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The stratigraphic sequence of Scafati (Italy) – An archive of 10,000 years of volcanism, soil formation and land use in the shade of Mount Vesuvius

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In this study we carried out a detailed lithostratigraphic, pedological and micromorphological analysis at a stratigraphic sequence close to Scafati, about 3 km east of ancient Pompeii. It consists of a multilayered succession of repeated volcanic deposition and pedogenesis caused by several phases of volcanic activity of Somma-Vesuvius and volcanic quiescence. This comprises, at least, the last 10,000 years of sedimentation history, on one hand, reflecting the entire spectrum of eruption types of Somma-Vesuvius from Plinian, sub-Plinian, rather small eruptions to effusive volcanic events and, on the other hand, soil formations of different durations, intensities and soil-forming environments. Furthermore, the paleosols repeatedly reveal clear evidence of anthropogenic activity by means of agriculture. Hence, a landscape evolution model was developed trying to reconstruct the last 10,000 years of volcanic activity, soil formation and land use in the hinterland of Pompeii.