Melting of Switzerland's Largest Glacier

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

Why in News?

The recent findings confirm that the Aletsch Glacier, Switzerland and Europe's largest glacier by area and ice volume, suffered its biggest single-year melt on record during 2026.

Primary Causes

- **Severe Winter Snowfall Deficit -** An unusually dry winter left minimal snowpack on glacier accumulation zones.
- Snow normally serves as a protective albedo shield reflecting solar radiation; its absence exposed bare ice early in the season.
- **Record European Summer Heatwaves -** Switzerland experienced its hottest summer on record in 2026, with consecutive temperature records set across June, July, and August.
- **Accelerated Mass Loss-** Average glacier thickness across Switzerland fell by **2.5 to 4 meters**, with specific glacier tongues losing up to **10 meters of ice thickness**.
- Smaller glaciers, including Bella Tola (Valais) and Griessfirn (Glarus), disappeared entirely.

Key Glaciological Data

- Across the entire country, Swiss glaciers lost **5.5% of their total remaining ice volume** in 2026.
- This marks the second-worst national ice loss year after 2022, bringing cumulative Swiss glacier loss over the last five years to **nearly 20% (one-fifth)** of their total ice volume.
- Between May and September 2026, Swiss glaciers released approximately 2.2 trillion liters of meltwater, more than 4 times the annual domestic drinking water consumption of all Swiss households.
- While excessive melting provides short-term boost to summer streamflows during regional droughts, glaciologists warn that alpine river systems are fast approaching **"Peak Water"**, after which annual runoff will permanently drop as the remaining ice reservoir shrinks.

Significance

- **UNESCO World Heritage Landmark-** The Aletsch Glacier lies in the **Bernese Alps** within the *Swiss Alps Jungfrau-Aletsch UNESCO World Heritage Site*.
- **Impact on European Hydrology-** Accelerates Alpine cryospheric loss affects headwaters for key transnational river basins, threatening downstream freshwater supply, inland barge navigation, and hydroelectric output.

Reference

[Economic Times | Switzerland's Largest Glacier]

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