

EGU21-13952

<https://doi.org/10.5194/egusphere-egu21-13952>

EGU General Assembly 2021

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



Planning for floods after fires: Lessons from the 2018 Montecito Debris Flow (California)

Anna Serra-Llobet¹, John Radke², Mathias Kondolf³, and Sarah Lindbergh⁴

¹Institute of International Studies, University of California Berkeley, Berkeley, United States of America

(annaserrallobet@berkeley.edu)

²Department of Landscape Architecture and Environmental Planning, University of California Berkeley, Berkeley, United States of America (ratt@berkeley.edu)

³Department of Landscape Architecture and Environmental Planning, University of California Berkeley, Berkeley, United States of America (kondolf@berkeley.edu)

⁴Department of Landscape Architecture and Environmental Planning, University of California Berkeley, Berkeley, United States of America (sarah_lindbergh@berkeley.edu)

On January 9, 2018 a series of debris flows killed 23 people and caused over a \$1 billion in economic losses in Montecito, Santa Barbara County. The debris flows followed a classic pattern in mountainous areas of southern California: A large wildfire (the 2017 Thomas Fire) burned the headwaters of streams draining the Transverse Ranges southward to the Pacific, creating hydrophobic soil conditions that prevented infiltration of water, resulting in larger runoff during rains. A cell of intense precipitation over Montecito triggered debris flows, affecting areas along the stream channels.

The 2018 Montecito debris flows raise compelling questions about the role of scientific information in decision making generally, and specifically how hazardous areas along rivers and streams are mapped, how land use is regulated in these zones, and how best to respond in emergency situations.

This presentation analyzes the evacuation planning process during the emergency management (making emphasis on the maps used by public officials), the recovery planning strategies that the local government adopted after the event, and the evolution of houses in flood hazard areas since the beginning of the 20th century, to highlight the importance of exposure as a key element to reduce risk.