

Application of Remote Sensing and GIS in Assessing Land Cover Changes within Granite Quarries around Brits Area, South Africa

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Abstract : Dimension stone quarrying around Brits and Belfast areas started in the early 1930s and has been growing rapidly since then. Environmental impacts associated with these quarries have not been documented, and hence this study aims at detecting any change in the environment that might have been caused by these activities. Landsat images that were used to assess land use/land cover changes in Brits quarries from 1998 - 2015. A supervised classification using maximum likelihood classifier was applied to classify each image into different land use/land cover types. Classification accuracy was assessed using Google Earth™ as a source of reference data. Post-classification change detection method was used to determine changes. The results revealed significant increase in granite quarries and corresponding decrease in vegetation cover within the study region.

Keywords : remote sensing, GIS, change detection, granite quarries

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