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Remote sensing for archaeological site reconnaissance : the role of edge detection and enhancement

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The reconnaissance of features of archaeological interest represents one of the most intriguing challenges of remote sensing applied to cultural heritage.
The rate of success of site discovery depends on several factors such as: i) the availability of a rich data set from archaeological record to remotely sensed image; ii) the capability of sensors; iii) the knowledge of physical and chemical phenomenology linked to the presence of archaeological deposits; iv) the selection and the use of effective edge detection and extraction methods.
The latter is the focus of this work which aims at assessing different image processing methods for the enhancement, detection and extraction of edges of archaeological features, such as convolution, image fusion, wavelet, local spatial autocorrelation.
The test sites cover different surface characteristics (from bare to vegetated soil), archaeological features (buried, shallow and surface archaeological features) and markers(crop and soil marks, microrelief)

Reference

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