



STRUCTURES & CIVIL ENGINEERING POST-WILDFIRE DAMAGE ASSESSMENT



**PROVIDING ADVICE TO
IDENTIFY POST-FIRE FLOOD AND
EROSION HAZARDS, DEVELOP
MITIGATION PLANS, AND PREPARE
STRATEGIES FOR DAMAGE
ASSESSMENT AND REPAIR**

ESi engineers and scientists excel in the assessment of wildfire effects on the landscape and in the evaluation and mitigation of wildfire-related hydrologic and hydraulic hazards.

Arid and semi-arid regions of the world such as the western United States are highly susceptible to wildfire. Cyclical drought, an abundance of flammable vegetation, offshore winds, low humidity, and high temperatures combine to support and facilitate the spread of wildfires. Wildfires destroy vegetation and can change both the physical and chemical properties of soil. Rain events over burned areas can result in extreme runoff, elevated erosion, significant debris production, degradation of water quality, and adverse impacts on the environment. Extreme flood and erosion hazards can imperil life and property within and downstream of burned watersheds.

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Investigating the cause and origin of post-wildfire damage is complex because of interactions between factors such as the timing and intensity of post-wildfire rainfall events, topographic and geologic conditions, and the nature and condition of the existing drainage infrastructure. ESi experts have over twenty years of experience in the evaluation of post-wildfire damages related to flood, debris flow, and erosion hazards and in the development of post-fire damage mitigation plans including the estimation of repair costs. Our clientele includes insurance carriers, attorneys, owners, developers, utility companies, and local and state entities.

Rapid Deployment for Emergency Response

ESi can rapidly deploy our team members for aerial and field reconnaissance to collect perishable evidence, gather video and photo documentation, perform laser scanning, and conduct sampling. We can support our clients in preparing emergency stabilization measures, evaluating hazardous materials, and performing habitability assessments.



Engineering Consulting and Forensic Investigation

OUR AREAS OF SPECIALIZATION

- Aerial Photo Analysis
- Assessment of Burn Severity and the Presence of Hydrophobic Soils
- Erosion Analysis
- Estimating Cost Associated with Damage Mitigation Measures and Repairs
- Evaluation of Basins and Hydraulic Structures
- Evaluation of Risk to Infrastructure and Property Improvements
- Field Reconnaissance
- Flood Hazard Analysis
- Geologic and Geomorphologic Investigation
- Historical Flooding Evaluation
- Hydrologic and Hydraulic Analyses
- Investigation of Ground Cover
- Mud and Debris Flow Evaluation
- Post-Wildfire Environmental Fate and Transport
- Preparing Damage Mitigation Plans
- Preparing Repair Plans
- Site Topographic Surveys

Contact ESi

To get in touch with the ESi Earth Movement Investigations Team, call Kristina Cydzik, P.E., LEED AP, at 949.336.9001, or send an email to kcydzik@engsys.com



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