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Parkachik Glacier

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Why is in news? Three new lakes may form in Parkachik Glacier in Ladakh due to glacial retreat

The **Parkachik Glacier in Ladakh** is likely to have three lakes of different dimensions due to subglacial over deepening -- a characteristic of basins and valleys eroded by glaciers, shows a new study.

Considering their sensitivity and as a most **direct and apparent visible indicator of regional climate change**, Himalayan glaciers have been subjected to numerous studies, from field-based investigations to the modern state-of-the-art remote sensing approach, for more than a century.

In contrast, understanding the ice thickness and distribution is foremost required for the Himalayan glaciers. However, existing approaches, like remote sensing, cannot directly estimate the glacier thickness.

Based on ground penetrating radar, very few studies have been carried out on glacier thickness in the Indian Himalaya.

Scientists from Wadia Institute of Himalayan Geology, an autonomous institute under the Department of Science & Technology (DST), GoI carried out a study that describes the **morphological and dynamic changes of Parkachik Glacier, Suru River Valley, Ladakh Himalaya, India**.

The team of Scientists used medium-resolution satellite images; CORONA KH-4, Landsat, and Sentinel-2A from 1971–2021, and field surveys between 2015 and 2021.

The results revealed that overall the glacier retreat varied between 1971 and 2021. The remote sensing data shows that the glacier retreated with an average rate of around 2 m/yr between 1971 and 1999 whereas, between 1999 and 2021, the glacier retreated at an average rate of around 12 m/yr.

Similarly, the field observations recorded through day-to-day monitoring suggest that the glacier retreated at a higher rate of 20.5 m/yr between 2015 and 2021.

Both the field and satellite-based observations indicate that the calving nature of the glacier margin and the development of a pro-glacial lake may have enhanced the retreat of the Parkachik Glacier.

Parachik Glacier:

Parachik Glacier is a mountain glacier in **Kargil, Ladakh**.

Parkachik Glacier, located at Parkachik, is a mass of ice moving slowly down the **Nun-Kun slopes**. This ice mass falls finally into the **Suru River**, providing views of the huge ice-fall.

Great slabs of ice periodically peel off the glacier's 300-foot high front wall. A suspension footbridge over the Suru River is there for the visitors to walk up to the glacier. Some mountaineers use this glacier to approach the difficult north face route to scale Mt Nun.

Parkachik can be approached from Kargil, which is 90 km north.

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