



**Evaluating flood risk mitigation from forest restoration treatments using hydrologic modeling and sediment derived paleoflood records.**

Victoria Stempniewicz

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Abstract

Previous and recent studies indicate that severe forest fire in the arid Southwest make watersheds highly susceptible to post-fire flooding, sediment mobilization, and debris flows. Forest restoration is being planned and implemented in many locations. Restoration is intended to reduce the risk of severe forest fire and subsequent flooding that can have negative impacts on communities at the Wildland-Urban Interface and communities downstream of forested watersheds. This project will use hydrologic flood modeling in conjunction with pre-historic sediment record analysis to predict how peak flood flows will be effected by forest restoration on watersheds in and adjacent to Flagstaff, Arizona. The results of this study will be informative to the City, Flagstaff citizens whose votes approved use of municipal bond funds to conduct restoration, and to communities across the Southwest that could benefit from watershed restoration.