

Arizona is home to 22 federally recognized tribes, all whose cultures are tightly intertwined with the landscapes that have provided for them for millennia. As a member of the Navajo Nation, I understand that my culture is centered around natural resources. Now, climate change is threatening the culture and traditions of my people by diminishing the environments that we have always relied upon. Some direct impacts induced by climate change include reduced water availability, decreased crop yields, and heightened risk to property, self, and livestock via extreme weather events. To ensure a prosperous future for the Navajo Nation and all other tribes, adaptations must be made.

First and foremost, clean drinking water is the major natural resource that is needed to sustain life. Water is also essential to practicing good hygiene and, thus, reducing pathogen-born disease in communities. Furthermore, clean water sources are vital because they uphold agricultural food production, which is especially important in rural tribal communities. Therefore, water security is critical as it plays an integral role in maintaining populations, farming crops, and raising livestock. As the southwest continues to experience generally hotter and drier conditions, many groundwater wells are becoming depleted because of slowing aquifer recharge rates. Due to climatic changes and water scarcity, my family's annual tradition of planting fields has been disrupted, which has many negative direct and indirect impacts to my family. To increase access to clean water, I hope the Navajo Nation will investigate possible water reuse pathways, improve water conveyance infrastructure, and educate people on the importance of obtaining safe water and using that water in an efficient way.

Climate change not only affects water resources, but also has a substantial impact on the landscape used to farm. In fact, the Navajo Nation includes the largest area of severely degraded land in North America (EarthAction, 2012). Decades of overgrazing by livestock and feral horses, in conjunction with droughts and poor agricultural practices, has caused soil in many regions to become degraded (Tom, Begay, & Yazzie, 2018). This process, known as desertification, is significant because once completely degraded, the soil can never be used for growing again. Sadly, I see this happening now on the Reservation. Since livestock, like sheep, are an indispensable aspect of traditional Navajo culture,

ranchers must be able to continue farming animals without diminishing the native grass species that their flocks feed upon. A possible solution to this issue consists of replanting native vegetation to assist in replenishing the land, while also educating ranchers on proper grazing management techniques (Tom, Begay, & Yazzie, 2018).

Finally, extreme weather events caused by climate change are expected to increase in both intensity and likelihood. Wildfires, floods, and droughts continually devastate indigenous populations because many native people rely on a stable climate to make a living. An unexpected wildfire outbreak has the power to burn down an entire community, causing people to have to abandon their homes, livestock, and cropland. On the other hand, episodes of extreme precipitation will likely cause increasingly severe flash flooding events in areas that have been affected by desertification. Many within the Navajo Nation are threatened by flooding because degraded soil and reduced vegetation has made the land less equipped to handle extreme rainfall events. Flooding can also endanger our communities and cause significant damage to homes and cultural resources, inundate crops, and harm livestock.

As has been noted, climate change poses a heightened threat to indigenous people because we rely directly on natural resources. Therefore, it is critical that tribal people understand the causes and effects of climate change to better protect against its consequences. Personally, I will continue to educate myself on climate change related issues, look for volunteer opportunities on environmental projects on the Navajo Nation, and use social media to spread information about the environmental issues plaguing native people. I will continue to work on learning the Navajo language so I can assist in breaking down communication barriers between elders and scientists and engineers, an issue that has often stifled environmental improvements. Climate change is not any individual person's issue; we all have a responsibility to ourselves and to one another to aid in whichever way we can. In this way, indigenous people can find resilience in an ever-warming world. We are resilient and have endured centuries of oppression and genocide, however we know our lands and our traditions will guide us through the challenges caused by the changing climate.

Bibliography

EarthAction. (2012, March 15). *Dangerous Desertification on the Navajo Nation*. Retrieved from

EarthAction: <https://www.earthaction.org/2012/03/dessertification-navajos.html>

Environmental Protection Agency . (July , 1 2021). *Navajo Nation: Cleaning Up Abandoned Uranium*

Mines. Retrieved from United States Environmental Protection Agency :

<https://www.epa.gov/navajo-nation-uranium-cleanup/abandoned-mines-cleanup>

Tom, G., Begay, C., & Yazzie, R. (2018). *Climate Change Adaptation Plan for the Navajo Nation* .

Navajo Nation Department of Fish and Wildlife.