

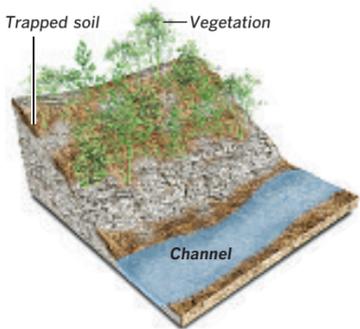
\$2.00 DESIGNATED AREAS HIGHER © 2015 WSCE

How debris flows can be triggered after a fire

A study of the San Gabriel Mountains offers one explanation for formation of debris flows after a fire.

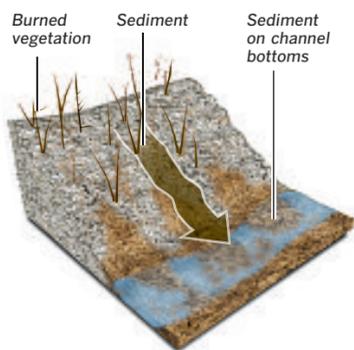
Before fire and rain

Soil is trapped on steep rocky hills by vegetation.



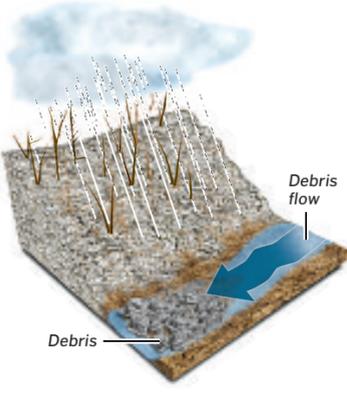
After fire

During major fires, vegetation is burned, causing sediment to roll down steep hills. Within a few hours or days, channel bottoms are loaded with loose sediment.



Rain and runoff

When it rains, the water and runoff move sediment into the steep channels, creating debris flows.



Sources: Michael P. Lamb, professor of geology, Caltech; National Science Foundation and the Terrestrial Hazard Observation and Reporting Center at Caltech

RAOUL RAÑO Los Angeles Times

Drought mimics fire in boosting mudflow risk

BY ROSANNA XIA

An intense October rainstorm that pounded the Grapevine's barren hillsides offered a sober preview of what El Niño might unleash in the rest of drought-stricken Southern California.

The rain hit the dry, hardened terrain where the drought had shriveled vegetation. The topsoil easily gave way, with mudflows cascading onto Interstate 5 and local roadways and trapping motorists, many overnight, in several feet of debris.

Heavy rains often bring mudflows. But experts warn that the deluges expected this winter with El Niño are likely to be exacerbated by the dry conditions in countless hillside and canyon communities. Even a little rain can set off a fast-moving debris flow, sweeping up anything in its way — loose boulders, tree limbs, cars, even homes.

"The drought, it's just made this whole situation worse. ... That area that slid [in October]? It's not green. There's not even grass on it. It's so dead because of lack of rain," said Deborah Wong, a deputy director for the California Department of Transportation. "If there's no root structure to hold the mountain back, or at least the topsoil, it's coming down."

From Ventura County to San Diego County, officials are racing to clean out debris basins, install protective

[See Drought, A8]



AL SEIB Los Angeles Times

JON SIMPSON installs a barrier on Conejo Mountain where winter El Niño storms could cause debris to rush down upon Camarillo Springs homes.



FRANCINE ORR Los Angeles Times

AN OCTOBER rainstorm caused drought-stricken terrain to give way, and mudflows trapped vehicles on California 58 east of Tehachapi in debris.

No clear sign of ulterior motives in visa papers

BY BRIAN BENNETT, RICHARD A. SERRANO AND SARAH PARVINI

WASHINGTON — They had only met online — first on a matrimonial website, and then in what he called "several weeks of emailing" — when Syed Rizwan Farook first sat down with Tashfeen Malik during his pilgrimage to Mecca, Islam's holiest city, in October 2013.

They got engaged that same day, and the couple disclosed extensive personal details, including her birthplace in a historic Pakistani town and his Social Security number, when Farook filled out a K-1 fiancée visa application so he could bring Malik to Riverside to marry him the following summer.

But the 21-page application and supporting documents gave no hint of whether Farook and Malik's then-secret commitment to violent jihad, rather than romance, brought them together in a conspiracy two years before they carried out a rampage that left 14 people dead in San Bernardino.

That, together with their motive for shooting his co-workers at the Inland Regional Center on Dec. 2, and their whereabouts for nearly four hours before police spotted their car and killed them in a shootout, are among the key unanswered questions three weeks after the deadliest terrorist attack on U.S. soil since 2001.

