

4-14. - VOLCANISM OF THE SOUTHERN TYRRHENIAN SEA AND ITS GEODYNAMIC IMPLICATIONS

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Abstract

The petrochemical characteristics of volcanoes of Southern Tyrrhenian Sea point to the contemporaneous existence of a calc-alkaline compressive volcanism (Eolian Islands) and basaltic distensive volcanism (Abyssal Plain, Eastern Sicily, Ustica, Strait of Sicily). K-h diagrams of calc-alkaline products support the existence of a 50-60° WNW dipping inclined seismic zone. A deepening of this zone with time under Eolian Islands is suggested by the increase of K content observed in recent volcanics. Geochemical data suggest an oceanic downgoing slab. Volcanism of basaltic affinity occurring in the backarc, its distensive character and geophysical features lead to consider the Abyssal Plain as a marginal basin produced by spreading. The occurrence of basaltic volcanism in Eastern Sicily and Ustica island allows to define the extension of the oceanic slab and to locate the boundary between converging plates.