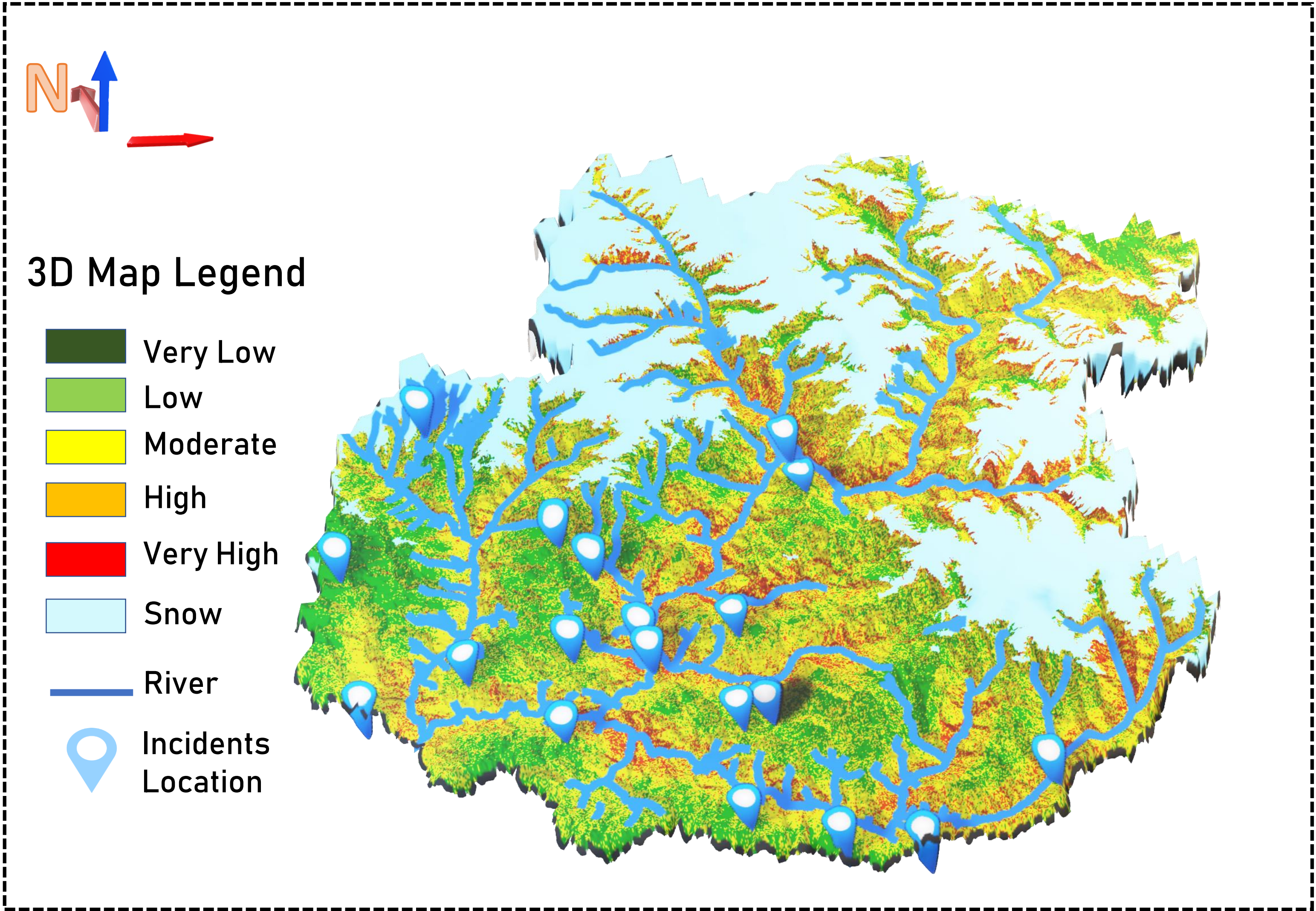


Title : 3D Flash-floods Hazard Map of Alaknanda River Basin - Uttarakhand



Maps Description & Analysis

Flash floods are one of the most catastrophic natural hazards, often characterized by profound, fast-flowing water having short response time, increases the risk to individuals and property. It is impossible to prevent or eliminate the consequences of flooding, but it is possible to work towards reducing its effects and minimizing its damages. One of the powerful tools for this purpose is flash flood mapping to identify sites in high-risk flood areas. At extreme and prolonged precipitation events, mapping flash floods can help urban and infrastructure planning, risk management and disaster response and emergency services.

