



Sonoma County Operational Area Contingency Plan:

Wildfire Burn Scar Debris Flow Response

DEPARTMENT OF EMERGENCY MANAGEMENT



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I. ACRONYMS

CAL OES:	California Office of Emergency Services
CALWAS:	California Warning System
CHP:	California Highway Patrol
CLETS:	California Law Enforcement Telecommunications System
COOP:	Continuity of Operations
DEM:	Department of Emergency Management
DHS:	Department of Health Services
DWR:	California Department of Water Resources
EAS:	Emergency Alert System
EOP:	Emergency Operations Plan
HSD:	Human Services Department
ICP:	Incident Command Post
IPAWS:	Integrated Public Alert & Warning System
NOAA:	National Oceanic and Atmospheric Administration
NWEM:	Non-Weather Emergency Messages
NWR:	NOAA Weather Radio All Hazards
NWS:	National Weather Service
OA:	Operational Area
PIO:	Public Information Officer
SCWA:	Sonoma County Water Agency
SDO:	Staff Duty Officer
PMCS:	Preventive Maintenance Checks and Services
SO:	Sheriff's Office
SoCo:	Sonoma County
TPW:	Transportation and Public Works
WEA:	Wireless Emergency Alert

II. INTRODUCTION

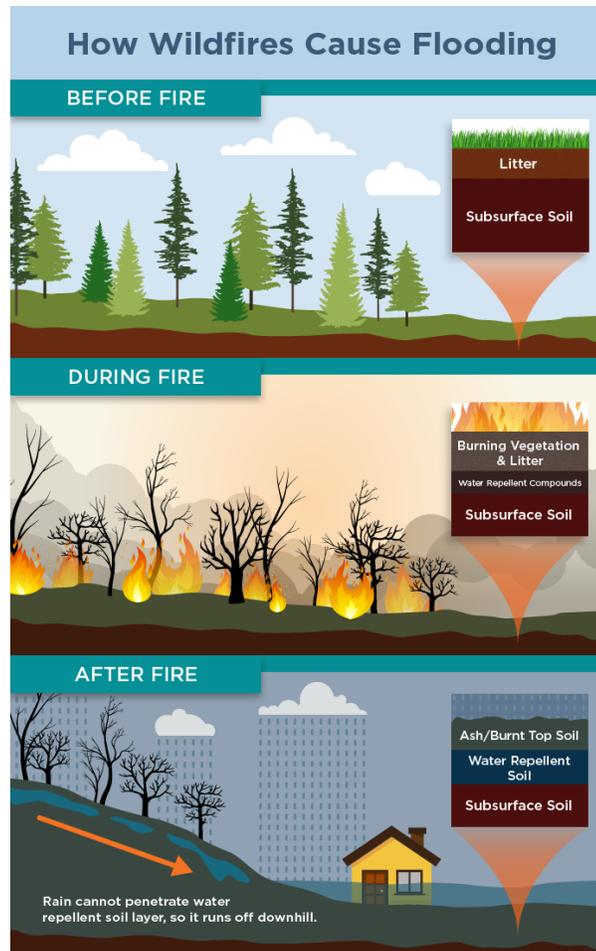
Purpose

This document establishes a uniform plan for a joint response by local governments, special districts, and allied agencies in the Sonoma County Operational Area to the threat of or actual soil movement in areas burned in recent wildfires. This is a supporting plan to the Sonoma County Operational Area Emergency Operations Plan (EOP).

Background: Impacts of Wildfire on Burned Areas

Post-fire debris flows and flash floods are generally triggered during high-intensity, short-duration storm events. They develop quickly and progress downslope rapidly, often times with little to no lead time to prepare. Water levels during flash floods and debris flows may occur much more rapidly, and may be significantly larger than those produced when the watershed was not burned. Larger, more regional-scale flooding may also be exacerbated by increased post-fire flows.

In January 2018, a severe storm event impacted the Montecito area of Santa Barbara County causing extensive flash flooding, mud and debris flows which killed over 20 people, damaged or destroyed over 500 homes and businesses, and had widespread impacts to critical infrastructure and major transportation corridors. The same general conditions exist in the Sonoma County Operational Area.



