

Land Tender: A collaborative, cloud-based decision support platform for resource management and wildfire risk mitigation

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Interactions between climate warming and human impacts to landscapes and ecological processes are leading to increasing scales and velocities of ecosystem degradation. The scale and complexity of the problem are challenges to rapid, concerted management response. Key components of responding to complex, multijurisdictional management problems include (1) efficiently incorporating stakeholder input; (2) generating data/analytics that can be understood and manipulated by users; and (3) prioritizing potential investments and actions. *Land Tender*TM (LT) is a cloud based, scenario-building and decision support application built to resolve these and other management issues at local, statewide, or national scales. LT incorporates high-resolution data, disturbance simulations, and optimization routines to develop a management scenario “atlas” for a given planning unit. Climate change effects can be incorporated by changing fire and drought occurrence and intensity, and by modifying site potentials. The optimization function schedules treatments based on user-generated prioritizations of “resilience” categories linked to strategic assets and resources, including water, biodiversity, carbon, economic outputs, forest resilience, and fire safety. Stakeholder participation occurs throughout the workflow; users can visualize scenario treatment tradeoffs, treatment prioritizations, and treatment sequencing. LT outputs include spatial and tabular comparisons of final management alternatives that can be exported to environmental assessments that precede implementation.

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