

Depositional and Erosional Landforms

Depositional Landforms:

Depositional landforms are created by the build-up of sediments from different sources like water, wind, ice, and volcanoes.

Depositional landforms are natural features that form when sediments such as sand, silt, clay, gravel, and rocks are transported by agents like wind, water, ice, or gravity and then deposited in a new location. These sediments accumulate and build up over time, creating various shapes and structures.

1. River Depositional Landforms

- Delta: Formed where a river meets a sea or lake, creating a triangle-shaped area of sediment.

1. **River Carries Sediments:** The river picks up sand, silt, and clay as it flows.
2. **River Slows Down:** When the river meets a larger body of water (ocean, sea, or lake), it slows down.
3. **Sediments Settle:** The slowed river drops its sediments, which start to build up.
4. **Distributaries Form:** Sediments block the main channel, creating smaller channels (distributaries).
5. **Delta Expands:** Continuous sediment deposition causes the delta to grow outward.
6. **Shape Influenced by Forces:** The shape of the delta is determined by the river's flow, waves, and tides.

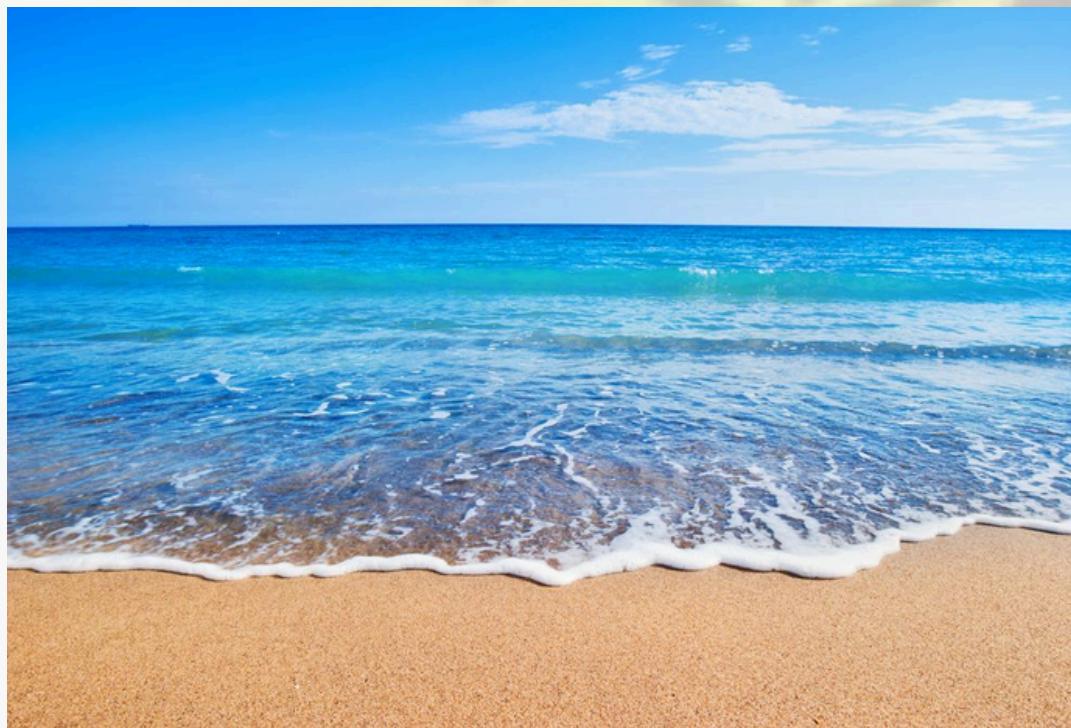
Shapes of Deltas

1. Bird's-Foot Delta
2. Arcuate Delta
3. Cuspate Delta
4. Estuarine Delta
5. Fan Delta
6. Gilbert Delta
7. Tidal Delta



2. Coastal Depositional Landforms

- **Beach:** A sandy or pebbly shore formed by waves.
- **Spit:** A narrow strip of land extending into the water, formed by the movement of sand along the coast.
- **Barrier Island:** A long, narrow island parallel to the coast, formed by wave action.



Barrier Island

3. Glacial Depositional Landforms

1. Moraine: Piles of rocks and soil left by a moving glacier.
2. Drumlin: A smooth, elongated hill formed by glacial ice.



