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Evolution of depositional environments of the Apulian Margin (Kefalonia Island, Greece) during the mid-Cretaceous (Albian-Turonian)

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The Island of Kefalonia is part of the western external Hellenids. It is characterized by widely exposed Cretaceous limestones of the Pre-Apulian and Ionian zones, which were deposited at the margin of the Apulian carbonate platform. Several Cenomanian-Turonian sections (all referable to the Pre-Apulian zone) have been studied to analyse the evolution of depositional environments, based on detailed outcrop observations and microfacies analysis. Time control was provided by biostratigraphy (benthic foraminifera and rudist bivalves) and carbon-isotope stratigraphy.

The following evolution of environments has been recognized in various, correlated sections: (1) Late Albian - Early Cenomanian retrogradational deposits passing from the restricted - open platform to the platform margin. (2) Three mid-Cenomanian sections show only minor differences in depositional environments (open - restricted subtidal platform, tidal flats), but all sections are characterized by tide-and wave-dominated limestones with a progradational trend. (3) Latest Cenomanian-Turonian environments changed from a restricted to a more open platform, and parasequences of storm-dominated deposits characterize the early - mid Turonian. In contrast to many other carbonate platforms, deposition was continuous during the Cenomanian-Turonian (C/T) transition. The boundary deposits are peritidal limestones, which have recorded the characteristic C/T carbon-isotope excursion.

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