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Identification of Flood Prone Areas in Adigrat Town Using Boolean Logic with GIS and Remote Sensing Technique

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Abstract : The Adigrat town lies in the Tigray region of Ethiopia. This region is mountainous and experiences a semiarid type of climate. Most of the rainfall occurs in four months of the year, which are June to September. During this season, flood is a common natural disaster, especially in urban areas. In this paper, an attempt is made to identify flood-prone areas in Adigrat town using Boolean logic with GIS and remote sensing techniques. Three parameters were incorporated as land use type, elevation, and slope. Boolean logic was used as land use equal to buildup land, elevation less than 2430 m, and slope less than 5 degrees. As a result, 0.575 km² was identified severely affected by floods during the rainy season.

Keywords : flood, GIS, hydrology, Adigrat
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