

WHAT HOMEOWNERS SHOULD KNOW AFTER A FIRE BURNS NEAR THEIR HOME

WHAT HOMEOWNERS SHOULD KNOW AFTER A FIRE BURNS NEAR THEIR HOME

Many people are not aware of the continuing danger to life, home and property after a wildland fire is out. Homeowners in the urban interface need to be especially careful as debris and mudslides can result from changes to soils and lack of vegetation on hills near their homes for several years after a fire is controlled. The following tips may help in understanding what you can do to protect yourself and your property.

Before a Storm Hits:

1. Take a look around you. Where does storm-water drain near your home?



Note the places where runoff water converges into channels. These are areas to avoid during a storm. If your home is directly in the path of runoff you may need to evacuate in the event of a storm.

2. Develop an emergency plan! Find safe places around your home or business to move to should you need to evacuate the building. Contact local

authorities to learn about the emergency-response and evacuation plans for your area. Identify safe zones to wait out a storm should evacuation routes be blocked by debris.

3. Stay informed. Ask to see maps of flood and debris flow risks in the areas you live, work, or go to school. Again, note where to go should you need to

evacuate.

4. Ask experts what actions you can take to protect your home from floods and how you can divert mudslides and flooding from around your home.

5. Keep an eye on the weather forecast. Be attentive for flash-flood watches and warnings if thunderstorms are forecast for your area.



During Heavy Rainfall:

1. If you are in an area that is susceptible to flooding or debris flow (or has experienced flooding or debris flow in the past), move quickly to an area that is safe from flowing water. Do not drive through or below drainages that are subject to flash floods.



- 2. Stay alert! Many debris-flow and flood fatalities occur when people are sleeping in lower-level bedrooms on uphill side of the home. Sleep on the side of the house in rooms facing away from danger and on upper levels.
- 3. Listen to the radio for warnings of intense rainfall. National Oceanic and Atmospheric Administration (NOAA) Weather Radio All Hazards tone alert will let you know when hazards approach. Intense bursts of rain may be particularly dangerous, especially after longer periods of heavy rainfall.
- 4. If you are near a stream or channel, listen for unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together. A trickle of flowing mud or debris may precede larger flows. Be alert for sudden increases or decreases in water flow and for a change from clear to

muddy water. Such changes may indicate debris-flow activity upstream; so be prepared to move quickly. Don't delay! Save yourself, not your belongings.

5. If you are out hiking, move away from draw





bottoms and up onto side slopes. Don't try to outrun the storm. Don't camp on alluvial fans or near streams.

- 6. Keep in mind that during flash floods and debris flows water may rise much faster and much higher than it would if the watershed were not burned.
- 7. Be particularly alert when driving. Bridges may be washing out, and culverts overtopped. Do not cross flooding streams!! Embankments along roadsides are particularly susceptible to landsliding. Watch the road for collapsed pavement, mud, fallen rocks, and other indications of debris flow.



For more information:

http://www.fs.fed.us/rm/boise/research/fisheries/fire/firehome.shtml

http://www.fs.fed.us/rm/boise/publications/index.shtml

http://landslides.usgs.gov/research/wildfire/

Luce, C. H., 2005, Fire Effects on Runoff Generation Processes, in Anderson M.G. and J.J. McDonnell eds., Encyclopedia of Hydrological Sciences, Vol 3, John Wiley and Sons, Chichester. pp. 1831-1838.

Istanbulluoglu, Erkan; Tarboton, David G.; Pack, Robert T.; Luce, Charles H. 2002. A probabilistic approach for channel initiation. Water Resources Research. 38(12): 1325-1338.(482 kb)

 $\underline{\text{http://www.fs.fed.us/rm/boise/publications/watershed/rmrs}} \ 2002 \ istanbulluoglue001.$ pdf

Istanbulluoglu, Erkan; Tarboton, David G.; Pack, Robert T.; Luce, Charles H. 2003. A sediment transport model for incision of gullies on steep topography. Water Resources Research. 39(4): 1103-1117. (775 kb) http://www.fs.fed.us/rm/boise/publications/watershed/rmrs_2003_istanbulluoglue001.pdf

Istanbulluoglu, E., D. G. Tarboton, R. T. Pack, and C. H. Luce. 2004. Modeling of the interactions between forest vegetation, disturbances, and sediment yields. Journal of Geophysical Research, 109, F01009, doi:10.1029/2003JF000041. http://www.fs.fed.us/rm/boise/publications/watershed/rmrs_2004_istanbulluoglue001.pdf

Luce, C. H., D. G. Tarboton, E. Istanbulluoglu, and R. T. Pack. 2005. Reply to comment by Jonathan J. Rhodes on "Modeling of the interactions between forest vegetation, disturbances, and sediment yields," J. Geophys. Res., 110, F01013, doi:10.1029/2004JF000279. (63 kb)

http://www.fs.fed.us/rm/boise/publications/watershed/rmrs_2005_lucec001.pdf

Luce, 2004. Temporal and Spatial Controls on Water Repellency Applied to Prediction of Runoff from Burned Watersheds (Poster) http://fergi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://fergi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.boise.rmrs.fs.fed.us/fergi/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.gov/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.gov/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.gov/TechRef/AGU%202004%20WR%20Poster%20 http://gengi.gov/TechRef/AGU%202020http://gengi.gov/TechRef/AGU%202020<a href="http://gengi.

Gartner, J.E., Bigio, E.R., and Cannon, S.H., 2004, Compilation of post-wildfire runoff-event data from the western United States: U.S. Geological Survey Open-File Report 2004-1085. http://pubs.usgs.gov/of/2003/ofr-03-481/

Cannon, S.H., Gartner, J.E., Rupert, M.G., and Michael, J.A., 2004, Emergency assessment of debris-flow hazardous from basins burned by the Cedar and Paradise fires of 2003, Southern California: U.S. Geological Survey Open-File Report 2004-1011. http://pubs.usgs.gov/of/2004/1011/

Cannon, S.H., Gartner, J.E., Rupert, M., and Michael, J.A., 2004, Emergency assessment of debris-flow hazards from basins burned by the Piru, Simi, and Verdale fires of 2003, Southern California: U.S. Geological Survey Open-File Report 03-481. http://pubs.usgs.gov/of/2003/ofr-03-481/

Cannon, S.H., Gartner, J.E., Rupert, M.G., Michael, J.A., Djokic, Dean, and Sreedhar, Sreeresh, 2004, Emergency assessment of debris-flow hazards from basins burned by the Grand Prix and Old fires of 2003, Southern California: U.S. Geological Survey Open-File Report 03-0475, http://pubs.usgs.gov/of/2003/ofr-03-475/