



New Mexico Climate and Traditions and the Impact of Climate Change on Traditional Ways of Life

NEW MEXICO LEGISLATIVE
INDIAN AFFAIRS COMMITTEE
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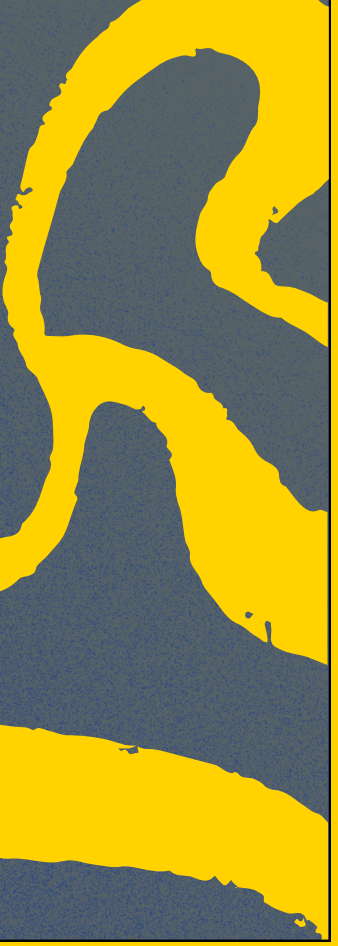
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Healthy Climate New Mexico, Founding Board Member

Climate Changes and Tribes



New Mexico Climate Trends

- **Climate change refers to long-term shifts in global temperatures and weather patterns, primarily caused by human activities that increase greenhouse gas concentrations in the atmosphere**
- **For Native Americans, climate change represents a "relationship crisis" disrupting traditional connections between people, land, and natural systems that have existed for millennia**
- **Traditional Ecological Knowledge (TEK) provides Indigenous communities with a deep understanding of environmental relationships developed over thousands of years through direct contact with ecosystems**



Disproportionate Vulnerability

- **Native Americans are among the "first and worst" communities to experience climate change impacts, despite contributing the least to greenhouse gas emissions**
- **98.9% of the historical tribal land base has been lost through displacement and colonization, forcing tribes onto lands with greater climate vulnerability**
- **Climate change is displacing Native American communities at seven times the rate of the global population**

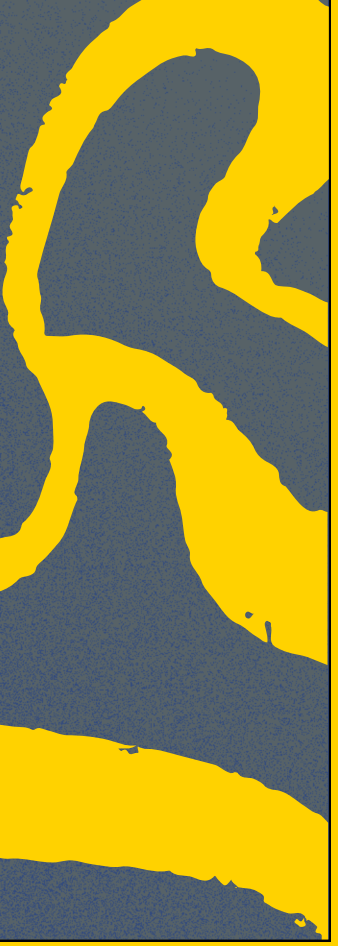


Unique Cultural and Health Impacts



- **Traditional subsistence activities - hunting, fishing, gathering, and agriculture - are directly threatened by changing weather patterns and ecosystem disruption**
- **Sacred sites and ceremonial practices face increasing risks from extreme weather, drought, wildfires, and shifting seasonal cycles**
- **Intergenerational knowledge transmission is at risk as environmental changes disrupt traditional learning opportunities and cultural continuity**
- **Health disparities are compounded by climate impacts, with Indigenous populations already experiencing the lowest life expectancy of any US ethnic group**





