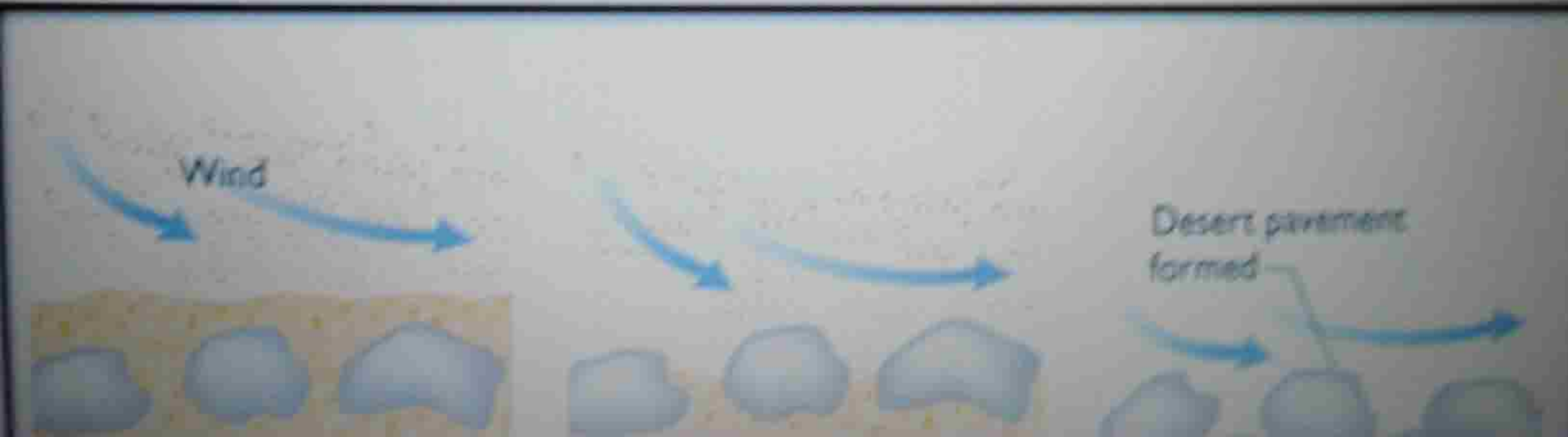
1. Lasting? stream.
2. Vegetation cover anchor erosion.
3. Flood takes several days then subside.
4. Integrated drainage system; discharge to sea.

Ephemeral stream



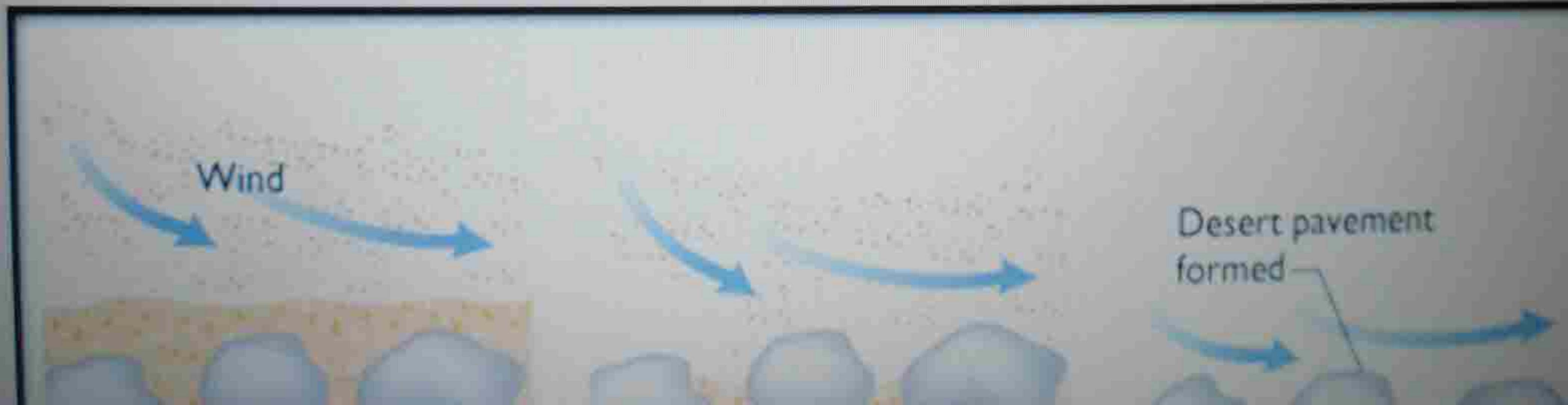
Desert Landscape and Features

Desert pavement: a layer of coarse pebbles and gravel created when wind removed the finer material.

