

Application of remote sensing and GIS mapping to Quaternary to recent surficial sediments of the Central Uranium district, Namibia

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The arid conditions in the study area within the central Uranium district of the Namib Desert are suitable for remote sensing analysis. This research applies integrated remote sensing and GIS methods to various datasets including ASTER and Hymap hyperspectral, and includes field-validation to differentiate between previously undifferentiated Quaternary to Recent surficial sediments. Comparative assessment of the remote sensing and GIS derived geological datasets is performed, and field mapping used to constrain results. In conjunction with the integrated mapping, the distribution of uranium in the area through natural processes such as wind and fluvial systems, as well as factors associated with mining and exploration are investigated. In addition to baseline geological data, the study provides useful information for the understanding of secondary uranium mineralisation, and for environmental monitoring of uranium activity.