



**THE TOHONO O'ODHAM NATION OF ARIZONA
TESTIMONY OF THE HONORABLE VERLON JOSE, VICE-CHAIRMAN**

**U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON NATURAL RESOURCES
SUBCOMMITTEE ON INDIGENOUS PEOPLES OVERSIGHT HEARING ON
"THE IMPACTS OF CLIMATE CHANGE ON TRIBAL COMMUNITIES"**

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Introduction & Background

Good afternoon, Chairman Gallego, Ranking Member Cook, and distinguished Members of the Subcommittee. My name is Verlon Jose and I am the Vice-Chairman of the Tohono O'odham Nation, a federally recognized tribe with more than 34,000 members. The Tohono O'odham Reservation consists of more than 2.8 million acres in southern Arizona (one of the largest Indian reservations in the United States), and shares a 62-mile border with Mexico.

Since the beginning of O'odham history, we have learned to live in the desert, and have adapted to high summer heat and scarce water. But as climate change has begun to disrupt both our traditional and modern ways of living, we have had to figure out ways to cope with these changes. The Nation has 41 monitoring stations on the reservation to measure precipitation and temperature. The Nation also took the proactive step of developing a Climate Change Adaptation Plan, which examines the impacts of climate change on the Nation and its members, and potential short- and long-term solutions.

My testimony will summarize a number of those impacts and some potential solutions. We appreciate the Subcommittee providing this opportunity to address climate change, which is a significant issue for the Nation, as well as other Native people.

I. Heat and Drought

As a result of climate change, it is getting hotter, and there is more drought across the Nation's lands than we have experienced in the past. Arizona is currently in a 20-year drought, and drought conditions persist across the southwest. Climate change has resulted in increased average annual temperatures on the Nation's reservation, as reported in the Congressionally-mandated Fourth National Climate Assessment completed in November 2018, and confirmed by monitoring done by the Nation. The increased temperatures and drought reduce the forage available for livestock and the sources of food for wildlife. The heat and drought reduce the recharge of our ground water aquifers, and there is less surface water available for livestock and wildlife. Additionally, climate change affects the availability of traditional foods that our members rely upon.

As a result of the dry soils, higher surface temperatures, and less vegetation, there also is an increased threat of wildfires -- and the wildfires are larger and start earlier in the season. The heat, drought and fires put people, animals and food sources at risk -- and impose greater costs on the Nation to ensure the well-being and safety of our people. For example, many of the Nation's members used to open the windows at night to keep their homes cool. But with the hot temperatures extending long into the night our members now need to keep air conditioning units on throughout the day and night in order to keep the temperature in their homes at safe levels. This results in increased electricity costs for individual members. The Nation also incurs additional costs as we work to ensure the safety of our members who may not be able to afford air conditioning units. Traditionally, to cope with intense daytime heat the O'odham people constructed wattos—open-air shade structures with dirt floors, which we would wet throughout the day. As part of our Climate Change Adaptation Plan, the Nation is currently exploring a return to some of our traditional building practices in order to reduce the cost of air conditioning during the hottest months.

In addition, the day-to-day impacts of increased heat and drought on our members' ability to gather and use traditional foods is staggering. The Nation has been increasingly creating and implementing programs to encourage O'odham people to return to a traditional diet in order to improve health. However, returning to a completely traditional diet is next to impossible because of the damage done to our traditional food sources as a result of climate change. Although we have not yet experienced the complete loss of traditional foods, the availability of these foods has been drastically impacted by significant changes in the average temperature that alters the phenology, or the seasonal life cycle, of traditional plants. Our members go out to gather traditional foods and find that many are blooming out of season or not blooming at all as a result of climate change.

Additionally, as rising heat and drought continue, the Nation will likely face increased challenges with respect to our ability to store food for members needing food assistance. Currently the Nation stores food to distribute to members in need. However, we do not have enough cooling capacity to store perishable foods and we have only two food distribution trucks to cover all 2.8 million acres. Rising heat and drought will only compound the challenges that we face in storing adequate food for distribution to our members.