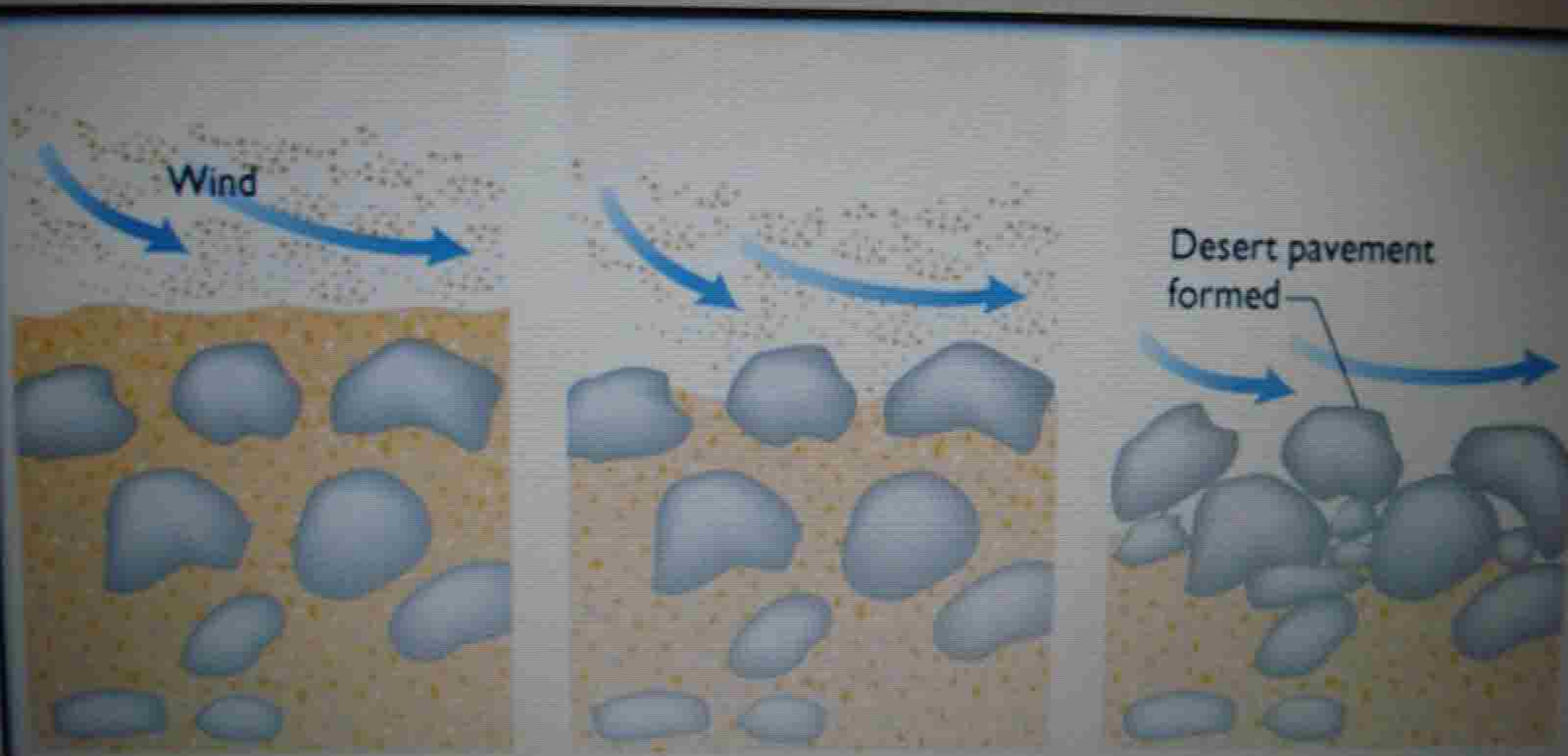


Desert Landscape and Features

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Mixture of coarse and fine particles at surface

