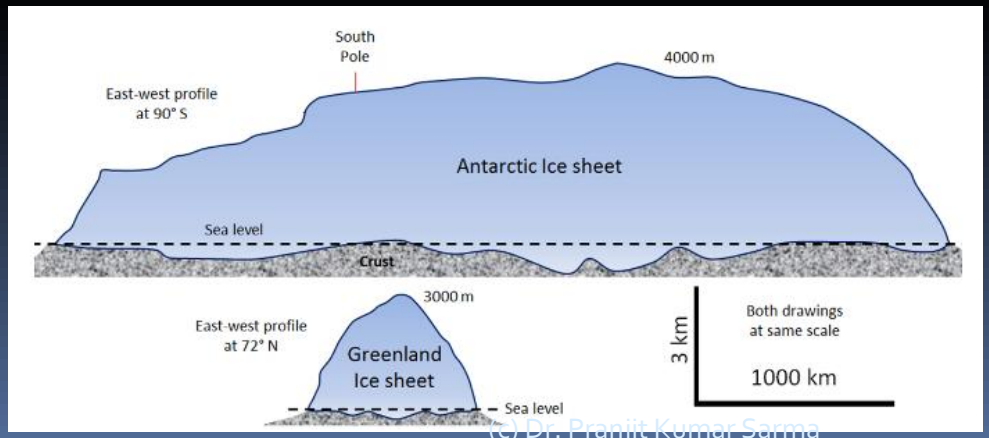
What is Glacier

- A slowly moving mass or river of ice formed by the accumulation and compaction of snow on mountains or near the poles.

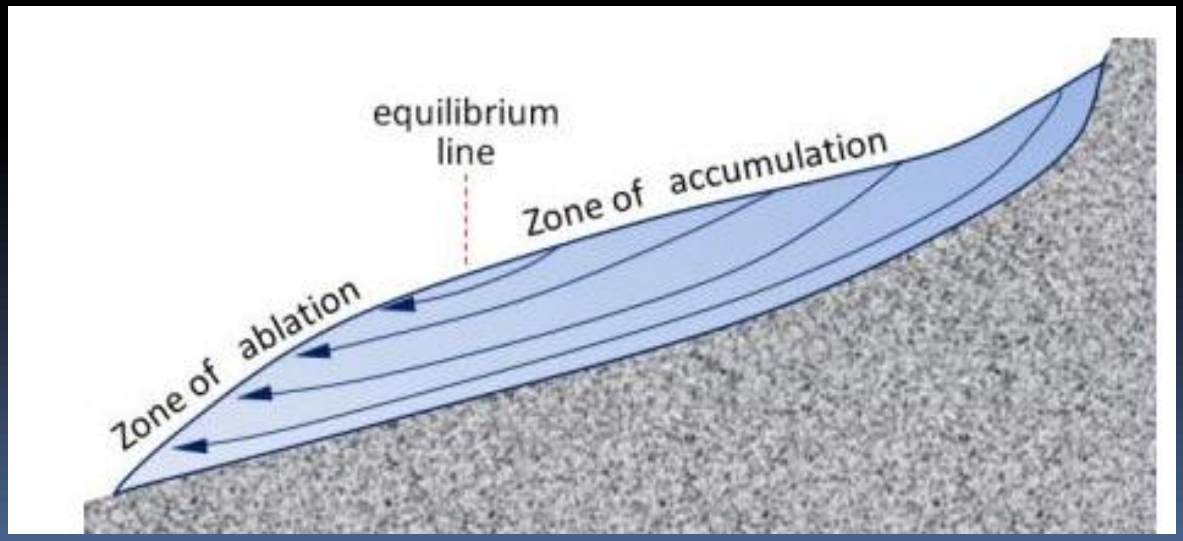
Types of Glacier

- There are two main types of glaciers: continental glaciers and alpine glaciers. Latitude, topography, and global and regional climate patterns are important controls on the distribution and size of these glaciers.
  - **Continental glaciers** cover vast areas of land. Today, continental glaciers are only present in extreme polar regions: Antarctica and Greenland . Historically, continental glaciers also covered large regions of Canada Europe, and Asia, and they are responsible for many distinctive topographic features in these regions..