Sovereignty and Self- Determination Challenges



- **Tribal sovereignty - the right of Native American tribes/nations/pueblos to govern themselves - is essential for effective climate adaptation but faces ongoing institutional barriers**
- **Limited access to federal resources, complex regulatory frameworks, and inconsistent government-to-government consultation processes hinder tribal climate responses**
- **Energy sovereignty means tribal nations controlling their own decisions about energy development and regulation as part of climate solutions**

Traditional Knowledge as Climate Solution

- **TEK provides baseline climate data and historical environmental conditions spanning centuries, often detecting changes before Western science**
- **Indigenous communities demonstrate holistic approaches to climate adaptation that integrate cultural values, spiritual practices, and ecological stewardship**
- **Traditional land management practices offer proven strategies for ecosystem restoration, carbon sequestration, and climate resilience**



New Mexico Specific Context

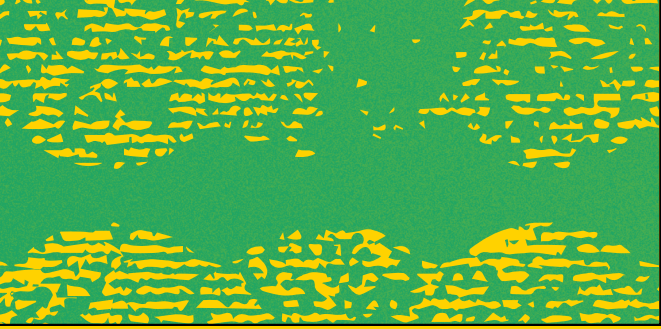


- **New Mexico tribes face projected temperature increases of 5-7°F over the next 50 years, with varying impacts across different elevations and regions**
- **Water security is the most critical climate challenge, with tribal communities managing complex relationships between cultural use, agricultural needs, and domestic supply**
- **Tribal communities are witnessing shifts in seasonal patterns, reduced snowpack, more intense but less frequent precipitation, and increased wildfire risk**

