

## **Protection from Flood and Mud**

By David Goldstein, Ventura County PWA, IWMD

Montecito's tragedy at the beginning of this year raised awareness of dangers posed by rain-driven debris flows. Especially those whose homes recently survived fires in their area are now concerned about the threats of flood and mud.

Last week, over 50 people came to a workshop in Oak Park presented by the Sheriff's Office of Emergency Services and the Public Works Agencies of the County of Ventura and City of Thousand Oaks. Many of the attendees represented homeowner's associations in the Woolsey and Hill fire burn areas, so the messages were also communicated to a broader audience.

In addition to presenting an overview of the increased risk of mudflow, landslide, and flooding in areas adjacent to and downstream of the burn areas, attendees learned about some basic steps to protect themselves and their property from these dangers.

The most basic tip presented was to be informed. Ventura County emergency information is available at [www.vcemergency.com](http://www.vcemergency.com). This website includes incident information, notices of evacuations, road closures, and locations of evacuation centers and disaster recovery centers. One section of the website explains the differences between mandatory evacuation orders and voluntary evacuations, contrasting both with "shelter-in-place" orders.

Another tip is to consider purchasing flood insurance, even if you are not in a federally identified high flood hazard zone. The National Flood Insurance Program, authorized by congress in 1968, aims to reduce the impacts of flooding on private and public structures.

Some of the steps for protecting property include activities performed mainly by public agencies, such as debris basin cleanouts, channel cleanouts, adjustments to flood warning system alarm settings, pre-deployment of contracted equipment, monitoring, forecasting, and modeling.

One of the measures homeowners can take on their own is to prevent their property from becoming part of the problem. Topsoil washing off a property can block storm drains downstream, and blocked storm drains lead to flooding. For some, it may be too late to use plantings to hold soil in place, and even those with weakened or damaged plants may need to consider options to hold topsoil.

Straw wattles are one of the simplest and least expensive immediate measures to prevent erosion. Wattles are long tubes full of straw, mulch chips or coir, which is coconut mixed with straw. Wattles are placed across a slope, so they slow runoff, allowing water to flow through while holding back sediment.

Align wattles at 15 foot intervals, like contour lines, depending on the angle and distance of a slope. Secure wattles into trenches a few inches deep, and use stakes on both sides to prevent them from washing away.

Jute and fiber blankets can provide similar protection on flatter areas, and sandbags can direct water away from erosion prone areas.

For longer term plans, consider native vegetation such as woody shrubs and natural grasses to stabilize soil and filter pollutants. Permeable hardscape is also useful to slow, spread, and sink water, rather than channeling rain into erosion-promoting torrents.

For longer term plans, consider native vegetation such as woody shrubs and natural grasses to stabilize soil and filter pollutants. Robert Sjoquist, Director of Soil Solutions LLC, had a table at the event and recommends California Native Coastal Bent Grass or Lithia Phydoflora (Kurapia). "These plants send roots far into the ground, so during a wildfire, the plant does not heat up as much, reducing fire intensity. They also have a much faster recovery time post-fire compared to other grasses, and the deep root systems stabilize soil and help prevent erosion."