Types of Glacier

- **Alpine glaciers** originate high up in the mountains, mostly in temperate and polar regions , but also in tropical regions in high mountains (e.g. in the Himalayas and Andes Mountains of South America).

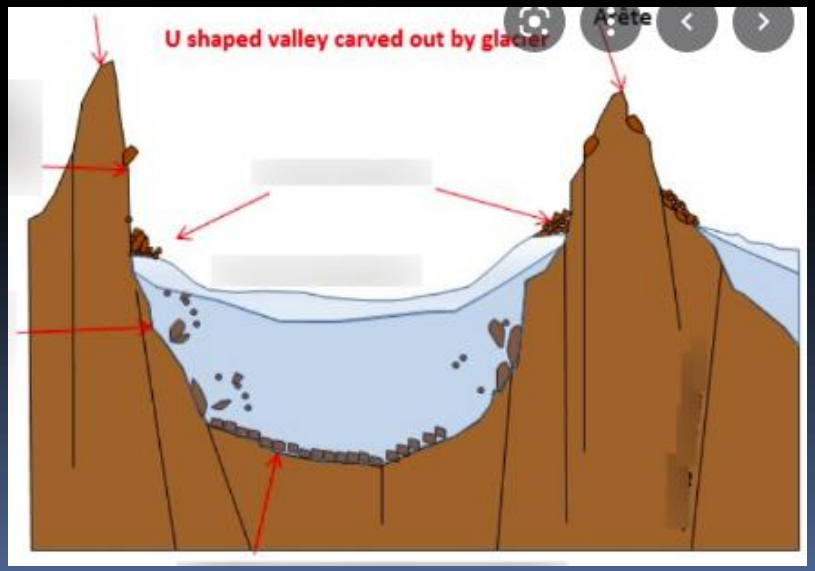


Erosional Landforms

- U-Shaped Valleys
- Hanging Valleys
- Cirques
- Aretes
- Horn
- Nunataks
- Roches moutonees
- Fiords

