

## IAF SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)

Late Breaking abstracts (LBA) (LBA)

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Institute of Space Technology (IST), PakistanAPPRAISING THE POTENTIAL IMPLICATIONS ON VULNERABLE GLOF SITES IN HIGH  
MOUNTAIN ASIA THROUGH GEOSPATIAL TECHNIQUES AND IOT POWERED GIS: A CASE  
STUDY OF NORTHERN PAKISTAN**Abstract**

The deglaciation due to global warming and changing climate has given rise to the formation and expansion of numerous glacial lakes. Many of these glacial lakes are susceptible to experiencing glacial lake outburst floods (GLOFs) events which can release millions of cubic meters of water and debris, leading to widespread impacts on lives, property, infrastructure, agriculture and livelihoods amongst remote and impoverished downstream communities in Pakistan. The research investigates the potential of Remote Sensing Satellite data in Northern Pakistan, with potential implications for GLOF and associated risk. A spatio-temporal analysis of the vulnerable sites has been carried out considering key contributing factors including: lake area change, elevation, slope, aspect, temperature, precipitation, LULC, change in snow and glacier cover, and proximity to impact area, etc. The findings are of great significance for policymakers for providing valuable insights to formulate efficient and effective measures for mitigating the identified risks.