III. OBJECTIVES

1. Provide protection of life, public health, safety, and welfare to the community and responders
2. Maintain situational awareness on any potential storm-related impacts to the area; provide regular updates to Op Area partners and Cal OES
3. Establish thresholds for activations, evacuations, road closures, etc.
4. Plan for both immediate and planned evacuations using public alerts
5. Consider staff increase and deploying field monitors as appropriate
6. Communicate with and advise the public
7. Coordinate the pre-deployment of critical resources such as debris removal equipment, and search & rescue assets, etc.
8. Identify and stage resources in County (ex. sandbags, Department of Water Resources trailers)
9. Ensure critical government employees are well informed, trained and able to execute contingency plans according to corresponding continuity of operations plans (COOP), i.e. staff unable to report to work.
10. Establish an Incident Command Post, Staging Area, and activate the Op Area EOC when the forecast or incidents indicate need.
11. Establish and maintain communications between ICP, EOC, field resources, and Op Area partners.
12. Coordinate with the Sheriff's Office, Department of Human Services, Department of Health Services and the American Red Cross to establish mass care, shelter, and animal care functions when evacuations occur.
13. Coordinate and conduct damage assessment as needed.
14. Maintain financial and incident documentation in preparation for potential emergency proclamations.
15. Create a transportation plan based on the impacts to area highways and resource response based on road closures.
16. Prepare for increased demand for information on flood readiness.

IV. THREAT ASSESSMENT

The most likely cause of an emergency event in the burn scar area is the threat of flash floods or debris movement caused by rainfall. This contingency plan focuses on preparation for possible response based on rain events as forecasted by the National Weather Service (NWS). The NWS uses computer models for both prediction of rainfall and the effect of that rainfall on the burn scar area.

Initial notification of a potential weather event hazard is usually made to the Sonoma County Department of Emergency Management (DEM) Staff Duty Officer (SDO). Notification may come from the following sources:

- National Weather Service
- Sonoma County Water Agency
- Sonoma County Watershed Task Force
- Sonoma County Sheriff Dispatch (California Warning System or California Law Enforcement Telecommunications System from Cal OES)
- Weather alert systems
- California Office of Emergency Services (Cal OES) Duty Officer
- Media

The hazard will be evaluated by considering the following factors:

- Expected time of rainfall arrival
- Potential maximum rainfall quantity, intensity, and timing
- Existing watershed conditions
- Area and severity of potential threat to life safety
- Potential impact on public safety functions
- Identify potential and mitigate impacts on transportation, communications, utilities, and other critical infrastructure
- Assess additional forecasted follow-on events

V. NOTIFICATIONS AND WARNINGS

National Weather Service (NWS) Notification

The NWS will issue Flash Flood Warnings when:

1. Flash flooding is reported from a reliable source OR

2. Rain capable of causing flash flooding is indicated by radar, rain gauges, or satellite OR
3. Local monitoring and prediction tools indicate flash flooding is likely OR
4. The effective time of a pre-existing warning increases OR
5. The geographical area covered by a pre-existing warning increases OR
6. A dam fails, or the sudden failure of a naturally-caused stream obstruction (e.g. debris slide) is imminent or occurring

For the North Bay Burn scars, current warning rain rate thresholds are:

Duration	15 Minute	30 Minute	60 Minute
Rate/Inches	0.40"	0.60"	1.00"

The National Weather Service issues the following alerts for flash flooding:

- Watch: A Flood Watch is issued when conditions are favorable for flooding. It does not mean flooding will occur, but is possible.
- Warning: Flash flooding is occurring or imminent.

In addition to the above flash flooding alerts, the NWS may issue a weather advisory. Advisories are not alerts for flash flooding or flooding, but will likely be the first indication of weather that may develop into watch or warning levels.

Initial County Notification

If the threat of burn area flooding, soils movement, debris flow or landslide is potentially significant, Sonoma County DEM will notify local governments, special districts, County departments, and public safety agencies as per the EOP.

Operational Area Emergency Conference Call

If the threat of a burn area impact is significant or at the request of a local jurisdiction, Sonoma County DEM staff will schedule an **Operational Area Emergency Conference Call**. DEM staff will invite potential participants and lead the call to share related emergency updates and coordinate prevention, preparedness, and response efforts. Participation is limited to one caller from each agency.

Emergency Conference Call Agenda:

- Roll call / Rules
- NWS or State/Federal forecast
- Operational Area status

- Jurisdiction / Agency status
 - Preparedness/Response activities
 - EOC activation
- Communications Systems
- Public Information efforts/messages
- Time/Date of next Emergency Conference Call

Public Information

During any emergency, risk communication and public information is a critical component of response activities. Appropriate and timely communication of credible information will assist in reducing life safety threats and address public concerns.

