

Wiggle-Matched Red Cedar from a Pre-Monumental Occupation at Kincaid Mounds, Illinois, USA

Nicholas V. Kessler, Paul D. Welch, Brian M. Butler, Tamira K. Brennan, Ronald H. Towner, Gregory W. L. Hodgins

[Author Affiliations +](#)

[Tree-Ring Research](#), 78(2):100-112 (2022). <https://doi.org/10.3959/2021-22>

Abstract

Wiggle-matched ^{14}C dates anchored an 82-year floating cedar tree-ring chronology from the basal layer of a Mississippian Period mound to AD 1170 ± 9 (1σ) (outermost ring). Although numerical cross-matching showed preference for a temporal placement consistent with the ^{14}C dates and visual matching, statistical scores were below critical thresholds for annual crossdating. Sapwood-corrected *terminus post quem* dates for the material, and their stratigraphic relationship with overlying dates, show that the earliest truncate mound construction at Mound 4 occurred after AD 1177. This date is informative for the timing of the transition of Kincaid to a major regional center and does not support an earlier hypothesis that Mound 4 was constructed in Early Kincaid times (AD 1050–1150). These results demonstrate the potential for archaeological collections to extend long tree-ring chronologies in the Midwestern U.S.