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## Modeling Urban/Wildland Interface Fire Hazards within a Geographic Information System

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### Abstract

This paper models and assesses the risk of a class of uncontrollable fire, firestorms, in the East Bay hills, San Francisco Bay, California. A Geographic Information System (GIS) is constructed which provides a framework for quantifying fire hazard in a heterogeneous landscape. Two models, one to assess the wildland fire hazard and the other to assess the urban/residential fire hazard, are integrated and embedded within the GIS to map regional and neighbourhood risk. The models generate a hazard assessment map comprised of polygons which represent the results of quantitative multivariate analysis. The system allows for future adjustment of one or all of the parameters as policy is implemented and hazardous conditions are mitigated. This feature provides a mechanism for accounting and feedback allowing for the appraisal of the success of mitigation.

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