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Geochemical and Mineralogical Characteristics of Soils in Areas Affected by the Fires of August 2021 at the Ilia Prefecture Greece

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Abstract : This study delineates the geochemical and mineralogical characteristics of soils collected from woodland and forest areas affected by the fires of August 2021 at the Ilia prefecture, Greece. The mineralogical composition of the samples consists of quartz, calcite, albite, oligoclase, anorthite (feldspars), smectite, kaolinite and illite (clays). Quartz ranges from 38.21% to 57.49% with an average of 48.43%, calcite ranges from 2.55% to 25.09% with an average of 13.92%, feldspars ranges from 7.76% to 25.87% with an average of 17.02% and clays ranges from 4.39% to 43.43% with an average of 20.63%. Geochemical analyses of the soil samples applied for total organic carbon (TOC), total nitrogen (TN), total phosphorous (TP), Cu, Zn, Mn and Fe. Statistical analysis of the data shows a positive correlation between clays and Zn, Mn, Fe. TOC and TN show a strong positive correlation, while Fe shows a strong negative correlation with calcite.

Keywords : soils, geochemistry, mineralogy, woodland, forest
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