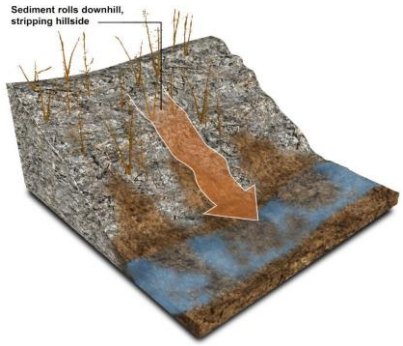
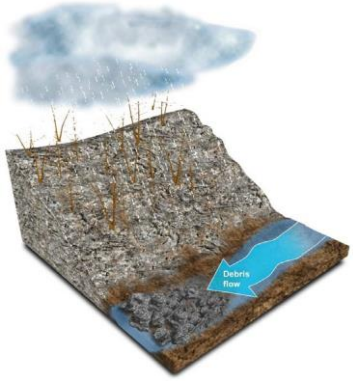
FEMA Mitigation Funding Opportunity HMGP Fire and Post-Fire Early Warning Systems

Overview

- Following a wildfire, burned soil can chemically change and become water repellant which can lead to flash floods and mudflow. In wildfire-affected areas that are typically arid, flash floods have occurred within minutes with as little as 0.3 inches of rainfall. These powerful flash floods create debris flows which can quickly destroy roads, bridges and buildings.



Figures 1: After fire - During summer's fire season, vegetation is burned, causing sediment to roll down steep hills. Within a few hours or days, channel bottoms are loaded with loose sediment.



Figures 2: Rain and runoff - During an intense rain, the water and runoff move sediment in the steep channels, producing de-bris flows.

- To address this risk, up to five percent of Hazard Mitigation Grant Program (HMGP) and HMGP Post-Fire funding may be available for early warning systems. Eligible warning systems include those that monitor surface water movement and alert citizens of possible post-fire flash floods and debris flows as well as those that monitor for potential fire starts and provide notification to appropriate authorities.

- All methods of alert and notification have advantages and disadvantages related to cost, population coverage, response time, the extent of public awareness, and awareness education. Considerations include the ability to operate with commercial utility power supply, from back-up power alone (e.g., batteries or emergency generator) when the commercial power grid is unavailable, in the absence of telephone line service when disconnected, and the manpower required to keep the system operating.

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Advantages of Warning Systems

It helps reduce damages and loss of life through early detection of potential hazard impacts. Upon receipt of warning, citizens can initiate response activities designed to protect their lives and property.

Types of Warning Systems:

- Sirens
- Stream gauges
- Reverse 911
- Cellular notification systems
- Fire detection cameras

Figures: Fire Camera (left) and Flood Warning System (right)

Overall Complexity

Application	Environmental	Legal
Low	Low	Low

Application Requirements

- Must be a local government, Tribe, or Private Nonprofit (PNP*).
- Must have a FEMA approved Hazard Mitigation Plan (HMP).
- Must fulfill appropriate FEMA and Recipient application requirements including, scope of work, budget, schedule, etc.
- 25 percent non-federal match required (Under the BRIC program, small and impoverished communities are eligible for a 10 percent non-federal match).
- Must include narrative discussion of the benefits of the project (no formal benefit-cost analysis is required).

- Must include plan for how the public will be informed and educated about warnings and messaging.
- Funding limits set by FEMA and the Recipient.
- No construction is allowed prior to FEMA award approval.

* PNPs are eligible only under HMGP and are not required to have an HMP.

Environmental Requirements

Depending on the project scope, applicable environmental and historic preservation (EHP) laws can differ.

Basic EHP requirements:

- Specific scope of work, including access route, staging area, and details of any ground disturbance for trenching, installation, or vegetation clearance.
- Proposed locations (including coordinates in decimal degrees) and where equipment will be physically mounted (e.g. existing tower, existing water tank, etc.).
- Structure age of construction (if being mounted on a structure such as a building).
- Any proposed Best Management Practices.