Urgency and Current Impacts

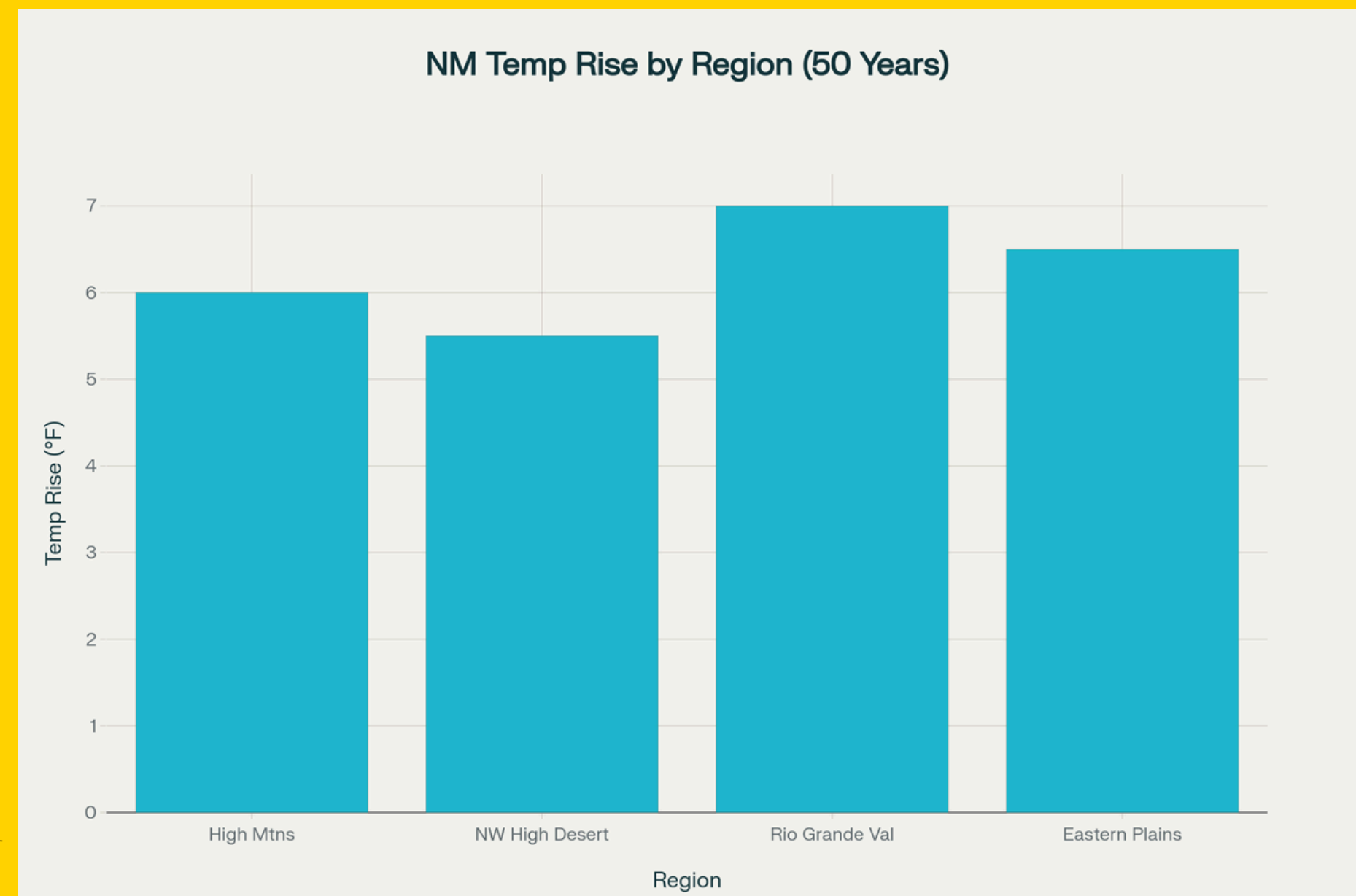
- **Present-day effects are already visible: elders report shorter winters, less snow, changed animal migration patterns, and shifts in plant communities**
- **Traditional farming and ranching practices are becoming increasingly unsustainable without significant adaptation investments**
- **Youth outmigration from tribal communities is accelerating as climate change reduces economic opportunities and livability on reservations**

