

Debris flow and flash flood summary from January 4-5 Weather Event

A powerful storm hit Southern California over January 4 and 5. Rainfall totals from this storm were higher than any other storm since the implementation of the NOAA / USGS Prototype Flash Flood and Debris Flow Warning System for Recently Burned Areas in the Fall 2005. Debris flows and flash floods were observed and warned for across Southern California. A summary is presented here.

San Diego, Orange, Riverside, and San Bernardino Counties: There were 10 Flash Flood Warnings issued in this area, including the major burn areas. Two day Rainfall of 8 to 10" has been observed on the coastal slopes of the San Bernardino Mountains, and totals have exceeded 8" as high as 11.64 inches in the Palomar Mountain area of northern San Diego County. A vehicle with two occupants was reported to have driven around a barrier in Chino Hills, CA. One of the occupants was rescued, but the other was found dead later. There have been some minor rock slides and sinkholes formed. A mandatory evacuation was ordered during the event for the Santiago burn area. A debris flow with mud up to 3 feet high destroyed a horse stable in the Modjeska Canyon. There was a minor debris flow from the Poomacha Fire which closed Highway 76 during the morning Monday. Minor flooding was documented in the northeastern part of the Harris Fire and southwestern Witch Fire.

Los Angeles, Ventura, Santa Barbara, and San Luis Obispo Counties: No major damage, deaths or injuries were reported. Some trees and power lines were downed and a semi-truck was blown over near Palmdale. Several Flash Flood Warnings were issued overnight, including for major burn areas. There have been numerous reports of flash floods and minor damage, rock falls, and small debris flows from these areas. A small debris flow in the Corral Fire briefly blocked a canyon road. Flood waters from the Canyon Fire overflowed a small bridge on Malibu Creek by nearly two feet. Boquet Canyon Road saw flooding and debris flow activity in the Buckweed Fire area. In Studio City, a major street was blocked by one-foot of mud and debris following heavy rain over the Barham Fire. Rainfall amounts over the 2 day storm ranged from 2-4" in the valleys to 7-9" in the most orographically favored areas, including a maximum of 12.71" in the San Bernardino Mountains above Pasadena. The Ventura River at Foster Park rose to near monitor stage, but did not flood.

The NOAA/USGS prototype warning system is its third year of operations. As part of this "wet" season's operations, several new tools have been implemented to improve the debris flow (and flash flood) warning program. These tools include a truck mounted weather radar positioned at Los Angeles International Airport, new USGS debris flow hazard maps that allow NOAA forecasters to warn for specific areas, and new NOAA technology that integrates warning tools into a single application.

Areas recently burned by wildfires are particularly susceptible to flash floods and debris flows during rainstorms. Just a short period of moderate rainfall on a burn scar can lead to flash floods and debris flows. Rainfall that is normally absorbed by vegetation can run off almost instantly. This causes creeks and drainage areas to flood much sooner during a

storm, and with more water, than normal. People near recently burned areas should be aware of this danger.

More information is available on the following websites:

<http://landslides.usgs.gov/>

http://www.wrh.noaa.gov/lox/debris_flow.php