

The field of paleoclimatology relies on physical, chemical, and biological proxies of past climate changes that have been preserved in natural archives such as glacial ice, tree rings, sediments, corals, and speleothems. Paleoclimate archives obtained through field investigations, ocean sediment coring expeditions, ice sheet coring programs, and other projects allow scientists to reconstruct climate change over much of earth's history.

When combined with computer model simulations, paleoclimatic reconstructions are used to test hypotheses about the causes of climatic change, such as greenhouse gases, solar variability, earth's orbital variations, and hydrological, oceanic, and tectonic processes. This book is a comprehensive, state-of-the art synthesis of paleoclimate research covering all geological timescales, emphasizing topics that shed light on modern trends in the earth's climate. Thomas M. Cronin discusses recent discoveries about past periods of global warmth, changes in atmospheric greenhouse gas concentrations, abrupt climate and sea-level change, natural temperature variability, and other topics directly relevant to controversies over the causes and impacts of climate change. This text is geared toward advanced undergraduate and graduate students and researchers in geology, geography, biology, glaciology, oceanography, atmospheric sciences, and climate modeling, fields that contribute to paleoclimatology. This volume can also serve as a reference for those requiring a general background on natural climate variability.

"Encyclopedic in its coverage, *Paleoclimates* features a truly incredible breadth of topics."

—Benjamin P. Flower, University of South Florida

"*Paleoclimates* is a most useful reference. Cronin's command of such a broad scope is impressive."

—Tom Johnson, University of Minnesota, Duluth



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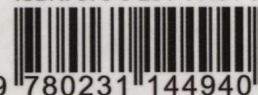
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