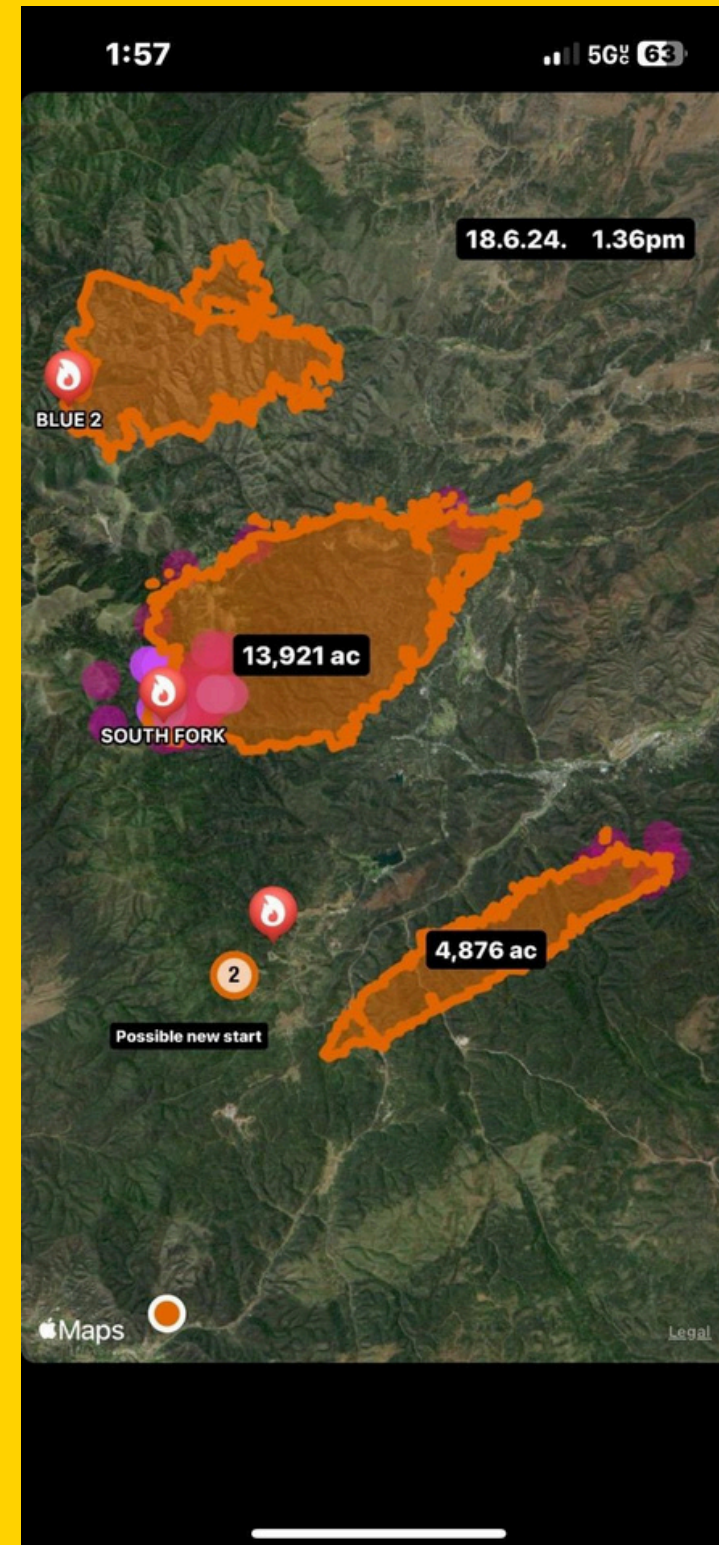




New Mexico Climate Trends

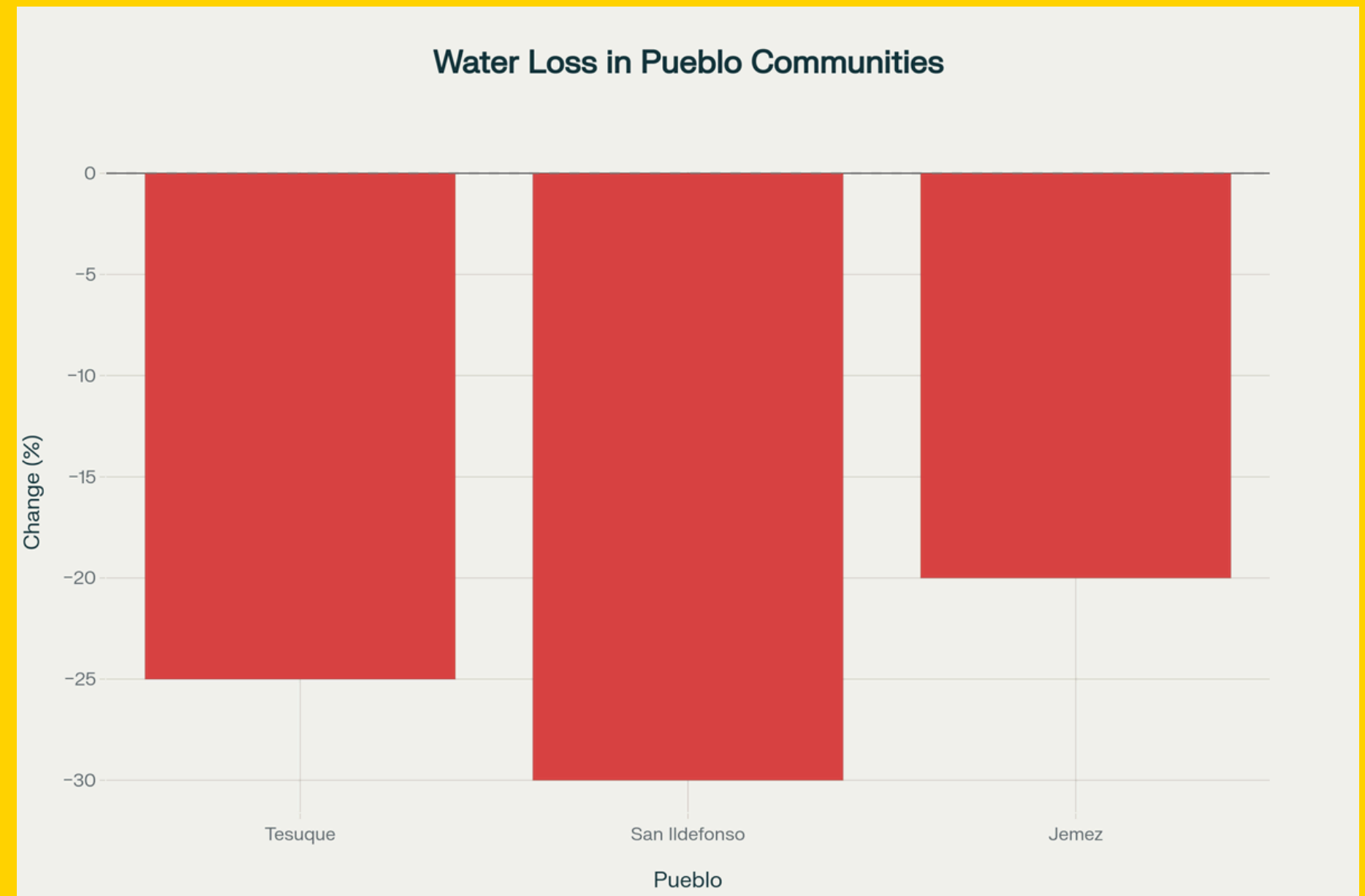
- Data on projected warming (5–7° F increase over next 50 years)
- Regional breakdown: High Mountains, Northwestern High Desert, Rio Grande Valley, Eastern Plains
- Chart: Projected Temperature Rise in NM (Next 50 Years)





Tribal Water Resilience under Climate Change

- Water as the foundation of culture, agriculture, and ceremony
- Leap Ahead water analysis: rapid decline in snowpack, worsening droughts, and impacts on aquifers
- Tribes involved in NM's 50-Year Water Plan
- Chart: Decrease in Surface Water Availability for NM Pueblos (e.g., Tesuque, San Ildefonso, Jemez)

