

1. Record Nr.	UNINA9910299407703321
Titolo	Barrier Dynamics and Response to Changing Climate // edited by Laura J. Moore, A. Brad Murray
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-68086-2
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (395 pages) : color illustrations, maps
Disciplina	551.423
Soggetti	Physical geography Climate change Coasts Geomorphology Environmental management Physical Geography Climate Change Management and Policy Coastal Sciences Climate Change Environmental Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Part I: Observations and Conceptual Models of Barrier Response to Changing Climate -- Runaway barrier island transgression concept: global case studies -- Drowned barriers as archives of coastal response to sea-level rise -- Barrier island and estuary co-evolution in response to Holocene climate and sea-level change: Pamlico Sound and the Outer Banks Barrier Islands, North Carolina, USA -- Abrupt increase in washover deposition along a transgressive barrier island during the late 19th century acceleration in sea-level rise -- Follets Island: A case of unprecedented change and transition from rollover to subaqueous shoals -- Role of the foredune in controlling barrier island response to sea-level rise -- Part II: Mechanisms of Barrier Response to Changing Climate -- Geometric constraints on long-term barrier migration: From

simple to surprising -- Shoreface controls on barrier evolution and shoreline change -- Morphodynamics of barrier response to sea-level rise -- The role of ecomorphodynamic feedbacks and landscape couplings in influencing the response of barriers to climate change -- The role of vegetation in determining dune morphology, exposure to sea-level rise, and storm-induced coastal hazards: A U.S. Pacific Northwest perspective -- Barrier islands as coupled human-landscape systems.

Sommario/riassunto

This book presents chapters, written by leading coastal scientists, which collectively depict the current understanding of the processes that shape barrier islands and barrier spits, with an emphasis on the response of these landforms to changing conditions. A majority of the world's population lives along the coast at the dynamic intersection between terrestrial and marine ecosystems and landscapes. As narrow, low-lying landforms, barriers are especially vulnerable to changes in sea level, storminess, the geographic distribution of grass species, and the rate of sand supply—some barriers will undergo rapid changes in state (e.g., from landward migrating to disintegrating), on human time scales. Attempts by humans to prevent change can hasten the loss of these landforms, threatening their continued existence as well as the recreational, financial and ecosystem service benefits they provide. Understanding the processes and interactions that drive landscape response to climate change and human actions is essential to adaptation. As managers and governments struggle to plan for the future along low-lying coasts worldwide, and scientists conduct research that provides useful guidance, this volume offers a much-needed compilation for these groups, as well as a window into the science of barrier dynamics for anyone who is generally interested in the impacts of a changing world on coastal environments.