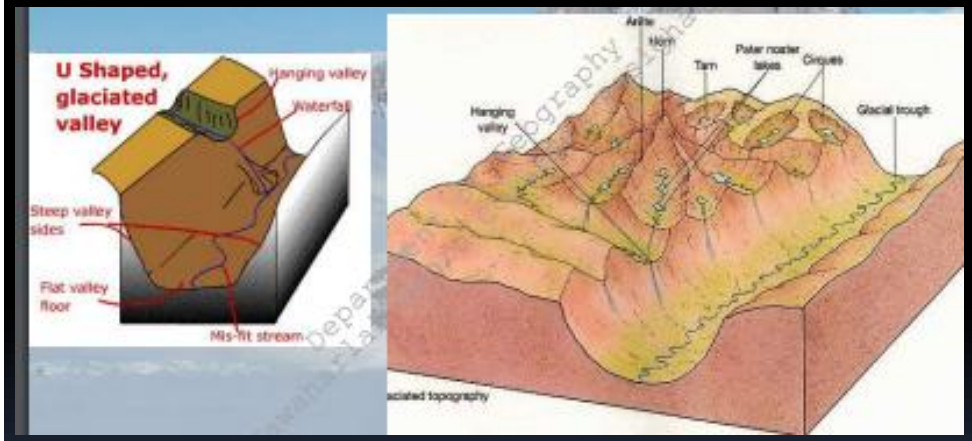
U-Shaped Valley

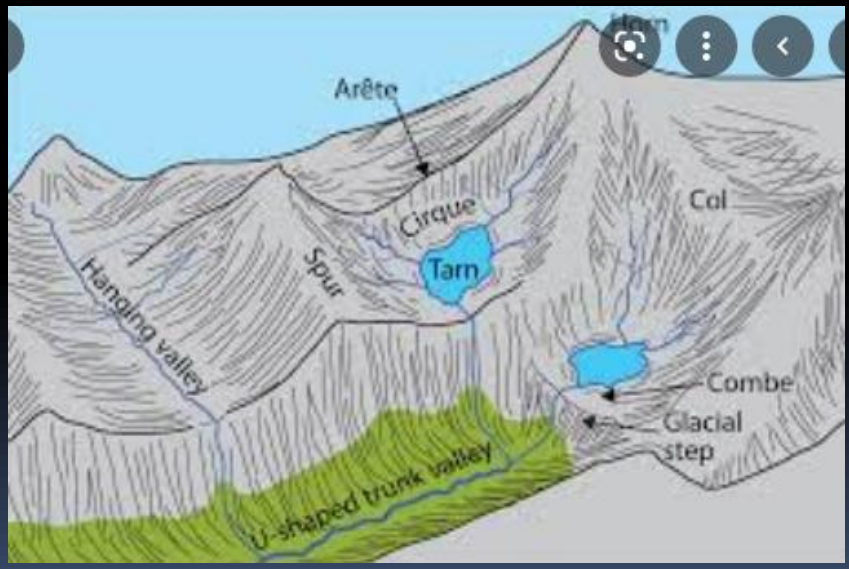
- The cross-section of glacial valley is U-Shaped which is characterized by steep valley walls



Hanging Valley

- The valleys of tributary glaciers which join the main glacial valleys of much greater depth



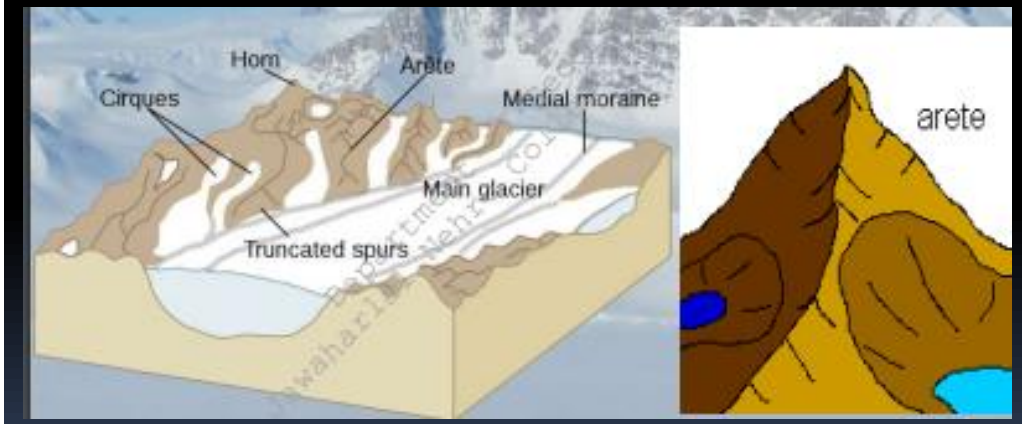


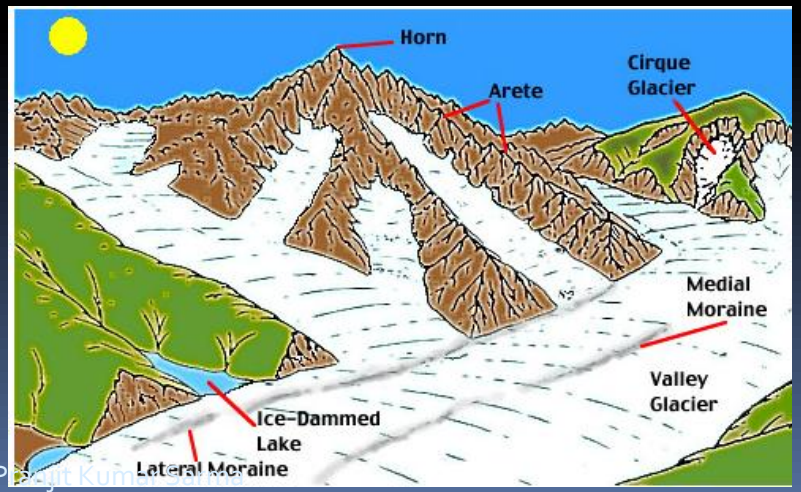
Cirque

- It is an armchair shaped steep walled depression representing a glaciated valley head

Horn and Aretes

- A pyramidal or triangular faceted peak formed due to recession and intersection of three or more cirques.



