

REVIEW

***Human Behavioral Ecology and Coastal Environments.* Heather B. Thakar and Carola Flores Fernandez, editors. 2023. University Press of Florida, Gainesville. xviii + 275 pp. \$85.00 (hardcover), ISBN 978-0-8130-6958-6.**

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Human behavioral ecology (HBE) has made significant contributions to archaeological research over the past several decades, but it has also been criticized for its often reductionist approach rooted in Western viewpoints, which can ignore (and have ignored) cultural contexts. This volume, edited by Heather B. Thakar and Carola Flores Fernandez, represents an attempt to alleviate these shortcomings within the context of coastal archaeology. It is part of the Society and Ecology in Island and Coastal Archaeology series; the book includes a foreword by the series editors, Victor D. Thompson and Scott M. Fitzpatrick, and a preface by Douglas Kennett. The book is divided into two parts—regional syntheses and local case studies—and it contains an introduction and conclusion written by the volume editors. The introductory chapter outlines many standard HBE models and highlights the challenges of modeling coastal environments—namely, quantifying suitability and accounting for dynamic change in these conditions over time. Adapting HBE to these complex circumstances is a central theme of the volume.

Following an introduction by the coeditors and Shannon Tushingham, the first three chapters (one by Catherine F. West et al.; one by Tushingham; and one by Daniel Plekov et al.) present overviews of archaeological HBE research in the Arctic, the Pacific Northwest, and the Mediterranean, respectively. In Mediterranean research, the authors attribute the dearth of HBE applications to the disciplinary divide between Classical and anthropological archaeologists, but they argue that the region's extensive archaeological documentation makes it an ideal area to construct and test HBE models. Overall, these chapters synthesize decades of research making use of optimal foraging models. In particular, ideal distribution models are emphasized for their fundamental role in understanding demographic patterns. Alex E. Morrison and colleagues (Chapter 9) provide a detailed look at these models to explain Samoan settlement trajectories.

The subsequent six chapters provide local case studies spanning the globe. Several chapters highlight examples of how HBE can be leveraged to evaluate the rationale for seemingly nonoptimal behaviors through frameworks such as costly signaling (Flores Fernandez and Laura Olgún, Chapter 5) and economic intensification (Martin Wright et al., Chapter 8). Chapter 5 also presents an example of how traditional knowledge can be incorporated into HBE models to expand our understanding of specific cultural behaviors. Chapter 6 (Marijo Gauthier-Bérubé and Thakar) focuses on how HBE models can highlight socioenvironmental and economic connections between terrestrial and coastal environments, and it showcases the importance of historical information for developing hypotheses. Chapter 4 (James T. Daniels Jr. et al.) and Chapter 7 (Colin D. Wren et al.) illustrate the importance of accounting for dynamic change in environmental conditions and the effects that feedback loops have on human behavior. The chapter by Wren and colleagues is especially significant because it integrates ethnographic data into an agent-based optimal foraging model and demonstrates the value of modeling dynamic systems that account for local variation and agency to understand emergent properties of human systems.

A central theme stressed throughout the volume is the importance of integrating traditional knowledge to improve HBE models. This emphasis by the editors comes through in half of the case studies

that make use of traditional knowledge or historical records (Chapters 5, 6, and 7). Tushingam (Chapter 2) also discusses examples of traditional knowledge improving HBE predictions in the Pacific Northwest but notes that the number of such studies are currently limited. Although heavily emphasized, more work is needed to integrate non-Western viewpoints within HBE, but this volume provides examples of how this can be achieved.

Another commendable aspect of this book is its attempt to merge concepts of niche construction theory (NCT) and HBE. Although these two frameworks have historically been pitted against each other, the volume demonstrates how they work well when used in tandem. Daniels and colleagues (Chapter 4) present an important case study using NCT that provides valuable insights into feedback dynamics in which modified coastal environments subsequently changed resource acquisition strategies over time. The study could have been strengthened by incorporating ideal distribution models to examine how these environmental changes may have influenced suitability and settlement strategies (e.g., Chapter 9). Nevertheless, unifying NCT and HBE frameworks is crucial, given that HBE tends to focus on smaller-scale dynamics and NCT looks at broader-scale processes of change and coevolution. Therefore, using these concepts in tandem helps alleviate the other's limitations.

Overall, *Human Behavioral Ecology and Coastal Environments* represents an important advance for HBE applications in archaeology. Its focus on coastal environments clearly demonstrates how simple optimality models can successfully explore extremely complex and dynamic contexts with local-to-regional variability that span time and space. Furthermore, the merging of concepts of legacy impacts and feedback dynamics from NCT with HBE models represents a fundamentally important theoretical step forward. Students and established researchers alike can benefit from the perspectives outlined in this book.