The Effects of Sea Level Rise on Equilibrium Beach Profile in Caspian Sea Coast

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چکیده :

Study of beach profile evolution and scouring effect due to the wave and current impacts in the coastal zone has been one of the most important issues in coastal engineering research projects during the past decades. To construct the coastal protective structures, it's necessary to estimate the scouring depth and bed level changing in the vicinity of such structures. Furthermore, the time – dependent changes in the equilibrium profile of the surf zone can be of great importance in designing coastal structures. Because of the importance of coastal engineering study in Iran due to the existence of two important coastal area located in the north and south parts of the country, and due to the lack of classified data in this respect (particularly the effect of sea level rise on coastal morphology) in the present study, based on the available data of Bandar Anzali region, an analysis of the coastal zone behavior is made. Bed level elevations are measured and compared with the theoretical equilibrium profile. It's shown that the behavior of the coastal zone in the region is consistent with the Dean equilibrium profile. In the next stage, following extensive investigations, the bed level changes due to a rise in sea level at different locations in the surf zone are estimated. Finally, based on the results obtained for profile evolution due to sea level rise, the conclusion is made for design of coastal structures located in the study area. The results are graphically presented which can be used for design purposes and establishing a data base for the coastal zone in the study region. It's believed that the present work can be regarded as a contribution to the existing knowledge of coastal process in the study area and referred to as a basis for the future coastal research projects

کلید واژه : Scouring, Wave, Coastal zone, Evolution, Equilibrium profile