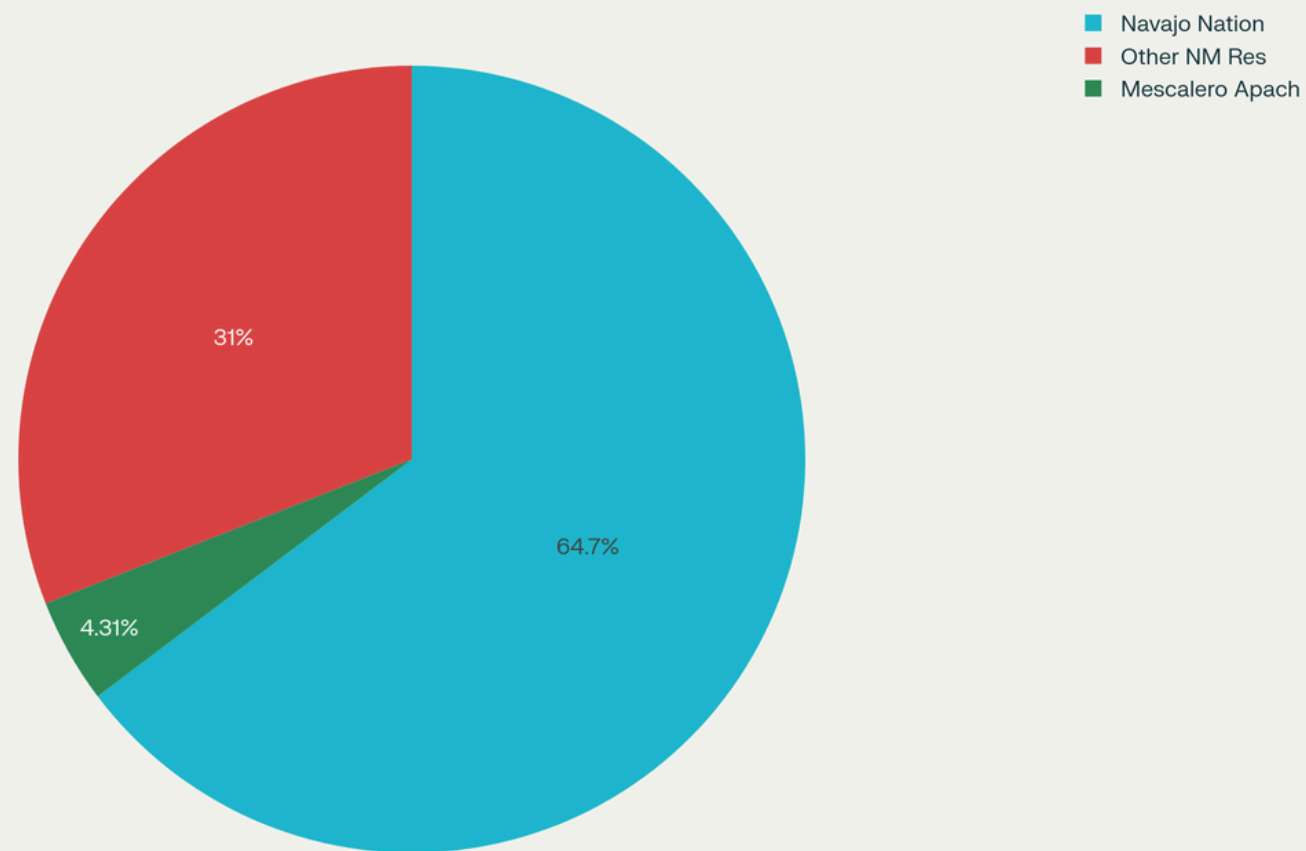


Dunbar, N. W., Gutzler, D. S., Pearthree, K. S., & Phillips, F. M. (2022). Climate change in New Mexico over the next 50 years: Impacts on water resources (Bulletin 164). New Mexico Bureau of Geology and Mineral Resources. <https://mainstreamnm.org/wp-content/uploads/2024/01/Leap-Ahead-Report.pdf>

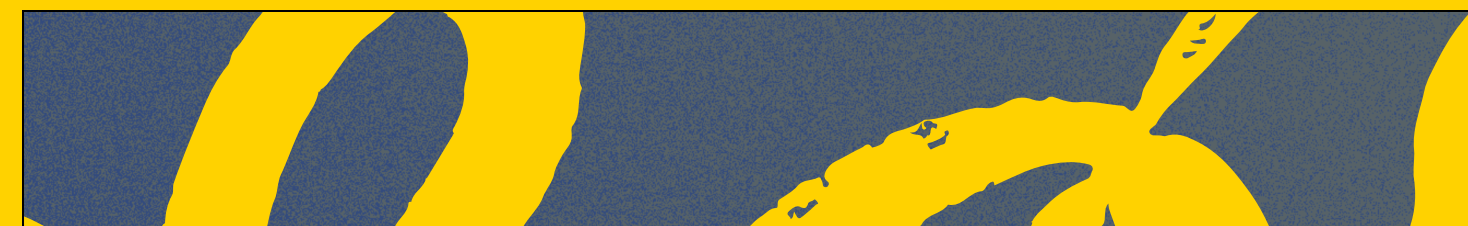
New Mexico Energy, Minerals and Natural Resources Department. (2024). New Mexico climate adaptation and resilience plan. https://www.env.nm.gov/climateaction/wp-content/uploads/sites/39/2024/07/NM-C.A.R.P._03.06.24_Updated.pdf

