Record Nr. UNINA9910159370303321 Autore Ortega-Sánchez Miguel Titolo Morphodynamics of Mediterranean Mixed Sand and Gravel Coasts / / by Miguel Ortega-Sánchez, Rafael J. Bergillos, Alejandro López-Ruiz, Miguel A. Losada Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2017 3-319-52440-2 **ISBN** Edizione [1st ed. 2017.] 1 online resource (VIII, 80 p. 47 illus., 43 illus. in color.) Descrizione fisica Collana SpringerBriefs in Earth Sciences, , 2191-5369 Disciplina 910.021822 Soggetti Oceanography Coasts Geomorphology Civil engineering **Coastal Sciences** Civil Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references at the end of each chapters. Nota di contenuto Chapter 1. Introduction -- Chapter 2. Study sites -- Chapter 3. Importance of nearshore waves on mixed sand and gravel coasts --Chapter 4. Littoral drift and coastline evolution on mixed sand and gravel coasts -- Chapter 5. Morpho-sedimentary dynamics of mixed sand and gravel coasts. Sommario/riassunto This book describes recent advances in the morphodynamics of mixed sand and gravel Mediterranean coasts, and provides updates and new methods for their study and management. It assesses how the differences in the geomorphic setting, in comparison with traditional sandy beaches, result in distinctive physical processes governing the dynamics of these coasts. Further, on the basis of field measurements, theoretical analysis and numerical modeling carried out at two study sites in southern Spain over the last 15 years, the book studies, analyzes and compares these physical processes and mechanisms. It

> also shows that the narrow and complex bathymetries and inner shelves modify the wave propagation patterns and hence, the

longshore sediment transport gradients along the coast. Given the correlation between the changes in these gradients and the shoreline evolution over time, it identifies the complexity of the inner shelf bathymetries as the main driver of coastal changes and describes these processes in detail using, in the plan view, the inter-annual evolution of unaltered and "altered by human" beaches. Lastly, the book details how the generation and subsequent overlapping of berms across the beach profile are responsible for the sediment variability at depth and cross-shore, and concludes that the total run-up (including the water-level) is a more influential variable than wave height in the erosional/depositional response of these beaches.