Record Nr. UNINA9910366649803321 Autore Zheng Chongwei Titolo 21st Century Maritime Silk Road: Wave Energy Resource Evaluation / / by Chongwei Zheng, Jianjun Xu, Chao Zhan, Qing Wang Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2020 Pubbl/distr/stampa 981-15-0917-4 **ISBN** Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (xix, 170 pages): illustrations Collana Springer Oceanography, , 2365-7685 Disciplina 551.46 Soggetti Oceanography Water Hydrology Renewable energy sources Climatology Physical geography Ocean Sciences Renewable Energy Climate Sciences Earth System Sciences Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Introduction -- Research progress of wave energy evaluation --Nota di contenuto Temporal-spatial distribution of wave energy in the Maritime Silk Road -- Climatic trend of wave energy in the Maritime Silk Road -- Shortterm forecast of wave energy in the Maritime Silk Road -- Long-term projection of wave energy in the Maritime Silk Road -- Wave energy assessment and proposal in the Sri Lankan waters -- Dataset construction of wave energy resources in the Maritime Silk Road --Prospects of wave energy evaluation. Sommario/riassunto This book focuses on the evaluation of wave energy in the Maritime Silk Road. Firstly, it compares wave energy and other main energy sources, and then discusses the various disadvantages. It also presents the

current research and the difficulties of wave energy evaluation, and systematically analyzes the climatic characteristics of the wave energy,

including the temporal-spatial distribution and climatic trend of a series of key factors (e.g. wave power density, availability, richness, stability, energy direction, energy storage). It then describes the design of a short-term forecasting scheme and a long-term projection scheme of wave energy suitable for the Maritime Silk Road, to serve as a plan for the daily operation and long-term development of wave energy. Further, it highlights the wave energy analysis and decision-making in the context of the remote islands and reefs, using Sri Lanka is taken as a case study. Lastly, it presents the first wave energy resource dataset for the Maritime Silk Road. This book is one of a series of publications on the 21st century Maritime Silk Road (shortened as "Maritime Silk Road") that covers the characteristics of the marine environment and marine new energy, remote islands and reef construction, climate change, early warning of wave disasters, legal escort, marine environment and energy big data construction, contributing to the safe and efficient construction of the Maritime Silk Road. It aims to improve our knowledge of the ocean, and so improve the capacity for marine construction, enhance the viability of remote islands and reefs, ease the energy crisis and protect the ecological environment and improve the quality of life of residents along the Maritime Silk Road, as well as to protect the rights, and interests of the countries and regions participating in the construction of the Maritime Silk Road. This book is a valuable reference resource for decision-makers, researchers, and marine engineers working in the related fields.