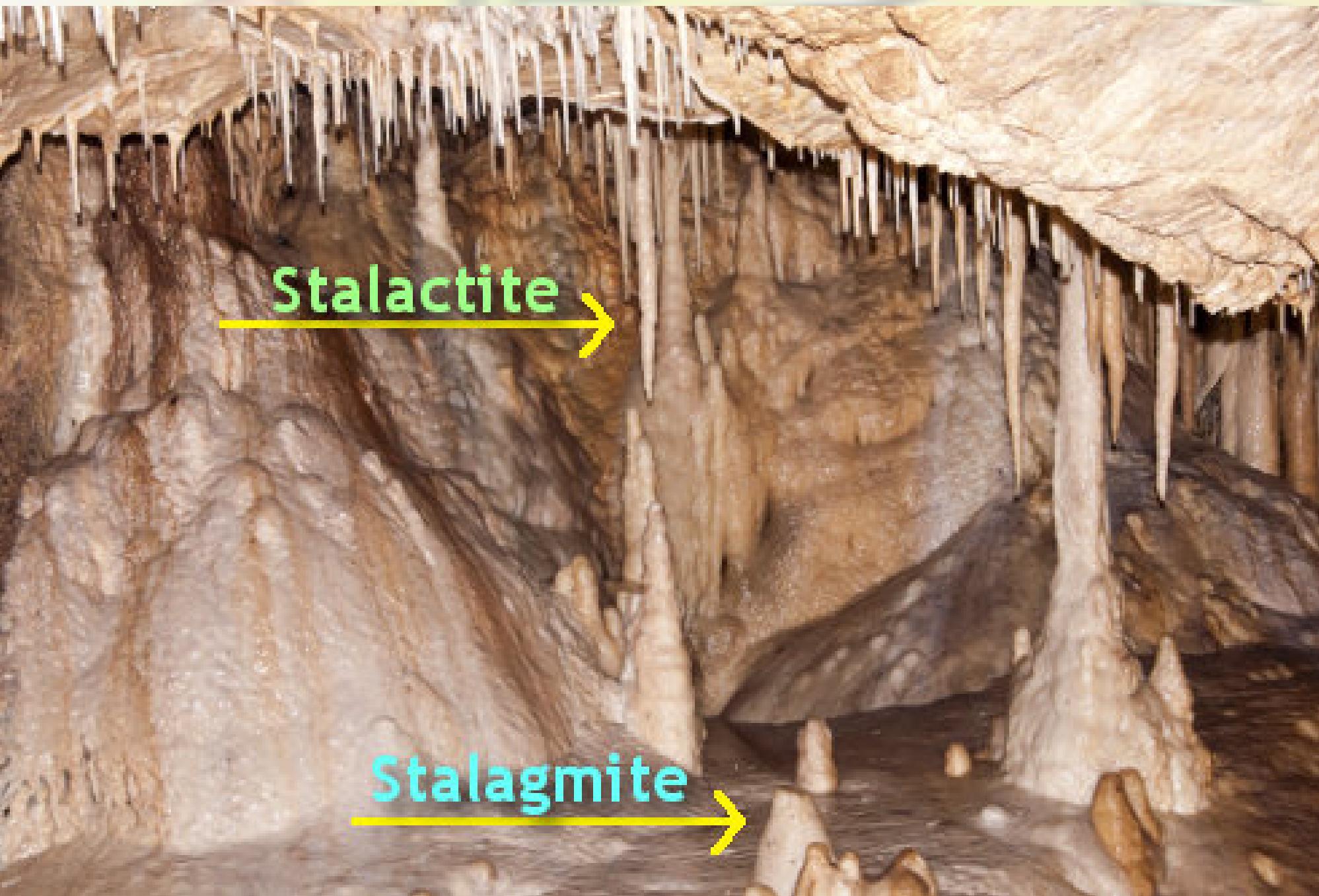
4. Wind Depositional Landforms

- Dune: A hill of sand created by the wind, common in deserts and near beaches.



5. Cave Depositional Landforms

- **Stalactite:** Formations hanging from cave ceilings.
- **Stalagmite:** Formations growing from cave floors.



7. Volcanic Depositional Landforms

- **Lava Plain:** Flat land formed by cooled lava.
- **Volcanic Cone:** A hill or mountain formed from volcanic material.



