Geological History and the Stratigraphic Record of Illinois

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Illinois is underlain by a thick succession of sedimentary rocks consisting primarily of limestone, shale, sandstone, and siltstone, most of which is overlain by un lithified deposits of clay, silt, sand, and gravel. The composition, thickness, distribution, and fossil content of these rocks and sediments, as well as the regional and interregional unconformities that form their boundaries, reveal important clues about the geological history of Illinois during the past 500 million years. The vertical succession of rock layers are like the pages of a book with younger historical events stacked upon older ones. Each new drill hole, quarry, mine shaft, and excavation is a passageway to this ancient archive that provides insight to the geological history of Illinois.

This part of the book presents the geological history chronologically, from oldest to youngest, beginning with the Precambrian and concluding with the Quaternary Period. Many of the chapters are organized according to cratonic sequences, each of which reflects major episodes in the rise and fall of sea level on the stable interior (craton) of North America during the past 570 million years and represents depositional and tectonic phases in the geological history. Parts of six primary sequences are present in Illinois, including (oldest to youngest) the Sauk, Tippecanoe, Kaskaskia, Absaroka, Zuni, and Tejas Sequences. The Quaternary history is marked by recurring episodes of continental glaciation revealed in a complex series of glacial tills, fluvial sands and gravels, paleosols, and lacustrine and aeolian deposits. Quaternary depositional and erosional processes have played a major role in shaping the modern landscape of Illinois.
Image on previous page: Caseyville Formation sandstone at Garden of the Gods Recreation Area, Gallatin County.