

Risk Posed by 13 Glacial Lakes During Monsoon | Uttarakhand | 28 Jun 2024

Why in News?

The <u>Uttarakhand State Disaster Management Department (USDMA)</u> is going to do a vulnerability study of the **13** glacial lakes, **five of them in "high risk zone".**

The study aims to provide data to help avoid <u>calamities</u> such as <u>lake outbursts</u>.

Key Points

- According to the officials, the <u>Himalayan glaciers</u> are in danger due to <u>climate change</u>, and that this requires continued checks to ensure nothing untoward happens.
 - 13 high-risk lakes are located in Darma, Lasaryanghati, and Kutiyangti valley in Pithoragarh district, and Vasudhara Tal lake in Chamoli district.
 - They range from 0.02 to 0.50 sq. km in size and are situated at elevations above 4,000 meters above sea level.
- In March 2024, the State government had formed two expert teams to assess the risks associated with these glacial lakes.
- The teams were composed of experts from the Indian Institute of Remote Sensing, the Geological Survey of India, the National Institute of Hydrology, Roorkee, the Centre for Development of Advanced Computing, and the Wadia Institute of Himalayan Geology.

Glacial Lake Outburst Flood (GLOF)

- About:
 - A <u>glacial lake outburst flood (GLOF</u>) is a type of catastrophic flood that occurs when the **dam containing a glacial lake fails,** releasing a large volume of water.
 - This type of flood is typically caused by rapid melting of glaciers or the buildup of water in the lake due to heavy precipitation or the inflow of meltwater.
 - In February 2021, <u>Chamoli district in Uttarakhand witnessed flash flood</u>s which are suspected to have been caused by GLOFs.
- Causes:
 - These floods can be triggered by a number of factors, includingchanges in the volume of the glacier, changes in the water level of the lake, and <u>earthquakes</u>.
 - According to <u>NDMA (National Disaster Management Authority</u>), glacial retreat due to climate change occurring in most parts of the <u>Hindu Kush Himalayas</u> has given rise to the formation of numerous new glacial lakes, which are the major cause of GLOFs.

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