Impact On The Beach Due To Construction Of A Marina

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During the period 2006-2007, a new marina was built in the west side of Cattolica jetties (Emilia-Romagna Region, Italy). The littoral downdrift to the new marina is a low-lying and sandy beach protected by a series of detached breakwaters. In the present paper we aims at present the results of monitoring in order to assess the impact on down-drift beach due to construction of marina. Monitoring activities were carried out by the Unit of Sea and Coast at ARPA – Emilia-Romagna. The following activities have carried out for 5 years (2007-2011): topographic and bathymetric surveys of backshore, foreshore and nearshore zone, surveys of shoreline, sampling and grain size analysis of sediment samples, photogrammetric surveys an wave climate analysis. For an adequate analysis have been also collected data on the volume of sand used for beach nourishment, the volume of sand removed from beach in accretion and interventions on hard defence structure. The monitoring showed that, in the first three years, the beach to the seaside of breakwater evolved and this allowed the achievement a new equilibrium state that has been maintained for the next two years. However, the modifications have not caused critical conditions to the beach and hard defences structures.