

# **Using a DSS to Deploy a Scalable Wildland Fire Risk Model**

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The Southern Group of State Foresters have embarked on a multi-state wildland fire risk assessment for the 13 Southern states that will allow agencies and organizations at the regional, state, and local levels to obtain a clearer picture of what the overall potential is for wildland fire and its associated problems. This project is entitled the Southern Wildfire Risk Assessment (SWRA) and is based on a successful assessment approach conducted for the State of Florida in 2002.

This project utilizes an assessment approach that is steeped in remote sensing and GIS methodologies for conducting the assessment, and delivering the results to State and local fire planners. This project utilizes advanced remote sensing approaches to measure surface fuel models as a component of a GIS based risk model that quantifies wildland fire susceptibility and risk. The analysis is embodied in a GIS based decision support system that will be delivered to all state participants to aid in reviewing the assessment results, identify and categorize communities at risk, and evaluate future mitigation measures. Tools are provided to plan temporal fuel treatments and determine the impact on future risk.

While the approach utilizes a framework of remote sensing and GIS methodologies, the underlying risk model employs robust fire science based on many years of research. The model accommodates historical fire occurrence, up to date fuels, advanced fire behavior analysis techniques, fire response accessibility and ratings of fire effects and suppression difficulty. The model approach provides comparable, consistent results that can be used to ordinate risk across the study area. This provides a quantifiable basis for evaluating future analysis and planning activities.

This paper will describe the approach for conducting the assessment, compiling the data layers using remote sensing and GIS approaches, and the technical issues for developing a DSS that can be applied across a wide range of users, geographic areas and multiple agencies. Specific technical issues and solutions regarding data compilation, integration, systems and applications development and deployment will be reviewed. A demonstration of the DSS will be provided.