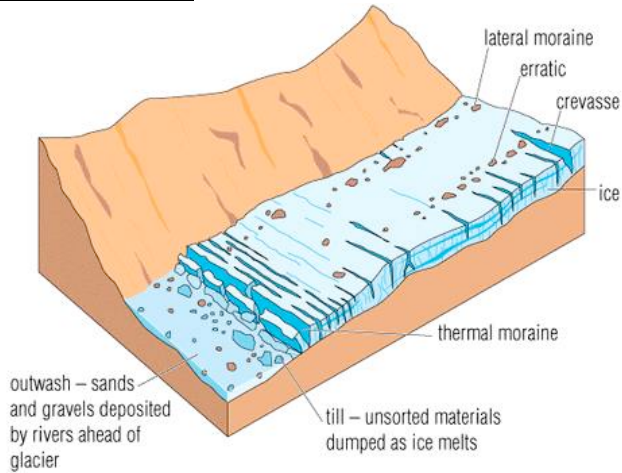


Erosion Notes

Name: _____

• **Erosion:** The _____ and _____ of weathered materials by natural agents
– Caused by: **Gravity, Glaciers, Running Water, Wind, and Waves**
(the 2 G's and 3 W's) *Learn these!*

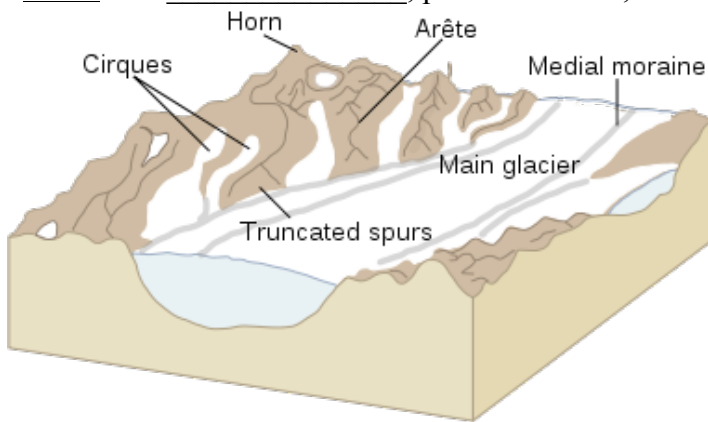
1. Glaciers



- Mass of _____ that moves (like a river) under its own weight.
- _____ at the base of the glacier is reduced by a thin film of _____.
- Glaciers account for about _____% of the fresh water on Earth.
- **Glacial Erratic:** Glaciers can leave behind large _____ that are known as an _____.
- Glaciers can move lots of sediment that can carve _____ (or striped grooves) into rocks.

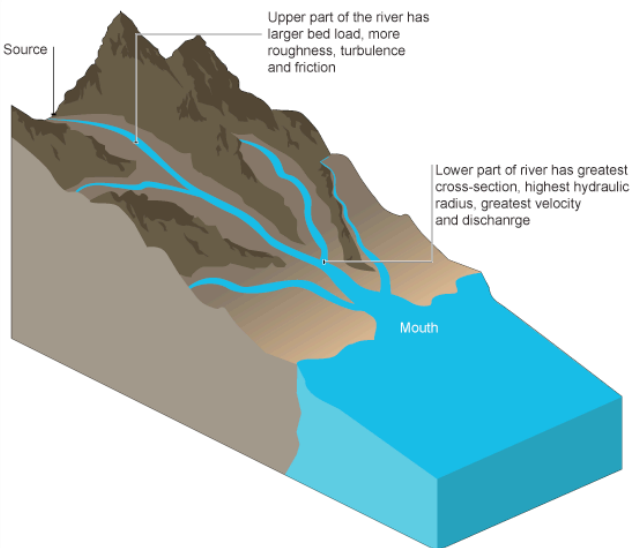
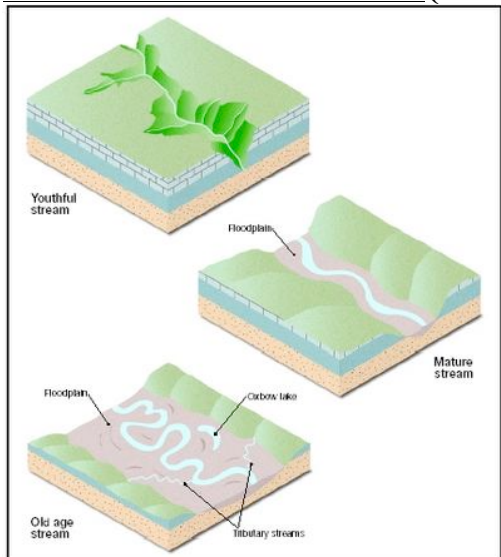
Glacial Deposits and Glacial Landforms:

• **Drift or _____** - all _____ that is **deposited by glacial activity**.
– **Loess:** fine _____, pulverized rock, that blankets much of the northern mid-west.

