



Relative sea-level changes since the mid-Holocene on the southern coast of Turkey reconstructed using beachrocks and archaeological markers

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On the southern coast of Turkey, up to three beachrock levels, can be observed. Although most of the beachrocks are situated on the vicinity of the actual sea level, some are submerged, sometimes down to -4.5 m or emerged up to +0.5 m. Because beachrocks are formed within the intertidal zone by carbonate cementation of the beach deposits during stages of shoreline stabilisation, they correspond to different generations indicating different sea-level stands. Fourteen sites along this coast were studied and samples were analysed using a polarising microscope, cathodoluminescence and SEM. Due to the abundance of micrite in between the limestone pebbles that often compose the beachrocks, cements had to be manually extracted for AMS Carbone 14 datings. Even then only beachrocks from two sites can be dated. However, by cross-comparing these results with the geometry of the beachrocks, the position of notches, vermet reefs, abrasion platforms and archaeological vestiges together with the available tectonic data, it is possible to distinguish 4 areas where different relative sea-level positions are recorded. These results reveal a very dynamic tectonic regime, especially subsidence to the West and uplift to the East since at least mid-Holocene and before Roman era.