In this study, an attempt has been made to use satellite images and GIS tools to produce 3D-flash flood maps of the Alaknanda river basin, located in the hilly regions of Uttarakhand. To do so, the Analytical Hierarchical Process (AHP) is used to estimate the relative impact weight of the flash flood causative factors. The causative factors in this study are slope (from DEM obtained from BHUVAN Cartosat V3), time of travel, curve number (from soil (NBSSLUP) and land use (ISRO-GBP) layers), drainage density (from DEM) and surface roughness (from LULC). Eventually, all the data used are combined into a GIS environment to create a flood hazard map for the area of study. The most affected regions are identified and are validated from historical news reports and literature study. These results would surely help the policymakers to plan for effective disaster response strategies.

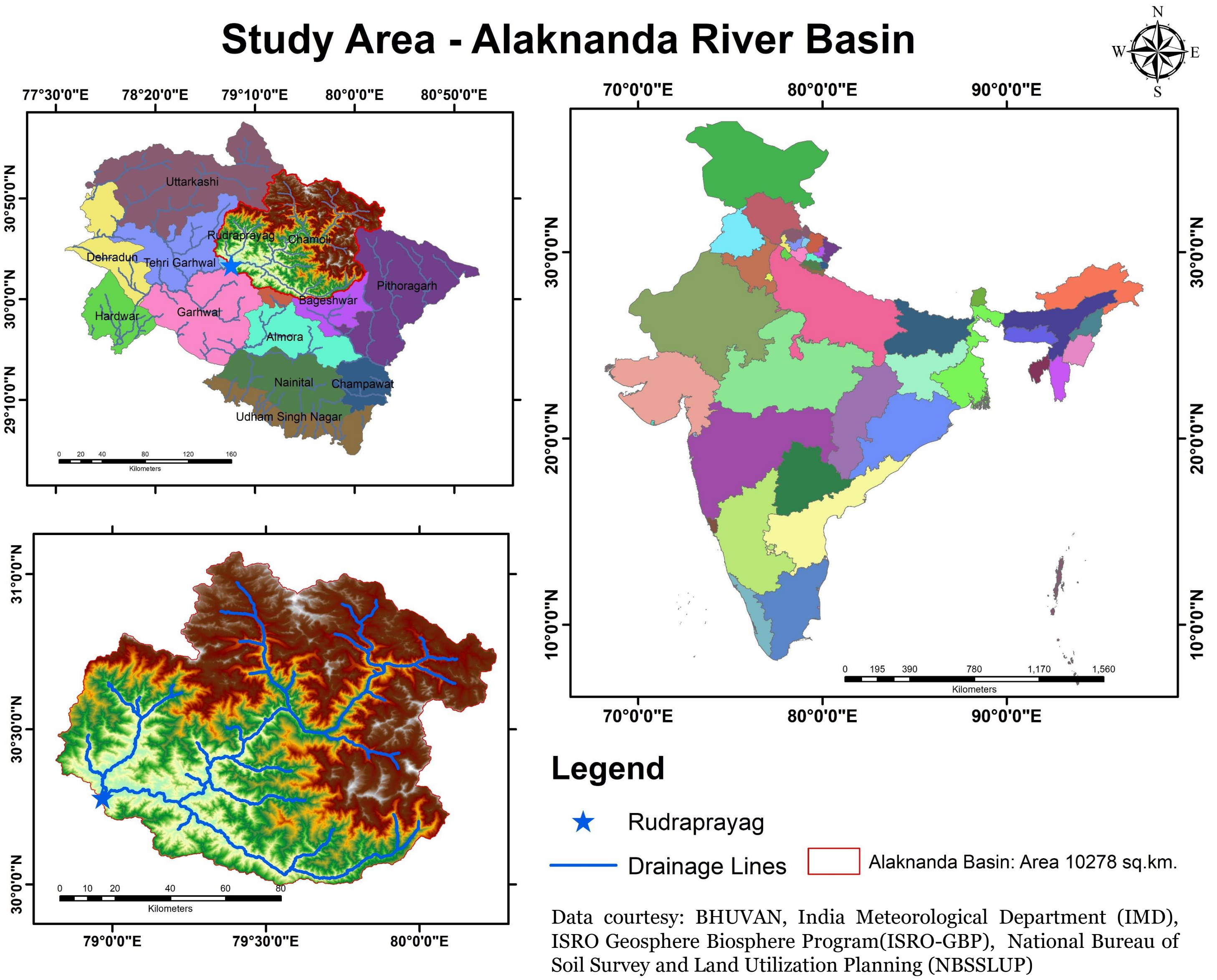




Table : Location of Villages in Very High Hazard Zone

S. No.	Village Name	Near Town	Hazard_Zone	Latitude	Longitude
1	Balan Chack Bhrikuti	Chamoli	Very High	30.14385	79.69798
2	Pana	Gopeshwar	Very High	30.37783	79.54358
3	Ragtoli	Gopeshwar	Very High	30.38615	79.32356
4	Fagti	Chamoli	Very High	30.56084	79.78501
5	Jaggi Bagwan	Kedarnath	Very High	30.54366	79.09438



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Topic- Flash Flood Map

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