Impacts of Climate Change on Tennessee Forests

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Abstract: Forests of Tennessee are diverse and have been affected by land use and management, nonnative species, outbreaks of native insects, and natural disturbances. The forests in Tennessee are likely to experience further changes in future decades due to climate change and related factors. This presentation describes a study initiated to assess the potential effect of these changes on the state’s forested ecosystems and on socio-economic variables due to the environmental changes. Specifically, a spatially explicit model of current and future forest conditions will be used to identify potential changes in forest characteristics such as forest type distribution, growth, and insect and disease outbreaks. Economic impacts of climate change will be assessed for changes in the forest products industry and forest-based recreation. The forest products effects will be estimated by determining the effects of the changes in composition and structure on the sustainability of the state’s forest industry, including estimates of changes in forest sector output and employment, yield, secondary impacts within related sectors, and the sustainability of the industry sector. Estimating the economic effects of climate change on recreational use will be accomplished primarily through projections of future climate scenarios and the potential effects on recreational demand and availability.

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