



# USGS Debris Flow Probability - 15 minute Intensity of 32 mm/h

Silver King BAER



**USGS Disclaimer - Limitations of Hazard Assessment**  
The hazard assessments use a design rainstorm with a given peak 15-minute rainfall intensity to predict the probability, volume, and combined relative hazard of debris flows in basins burned by the fire. Differences in model predictions and actual debris-flow occurrence will arise with differences in actual storm duration and intensity. The occurrence of higher rainfall intensities or longer storm durations may increase the probability or volume of potential debris flows.

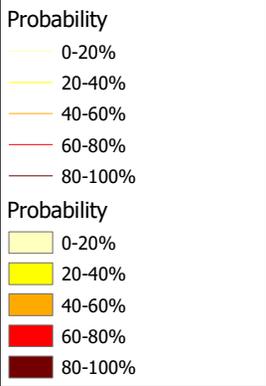
The models were developed, calibrated, and tested using data from the western United States. The models have not yet been tested in burn areas in the eastern United States, western Oregon, or Washington (west of the Cascade Range). Currently, efforts are being made to validate model predictions in the eastern United States, western Oregon, and Washington.

In addition, this hazard assessment relies upon readily available geospatial data, the accuracy and precision of which may influence the estimated likelihood and magnitude of post-fire debris flows. However, local conditions (such as debris supply) certainly influence both the probability and volume of debris flows. Unfortunately, locally specific data are not presently available at the spatial scale of the post-fire debris-flow hazard assessment. As such, local conditions that are not constrained by the model may serve to dramatically increase or decrease the probability and/or volume of a debris flow at a basin outlet. The input geospatial data are also subject to error based upon mapping resolution, elevation interpolation techniques, and mapping and/or classification methods. Finally, this assessment is specific to debris-flow hazards; hazards from flash-flooding are not described in this study and may be significant.

This assessment also characterizes potential debris-flow hazards at a static point in time immediately following wildfire. Studies of post-fire debris flow in the western United States have indicated that debris-flow activity in recently burned areas typically occurs within 2 yr of wildfire. As vegetation cover and soil properties return to pre-fire conditions, the threat of debris-flow activity decreases with time elapsed since wildfire. Conversely, the hazards from flash-flooding may persist for several years after the wildfire.

Finally, this work is preliminary and is subject to revision. It is being provided due to the need for timely "best science" information. The assessment is provided on the condition that neither the U.S. Geological Survey nor the United States Government may be held liable for any damages resulting from the authorized or unauthorized use of the assessment.

Probability of a debris flow in response to the design rainstorm with a peak 15-minute rainfall intensity of 32 mm/hour.



**Disclaimer:**  
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- Fire Perimeter
- Recreation Site
- ML 3 - Suitable For Passenger Cars
- ML 2 - High Clearance Vehicles
- ML 1 - Basic Custodial Care (Closed)
- Motorized Trails
- Non-Motorized Trails
- Primary Highway
- Secondary Paved Road
- Secondary Dirt Road
- National Forest Boundary
- National Forest
- State Public Lands
- Other State Lands
- Bureau of Land Management Lands
- Ranger District Boundary

