

Hazard Mitigation Plan Update, Pala Band of Mission Indians

Appendix C. Capability Assessment Supporting Materials

Outreach Flyers for Hazard Risks and Climate Change

CLIMATE CHANGE PREPAREDNESS



FLOODING, STORMS & PALA

TURN AROUND! DON'T DROWN!

In San Diego County, the drying that is projected with increased drought intensity and longer seasonal dry periods is offset with a projected increase in the wettest days.

EXTREME RAINFALL

events are becoming increasingly frequent and severe as a result of climate change.



VISIT PALA ENVIRONMENTAL DEPARTMENT'S WEBSITE FOR MORE INFO: <http://ped.palatribe.com>

PALA'S HIGH-RISK HEALTH IMPACTS

- Storm and flooding-related injury and death
- Illness due to inability to access critical health services (from damage to roads, power, telecommunications, hospitals)
- Carbon monoxide poisoning (e.g. from generators during a power outage)
- Mental health impacts including post-traumatic stress, depression, anxiety and grief
- Infections due to contact or ingestion of pathogens in contaminated water
- Drinking water supply interruption
- Short or long-term relocation
- Lost work, school, or business days
- Illness due to mold infestation
- Illness and death caused West Nile Virus and Zika

Storms will be less frequent and occasionally stronger. Greater drought conditions and lower soil moisture lead to flash floods along rivers and creeks in inland areas, as well as mudslides and landslides, especially in areas recently affected by wildfire.



WHAT IS PALA DOING TO ADAPT AND PREPARE?

- Develop tribal transportation resilience plan to evaluate, strengthen and expand infrastructure (roads, bridges, etc.) and systems (transit)
- Install, reengineer or conduct preventative maintenance on retaining walls, drainage systems, water storage tanks, stormwater retention basins, culverts, storm systems, porous surfaces etc.
- Increase urban forestry, tree, landscapes and other green infrastructure to reduce stormwater runoff and increase heat resilience and increase tree canopy. Expansion and management of Pala's natural infrastructure such as healthy watersheds and soils can build local resilience by improving soil water-holding capacity and reducing flooding and erosion.

TIPS FOR STAYING SAFE DURING STORMS AND FLOODING

- Follow directions from local officials regarding evacuation, shelters and safe drinking water advisories
- Avoid driving through flooded roads
- Avoid contact with floodwater and disinfect everything that has touched floodwater
- [Create your own emergency supply kit](#)
- [Learn about the National Flood Insurance Program \(NFIP\) Flood Smart – Flood Facts](#)
- Check on elders and other vulnerable neighbors
- Don't forget your pets!
- Take advantage of medical and emotional care services
- Engage in healthy coping behaviors and seek comfort in community events following a weather-related disaster
- [Set up a family Evacuation Plan](#)
- [Follow Pala Environmental Department on Facebook for climate updates and information](#)
- [Sign up for San Diego County's Alert System](#)

CLIMATE CHANGE PREPAREDNESS



DROUGHT & PALA

FOOD GROWS WHERE THE WATER FLOWS

DROUGHT:

A prolonged period of abnormally low rainfall resulting in water deficits and low soil moisture.

CLIMATE projections suggest the Southwest may transition to a more arid climate on a permanent basis over the next century and beyond.



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PALA'S HIGH-RISK HEALTH IMPACTS

Below are health impacts considered high or medium risk for residents of Pala.

- Drinking water supply interruption
- Short or long-term relocation
- Respiratory illness and Valley Fever
- Lost work, school, or business days
- Declines of culturally important plants and animals
- Illness and death caused West Nile Virus and Zika

Drought is known to trigger secondary exposures such as worsened air quality, water insecurity, and vector changes.

Prolonged low average annual rainfall rates are expected to exacerbate water shortages on the Reservation resulting from growing water demand in the region.

TIPS FOR STAYING SAFE DURING DROUGHT

- Follow directions from local officials regarding water conservation advisories
- Conserve water indoors and outdoors
- Get your turf grass replacement rebate
- Set up a family Evacuation Plan
- Follow Pala Environmental Department on Facebook for climate updates and information.
- Sign up for San Diego County's Alert System

WHAT IS PALA DOING TO ADAPT AND PREPARE?

