Global Glacial Mass Loss

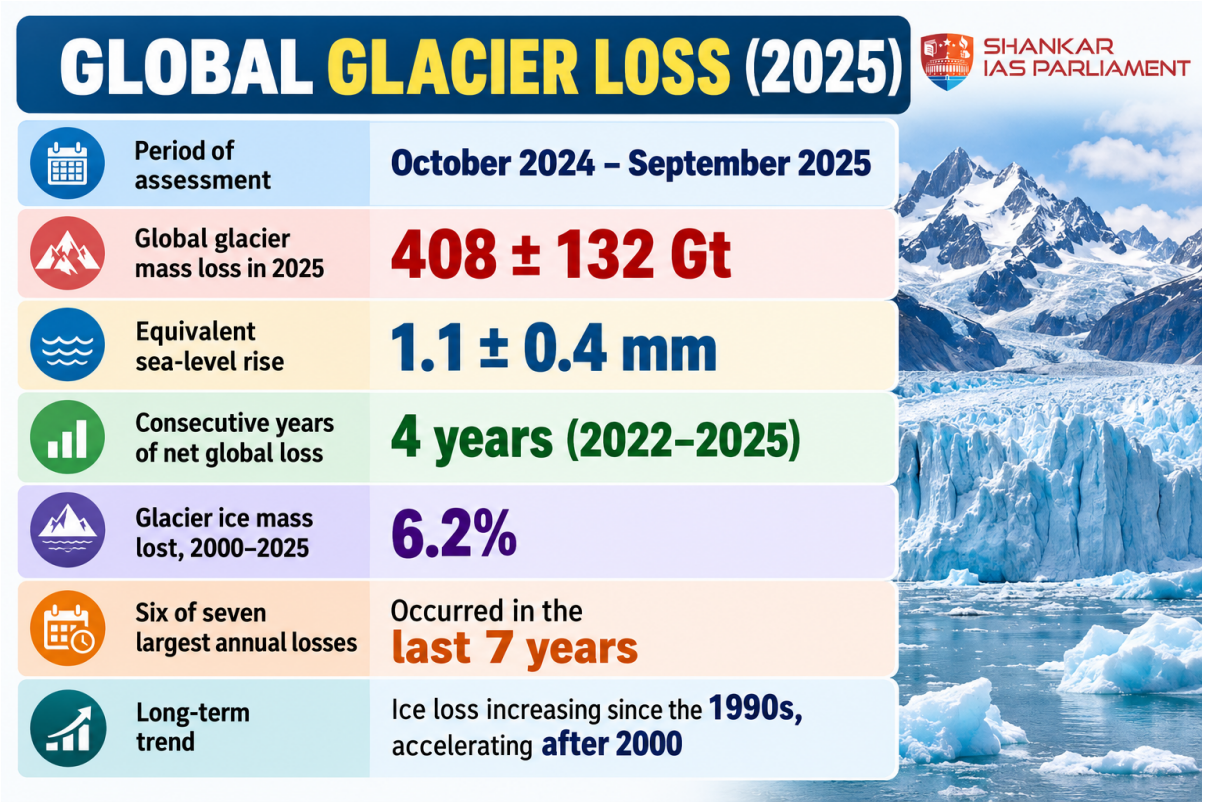
Prelims: *Current events of national and international importance | Geography*

Why in News?

Recent reports say that 2025 marked the fourth consecutive year in which all major glaciated regions recorded net ice-mass loss.