Wind gradually removes finer particles

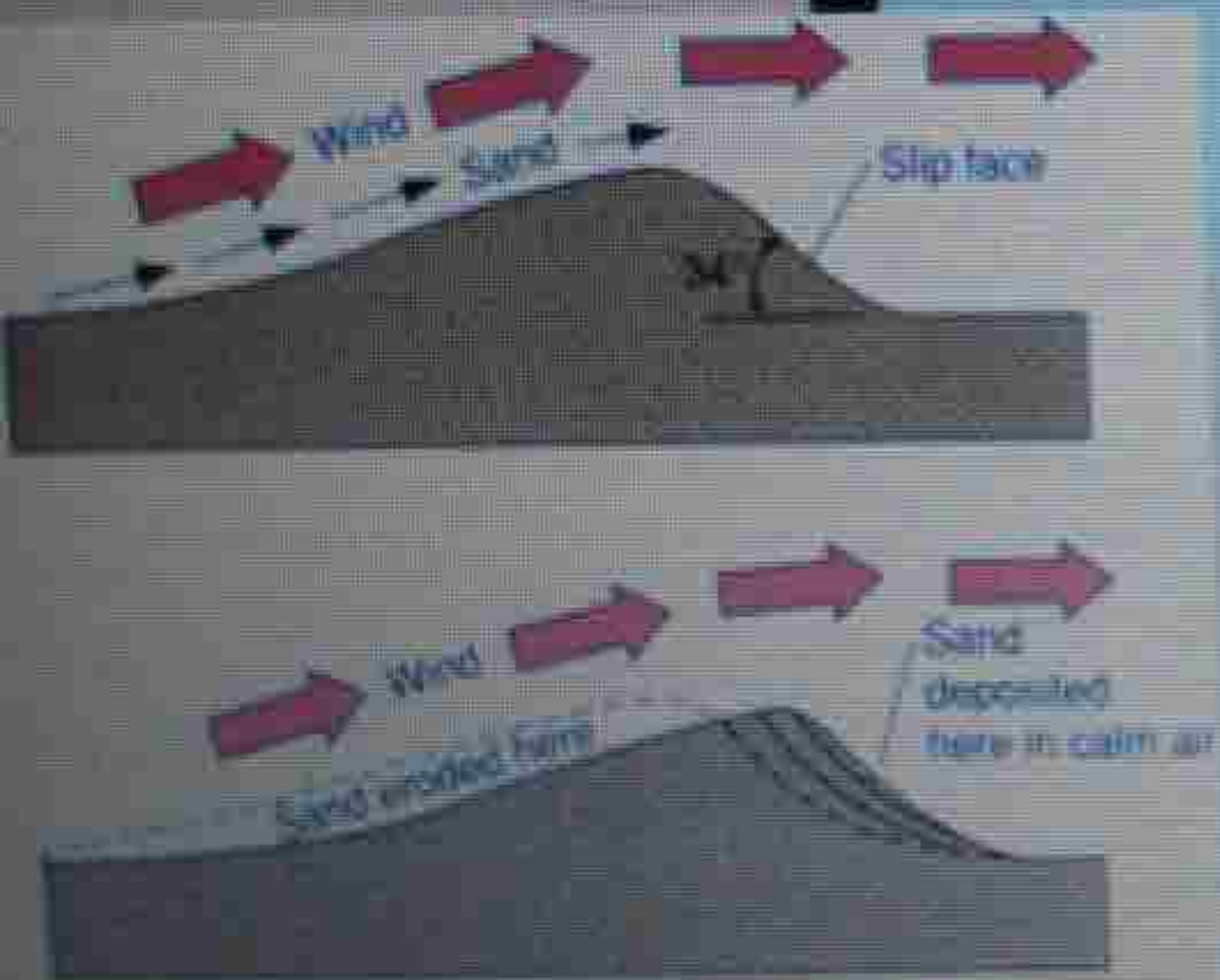
Desert pavement prevents further wind erosion