Pala completed an Adaptation Plan with a full list of strategies to help safeguard the health and wellbeing of the Pala community. Below are a few examples of ways we plan to address drought threats.

- **Increase water storage capacity**
- **Develop or promote water conservation or efficiency policies or programs** to help households, businesses and agricultural operations replace irrigation systems and install drought resistant landscaping and water recycling systems.
- **Install automated irrigation systems on agricultural lands** that utilize soil moisture monitors that can track when crops need water.

Although the 2017 and 2018 rain seasons were somewhat wet in Southern CA, drought in San Diego is projected to persist.

CLIMATE CHANGE PREPAREDNESS



EXTREME HEAT & PALA

EXTREME HEAT CAN BE DEADLY FOR ELDERS, YOUTH AND PETS

The State of California projects that days over 99.9 degrees at Pala will increase by 750% by 2070-2099. That means Pala residents will experience extreme heat days 1 out of every 10 days.

TEMPERATURES

in the US are projected to increase 2.8 - 7.3 degrees Fahrenheit on average by 2071 - 2100.

BEAT the HEAT

Heat waves are a leading cause of extreme weather-related deaths in the U.S.

Who's at RISK in EXTREME HEAT?

Adults over 65, children under 4, people with existing medical conditions, and those without access to air conditioning

What can you DO?

Stay Cool

- Find an air-conditioned shelter
- Avoid direct sunlight
- Wear lightweight, light-colored clothing
- Take cool showers or baths

Stay Hydrated

- Drink more water than usual
- Don't wait until you're thirsty to hydrate
- Avoid alcohol or liquids containing large amounts of sugar
- Remind others to drink enough water throughout the day

Stay Informed

Visit Cal OES's Heat Resources page to learn more about how you can protect yourself and your loved ones in extreme heat at www.caloes.ca.gov

Heat Safety for Pets

- Don't leave pets in vehicles
- Keep water bowls filled and fresh
- Limit outdoor activities
- Keep paws off hot surfaces

Cal OES

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PALA'S HIGH-RISK HEALTH IMPACTS

Below are health impacts considered high or medium risk for residents of Pala.

- Heat-related stress, illness, and death
- Consequences for mental, behavioral and cognitive wellbeing
- Decline of culturally important plants and animals
- Lost work, school, or business days
- Decrease in fitness activity level
- Disruptions of community functions or ceremonies
- Carbon monoxide poisoning (e.g. from generators during a power outage)
- Respiratory and cardiovascular illness
- Worsened allergies
- Food shortage due to global production and price fluctuations
- Illness and death caused by Lyme, West Nile Virus, and Zika

WHAT IS PALA DOING TO ADAPT AND PREPARE?

Pala completed an Adaptation Plan with a full list of strategies to help safeguard the health and wellbeing of the Pala community. Below are a few examples of ways we plan to address elevated temperature threats.

- Build alternative power supplies e.g. building or community-scale battery storage and microgrids incorporating renewables to avoid power outages for critical facilities during exposure-event
- Conduct education to encourage community members to prepare for exposure

TIPS FOR STAYING SAFE DURING EXTREME HEAT

- Get inside. Pala's cooling centers are located at the Pala Resort and Casino and the Fitness Center
- Stay hydrated and rested
- Never leave anyone in a closed vehicle
- Check on elders and other vulnerable neighbors
- Don't forget your pets!
- Take advantage of medical and emotional care services
- [Recognize the symptoms of heat stroke.](#)
- [Set up a family emergency plan](#)
- Follow [Pala Environmental Department on Facebook](#) for climate updates and information.
- Sign up for [San Diego County's Alert System](#)