Emergency alert and warning efforts will use every means available to provide redundant and overlapping messages that are as consistent as possible across all systems. Systems to be used are SoCoAlert, Nixle, IPAWS (WEA, EAS, NOAA Weather Radio), Mass Media and Social Media.

The National Weather Service has the primary responsibility to conduct Alert and Warning for weather related emergencies. The County will not use WEA, EAS or NWR except with the expressed permission from and in conjunction with the NWS.

The County will, if applicable, conduct targeted alerts using SoCoAlert, Mass Media and Social Media to echo NWS messages of Flash Flood Warning. The message template is in the Appendix of this plan. Messaging will target all zones in recent burn scar areas.

Local cities and towns maintain the primary responsibility and authority for warning and communicating with the public in their respective jurisdictions. In the absence of credible information, the potential for misinformation, rumor or falsehoods is considerable. Emergency public information may become the primary response function during the event.

In “no-notice” emergencies, Sheriff's Dispatch may conduct public notification at the direction of an on-duty Watch Commander. This may be done in consultation with DEM staff if time permits. DEM will assist Sheriff Dispatch in alert and warning efforts as time permits and as needed. To this end, the DEM Staff Duty Officer (SDO) will immediately communicate with Sheriff Dispatch and deploy to Sheriff Dispatch as needed to assist in making alert notifications.

If the National Weather Service issues a **Flash Flood Warning** for a Burn Area, DEM in consultation with the Sheriff's Office, and the Public Information Officer, may issue an evacuation warning for specific areas considered at risk. Regardless, DEM will echo the Warning using SoCoAlert.

Subject to activation of the Op Area Emergency Operations Center (EOC), the Public Information Officer (PIO) will be consulted if time permits. All messages to traditional and social media are through the EOC PIO Section.

Messages will be crafted to the specific response needs to the threat. However, the message templates in Attachment 1 are provided as a baseline and may be revised as needed.

VI. ROLES AND RESPONSIBILITIES

Specific roles and responsibilities are detailed here based on the estimation of the threat to the burn scar area. These are grouped into four levels:

- **Forecast:** Potentially dangerous rain is forecasted, but the NWS has not issued a watch or warning.
- **Watch:** The NWS has issued a flash flood watch.
- **Warning:** The NWS has issued a flash-flood warning.
- **Incident:** An actual incident (e.g. flash flood or debris flow) is imminent or has occurred requiring an agency response.

County Agencies

Sonoma County Sheriff:

- Forecast: Review plan, rebroadcast NWS alerts on Nixle, and participate in a conference call with partner agencies.
- Watch: Rebroadcast NWS alerts on Nixle.
- Warning: Rebroadcast NWS warnings on Nixle. Be prepared to issue an evacuation warning. Provide Law Enforcement representative to EOC.
- Incident: Activate Incident Command Post (Unincorporated Areas). Broadcast information on NIXLE in coordination with the EOC PIO. In consultation with the EOC or DEM Alert and Warning, issue an evacuation warning or order. Conduct traffic control in designated area during an evacuation.

Sonoma Operational Area Emergency Operations Center:

- Forecast: Review plan, designate key leadership to be on call, conduct conference call with partner agencies to ensure readiness. Activate Storm Watch teams to patrol hazard areas.

- Watch: Conduct situational assessment meeting with EOC, DEM, Ops, Plans, SCWA, and other agencies/sections as appropriate to evaluate the threat and develop an appropriate course of action.
- Warning: Activate EOC at partial level. Rebroadcast NWS warnings on SoCo Alert/ social media. Be prepared to activate evacuation shelters. Deploy Emergency Management Duty Officer to Sheriff Dispatch if necessary to aid in alerting. Contact affected Cities' or local jurisdictions' Emergency Management and/or Public Safety staff to inform them of the warning prior to alert broadcast.
- Incident: Activate EOC. In consultation with the Sheriff's Department, issue an evacuation warning or order. If possible consult affected Cities' or local jurisdictions' Emergency Management and/or Public Safety staff before a public broadcast.

