Brazilian Beaches

The more than 4000 beaches along the Brazilian coast are one of the country’s main assets. They are distributed along more than 9000 km of coastline, from the equatorial Amazon coast (4°N) to the subtropical beaches of Rio Grande do Sul (34°S), and encompass every beach type, from wide tide-dominated fats in the North to wave-dominated refective beaches in the Southeast and South. Brazilian sandy beaches harbor endemic and diverse biota and provide numerous goods and services that are essential to human populations such as shellfsh harvesting and fshing, coastal infrastructure protection, sites for cultural manifestations, tourism, and recreation activities. Notwithstanding, they are under increasing pressure, trapped between the impacts of climate change and human activities in the terrestrial and marine environments. Contrary to their great geographical extent and importance, knowledge about Brazilian beaches is still limited and insuffcient to ensure their sustainable use. Thus far, there is no extensive work on their socio-ecological characteristics, an issue that prevents the necessary acknowledgment of their importance. This book comes to fll this void. Written by an interdisciplinary group of leading researchers from all coastal regions of Brazil, and having the contribution of international experts, it is the frst-ever comprehensive work written about Brazil’s sandy beaches addressing their physical, ecological, and social aspects. The information synthesized within this book is organized into ten chapters, which follow a logical order but can also be read independently. Chapter 1 sets the background and shows the predominant physical characteristics of Brazilian beaches, classifying the Brazilian coast into distinct regions according to their geology, sediments, coastal processes, and beach types. The next chapters give an insight into the biodiversity recorded in Brazilian beaches, including algae (Chap. 2), meiofauna (Chap. 3), macrofauna (Chap. 4), and vertebrates (Chap. 5). An overview of the population biology and dynamics of the most studied species on Brazilian sandy shores is found in Chap. 6, while Chap. 7 summarizes the importance of biological interactions to the patterns and functioning of sandy beach ecosystems. Finally, the last three chapters discuss topics related to the social function of beaches as socioecological systems, such as the main services and goods provided to human populations (Chap. 8), the influence of natural and anthropic disturbance (Chap. 9), and the challenges to preserve these ecosystems (Chap. 10). Our effort aims to reach university researchers and students, as well as coastal managers and policymakers. Nevertheless, the information included in this book is accessible to anyone who wants to know more about Brazilian coastal biodiversity and ecosystems. We trust that this book will provide insights for further investigations and represent a significant step towards the conservation of Brazilian sandy beaches, their biodiversity, and ecosystem services.