

ASSESSING THE POTENTIAL FOR WILDFIRE IGNITION AND SPREAD IN

RHODE ISLAND

BY

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Abstract

Rhode Island's 393,000 acres of forest land cover 59% of the state's total land area. Each year, Rhode Island forests are affected by numerous wildland fires, the majority of which occur within ¼ mile of another land use, increasing the risk to structures should a fire occur. The primary focus of this research is to construct a GIS and remote sensing-based composite forest fire fuel load and fire danger map for the state of Rhode Island as well as construct fire danger and fire behavior map sets using BEHAVE and FLAMMAP fire modeling software. The goal is to identify areas where wildland fires are likely to occur, based on co-occurrence of fuel loading and natural features such as slope, aspect and weather that influence fire behavior. Specifically, this research focuses on creating a forest fire fuel load and fire behavior map that can be used by Rhode Island Department of Environmental Management (RIDEM) foresters for the purposes of enhancing the state's forest fire protection plan, predicting tree mortality should a burn occur and for prescribed burns, providing forest fire protection on state lands and assisting rural volunteer fire departments.