Impacts of Climate Change on the Pala Band of Mission Indians

Rising temperatures, drought, wildfires, and flooding are threatening the physical, cultural, and spiritual health of the Tribe, its habitats and ecosystems, and its built environment.

The people of the Pala Band of Mission Indians have lived from time immemorial in what is now known as northern San Diego County. The current Pala Indian Reservation is located on approximately 14,000 acres, roughly 30 miles east of the Pacific Ocean.

The lands are next to the Palomar Mountain range. Adjacent to the reservation is the Cleveland National Forest to the north and east, and private agricultural lands to the south and west.

Pala's location in the southwest region of the United States, within the inland valley and mountainous areas of San Diego County, makes it susceptible to interrelated direct and secondary climatic exposures.

"Climate change represents an ongoing threat to the health and safety of the Pala community. We must protect our people and our environment from wildfire, drought, flooding, and extreme temperatures."

~ Chairman Robert Smith

Both the daytime and nighttime temperatures at Pala have been increasing. Since 2020, Pala has experienced multiple heat waves with temperatures exceeding 100 degrees. Elevated temperatures affect human health, mental health, socio-economic health, and cultural and spiritual health, as well as the plants and animals that are part of Pala.

As temperatures have increased Pala has seen reduced areas of important habitats including oak woodlands, chaparrals, native grasslands, wetlands, riparian, and upland habitats and increased levels of non-native grasslands. The impact of extreme heat on

plant communities threatens cultural expressions and traditional ways of life and impacts the psychosocial health of the Pala community. Increased frequency of extreme heat and drought events have contributed to the decline or disappearance of culturally important plants and animals such as:

- Live oak, Englemann oak, white sage, chia sage, arroyo willow, cottonwood, manzanita, deer grass, yerba mansa, juncus, rushes
- Quino checkerspot butterfly, California gnatcatcher, southwestern willow flycatcher, arroyo toad, acorn woodpecker, chuckwalla, badger, yellow-billed cuckoo, steelhead, Pacific lamprey

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Figure 1. Quino Checkerspot Butterfly on a Wild Hyacinth.



Source: Photo by Andrew Fisher, Pacific Southwest Region USFWS

Health impacts and power disruptions triggered by extreme heat can result in lost work and earnings for tribal businesses, lost school days and closures of school and afterschool activities that impact Pala's youth.

Pala is also experiencing the impacts from drought. Since 1895 Pala has received less annual rainfall over time. The Pala Environmental Department staff have observed range shifts of the manzanita and other upland plants into the riverbed as riparian vegetation and wetlands dry up. Reduced riparian vegetation lowers the area's natural capacity to absorb storm water, which exacerbates flooding threats on the Reservation.
Source: USFWS

Gold spotted oak borer beetles are a concern for the oak groves on the Reservation, due to the toll the drought has taken on native oak species. When the rain does come, rain events have become more intense, causing flooding. Flooding has become a regular occurrence at Pala, with 23 major flood events since 1997.

Nearly a third of Pala's population lives in a high-risk wildfire area. Historically, large, high intensity fires occurred infrequently in the region. Southern California's intense Santa Ana winds, increasing temperatures, and severe drought conditions are increasing the wildfire risk near Pala.

Wildfire can destroy culturally important ecosystems, sacred sites, and points of access to culturally important places to Pala. Numerous cultural sites, functions or traditions are in danger of wildfire encroachment and damage.

There have been 40 wildfires on Pala's Reservation since 1910. Two of California's largest recent wildfires affected Pala directly, including the 2007 complex that burned several hundred thousand acres across several counties.

Climate change continues to deeply affect the environment and alter and disrupt the ecosystems within and around Pala. The Pala community is actively working to understand, adapt to, and mitigate the effects of climate change.

For more information contact:

PALA BAND OF MISSION INDIANS

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