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Reconstruction of Holocene coastal depositional environments based on sedimentological and palaeontological analyses, Zakynthos Island, Western Greece Mediterranean Sea

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Zakynthos Island is one of the most seismically active regions in Europe and the Holocene coastal depositional environments were influenced both by tectonic activity and sea level rise. In the present study detailed sedimentological, palaeontological and 14C dating analyses were used in order to reconstruct the Holocene coastal depositional environments as well as the different rates of sedimentation, based on data from three cores up to 30 m deep. The results of the analyses indicate changes in depositional environments from marine to brackish lagoonal and lagoon / barrier systems with temporary intrusions of marine water via storms or tsunamigenic events. High sedimentation rates in coastal areas of Zakynthos Island correspond well to the most widespread Holocene warm and humid phases. The interpretation of the sedimentological environments reveals that Zakynthos Island before 8300 BP was constituted by two islands, where the present southern part of the island was separated from the northern one by a shallow and narrow sea channel.