

# **Abstract**

## **Subject : Early warning system for glacial lake outburst floods (glofs)**

An Early Warning System (EWS) for Glacial Lake Outburst Floods (GLOFs) is a system designed to detect and warn communities about the potential risk of floods caused by the sudden release of water from glacial lakes. These floods can occur when a glacier dam (natural ice or debris dam) that holds a lake of water breaks, leading to rapid flooding downstream. Such events are common in mountainous regions with glaciers, like the Himalayas or the Andes.

The EWS uses various tools, such as weather monitoring, satellite data, and sensors placed in or around the glacial lakes, to detect changes that might signal an impending flood. For example, rising water levels or cracks in the glacier dam might indicate a potential breach. The system can also incorporate data on temperature changes or heavy rainfall, which can affect the stability of the ice dam.

When the system detects potential risks, it sends alerts to local communities, governments, and emergency teams, giving them time to take action—like evacuating people from flood-prone areas. This system helps reduce the risk of loss of life and property by providing critical time to prepare for an emergency.

### **Team members**

1. Om Sudhakar Chaudhari. (TYAIML-211107002)
2. Khushal Sunil Lohar. (TYAIML-211107003)
3. Kundan Gajanan Patil. (TYAIML-211107028)
4. Prathamesh Sanjay Khairnar (TYAIML-211107053)