Transportation and Public Works:

- Forecast: Review plan and participate in conference call with partner agencies.
- Watch: Deploy teams as necessary to conduct preventative maintenance on roads. Use/Distribute flood materials as needed.
- Warning: Provide TPW representative to EOC. Deploy teams as necessary to conduct preventative maintenance on roads. Evacuate teams from danger areas as needed. Stage heavy equipment for debris removal. Use/Distribute DWR flood materials as needed.
- Incident: Provide TPW representative to the EOC. Deploy teams as necessary to conduct road clearing operations. Deploy heavy equipment for debris removal as requested by the ICP. Use/Distribute DWR flood materials as needed. Update road closure map.

Human Services Department:

- Forecast: Review plan and participate in a conference call with partner agencies.
- Watch: Alert designated shelter teams. Coordinate shelter location to the EOC (e.g. Santa Rosa Veterans Hall and/or Sonoma Valley Veterans Hall). Coordinate pre-deployment of County Shelter Kit/trailers to designated evacuation shelters.
- Warning: Be prepared to conduct a "warm opening" of a designated shelter (Santa Rosa Veterans Hall and/or Sonoma Valley Veterans Hall).

- Incident: Open designated evacuation shelter (Santa Rosa Veterans Hall and/or Sonoma Valley Veterans Hall). Ensure all necessary mitigation measures for public health risks (existing pandemic/endemic or other local risks) are established. Ensure timely provision of meals based on established MOU with Op Area partners

Department of Emergency Management:

- Forecast: Review plan and conduct a conference call with partner agencies.
- Watch: Conduct Operational Area conference calls.
- Warning: Provide DEM representative to EOC.
- Incident: Provide DEM representative to EOC and ICP. Assist in coordinating mutual aid including search and rescue teams.

Sonoma County Water Agency:

- During all phases provide technical expertise in hydrology.

Op Area Partner Agencies

National Weather Service:

- During all phases, the NWS will be the primary agency for issuing weather warning products.

California Highway Patrol:

- During all phases, the CHP will be the primary agency for conducting traffic control in designated areas as needed.

National Guard (if activated):

- Forecast: Review plan and participate in a conference call with partner agencies.
- Watch: Alert key personnel and conduct PMCS on key equipment.
- Warning: If requested through CalOES, stage equipment and personnel.
- Incident: If requested through CalOES, provide support.

Cities:

- Forecast: Review plan and participate in conference calls with partner agencies.
- Watch: Alert city residents as necessary and participate in conference calls with partner agencies as necessary.
- Warning: Alert city residents as necessary.
- Incident: Open Incident Command Post or EOC for incidents in incorporated areas.

American Red Cross:

- Forecast: Review plan and participate in conference call with partner agencies.
- Watch: Alert designated shelter teams. Coordinate shelter location with County Human Services.
- Warning: As needed, conduct “warm opening” of designated shelter.
- Incident: Open designated evacuation shelter.

VII. COORDINATION

Status Reporting

As the incident develops, Sonoma County DEM staff will monitor the status of the Operational Area and report to Cal OES. As time permits, DEM shall contact jurisdictions/county agencies to check their status. Each agency/organization is requested to provide the following information when available:

- Current situation (increased public safety stature, response activities, etc.)
- EOC activations
- Increased readiness activities (up-staffing, pre-deployment/staging of resources)
- Evacuation or public warning operations
- Impacts to transportation, communications, utilities or other critical infrastructure
- Critical issues
- PIO (name & contact information)

- Forecast of response activities

Sonoma County DEM will participate in regional Cal OES and NWS conference calls.

VIII. EMERGENCY RESPONSE

In the event a debris flow, flood, or landslide produces significant damage or threatens lives and property, the Operational Area will execute response efforts as per the Sonoma County Operational Area Emergency Operations Plan (EOP), and the Sonoma County Department of Transportation & Public Works Debris Plan.

Response activities may include:

- Op Area EOC activation.
- Deployment of resources to the field to gather real-time observations, as appropriate.
- Establishment of a Unified Command at an Incident Command Post (ICP).
- Issuance of evacuation warnings or orders. (General messages will be sent countywide periodically while evacuation messages will be more focused to the impacted areas).
- Door-to-door notifications by public safety staff may occur inside evacuation areas, as needed/possible.
- If available, permanent and temporary message boards (trap-lines/a-frames and electronic) will be updated with current safety message.
- Shelters will be identified and placed on standby or activated, as appropriate.
- Additional response functions as needed:
 - Evacuation and/or road closures
 - Transportation plan for Evacuees with Access & Functional Needs
 - Search and rescue
 - Scene stabilization
 - Site security
 - Transportation management (traffic planning)
 - Information management (PIO and public communications)
 - Mass care and sheltering

- Damage assessments and building safety inspections
- Debris management

IX. REFERENCES

- LNU Lightning Complex (Walbridge and Meyers Fires) WERT Assessment Report, October 220
- Glass Fire WERT Assessment Report, November 2020
- Sonoma County Operational Area Emergency Operations Plan, March 2014
- [NWS Post Wildfire Flash Flood and Debris Flow Survival Guide](#), 2015

ATTACHMENT 1: EVACUATION ORDER TEMPLATES

SoCoAlert Email/Nixle:

[Mensaje en español siguiente al inglés.]

