Reconstruction of Late Quaternary relative sea-level changes from the Cartagena region, Colombian Caribbean based on malacofauna and microfossils.

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The Colombian Caribbean coast is affected by the convergence of the Caribbean and South American plates, glacio-isostatic variations, and active mud diapirism. There are two main Quaternary terrace levels, a ~6 m high coralline terrace and, a ~2 m high mollusk terrace. These terraces are considered to be early Pleistocene and Holocene in age, respectively. This study concentrates on the ~2 m high mollusk terraces and seeks to solve the question of whether sea level was 2 m higher 3,000 year BP or the continent was uplifted due to tectonic effects. The region is considered to be of a type IV, in glacio-hydroisostatic models, by contrast with current geological evidences which apparently indicate it is of a type V. Detailed stratigraphic data is required before any comparison with any glacio-hydro-isostatic model is attempted. Stratigraphic sections are described and sampled using sequence biostratigraphy, taphonomy, and sedimentological and paleoecological methods. So far, four stratigraphic sections have been surveyed and 25 mollusk samples are currently analyzed for ^{14}C analyses. Coring of the coastal lagoon behind the terraces is planned in order to have a longer stratigraphic record. Data will be processed for diversity indexes, and analyzed with multivariate statistical methods. It is expected that future studies elsewhere in the Colombian Caribbean will follow a similar methodology.