Land Cover Mapping in an Urbanized Volcanic Area: Taal, Philippines

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Despite the hazards, the population within active volcanic areas has been increasing. Urbanization in these areas result to changes in land cover and increase of communities at risk. Thus, an accurate understanding of land cover in volcanic areas is necessary. Satellite remote sensing and geographic information systems have been used for land cover mapping for resources and land use planning. However, there are not so much studies concentrating on volcanic areas, especially in the developing countries. High quality reference data also contribute to better classification. This study seeks to map the land cover of Taal volcanic area in Batangas province, Philippines. It is one of the 12 Decade Volcanoes of the world having a reputation for being dangerous and worthy of study, and where the tourism industry has been progressing. LANDSAT 8 OLI/TIRS 2016 satellite image and ground truth photos were utilized for the analysis. The International Geosphere-Biosphere Programme (IGBP) system was used to categorize the land cover types. The Maximum Likelihood Classification algorithm was facilitated for the classification and accuracies were also calculated. The percentage of land cover classes will be presented, focusing on the urban or built up areas and its proximity to the hazard zones of the volcano.

Keywords: Volcano, Hazards, Land Cover

