Throughout the Southeastern United States there exists a plethora of wood procurement strategies/systems that provide wood using facilities with raw materials. These systems attempt to balance the raw materials costs and procurement risks of consistent raw materials furnish. It is generally recognized that different procurement strategies have different levels of risk and costs associated with them.

Our study will model, through use of Monte-Carlo simulation techniques, three commonly utilized procurement strategies in the South. The procurement strategies will be modeled on a weekly basis, with the three strategies being the allocation of production evenly among suppliers, production allocated based on estimated fixed costs of suppliers, and production allocated based on the average weekly production of suppliers. To accurately portray these systems, we used data from the recently completed Greene et al (2002) study, which provided 3,132 weekly production reports during 2000 and 2001 from 63 logging crews and 8,212 weekly mill usage and inventory reports during 2000 and 2001 from 130 mills, along with station specific daily rainfall data from the United States Geological Service for 1897-2000. Through the use of financial software programs (@Risk and Risk Optimizer), we attempted to incorporate the inherent risk included in many of the variables in wood procurement systems.

This model will attempt to identify optimal levels of logging force, mill woodyard inventory, and procurement strategy. We will present a wood procurement simulation model that is mill specific, can evaluate current wood procurement practices and identify possible changes that will reduce cost and/or risk associated with the wood procurement system.