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A 150 year record of annual Bristlecone Pine ^{14}C from the second millennium BC

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The Interdisciplinary Chronology of Civilizations Project (ICCP) at the University of Arizona (UA) aims to resolve longstanding chronological issues for Aegean and Near Eastern archaeology. A central component of this work is the production of annual resolution sequences of ^{14}C from securely anchored tree-ring chronologies. Contemporary growth rings from Northern and Southern Hemisphere locations will be tested against a dataset of consecutive annual resolution ^{14}C measurements from tree-rings of securely dated North American bristlecone pine (*Pinus longaeva* D.K. Bailey). These data will be used in a number of ways: to investigate potential issues with the current IntCal dataset due to interpolation, smoothing, or the inclusion of annual scale rapid changes in ^{14}C; to identify ^{14}C off-sets; to evaluate whether annual determinations of ^{14}C present sufficient advantages for dating to justify the substantial costs involved in creating an annual resolution calibration curve; to explore whether the degree of reproducibility between species and growth locations justifies the construction of regional curves or allows us to pioneer 'annual resolution wigglematching' to anchor substantial floating tree-ring chronologies from Mediterranean archaeological contexts, and; if new rapid changes in ^{14}C (aka 'spikes') are discovered, to use these to achieve this same goal. The initial focus of the project is the first and second millennium BC. From this period we present 150 annual ^{14}C determinations from bristlecone pine and explore preliminary findings based on comparisons with the existing IntCal dataset, decadal data from the Mediterranean, and some contemporary years from Irish Oak (*Quercus* spp.) and New Zealand Kauri (*Agathis australis (D. Don) Lindl.*). This work, in combination with results from another UA project team (see abstract by Jull *et al.*) helps confirm the potential of the bristlecone pine archive for high resolution radiocarbon research.