Economic Impacts: Drought and Tribal Livelihoods

NM Tribes Drought Impact - Cattle Sector

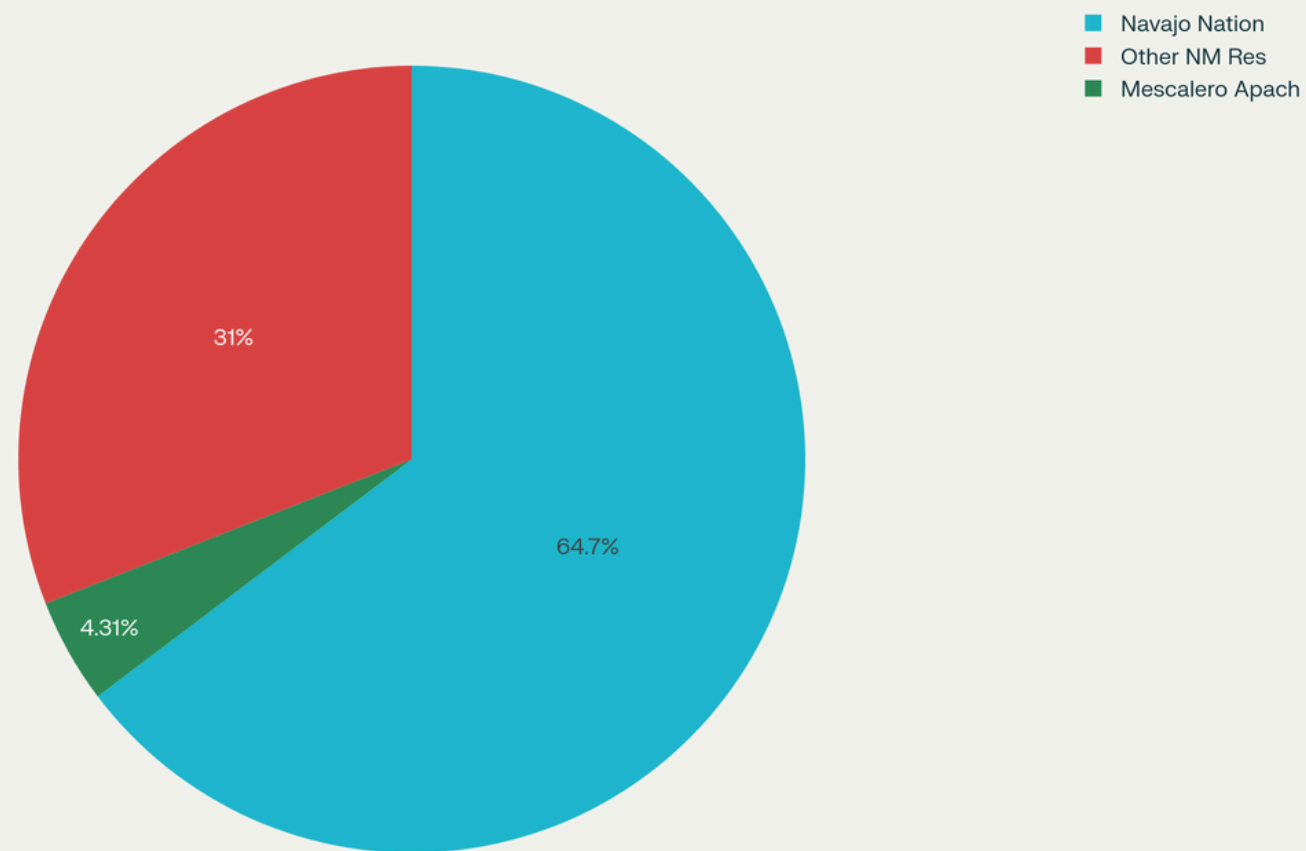


- **Drought's effect on cattle and agriculture (total economic losses over \$4.4M for NM tribal cattle sector last drought)**
- **Traditional and modern food systems under threat**
- **Chart: Economic Losses Due to Drought in NM Tribal Cattle Sector**

