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Rapid radioactivity maps in a pre-remediated mining area at North Aegean, Greece

The environmental impact of mining activity has high concern worldwide since the environmental status of should be studied using in-situ and lab-based methods. In this work a rapid radioactivity mapping was performed in two areas: one with mining activity and one without. A low resolution spectrometer is applied enabling smart integration capabilities to provide rapidly radioactivity maps of key natural and artificial; radionuclides without to use laboratory methods. The sensing device integrates a mini GPS system giving as an output the energy spectra together with the coordinates of the transects. The system is calibrated to offer quantitative results using simulation methods. The mapping was performed using the R language for statistical computing. This analysis is considered a pre-remediated study since Stratoni beach was undergoing active remediation. The temporal aspect of this dataset can be of significant reference value against future comparative studies after remediation of the Stratoni beach.

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