

Water Management: Past and Future Adaptation

Spring 2020 Program

From epic wildfires to epic flash-floods: Rethinking flood risk management in an era of extremes

Workshop 05 February, 223 Moses Hall, UC Berkeley

In January 2018 a series of debris flows killed 23 people and caused >\$177M in property damage in Montecito, Santa Barbara County, California. The debris flows followed a classic pattern in mountainous areas of southern California: After large wildfire (in this case, the Thomas Fire) most of the drainage basins of streams draining southward from the Transverse Ranges to the Pacific were burned, creating hydrophobic soil conditions (that is, the fire created an impermeable layer in the soil) that prevented infiltration of water, resulting in larger runoff during rains. A cell of intense precipitation over the catchments of Montecito and San Ysidro Creeks triggered debris flows, affecting areas along the stream channels. This workshop convened researchers from France and the US, along with public officials and NGOs to discuss the challenge of managing for flash floods and debris flows following wildfires. They discussed and critiqued ongoing efforts in the US (mostly California) and the EU (mostly France) to manage flash floods after wildfires, and explored opportunities to better understand flood risk and improve its management by looking at the problem from multiple disciplines and through a comparative study of practices in the US and France. They mapped out possible strategies to better assess and manage flash flood after wildfires through improved understanding of the physical and social factors that affect the occurrence and perception of these events. Organized by Anna Serra-Llobet and John Radke (University of California, Berkeley) and Jonny Douvinet (University of Avignon, France), with support from the France-Berkeley-Fund (FBF), Institute of European Studies, and Institute of International Studies (UC Berkeley).

Full program on following pages.

Programming for the rest of spring 2020 was cancelled due to COVID-19.

The interdisciplinary faculty seminar series, *Water Management: Past and Future Adaptation*, is presented under the auspices of the UC Berkeley Institute of International Studies. As both the developed and developing world confront intensifying demands on rivers and other water resources, impacts are evident from extractions of water for human uses, proliferation of dams, mining sediments from river beds, and intensified land-use impacts, all exacerbated by increasing urbanization and climate change. Accelerated erosion of coasts and deltas (e.g., from sediment starvation, groundwater pumping, accelerated sea-level rise) are among the manifestations of these impacts. Our seminar takes an interdisciplinary approach these challenges by examining how our increasingly urban societies have adapted to variability in the past (uncertainty in water supply, flood risk, etc) and considers the tools we have to manage future variability in river flows and sediment loads, including variability in water supplies, increased flood risk, and the existential threat to many coastal and riverine areas.