This is an emergency message.

Sonoma County Sheriff's Office has issued an Evacuation Order for all persons inside and below the **FIRE NAME** burn areas due to possible debris flows and landslides. Extreme risk for loss of life and property exist. The Evacuation Order will apply to all members of the public. Persons who refuse to comply with an Evacuation Order will not be forcibly removed from their homes. However, they should not expect rescue or other lifesaving assistance after the onset of the emergency event. For further information, please see SoCoPSA.org.

Este es un mensaje de emergencia.

El Alguacil del Condado de Sonoma ha emitido una Orden de Evacuación, para todas las personas dentro o más abajo de las áreas quemadas por los incendios recientes, debido a la amenaza de flujos de escombros y deslaves. Hay un alto riesgo de pérdida de vidas y propiedades. La Orden de Evacuación se aplicará a todos los miembros del público. Las personas que se nieguen a cumplir con una orden de evacuación no serán expulsadas por la fuerza de sus hogares. Sin embargo, no deben esperar rescate u otra asistencia para salvar vidas después del inicio del evento de emergencia. Para más información, visite SoCoPSA.org

SoCoAlert Text:

[Mensaje en español siguiente al inglés]

Sonoma County Sheriff's Office has issued an Evacuation Order for the **FIRE NAME** burn areas due to possible debris flows and landslides. For further information, please see SoCoPSA.org

El Alguacil del Condado de Sonoma ha emitido una Orden de Evacuación, para las áreas quemadas por el incendio **FIRE NAME**, debido a la posibilidad de deslaves. Para más información, visite SoCoPSA.org

EAS/NWEM:

This is a Sonoma County emergency message.

The Sonoma County Sheriff's Office has issued an evacuation order for anyone inside and below the **FIRE NAME** burn scar areas due to possible debris flows and landslides. For further information please visit SoCoPSA.org.

Repeating an evacuation order has been issued for the **FIRE NAME** burn scars. Visit SocoPSA.org for more information.

El Sherif del Condado de Sonoma ha emitido una orden de evacuacion, para las personas dentro y abajo de las areas quemadas por el incendio **FIRE NAME** debido a la posibilidad de deslaves y flujo de escombros. Para más información, visite SoCoPSA.org

WEA:

English

SoCo SO: Evacuation Order issued for **FIRE NAME** burn areas due to flash flood. SoCoPSA.org

OR

SoCo SO: Evacuation Order issued for **FIRE NAME** burn areas due to landslide. SoCoPSA.org

Spanish

SoCo Alguacil: Orden de Evacuación en área quemada **FIRE NAME** debido a inundación repentina. SoCoPSA.org

SoCo Alguacil: Orden de Evacuación en área quemada **FIRE NAME** debido a deslaves. SoCoPSA.org

ATTACHMENT 2: EVACUATION WARNING TEMPLATES

SoCo Alert Email /Nixle:

[Mensaje en español siguiente al inglés.]

This is an emergency message.

The Sonoma County Sheriff's Office has issued an Evacuation Warning for all persons inside and below the **FIRE NAME** burn areas due to possible debris flows and landslides. There is a high risk to loss of life and property. Prepare to leave. People with disabilities and special needs, or those with large animals, should leave now. For further information, please see SoCoPSA.org.

Este es un mensaje de emergencia.

El Alguacil del Condado de Sonoma ha emitido una Advertencia de Evacuación para cualquier persona dentro o más abajo de las áreas quemadas por el incendio **FIRE NAME**, debido a la amenaza de flujos de escombros y deslaves. Hay un alto riesgo de pérdida de vidas y propiedades. Las personas discapacitadas y con necesidades especiales, o aquellos que tengan animales grandes, deben de evacuar de inmediato. Para más información, visite SoCoPSA.org

SoCo Alert Text:

[Mensaje en español siguiente al inglés.]