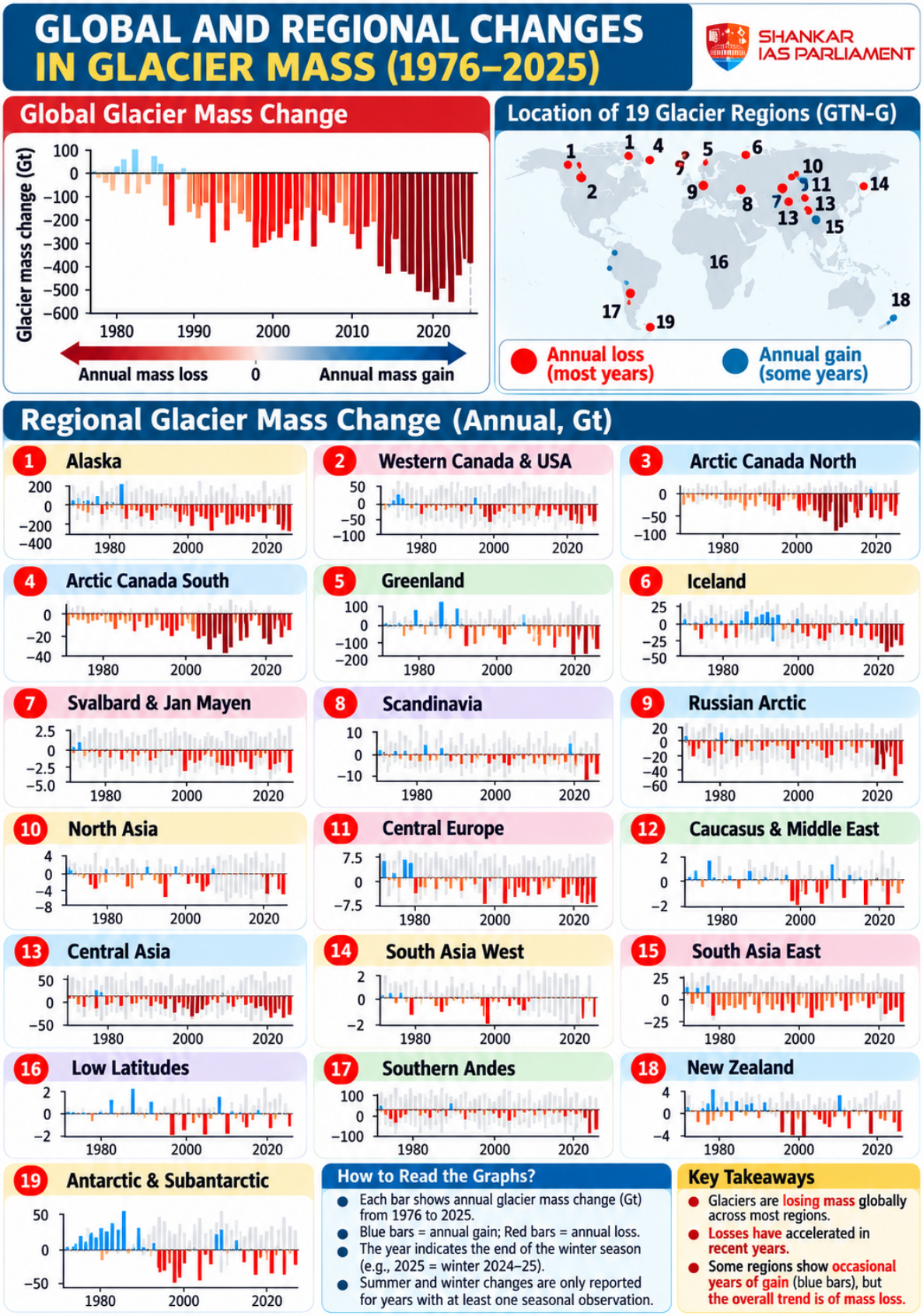
State of Global Water Resources 2025 report

- **Released by –** World Meteorological Organisation's (WMO)



- **Key findings**
- **Regions Exceptionally High Mass Losses –** In 2025, the following regions experienced annual mass balances that ranked among the **three most negative years on record**:
  - Central Asia
  - South Asia West
  - Russian Arctic
  - Iceland

    - Western Canada & USA
- **Trends Since the 1990s**
    - Ice loss has increased across nearly all glaciated regions.
    - Summer melting now exceeds winter accumulation.
    - This imbalance has accelerated, especially since 2000.



- **Glacier Mass Balance** – It is defined as the difference between accumulation and ablation.
    - **Positive balance –** Accumulation > melting/loss
    - **Negative balance –** Melting/loss > accumulation
- **Peak Water –** It refers to the stage at which a glacier attains its **maximum meltwater runoff**.
- After peak water
    - Initially, increased glacier melting leads to greater water availability.
    - Once maximum runoff is reached, continued glacier shrinkage results in a decline in **meltwater contribution**.
- **Regions having reached peak water**
    - Caucasus
    - Western Canada & USA
    - Central Europe
- These regions have exhibited minimal or no increase, and in some cases a decline, **in minimum summer runoff** despite ongoing annual glacier mass loss.

Reference

Down to Earth | WMO Report

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