

### **3. Glacial Lake Outburst Flood (GLOF)**

#### **Why in News?**

- A new study has recently been published on Glacial Lake Outburst Flood (GLOF), which threatens millions of people globally.

#### **Highlights**

- It is the first global attempt to map potential hotspots for such floods. The study assessed the conditions of glacial lakes and the number of people living downstream from them, which has also increased significantly
- Around 15 million people face the risk of catastrophic flooding from glacial lakes which could burst their natural dams at any moment.
- Those facing the greatest threat live in mountainous countries in Asia and South America.
- The majority of the globally exposed population – 9.3 million (62%) are located in the region of high mountain Asia (HMA).
- In Asia, around one million people live within just 10 km of a glacial lake.
- People living in India, Pakistan, Peru and China account for over half of those at risk (globally).
- The most dangerous of Glacial basins are found in Pakistan (Khyber Pakhtunkhwa basin), Peru (Santa basin) and Bolivia (Beni basin) containing 1.2 million, 0.9 million and 0.1 million people respectively who could be exposed to GLOF impacts.
- Glaciers across the Andes (S America) have undergone rapid deglaciation over the last 20 years in response to climate changes.
- In the Himalayas, 25 glacial lakes and water bodies have witnessed an increase in water spread area since 2009.
- There has been a 40% increase in water spread in India, China and Nepal, posing a huge threat to seven Indian states and Union Territories.
- Of these, six are Himalayan states / UTs: Jammu and Kashmir, Ladakh, Himachal Pradesh, Sikkim, Assam and Arunachal Pradesh.
- The rapid onset and high discharge of GLOFs means there is often insufficient time to effectively warn downstream populations and for effective action to be taken, particularly for populations located within 10-15 km of the source lake