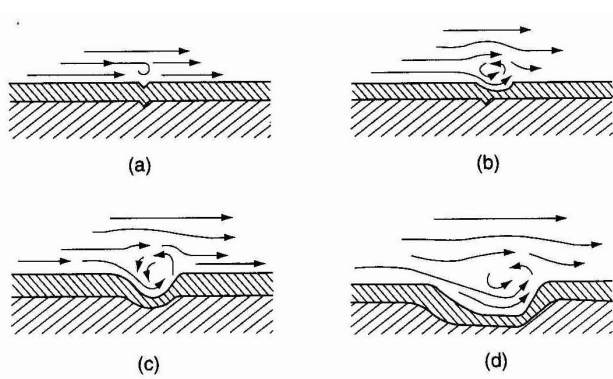
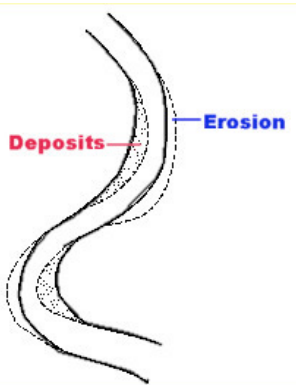
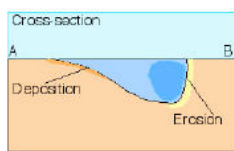
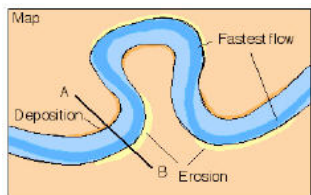


- **Cirque:** Steep-walled _____-shaped depression.
- **Horne:** A _____ shaped peak where 3 or more cirques meet.
- **Trough:** _____-shaped valley *Glaciers carve U shaped valleys*
- **Hanging valley:** Straight _____ - _____ at the end of a trough
- **Arete:** Narrow flat-topped _____ that forms between two parallel troughs or cirques.
- **Moraine:** Pile of mixed _____ that have been carried and dropped by the _____.
- **Eskers:** Mounds of _____ from _____.

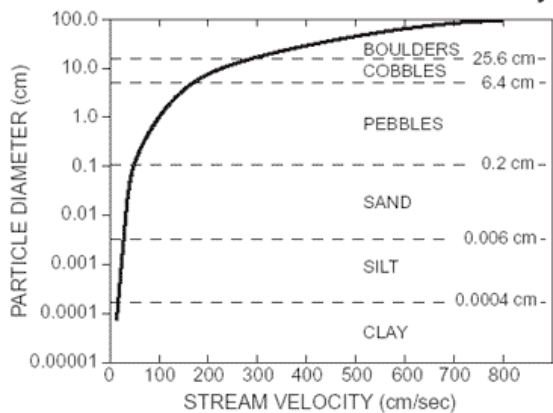
2. Streams and Rivers (Water)



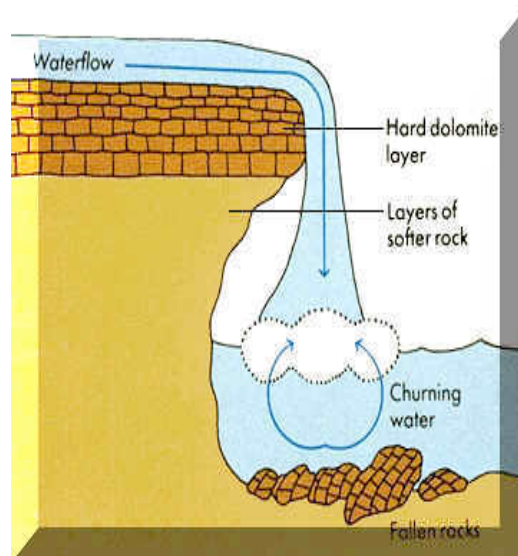
- : How the water moves.
- : The **steepness**, the that a river or stream travels.
- : Amount of water that moves past a certain point in a river in a given amount of time
- If there is a steep **gradient**, high **velocity**, and a **large discharge**, then **Erosion will be severe!**
- **Rivers have energy to move lots of sediment, and even large boulders.**
- River : in the river, shows how mature a river is.