CLIMATE CHANGE PREPAREDNESS



WILDFIRE & PALA



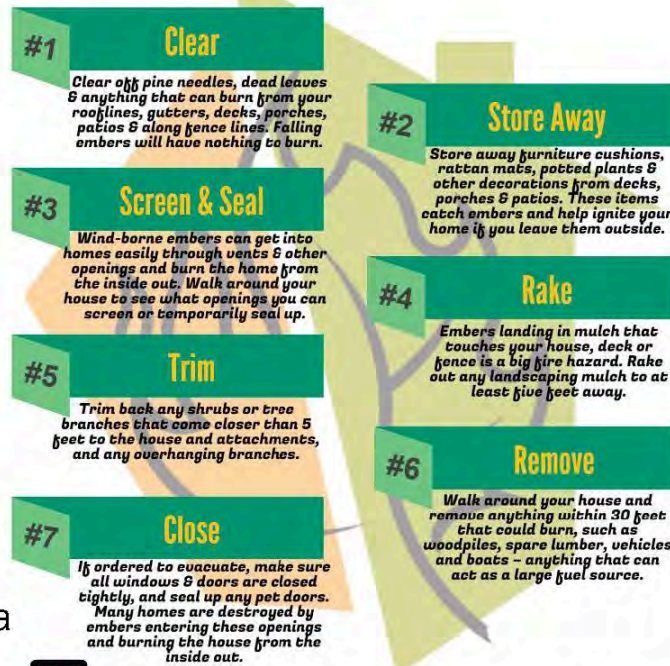
KNOW THE RISKS & HOW TO PROTECT YOU & YOUR FAMILY

Pala completed a Climate Change Vulnerability Assessment in 2019, which identified elevated wildfires as one of four high-risk exposures resulting from climate change.

WILDFIRES are considered a high-risk exposure for the Pala tribe. Pala is currently located in a fire hazard severity zone.

Protect Your Home

7 Ways Residents Can Reduce the Risk that their Homes & Property Will Become Fuel for a Wildfire



NFPA has many more tips and safety recommendations on its websites, including www.firewise.org.

VISIT PALA ENVIRONMENTAL DEPARTMENT'S WEBSITE FOR MORE INFO: <http://ped.palatribe.com>

Until recently, large, high intensity fires occurred regularly. As human urbanization increased in the area, human-caused ignitions have increased dramatically. There were 38 fires from 1920 – 2012 that affected Pala. Recent fires have burned significant portions of Pala’s lands and have forced evacuations at the Pala Casino Spa and Resort.

Climate factors including Southern California’s uniquely intense Santa Ana winds, increasing temperature, and more severe drought conditions (resulting in drier autumns and more dead vegetation fuel) are increasing the wildfire risk at Pala. Wildfires are known to trigger secondary exposures such as worsened air quality (fine particulate matter), water insecurity, and vector changes (e.g. ticks).

WHAT IS PALA DOING TO ADAPT AND PREPARE?

Pala completed an Adaptation Plan with a full list of strategies to help safeguard the health and wellbeing of the Pala community. Below are a few examples of ways we plan to address wildfire threats.

- Develop an emergency, disaster response and health management plan to anticipate and prepare public services and evacuation plans for exposure risks
- Provide early, real-time warnings and clear emergency notifications before and during exposure event
- Establish or update adaptive fire management plans, including periodic forest assessments and traditional forest management practices to prevent high intensity wildfires (e.g. prescribed burning, introduction of resilient vegetation), and formalization of chain of command roles.

TIPS FOR STAYING SAFE DURING WILDFIRES

- [Create and maintain 100 feet of defensible space around your home](#)
- [Create your own emergency supply kit](#)
- Check on elders and other vulnerable neighbors
- Don't forget your pets!
- Take advantage of medical and emotional care services
- Engage in healthy coping behaviors and seek comfort in community events following a weather-related disaster
- [Set up a family Evacuation Plan](#)
- [Follow Pala Environmental Department on Facebook for climate updates and information](#)
- [Sign up for San Diego County's Alert System](#)

PALA'S HIGH-RISK HEALTH IMPACTS

Did you know that wildfires can harm our physical, emotional, spiritual and cultural health and wellbeing? Below are health impacts considered high or medium risk for residents of Pala.

- Wildfire-related injury and death
- Illness due to inability to access critical health services (from damage to roads, power, telecommunications, hospitals)
- Carbon monoxide poisoning (e.g. from generators during a power outage)
- Mental health impacts including post-traumatic stress, depression, anxiety and grief
- Short or long-term relocation
- Loss of sacred or historical sites
- Lost work, school, or business days
- Decrease in fitness activity level
- Disruptions of community functions
- Respiratory and cardiovascular illness and Valley Fever
- Worsened allergies
- Drinking water supply interruption
- Illness and death caused by Lyme, West Nile Virus, and Zika

"HISTORICALLY MANY WILDFIRES HAVE AFFECTED THE RESERVATION AND THE REGION. THE POOMACHA FIRE BURNED 17% OF THE TOTAL RESERVATION."
-Pala Hazard Mitigation Plan

PLANET PALA QUICK TIPS



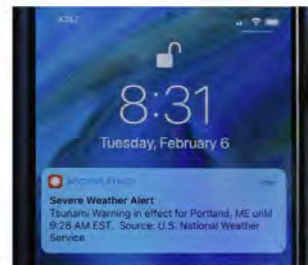
DO YOU HAVE A FAMILY EMERGENCY PLAN?

