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This book collects 15 papers written by renowned scholars from across the globe that showcase the forefront research in Earth observation (EO), remote sensing (RS), and geoscientific ground investigations to study archaeological records and cultural heritage. Archaeologists. anthropologists, geographers, remote sensing, and archaeometry experts share their methodologies relying on a wealth of techniques and data including, but not limited to: very high resolution satellite images from optical and radar space-borne sensors, air-borne surveys, geographic information systems (GIS), archaeological fieldwork, and historical maps. A couple of the contributions highlight the value of noninvasive and nondestructive laboratory analyses (e.g., neutron diffraction) to reconstruct ancient manufacturing technologies, and of geological ground investigations to corroborate hypotheses of historical events that shaped cultural landscapes. Case studies encompass famous UNESCO World Heritage Sites (e.g., the Nasca Lines in Peru), remote and yet-to-discover archaeological areas in tropical forests in central America, European countries, south Asian changing landscapes, and environments which are arid nowadays but were probably full of woody vegetation in the past. Finally, the reader can learn about the state-of-the-art of education initiatives to train site managers in the use of space technologies in support of their activities, and can understand the legal aspects involved in the application of EO and RS to address current challenges of African heritage preservation.