Erosional landforms are natural features created by the removal of soil, rock, or sediment through various forces like wind, water, ice, or gravity. Here are some common erosional landforms explained simply:

1. Valleys: These are low areas between hills or mountains, typically with a river running through them. They are formed by the long-term action of a river or glacier cutting into the land.

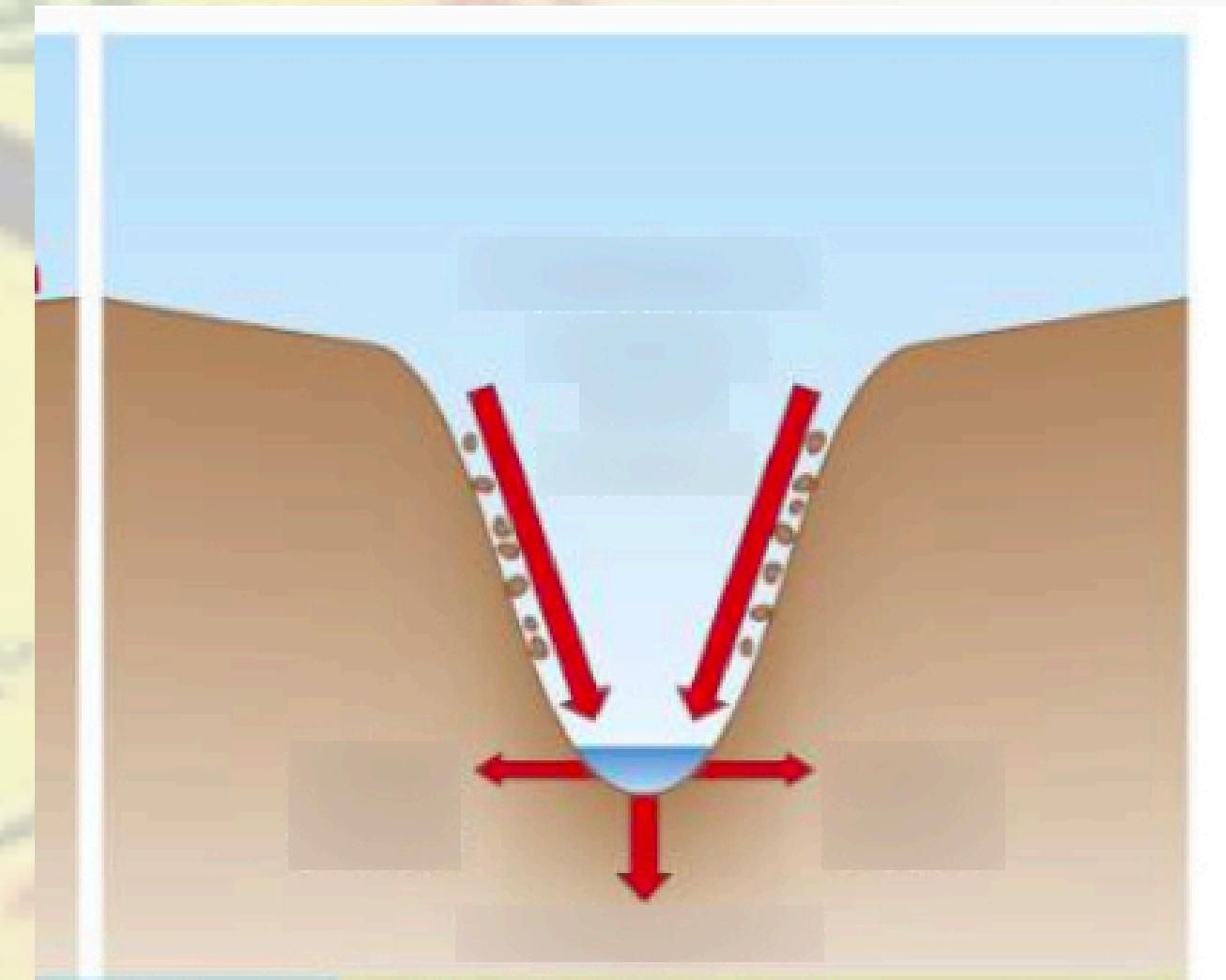


Figure 1.11 The formation of a V-shaped valley.