II. Extreme Weather and Flooding

In addition to higher heat and drought, the Nation also is experiencing much more extreme weather than ever before, such as intense rain and severe thunderstorms, microbursts and strong winds (called *jecos*). Fifteen of our communities have been impacted by 50-year floods. In many cases, when these areas flood throughout the year, the flood waters come straight up to the doorways of our members' homes. There are four communities within the Nation where flooding is most severe, including Santa Rosa Valley, Menager's Dam, Chui Chu Village, and Vamori Village. The Nation remains very concerned that if we were to see a 100-year flood event these communities would be completely devastated.

We are currently experiencing much more variability in rain, and while the annual average precipitation is lower and the rainstorms are fewer, there are shorter, more intense rain events throughout the year. For example, last year Hurricane Rosa dumped an incredible amount of rain on the reservation in a very short time. Residents of three villages had to move to avoid the extreme flooding. In one location a berm broke as a result all of the rain, and about three feet of water swept through the village. Another community got eight inches of rain in six hours. That community is

located near a dam, which came very close to overflowing -- luckily it did not, but if it had it would have destroyed the village.

The intense rain events and increased flooding also wash out roads and strand communities: residents, school buses, and emergency vehicles are cut off from the homes by the flood waters. These extreme weather events put people, homes and other infrastructure at risk. Following the intense flooding of our reservation last year, in November 2018 President Trump issued a disaster declaration for the Nation to assist the Nation with recovery efforts. Funds from the Federal Emergency Management Agency (FEMA) were transferred to the Nation to assist with the repair of public facilities such as roads and bridges as well as hazard mitigation measures to prevent long-term risk to life and property due to the flooding.

III. Potential Solutions

As I noted in my opening remarks, the Nation has created a Climate Change Adaptation Plan to begin to focus on how we can mitigate the impacts of climate change. The plan includes the following core adaptation strategies: (1) use traditional building knowledge and practices to make homes cooler; (2) open available community buildings as cooling centers during heat emergencies; (3) plan for flood mitigation; (4) hire additional wildland firefighters; (5) ensure groundwater is treated for more households; and (6) educate community members about climate change.

To respond to extreme storms and flooding, we need to continue to do floodplain mapping and create inundation maps for all dams and levees. The U.S. Army Corp of Engineers has analyzed several areas prone to flooding on the Nation and has offered potential solutions, including a reconnaissance report to reduce flooding in the Santa Rosa Valley and a feasibility study for potential flooding in and around Chui Chu village. The Nation is working on implementing these steps. The Nation is also identifying areas for drilling and aquifer testing to accurately quantify groundwater resources on our reservation. Additionally, the Nation is facilitating the development of an environmental trust fund to assist with covering the costs of mitigating climate change impacts.

With respect to addressing impacts from heat and drought, we have created a Nation-wide agricultural plan to attempt to ensure the survival of traditional foods and provide these foods to our members. Measures include seed-banking of traditional plants, expanding food-crop acreage, finding better ways to get water to crops, and enhancing the Nation's food-distribution infrastructure. The Nation has undertaken the long-term inventory and monitoring of wild food plants. We also have implemented a Nation-wide program to check on elderly and ill members of our communities during the increasing number of extreme heat events. Additionally, the Nation is developing a volunteer firefighter program to increase the number of firefighters available to fight fires caused by extreme drought and heat.

Although the Nation will continue to take proactive steps to invest in climate change response, the costs of addressing climate change are significant. Increased funding for federal programs and grants focused on climate change solutions and response is needed, including, for example, increasing FEMA grant funding for flood mitigation, hazard mitigation, mitigation planning, fire prevention and firefighter staffing, support and training, and providing funding for BIA climate resilience programs to support tribal adaptation planning and training. The Nation and other tribal communities cannot fight climate change impacts alone. Congress must live up to its trust obligations to assist in providing tribal governments with the resources to ensure that we can

protect our members, our lands, our natural resources and our tribal economies from the impacts of climate change.

Conclusion

The Nation sincerely appreciates the Subcommittee's interest in this critically important issue, and the opportunity to share our concerns about the impacts climate change has had and will continue to have on the Tohono O'odham Nation. Climate change threatens to drastically and negatively impact the O'odham way of life and we are working to save it. We ask that Congress work together with Tribal nations to address climate change impacts to communities throughout Indian country. Thank you for this opportunity to testify, and I welcome any questions you may have.