Glacial Dynamics

1. **Ice sheets** move away from their **zones of accumulation** and move down slope under the pressure from their weight (called **plastic flow** in sections (called **lobes**).

2. Ice sheets also move down slope by **slippage** as the weight of the ice melts its lowest levels and acts as a lubricant.

3. The forward edge of the ice sheet (called the **ice front**) acts as a **bulldozer or snow plow**, scouring the land, plucking loose rocks out of the ground and slicing all vegetation in its way.

4. All this scoured and plucked material (called **debris**) is mixed with the ice and moved forward and down slope with the glacial.

5. **Moraines** (unsorted glacial debris) are created as the ice redistributes the material.

6. The furthest advance of the ice front is marked by the **terminal or end moraine**, a high ridge of glacial material that was pushed in front of the ice.

7. The “**retreat**” of a glacier is the melting of the ice front **in place**, creating the illusion that the glacier is moving backward.

8. A **variety of glacial features is created** as the ice melts **in place** and the material it picked up is exposed and dropped.

9. A **recessional moraine** is a low ridge of unsorted glacial material marking the ice front’s advancement **after a period of retreat** (a secondary or tertiary forward movement but not as far as the furthest forward movement.)

10. **Outwash** is the water created as the ice melts. It flows away from the glacier and **carries debris** which is now **sorted** by the moving water and deposited in front of the recessional and terminal moraines. The heaviest/largest pieces are dropped first; the lightest/finest pieces are carried far away.

11. An **outwash plain** is a landform feature created by the outwash. It contains a variety of glacial features. It is thickness closest to the source of meltwater and is thinnest the farthest away from the ice front.
## GLACIAL TERMINOLOGY

1. Glacier
   - a. continental glacier
   - b. ice sheet
   - c. lobe

2. Glacial drift

3. Moraine
   - a. ground moraine
   - b. recessional moraine
   - c. terminal moraine

4. Erratic

5. Drumlin

6. Kame

7. Esker

8. Kettle

9. Glacial lake

10. Mountain (alpine) glacier
    - a. cirque
    - b. arête
    - c. lateral moraine
    - d. medial moraine
    - e. U-shaped valley
    - f. hanging valley

11. Outwash

12. Outwash plain

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