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Forest Service

**Southern Forest  
Experiment Station**

New Orleans,  
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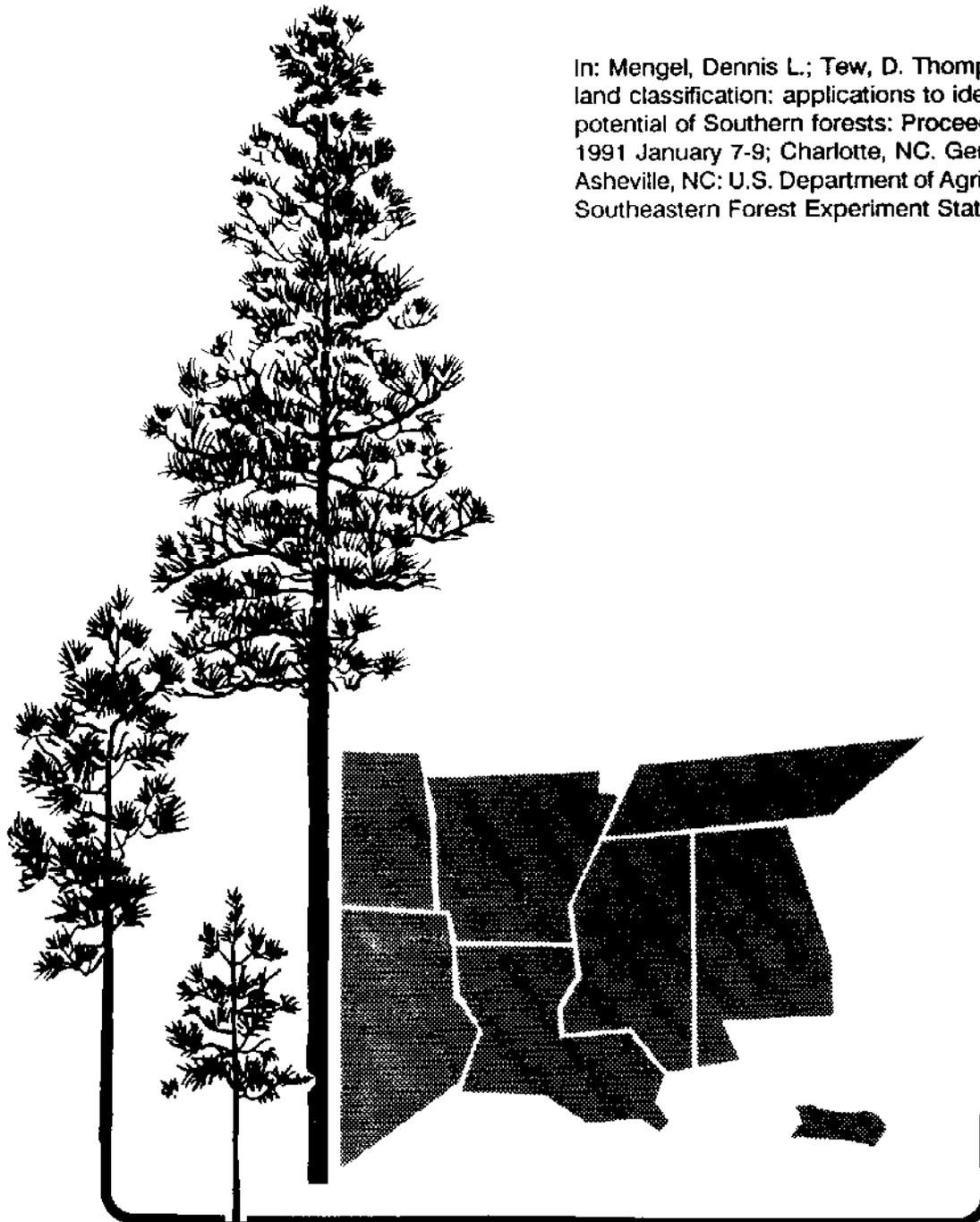
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**PLACING "MAN" IN REGIONAL LANDSCAPE  
CLASSIFICATION: USE OF FOREST SURVEY DATA TO  
ASSESS HUMAN INFLUENCES FOR SOUTHERN U.S.  
FOREST ECOSYSTEMS**

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PLACING "MAN" IN REGIONAL LANDSCAPE CLASSIFICATION:  
USE OF FOREST SURVEY DATA TO ASSESS HUMAN INFLUENCES  
FOR SOUTHERN U.S. FOREST ECOSYSTEMS<sup>1</sup>

Victor A. Rudis and John B. Tansey<sup>2</sup>

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Abstract.--Information from plots surveyed by U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis (FIA) units provides a basis for classifying human-dominated ecosystems at the regional scale of resolution. Attributes include forest stand measures, evidence of human influence, and other disturbances. Data from recent FIA surveys suggest that human influences are common to selected forest areas of the Southern United States and that these influences need to be addressed in regional ecological land classification and productivity estimation.

Keywords: disturbances, forest productivity, harvest, management, ownership.