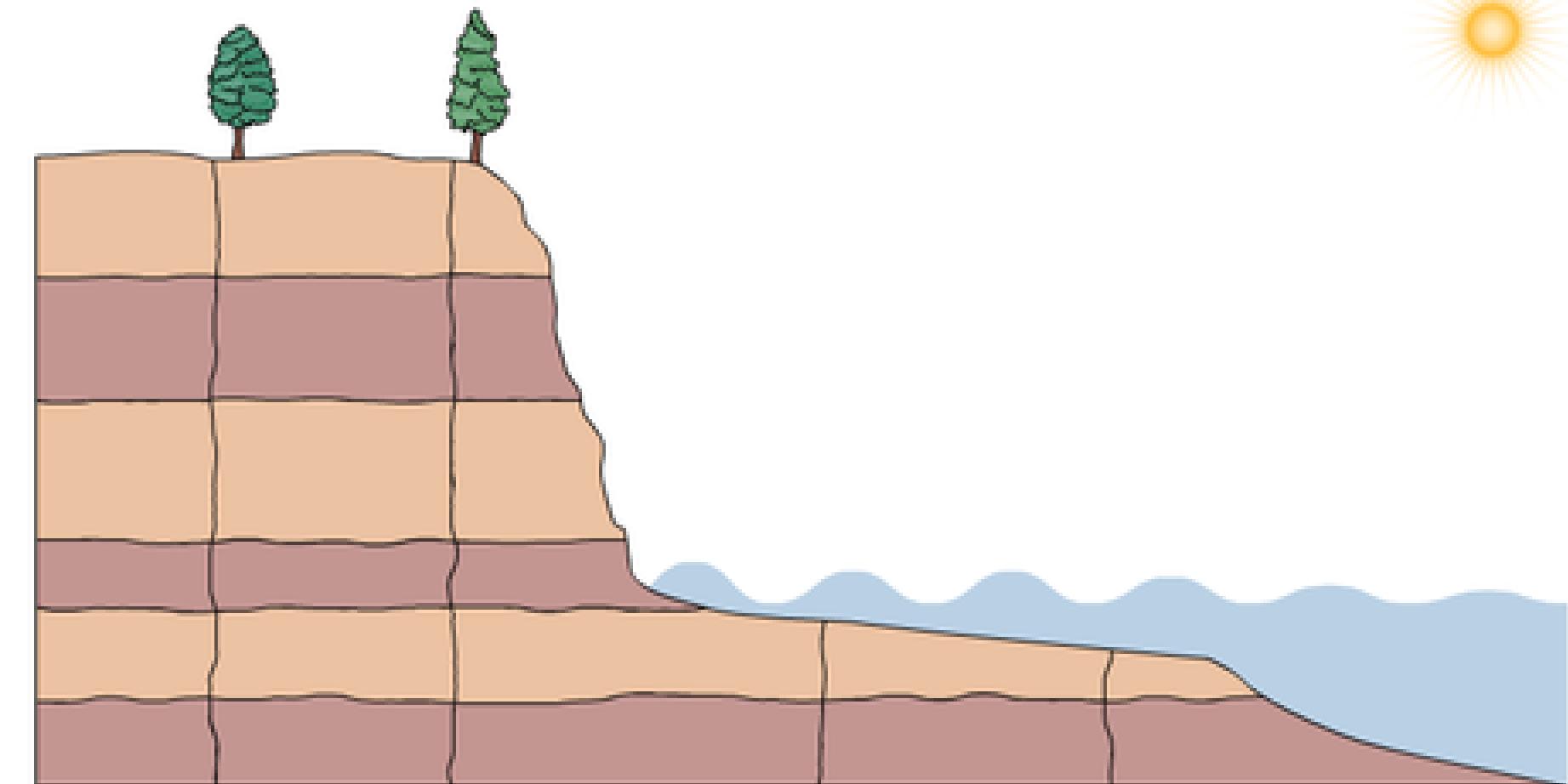
2. Canyons: Deep, narrow valleys with steep sides, often carved by a river over millions of years. The Grand Canyon is a famous example.



3. Cliffs: Steep, vertical, or near-vertical rock faces, usually found along coasts or riverbanks, formed by the relentless action of water or waves.