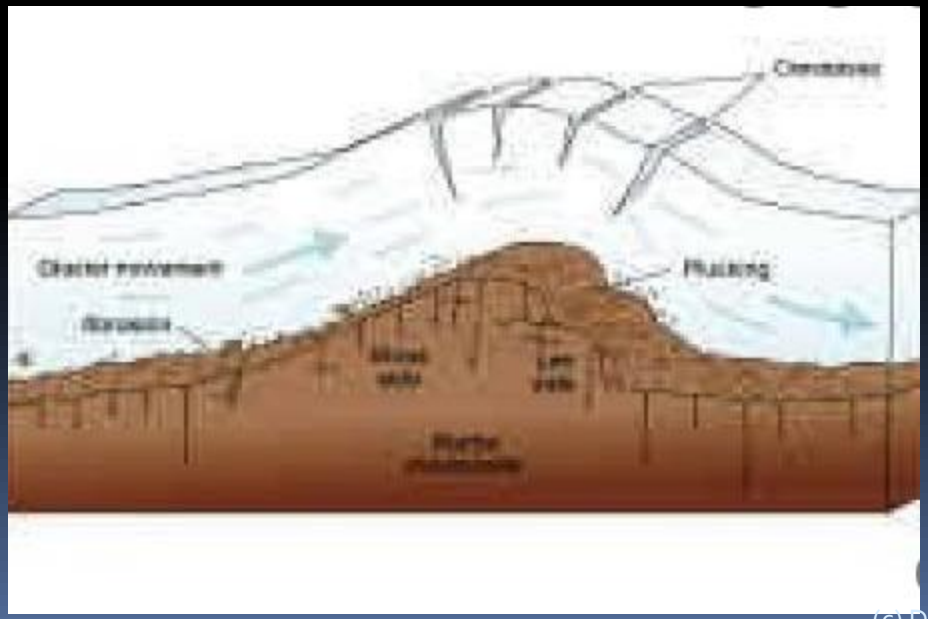


Nunataks

- The higher peaks and mounds surrounded by ice from all sides
- They look like scattered small islands
- Therefore also called glaciai islands

Rouches Moutonnees

- These are streamlined asymmetrical hillocks, mounds or hills having one side smoothly moulded with gentle slope and the steepened and craggy lee ward side



Fiords

- These are glacial troughs which are occupied by the sea.

- Characterized by steep side walls and several hanging valleys

Depositional Landforms

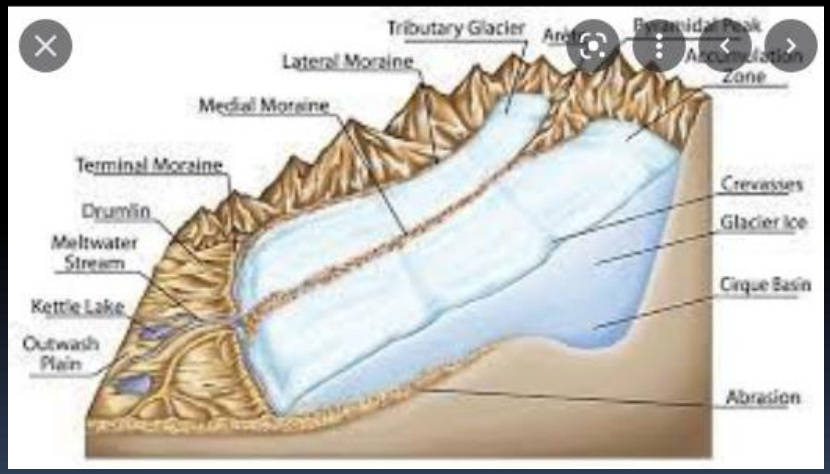
- Moraines
- Drumlins
- Esker
- Kames
- Kettles
- Outwash Plain

Moraines

- These are ridge like depositional features of glacial tills

Moraines

- Terminal Moraine: The materials dropped at the end of a mountain glacier.
- Lateral Moraine: Materials deposited at either of the two sides of a glacier.
- Medial Moraine: When two glaciers join, the two lateral moraines also join and form a single moraine at the confluence of the two glacier is called medial moraine.
- Ground Moraine: When glacial sediments are deposited at the floor of glacier valleys.



