

# The Geoarchaeology of Lake Michigan Coastal Dunes: Book Reviews

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**The Geoarchaeology of Lake Michigan Coastal Dunes** by *WA Lovis, AF Arbogast,*  
and *GW Monaghan*

East Lansing: Michigan State University Press, Environmental Research Series Vol. 2; 2012. ISBN: 978-1-61186-051-1. 235 pages, \$35.95 (paperback).

This text represents the outcome of a large scale multiyear project entitled *The Dune Activation, Cycling, and Site Taphonomy Project*. The coastal sand dunes of eastern Lake Michigan are perhaps the largest collection of freshwater dunes in the world, and as such represent a wealth of opportunity to study contemporary dune morphology coupled with an extensive archaeological record predating European contact. As the authors highlight, research has been conducted in the area for over fifty years but this is the first time a synthesis has been produced that draws together aspects of archaeology, geology and geomorphology for the benefit of many possible end users, from archaeologists to transport planners.

One of the aims of the book is to show that the wealth of archaeological sites present in the dune systems provide evidence for activation and stabilisation cycles (established through both absolute and relative dating techniques). This is something that has previously been missing from geological/geographical models of dune development. The interdisciplinary research of both social and physical scientists is brought together and discussed in a series of chapters that see the area as a whole effectively 'rediscovered' and thought about in different and all-encompassing ways.

Each of the seven main chapters is well introduced and references are given throughout that allow the reader to truly grasp the depth of research that has been conducted in this area of North America. The flow of the chapters allow the reader to follow the development of the research ethos in terms of understanding dune formation, lake level variation, isostasy, environmental change and human impact, culminating in a 'case study' of the area (Chapter 7). The narrative of the book works very well and leads the reader through complex areas that must be covered for such a multidisciplinary project to be successfully completed.

A particularly welcome and insightful chapter is afforded to the Holocene development of Lake Michigan (Chapter 5). This includes description and discussion of geomorphology, regional climate change, lake-level variation and isostatic rebound. This chapter in itself is useful to so many different readers, from undergraduate students to scholars with research interests in archaeology, geology and geography. In 23 pages it explains around 12,000 years of earth history for the region and has direct implications for further study of the area in the future.

A strong addition to this book is the appendices which include detail on the methods, dating and (perhaps most useful) the site descriptions. The latter (Appendix C) are incredibly thorough and this entry reads as a standalone chapter providing fascinating details regarding the many sites explored as part of the initial research.

*The Geoarchaeology of Lake Michigan Coastal Dunes* is essential reading for anybody wishing to find out more about the natural and cultural development of the Great Lakes region and, in particular, the Lake Michigan basin. However, the included details and the research methodology should be of interest to anybody currently working in coastal sand dune systems, fresh or marine, or indeed those that are planning to undertake a project in such an environment in the future. It could be that this book is a little daunting to the new researcher as it manages to cover so much background and yet introduce so many new case studies for the Lake Michigan basin. A new team of researchers in such an environment clearly needs to be multidisciplinary and the end product testifies to such.

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