

Ionuț Cristi Nicu, *Hydrogeomorphic Risk Analysis Affecting Chalcolithic Archaeological Sites from Valea Oii (Bahlui) Watershed, Northeastern Romania. An Interdisciplinary Approach*, Springer, 2016, New York–Dordrecht–London, 87 pages, 34 colour illustrations, ISBN 978-3-319-25707-5

Published in 2016 by Springer in its *SpringerBriefs in Earth System Sciences* series, the volume authored by Ionuț Cristi Nicu, a young researcher from the Department of Interdisciplinary Research of the “Alexandru Ioan Cuza” University of Iași, constitutes an essential work for understanding the anthropic and geomorphologic factors and their impact on archaeological sites. The author addresses the topic in a twofold way: the risks posed by natural phenomena to archaeological sites, and the population dynamics and implicit human-environment interaction in the study area, the Valea Oii watershed in northeastern Romania.

The volume consists of 11 chapters, each with between two and four subchapters. The first two chapters contain the presentation of the geographical setting and administrative-territorial status of the study area (Chapter 1. *Geographic Framework*, p. 1–4), and of the research methodology and techniques employed in carrying out the study (Chapter 2. *Methodology and Research Techniques*, p. 5–8).

The next six chapters are dedicated to the natural environment. Chapter 3, entitled *Geological Characterisation* (p. 9–10), focuses on the geological aspects of the area, with a brief presentation of the petrographic and tectonic elements underpinning the Valea Oii basin. Chapter 4, entitled *Relief* (p. 11–18), presents in the first two subchapters the morphographic and morphometric characterisation, and the types of landforms in the study area (structural, sculptural or depositional). The other subchapter provides a classification of the archaeological sites located in the study area according to the elevation at which they are found. Chapter 5, entitled *Hydrography* (p. 19–30), presents the hydrological characteristics and the evolution of the waterbodies from the basin, as well as the associated risks. The chapter ends with a presentation of the relation between the archaeological sites and the water sources, making detailed analyses for the sites from Bălțați–Iaz/Iazul 3/Dealul Mândra and Războieni–Dealul Boghiu/Dealul Mare. Chapter 6, entitled *Climate* (p. 31–34), provides information on the temperature, precipitations, and the effects of climate change on the archaeological sites. Chapter 7, entitled *Flora and Fauna* (p. 35–38), presents succinctly the evolution of the forest in the study area. Even though the last subchapter is purportedly dedicated to the distribution of archaeological sites in relation to the vegetation, only the existence of tree species that have been encountered in the area since the Eneolithic is mentioned, without being put into connection with the sites. Furthermore, the analysis lacks the data on the fauna, even though we have solid archaeozoological information for the Precucuteni and Cucuteni sites from the area. Chapter 8, *Soils* (p. 45–54), presents the types of

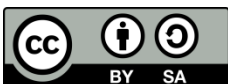
soils and their distribution in the study area, as well as the role they played in prehistoric human settling and occupation.

In the last three chapters we enter more deeply into the realm of Archaeology. Thus, Chapter 9, entitled *Geoarchaeology or Archaeogeomorphology? – Border Sciences* (p. 45–54), presents a brief history of the field of geoarchaeology. The chapter runs through the definitions, as accepted by the dedicated literature, the aims and scope (to reconstruct the evolution of past landscapes and to identify the relation between humans and the environment), and the main components of the discipline. Chapter 10, entitled *Archaeological Inventory* (p. 55–64), is dedicated to the main archaeological sites identified in the study area. After a short presentation of the evolution of the Precucuteni-Cucuteni cultural complex, the author introduces, in order to better understand the historical population dynamics, the theory of insular biogeography. Using it as a theoretical lens for the analysis of the population dynamics of the Precucutenian and Cucutenian communities, the author observes a distribution of settlements in two clusters, grouped around the settlement from Cucuteni–Cetățuia and, respectively, Războieni–Dealul Mare. Chapter 11, *Archaeological Sites Affected by Hydrogeomorphological Processes* (p. 65–84), presents in three case studies different geomorphological processes with a negative impact on the archaeological sites from the area under scrutiny. The first site analysed is from Cucuteni–Dealul Mânăstirii/La Dobrin/Dealul Gosanul, affected by gulying. The evolution of the gully was monitored for a period of seven years, revealing a rate of advancement of 2.8 m per year. The second case study is the settlement from Dealul Boghiu/Dealul Mare, affected on an extensive area by mass wasting and gulying, as well as by anthropic activities. The last case study is the settlement from Bălțați–La Iaz/Iazul 3/Dealul Mândra, which is affected by sedimentary processes and by the erection of a dam near it. This site also witnessed a series of GPR surveys carried out on the frozen dam lake, which revealed a series of anomalies that the author interpreted as Eneolithic vestiges.

The work is meant to present the effects of geomorphological processes on archaeological sites, and to draw attention to the necessity to implement rescue measures for protecting the cultural heritage affected by these processes. As such, the volume, of an interdisciplinary character, is a well-elaborated study, supported by a significant illustrative material, and with a comprehensive bibliography for the topics addressed in each chapter.

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