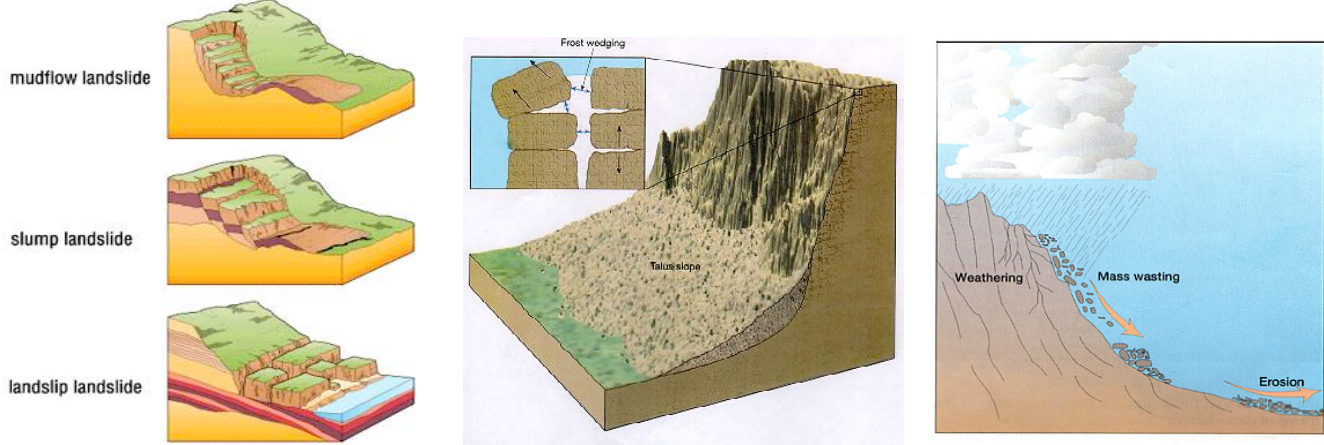
Relationship of Transported Particle Size to Water Velocity



*This generalized graph shows the water velocity needed to maintain, but not start, movement. Variations occur due to differences in particle density and shape.



3. Mass Movement (Gravity)



•**Mass movement:** The _____ transportation of weathered materials by gravity.

•**Creep**

- Very _____ movement of earth material.
- Caused by repeated _____ and _____.
- _____ are loosened by expanding frost and contracting thaw.
- Leaning fence posts and telephone poles are a sign of _____.

•**Slump**

- Slow downward movement of a _____.
- Occurs when underlying sediments are weakened by _____.
- Characterized by a curved scar in the land surface. Slump can cause road hazards

•**Mudflow/Earthflow**

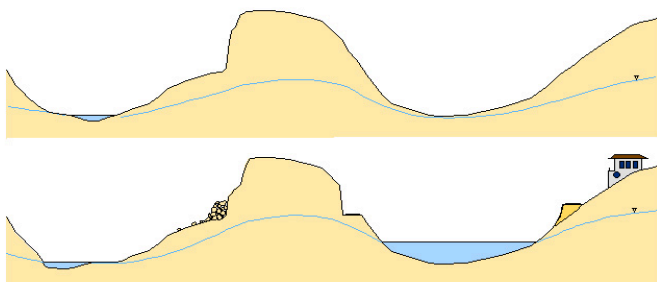
- Thick pastes of sediments that travel downhill at _____.
- Usually occur in _____ areas that get a large quantity of rain all at once
- Leaves a cone shaped deposit

•**Landslide/Rockslide**

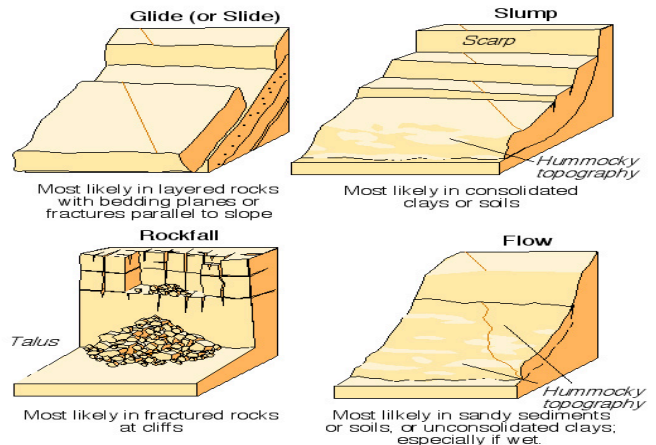
- _____ movement of large blocks of _____.
- Occurs in very _____ vertical cliffs.
- Often accelerated by _____.

