



Radiocarbon constraints on tephrochronology of Quaternary marine sequences in the coastal regions of the Eastern Tyrrhenian sea

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The aim of this study is the understanding of the timing and the impacts on the sedimentary environment of explosive volcanic events that occurred over the coastal zone of the Campania region, southern Italy, during the latest Quaternary.

The research work consisted in the stratigraphic study of eight marine sediment cores collected in the Naples and Salerno Bays, Eastern Tyrrhenian Sea. Accurate dating and correlation have been essential for the construction of reliable depositional models in this area, as well as for establishing the links between stratigraphic changes and palaeoenvironmental events. In case of deep marine sequences distal ash layers may offer a significant potential for accurate geochronology. In the case of shallow (continental shelf to upper slope) marine deposits radiocarbon dating revealed to be also important in order to refine correlation among clusters of marine tephra layers with the equivalent proximal pyroclastic deposit onland, particularly where depositional rates are high and the chemistry and age of tephra layers is relatively homogeneous. The integrated use of AMS ^{14}C dating on marine materials and the tephrostratigraphic approach built on reconstructions of historical volcanic events was important in order to minimize the uncertainties that affect chronologic constraints derived from radiocarbon-based age models.