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#### INTRODUCTION

Identifying the best areas to grow trees or to maintain viable forest ecosystems is clearly useful for regional planners, conservation groups, tax assessors, and private landowners. The best forest areas, however, often are defined relative to surveys of limited areas and are not easily discerned from existing vegetation or local stand conditions.

At the stand level, a simple method to classify a forest stand's productive capacity is to estimate the biomass of interest in relation to its age. However, partial disturbances in many forests reduce the use of this technique to undisturbed stands. At the landscape level, stand history of extensive forested areas is rarely known. In addition, periodic disturbances, historic settlement patterns, land use practices, and forest fragmentation vary widely.

In the Southern United States, nearly all forests have been cut at some time. Historic

settlement and land-clearing practices have eliminated much of the natural forest vegetation. In forested areas, disturbances such as commercial harvesting, livestock grazing, prescribed fire, noncommercial firewood cutting, and land-clearing activities continue to influence species composition of remaining stands. Adjacent nonforest land uses, operability for timber harvesting, relative access for multiple uses, and relative remoteness all contribute to the mosaic of forest cover at the landscape level.

Data are available to conceptualize the regional importance of these features. Information is derived from the forest survey data base maintained and updated by the U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis (FIA) units. Disturbances and uses are inferred from prevailing land ownership, adjacent land uses, physical features, and evidence of human activities in forested areas. Field observations and calculated attributes are described in FIA field manuals and data base documents.

#### RESULTS AND CONCLUSIONS

Forest land dominates in selected areas of the southern Coastal Plain, Appalachian Mountains, and Interior Highlands. Forest cover has been eliminated or reduced in major urban counties, and along the lower Mississippi River floodplain and other important agricultural regions (figure 1). More than 30 percent of the forested land has been harvested since the last survey of about a decade earlier. Commercial harvest activity is highest

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<sup>1</sup>Presented at the Symposium on Ecological Land Classification: Applications to Identify the Productive Potential of Southern Forests, Charlotte, NC, January 7-9, 1991.

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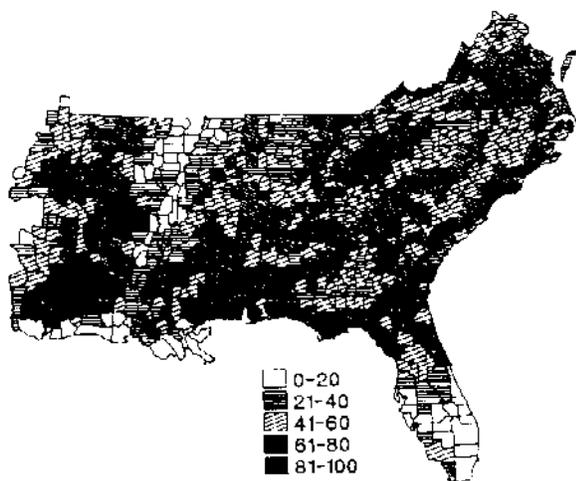


Figure 1.--Percent forest area by county, 1982-1989 surveys, Southern United States.

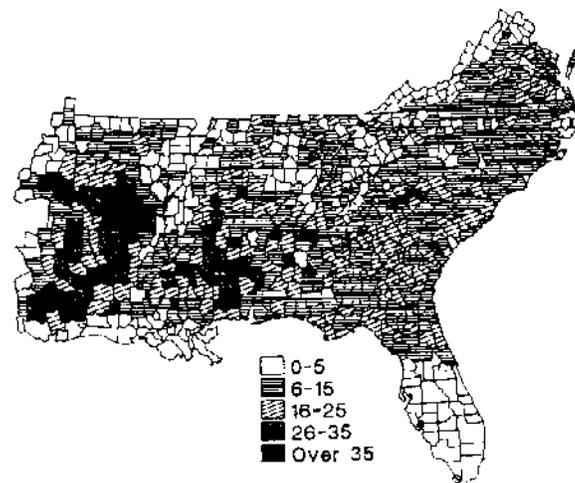


Figure 2.--Percent forest area with recent commercial harvest activity by county, 1982-1989 surveys, Southern United States.

along the southern Coastal Plain and lowest in southern Florida, the lower Atchafalaya River Basin in Louisiana, and western Virginia (figure 2).

In addition to the data illustrated here, related information is available on the regional distribution of ownership (Rosson and Doolittle 1987), fire occurrence (Rudis and Skinner, in press), harvest activities (McWilliams 1989), and remote areas (Rudis 1986). Trends in forest type, ownership, and area are discussed by Alig and others (1986), while numerous State-level forest resource assessments provide additional statistics on timber productivity and disturbance characteristics (e.g., Bechtold and others 1990, Rudis 1988).

The information above summarizes a more extensive presentation depicting the distribution of human influences in Southern United States forests. Only a portion of the data is illustrated in this report. The extent and distribution of forested areas and related disturbances suggest that human influences are important in selected areas of the Southern United States and that these influences need to be incorporated in regional ecological classification and in the estimation of forest productivity.

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