



GEOG 8810: Human-Environment Relationships— Integrating Dendrochronology with Environmental History at Wormsloe

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Dendrochronology uses inter-annual patterns of tree growth to inform interpretations of landscape history. It can be used to analyze dynamics of vegetation change and to reconstruct past climatic conditions.

This seminar provides a hands-on opportunity to learn basic dendrochronological techniques in the field on Georgia's coast and in the lab. We will visit sites that are part of a broader study at Wormsloe State Historical Site, where we will collect data and tree cores. In the UGA Tree Ring Laboratory we will mount and sand cores and measure inter-annual tree growth. We will discuss basic statistical analyses that are often performed with tree growth data.

The seminar will be broken into four parts:

- Background reading about basic dendrochronological approaches and the environmental history of Wormsloe
- Field instruction of sampling approaches and collection of tree cores from targeted forests at Wormsloe
- Laboratory work to sand and mount cores and measure annual increments of growth
- Statistical analysis to construct master chronologies, develop inventories of tree ages, use growth/climate relationships to reconstruct past climates, and identify patterns of suppression (slow growth) followed by release (rapid growth) in the context of vegetation dynamics