

Floods and debris flows after wildfire



California
Department of Conservation
California Geological Survey



What are debris flows?

Debris flows are fast-moving mixtures of soil, rock, debris, and water. They typically pose a higher risk to homes and property compared to floods but are less common.

When do they happen?

Intense rainfall for just 15 minutes—like during a thunderstorm—can trigger floods and debris flows. Floods and debris flows can also occur during longer storms.

Where do they happen?

Debris flows occur in or downstream of steep, burned areas. Floods can occur along creeks and rivers downstream of any burned area.

Why do hazards increase after fire?

Fire changes soils and reduces vegetation which can increase runoff and erosion. These impacts typically last for a few years until grasses, shrubs, and trees return.

Are there other hazards?

Other hazards following wildfire include landslides, rockfall, and impacts to water and air quality.

Is a debris flow the same as a mudslide?

Sometimes. “Mudslide” and “mud flow” are used in the media to describe a wide range of hazards from muddy floods to landslides that are not always debris flows.

You may be at risk after wildfire if:

- You live below or near steep slopes.
- You live near a stream or river.
- Your home or community has been impacted by floods or debris flows in the past.

Tips to stay safe around a recent burned area



Know your risk

- Figure out if your home, property, work, or commute route are at risk.
- Start by contacting your county office of Emergency Management/Services.
- A licensed geologist or engineer can help assess your risk and how to keep your home safe.

Home protections that a professional may suggest:

- Fill and place sandbags
- Install barriers
- Maintain or improve drainage features (like culverts)



Damage from a major debris flow in Montecito, CA, after the 2017 Thomas Fire.

How do I prepare?

Stay Informed:

- Sign up for county emergency alerts: <https://calalerts.org/signup.html>
- Check Caltrans's QuickMap Travel Alert website for road closures: <https://quickmap.dot.ca.gov/>

Be Ready:

- Floods and debris flows are difficult to predict. Emergency alerts may be issued with short notice before or during storms.
- Know how to evacuate safely or protect yourself if emergency alerts are issued.
- Have emergency supplies ready (medication, food, water, warm clothes, etc.).
- Most home insurance policies do not cover hazards like floods, debris flows, landslides, and rockfall. Consider purchasing flood and/or additional insurance.

For more info on how to stay safe:

<https://www.conservation.ca.gov/cgs/bwg/resources>



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