ABSTRACT

Our studies of shallow shelf lithofacies have yielded a clearer understanding of the relationship of lithification, sequence and relative sea level (RSL) just prior - and post - Last Glacial Maximum (LGM) for the Georgia Bight. Data from vibracores and hand samples have been taken from two offshore sites - Gray's Reef National Marine Sanctuary and J-Reef. Both sites are shallow (-20 mbsl) outcrops of Pliocene – Pleistocene age. Direct age determination using AMS-radiocarbon; Uranium Series and Optical Stimulated Luminescence (OSL) methods confirm this. Using analyses of sediments and inclusions, together with the geological mapping of outcrops/exposures, we have identified at least two new provisional members of the late Pleistocene marine sequence. Our results indicate a subaerial exposure from MIS 3 through late MIS 2 with the subsequent, post–LGM transgression. Our study indicates that survival of sedimentologically observed markers for both relative sea level and at least one sequence boundary. Shell beds, observed at both reefs, are discussed as proxies for sea level and stratigraphy. Modern sediment supply has been reduced by anthropogenic activities and erosion now dominates the shallow, low accommodation space, marine margins of the inner-to-mid shelf of the Georgia Bight.