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Liquefaction susceptibility map of the broader Thessaloniki urban area

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The goal of this study is to delineate susceptible to liquefaction geological units within the broader Thessaloniki urban area. In order to achieve this, information regarding the surficial distribution of geological units, as it was provided by published geological maps, was taken into account in conjunction with the historical seismicity background of the area. The result obtained by this study is that the industrialized area, located at the western edge of the urban area, is constructed upon sediments that are classified as high to very high liquefaction susceptibility. In addition, most of the railway network, connecting the city with the capital of Greece (Athens) and with the capitals of neighboring countries in Balkans, crosses high liquefaction susceptibility geological units. Similar conclusion arises for the coastal area of Thessaloniki while, on the other hand, the central area of city has been constructed upon non susceptible to liquefaction soils and accordingly the liquefaction hazard can be neglected. The outcome of this study can be used by urban planners for the future extension of the city of Thessaloniki