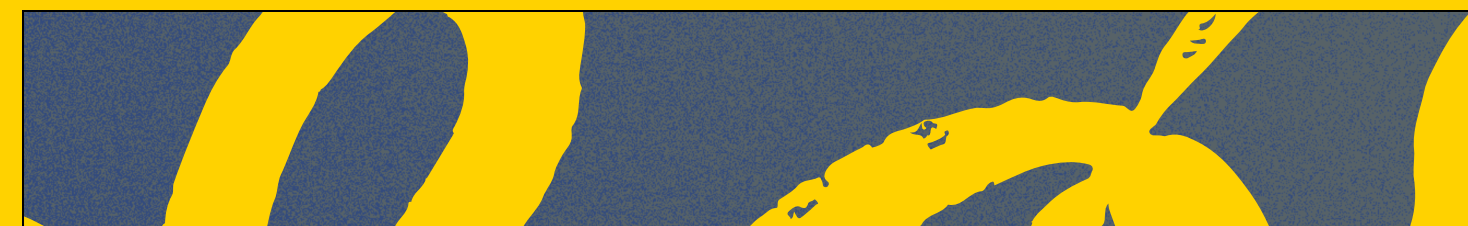


Economic Impacts: Drought and Tribal Livelihoods

NM Tribes Drought Impact - Cattle Sector



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Extreme Weather Resilience Fund

- Provide essential financial resources to local governments and tribal communities to plan, prepare for, and respond to escalating climate threats
- Supports climate adaptation projects, including:
 - Heat mitigation strategies
 - Wildfire smoke protection systems
 - Emergency response infrastructure
 - Flood preparedness initiatives
- Prioritize vulnerable communities with at least 50% of funding directed to small communities, ensuring support reaches the most at-risk populations—children, elderly, and low-income residents
- Enable community-driven solutions, allowing tribes and local governments to determine critical interventions based on their specific needs and cultural priorities
- Example applications for extreme heat:
 - Installing effective cooling and air purification systems in schools, senior centers, and public buildings
 - Creating community safe shelter spaces during extreme weather events
 - Supporting traditional cooling methods and culturally appropriate adaptations
- Address tribal-specific needs such as protecting ceremonial sites, supporting traditional food systems, and maintaining cultural practices threatened by climate change

Conclusion

Protecting Tribal Health and Cultural Survival in New Mexico's Changing Climate

The health and cultural continuity of all New Mexico tribal communities, pueblos, and nations are threatened by our changing climate. State action must support tribal sovereignty and self-determination in addressing these challenges!

- Pass The Clear Horizons Act - ensuring tribal consultation and co-management opportunities in air quality initiatives
- Establish an Extreme Weather Resilience Fund - with dedicated funding streams for tribal nations and pueblo communities to implement culturally appropriate climate adaptations
- Enhance environmental health monitoring through partnerships with tribal health departments and traditional knowledge holders - supporting tribally-led data collection that serves community needs and respects cultural protocols
- Adopt tribally-informed approaches to wildfire smoke and heat advisories that integrate traditional ecological knowledge with Western science and respect ceremonial and cultural practices
- Address federal funding gaps that disproportionately impact Indian Health Service facilities and tribal environmental programs - advocate for full federal trust responsibility fulfillment
- Support tribally-generated climate action across New Mexico in ways that:
 - Honor and strengthen tribal sovereignty
 - Respect government-to-government relationships
 - Integrate traditional ecological knowledge (TEK) and practices
 - Support cultural preservation alongside climate adaptation
 - Ensure meaningful consultation and collaboration, not just notification

Thank You

TOGETHER, WE CAN PROTECT NEW MEXICO'S MOST VALUABLE RESOURCES



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