PLAN NOW TO KEEP YOUR FAMILY SAFE!

During an emergency, does your family know what to do, where you can all meet up together, and how to get ahold of one another?

KNOW YOUR HAZARDS

Earthquakes, flash flooding, wildfires, extreme heat, disease outbreaks, etc.





4 STEPS TO KEEP YOUR FAMILY SAFE

- Make a Family Disaster Plan
- Build an Emergency Supply Kit (enough for 3-5 days)
 - Stay Informed
- Get Involved with a local CERT team
- www.readysandiego.org

FAMILY DISASTER PLAN

- ID's possible local emergencies & what to do during them
- Lists your plans & meeting spaces for your family, plus how to get ahold of one another
- Checklist on building an emergency supply kit
- Reviews practical items that you'll need to know in an emergency (e.g.: shutting off your gas)

HOW TO STAY INFORMED

- Register your phone on Alert San Diego
 - www.readysandiego.org/alertsandiego
- San Diego County Emergency App (free)
 - Info on evacuation routes/maps, shelter locations, resources on how to build a kit or make a family plan
- Twitter
 - Cal Fire / San Diego County Fire
 - NWS San Diego
 - CalTrans
 - Ready San Diego
- Radio (REZ RADIO 91.3)(KOGO AM 600)(KLSD AM 1360)



WATCH THE WEATHER

Check for Weather Alerts

www.weather.gov/sgx
inws.ncep.noaa.gov

CalTrans Road Closures

quickmap.dot.ca.gov

Check Rain Levels (in Real Time) in SD County

sandiego.onerain.com/home.php



Flash Flood Watch – potential for urban and unusual flooding from heavy rain rates including burn scars.

Flash Flood Warning – urgent danger from flooding (running water over 6 inches). Flash flood advisory for lower impact.

Winter Storm Watch – potential for damaging high wind and/or heavy snowfall impacts to travel.

Winter Storm Warning – urgent heavy snow and high wind. Winter storm advisory for lower impact.

KNOW YOUR WEATHER TERMS

PREPARING FOR POWER OUTAGES



POWER OUTAGES

PLANNED AND UNPLANNED OUTAGES CAN BE DANGEROUS

In California, power outages can happen from wind, thunderstorms, ice, fire, and extreme heat. Some outages are planned for line repairs or to prevent wildfires.

HEALTH AND SAFETY

Elders, those with health conditions, and youth are most at risk when the power is out.

How to Prepare for a Power Outage SAFETY CHECKLIST

- Basic first-aid supply
- Flashlights
- Drinking water & canned food
- Pillows, blankets, and clothing
- Prescriptions and medicines
- Basic toiletries
- Battery-operated radio and clock
- Extra packs of batteries
- Phone and emergency numbers
- Toys, games and books
- Baby supplies
- Pet supplies



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HAVE A CHECKLIST READY

Have a checklist for supplies needed in an outage.

- Essential medicines and a first aid kit
- Bottled water (3 day supply)
- Packaged foods that do not need to be refrigerated or cooked (3 day supply)
- Important paperwork (birth certificates, medical records, etc.)
- Pet food and pet carrier(s)
- Battery powered flashlights or lighting and batteries
- Fuel for a generator
- Any special items needed by infants or elders (diapers, wheelchairs, etc.)
- Portable radio and/or batter charges for phones

SAFETY AND SECURITY

Have a plan for your family if an outage occurs!

- If using a generator, use only OUTDOORS away from windows. Fumes can be deadly.
- Know how to contact family and friends that may be in need.
- Have a meeting location in or around the home in an emergency for the family to find each other.
- Know where pets and/or livestock can be sheltered if an outage lasts a long time.
- Throw away food that may spoil during an outage.
- Designate an emergency contact for the family.
- Treat traffic lights that may be out as if they were stop signs.
- Follow emergency service instructions.