Cliff Retreat Along the Coast

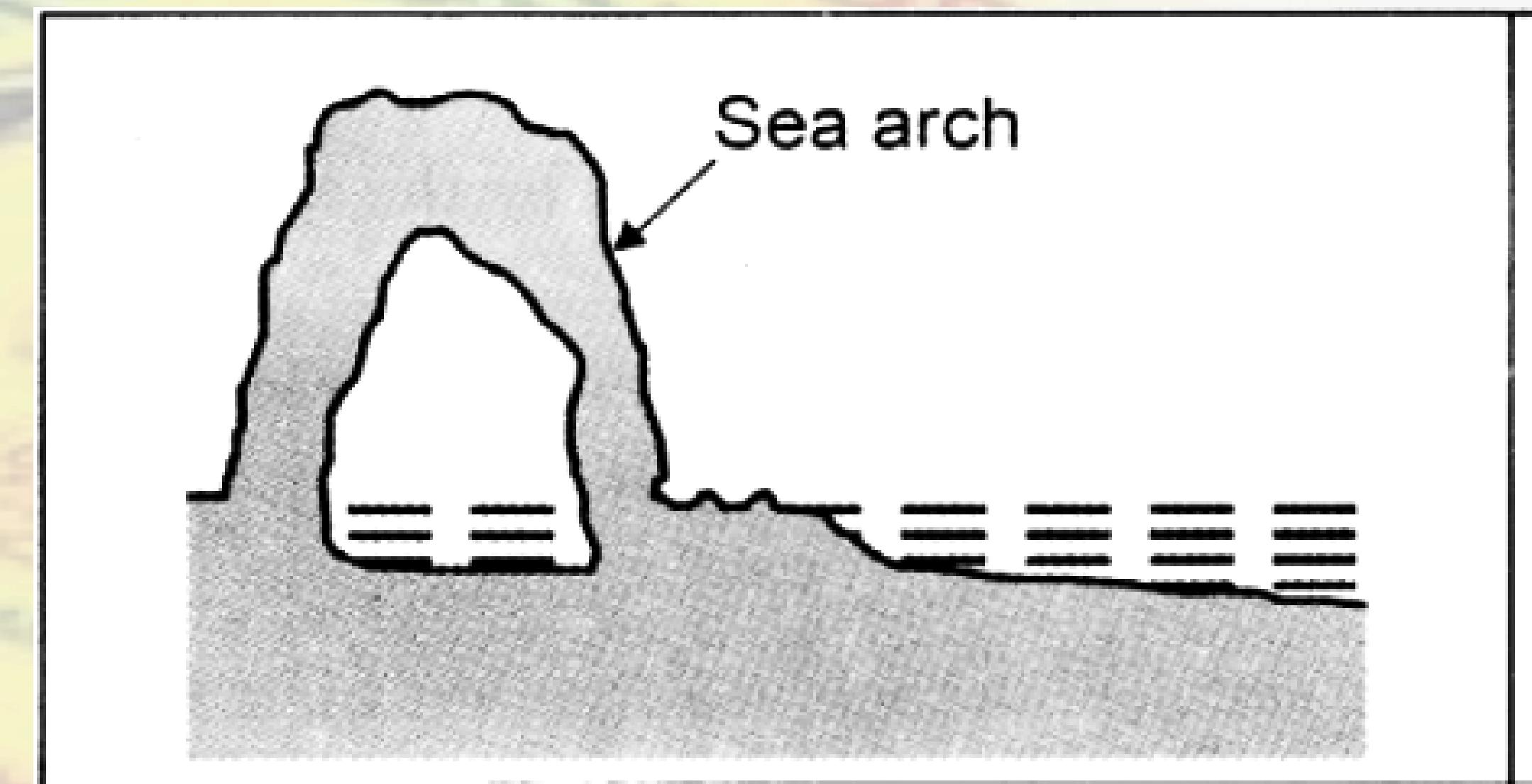
The position of steep cliffs along the coast slowly moves inland through time, by a process called "cliff retreat."



4. Arches: Natural, curved rock

formations that look like bridges.

They are created when softer rock is eroded away, leaving harder rock behind.



