

National Fire Plan

Southern Regional Models Predict Smoke Movement Southeastern United States



Prescribed fire is used routinely in the South to reduce fuel loading, decrease the risk of catastrophic wildfires, and improve forest health. Rapid human population growth near forested areas has limited the use of prescribed fire as a management tool because of concerns about smoke impacts in those areas. Being able to predict smoke movement is critical for

minimizing exposure to smoke and avoiding ground smoke at night, a hazard for roadway traffic.

Through National Fire Plan funding, scientists are working to improve and develop models for simulating and predicting smoke movement. Resource managers will benefit from better understanding the conditions under which smoke plumes collapse and the relationship between smoke particulate concentrations and weather conditions.

"Rapid ignition" is a technique that uses the heat released from multiple small fires to loft smoke above nearby sensitive targets. However, smoke occasionally is remixed to the surface (plume collapse), sometimes over heavily populated urban centers. Finding ways to predict plume collapse conditions could reduce hazards to firefighters and nearby residents.

Related Article: [Research in Smoke Management Helps with Hazardous Fuels Treatments Nationwide](#)

For additional information on the National Fire Plan, visit www.fireplan.gov