

Formation of New Glacial Lakes

Prelims: Current events of national and international importance | Geography

Why in News?

After the August 26, 2026 avalanche and floods in Nepal's Bhote Koshi-Trishuli system, officials and satellite data confirmed new glacial lakes near the source, raising concerns of another outburst.

Key Findings on New Glacier-Lake Formation

- **National Disaster Management Authority (NDMA)** - It has identified two new lakes, measuring 19.80 hectares and 7.28 hectares, both with moraines. The water volume remains undetermined.
- **Satellite imagery from Suhora Technologies** - It reveals an approximately 20.25-hectare lake at Lhende Khola, located on the Nepal-Tibet border.
- It is likely that the lake formed as a result of meltwater and debris accumulation following an avalanche.

Features of the newly formed glacial lakes

- **Location** - Situated in the high-altitude headwaters of Lhende Khola, which feeds into the Bhote Koshi-Trishuli river system, near Langtang Lirung at approximately 5,200 meters within the detachment zone.
- **Size** - The lakes measure 19.80 hectares and 7.28 hectares according to NDMA data.
- Suhora reports an approximate area of 20.25 hectares for the larger lake.
- **Dam type** - The lakes are associated with moraines and avalanche or debris deposits, indicating that they are likely moraine- or debris-**dammed**.
- **Data gaps** - Depth and volume measurements are currently unavailable.
- The origin and stability of the lakes require field verification and ongoing satellite monitoring.



Glacier lake or glacial lake



- A glacial lake refers to a body of water that develops **in, on, adjacent to, or downstream from a glacier** as a result of glacier ice melting and subsequent accumulation of meltwater.



Moraine



- A **moraine** consists of rocks, soil, and other debris that are deposited by a moving glacier.
- Moraines may function as **natural dams**, retaining glacial meltwater.
- If such a natural dam fails, a significant volume of water may rapidly flow downstream, resulting in a **Glacial Lake Outburst Flood (GLOF)**.

GLACIAL LAKE OUTBURST FLOOD (GLOF): HOW IT HAPPENS

- 1 Glacier meltwater collects and forms a glacial lake.



- 2 A moraine or ice ridge acts as a natural dam.



- 3 The natural dam becomes unstable or fails.



- 4 A large volume of water rushes downstream, causing severe flooding and damage.



Reference

[The Hindu | Formation of New Glacier Lake](#)