Desert Landscape and Features

Sand dunes: hill, mound, or ridge of windblown sands or other loose material such as clay particles



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wind direction

slip face



Barchan Dune

dune movement

Types

of

Sand

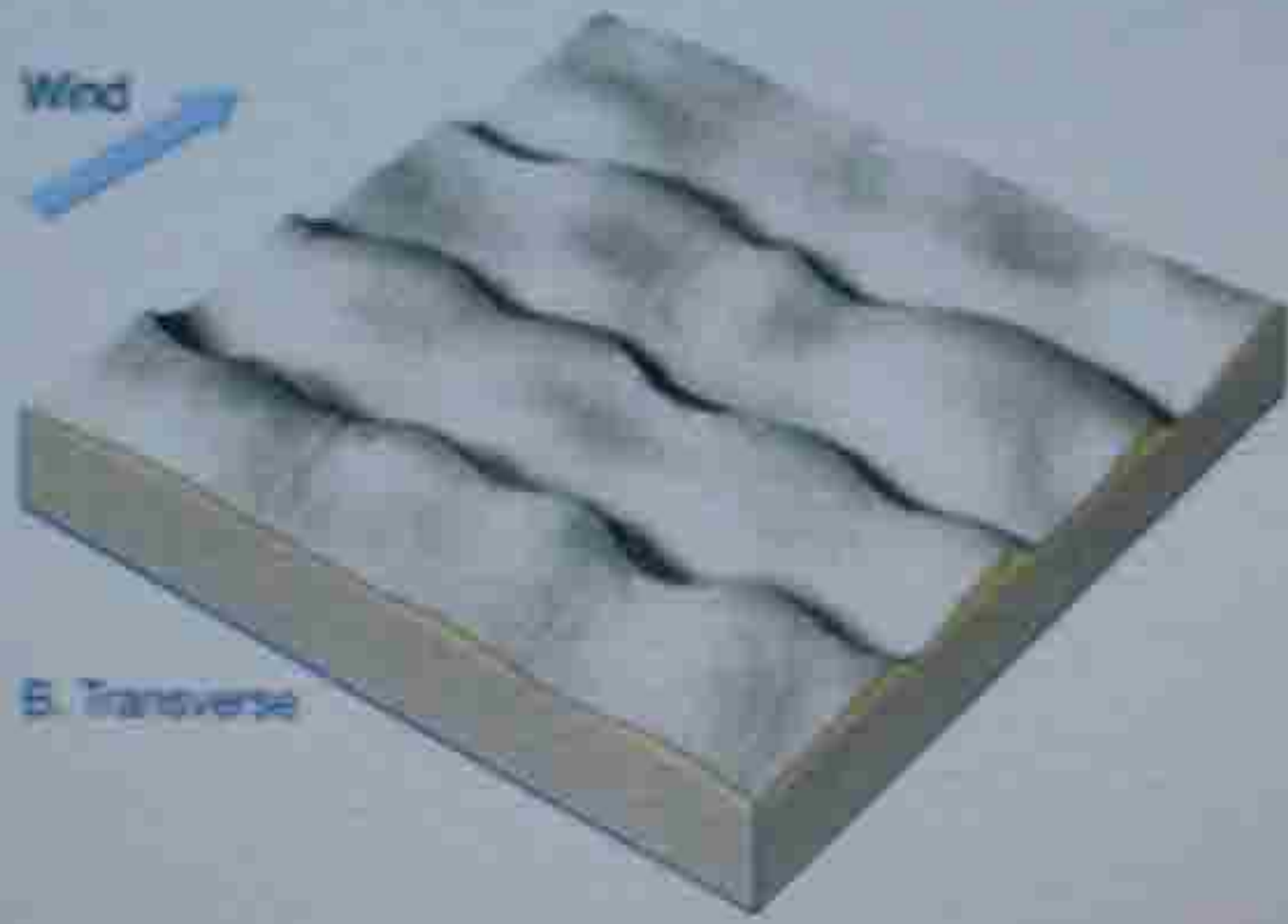
Dunes



A. Barchan



D. Longitudinal



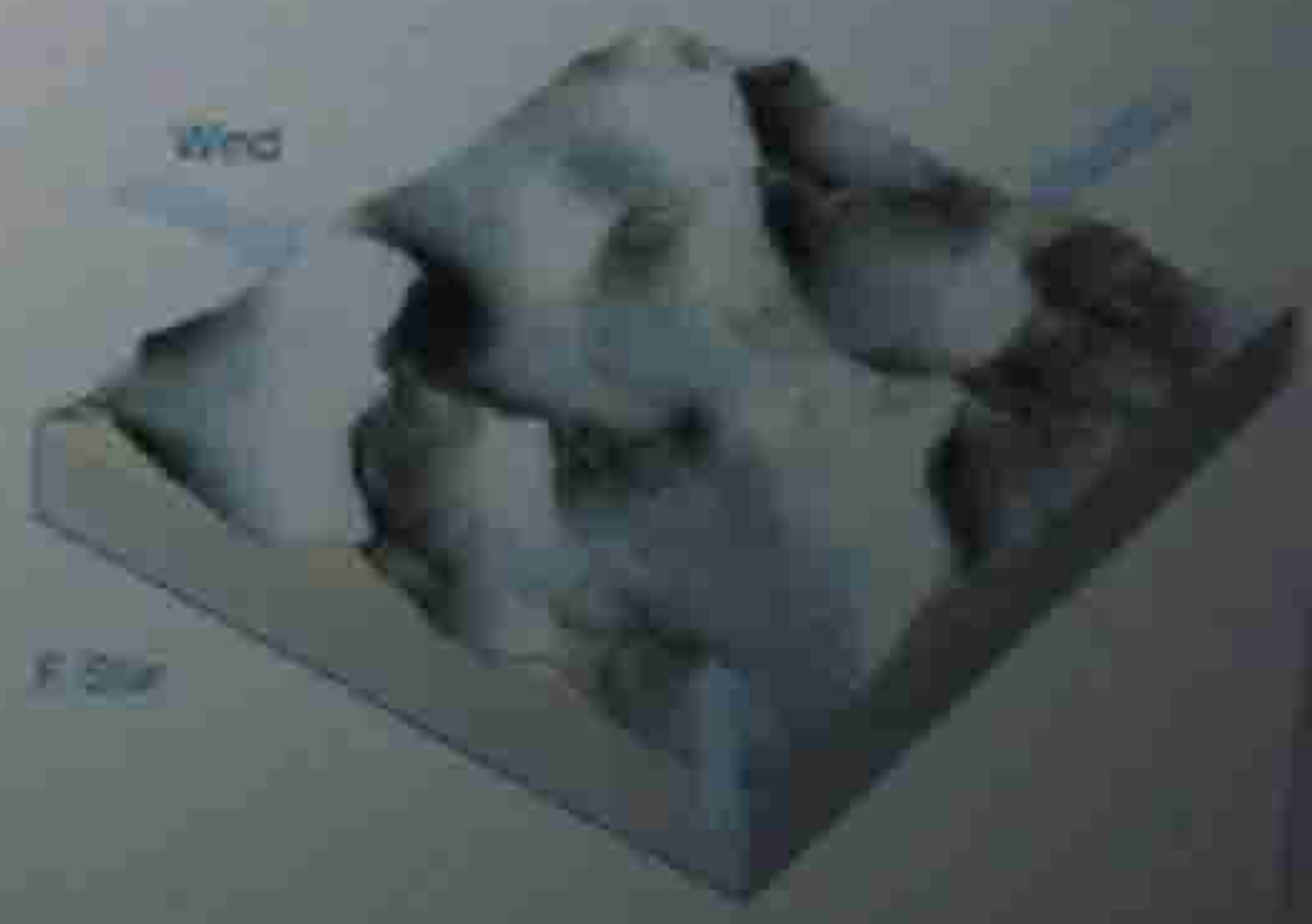
B. Transverse



E. Parabolic



C. Barchanoid



F. Star