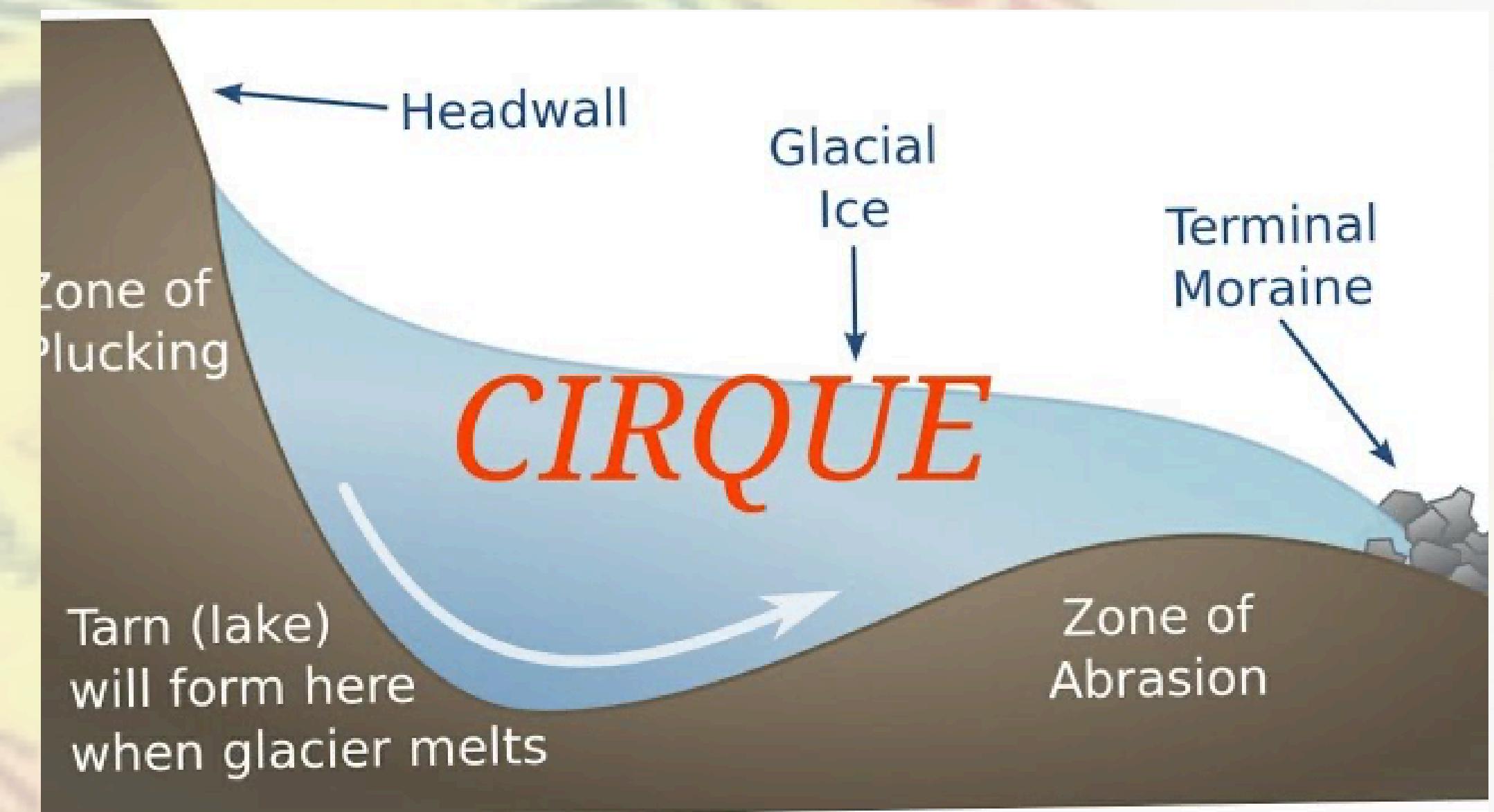
5. Buttes:
Isolated hills
with steep sides
and a flat top,
smaller than
mesas. They are
remnants of
larger, eroded
landmasses.



6. Sea Stacks:
Tall, isolated
columns of rock
standing in the
sea near a
coast, formed
by the erosion
of cliffs.



7. Cirques: Bowl-shaped depressions on mountainsides, formed by glacial erosion. They often have steep sides and a flat bottom.



8. U-shaped Valleys: Wide valleys with a U-shaped profile, created by the movement of glaciers, which erode the valley floor and sides.



