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# The morphodynamic responses of artificial embayed beaches to storm events

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Abstract. The morphological changes caused by storm events in two Barcelona beaches were recorded using video monitoring techniques during the period 2001–2006. Changes in shoreline position and configuration and submerged bar position and shape were analyzed during the 25 major storm events that occurred during the study period. Beach responses to storms were grouped into three categories: shoreline advance or retreat (including rotation), sandbar migration and/or configuration change (linear or crescentic shape) and formation of megacusps. This work provides examples of the differential adaptation of both beaches to the same storm and of some unexpected morphological responses of both beaches. The response of the beach to storm events is not straightforward because wave conditions are not the only relevant parameter to be considered. In particular, in such embayed beaches it is crucial to take into account their specific morphodynamic configuration prior to the storm.

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