The documents were released Tuesday as FBI Director James B. Comey visited San Bernardino for a briefing from agents from the Los Angeles field office.

The paperwork doesn't appear to substantiate charges from some Republican lawmakers that immigration officials failed to catch errors on the visa application that should have blocked Malik's entry, and that the Obama administration thus allowed a budding terrorist into the country.

The FBI has concluded that Farook and Malik separately radicalized on the Internet as early as 2011, largely from English-language ser-

[See Visa, A11]



SHOOTER Tashfeen Malik's documents appear free of errors that might arouse suspicion.

L.A. goes to court over gas leak

City wants SoCal Gas to act more quickly to relocate Porter Ranch residents affected by sickening fumes.

BY ALICE WALTON

The Los Angeles city attorney's office sought a court order Tuesday to move Porter Ranch residents into temporary housing more quickly to avoid fumes from a massive natural gas leak.

With 2,684 families of the northwest San Fernando Valley community awaiting relocation, the city wants a "special master" appointed to oversee the task, which is currently in the hands of Southern California Gas Co. The gas company owns the well in Aliso Canyon that has been leaking massive amounts of methane since Oct. 23.

The restraining order sought by City Atty. Mike Feuer would require gas company officials to relocate residents within 48 hours of their requests. A hearing is scheduled for Wednesday morning.

As of Tuesday, the gas company had paid to relocate and house 2,092 households, SoCal Gas spokesman Michael Mizrahi said. The company is working with 17 relocation agencies in addition to government agencies, he said.

The gas company is having increasing difficulty finding alternative housing nearby because most of the available hotel and motel rooms and rental homes already have been snapped up by relocated Porter Ranch

[See Leak, A11]

Robert Durst to face murder charge in L.A.

The New York real estate heir will be extradited from New Orleans next summer for a trial in connection with the killing of his friend Susan Berman. **CALIFORNIA, B1**

Weather
Sunny and cool.
L.A. Basin: 66/46. **B8**



Lyft gets the OK to begin pickup of LAX passengers

Starting today, the ride-hailing service is no longer limited to departures — a first for the airport.

BY LAURA J. NELSON

In what officials hope will be an early Christmas present to harried holiday travelers, Lyft on Wednesday will become the first ride-hailing service to pick up passengers at Los Angeles International Airport.

Earlier this year, Los Angeles officials agreed to allow Lyft and its larger rival, Uber, to apply for permits to work at LAX. Lyft completed its negotiations first, gaining a head start in the potentially lucrative airport market.

Backers say ride-hailing will be a major improvement for passengers at LAX, which, unlike most major air hubs, lacks direct rail service. Those who use the West Coast's largest airport must

contend with gridlocked traffic and pricey parking rates.

When Lyft drivers begin picking up travelers Wednesday morning, officials say it will amount to the biggest change to ground transportation options at the airport since the introduction of shared-ride vans like Super Shuttle in the 1980s.

"We're doing a lot of work to show that we're a world-class airport — or at least trying to become one," said Los Angeles City Councilman Mike Bonin, whose Westside district includes the airport.

The biggest loser in the rise of ride-hailing could be Southern California taxi companies, which view the airport as their last remaining revenue stronghold.

The typical taxi trip from LAX to downtown is more than \$50, not including tip. A ride with Uber or Lyft is closer to \$30, although prices can climb during high-demand periods.

For more than two years, [See Lyft, A8]

ONE GIANT LEAP

Falcon 9 landing is hailed as a step to reusable rockets, which could transform space travel

BY MELODY PETERSEN

When Elon Musk's SpaceX rocket nailed its historic landing at Florida's Cape Canaveral on Monday night and the enormous dust cloud settled, it was more than an engineering feat hailed around the world.

The Falcon 9's landing made deep space travel seem attainable again — not just to aerospace engineers and astronauts but to the masses.

Analysts called it a giant step toward a day when rockets are reused like airliners. In turn, that would transform not just the global space industry, but perhaps even where and how humans live in the more distant future.

"Ultimately, he wants to colonize Mars," said Marco Caceres, a space industry analyst at the Teal Group, of Musk's often stated goal. "If you begin launching every other day, then no longer does that vision seem so outlandish."

[See SpaceX, A10]



SpaceX

SPACEX'S Falcon 9 rocket comes in for a landing Monday at Cape Canaveral, Fla. The commercial space industry sees reusability as a game changer.