INITIATIVE ON
Extreme Weather and Climate
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Simulation of extreme wildfire events across spatial scales for California's Fourth Climate Assessment and the USDA Forest Service's Sierra Nevada Forest Management Plan revisions

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Applications such as climate change adaptation planning and endangered species habitat management require scenario analyses and simulation capable of capturing interactive effects of climate, development and landscape management on the risk of extreme events at multiple spatial scales. We describe here a set of integrated statistical models of large fire occurrence, size and severity that we have recently implemented at 1/16 degree lat/lon and 30 m grid nested resolutions with monthly and annual time steps. These models were used to create libraries of extreme fire event simulations for a range of climate, population and fuels management scenarios for planning activities in California for adaptive management of habitat, transportation and energy sector fire risks.