

## Seismic stratigraphy and sedimentary evolution of the SW Cyclades plateau

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The Cyclades Plateau, in the Central Aegean Sea, in between the dozens of islands hosts several marginal basins that formed in different periods: from the Upper Miocene to the Upper Quaternary. Present day water depths of these basins range from 100 m to over 700 m, they are connected to the surrounding deeper basins via shallow channels or down to 600 m deep straits and their geological and paleogeographic evolution can only be deduced by elucidating the marine sedimentary sequences and their bounding unconformities. Here we concentrate on the SW part of the Cyclades Plateau that in its outer periphery also hosts two major volcanic centers of the South Aegean Volcanic Arc: Milos and Santorini. Here we present post 2012 collected high resolution sparker data, collected by Athens University, that together with older air-gun and multichannel seismic reflection data are interpreted in order to synthesize the sedimentary evolution of the region.

The outer periphery of the SW Cyclades Plateau south of Kithnos to Milos- Folegandros and Santorini is surrounded by deeper basins that as revealed on multichannel records contain marine Post Messinian sediments up to 1500 m thick and locally thin evaporites. Pliocene and Quaternary volcanic and volcanoclastic products from Milos did not advance much further north onto the Cyclades Plateau. On the contrary Quaternary volcanic products from Santorini advanced mainly to the west and south and are found interlayered within the sediments of the Christiana-Milos basins. The Folegandros Basin forming in between Milos-Folegandros-Paros-Sifnos islands contains up to 1500 m thick marine post-Messinian sediments. In the Lower Quaternary vertical aggradation of sediments was dominant around the encircling peripheral island margins while in the Upper Quaternary clinoform progradation and outbuilding especially from the NE (Paros Island) is exemplary portrayed on high resolution profiles. The recognition of the sequence stratigraphy of the prograding coastal clinoform wedges formed during low post MIS 20 sea levels and their submergence state suggests that the rate of basin subsidence was outpaced by sediment supply.

Further northeast of Sifnos a drastic subsidence occurred in the Middle Quaternary opening the marine connection to Folegandros basin to the south. The basins to the east south of Kithnos-Serifos-Kithnos are floored by terrestrial to coastal Upper Miocene and Pliocene sediments that are unconformably covered by uppermost Pliocene-Low Quaternary marine sediments. Perhaps the most significant paleogeographic change in the Cyclades was the active subsidence in the uppermost Quaternary of the Kithnos-Serifos strait. Early Pliocene to low Quaternary Submarine fans and fan deltas formed at the westward exits to the Myrtoon basin of the SW Cyclades plateau straits.

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# ABSTRACTS

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