Sonoma County Sheriff's Office has issued an Evacuation Warning for the **FIRE NAME** burn areas due to threat of debris flows and landslides. For further information, please see SoCoPSA.org.

El Alguacil del Condado de Sonoma ha emitido una Advertencia de Evacuación, dentro y más abajo de las áreas quemadas por el incendio **FIRE NAME**, debido a la posibilidad de deslaves. Para más información, visite SoCoPSA.org

EAS/NWEM:

English

This is a Sonoma County emergency message.

The Sonoma County Sheriff's Office has issued an evacuation warning for anyone inside and below the **FIRE NAME** burn scar areas due to possible debris flows and landslides. There is a high risk to loss of life and property. People with disabilities and special needs or those with large animals should leave now. Repeating an evacuation warning has been issued for the **FIRE NAME** burn scars. Visit SoCoPSA.org for more information.

Spanish

El Condado de Sonoma ha emitido una advertencia de evacuación para las personas dentro y debajo de las áreas quemadas por el incendio **FIRE NAME** debido a la posibilidad de deslaves y flujo de escombros. Hay un alto riesgo de pérdida de vidas y propiedades. Las personas discapacitadas y con necesidades especiales o aquellos que tengan animales grandes deben de evacuar de inmediato. Para más información visite SoCoPSA.org

WEA:

English

Evacuation Warning issued for **FIRE NAME** burn areas due to landslide. Go to SoCoPSA.org

OR

Evacuation Warning issued for **FIRE NAME** burn areas due to flashflood. Go to SoCoPSA.org

Spanish

Advertencia de Evacuación en áreas quemadas debido a deslaves. Más información en SoCoPSA.org

OR

Advertencia de Evacuación en áreas quemadas **FIRE NAME** debido a inundación repentina. Más información en SoCoPSA.org

ATTACHMENT 3: FLASH FLOOD WARNING ECHO TEMPLATES

Note: NWS has primary responsibility for public warning. In order to not issue conflicting information or interfere with NWS warning products being issues on these systems, Sonoma OA will not use WEA, EAS or NOAA Weather Radio to echo NWS warnings.

SoCo Alert Email /Nixle:

This is a SoCo Alert Emergency message

[Mensaje en español siguiente al inglés]

The National Weather Service has issued a flash flood warning for your area. This is a life threatening situation for anyone living in the fire burn scar areas or traveling on roads in the fire burn scar area. Be alert for possible danger due to erosion, debris flows, rock falls and land movement.

This is a dangerous situation. If you observe movement of soils, debris or large amounts of water, move to a safer location immediately. These flows could impact area roadways and hill sides, damage homes and could block local streams and creeks causing flooding. Do not try to cross flooded roadways or creeks. A debris flow of only a few inches deep can be powerful enough to move a vehicle off the road. If you are in a fire burn scar area, be alert to your surroundings.

Current weather conditions may cause power outages preventing additional notification. Monitor local radio stations for information in the event of power failure.

Este es un mensaje de emergencia de SoCoAlert.

El Servicio Meteorológico Nacional ha emitido una advertencia de inundación repentina para su área.

Esta es una situación que pone en peligro la vida de cualquier persona que viva en áreas quemadas o que viaje por las carreteras en las áreas quemadas.

Esté alerta al posible peligro debido a la erosión, los flujos de escombros, la caída de piedras y el movimiento de tierra.

Esta es una situación peligrosa. Si observa movimiento de tierra, escombros o grandes cantidades de agua, muévase de inmediato a un lugar más seguro. Estos flujos podrían afectar las carreteras en el área y las laderas, dañar las viviendas y bloquear los arroyos locales causando inundaciones. No intente cruzar caminos o arroyos inundados. Un flujo de escombros de solo unas pocas pulgadas de profundidad puede ser lo suficientemente poderoso como para mover un vehículo de la carretera. Si se encuentra en una zona quemada, esté alerta a sus alrededores.

Las condiciones climáticas pueden causar cortes de electricidad que impidan notificaciones adicionales. Monitoree las estaciones de radio locales para obtener información en caso de corte de electricidad.

Esto concluye este mensaje de SoCoAlert.

SoCo Alert Text:

The National Weather Service has issued a flash flood warning for your area. Be Alert.

El Servicio Meteorológico Nacional ha emitido una advertencia de inundación repentina para su área. Tome Precaución.