



## **Tephra layers in Naples and Salerno Bays (eastern Tyrrhenian Sea): implications on the explosive volcanic activity in the Campania region**

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Tephra layers constitute excellent marker horizons in the stratigraphic record that are essentially isochronous. Hence, these deposits have the potential to serve as the basis for time-stratigraphic correlation of marine, transitional and continental successions. In the last years, the study of marine tephra deposits, in particular, gave also an important contribution to the reconstruction of explosive volcanic activity onland. The marine record, in fact, often preserves more than what is observed in the field. Along the Campania continental margin (Eastern Tyrrhenian Sea) large volumes of pyroclastic products have been produced by the volcanic activity of Campi Flegrei, Ischia Island and Somma-Vesuvius. These deposits can be found interbedded as tephra layers within the successions of Naples and Salerno bays and they are widespread in the inner to outer continental shelf or crop out onland due to recent tectonic uplift. This study presents new stratigraphic and geochemical data obtained from pyroclastic deposits sampled by more than 30 gravity cores located in the Salerno Bay and Naples-Pozzuoli bays. Several tephra layers have been recognized and have been interpreted as the result of a number of volcanic events that punctuate the late Pleistocene-Holocene sedimentary record in the region. Most of the tephra are the product of the Campi Flegrei activity and display average thickness in the order of 5-10 cm along with relatively wide dispersal area. The Vesuvian products are best represented in the southern sector of Naples Bay and in the Salerno Bay. They cover a time interval spanning from 3.2 ka B.P. to recent ( $<0.25$  ka B.P.) allowing for high-resolution chronostratigraphy. A widespread tephra, recognized in the two basins with no terrestrial equivalent, has been dated with the  $^{40}\text{Ar}/^{39}\text{Ar}$  dating method. These results, in addition to new data acquired in the south-western sector of Campi Flegrei volcanic district, aim to be a

contribute to the understanding of both the stratigraphic evolution of the two bays and a more accurate reconstruction of explosive volcanic activity in the Campania region.