Dendrochronology with Eastern Hemlock Trees from Window Cliffs State Park, Tennessee

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Dendrochronology can be used as a high-resolution proxy to model past climate, and has been used with great success in the Southwest United States to model changing climate events, the role of the eleven-year sunspot cycle on the monsoonal season. As a part of a lab activity, our paleoclimates class took cores from seven cores from four trees in a stand of Eastern Hemlocks (*Tsuga canadensis*) at Window Cliffs State Park in Putnam County, Tennessee. We then counted the tree rings and measured their widths in order to create a dendrochronological record for the region and identify different growth events. We then compared the ring width to summer precipitation and temperature data to determine what effect climate may have on the Eastern Hemlock trees at Window Cliffs. Preliminary work indicates that summer precipitation, from April to September, is a dominant driver in tree ring growth, with average summer temperatures correlating to a much lesser degree.