

# QUANTIFYING THE ROLE OF DISTURBANCE IN MANAGEMENT OF CONTEMPORARY FORESTS

A McIntire-Stennis supported project



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Anthropogenic influences and changes in climatic patterns have resulted in alterations to historically recurring low to moderate intensity disturbance regimes in U.S. forests. Consequently, reintroduction of disturbances to these “contemporary,” or altered forests, are often of extreme intensity, producing mixed effects on stand dynamics.

Research conducted by SFA seeks to improve the understanding of the role of disturbance in the management of contemporary forests by quantifying the consequences of departures in disturbance regimes, as well as the impacts of reintroduced disturbance on forest structure and composition, radial stem diameter growth, and forest health. The underlying influence of hydrology and climate and the impacts of interacting disturbances on forest stand dynamics will also be quantified.

Results will increase the predictability of disturbance impacts in contemporary forests, particularly during a time of increased threats such as drought and invasive species, to forest health and sustainability.



## About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



## COLLABORATION

Research will take place at three National Forests, one National Wildlife Refuge, and an Audubon Center across the states of Arkansas, Texas, California, and Mississippi.



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Graduate students are supported through this project.

## IMPACT

This research will provide direct knowledge of the role disturbances play in maintaining forested ecosystems and increase the predictability of disturbance effects in contemporary forests.



**>245,000 acres**  
Of forestland in the Southern United States



**\$120 billion**  
Dollars in damage caused by invasive species each year in the U.S.



**>100 million acres**  
In the South are classified as having moderate to extreme potential for wildland fire.