

ORANGE COUNTY SANTIAGO FIRE DEBRIS FLOW PLAN

The purpose of this flyer is to inform canyon residents of what to expect and how to respond in case of a potential debris flow incident in the Santiago Fire burn areas.

What is a debris flow?

According to the United States Geological Survey:

Debris flows are among the most hazardous types of landslides. They pose a hazard distinct from other landslide processes because of their unique destructive power. They can occur with little warning and can exert great impulsive loads on objects in their paths. Even small debris flows can strip vegetation, block drainage ways, damage structures, and endanger human life.

Debris flows killed 16 people in Waterman Canyon and Devore on Christmas Day in 2003, two months after the area burned in the Old Fire. A debris flow also killed five people sheltered at the Silverado Fire Station in 1969.

Are we in danger from debris flow?

YES, if you live in or near the burned area. Additionally, the State Interagency Burn Area Emergency Response (BAER) Report identified dozens of homes in the canyons as having a moderate to high risk to life from debris flow or flooding.

When are we in danger?

The United States Geological Survey states that debris flows are most likely to occur during flash flood level rainfall, which is approximately 1.7 inches of rain in a six hour period or as little as 1/5 of an inch of rain in 15 minutes.

However, debris flows can occur with little or no notice. You should not delay taking protective measures just because you do not see much rain falling. By the time the rain becomes heavy, evacuation routes may become blocked by flooding or mudslides. For example, if debris flows destroy Modjeska Bridge, there will be no access for emergency responders and no escape route for Modjeska Canyon residents.

What can we do to prepare?

You should have an emergency kit and a plan to evacuate to a safe place outside the burn areas when the National Weather Service issues a flash flood watch or warning.

A **flash flood watch** means that flash flood inducing rainfall is possible in your area.

A **flash flood warning** means that flash flood inducing rainfall is already occurring or will occur *very soon*.

When should we evacuate?

If a **flash flood watch** is issued and the National Weather Service forecasts rainfall meeting or exceeding United States Geological Survey critical thresholds for debris flow, residents with special needs and those with large animals will be asked to evacuate since they may require additional time for evacuation. Residents in homes identified as a moderate to high risk to life may also be asked to evacuate at this time. Sheriff's deputies will attempt to contact these residents to recommend they evacuate.

During a watch, officials may order a voluntary evacuation order for **the upper reaches of Silverado Canyon (Pine Canyon area), Williams Canyon, Modjeska Canyon, Harding Canyon, Santiago Canyon, or Trabuco Canyon.**

If a **flash flood warning** is issued along with critical rainfall, a mandatory evacuation may be ordered for **Modjeska, Williams, and Harding Canyons.** Evacuations of large animals will be restricted at this time to keep the roads clear for human evacuation.

Due to the immediacy of the danger, Sheriff's deputies will NOT be making door-to-door notifications during a flash flood warning. They will utilize sirens and/or a public address system to notify residents of the mandatory evacuation.

A **voluntary evacuation order** means that officials recommend that everyone residing within the specified area evacuate in order to protect their safety.

A **mandatory evacuation order** means that officials have deemed the area too dangerous for entry. Persons who refuse to comply with a mandatory evacuation order will not be arrested nor forcibly removed from their homes. However, they should not expect rescue or other lifesaving assistance as first responders will also evacuate at this time.

How will we be notified?

Residents will receive a mass notification by phone of voluntary and mandatory evacuation orders. The Orange County Sheriff's Department will attempt to provide door-to-door notification during a voluntary evacuation limited only to those residents who have notified the County of their special needs and those identified as moderate to high risk to life. Please be advised that the County cannot guarantee notification will occur if the situation makes it unsafe or not possible. Please also pay attention to your internal canyon communication links for information.

If you do not know if your home is listed in the BAER report or if you or a family member has special needs, please contact the Orange County Sheriff's Department Emergency Management Bureau at (714) 628-7054. For after-hours information, please call (714) 647-7000.

What if we need shelter?

If you do not have a pre-designated safe place to evacuate to, the County and the American Red Cross will provide a shelter to be designated at the time of the evacuation order.

What if we become trapped and can't evacuate?

If roads are blocked or it is unsafe to evacuate, you should shelter-in-place and remain awake to monitor the situation. Seek higher ground if you are in the debris flow pathway and you feel or hear rumbling upstream. ***There are no truly safe areas in the canyon so it is always best to evacuate early.***

When can we return home?

Evacuation orders will be lifted when flash flood watches and warnings expire and after field observers inspect the canyon burn areas to ensure that the slopes are secure and stable.



County Executive Office
Orange County Sheriff's Department
Orange County Fire Authority