Factors favoring glides, slumps, and flows

	<i>Natural causes:</i>	<i>Human causes:</i>
Steepening of slope	Erosion by streams	Road cuts; quarries
Loading of mass	Rockfalls; rain	Fill for highways; buildings; stockpiles
Increased pore water	Heavy rain	Reservoirs
Shaking	Earthquakes	



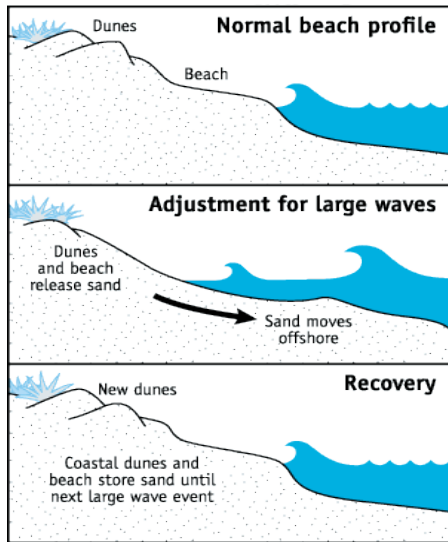
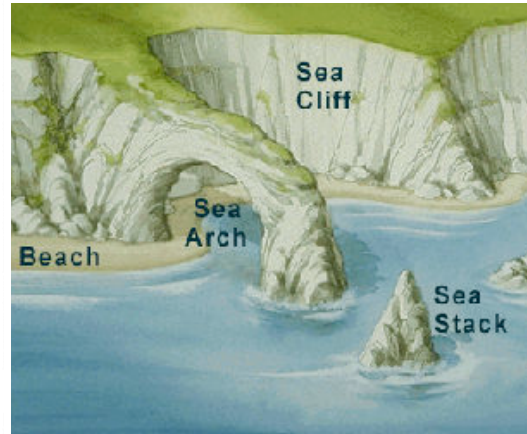
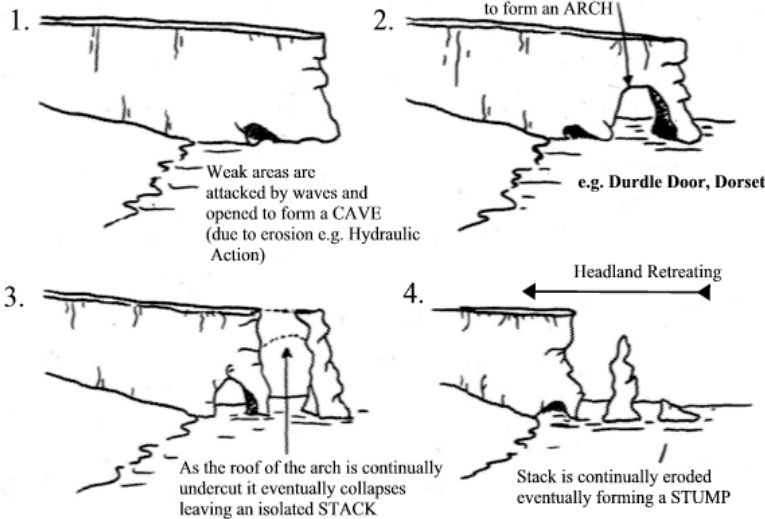
Styles of Mass Wasting



4 & 5 . Wind and Waves

The crashing of _____ on a shoreline combined with _____ continually shape the beach.

EROSION OF A HEADLAND



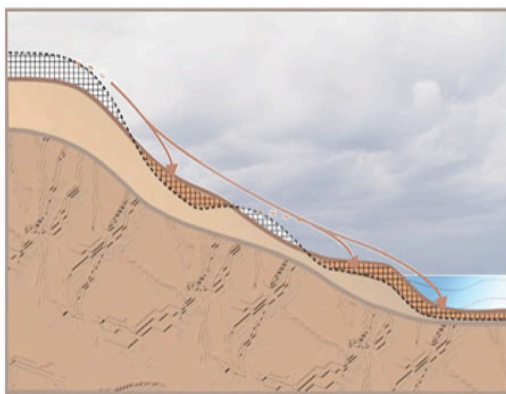
Wind moves sand _____ at the **beach** and in the **deserts**.

Wind can carve out landscapes as it carries _____

Many *storms* combine _____ and _____ to cause significant erosion on landforms.

Strong winds are capable of _____ large amounts of sediment

Deposition: the process of _____ or depositing soil and sediments!



Bedrock/parent material
 Residual soil
 Eroded soil
 Deposited soil

