Abstract

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behavior of shore protection structures at alexandria, egypt, during the storm of december 2010

recently, december 2010, a severe storm hit alexandria city, egypt, directly attacked its shoreline. wind gusting to 65 kilometer per hour lasted for about two days creating a deep water wave of a height of 7.5 meter for the first time in the last 100 years. this paper documents the different types of shore protection structures methods (sand nourishment, revetment, groins, sea walls, emerged submerged breakwaters) used to protect alexandria coastline at the area of study their behavior during this storm. this study concluded that the submerged breakwater used to protect miami to montaza beach, east of alexandria, showed good efficiency concerning wave transmission shore protection at storm times. it is recommended to apply the submerged offshore rubble mound breakwater / submerged offshore artificial reefs, to induce wave breaking energy dissipation to limit the wave heights to protect alexandria coastline.