

VOLCANIC STRATIGRAPHY AND EVOLUTION OF NISYROS ISLAND

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The chemical composition, mineralogical paragenesis, stratigraphic position, areal extension, age and depositional mechanisms of the formations of Nisyros volcano are presented.

In the light of all these data a new model on the evolution of the volcanic activity has been proposed: It consists of two eruptive cycles. The first cycle includes the cone-building eruptive activity and consists of three different phases. Each phase commenced with effusive and explosive (magmatic and hydromagmatic) activity fed by basic andesitic and andesitic magmas and terminated with the extrusion of dacitic - rhyodacitic lava domes and flows. The second eruptive cycle includes the caldera forming explosive activity and consists of two different phases. Each phase commenced with a low intensity - low magnitude phreatomagmatic explosion fed by rhyolitic magmas. This triggered a central calderic collapse which was followed by extrusion of rhyolitic - dacitic domes and lava flows.

The most reasonable cause that provoked the change in the eruptive behaviour from cycle one to cycle two was a change in the magma storage system: Cycle one eruptive activity was fed by deep magma chambers stored between 25 and 10 km depth while cycle two was fed by shallow magma chambers situated in less than 6 km depth.

PRELIMINARY RESULTS OF U-Pb AND Rb-Sr INVESTIGATIONS ON METAMORPHIC ROCKS OF THASSOS, PANGAEON COMPLEX, NORTHERN GREECE

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Pre-tectonically intruded granodiorites and their metasedimentary host rocks of the crystalline complex of Thassos Island, are examined by the U-Pb-zircons- and Rb-Sr-method on minerals and on whole rocks.

The metamorphic sequence is built up of gneisses, metapelites, amphibolites and marbles, which suffered low to medium grade prograde metamorphism.

The contact between ortho- and paragenic rocks is transposed by a shearing