

evaporation exceeded precipitation because of the very limited drainage systems with, possibly, relatively higher seasonal temperatures. These special environmental conditions implied inorganic precipitation of aragonite and consequently the development of the light gray micritic sedimentary facies. Around 14-15.000 BP the W. Saronikos was progressively transgressed because of the sea-level rise. During the transgression the transitional conditions was expressed by the deposition of the mixed micritic-olive brown mud and light gray to gray silty sand-sand facies to the basins and the margins (shelf) respectively.

Finally when the communication of the W. Saronikos with the Aegean sea was established the deposition of brownish mud in the basins and the light olive-gray silty sand in the shelf took place.

MECHANISMS OF SEDIMENT TRANSPORT AND DEPOSITION IN SLOPES OFF CHIOS AND LESVOS ISL., E. AEGEAN SEA

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High resolution 3.5 kHz profiles, side-scan sonar records and selected sediment cores were assessed to study the mechanisms of sediment transport and deposition in the slopes off Chios I. and Lesvos I., and area seismically and neotectonically very active.

Slumps, mudflows, turbidity flows and collapse structures were observed in the tectonically controlled and seismically influenced slopes off S. Lesvos I. and N.W. Chios I. Resuspension, erosion and bedload transport by strong bottom currents in the upper slope of S.W. Chios I., is evidenced by characteristic sand ribbons parallel to the isobaths. In the basins and the slope off N. and W. Chios I. hemipelagic deposition predominates with accumulation rates of 7-11 cm/1000 yrs and 3-5 cm/1000 yrs respectively. During low sealevel stand turbidity flows were more active and coupled with hemipelagic deposition were the principal depositional mechanism of slope to basin sedimentation processes.