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# Object-Oriented Classification Approach (OBIA) in Extracting Burial Plot for Muslim Cemeteries Management

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## Abstract

In contemporary cemetery management planning, the use of the Object-Oriented Classification Approach (OBIA) stands out as an innovative methodology, providing a sophisticated means of exploring and understanding burial grounds by leveraging high-resolution aerial imagery captured from drones. This study delves into the application of OBIA in the extraction of burial plots, aiming to contribute to the systematic management of a Muslim cemetery area and optimize burial space arrangements. Subsequently, these plots are extracted into GIS software, facilitating a comprehensive spatial analysis. OBIA emerges as an efficient method, outperforming traditional approaches, to identify and classify burial plots. The technique successfully maps intricate burial plot patterns and distributions, providing a detailed overview of the cemetery landscape and enabling the calculation of burial density. Beyond its technological contribution, this research offers practical insights for the enhanced management and planning of Muslim cemeteries, ensuring both respectful and efficient use of these sacred spaces. The success of OBIA suggests its potential integration into broader cemetery

management practices, paving the way for automation and contributing to sustainable cemetery space utilization. © Published under licence by IOP Publishing Ltd.

## Author keywords

burial plot; Muslim cemeteries; OBIA; urban planning and low-cost drone

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