Drumlins

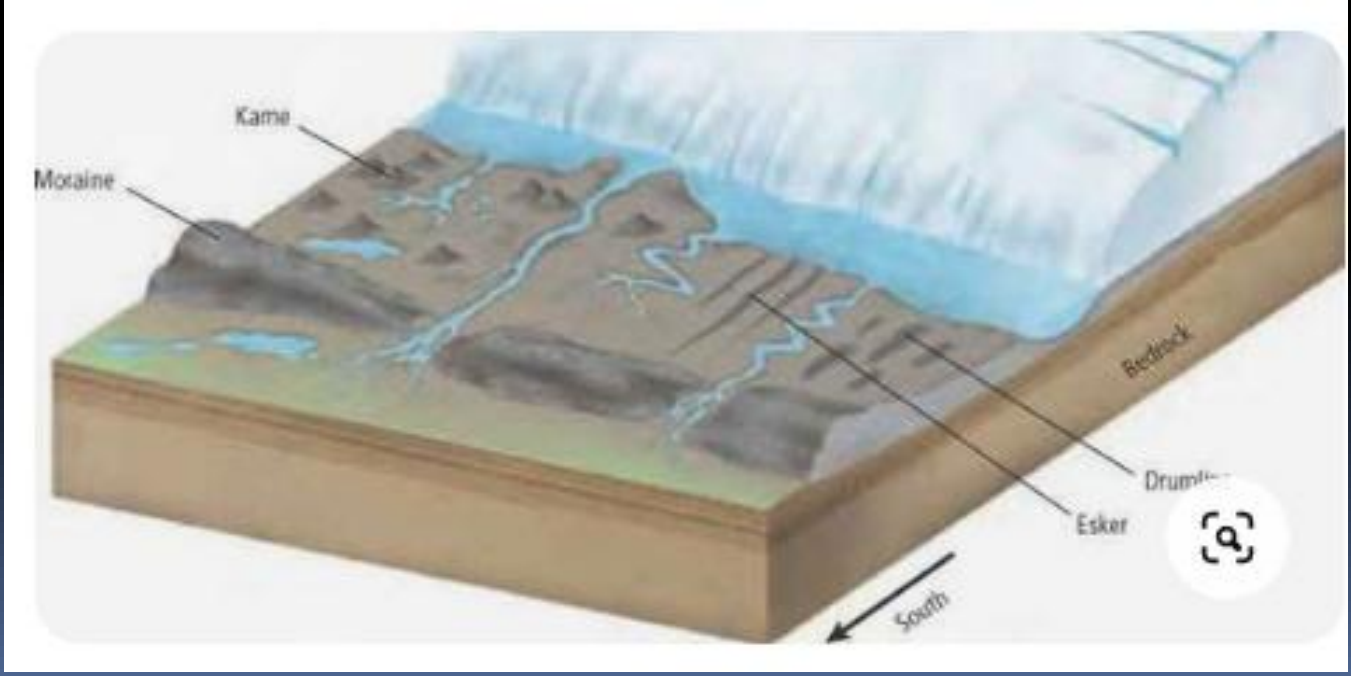
- A smooth egg shaped hummock of glacial debris. Drumlins looks like an inverted boat or spoon.

Esker

- These are long, narrow and sinuous ridges of sands and gravels.

Kames

- Small hills or irregular mounds of bedded sands and gravels which are deposited by melt water



Outwash Plain

- An extensive land surface covered with gaciofluvial sediments

Kettles

- These are deposition in outwash plain.

- THANK YOU