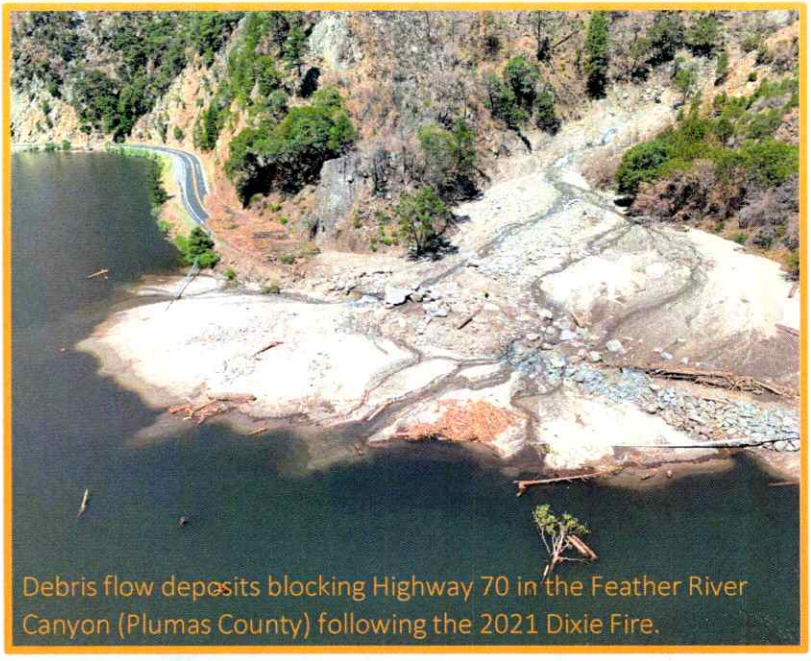
California
Department of Conservation
California Geological Survey

Burned Watershed Geohazards Program

Wildfire can remove vegetation and alter soil properties, increasing runoff to multiple times over pre-fire conditions. Soil, ash, burned vegetation, boulders, and other debris can be scoured from hillslopes and channels and mobilized as damaging debris flows that threaten life, property, and infrastructure.

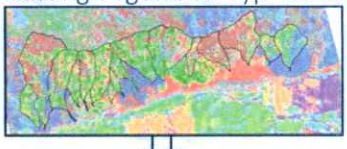
The **California Geological Survey's** Burned Watershed Geohazards (BWG) Program plays a vital role in assessing post-fire hazards, conducting Watershed Emergency Response Team (WERT) assessments, prescribing mitigations and effective emergency response strategies, and monitoring burn areas to collect data necessary to contribute to the understanding of post-fire science.



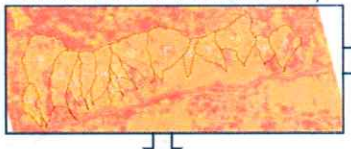
Debris flow deposits blocking Highway 70 in the Feather River Canyon (Plumas County) following the 2021 Dixie Fire.

Pre-fire Hazard Assessment

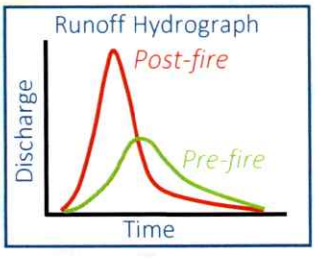
Existing Vegetation Type data



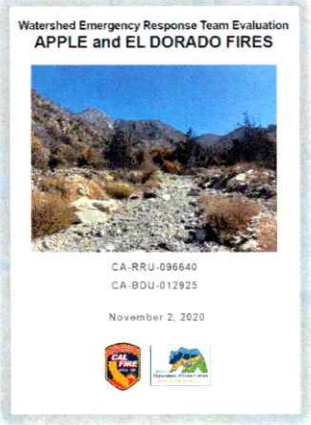
Simulated soil burn Severity



Debris flow likelihood



Post-fire Assessment (WERT)



Post-fire Rainfall Threshold Assessment

Rainfall triggering thresholds for debris flows are determined for the first few years following wildfires and used by the National Weather Service to alert communities to post-fire debris flow hazards.

Post-fire Monitoring & Research

Weather station used to monitor post-fire conditions that may trigger debris flows and floods. In addition, streamflow is often monitored.

Mini-disc infiltrometer used to estimate soil saturated hydraulic conductivity.

Scan the QR code to learn more about the BWG Program.