

# Spatial mapping of tropical landslides area using LiDAR

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## SUMMARY

Landslide occurrence depends on various interrelating factors which consequently initiate to massive mass of soil and rock debris that move downhill due to the gravity action. LiDAR has come with a progressive approach in mitigating landslide by permitting the formation of more accurate DEM compared to other active space-borne and airborne remote sensing techniques. The objective of this research is to assess landslide susceptibility in Ulu Klang area by investigating the correlation between past landslide events with geo environmental factors. A high resolution LiDAR DEM was constructed to produce topographic attributes such as slope, curvature and aspect. These data were utilized to derive second deliverables of landslide parameters such as topographic wetness index (TWI), surface area ratio (SAR) and stream power index (SPI). A probabilistic based likelihood ratio model was applied to establish the spatial relationship between the landslide locations and each landslide related factor. Factor ratings were summed up to obtain Landslide Susceptibility Index (LSI) to construct the landslide susceptibility map